



Periodic Markets and Rural Development

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V. Satyanarayan Reddy

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This academic exercise in inter-disciplinary fields throws light on the relation between Periodic Markets and Rural Development. The author of the book in his inimitable style and with spectacular narrative skills makes a detailed analysis of periodic market centres with a view to understand their role in the development process of a rural community. An attempt has also been made to assess the growth potential of periodic markets and their impact on urbanisation process. The author's thorough painstaking research shows that periodic market settlements tend to develop higher order functions and the spatial extent of the service areas of markets depend on such demographic and economic factors as population density, agricultural productivity and accessibility. As the social scientists, planners and others face the challenge of comprehending, anticipating and evolving strategies in rural development, the assertions and findings of the book would surely prove to be valuable. Dr. Reddy's book will be of immense help not only to academicians, but also to planners, administrators and to all others who are interested in rural development.

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ISBN 81-7024-625-3

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**PERIODIC MARKETS
AND RURAL
DEVELOPMENT**

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By

V. SATYANARAYAN REDDY

ASHISH PUBLISHING HOUSE
8/81, PUNJABI BAGH, NEW DELHI-110026

Published by :

S.B. Nangia

for Ashish Publishing House

8/81, Punjabi Bagh

New Delhi - 110026

Tele. 50 05 81

541 09 24



Library IAS, Shimla



G3275

Show room :

5, Ansari Road,

Darya Ganj

New Delhi - 110002

Tele. 3274050

381.4

R 246 P

ISBN 81-7024-625-3

1994

© Author

Typesetting by :

Computer Codes

Virat Bhawan, Comml. Complex,

Mukerjee Nagar, Delhi - 110 009

Phone : 7241200

Printed at :

Efficient Offset Printers,

New Delhi

1337 ~~2~~
219/94

ACKNOWLEDGEMENTS

I am deeply indebted to Prof. K.N. Gopi, my research guide, for his constant and invaluable guidance at every stage but for which this work would not have been possible.

I am grateful to Prof. Vithal Reddy, Head of the Department for the facilities provided for me in my work.

I am grateful to Dr. Kalpana Markandey and Shri S. Simhadri, Lecturers in Department of Geography for their useful suggestions.

I am particularly thankful to Shri P. Praveen Reddy and Shri P. Padmanabha Rao, Cartographers, working in Centre for Economic and Social Studies, who had very willingly provided the village-wise map and also all possible support for the cartographic work.

I am thankful to Mr. B. Venkata Ramana Reddy and B. Bal Reddy who helped me in field survey.

I am especially thankful to Shri K. Narayan Reddy, Shri B. Damodar of the Department of Geography who have assisted me in my research work.

Many individuals and Institutions have extended cooperation and assistance to me and I am grateful to one and all.

I am thankful to Shri M. Anand for neatly typing my manuscript.

—V. SATYANARAYAN REDDY

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CHAPTER I

INTRODUCTION

The word 'Market' is a derivative of the Latin word 'marcatus' meaning thereby merchandise or trade or a place where business transactions are conducted. A periodic Market is an authorised public gathering of buyers and sellers of commodities at an appointed place at regular intervals (Hodder, 1965 a.p. 57). Market centres are the places to which consumers travel to buy or exchange goods. A market place is characterised by the large number of simultaneous person to person transactions. Besides being points of economic contact markets serve as places of social and cultural interactions.

The important functionaries at a market place are the buyers and sellers. Some people even visit the market places just to meet friends and relatives. The participants in a periodic market can be grouped into : consumers, traders, administrators and bystanders (Wanmali and Sudhir, 1981).

Bystanders are people who come into the market to spend their day either meeting people or just going around the market. The administrators are people who are responsible for the law and order at the periodic market and the collection of taxes. This is performed usually by the people who are entrusted with authority.

Consumers, who are local people, buy their goods in the periodic market from traders, relatively speaking are non-local

The itinerant traders, a mobile salesman who moves from one market to another and returns to his home base after doing business in one or more markets in a week.

Markets as Central Places

The functions of central places are to provide a wide range of goods and services to the population of the surrounding areas but the existence of a central place is dependent upon its access to a minimum or threshold level of demand ability to support the service offered by the centre (Hodder and Lee, 1974 p. 136).

Christaller's idea of the central system is based upon a specific understanding of its most basic unit the central place. Settlements, according to him have geographical space and population in common, but the basic element of his central place is its capacity to provide goods and services to an area, and populations, larger than itself. Christaller(1933, 1966). The range of services provided by each settlement may be extensive or limited, but the function as a service centre is common to all. Although population size was considered while researching in to the question of size, distribution and number of settlements, Christaller pointed out that the role of settlement of market centres are the most important characteristics of his central place system (Christaller, 1933, 1966). There is no difficulty in considering a

periodic market as a service centre and as a central place in strict christallerian terms because it serves an area and population larger than itself. But the most distinguishing factor between Christaller's central places and periodic markets as central places is that the farmers are regarded as fixed in time and space whereas the periodic markets are fixed in space but 'unfixed' in time (Wanmali, and Sudhir, 1981).

Market places mesh supply and demand in both their spatial and temporal variations. While the local exchange is related to small scale division of labour, the internal trade and central place functions are expression of large scale of division of labour. The transport net works help in linking the food surplus and food deficit areas in the form of internal trade links. As soon as the internal trade begins to dominate local exchange at a market place, the functions of a market tend to achieve a complex system.

Further, generally a market place is located near to other central place institutions such as religious places, administrative offices and socio-cultural institutions. It helps the people of the tributary area to visit all the institutions on the same day. On the other hand, a majority of people live away from the central place institutions. Therefore, to minimise efforts, expenses and inconvenience in travel, all these institutions are generally visited in one single journey. In such cases markets are generally periodic in nature. In certain cases periodic markets may be located in between two settlements particularly near the road junctions and river

crossing. Market centres serve the people at a particular time and place with motive for exchange. A successful market does provide all these services and develops as one of the most important central place institutions (Srivastava, 1977 p. 53).

Organisation of Periodic Markets

Any study on periodic markets have to take into account the organisation of points *i.e.*, settlements — rural/urban, central places/service centres or market centres. Different lengths of market intervals have been identified but a seven day interval seems to be a very common phenomenon (Wanmali and Sudhir, 1981).

If there are two market days within a week it is a more likely that they will be so located as to have the maximum temporal distance (Wood, 1973). Similarly in such a case, it has been seen that depending upon the volume of trade, one of them is a major and other is a minor, market day (Symanski, 1973 ; Bromely, 1975). A further classification of these types of occurrence has been made on the basis of the type of economic activity such as wholesale marketing (Symanski, 1973).

When new markets are located in areas which already have some markets, the new markets can either select their market days by avoiding those of the existing market or be in conflict by selecting the same day as a market day (Wanmali and Sudhir, 1981). Fagerland and Smith have observed that 'proximity' in space is inversely related to proximity in time and hence suggest that the new market will select non-conflicting day as their day of market (Fagerland and Smith, 1970). Fagerland and

Smith's observations regarding space, time, relationships between periodic markets, a number of studies have partially confined the original hypothesis that proximity in space will result in separation in time (Smith, 1971 *a* ; 1971 *b* ; Good, 1972 ; Wood, 1973).

Review of Earlier Work

Attempts have been made in the west to enunciate models for the location of a market town. Even in the West, two contrasting and divergent models have been profounded for the development of market towns. One theory profounded by Bohannan suggest that producer's surplus and need to barter them has been the main cause for market development. Further compartmentalisation of human being and the need for division of labour led to local and long distance exchange of commodities. A diametrically opposite view is held by some other like Berry and Davies. As far as Davies is concerned marketing geography is concerned with describing that aspect of geography which is concerned with tertiary economic activities and particularly the distributive trade. According to him market centre is the end result of a series of decision not made locally but on account of competitive and complementary geographical regions.

An exhaustive bibliography of periodic markets, daily markets and fairs (Bromely, 1974) and also the publications of this sort of a market place studies have already been brought out by Bromely. Some of them also like Hodder, Smith also brought out the publications which incorporate the various perspectives

of marketing studies more particularly postulated in the following time sequence of events.

- (a) Trade route
- (b) Markets established along the trade routes and
- (c) Local markets developing around the original parent market as a net work of tracks or roads develop
- (d) Markets hierarchy, ranksize relationships, marketing circuits and synchronisation.

There is a big gap in the literature on this theme by Indian Geographers as they have neglected these topics.

(i) Origin and early development of market places; (ii) The relationship between the evaluation of the markets and that of the shops; (iii) The reasons why certain goods are habitually traded in the market place while other goods are normally traded elsewhere; (iv) The distribution and the spatial characteristics of the societies without any market place systems; (v) The importance of marketing activity in the process of economic development and social change. There is only one geographer who, made an attempt in this direction. Parvathi, C. made an attempt to go into the theoretical origins and location of Polachi markets.

Many of the Indian contributions have dealt with locational and other aspects of market towns. However, none of these have gone deep into the causes and factors that led to the establishments of these markets towns. Simple relationship between market towns and surroundings have been brought out in the some of these

studies. No Indian scholar has exclusively dealt with this theme.

Many of the studies have dealt with market centres and existing networks. These studies do not elaborate on the causes and consequences of such network nor their impact on marketing.

Mathur in his study has focused attention on the influence of area on some commodity in U.P. He has discussed bigger and smaller markets and the commodities that arrive in to these markets. A large number of hinterland studies are required so that factors operating in each of the market centres and their service area can be understood.

Market as commercial institutions have a number of functions to perform. They perform utility function, exchange function and an institutional function. Manzoor Alam (1966) and Mehdi Raza (1972) are the two Geographers who have done work in this field.

Markets are not only commercial centres fulfilling exchange functions but also are growth points. Market centres have a tendency to establish long links with surrounding areas. A viable market attract a large number of sellers and buyers. In order to serve the congregation of these people a host of activities begin to converge on these centres. Good and dense transportation network, banks, storage points, grading establishments, packaging, telephone, telegraph links tend to get strengthened in these centres. By virtue of establishment of the market the income of the

settlement establishments are enhanced. Thus a chain effect take place on account of the establishment of markets. It is correct to say that market in its wake paves the way for local and regional development.

Objectives of the Present Study

The present study proposes to make a detailed analysis of the periodic market centres in Karimnagar District with a view to understand their role in the development process of the Rural community. Besides an attempt will be made to assess the growth potential of these markets and their impact on urbanisation process in the District. This will involve the determination of the role and position of the centres in the settlement hierarchy of the district. More specifically the evolution of periodic markets in Karimnagar District and to assess their role in rurul development; To examine the spatial pattern of development in the district so as to assess their impact on the development process; To make a detailed analysis of the structure of selected periodic market settlements in order to assess their role in urbanisation process.

The proposed study may help in testing the following hypotheses:

- (a) The periodic market settlements tend to develop higher order functions and emerge as higher orders settlements.
- (b) The spatial extent of the service area of a market depend on population density of the surrounding

areas, agricultural productivity and accessibility to the market.

Methodology and Data Base

The data required for the study was obtained from primary and secondary sources. The census and various State and Central Government agencies have provided all the secondary data required. Besides a large amount of primary data was collected through a detailed questionnaire survey of selected markets, personal interviews and field observations.

Both Cartographic and Statistical techniques have been used in the analysis and interpretation of the data as well as presentation of the result.

CHAPTER II

ENVIRONMENTAL SETTING

Karimnagar is believed to have been named after Syed Karimuddin. He was a chieftain of Elgandal during the reign of the late Nizam. It is said that Syed Karimuddin founded a village near the Elgandal fort at a distance of 5 kilometres towards the north of Elgandal and named it as Karimnagar after him.

During the Late Nizam, Elgandal became a district with its headquarters at Elgandal in the dominions of Nizam. In 1905, the district headquarters was shifted to Karimnagar from Elgandal and the district was also renamed as Karimnagar. After the formation of Andhra Pradesh in 1956, the district became a part of Andhra Pradesh State.

Location

Andhra Pradesh State is divided or categorised into three regions, Coastal Andhra, Telangana and Rayalaseema. Karimnagar district is part of the Telangana Region of Andhra Pradesh. The district is located between latitudes 17°59' and 19°5' North and longitude 78°31' and 80°22' East and encompasses an area of 11,824 sq.kms. The district is bounded by Adilabad district in the North, Maharashtra State and

Madhya Pradesh State in the North-East, Warangal district in the East and partly South Medak district in the South and Nizamabad district in the West. This district is about 165 km. away from the Capital City of Hyderabad towards North and is having fourteen talukas and 14 Panchayat Samithies.

Administrative Division

Administratively, the district changed from time to time. This district was comprised of nine talukas in 1897. The talukas were Chinnur, Jagatial, Jammikunta, Karimnagar, Laxettipet, Mahadevpuram, Siddipet, Sirisilla and Sultanabad (Census HB 1981). The district Karimnagar lost Chinnur, Laxettipet and Siddipet talukas to neighbouring districts but Parkal taluka was added to this district. In 1913, the taluka headquarters of Jammikunta shifted to Huzurabad. Later Parkal was shifted to Warangal district in 1953. In 1950 Metpalli taluka was created and its headquarters was changed to Peddapalli in 1965 (Rajgopal, 1974). Karimnagar district then emerged with seven talukas, namely, Karimnagar, Metpalli, Jagatial, Peddapalli, Manthani, Huzurabad and Sirisilla. After a gap of 25 years these talukas were further divided into 14 talukas. Karimnagar taluka was split into three talukas — they are Karimnagar, Husunabad and Gangadhara; Jagatial into Jagatial and Mallial Peddapalli into Peddapalli and Sultanabad; Manthani into Manthani and Mahadevpur; Huzurabad into Huzurabad and Bhimdevarapalli; Sirisilla into Sirisilla and Vemulawada and Metpalli.

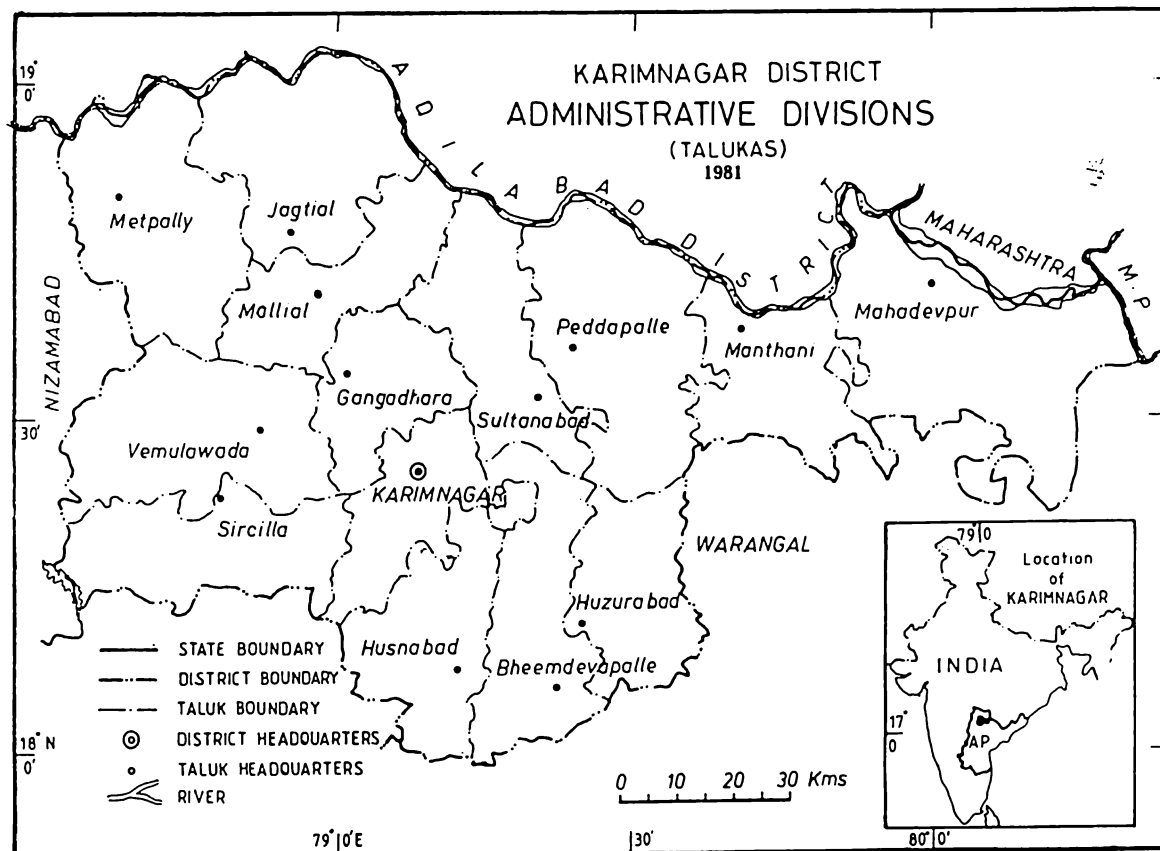


Fig. 2.1 :

Geology

A large area of this district comprises of granite formations and belongs of the Archean age. The other geological formations are Gondwana and Purana and belong to Carboniferous to triassic and precambrian aged respectively. Granites are of pink and grey colour. Gondwana group of formations are found in the far eastern extension beginning at Ramagundam which is in Manthani taluka. They are Sedimentary rocks, deposited in streams and lakes.

They are Backar Lower Kamthi, upper Kamthi Kota. The Backar variety found in Manthani Taluka have coal deposits. Purana group with Pakal formations are found in bands running North-West to South-East along the Godavari river. In the South-West peninsular Genesis with Dorite and Magnite formations are found.

A few stretches of Basalt, Banded Hematite/Magnetite formations are formed here and there. A small strip along the Godavari river Alluvium formations are discernible.

Relief

A range of hills commencing at Garepalli traverse in a North-Eastern direction towards Jagatial. A second range known as Shanigaram range proceeds from Shanigaram and Mallangur, parallel to the former range, at a distance of about 51 kms. A third range starts in the South-East corner of the District from the valley of the Manair river and runs in a North-Easterly direction.

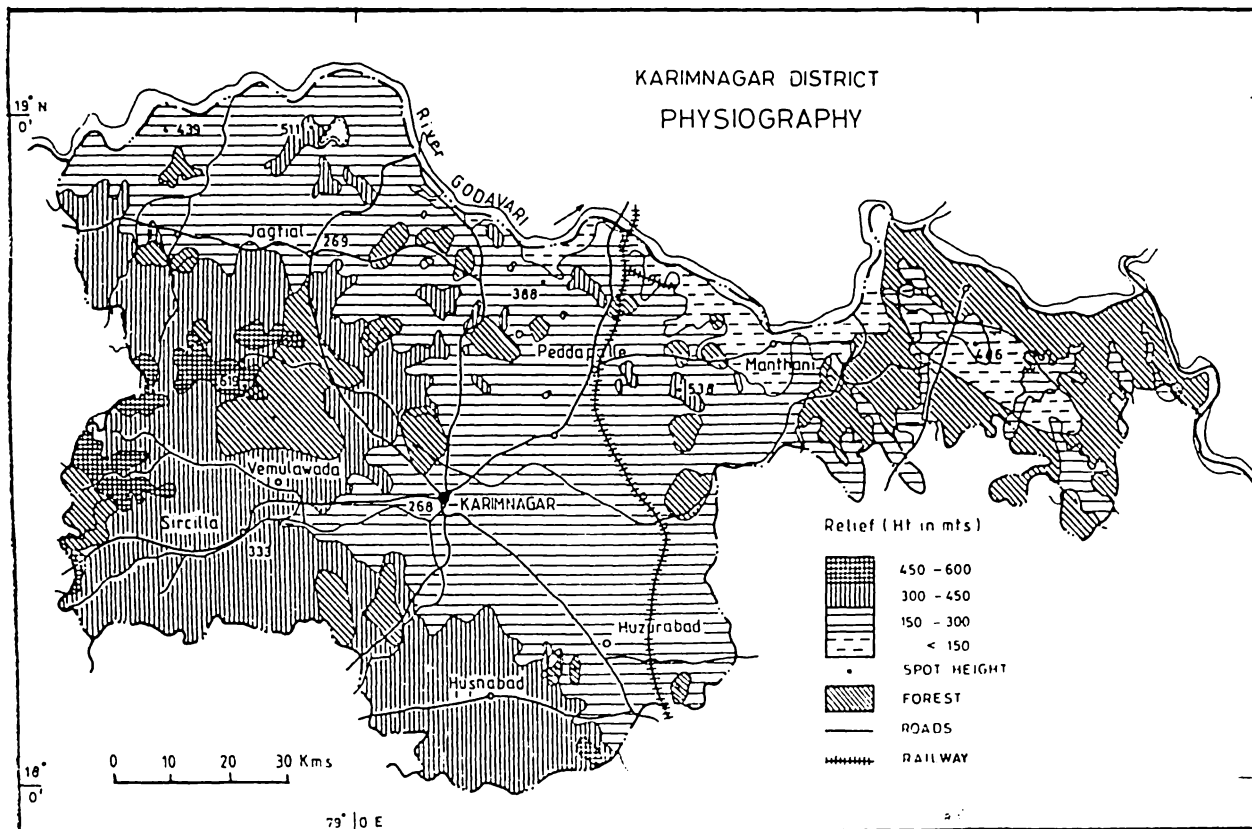


Fig. 2.2 :

Intersecting the Shanigaram range, it passes beyond Ramgir, where it is about 1600 ft. above the sea-level. This range ends near the river Godavari.

Soils

The soil in the district, are predominantly red soils consisting of 73 per cent with 68 per cent dubba soils and 5 per cent chalka soils and the rest of 27 per cent being Black clay. The dubba soils occurs in all the talukas of the district except Manthani taluka which mostly comprises of Black clay and chalka soils. The Black clay soils occur mostly in manthani, Peddapalli and Huzurabad taluka with some patches of Black clay soils scattered here and there.

Climate

The Monsoon which plays a vital role in the agricultural economy of the District in South-West Monsoon. The average annual rainfall of the district is 914 mm. and is considered adequate. It is not subjected to droughts and floods. The rain is mostly received *i.e.*, 80 per cent from South-West Monsoon during the period June to September.

The climate of the district is characterised by a hot summer and is generally dry except during the South-West Monsoon season. The relative humidity is high during the monsoon. The temperature shoots up to 43°C in summer and the highest recorded temperature at Ramagundam is 42.7°C and the lowest 8.5°C. Storms and depressions in the Bay of Bengal affects the weather. These storms occur mostly from May to September.

Drainage

The largest river in South India is Godavari which forms the boundary all along the Northern Part of Karimnagar district. The river starts in the Western ghats at Thriambak near Nasik in Maharashtra and flows into the Bay of Bengal in the East. It covers 283 kms. in the district. The river discharges water throughout the year and the whole of Karimnagar district forms a part of the catchment area of the river. Most of the land is irrigated by this river, through Sriramsagar project which is built on this river. Streams of various capacities in the Districts form the tributaries of the river. Maneru is one such river which has a significant water discharge and forms one of its major tributaries. It rises in the South Western part of the district, runs parallel to Godavari and subsequently takes a turn to the North-Eastern direction and joins in the river by covering 232 kms. in this district. The Mulavagu on the northern side and the Mohedamada river and the Nakkavagu on the Southern side are important tributaries of Maneru river in the district.

Forests

The total forest area of the district is 228,854 hectares. It is about 19.36 per cent of the total geographical area of the district. For administrative convenience, the forests are grouped into two divisions.

Karimnagar East forest division and Karimnagar West forest division. The East division consists of 4 ranges. Azamnagar, Bhupalpalle, Chintakani and

Mahadevpur. West forest division includes five ranges, Jagatial, Raikal Kodimial, Manthani and Sirisilla. The forests of this district fall under tropical dry deciduous and tropical thorn forest types consisting of mixed teak and miscellaneous types of forests. In Godavari basin the forest area is more valuable and they consist mostly of teak in pure stands and very rarely found with other species. A large area is covered with forest in two talukas Manthani and Mahadevpur.

Demographic Characteristics

Population Growth:— The study of demographic structure is very important to understand the socio-economic development of the district. Further the analysis describes various process like growth, distribution and pattern of change in the socio-economic sphere of the study area.

In studying the population characteristics, neither a few nor many indicators can explain absolute development as the concept of development is relative. To achieve soundness in the study of population structure and its development, all the possible dimensions are considered in the given environment. The ongoing process of change in population characteristics and the rural and urban dichotomy are studied by taking a set of indicators which together explain the population distribution and growth, sex ratio, Scheduled Caste and Scheduled Tribe population and literacy on the one hand and its association in economically productive activities like agriculture, industry and non-workers on the other.

KARIMNAGAR DISTRICT
DECENNIAL VARIATION
(ABSOLUTE)
1951-1981

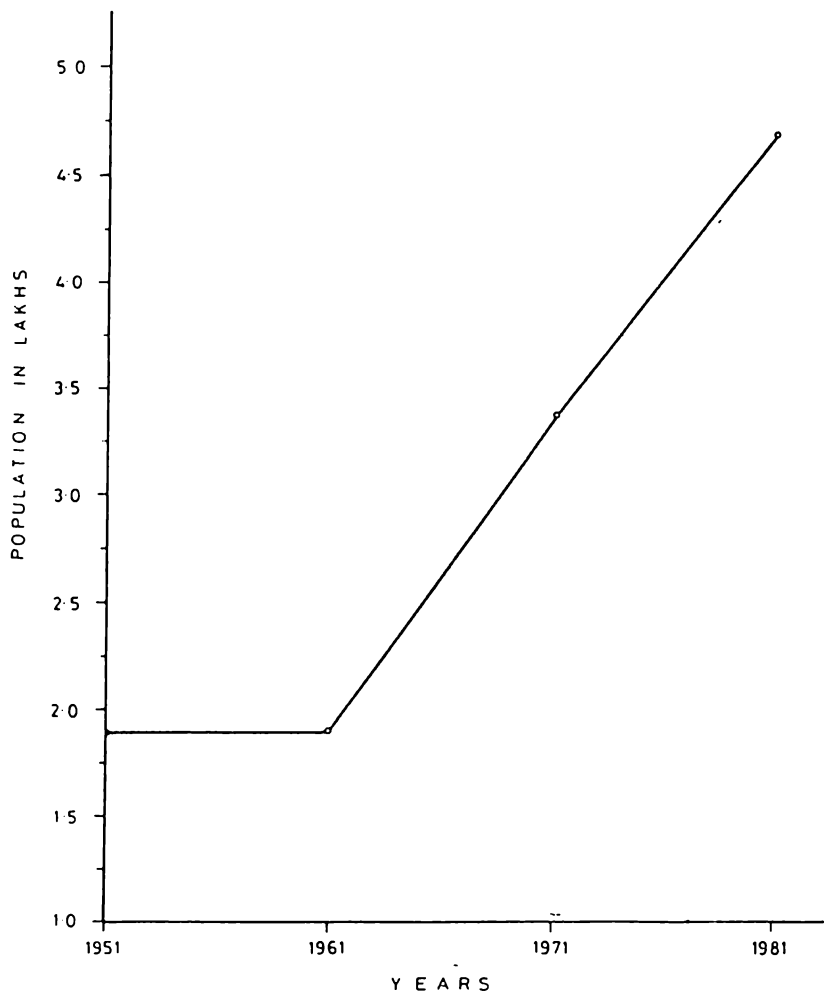


Fig. 2.3 :

Demographic Trend

Karimnagar district has been experiencing population growth since 1941. The population of the district from 12,37,084 in 1941 has gone upto 24,36,323 in 1981 registering a two-fold increase during the last five decades. Although the district population has been growing continuously' the intensity of growth has not been uniform.

The data in (Table 2.1 and Fig. 2.3) gives the growth of population and its decade variation during the last five decades.

TABLE 2.1
KARIMNAGAR DISTRICT : GROWTH OF POPULATION
1941-81

Year	Persons	Decade variation absolute	Decade variation present
1941	12,37,084	—	—
1951	14,28,168	1,91,084	15.45
1961	16,21,515	1,93,347	13.55
1971	19,63,928	3,42,413	21.12
1981	24,36,323	4,72,395	24.05

Source : Census of India

The district registered a decade per cent growth of 15.45 during 1941 to 1951 but came down to 13.55 during

KARIMNAGAR DISTRICT
GROWTH OF POPULATION
1941-81

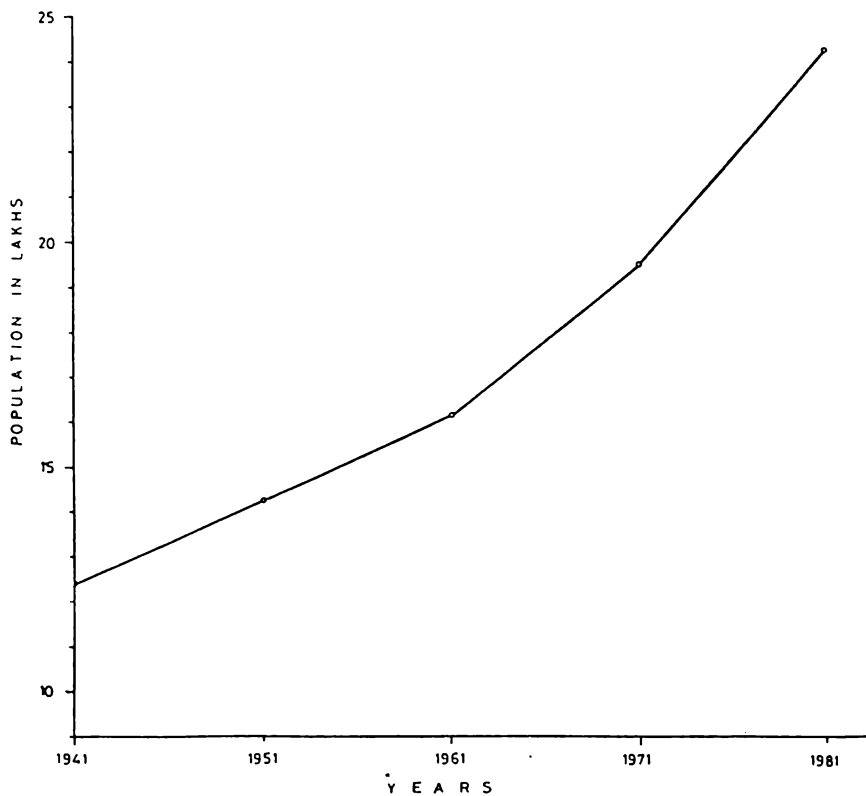


Fig. 2.4 :

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1951 to 1961. Which is due to severe drought (famine) occurred during sixties. In 1971 it has registered one of the peak growth 21.12 per cent which is due to industrial development and irrigation facilities provided by the Sriramsagar Project. In 1971-81 the growth was 24.05 per cent.

Population Growth

Population growth is a dynamic process and inherent in settlements as it is the manifestation of human habitation. It greatly depends upon the natural growth and migration. Although natural growth is common phenomena, a small migration component is also observed. Population growth is computed by the following method (Shryock *et al.*, 1976).

$$r = \frac{P_n - P_o}{P_o \times n} \times 100$$

Where r = annual amount of change or rate of change

P_o = initial population

P_n = population at the end of the period

n = is the time in years

Growth rate is worked out (Table 2.2; Fig. 2.4) over two decades 1961 to 1981 by adopting taluka as a spatial unit.

The State growth rate is 24.40 comparatively less than the District growth rate which is 25.11. This is due to rapid industrial development in the District and also

the Singareni Collieries. The people of the surrounding districts have migrated to this district due to employment opportunity in major industries like Kesoram Cement Factory, National Thermal Power Corporation and Fertilizer Factory at Ramagundam which are Central Government undertakings.

Further growth rates of the talukas of this district are also analysed in order to understand the spatial pattern.

TABLE 2.2
KARIMNAGAR DISTRICT : GROWTH OF POPULATION,
1961 AND 1981

Taluka	Population		
	1961	1981	(Per cent)
Mahadevpur	56,286	74,333	16.03
Manthani	42,064	69,151	32.19
Peddapalli	1,62,610	3,11,570	45.80
Sultanabad	1,15,441	1,53,119	16.32
Huzurabad	1,37,181	1,92,316	20.09
Bheemdevarapalli	1,31,331	1,78,815	18.07
Mallial	1,01,411	1,33,621	15.88
Jagatial	1,37,654	2,20,505	30.09
Metapalli	1,43,625	2,41,049	33.92
Vemulawada	1,40,642	1,75,523	12.40
Sirisilla	1,17,661	1,86,800	29.38

(Contd.)

Table 2.2 (*Contd.*)

Taluka	Population		
	1961	1981	(Per cent)
Gangadhara	89,646	1,23,394	18.82
Karimnagar	1,35,536	2,39,409	38.31
Husunabad	1,10,427	1,36,718	11.90

Source: Census of India

There are six Talukas which are having growth rate greater than the District growth rate. These are Manthani, Peddapalli, Jagatial, Metpalli, Sirisilla and Karimnagar. Manthani and Peddapalli has much higher growth rate than the district growth rate due to migration from neighbouring districts. These two talukas are very close to industrial areas and also Singareni Collieries which attract migrants from outside to these Talukas. Metapalli and Jagatial are having irrigation facility from the Sriramsagar Project.

Karimnagar taluka is having high rate due to the submersion of surrounding villages under the lower Manair Dam which is a reservoir of the Sriramsagar Project. A large number of people from the submerged villages have come to the town and constructed houses and settled there. Besides a large number of land-lords migrated to this taluka for fear of the radicals. Some of them have migrated for their childrens' study. The trend of increase of growth rate indicates accelerated Urbanization. Mahadevpur taluka, which is mostly of forests. So the growth rate is less and also other talukas

Sultanabad, Huzurabad, Bheemadevarapalli, Vemulawada, Gangadhara, Husunabad are less developed talukas which does not have any irrigation facility and also have water scarcity. The growth rate for the country side is less than the urban areas. All this suggest that the trend is towards rapid growth of population in urban areas of the district.

Demographic Structure

The Sex Ratio, the number of females per thousand males, is a useful demographic measure in urban studies. This is particularly so in Indian cities. In a majority of the Indian towns and cities there are more males than females causing sex imbalances resulting in serious social problems particularly in large cities like Bombay, Calcutta. This sex imbalance is largely due to selective migration to these cities.

A preliminary investigation into the 1981 census figures of Karimnagar district reveals that the district contains 24,36,323 persons of which 12,21,843 male and 12,14,480 female. The district sex ration is 994 whereas the States sex ration is 975. The district sex ratio is considerably higher that the sex ratio of State. However, marked variation is found in rural (1003) and urban (947) areas.

A comparative study of sex ratio is made for the year 1961 and 1981 by each Taluka (Table 2.3 and Figs. 2.5 and 2.6).

The Table 2.3 reveals that the sex ratio in the talukas with important urban centres have lower figures. Out of 14 talukas nine of the talukas have relatively higher sex ratio during 1961-81. This shows the influence

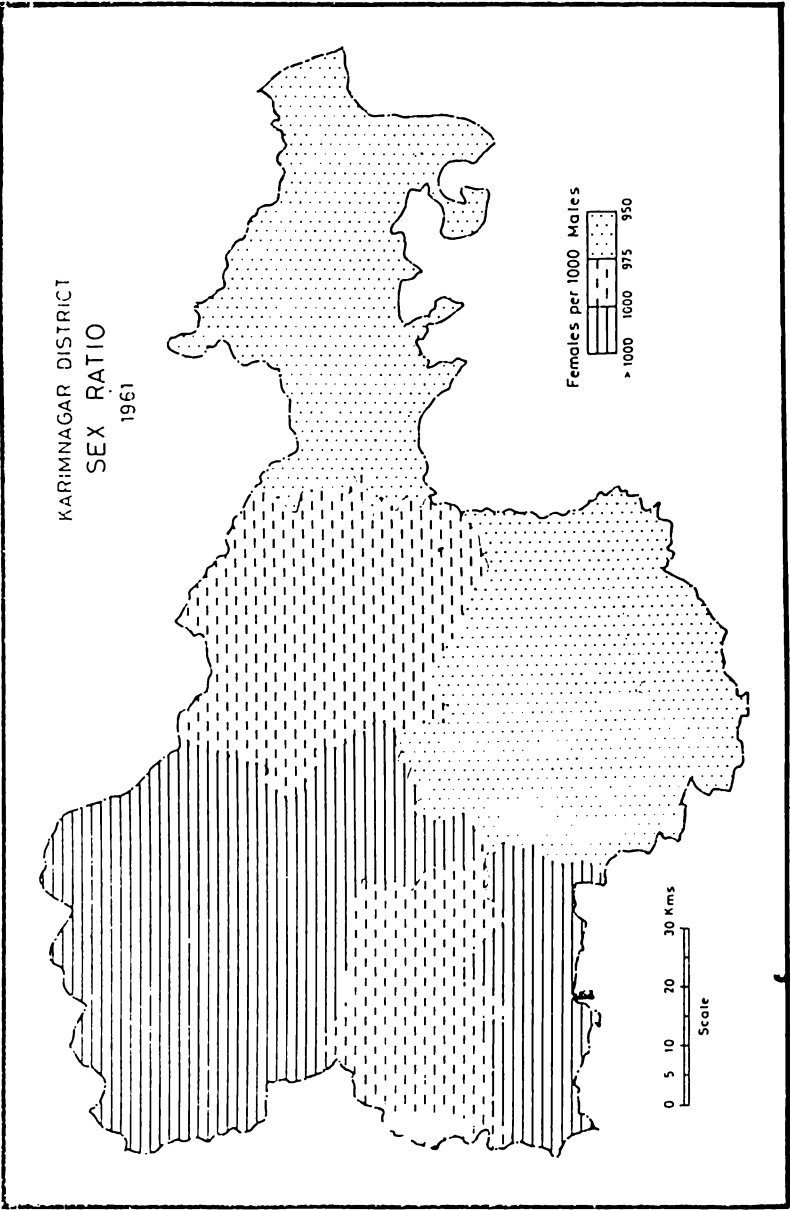


Fig. 2.5 :

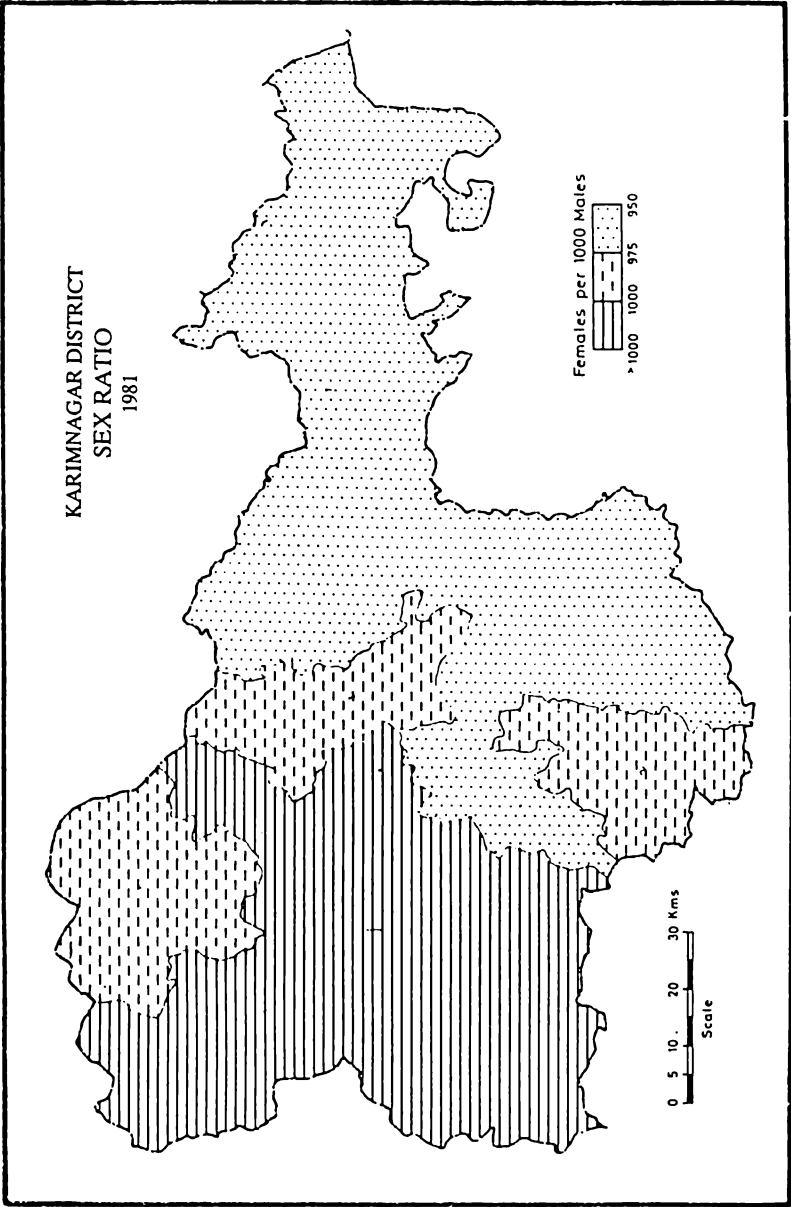


Fig. 2.6 :

of urban centres. In the remaining five talukas the sex ratio has decreased a little. These have urban centres and also are developed talukas compared to the talukas where the sex ratio is high.

At the 1981 census, Huzurabad with a population of 21,142 was for the first time emerged as a town. The relationship between urbanization and sex ratio is very clear. Also lower sex ratio is associated with a higher level of industrial development.

TABLE 2.3
KARIMNAGAR DISTRICT : TALUKA-WISE SEX RATIO
1961 and 1981

Taluka	1961	1981
Mahadevpur	965	968
Manthani	963	974
Peddapalli	989	960
Sultanabad	990	979
Huzurabad	968	962
Bheemdevarapalli	964	974
Mallial	1036	1043
Jagatial	1025	1000
Metapalli	1073	1068
Vemulawada	993	1022
Sirisilla	1014	1024
Gangadhara	1007	1009
Karimnagar	955	951
Husunabad	970	991

Source : Census of India 1961 and 1981

Talukas which are having lower sex ratio in 1981 compared to 1961 are Peddapalli, Sultanabad, Huzurabad, Jagatial, Metpalli and Karimnagar. All these talukas which are irrigated by the Sriramsagar project besides major and medium industries are also located in these talukas. These are also the major urban centres in the district.

The talukas which are less developed have high sex ratio than the districts sex ratio. Also these do not have irrigation facilities. Such talukas are Mahadevpur, Manthani, Bheemdevarapalli, Mallial, Vemulawada, Sirsilla, Gangadhara and Husnabad. Manthani and Mahadevpur talukas are mostly covered by forest areas.

This uneven distribution of males/females may be attributed to various factors. The generally accepted view of low female population ratio is associated with the urban centres in developing societies. The study area appears to support this view. This implies that the male population in the urban areas increased significantly and this is corroborative of the generally accepted view that, in under developed societies, towns attract population as they are relatively speaking, employment generating centres. Speculating thus, the first generation of migrants mostly males, leave their families at home and move to the towns. The counterpull is persistent in this particular district environment, as half of the district comes under assured irrigation system resulting in employment potential. These two predominant processes are evident when we look at the development that has taken place during 1961 to 1981.

Scheduled Castes and Scheduled Tribes

In Indian society certain castes have kept away from the main stream of the development for generations and have remained underprivileged. They are notified under Article 34 of Indian Constitution as Scheduled Castes and Scheduled Tribes.

Scheduled Caste population is significant in Karimnagar and accounts for 18.97 per cent of the district population when compared to Telangana (16.3 per cent) and Andhra Pradesh (14.8 per cent) as per the 1981 census.

Among the talukas, highest proportion of Scheduled Caste population is returned in Mahadevpur taluka accounting for 26.84 per cent of the total Scheduled Caste population in the district and the lowest proportion is returned in Bheemdevarapalli taluka accounting for 7.24 per cent of the total Scheduled Caste population in the district which is a backward, undeveloped taluka in the district. The reason for the highest percentage in Mahadevpur taluka is possibly due to the large forest area. Huzurabad stands second in the district with its percentage of 24.45 to the total of Scheduled Caste population in the district. Next comes Gangadhara and Huzurabad talukas which are maintaining their *status quo*. Peddapalli taluka and Manthani which are industrial belts with coal mines.

Scheduled Tribe : Scheduled tribe population of Karimnagar district is (0.84 per cent) is not of great significance. This is in tune with the majority of talukas in the district which are constituting a negligible percentages to the total population. Among the talukas,

highest proportion of Scheduled Tribes population is returned in Mahadevpur which is mostly forest areas accounting for 18.43 per cent of the total Scheduled Tribes population of the district and the lowest proportion is returned from Gangadhara taluka accounting for 0.82 per cent.

TABLE 2.4
POPULATION : SCHEDULED CASTES AND SCHEDULED TRIBES, 1981

Taluka	Scheduled Castes		Scheduled Tribes	
	No. of persons	% to total population	No. of persons	% to total population
Mahadevpur	19,694	26.84	13,027	18.43
Manthani	12,928	18.57	4,075	5.85
Peddapalli	56,414	18.18	5,857	1.89
Sultanabad	17,254	11.17	1,614	1.05
Huzurabad	47,103	24.45	4,013	3.04
Bheemdevarapalli	12,738	7.24	5,063	2.63
Mallial	26,459	19.82	1,365	1.02
Jagatial	31,105	14.14	7,504	3.41
Metpalli	33,854	14.03	4,924	2.04
Vemulawada	19,080	10.82	3,810	2.16
Sirsilla	30,071	16.11	3,026	1.62
Gangadhara	26,922	21.54	1,030	0.82
Karimanagar	31,821	12.98	2,290	0.93
Husunabad	17,932	13.59	4,013	3.04

Source : Census of India

Literacy Rate: Literacy rate is another important demographic measure in urban analysis. It seems that

Karimnagar district has only a rate of 21.5 per cent literacy while Telangana has 26.5 per cent and Andhra Pradesh 39.9 per cent. This clearly shows that this has lower literacy level in relation terms. Further, a probe into rural urban and male-female aspects explain the pathetic condition of rural and female literacy level in the district.

According to the census of India 1981 a literate is a person who can read, write and understand and one who has crossed four years of age. A taluka-wise analysis (Fig. 2.7) of literacy, over two decades, from 1961 to 1981 reveals a glaring contrast between urban and rural areas on the one hand and males and females on the other. In 1961 the district had only 1.7 per cent of rural female literacy and from there onwards registered 3.7 per cent in 1981. No doubt that the urban female literacy of the district was better with 15.2 per cent in 1981. Specifically, the increase of rural female literacy appeared marginal in two decades.

An inter Taluka study (Table 2.5) shows that literacy ratios in taluka range from a staggering low of 7.42 per cent in Manthani to a maximum of 22.46 per cent in the Karimnagar taluka in 1961. The fact remains that the urban, a privileged section of society; have relatively higher rate when compared to the rural area. In 1981, the lowest literacy rate is Mahadevpur taluka and the highest literacy rate in Karimnagar. As a fact here it reveals that urban centres have higher literacy rate when compared to the rural areas. Karimnagar is district headquarters and is have better educational institutions. As seen from (Table 2.5) and (Fig. 2.7) the talukas like

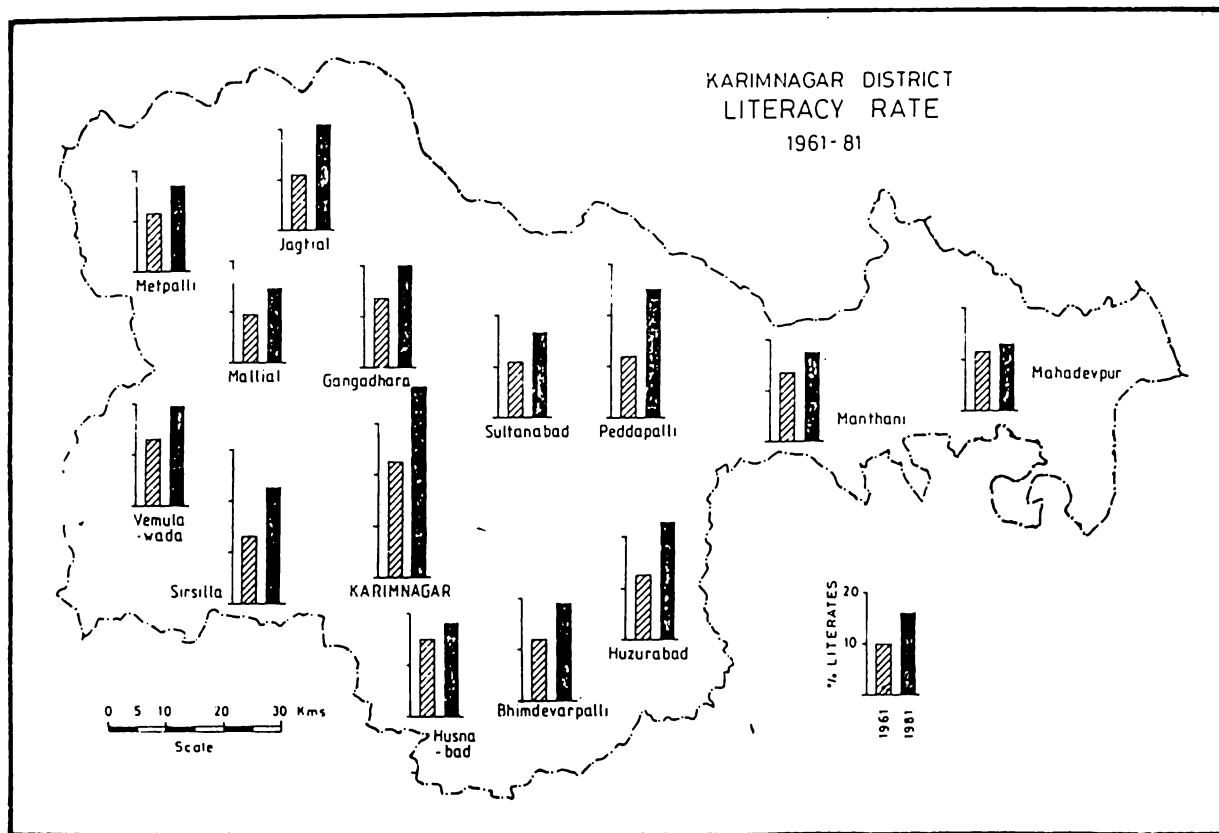


Fig. 2.7 :

TABLE 2.5
KARIMNAGAR DISTRICT : LITERACY RATE TALUKA-WISE
1961 and 1981

Taluka	Per cent 1961	Per cent 1981
Mahadevpur	11.63	13.13
Manthani	7.42	17.48
Paddapalli	12.09	24.59
Sultanabad	10.60	16.82
Huzurabad	13.22	22.46
Bheemdevarapalli	11.99	19.16
Mallial	9.27	14.35
Jagatial	12.75	21.11
Metpalli	11.34	16.90
Vemulawada	13.89	18.39
Sirsilla	12.88	22.54
Gangadhara	12.99	20.02
Husunabad	12.29	18.81
Karimnagar	22.46	37.90

Source : Census of India

Peddapalli, Jagatial, Huzurabad, Sirsilla reveals that where the developmental activities like industrial development, agricultural development and also the newly establishing institutions are also taking place, the literacy rate tend to be high. And the literacy rate is low in undeveloped areas like Mahadevpur which is covered by forest.

Occupational Structure: An analysis of the occupational structure is very important as it helps an understanding of economic dynamism of the area. It also helps us to make a realistic assessment of the district growth potential and also talukas developmental prospects.

The Tables 2.6 and Fig. 2.8 reveals that a general trend of decrease in non-agriculture sector activity in 1961 when compared to 1981 and an increase in agricultural activity. This is due to, the irrigational facilities from the Sriramsagar Project. Another reason is that the cultivator do not switch over to other occupations. One thing that can be observed here is that the educated and medium and large farmers of society do change as they are aware of benefits available in other areas. This results in shifting of occupations *i.e.*, non-agricultural occupation. In contradiction to this there is another section which holds marginal lands and in view of its prevalent illiteracy become a prey in the hands of the land owing section, who make them sell their lands for slightly tempting prices and thereby, turning them into agricultural labourers. Some traces of this phenomenon were observed in the study area.

The urban centres like Metpalli, Jagatial, Huzurabad and Karimnagar maintained the same in non-agricultural activity with a slight decrease. In Huzurabad there is a marginal decrease by 9 per cent in 1981 when compared to 1961. In 1961 Peddapalli taluka stands first among the other talukas in non-agricultural activities which has Singareni Collieries and major industries. In 1981, Karimnagar taluka stands first among the other talukas which is district headquarters

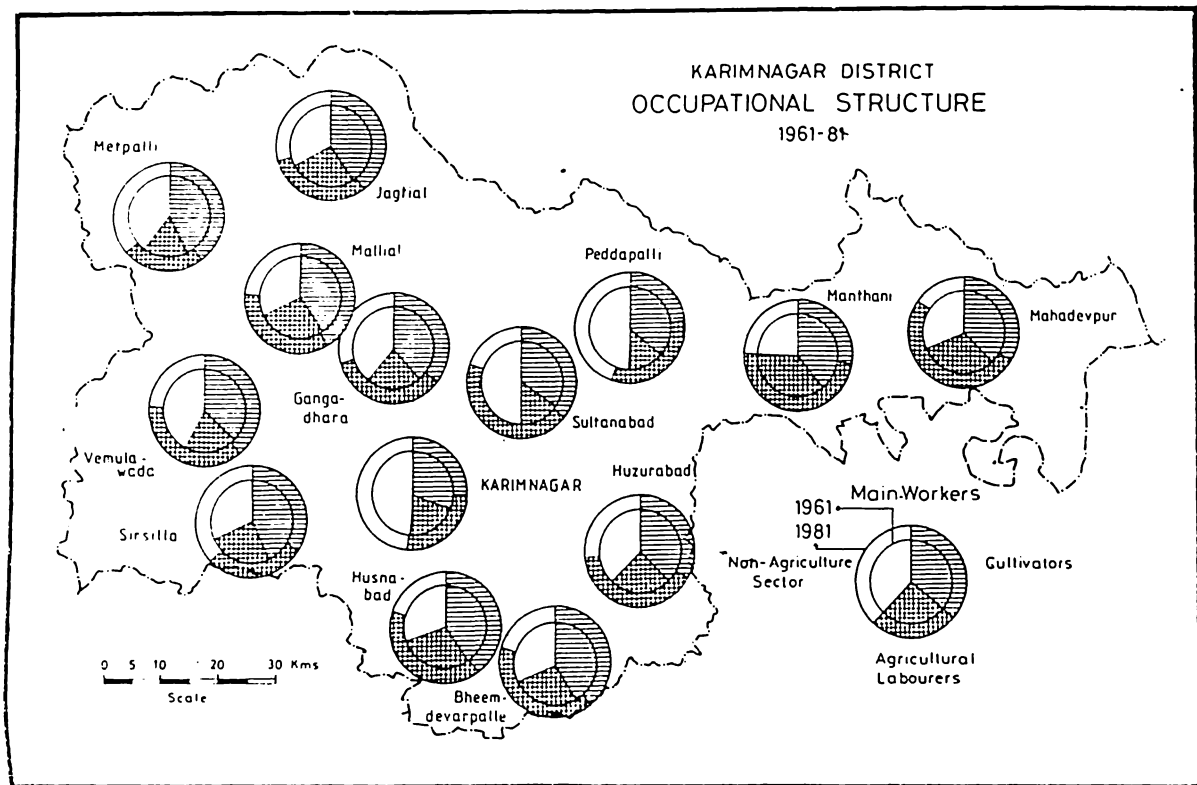


Fig. 2.8 :

TABLE 2.6
KARIMNAGAR DISTRICT : OCCUPATIONAL STRUCTURE
TALUKA-WISE 1961 AND 1981
 (Per cent to the total Workers)

Taluka	1961			1981		
	% of culti- vators	% agri- culture labou- rers	% non- agri- culture sector	% of culti- vators	% agri- culture labou- rers	% non- agri- culture sector
Mahadevpur	38.54	30.22	31.24	32.43	52.51	15.06
Manthani	38.97	37.06	23.97	27.30	51.38	21.32
Peedapalli	35.66	13.89	50.45	22.34	32.99	44.67
Sultanabad	35.10	14.90	50.00	35.50	45.13	19.37
Huzurabad	38.02	25.50	36.48	31.67	41.00	27.33
Bheemdevarpalli	43.36	24.59	32.05	38.25	41.84	19.91
Mallial	40.33	28.43	31.24	41.56	34.44	24.00
Jagatial	41.71	26.09	32.20	39.50	31.36	29.14
Metpalli	44.19	16.55	39.26	39.93	24.02	36.05
Vemulawada	36.80	20.98	42.20	39.59	36.45	23.96
Sirsilla	44.11	24.66	31.23	33.94	29.28	36.68
Gangadhara	38.04	22.62	39.34	35.45	35.70	28.85
Husunabad	42.92	26.86	30.22	40.74	40.04	19.22
Karimnagar	31.50	19.38	49.11	24.43	27.29	48.28

Source : Census of India

having administrative offices. But simultaneously there is a lot of increase in agricultural activity in both these talukas. This is due to the fact that most of the land is irrigated by the Sriramsagar project but not in

Karimnagar. When the Sriramsagar project has come up almost all the talukas have a decrease in Non-agricultural activity 1981 when compared to 1961.

The only taluka, Mahadevpur decreased substantially in 1981 Non-agricultural activity when compared to 1961. This is a taluka which is covered mostly by the forests and also a less developed taluka.

In the eastern talukas of the district have a major increase in agriculture whereas non-agricultural sector has come down, when compared with other talukas which are in western parts having a marginal increase in agricultural sector.

Dependency Rate: The workers Non-workers ratio is yet another useful demographic measure in analysing economic structure. The ratio shows the number of dependent per worker. The implication is lower the dependency ratio greater the economic prosperity of the people.

TABLE 2.7
KARIMNAGAR DISTRICT : TALUKA-WISE DEPENDENCY
RATE 1961 AND 1981

Taluka	1961	1981
Mahadevpur	0.68	1.07
Manthani	0.86	1.05
Peddapalli	0.90	1.56
Sultanabad	0.79	1.00
Huzurabad	0.80	1.41
Bheemdevarapalli	0.69	1.05

(Contd.)

Table 2.7 (Contd.)

Taluka	1961	1981
Mallial	0.65	0.81
Jagatial	0.71	0.96
Metpalli	0.60	0.76
Vemulawada	0.76	0.94
Sirsilla	0.74	1.01
Gangadhara	0.80	1.01
Husunabad	0.68	0.93
Karimnagar	1.00	1.60

Source : Census of India

The Table 2.7 presents the dependency ratio for each taluka in 1961 and 81. As seen from this Table Met-palli taluka stands last with a minimum dependency ratio of 0.60 and 0.76 in 1961 and 1981 respectively with a slight increase of 0.16. Karimnagar taluka stands at the top with a minimum dependency ratio for the last two decades from 1961 to 1981. In all the talukas the dependency ratio has been increasing during 1961-1981. This indicate the poor economy of the taluka. This also could be due to higher proportion of urban population because urban areas in general tend to have a higher dependency ratio.

Density: As per the figures of 1981 census Karimnagar district contains 24,36,323 persons of which 12,21,843 male and 12,14,480 female. Rural areas account for over 20 lakh population, of the total population of Karimnagar and the urban area contain nearly four lakh population. The rural and urban settlements

accounts for 84.2 per cent and 15.8 per cent respectively. The population density of the Karimnagar district as a whole is 206 persons per square kilometre. The rural and urban densities are 177 and 1653 respectively.

Distribution of population is influenced by the physical characteristic of the geographic surfaces. There is uneven distribution of population on land and has led to heterogeneity (Figs. 2.9 and 2.10). The uneven distribution population phenomena (Table 2.8) is conspicuous in density and ranges from the lowest 37 person per sq.km. of Mahadevpur taluka to a high of 220 persons per sq.km. of Huzurabad taluka in 1961.

There has been change in population density over two decade from 1961 to 1981. In 1981 the lowest density is in Mahadevpur as in 1961 with an increase of 11 persons per sq.km. But the change came in highest density of 370 persons per sq. km. in Karimanagar taluka. The rapid increase in density is due to influx of submerged village population and persons who came from other districts for the construction of lower manairdam.

The density of population is less than 50 due to uneven terrains coupled with forested area in the eastern part of the district, specially in Mahadevpur taluka. The density of population is more than 200 per sq.km. in talukas which are centrally located, which have fertile lands and having irrigation facility from Sriramsagar Project. Two talukas of western parts of the district Jagatial and Metpalli have fertile lands and medium scale industries are located there. The western part Mallial and Vemulawada talukas of district also have

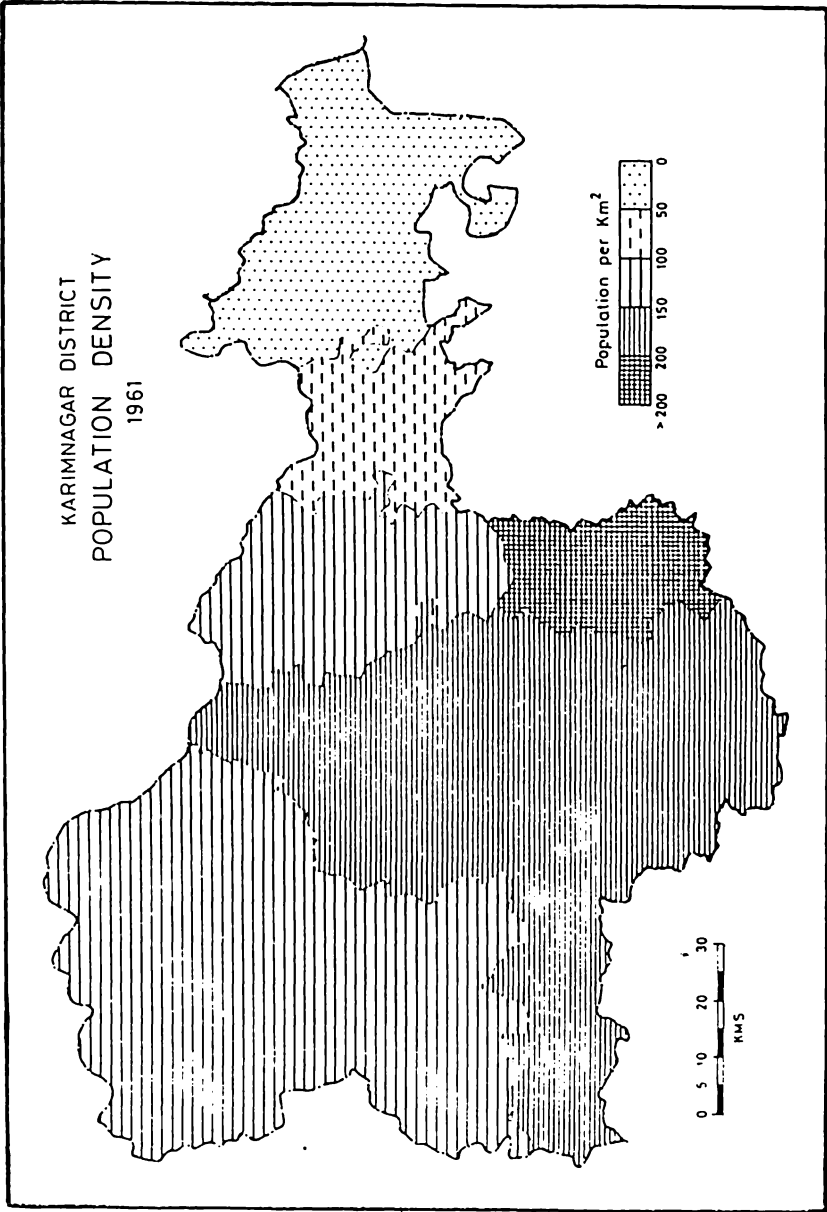


Fig. 2.9 :

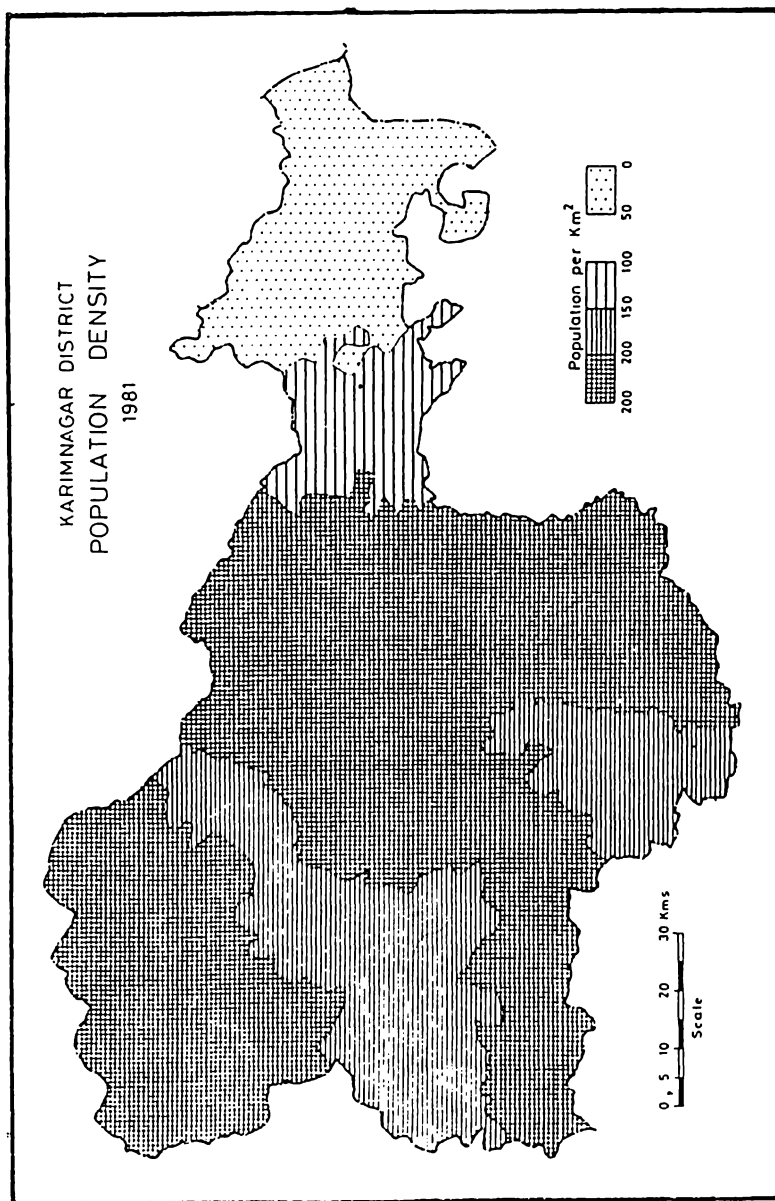
**Fig. 2.10 :**

TABLE 2.8
KARIMNAGAR DISTRICT : TALUKA-WISE DENSITY
1961 AND 1981

Taluka	1961	1981
Mahadevpur	37	48
Manthani	65	110
Peddapalli	147	286
Sultanabad	158	206
Huzurabad	220	294
Bheemdevarapalli	158	216
Mallial	150	190
Jagatial	127	210
Metpalli	150	253
Vemulawada	126	163
Sirsilla	154	235
Gangadhara	186	246
Karimnagar	195	370
Husunabad	159	191

Source : Census of India

density of 151-200 persons per sq.km. which do not have irrigation facility.

Land Utilisation: According to 1961 census land under forests constituted 20.90 per cent of the total geographical area. Similarly 'barren and uncultivable land' constituted, 7.49 per cent, land put to "non-agricultural uses" 7.05 per cent, "cultivable waste" 2.35 per cent,

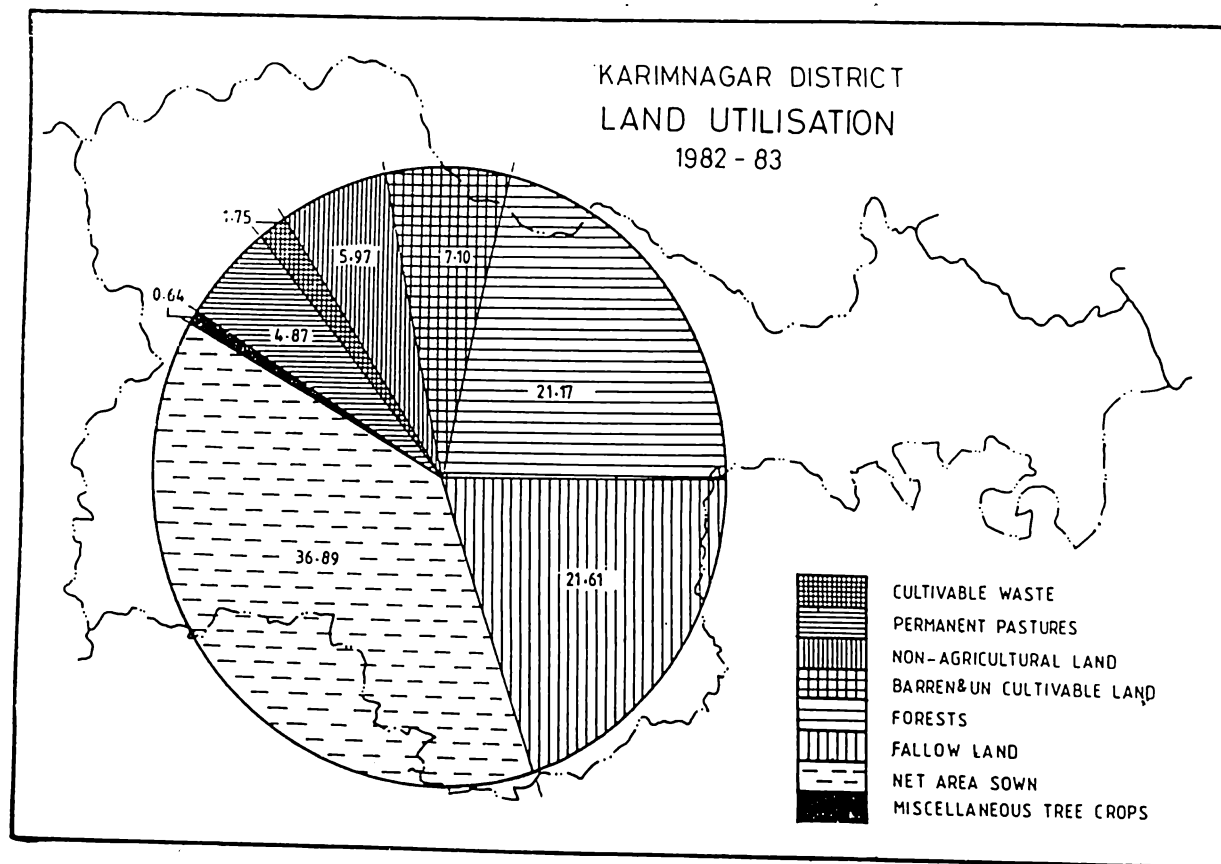


Fig. 2.11 :

permanent "Pasture land" 5.41 per cent, miscellaneous trees and crops 0.89 per cent, current fallows and other fallows 20.02 per cent. The remaining 35.89 per cent of the total geographical area was shown under "net area sown."

Table 2.9 and Fig. 2.11 shows that a marginal increase has registered in 1982-83 as compared to 1961. This was definitely due to the availability of irrigated water facility which was released during 1970's. During the period 1982-83 the acreage increased from 35.89 per cent to 36.89 per cent of the total geographical area. Lands which could be brought under cultivation without heavy investment are most probably already in use. It may be noted from (Table 2.9) that during 1961-83 a proportion of "current fallow land" was brought under cultivation with a per cent of 1.59 of the total geographical area.

Changes under other heads like such as "barren and uncultivable land", "culturable waste", "permanent pasture" etc., are with a minimum percentage like .39, .60, and .54.

Agricultural and Industrial Development

Agriculture constitutes the key sector of the economy of the district. The important food crops grown are Paddy, Maize, Jowar and other commercial crops are chillies, turmeric and groundnut. According to 1980-81 figures Paddy is grown in an area of 1,54,582 hectares with a yield of 3,38,000 tonnes. The area under maize crop was 1,00,188 hectares with a yield of 2,57,000 tonnes.

TABLE 2.9

KARIMNAGAR DISTRICT : LAND UTILISATION 1961 AND 1982-83*(Area in Acres)*

	1961	% to the total geo- graphical area	1982-83	% to the total geo- graphical area
Total geogra- phical area	29,36,830	100	29,36,830	100
Forests	6,30,866	20.90	6,21,893	21.17
Barren and uncultivable land	2,19,914	7.49	2,08,580	7.1
Land put to non-agricul- ture use	2,07,040	7.05	1,75,387	5.97
Cultivable waste	68,876	2.35	51,428	1.75
Permanent pastures	1,58,825	5.41	1,42,936	4.87
Miscellaneous trees and crops	26,260	0.89	18,718	0.64
Current fallow and other than current fallows	5,87,956	20.02	6,34,807	21.61
Net area sown	10,54,093	35.89	10,83,091	36.89

Source : Census of India and District Statistical Abstract

The figures for jowar are 78,914 hectares for 60,000 tonnes and those for cereals and millets are 3,36,997 hectares for 4,18,856 tonnes. Fruits like Mangoes, Guava, Oranges and lime are grown in about 1,315 hectares with an output of 690 tonnes.

The agricultural produce for industrial exploitation can thus be seen to be ricebran for industries like ricebran oil, Paddy husk for industries like activated carbon, fire resistance compound, straw board from paddy straw, paraboiled rice plants, flaked rice units and other allied units.

Maize offer excellent scope for medium scale industry for corn products and for the growth of connected small scale industrial products like glucose, maize oil, corn flakes, etc. Sugarcane is being cultivated in a 2500 hectares owing to the irrigation facilities made available under Sreeramsagar project. A sugar factory has come up at Muthampet, Metpalli taluka with a crushing capacity of 1250 metric tonnes per day. A number of Khandasari under small scale sector and a few jaggery units under cottage sector have started functioning.

Considerable quantities of groundnut and castor seed are also grown in the district providing scope for a few oil mills and refinery plants.

The fruit gardens of the southern region of the district yields about 690 tonnes of fruits like Oranges and Limes actually cultivated in an area of nearly 1,300 hectares. This produce give scope for few pickles manufacturing units in the district.

The biggest economic booster for the district is the Sreeramsagar project and Manairdam and about 5.05 lakhs acres of land is brought under irrigation. The increased agricultural activity calls for supply of farm equipment, pest control equipment and other servicing

and maintenance jobs which result in an increase in number of small scale industrial units to meet the needs.

There are 1259 small scale industrial units working in the district bulk of which are agrobased, engineering, etc. These units are mostly made up of rice mills and flour mills and small percentage of oil mills and dall mills, engineering works welding works and automobile repairs, etc.

The important existing industries in the small scale sector are Cement Spun Pipes, Pesticides, Builders hardware, Huller screens, Poultry feed mixing plants, card board from waste paper, Mangalore tiles, Stonecrushers, Powerloom accessories, speciality paper, Plastic bangles, Cigars, Teleprint rolls, etc.

Textile industry in Karimnagar district occupies a pride of place in its economy. The industry is extensive and has as many as 40,000 handlooms and powerloom weavers. The district has about 16,000 powerlooms existing of which about 5,000 powerlooms are in Sirsilla taluka and the remaining are in Karimnagar taluka and has 112 cooperative societies.

These are medium scale industries like (a) cooperative spinning and weaving mill Anthergoan which is in Peddapalli taluka. (b) M/s Markfed Vanaspathi Complex, Karimnagar. (c) Pochampad solvent oil mills private limited Peddapalli. (d) M/s Oriental Shell Food, Karimnagar.

Besides these there are at present eight large scale industrial units functioning in the district like Kesoram Cement Factory at Thakkallapalli in Peddapalli taluka.

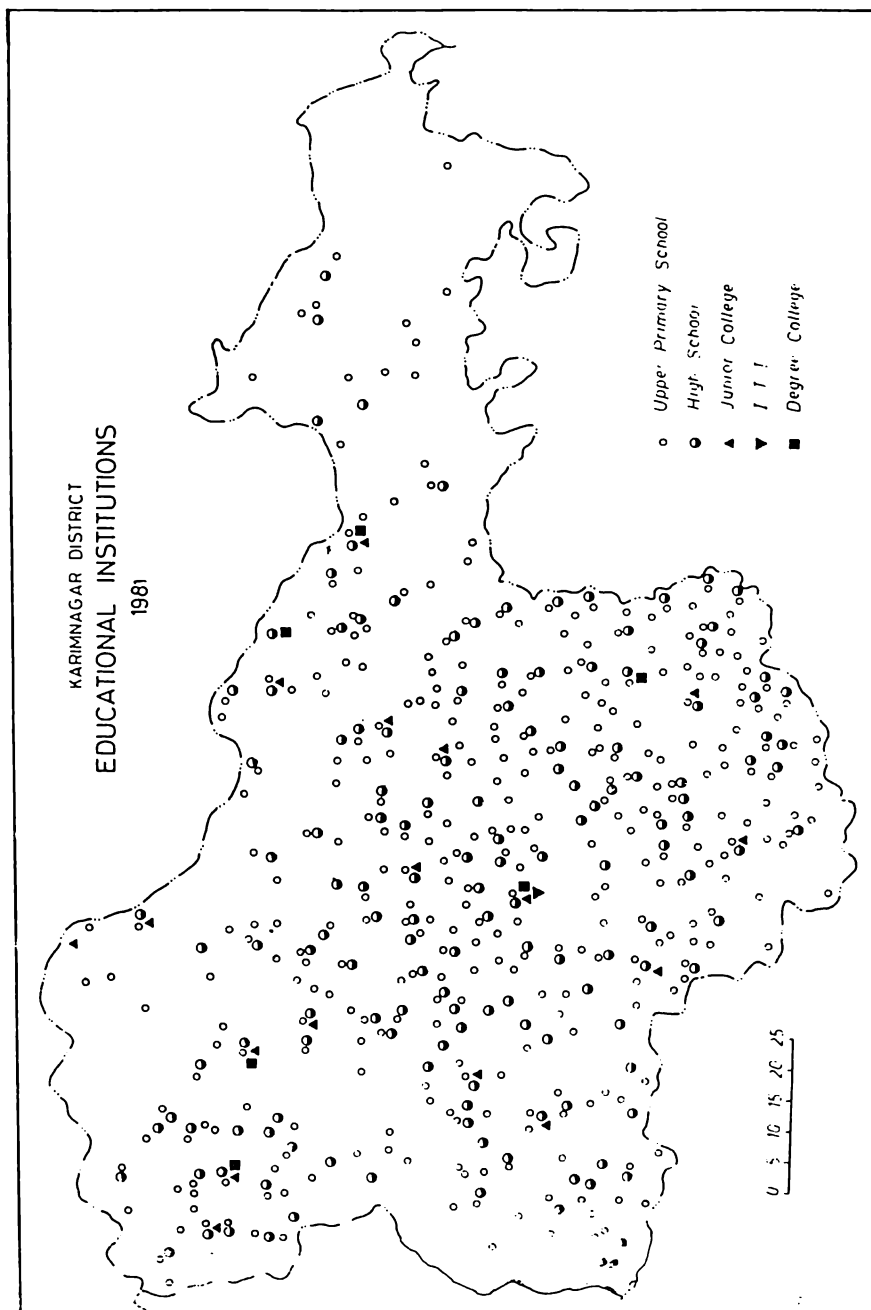


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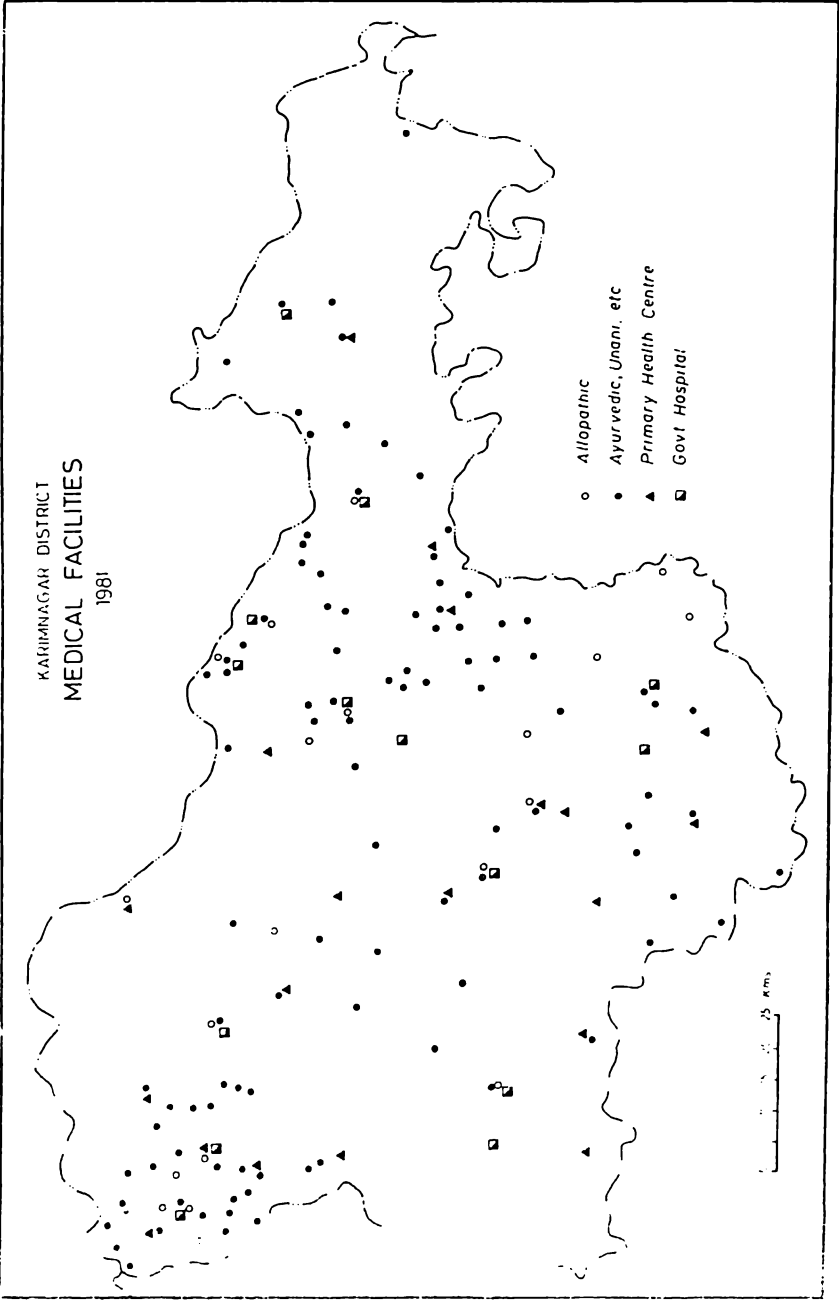


Fig. 2.13 :

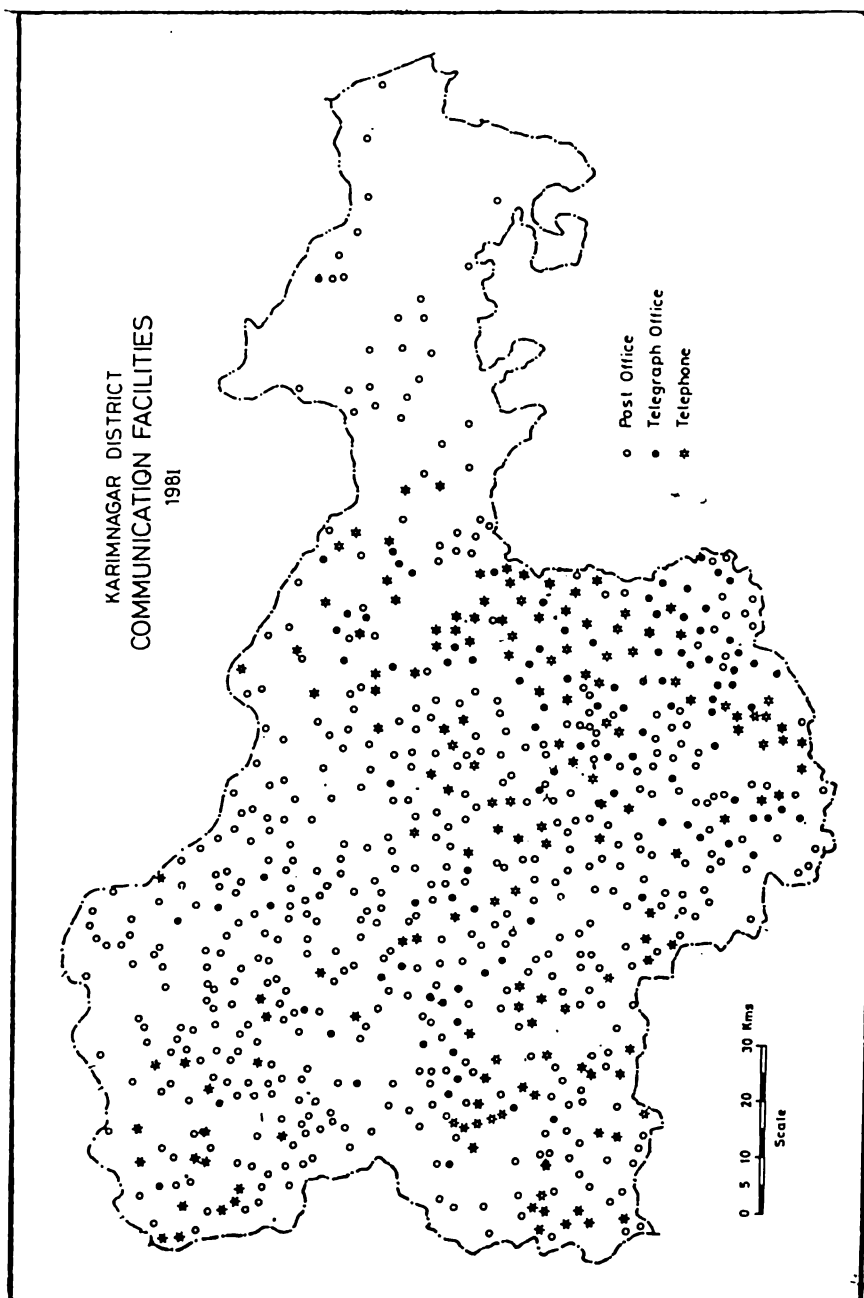


Fig. 2.14 :

Infrastructural Facilities: Distribution of villages according to the availability of different amenities by talukas is presented in the following (Table 2.10 and Figs. 2.12, 2.13 and 2.14). Drinking water is available in almost all the villages. As seen from the Table while amenities of education, Posts and Telegraph and Communication are available in respect of 97.34 per cent, 69.83 per cent, and 49.72 per cent of villages respectively. Medical and market facilities are inadequate and only a meagre proportion of villages have these facilities viz., 24.76 per cent of villages have medical facilities and 4.84 per cent of villages have market facilities.

Education: As inter-taluka study (Table 2.10; Fig. 2.12) shows that the educational facility range from 87.72 per cent in Manthani to a maximum of per cent i.e., 100 per cent in five talukas, which are Bheemdevarapalli, Sultanabad, Mallial, Gangadhara and Husunabad. In so far as educational facility at primary level is concerned it can be said that the districts favourably placed. Facilities for higher education exists at some centres like Karimnagar town.

Medical: In all the talukas Hazurabad stands at the top with a per cent of 39.29 among the other talukas and Mallial taluka have facility with a per cent 5.88 which is inadequate. In Huzurabad taluka there are 56 villages, out of 56 villages 22 villages are having this facility. Whereas in Mallial taluka out of 68 villages only four villages have this facility. In this taluka there are only two Primary Health centres one which is having Family Planning Centre which is in taluka headquarters and the other at Nukapalle and two private practitioners at

TABLE 2.10

**KARIMNAGAR DISTRICT : DISTRIBUTION OF VILLAGES
ACCORDING TO THE AVAILABILITY OF DIFFERENT
AMENITIES : 1985**

(Percentage)

Taluka	No. of villages	Educa- tion	Medi- cal	Posts & Tele- graph	Market	Com- munica- tion
1	2	3	4	5	6	7
Mahadevpur	88	79 (88.77)	15 (17.05)	23 (26.14)	2 (2.27)	20 (22.73)
Manthani	57	50 (87.72)	12 (21.05)	26 (45.61)	-	19 (33.33)
Peddapalli	108	105 (97.22)	29 (26.85)	66 (61.11)	4 (3.70)	31 (28.70)
Huzurabad	56	55 (98.21)	22 (39.29)	51 (91.07)	4 (7.14)	26 (46.43)
Bheemdevarapalli	75	75 (100.00)	22 (29.33)	73 (97.33)	5 (6.67)	43 (57.33)
Sultanabad	75	75 (100.00)	27 (36.00)	48 (64.00)	5 (6.67)	42 (56.00)
Mallial	68	68 (100.00)	4 (5.88)	48 (70.59)	5 (7.35)	32 (47.06)
Jagatial	87	84 (96.55)	8 (9.20)	62 (71.26)	5 (7.75)	48 (55.17)
Metpalli	94	93 (98.9)	49 (52.13)	69 (73.40)	5 (5.32)	59 (62.77)
Vemulawada	95	94 (98.95)	17 (17.89)	70 (73.68)	-	55 (57.89)

(Contd.)

Table 2.10 (Contd.)

1	2	3	4	5	6	7
Gangadhara	59	59 (100.00)	18 (30.51)	46 (77.97)	7 (11.86)	30 (50.85)
Karimnagar	59	57 (96.61)	13 (22.03)	44 (74.58)	3 (5.08)	39 (66.10)
Husunabad	59	59 (100.00)	12 (20.34)	53 (89.83)	4 (6.78)	41 (69.49)
Sirsilla	74	73 (98.65)	13 (17.57)	57 (77.02)	2 (2.70)	39 (52.90)

Source : Census of India

Pegedapalle and Israjpalle. The reason for this is due to the fact that nerve centres are nearer to district headquarters and also to the Jagatial taluka which is developed and having more facilities than this taluka. People prefer to go to the headquarters hospital with better facilities. This taluka lie in between these two having a distance of 25 kms. to district headquarters and as well as to Jagatial.

Post and Telegraph: In this Bheemdevarapalli stands first with a per cent of 97.33 among other talukas and Mahadevpur taluka which have a minimum facilities with a per cent of 26.14. This taluka which is interior and most of the area is covered with forests.

An analysis of infrastructure facilities can be made over all by the Fig.14 the centrally located talukas of the district are in normal range they do not have maximum nor minimum when compared to the eastern part talukas and southern part.

CHAPTER III

PERIODIC MARKETS AND RURAL DEVELOPMENT

Historical Evolution of the Markets and Their Role in Development

Early man has no marketing needs and the situation continued till man entered the agro-pastoral revolution in the Neolithic age. By and by, human civilization witnessed new developments. The population of mankind multiplied, development in art and craft took place, new things were invented, the age of specialisation stepped in and demolished the basis of self-contained economy.

The existing periodic marketing systems in India in general are an out growth of recognisable modified patterns of the past marketing systems, consequent on the evolutionary changes in socio-economic variables. Marketing in India may be traced back to dim antiquity of the country. The external commercial links with adjacent countries and southern India had been forged by the “panis” in the vedic times, who were ancestors of the phoenicians and who had finally settled on the syrian coast. The ship building “panis” were merchants on land and sea, who exchanged livestock of India with valuable articles of adjacent countries (Billimoria, 1940). There

seems to be no explicit reference to the contemporary internal marketing system.

In the days of panini (about the 8th century B.C.) not only external links persisted but also inter-regional trade had begun to thrive, particularly in Northern India with fixed shops and ware-houses at trading settlements (Agarwal, 1941). Kautilyas "Artha sashtra" embodies an explicit reference to the establishment of market towns as an integral part of the functions of the State (Shama Sastry, 1915).

Market activity has gradually evolved with the increasing demands and decreasing self-sufficiency of human beings. It may be a fact that since the early history of man till the development of self-sufficient communities market activity is needed. However, a form of barter might have evolved unknowingly when people / started exchanging gift among themselves. With the growth of population, the development of civilisation and man-environment interaction an overall diversified development pattern might have emerged. Various levels of socio-economic development patterns could be identified. Developed societies multiplied their needs, increased their means of production and introduced division of labour gradually. Instead of producing a wide range of goods such societies generated, in large quantities, a few number of such goods which they could most efficiently produce. For example, the industrial nations neglected primary production. The surplus goods produced by them could be profitably exchanged with neighbouring communities. On the other hand some communities, due to their low level of technology

or severe limitations of environmental conditions, could only achieve a subsistence level of production. Their survival depended on import of goods they needed. The surplus production on one hand and subsistence production on the other necessitated exchange. For such an exchange nodal points along the fringes of different type of resources areas were established. The resource areas may be identified as agriculture and forest lands, grass lands topographical regions, tribal and non-tribal regions etc. At these nodal points people used to gather at a fixed time to facilitate exchange of goods. The initial exchange was in kind which gradually grew into monetary exchange. This is how intra-regional and inter-regional market was initiated.

The market activity have been established by the factors like (a) exchange of gifts for maintaining and strengthening of social relations, (b) weakening of self-sufficiency, (c) an increase in specialisation and division of labour and (d) subsistence level of production.

There are some general theories and models which incorporate the basic support for the evolution of the market and development. Carol, A. Smith says that social *versus* economic casual forces have much relative importance around the market centres. And those caught up in it, tend to neglect the inter-relations of social and economic forces in market evolution.

Polanyi considers market trade a rather “unnatural” human activity that requires certain specific conditions to develop forces exogenous to the domestic economy. He says that the market, and the economy in general,

instituted in a society assumed to be determined by cultural or political rather than economic variables, and no evolutionary sequence is projected for market development although all developed economies are held to be similar. True market economies, those permeated by the market principle, developed only once, when the economy took over society during the great social transformation of the industrial revolution, which made man and nature into economic commodities for the first time (Polanyi, 1944). Quoted by Carol, A. Smith in "Regional Analysis".

Christallers central place theory does not explain the evolution of the market, whether the market evolution is directly tied to the growth of nucleated settlements. Three theories of development can be deduced from the logical models of Christaller, Losch, and Vance, each of which embodies an implicit casual theory. Christaller worked from top to bottom to build a central place hierarchy; suppliers move out from an established centre as demand rises to create new centres in a region that presumably began as a Thunen like isolate state. But Christaller did not mention the reasons why the market arise first in the central place and why do smaller centre evolve around it. Appleby suggests Christallers' model assumes or is best understood as assuming a basic "class" division to underlie market exchange, the classes being rural and urban classes, each with different goods to offer and needs to be met in a market; with this new markets are seen to evolve as the non-food-producing urban class grows, compelling rural specialisation and exchange. Christaller did not actually

propose an evolutionary model, of course, but it assumes the following class differentiation generates market exchanges ; urban growth generates rural markets ; the first centre is a major urban centre ; and smaller centres are added to the landscape around it concentrically as the system grows. Polanyi's socio-political forces create the conditions for the system.

Vance suggests that the usual motivating force for central place development is mercantile trade between local systems. Merchants seeking new markets and sources of goods established centres at the edges of local systems and push central place development follow a linear path. The first centre is an entrepot city or unraveling point, the next places are either point of attachment or depots of staple collection. Then from a system with atleast two major central places, connected by smaller wholesale centres, a retail system will evolve between and around them, in much the same fashion as that postulated by Christaller. The major difference is that the initial stimulus to trade is seen as external rather than internal, and the first stage shows a linear rather than concentric pattern of settlement or urban development.

Skinner, the only one who should in fact be credited with an evolutionary model, begins with a region that supports only small peasant markets, population growth give commercial impetus to the region, requiring peasants to specialise in order to meet subsistence needs and providing for more market centres whose flows must be articulated. But rather than locating larger markets

that develop as the central places for smaller ones in new locations (as Losch did), Skinner locates them in old centres where possible. He shows that the larger markets stimulates the growth of small markets in places that lacked a settlement altogether ; in others it stimulates an eventual transformation of all small centres into larger ones. Small centres emerges on the land scape between already established centres. A single market that initially supported many villages suddenly becoming the hub for the smaller markets that develop in with some of the villages, each of which then supports relatively few villages. In Skinners model, urban centres would develop only as a result of rural market intensification.

Schwimmer and Appleby uses data on Ghana and Puno, Peru and put to the test these theories. They show that rural market intensification follows the predicted pattern quite closely. Smaller centres develop first and are promoted to a higher level in the hierarchy as new market develop.

Plattner and Crissman also describe the process of rural market evolution, to test their theories using data on Taiwan and Mexican towns. Plattner's sequence, first a large urban centre with both political and administrative functions, then several small local markets. In Crissmans case commercial intensification was stimulated primarily by endogenous rather than exogenous forces, population growth and internal diversification. Crissman finds a linear pattern of market growth. Small centres developing between already established towns. As per his sequence the periodic market never did develop in Taiwan, small towns

developed along relatively modern roads as the region because they are more commercialised. The major towns at the beginning of sequence, presumably because of their initial locations determined the subsequent development of roads to minor centres. He shows that intermediate level places developing in tandem with small local centres ; but the sequence does begin with several urban centres. But Skinner attempted to deal with rural market evolution without considering the related problem of urban market evolution, and for that reason his theory of the initiating circumstances for market development, is with population growth and obvious advantages of commercialisation. In the region of China he draws evidence to his argument about the evolution of markets.

Most of the evidence, then seems to point to market and central place evolution. Market exchange occurs sporadically in all kinds of societies. But integrated marketing system occur only in stratified societies with a distinct class of non-food producers who are situated in urban or atleast nucleated centres. The centres and the elite class may arise as a result of either endogenous or exogenous forces that transform the local social order, but in any event the internal market system is instituted by an elite class that requires regular and efficient food provisioning.

Periodic Markets Role in the Urbanisation Process : Urbanisation and Economic Development

The role of rural marketing as a survival strategy has received little attention in the literature on rural

marketing in developing economies. Most studies regard marketing as a peripheral feature of rural economy (Scott, 1972 ; Soja, 1972 ; Hay, 1971). Fish (1971) has, however, argued that the traditional non-agricultural sector of economic activity in a rural economy may aid the process of development by holding labour at one level of productivity rather than releasing it to the urban sector where sufficient employment opportunities may not be available. Schultz (1964) has also earlier emphasized the importance of rural marketing in encouraging agricultural development. By this, the transition from periodic to more intensive daily marketing together with the economic and rural development may take place in the region.

Markets are complex and dynamic entities subject to rapid change and adjustment in the face of changing political, economic and social environment. There is the need, therefore, to know much more about the longer term dynamics of the market system, for example, where markets are declining, where they are expanding and the interplay between market systems and forces of economic change. One starting point for such an analysis would seem to be consideration of the internal and external factors that bring about market transformation, particularly a change from periodic market to daily market involving lateral interdependence of village communities for the satisfaction of a wide range of service needs. Of the internal forces that induce change population density is perhaps the most important catalyst. Research results in several parts of the world suggest that there is a critical population density above

which there is a regular pattern of periodic markets and below which there would be very few markets or even none. In North-East Ghana, it was found that there is some direct relationship between market density and population density (Mckim, 1972). Similarly there seems to be in Ethiopia (Jackson, 1971) and Kenya (Wood, 1974) a general relationship between rural market provision and population density. Also in Korea, Park (1981) has observed that changes in rural market network and the process of inter-dependence and integration of market systems are clearly entwined with population mix and increase. The rationale for associating market provision with population density draws on the concepts of threshold and maximum range. Threshold designates the maximum range of an item of goods and is influenced by population density and disposable income of an area (Good, 1976). The survival of an establishment offering goods at a permanent site on a daily basis requires that the maximum range must equal or exceed the minimum range. This condition allows periodic markets to change to daily schedule when demand is concentrated in place and time. It is a situation made possible by a high population density and it allows traders to achieve viability by offering their goods at a market of daily schedule to a much larger population than they could otherwise expect to contact.

Since, nothing about market is fixed except in the short term, changes in the pattern and marketing system are dynamic and continuous. As a result a proposal of an evolutionary model for the development of market system will be purely tentative. Skinner (1965) in his

study of Chinese markets has divided the growth of market systems into two basic categories (a) growth resulting from traditional change and (b) growth as a result of modern change. Traditional change is associated with conditions of population growth and internal impulse which occurs without much of external influences of transport improvement or other forms of socio-economic modernization. It takes place by the increase in the number and relative importance of periodic markets. Modern change, on the other hand occurs because of external forces of a modernising economy coming from transport improvements, higher level of expectation, and broadened norms of consumption. It takes place by a decrease in the total number of periodic markets, and an increase in the size and number of daily markets with the hierarchical distribution of markets evolving into a more integrated system.

The notion of traditional and modern changes in the rural marketing system is relevant only as a guideline because different areas have different histories of market development.

The increase in the frequency of periodic markets which in most cases reaches its logical end—daily marketing, could be attributed to several factors. Bromely and his associates (1975), for instance, argue that as development occurs periodic markets gradually lose their periodic character and become continuous daily markets or they may decline and may be replaced by or transformed into stores and wholesale warehouses.

Hodder (1971) also argues that with rising population density and urbanisation the spacing of market days in any one area decreases. In a similar vein, Eighmy (1972) holds that as an area's income and demand increases one can expect an increasing tendency for the larger and better located markets to shift from a periodic to a daily regime and for the location of markets to move in to closer accord with the location of settlements. In some, periodic markets may phase out, increase their frequency of meeting, or adjust their structure, functions and location as a result of one or a combination of the following factors : (a) emergence of nucleated populations which can support permanent and fulltime traders, (b) increase in rural disposable income or perceived needs of the population supporting higher and frequent demand for goods, (c) increased commercialisation of the economy which enhances consumer range thereby allowing the traders to become sedentary, (d) increased demand density as measured by population density and (e) increased accessibility.

In the matter of accessibility, road transport is the most important method of moving people and goods to the markets (periodic) which are road oriented. The roadside markets have the advantage of attracting more itinerant pedlars dealing in imported and manufactured goods and of drawing lorry loads of nearby villagers made up of buyers and sellers. By this regular purchase trips are made by the local traders who purchase merchandise in small wholesale units for retail in the surrounding villages daily and periodic markets. Also some farmers bypass the smaller intervening markets to

dispose of their surplus products at the market. These farmers are attracted not only by the prospect of ready cash receipt from sales, but also by the scope for a wide choice of goods they can buy which are not available in narrower markets.

The rural daily markets in developing countries are the hub of many economic activities geared to performing the following three primary functions. First, they act as markets or collecting points for local farm produce meant for consumption within the region. Second, they are collecting points for farm produce destined for export, perhaps the first or the second link in the chain of movements originating from the farm till the produce gets to the urban consumers. Third, rural daily markets are retailpoints of manufactured products assembled from other centres. In addition to these marketing functions, the daily markets provide opportunities for various urban related services and are centres for communication, innovation and entertainment. Rural periodic markets, therefore, form a crucial link in the marketing and communication chain which involves periodic markets, rural daily markets and urban markets.

Foodstuffs are assembled and stored at these centres by local producers and by middle-men who gather them from surrounding periodic markets. From these centres lorry loads of the produce are taken to the other rural centres and to urban markets by middlemen and local traders. In rare cases farmers, who want to under cut the activities of middle-men or forestall competition from outside, are involved in direct sales to urban consumers.

The dominant activity of the retail terminals is the retailing of manufactured goods such as textiles, footwear, household goods, readymade clothing and also the distribution of local and imported foodstuffs. Traders at retail terminals assemble from the regional daily market and resell to retailers from periodic and smaller daily markets.

Attendant to this growing importance of the marketing network is its role in transforming the rural land scape. A proper understanding of the central places of the market system is a necessary starting point in the study of urbanisation in a developing economy. This is because rural daily markets offer a measure of the economic impact of such market centres, and the social changes brought about may be measured by the volume of diffusion processes initiated from them. Daily market centres are also sites which very often attract exogenous investment and are provided with such amenities as electricity, piped water, hospitals, schools and other social amenities further increase their urban functions. Therefore, the changing trend from periodic to daily marketing is a signal of rural transformation and a measure of the urbanisation influence in the region.

Economic Development

Economic development as a process has already been considered; economic development as an “outcome” which is considered here as the assessment of an economy as developed, undeveloped or underdeveloped. This is the normative view of the process.

Immanuel Wallerstein (1974) suggest that the modern marketing system rests of the interaction of economies at different levels of development. He considers the economic system of the sixteenth century that generated modern industrial capitalism. This was made up of three interdependent parts : a core, and partially developed semi-periphery in most of the world. From this he argues persuasively that the dynamic of capitalism (or of a fully developed market economy) is based on the structural imbalance created by integrating regional economies at different levels of development into "World system" that allows concentration of capital in one part of it. Appleby and Carol Smith examined the core periphery relations in the regions of puno, peru and western Gautemala (Smith, 1975 and 1975b). In these regions competitive, interlocking central place hierarchies have developed in the core areas and tie into peripheral areas through dendretic extension. Peripheral areas provide raw material, labour or markets that seems to be necessary for funding the development of the core areas. Markets are springing up in both core and periphery and becoming better integrated and involved in a regional development. This development has taken place or altered the regional standard of living for the better. With the replications of this at the global level the peripheral regions does not ply an important role towards local development.

Due to the lack of a market facility, local economic differentiation and "modern" socio-cultural institution receptive to economic. Entrepreneurship, there is wide disparity in the level of development in the world. The

most common alternative explanation is that the “surplus” necessary to endogenous growth is being drained in export import trade with more developed systems. But it ignores the substantial amount of accumulation that does take place in the underdeveloped parts of the world. Developed countries can meet this process whereas developing countries cannot because of the very process by which the local investment is accumulated.

In the beginning the agrarian region is undeveloped, its economy static, its markets administered. The administrative system hinders economic expansion, but it also provides the first necessary conditions for growth by systematically encouraging the institutionalisation of markets to feed the urban administrative centres and thereby allowing for the development of an urban merchant class. The merchants class attempts to develop trade and markets in peripheral areas but the self-sufficiency of most rural producers limited endogenous trade activity and profit to a very low level. This can be termed the traditional undeveloped economy it may be growing it may even be entrepreneurial but its surplus is going into political rather than economic expansion.

Trade remains important in the region, however and through it the process of “under development” begins. A demand for the costly goods produced by local firms falls, the producers reduce wages and profit margins, reducing local demand all the more, ultimately they fail. But core area traders do not stand idly by watching their own profit margins dwindle. Being good economic men

facing considerably local competition, they seek cheaper goods for the limited regional market from the already, developed countries whose scale of production permits them to charge low prices while maintaining high profits even with added transport cost. Thus in the long run, the efforts of the core area merchants to concentrate capital by controlling a limited market will provide for increasing concentration in the world industrial areas rather than for local development.

Carol Smith says that expanding external trade is the only hope for development the only means by which self-sustaining static economies can develop an internal dynamic. Finally, he argues that “economic development should be seen as the process whereby rural or undifferentiated parts of an economy become increasingly specialised in production requiring more efficient and equitably exchange articulation among the part increasing hierarchial and vertical market integration. The solution, then may rest on promoting several urban centres or “growth poles” in the developing region or nations, which will individually concentrate capital but will also provide competition and markets for one another, there by providing the necessary internal dynamic for sustained growth.

Settlement Rural/Urban a Temporal Analysis of Growth and Pattern

There are fourteen talukas in the district out of which eight talukas are having irrigational facility and six are without irrigation facility. Having irrigational facility are Peddapalli, Jagatial, Metpalli, Karimnagar, Sultanabad,

Mallial, Gangadhara and Manthani. The talukas without irrigation facility are six in number. Those are Sirsilla, Mahadevpur, Bheemdevarapally, Husunabad, Vemulavada and Huzurabad. Out of these fourteen eight talukas are with urban population and the remaining are without urban population. The talukas with urban population are Paddapalli, Manthani, Jagatial, Metpalli, Sirsilla, Karimnagar, Vemulavada and Huzurabad and the remaining talukas which do not have urban population.

Growth rate for the urban population, market settlement population and rural population has been worked out to know the growth and pattern of the market settlements and also to find out if there is any relationship between market function and urban development.

TABLE 3.1
KARIMNAGAR DISTRICT : RURAL/URBAN POPULATION
GROWTH RATE WITH MARKET SETTLEMENTS GROWTH
RATE 1951-81 (PER CENT)

Year	1951-61	1961-71	1971-81
Urban	-1.48	8.38	8.28
Rural	0.41	1.64	1.70
Market settlement	2.88	2.24	2.29

Source : Census of India

During the decade 1951-61 some changes have been made by the Census of India. During this decade Parkal

taluka has been transferred to Warangal district. No other inter-district transfers took place during this decade.

The main reason for the decline in urban population during the decade 1951-61 is due to the change in definition adopted by the census for urban settlements in 1961. In 1961 census some of the towns which were treated as urban in 1951 have been changed to rural. The towns which were declassified in 1961 census were Huzurabad, Jammikunta, Dharmapuri, Manakondur, Choppadandi and Gambhiraopet. The population of all these towns which were treated as urban are deleted from the urban population and added to the rural population.

There is tremendous increase in urban growth during the 1961-71 as well as in rural. Whereas the market settlements growth rate has come down slightly in this decade.

This trend has been changed during the decade 1971-81. In this decade there was a slight decrease in urban growth rate when compared to the rural growth rate and market settlements growth rate. This change may be due to the irrigational facility provided by the Sreeramsagar Project.

Table 3.1 reveals that the urban growth rate is comparatively much higher than the rural and also with the market settlement growth rate. Rural growth rate is almost the same during the period with slight change from decade to decade. An important aspect to note is

the fact that the market settlement growth rate is always higher than the general rural growth rate. And also the urban population growth rate is much higher than the market settlement growth rate except for the decade 1951-61.

Table 3.1 was constructed to probe into the hypothesis that a market settlement has much greater potential to emerge as an urban centres. The substantial growth rate differential between market settlement and rural settlements further confirms the validity of the hypothesis.

CHAPTER IV

STRUCTURE OF PERIODIC MARKETS

Hierarchy of Market Settlements

In Karimnagar district there are 51 periodic markets of varying types like exclusive cattle market, mixed markets dealing in agricultural produce, cattle and manufactured goods and general commodities markets dealing in agricultural produce and manufactured goods. With a view to understand the role of these market settlements in the socio-economic development process of the area an attempt is made here to determine the hierarchy of these market settlements.

To achieve this, information on all types of functions located in these market settlements have been collected. These functions are grouped into six categories : (a) Administration, (b) Health Services, (c) Education facilities, (d) Communication facilities, (e) Location and attributes, (f) Transportation facilities. The total number of functions are spread over above six categories are 19 in number. As a first step all the functions in each of the categories have been assigned score depending on its importance. Later all these scores have been added up and the maximum possible score for any of the market

KARIMNAGAR DISTRICT HIERARCHY OF MARKET SETTLEMENTS

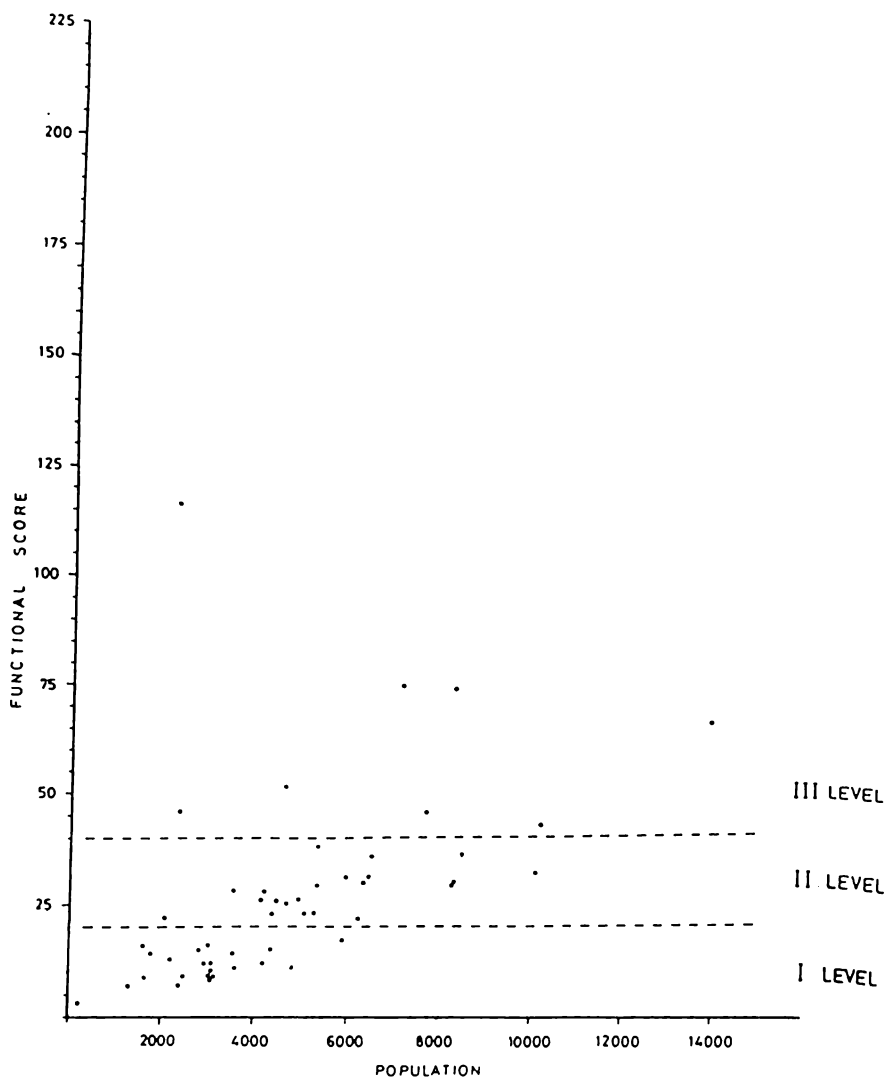


Fig. 4.1 :

settlements have been found to be 210. These functional scores were plotted against the population of the respective market settlement (Fig. 4.1) in order to understand the relationship between the population of the market settlement and functional scores. An additional objective of this exercise was to determine the hierarchic structure of these market settlements. It may be seen from Fig. 4.1 that there are three distinct levels in the hierarchy of market settlements. The first level market settlements have a functional score upto 20 and the maximum population is about 6,000. There are 22 market settlements in the first level. The score ranges between 20 and 40 at the second level and the population ranges between 2,000 to 10,000. There are 20 market settlements at the second level. And the third level of hierarchy there are nine market settlements with the functional score ranging from 40 to 210. The maximum population of market settlements in this level is 14,000. This analysis clearly brings out not only the hierarchic structure of the market settlements and also the close relationship between the functional score and the population of the market settlement. These two characteristics are very strongly associated and has a correlation coefficient of 0.69.

Sampling Frame

In the study area, Karimnagar district there are 51 periodic markets in 1987. In order to gain an in-depth knowledge of the various facets of weekly markets in the region, a sample of 10 markets were chosen for detailed analysis. These sample markets have been

chosen using a spatial probability sampling frame. Population size of the market settlements has been used and all the markets have been classified into five size categories based on population size. The purpose of this stratification has been to bring about greater homogeneity in each of the groups of the markets, so that a smaller number of markets could be picked up for the detailed study. A 20 per cent sample of the market settlements from each of the 5 size classes were picked up. The overall sample size is a little less than 20 per cent. Population size is not the only possible characteristics which can be used for stratification of the market settlements. The other possible variable could be accessibility and distance from larger urban settlements etc. However, in the present study the population size has been used not because it is the best but because the simplicity with which it could be applied. Accessibility could have been a better variable but there is immense difficulty in deriving a measure of accessibility and applying them to the present study.

Sample Markets a General Description

The sample markets can be grouped into three distinct categories. (a) Exclusively cattle markets, (b) Mixed cattle and general commodities, (c) Exclusively general commodities. The market settlement Keshavapatnam is an exclusive cattle market. The market settlements Gundi, Gangadhara, Mulkanur, Jammikunta, Husnabad, Ellareddypet and Katkapur are in the second category. In the last category there are two markets which are Jagatial (R) and Mallial.

Exclusive cattle market is characterised by seasonal variations in transactions and also the functionalities of such market places. It has been observed that more cattle are brought to the market place for disposal during the summer months possibly because of the problem of feeding the cattle and also no agricultural activities are there during the season. Another important aspect of this type of markets is that the transactions, buying and selling, takes place directly between the concerned parties. Besides, the participants in such markets are drawn relatively from distant places.

The markets dealing in general commodity and cattle infact this combines the characteristics of both the types cattle market and general commodities. In fact most of the periodic markets come under this category. The general commodity markets includes a larger number of functionalities and deals in mostly consumer goods. The important functionalities of such markets are producers sellers, itinerary traders and permanent shopkeepers at the market settlements consumer buyers and commercial buyers. The important commodities bought and sold in such markets are farm produce like vegetables, poultry, manufactured goods like utensils, clothes, footwear and agricultural implements etc.

Structure of the Market

In a periodic market four distinct group of functionalities can be identified. These are producer sellers, trader (Itinerary Traders as well as shop-keepers) and consumer buyers and commercial buyers. The producer sellers are farmers and the commodities

usually brought to the market place for disposal are vegetables, poultry and other agricultural produce in small quantities. They sell these at the market place in order to buy essential items of consumption like cooking oil, kerosene, clothes and toilets etc. The travelling sellers are traders who usually carry their goods on bicycles and mopeds, buses, etc. They usually visit a number of markets in a week. The common commodities are clothes, plastic goods, footwear, aluminium utensils, etc. The permanent shop-keepers at the market place usually sells the essential commodities of daily consumption like oil, foodgrains, etc.

Most of the buyers in a periodic market are the rural people who visit the market in order to buy essential commodities of daily consumption either they go to market place with cash or with agricultural produce in order to buy their requirements. Another type of buyers at the market are the commercial buyers who buy goods with intention of selling it for a profit. The usual commodities enter such transactions are spices, oil seeds, etc.

Buyers : The buyers who come from longer distances may purchase durable commodities like agricultural implements and cattle etc. The buyers who come from shorter distances purchase their daily requirements like essential commodities.

The following Table 4.1 reveals the distribution of buyers by frequency of visits. It may be seen from the Table that except the markets of Keshavapatnam, Gangadhara, Gundi and Mulkanur a very large propor-

tion of the buyers visit every week. The monthly visitors to the market places are relatively very few ranging from 7 per cent to 34 per cent. The per cent of buyers who visit the market occasionally is as high 97.06 per cent Keshavapatnam, which is interestingly is an exclusive cattle market.

Table 4.1
DISTRIBUTION OF BUYERS BY FREQUENCY OF VISIT 1987
(PER CENT)

Markets	Frequency of Visits			
	Weekly	Monthly	Occasional	All
Keshavapatnam	2.94	—	97.06	100.00
Gundi	17.50	7.50	75.00	100.00
Husnabad	58.69	19.57	21.74	100.00
Gangadhara	22.22	—	77.78	100.00
Mallial	39.74	33.85	26.41	100.00
Jammikunta	64.00	12.00	24.0	100.00
Jagtial (R)	36.65	32.74	— 30.61	100.00
Katkapur	33.84	23.08	43.08	100.00
Mulkanur	22.00	28.00	50.00	100.00
Ellareddypet	82.69	13.46	3.85	100.00

Source : Field Survey 1987

It appears from the data on Table 4.1 that the frequency of visits by the buyers is influenced by the type

of markets. Consequently we have very large proportion of the buyers in the category of occasional visitors to the markets exclusively dealing with cattle as well as mixed markets *i.e.*, cattle and general commodities.

On the other hand frequency of visits by buyers to the general commodity markets are very high going upto 83 per cent in the category “weekly”. The frequency of visits by the buyers, it appears, is by and large influenced by two factors. Firstly, type of commodities and secondly the distance to the market place. Another possible factor which influence the frequency of visits seems to be administrative function performed by the market settlements. This means a visit to the market place is intended to achieve a number of objectives. Buying goods, attending to some official work in government offices and may also meeting friends and relatives who live far off places and visits the weekly markets regularly.

The important modes of Transport used for making a trip to the weekly markets are by walk, Bullock Cart, Bicycle and Bus.

It may be seen from Table 4.2 that a large number of people in most of the markets do not use any means of transport but walk to the market place. The proportion of the people who use this mode of transport ranges from 12 per cent in Jagtial to 85 per cent Katkapur. It appears that accessibility plan an important role in determining the mode of transport used by the participants in a market place. Katkapur Market is an

TABLE 4.2
DISTRIBUTION OF BUYERS BY MODE OF TRANSPORT
USED-1987
(PER CENT)

Markets	Mode of Transport				
	Walk	Bullock- cart	Bicycle	Bus	By all modes of Transport
Keshavapatnam	44.12	—	14.71	41.17	100.00
Gundi	60.33	—	15.00	25.00	100.00
Husnabad	36.96	—	43.48	19.56	100.00
Gangadhara	44.44	—	40.75	14.81	100.00
Mallial	43.39	5.66	24.53	26.42	100.00
Jammikunta	30.00	—	12.00	58.00	100.00
Jagtial (R)	12.25	—	24.48	63.27	100.00
Katkapur	84.62	—	7.69	7.69	100.00
Mulkanur	48.00	—	30.00	22.00	100.00
Ellareddypet	42.31	—	9.62	48.07	100.00

Source : Field Survey 1987

example. It is the least accessibility of all the sample markets. It is a market located quite interior. Surprisingly bullockcart is the least used mode of transport for all the sample markets. There is only one market, Mallial with six per cent of the participants using bullockcart as means of transport.

Next to walking, Bicycle and Bus are the commonly used mode of transport. Data in Table 4.2 suggests that

the markets where a large proportion of participants use Bus as a mode of transport, a proportion of Bicycle as a mode of transport is less. The Bicycle as a means of personnel transportation is very important in our rural areas.

TABLE 4.3
CREDIT FACILITIES BUSINESS TRANSACTIONS-1987
(PER CENT)

Markets	Category of Buyers		
	Buyers who buy on credits	Buyers who do not buy on credits	All categories per cent
Keshavapatnam	5.88	94.12	100.00
Gundi	—	100.00	100.00
Husnabad	10.87	89.13	100.00
Gangadhara	—	100.00	100.00
Mallial	—	100.00	100.00
Jammikunta	—	100.00	100.00
Jagtial (R)	2.04	97.96	100.00
Katkapur	69.23	30.77	100.00
Mulkanur	2.00	98.00	100.00
Ellareddypet	11.54	88.46	100.00

Soruce : Field Survey 1987

Next to walking, Bicycle and Bus are the commonly used mode of transport. Data on Table 4.2 suggests that the markets where a large proportion of participants use Bus as a mode of transport, a proportion of Bicycle as a

mode of transport is less. The Bicycle as a means of personnel transportation is very important in our rural areas.

Data on Table 4.3 reveals some interesting aspects of business transactions in the sample market settlements. In four out of the 10 sample markets buyers do not buy on credits, Gundi, Gangadhara, Mallial and Jammikunta. The remaining six markets credit facility is extended to the buyers. The buyers who buy on credit range from two per cent to 69 per cent in Katkapur. It appears that credit facility has some thing to do with the accessibility and location of the market place. The market Katkapur is the least accessible and located far interior has the highest proportion of buyers who buy on credit. Another aspect of the data in Table 4.3 is that in general in the business transaction in the sampled markets credit do not play any significant role.

Data in Table 4.4 brings out an interesting and surprising result. Surprising because it does not support the general belief that the rural participants in a periodic market bring small quantity of agricultural produce who sell at the market. It may be seen from the Table that three of the sample markets, Mulkanur, Keshavapatnam and Gundi, the buyers do not bring any agricultural produce for these places. In the other markets the proportion of buyers who brings agricultural produce to the market ranges from two per cent to 38 per cent. A number of factors appears to have a bearing on whether the buyers carry agricultural produce to the market place. Important among them could be the type of the periodic market for example Keshavapatnam being an

exclusive cattle market does not attract any agricultural produce. The agricultural season also may have a role to play, possibly in winter season when vegetables are grown in plenty is quite likely that the farmers may carry it to sell at the market.

TABLE 4.4
DISTRIBUTION OF BUYERS WHO SELL AGRICULTURAL
PRODUCE-1987
(PER CENT TO THE TOTAL)

Markets	No. of Buyers who sell agri. produce	No. Of Buyers who do not sell agri. produce	All categories per cent
Keshavapatnam	—	100.00	100.00
Gundi	—	100.00	100.00
Husnabad	6.52	93.48	100.00
Gangadhara	25.93	74.07	100.00
Mallial	1.89	98.11	100.00
Jammikunta	10.00	90.00	100.00
Jagtial (R)	12.24	87.76	100.00
Katkapur	23.08	76.90	100.00
Mulkanur	—	100.00	100.00
Ellareddypet	38.46	61.54	100.00

Source : Field Survey 1987

Data in Table 4.5 brings out an important structural aspect of the sample markets. It may be seen from the Table that except for the exclusive cattle market the

commodities brought are mostly consumer durables like clothes, footwear, agricultural implements, utensils and food items like spices. The buyers are more or less evenly distributed in all most all the markets. Only exception is in case of cosmetics which are brought only at four market places and the proportion of buyers ranges three to nine. In other words it does not seem to be a commodity much in demand among the rural folk.

The itenary traders are one of the most important functionaries of the periodic markets. They usually deal in manufactured goods and move from one market to another in a cyclical sequence from their base or their usual place of living. The usual mode of transport used by the traders in the sample markets are Bicycle, Motor Bicycle/Moped and Bus. It has been observed that the number of markets visited by these traders ranges from two to five in a week. In general the usual pattern of movement of these traders are that starting from their usual place of residence go and buy the stock and proceed to the periodic markets which are held at different nearby places on different days. By the week end after doing business in a number of periodic markets the trader returns to his base. This process is repeated every week. The trader has to visit and do business in a number of markets in order to earn sufficient income which is not possible if he does business in only one market. The traders usually buy their stock from urban areas and some of them even live in urban areas. It may be seen from Table 4.6 that the proportion of the traders who live in urban areas ranges from 6 per cent to 55 per cent. A large proportion of the

TABLE 4.5
DISTRIBUTION OF BUYERS BY TYPE OF COMMODITIES BROUGHT
(PER CENT)

Markets	Food item	Clothes	Spices	Foot-wear	Cosmetics	Animals	Agri. impliments	Uten-sils	All types
Keshavapatham	-	-	-	-	-	100.00	-	-	100.00
Gundi	-	-	-	-	-	86.67	11.11	2.22	100.00
Husnabad	22.64	27.36	27.36	0.94	2.83	3.78	12.26	2.83	100.00
Gangadhara	1.85	20.37	18.52	3.70	-	27.78	16.67	11.11	100.00
Mallial	30.23	13.95	2.33	-	2.33	12.40	20.16	18.60	100.00
Jammikunta	22.62	11.90	21.43	4.76	-	10.72	5.95	22.62	100.00
Jagtial(R)	25.35	19.01	9.86	4.93	9.15	7.75	11.27	12.68	100.00
Katkapur	-	61.90	28.57	-	-	-	9.53	-	100.00
Mulkanur	12.84	25.69	15.39	0.93	-	25.69	15.59	3.67	100.00
Ellareddypet	12.35	8.64	13.58	12.35	4.93	23.46	16.05	8.64	100.00

Source : Field Survey 1987

traders, usually have their base in villages. In the sample market Gundi it has been found that all the travelling traders have their base in villages. It may be seen that the proportion of such traders is very high and ranges from 45 to 100 per cent.

TABLE 4.6
DISTRIBUTION OF TRADERS BY THEIR PLACE OF
RESIDENCE
(PER CENT)

Markets	Town	Village	Total
Keshavapatnam	21.43	78.57	100.00
Gundi	—	100.00	100.00
Husnabad	45.65	54.35	100.00
Gangadhara	22.22	77.28	100.00
Mallial	32.08	67.92	100.00
Jammikunta	6.00	94.00	100.00
Jagial (R)	36.73	63.27	100.00
Katkapur	54.55	45.45	100.00
Mulkanur	12.00	88.00	100.00
Ellareddypet	17.31	82.69	100.00

Source : Field Survey 1987

Fig. 4.2 which is a Schematic representation of the general pattern of movement of the travelling traders, clearly brings out their movement between the sample markets. It may be seen that a travelling trader does visits as many as five periodic markets in a week. Considering the mode of transport used by the travelling

PATTERNS OF MOVEMENT OF ITENARY TRADERS (Schematic)

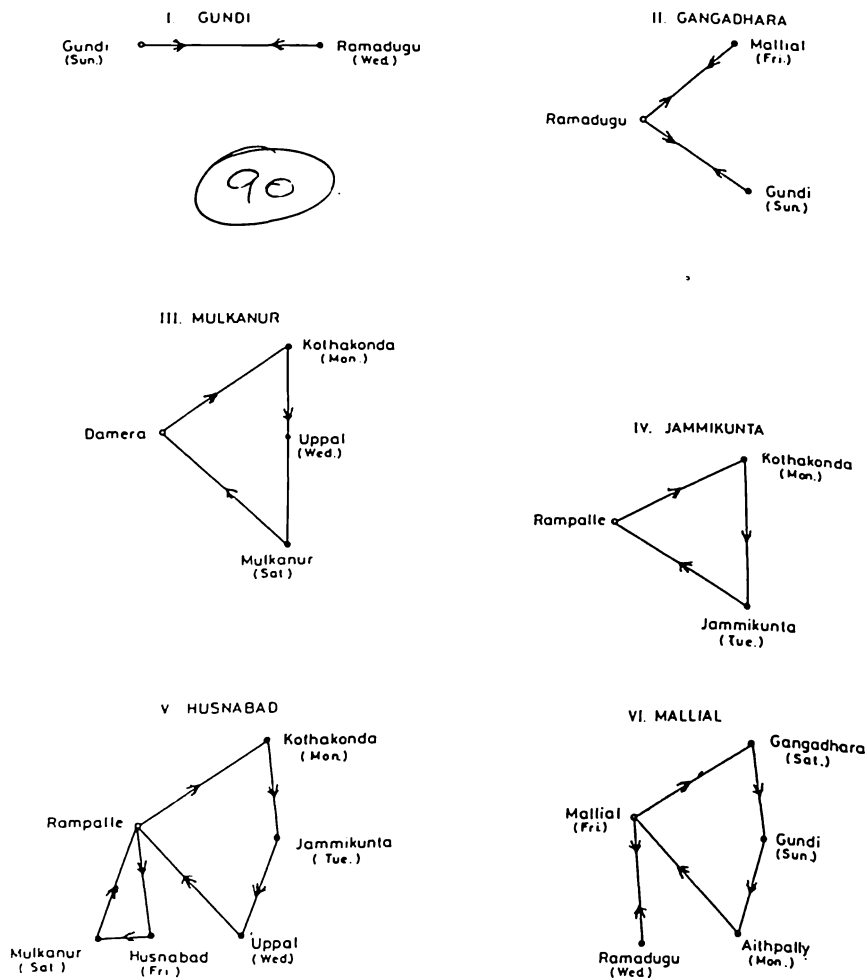


Fig. 4.2 :

traders and the general road condition in our rural areas it is possible to cover as many as five markets in a week. Only if they are located close by and held as sequential days. Perhaps what is more important to enable such traders to visit more number of market places is a convenient sequence of the market days as can be seen from Fig. 4.2.

TABLE 4.7
DISTRIBUTION OF TRADERS BY TURNOVER 1987
(PER CENT)

Markets	Rs. above 100	Rs. 50-100	Rs. below 50	All
Keshavapatnam	14.29	14.29	71.42	100.00
Gundi	86.67	—	13.33	100.00
Husnabad	8.70	28.26	63.04	100.00
Gangadhara	3.70	—	96.30	100.00
Mallial	49.06	22.64	28.30	100.00
Jammikunta	14.00	54.00	32.00	100.00
Jagtial (R)	22.45	30.61	46.94	100.00
Katkapur	—	38.46	61.54	100.00
Mulkanur	16.00	30.46	54.00	100.00
Ellareddypet	48.06	—	51.94	100.00

Source : Field Survey 1987

Data on Table 4.7 emphasize the need for travelling traders to do business in as many as markets in a week. It may be seen from the Table that the traders earning a

turnover of above 100 ranges from as low as 4 per cent in Gangadhara to 87 per cent in Gundi. In the sample market Katkapur no trader is there in this category. A large proportion of the travelling traders has a turnover of Rs. below 50 in a market day. This extremely low turnover is the primary cause for the trader visiting as many as market places possible in a week.

The general behavioural pattern of travelling traders is quite interesting as is revealed by Table 4.8. It may be seen from the Table that a good proportion of the traders ranging from 14 per cent in Jammikunta 34 per cent in Mallial buy commodities at the market for the own consumptions. They possibly do so because getting the goods at a much cheaper rate.

There are some among the traders who buy commodities at the periodic markets with a view to sell elsewhere for profit. Proportion of such traders in the sample markets ranges from two in Mulkapur to six in Jammikunta. However, a large proportion of the travelling traders do not buy anything at the markets which they visit. Their sole purpose is to sell the commodities which they are dealing in. The proportion of such traders is as high as 100 per cent Keshavapatnam, Gundi and Katkapur and the least is 62 per cent is in Mallia. However, Keshavapatnam is not relevant in the present context because it being an exclusive cattle market not attract any travelling traders.

It would be of interest to probe into the details of the type of commodities bought by the travelling traders

TABLE 4.8
DISTRIBUTION OF TRADERS BY THEIR PURCHASE IN THE
MARKET - 1987
(PER CENT)

Markets	Traders who buy in the market		Traders who do not buy in the market	All types of purchase
	For their own use	Selling for gain		
Keshavapatnam	—	—	100.00	100.00
Gundi	-	—	100.00	100.00
Husnabad	23.91	—	76.09	100.00
Gangadhara	—	—	100.00	100.00
Mallial	33.96	3.78	62.26	100.00
Jammikunta	14.00	6.00	80.00	100.00
Jagtial (R)	28.57	2.04	69.39	100.00
Katkapur	—	—	100.00	100.00
Mulkanur	27.45	1.96	70.59	100.00
Ellareddypet	26.92	3.85	69.23	100.00

Source : Field Survey 1987

at the periodic markets. The data in Table 4.9 provides the details of commodities bought by the travelling traders at all the sample markets. It may be seen from the Table that the dominant commodity bought by the traders is vegetables in all most all the markets. In just three markets poultry is also entering in to such transactions. Grain is yet another important commodity

brought by the traders and the most of these commodities being items of daily consumption are assumed to have been bought for own consumption of the traders.

TABLE 4.9
DISTRIBUTION OF TRADERS BY THE PURCHASE
COMMODITY-WISE - 1987
(PER CENT)

Markets	Items of purchase				All commodities
	Veg.	Poultry	Grain	Others	
Keshavapatnam	—	—	—	—	—
Gundi	—	—	—	—	—
Husnabad	72.73	—	—	27.27	100.00
Gangadhara	—	—	—	—	—
Mallial	48.47	11.43	25.71	14.29	100.00
Jammikunta	50.00	-	50.00	-	100.00
Jagtial (R)	43.75	12.50	55.00	18.75	100.00
Katkapur	—	—	—	—	—
Mulkanur	33.33	18.53	29.63	18.52	100.00
Ellareddypet	39.48	—	36.84	23.68	100.00

Source : Field Survey 1987

In order to establish the linkage between a periodic market settlement and urban settlements information from the traders regarding the place where they buy their stock were collected and presented in Table 4.10. It may be seen from the Table that except in three markets Keshavapatnam, Gundi and Katkapur a reasonable pro-

TABLE 4.10
DISTRIBUTION OF TRADERS BY PLACE OF BUYING THEIR
STOCK
(PER CENT)

	Hydera- bad	Other Towns	Near by villages	All
Keshavapatnam	—	71.43	28.57	100.00
Gundi	—	53.33	46.67	100.00
Husnabad	15.22	78.26	6.52	100.00
Gangadhara	3.70	37.04	59.26	100.00
Mallial	13.21	54.72	32.07	100.00
Jammikunta	14.00	64.00	22.00	100.00
Jagtial (R)	4.08	46.94	48.98	100.00
Katkapur	—	61.54	38.46	100.00
Mulkanur	14.00	76.00	10.00	100.00
Ellareddypet	7.69	53.85	38.46	100.00

Source : Field Survey 1987

portion of the traders who visit the sample markets buy their stock from Hyderabad city. The proportion of such traders ranges from 4 in Gangadhara market to 15 per cent in Husunabad market. In spite of the low proportion of traders buying their stock at Hyderabad city its importance cannot be denied considering the fact that a city is at a considerable distance for most of the markets. However, the strong linkage between these market settlements and urban settlements are very clear as is revealed by data in Table 4.10. A very high

proportion as high as 78 per cent of the traders buy their stock from urban areas. And there is nothing surprising considering the fact that almost all the commodities handled by the traders are cheap manufactured goods which are usually available in Urban areas.

Spatial Extend of Service Area : The sample markets service areas have been delineated on the basis of information collected from the market. The procedure followed is as follows. The participants in the markets were personally contacted and information on their native villages were collected. These villages were located on the map and the service areas of the markets were delineated by joining all the participants of the villages (Table 4.11 and Fig. 4.3). The service area of the sample markets range from 34 sq.km. (Katkapur) to 632 sq.km. (Jammikunta). There is considerable range in the population of the service area as it is the case with the service area itself. Population ranges from 3,554 (Katkapur) to 1,70,502 (Jammikunta). The average service area of the sample markets 397 sq.km. and the average population is 85,900.

Agricultural productivity, level of transportation network and administrative functions appears to be the primary cause the variability in the extent of service area of the sample markets. The market Katkapur serves the least number of people and has the smallest service area. The reason for this is not far to seek. This is a market settlement located on the periphery of forest areas. It has been found that extent of the service area and the population of the service area are related closely

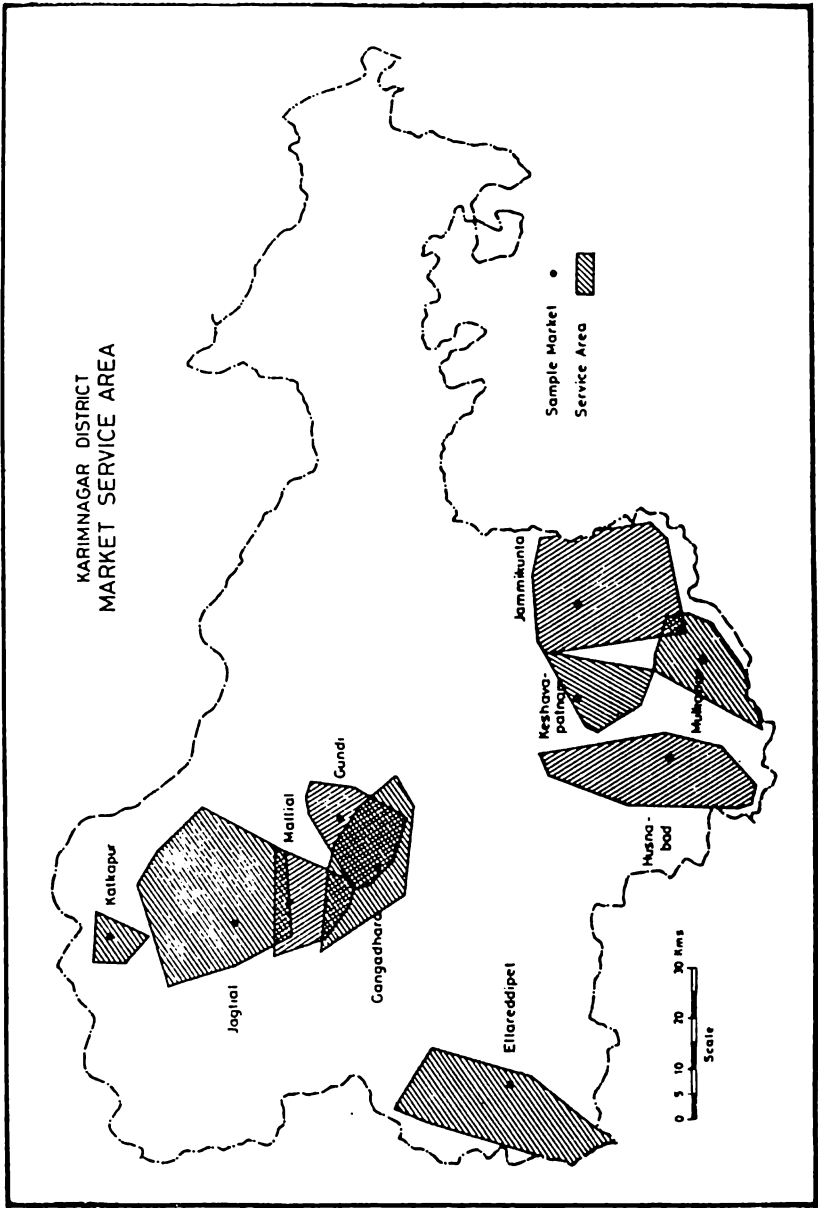


Fig. 4.3 :

TABLE 4.11
SERVICE AREA OF THE SAMPLE MARKETS AND THEIR
POPULATION

Name of sample market	Area in Sq.Kms.	Population (1981)
Keshavapatnam	242.00	59,744
Gundi	288.70	62,899
Husnabad	522.50	1,02,607
Gangadhara	413.00	96,389
Mallial	278.70	58,070
Jammikunta	632.00	1,70,502
Jagtial (R)	789.00	1,61,259
Katkapur	33.70	3,544
Mulkanur	242.70	62,441
Ellareddypet	530.00	81,975
	397.00	85,900

Source : Field Survey 1987

with irrigational facilities and administrative function. The service areas of the markets Jagatial, Mallial, Jammikunta, Gundi are all served by canal irrigation and all these markets have a large service area. Similarly the market settlements where administrative functions are located Jagtial (R), Mallial, Gangadhara, Husnabad tend to have a larger service area and also population. From the foregoing analysis it may be summarised that the extent of the service area of the periodic market depends on factors like irrigational facilities which enhance agricultural productivity, administrative functions and accessibility, one or more of these factors are

present in case of all the sample market settlements with large service areas.

Growth Potential of Periodic Markets

The growth and developmental potential of the periodic markets will depend on various factors. These may be social, economic and cultural. Geographical factors like location, site and situation may also have a bearing on the growth and development process on the particular market settlement. A brief assessment on the potentialities of growth and development of the sample markets are given below.

Keshavapatnam is an exclusively cattle market and do not seem to have any potentiality of further growth and development. Its development potentialities are rather dim due to an additional factor of its being in close proximity to the urban settlement Huzurabad. Huzurabad as a concentration of functions like administrative, commercial, etc., besides enjoys much greater accessibility. All the factors are bound to play a negative role in so far as growth and development of the Keshavapatnam market settlement is concerned.

There are seven market settlements which are categorised here are mixed *i.e.*, general commodity and cattle. These markets are Husnabad, Gundi, Gangadhara, Ellareddypet, Mulkanur, Jammikunta and Katkapur. These Markets are located at different environmental settings and as a result have varying growth and development potentialities. The market settlement is Katkapur is located on the periphery of reserve forests as the least accessibility. It does not possess any of the favourable factors which are likely to

induce further growth and development and as such is considered to have no further growth of potentialities. The market settlements Gundi and Jammikunta are very favourably placed with bright prospects of further growth and development. The canal irrigational facilities available in the service areas of these markets are likely to speed up the agricultural development in their service areas and consequently may induce further growth and development of these market settlements.

The other markets, Mulkanur, Gangadhara, Ellareddypet and Husunabad in spite of the fact that some of them enjoy the administrative status are not likely to achieve any significant growth and development in the near future.

The last category of markets termed as general commodities are mallial and Jagtial (R). These markets dealing mostly like agricultural products like vegetables, poultry and other seasonal farm produces. Both these markets have very good accessibility. Both have administrative functions located in and also possess a relatively large service area. All these factors may contribute towards the rapid growth and development of these two markets.

From the preceding analysis it can be inferred that market function alone does not seem to play any significant role in the growth and development of a settlement. However, when market functions are combined with other factors like a vast agriculturally rich service area, administrative functions and transport facilities etc., the growth and development potentialities of market settlement are greatly enhanced.

CHAPTER V

SUMMARY AND CONCLUSION

Karimnagar district is a part of the Telangana region of Andhra Pradesh. This district is located between latitudes 17°59' and 19°5' North and longitude 78°31' and 80°22' East encompassing an area of 11,824 sq.kms. There are fourteen talukas and 14 panchayat samitis in the district in 1981. A large area of this district comprises of granite formations and belongs to Archean age. The soils in this district, are predominantly red soils. Monsoon plays a vital role in the agricultural economy.

The population of the district (1981) registered a two-fold increase from 1941 to 1981 and with a decade per cent growth of 15.45 during 1941 and 24.05 per cent growth in 1981. The district sex ratio is considerably higher than the sex ratio of State. Literacy rate of this district is low when compared to Telangana as well as with the State.

The word 'market' is a derivative of the Latin word 'marcatus' meaning merchandise or trade, a place where business transactions are conducted. A market is an authorised public gathering of buyers and sellers of commodities at an appointed place at regular intervals. The participants in a periodic market are consumers, traders, administrators and bystanders.

Early man had no marketing needs and the system has continued till man entered in the Neolithic age. Population of mankind has multiplied and development took place and demolished the basis of self-contained economy.

Market activity has gradually evolved with the increasing demands and decreasing self-sufficiency of human beings. In the beginning a form of barter might have evolved without knowingly when people started exchanging gift among themselves. The surplus production on one hand and subsistence production on the other necessitated exchange. In such an exchange system nodal points were established along the areas of different resources. At these nodal points people gather at a fixed time to facilitate exchange of goods. The initial exchange was in kind which gradually grew into monetary exchange. This market activity strengthen the social relations, weakening of self-sufficiency, increase in specialisation and subsistence level of production.

There are some theories and models which incorporate the basic concepts underlying the evolution of the market and development. Carol, A. Smith says that the social and economic forces will have much importance around the market centre. But whereas Polanyi considers cultural or political rather than economic variables.

Christaller's central place theory does not explain the evolution of the market. He worked from top to bottom to build a central place hierarchy of settlements. Suppliers move out from an established centre as

demand rises to create new centres in a region. But he did not actually propose an evolutionary model for the market. Polanyi's socio-political forces create the conditions for this system. The major difference for the Christaller and Vance is that the initial stimulus for trade is seen as external rather than internal.

Skinner, the only one who should be credited with an evolutionary model, begins with a region that supports only small peasant markets, population growth give commercial impetus to the region, requiring peasant to specialise in order to meet subsistence needs and providing for more market centres whose flows must be articulated. A single market that initially supported many villages suddenly becoming the hub for the smaller markets that develop in with some of the villages, each of which then supports relatively few villages. In Skinners model, urban centres would develop only as a result of rural market intensification.

Schwimmer and Appleby describe that smaller market centres develop first and are promoted to a higher level in the hierarchy as new market develop. Plattener and Crissman also describe the process of rural market evolution which they have tested their theories using data on Taiwan and Mexican towns. Plattener describes that first a large urban centre with both political administrative functions, then several small local markets. In Crissmans case commercial intensification was stimulated primarily by endogenous rather than exogenous forces, population growth and internal diversification.

Most studies regard marketing as a peripheral feature of rural economy. Fisk (1971) has, however, argued that non-agricultural sector of economic activity may aid the process of development. Marketing is also one of the forms of economic activities which also encourages agricultural development. By this the transitions from periodic to regular marketing together with the economic and rural development takes place in the region.

Markets are complex and dynamic, may change in the face of changing political, economic and social environment. So there is need to know about the longer term dynamics of the market system. Population density is perhaps the most important catalyst that induce for a change from periodic market to daily market. There appears to be a critical population density above which there is a regular pattern of periodic markets and below which there would be very few markets or even none.

Skinner in his study of Chinese markets have divided the growth system into two basic categories (a) Growth resulting from traditional change and (b) Growth as a result of modern change. Traditional change is an internal, impulse which associated with conditions of population density. Modern change is the result of external influence of transport and other forms of socio-economic variables. By this the markets can evolve into more integrated system. Bromely and his associates argue that as development occurs periodic markets gradually lose their periodic character and become continuous daily markets or they may decline.

In developing countries rural markets are the hub of many economic activities. These markets also form a crucial link in the marketing chain which involves periodic markets, rural markets and urban markets. Market centres also very often attract exogenous investment and are provided with amenities like, hospitals, schools and other social amenities which further increase their functions. This may change the type of market to another type. This transformation may influence the urbanisation in the region.

Economic development as an 'outcome' is considered as the assessment of an economy as developed, undeveloped or underdeveloped. This is the normative view of the process. Immanuel Wallerstein suggests that marketing system rests on the interaction of economies at different levels of development. He argues persuasively that dynamic of capitalism is based on the structural imbalance created by integrating regional economies at different levels of development. Appleby and Carolsmith examined core periphery relations in the regions of Puno, Peru and Western Gautemala where the interlocking central place hierarchies have developed in the core areas and tie into peripheral areas through dendritic extension. Markets sprang up in both core and periphery in the regions which they examined. These core and priphery becoming better integrated involved in regional development. This type of development is at the regional level but not at the local level.

Trade remains important in the region but through it the process or urban development begins. Ultimately

the goods produced by the producers by local firms fall, the producers reduce wages and profits at the end they fail. But whereas core area traders do not stand idly by watching their own profit margins fall. They import the goods from where they get goods at cheaper rate by adding transport costs. This will encourage development in other areas rather than at the local level.

Carol Smith says that expanding external trade is the only hope for development. Finally he argues that economic development should be seen as the process whereby rural or differentiated parts of an economy become increasingly specialised in production requiring more efficient and equitable exchange articulation among the parts increasing hierarchical and vertical market integration. The solution then may rest on promoting several urban centres or 'growth poles' in the developing regions or nations thereby providing the necessary internal dynamic for sustained growth.

Urban growth rate is comparatively much higher than the Karimnagar district. Market settlement growth rate is always higher than the rural growth rate. The substantial growth rate differential between market settlement and rural settlements further confirms the validity of the hypothesis that market function induces urban growth.

There has been a change from periodic markets with temporary and make shift structures to daily markets with permanent structures and more diversified functions. The forces responsible for this change are both endogenous and exogenous. The most important of

the endogenous factors is population pressure. The high population density of central region of Karimnagar district, which resulted in extreme land fragmentation, continuous cultivation has led to flight from land to petty trading and service provision. Consequently, a system of periodic markets seems usually to be characteristic of settlements whose demands are of low order and has changed to daily markets to provide permanent and higher order goods and services. The exogenous forces comes from the stimulation offered by accessibility and articulation. It may sees to be that both sets of forces have been generally active in the emergence of the periodic markets. From the trend perceived in the study, it is clear that periodic markets will eventually disappear under the demands of a changing rural economy.

The distribution of periodic markets takes place in geographical space, and within a settlement system. Location theory provides a theoretical framework for periodic market studies. That the geographical conditions of Karimnagar district do not approach the assumption of location theory of Christaller. There is no evidence of either a central place hierarchy will explain the location of all economic activities and services.

There do exist hierarchies of periodic markets, in the study area. These hierarchies are of an extremely local nature, reflect a spatial form of functional specialisation ; and operate in a given socio-economic context. These hierarchies of markets seem to disappear with some other spatial form of functional specialisation.

Some of the empirical observations in the study area are significant. In a market place there need not

necessarily be transactions of only lower order goods. The cost of transport is also not uniform over a region. The trips to markets are not single purpose and not always for some economic reason. Some of the consumers do not limit their weekly trading activity to one market but spread over more than ones.

The study reveals the hypothesised relationship between the population and the emergence of periodic markets as defined as Hodder which measure the reciprocal effects of concentration of population over a region. It is also seen that the periodic markets are not necessarily confined, in their geographical distribution, to the areas of urban influence. However, the study has also noted that a sudden emergence of a market settlement with infrastructure facilities, transport network, population, administrative functionaries, cultivated land and agricultural production is likely to result in the decline of small market places within a short distance from such a centre. The spatial extent of such market settlement service area will be larger than the declined small market settlement service area.

BIBLIOGRAPHY

Agarwal, P.C. (1968) : "Weekly Market Size and Service area in Bastar District", *Indian Geographical Journal*, Vol. 43, pp. 29-33.

Agarwala, V.S. (1941) : "Trade and Commerce from Paninis Ashtadhyayi, Transactions", *Indian History Congress, V Session*, Hyderabad, pp. 134-11.

Alam, S.M. and Gopi, K.N. (1978) : "Andhra Pradesh : Patterns of Regional and Urban Development", in Alam S.M. and Reddy, G.R. (Eds), *Socio-Economic Development Problems in South and South-East Asia*, Popular, Bombay, pp. 122-144.

Beaujeu-Garnier and Delobez, A. (1979) : *Geography of Marketing*, Longman, London.

Berry, B.J.L. (1964) : "Cities as Systems within System of Cities", in Friedmann, J. and Alonso, W. (Eds), *Regional Development and Planning*, MIT, Cambridge, pp. 116-137.

Berry, B.J.L. ; Conkling, E.C. and Ray, D.M. (1976) : *The Geography of Economic Systems*, Prentice Hall, New Jersey.

Bhat, L.S. (1992) : *Regional Planning in India*, Statistical Publishing Society, Calcutta.

Bhat, L.S. *et al.* (1976) : *Micro-Level Planning – Case Study of Karnal Area – Haryana*, India, New Delhi, K.B. Publications.

Billimoria, M.M. (1940) : "The Panis of the Rigveda", *Proceedings of the Indian History Congress, Fourth Session*, Lahore.

Bromely, R.J. *et al.* (1975) : "The Rationale of Periodic Markets", *Annals of Association of American Geographers*, Vol. 65, No. 4, pp. 530-537.

- Chakraborty, S.C. (1982) : "Regional Planning : A Framework of Operation", *The Indian Geographical Journal*, Vol. 57, No. 1, pp. 1-13.
- Deshpande, C.D. (1941) : "Market Villages and Periodic Pairs of Bombay, Karnataka", *Indian Geographic Journal*, Vol. 16.
- Dixit, R.S. (1984) : *Market Centres and Their Spatial Development in the Upland of Kanpur*, Kitabmahal, Allahabad.
- Eighmy, T.H. (1972) : "Rural Periodic markets and the extension of an urban system : Western Nigeria example", *Economic Geography*, Vol. 48, pp. 299-315.
- Fisk, S. (1971) : "Labour Absorption Capacity of Subsistence Agriculture", *Economic Record*, Vol. 47, pp. 366-372.
- Food and Agriculture Organisation (1980) : "Rural Markets : A Critical link for Small Farmers Development", *Proceedings of the International Workshop*, India, Bangalore.
- Friedmann, J. and Alnso, W. (Eds) (1965) : *Regional Development and Planning : A Reader*, MIT, Cambridge.
- Gibbs, J.P. (Eds) (1961) : *Urban Research Methods*, D. Van Nostrand Co., New Jersey.
- Glassen, J. (1971) : *An Introduction to Regional Planning : Concepts, Theory and Practice*, Hutchinson, London.
- Good, C.M. (1976) : "Markets and Marketing System" in Knight, C.G. and Newman, J.L. (Eds), *Contemporary Africa : Geography and Change*, New Jersey.
- Gopi, K.N. (1978) : *Process Urban Fringe Development : A Model*, Concept, Delhi.
- Gopi, K.N. (1980) : *Urban Growth and Industrial Locations*, Oxford and I.B.H., New Delhi.
- Gormsen, E. (1984) : "Weekly Market in the Puebla Region of Mexico, *The Indian Journal of Marketing Geography*, Vol. 2, No. 1 & 2, pp. 70-81.
- Government of Andhra Pradesh (1982) : *Action Plan for District Industries Centre*, Karimnagar, A.P.
- Haggett, P. (1965) : *Locational Analysis in Human Geography*, Prentice Hall, London.

- Hagget, P., Cliff, A.D. and Prey, A. (1979) : *Locational Models*, Vol. I and Vol. II, Arnold Heinemann, New Delhi.
- Hansen, N.M. (Ed) (1971) : *Growth Centres in Regional Economic Development*, The Free Press, New York.
- Harvey, D. (1967) : *Explanations in Geography*, London.
- Hay, A.M. (1971) : "Notes on the Economic Basis for Periodic Marketing in Developing Countries", *Geographical Analysis*, Vol. 3, pp. 393-401.
- Hiroshi Ishikara : "Periodical Markets of Ming Ching and Minkuo Period in Hopei Provinces, China". *The Indian Journal of Marketing Geography*, Vol. I, pp. 13-18.
- Hudson, F.S. (1976) : *A Geography of Settlements*, Macdonald and Evans Ltd., Norwitch.
- ICRISAT (1985) : "Agricultural Markets in the Semi Arid Tropics", *Proceedings of the International Workshop*, 1983, India, Patancheru.
- Hodder, B.W. (1965) : "Distribution of Markets in Yorubaland", *Scottish Geographical Magazine*, Vol. 81, pp. 48-58.
- Irawati, K. and Acharya (1941) : "Role of Weekly Markets in the Tribal, Rural and Urban setting", *ICCSR Research Abstracts*, Vol. 3, No. 71.
- Jackson, R.T. (1971) : "Periodic Markets in Southern Ethiopia ; Transactions", *Institute of British Geographers*, No. 55, pp. 31-41.
- Jamkar, A.G. (1984) : "Spatial Disposition and Spatio-Temporal Analysis of Periodic Market Places in Dhule District", *Deccan Geographer*, Vol. 22, No. 3, pp. 532-537.
- Johnston, R.J. (1980) : *Multivariate Statistical Analysis in Geography: A Primer on the General Linear Model*, Longman, London.
- Kumbhar, A.P. and Deshmukh, P.W. (1984) : "Periodic Markets and Regional Links in Sangli", *Deccan Geographer*, Vol. 22, No. 3, pp. 538-548.

- Lal, V.N. and Gupta, V.P. (1983): "Baheru: A Study in Marketing Geography", *The Indian Journal of Marketing Geography*, Vol. 1, No. 1 & 2, pp. 37-39.
- Mathur, V.S. (1941): "Agricultural Marketing in Western U.P.", *Indian Geographical Journal*, Vol. 16.
- Markandey, K. (1986): *Regional Urban Centres: Structure and Interaction*, Inter-India Publications, New Delhi.
- Mckim, W. (1972): "Periodic Market System in North-eastern Ghana", *Economic Geography*, Vol. 48, pp. 33-44.
- Minati Singh (1984): "Rural Market and Marketing Functions: Case Studies from Lower Ganga-Ghaghra Doab", *The Indian Journal of Marketing Geography*, Vol. II, No. 1 & 2, pp. 94-101.
- Misra, R.P. ; Sundaram, K.V. and V.L.S. Prakash Rao (1974) : *Regional Development Planning in India: A New Strategy*, Vikas Publishing House, New Delhi.
- Mitra Ghosh: "Market Centre: An Important Type of Settlement in North Bengal", *Geographical Review of India*, Vol. 44, No. 1.
- Mittendorf, H.J.: "Rural Market Centre: Potential Development Centres for Small Farmers Development", *Indian Journal of Public Administration*, Vol. 28, pp. 101-119.
- Moser, C.A. and Kaltong, G. (1979) : *Survey Methods in Social Investigation*, Heinemann Educational Book Ltd., London.
- Moser, C.A. and Scott, W. (1961) : *British Towns: A Statistical Study of their Social and Economic Differences*, Oliver and Boyd, London.
- N.C.E.R.T. (1955) : *Market Towns and Spatial Development in India*, New Delhi.
- Pandit, Surekha (1984): "Spatial Efficiency: A Point of View", *Deccan Geographer*, Vol. 22, No. 3, pp. 526-531.
- Park, S. (1981) : "Rural Development in Korea: The Role of Periodic Markets", *Economic Geography*. Vol. 57, pp. 113-126.

- Parvathi, C. (1976) : "A Case Study of a Market Town Region Pollachi", *The Indian Geographical Society*", Golden Jubilee Volume, Madras.
- Pattanaik, N. (1953) : "Study of Weekly Market in Bhopal", *Geographical Review of India*, Vol. 55.
- Prakasa Rao, V.L.S. (1961) : "Bhongir : A Case Study of Market Town", *Census of India*, Monography 12, Some Aspects of Urbanisation in South India, Registrar General, Ministry of Health, New Delhi.
- Rajagopal, M.V. (1974) : *Andhra Pradesh Gazetteers Karimnagar*, Government Printing Press, A.P., Kurnool.
- Ramachandran, R. (1976) : "The Internal Structure of a city in transition—A Case Study of Vijayawada City", *The Indian Geographical Society*, Golden Volume, Madras.
- Raza, M. (1992) : "Structure and Function of Rural Markets in Tribal Bihar", *Geographer*, Vol. 18.
- Reddy, V.S. (1983) : *Economic Base of Karimnagar Town*, Unpublished M.Phil. Dissertation, Department of Geography, Osmania University, Hyderabad.
- Saharia, K.R. and Shri Vastava, V.K. (1984) : Morphology of Market Places of Moradabad Town, *The Indian Journal of Marketing Geography*, Vol. 2, No. 1 & 2, pp. 88-93.
- Saxena, H.M. (1983) : "Commodity Structure of the Market Towns in Rajasthan", *The Indian Journal of Marketing Geography*, Vol. I, No. 1 & 2, pp. 19-21.
- Schultz, T.W. (1964) : *Transforming Traditional Agriculture*, (New Haven).
- Scott, E.P. (1972) : "The Spatial Structure of Rural Northern Nigeria : Farmers, Periodic Markets and Villagers", *Ecqnomc Geography*, Vol. 47, pp. 316-332.
- Sen, L.K. ; Wanmali, Sudhir, Bose ; S. ; Misra, G.K. and K.S. Ramesh (1971) : *Planning Rural Growth Centres for Integrated Area Development : A Study in Miryalguda Taluka*, Shakuntala Publishing House, Bombay.

- Shamasastri, R. (1915): *Kautilya's Arthasastra*, Bangalore, Govt. Press, p. 52.
- Shrivastava, K.R. (1974): "A Model for the Study of an Individual Market Place", *Uttar Bharat Bhoogol Patrika*, Vol. 10, Nos. 3 & 4, pp. 80-87.
- Shrivastava, V.K. and Srivastava, H.O. (1980): "Hierarchy of Market Centres: Application of a Method", *Deccan Geographer*, Vol. XVIII, No. 2.
- Shrivastava, V.K. (1983): "Morphology of Rural Markets Around Gorakhpur Town", *The Indian Journal of Marketing Geography*, Vol. I, No. 1 & 2, pp. 28-36.
- Shrivastava, V.K. (1984): "Progress of Marketing Geography in India", *The Indian Journal of Marketing Geography*, Vol. 2, No. 1 and 2, pp. 1-13.
- Singh, K.N. (1967): "Barhaj: A Study in the Changing Pattern of Market Town", *National Geographical Journal*, Vol. 7.
- Singh, S.B. and Singh, B.N. (1983): "Spatio-Temporal Synchronisation of Periodic Markets in a Part of India", *The National Geographical Journal of India*, Vol. 29.
- Skinner, G.W. (1965): "Marketing and Social Structure in Rural China, part II", *Journal of Asian Studies*, Vol. 24, pp. 195-228.
- Smith, Carol, A. (1975a): "Examining Stratification Systems through Peasant Marketing Arrangements", *Man* 10, pp. 94-122.
- Smith, Carol, A. (1975b): "Production in Western Guatemala: A Test of Boserup and von-Thuen; In Formal Methods in Economic Anthropology, edited by Stuart, M. Plattner, Washington, D.C.", *American Anthropological Association*, pp. 5-37.
- Smith, Carol, A. (ed) (1976): *Regional Analysis: Volume I, Economic System*, New York.
- Smith, R.H.T. (1976): "Periodic Market Places and Travelling Traders in Developing Countries", *The Indian Geographical Society*, Golden Jubilee Volume, Madras, pp. 214-224.

- Soja, E.J. (1972): "Rural Markets in Ankole, Uganda", *Geographical Review*, Vol. 62, pp. 273-274.
- Srivastava, R.C. and Gupta, J.P. (1979): "Consumer Travel Patterns in the Periodic Markets of Kanpur Metropolis", *National Geographer*, Vol. 25, No. 2, pp. 147-158.
- Stuart Plattner (1978): "Public Markets: Functional Anachronism or Functional Necessities", *EKISTICS*, Vol. 45.
- Sudhir Wanmali (1981): *Periodic Markets and Rural Development in India*, B.R. Publishing Corporation, Delhi.
- Swaminathan, F. and Murugesan, N. (1984): "Functional Morphology and Market Place Participants' Behaviour in Pudanandai Weekly Market", *The Indian Journal of Marketing Geography*, Vol. 2, No. 1 & 2, pp. 35-39.
- Symanski and R.J. Bromely: "Market Development and Ecological Complex", *Professional Geographer*, Vol. 26, pp. 382-388
- Tamaskar, B.G.: "Trader Travel Behaviour and Periodic Market Cycles in the Arvi Upland", *The Indian Journal of Marketing Geography*, Vol. I, pp. 22-27.
- Tamaskar, B.G. (1955): "Pathana: A Study of the Settlement Pattern and Weekly Market", *Geographical Review of India*, Vol. 18.
- Tamaskar, B.G. (1966): "The Weekly Markets for Sagar Damoh Plateau", *National Geographical Journal of India*, Vol. 18.
- Tamaskar, B.G. (1977): "Periodic Marketing System in Medieval Maharashtra", *Geographical Review of India*, Vol. 39, No. 2.
- Tamaskar, B.G. (1984): "The Role of Periodic Market Places as Centres of Diffusion", *The Deccan Geographer*, Vol. 22, No. 3, pp. 519-525.
- Taylor, P.J. (1977): *Quantitative Methods in Geography: An Introduction to Spatial Analysis*, Houghton Mifflin, Boston.
- Wallerstein, Immanuel (1974): *The Modern World System*, New York, Academic Press.

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