

**PHYSIO-LOCATIONAL TAXONOMY OF PERIODIC MARKETS IN
KARAD TAHSIL OF SATARA DISTRICT (MAHARASTRA)**

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Abstract

Location and distribution has always been considered as the fundamental step in all Geographical analysis. Throughout the history of the development of discipline, the study of location and distribution has formed its essential core. Market centers not only perform the functions of service centers, rather they are centers of the diffusion of information for population and habitation. The present study is intends to focus on the locational aspects of the market in relation to the physic of the area. The physio-locational taxonomy refers “A scheme of classification of market location based on Physiographic condition” The present analysis intends to make use of Google Earth image of the study region in order to identify and classify the market centers and their location. In Karad tahsil, totally 13 weekly markets are existed, which are distributed on the basis of socio-physiographic conditions. These locations are classified as foothill side, river side, road side and nodal points in the tahsil.

Key words: weekly markets, location, functions, distribution, socio-physiographic

INTRODUCTION

The term distribution refers to placement of location or disposition (Vijayraj 1974). Distribution is the process involving the large diversity of complexity interrelated variables of physical, economic and social characteristics. Location and distribution

pattern are the most useful factors for geographers, because they involve in the physical space and arrangements (Mulmani 2006) since, physical space being the prime of concern to geographers. Many scholars have studied the various aspects of location and distribution of market centers. (Hodder 1965, Tamaskar 1966, Mukharji 1968, Saxena 1972, Shrivastva 1984, Dixit 1988, Hugar 1984 and Mulmani 2006)

Location and distribution has always been considered as the fundamental step in all Geographical analysis. Throughout the history of the development of discipline, the study of location and distribution has formed its essential core (Martine B.V.1974). Market centers not only perform the functions of service centers, rather they are centers of the diffusion of information. The life of people and habitat and economy are affecting by market centers although, economists and anthropologists have made some headway in their analysis of market institutions and processes in developing countries. The geographical analysis of these market centers is vital element of socio-economic landscape (Chorley & Haggett 1967, P.300) has begun recently.

There is a great variation in the distribution of market centers. They are unevenly distributed and influenced by physio- cultural, social, economic and political factors, each factor has its own influence on distribution of market centers in a uniform geographical condition. Socio-economic and political factors, each factor has its own influence on distribution of market centers. In a uniform geographical condition, socio-economical function have played instrumental role in the development of market within region.

The study of spatial distribution is essential in geography. The physical and temporal factors are affecting on the spatial distribution of market centers. Here attempt has made to study the spatial distribution of market centers in the study region. Researcher has visited the market places as well as Physio-Locational taxonomy studied with help of the Google earth.

Study Region:

Karad tahsil is one of the most agriculturally developed tahsil in Satara district of Maharashtra. It is situated on confluence of Krishna and Koyana River. The tahsil extends between $17^{\circ} 18'$ north to $17^{\circ} 38'$ north latitude and $73^{\circ} 52'$ east to $74^{\circ} 16'$ east longitude. According to 2011 census there are 198 villages in the Karad tahsil in supporting with 483237 population. It covers total geographical area about of 405.8 sq. km. which is 10.2 percent of Satara district.

Objectives:

The present study has specific objective, i.e. to study and analyze the physio-locational taxonomy of selected market centers in Karad tahsil. It supports spatial distribution of weekly markets in the Karad tahsil.

Database and Methodology:

The present work is based on primary and secondary sources of data pertaining to market centers. Primary data is collected through intensive field work through questionnaires which are pretested. The secondary data has been collected from district census hand book, Gazetteer, district statistical abstracts, socio-economic abstracts, gram Panchyat, village accountant etc.

CHARACTERISTICS OF LOCATION

The factors of location are as seen as one, in which geographical influences stand out most prominently (Saxena 1975). The location factor not only influences the growth of market center but also acts and react the various processes and stages of development of same (Hugar 2000). The locational characteristics of periodic market in the study region follow the physiographical pattern indicating that the periodic market tends to get located at the sites that have physiographic advantages. A careful observation has been made to referencing the topographic maps and identified the market and their location. The physio-locational based taxonomy has been analyzed by making four categories.

Table 1.1: Circle wise Distribution of Rural Weekly Market Centers in Karad Tahsil

Sr. No.	Name of Circle	No. of Market Center	No. of Villages
1	Koparde	00	24
2	Masur	01	13
3	Umbraj	01	29
4	Indoli	00	23
5	Supne	02	11
6	Kale	02	17
7	Undale	02	14
8	Kole	01	14
9	Shenoli	04	15
10	Karad	00	38
	Total	13	198

Source: Field work and Revenue office, Karad

Above table 3.1 reveals that the circle wise distribution of rural weekly market centers in Karad tahsil. Out of the total 198 villages in Karad tehsil only 13 villages are found in weekly market centers. The circle wise distribution is varied in the village and market centers. The Koparde and Indoli circle which has no any weekly market center and highest numbers of village are located in these two circles. These two circles are located near the urban areas of Karad tehsil. In these circles majority villages are newly originated in daily market with this background no any weekly market center observed. Highest weekly market centers are found in Shenoli circle (04) because of the Shenoli circle is located in outer part of urban area. In this circle majority villages are in rural background in Karad tehsil. So till today weekly market centers are practices in these villages.

SPATIAL DISTRIBUTION

Spatial distribution mainly consist of distribution, size, economic significance of human settlements, market settlement of farming enterprises, rail, road and other transport systems and administrative centers at different grades (Mulimani, 2006) attempted to measure the relationship of market centers distribution with those of the population, area and number of villages at each circle level by using the statistical and quantitative method.

There are number of factors to control the distribution of market centers over space. The influence of population, area and number of villages are very prominent factors in distribution of market centers, further the market centers seems to process certain relationship with these factors. The attempt has been made in present study, to measure the relationship of market centers with those of population, area and number of villages by calculating circle wise Per cent share of each market center in area, population and number of villages.

DISTRIBUTION RELATIONSHIP

The circle wise distribution of market centers in the study region depends upon socio-economic condition of the settlement. The Karad has 110659 hector of total geographical area with 10 Circles consisting of 13 market centers which are unevenly distributed over the space in the study region. The table 3.3 shows that the Shenoli circle has the highest number of market centers. i.e. 04 and other hand Kole, Masur, and Umbraj circles represent the lowest numbers of market center i.e. 01 in Karad tehsil. The circle such as Supne, Kale, Undale are highest market centers than tehsil average due to highest level of accessibility, socio- economic activities and locational advantages of market centers. The rest of circle like Masur, Umbaraj, Kole represents less number of market centers than tehsil average.

Table 1.2: Distributional Relationship of Weekly Market Centers

Sr. No	Name of Center	Total Geographical Area in Hector	Number of House hold	Total Population	Percentage of Share of Karad tahsil		
					% of Area	% of House hold	% of population
1	Masur	1215.43	1883	8933	1.097	2.75	1.84
2	Umbraj	577.99	3714	16854	0.522	5.42	3.48
3	Supne	517.00	893	4112	0.467	1.30	0.85
4	Kole	646.00	1031	4657	0.583	1.50	0.96
5	Undale	468.00	565	2702	0.422	0.82	0.55
6	Kale	1355.35	1839	8741	1.224	2.68	1.80
7	Shenoli	872.00	832	3746	0.788	1.21	0.77
8	Karve	915.00	1574	7451	0.826	2.29	1.54
9	Ond	714.77	989	4655	0.646	1.44	0.96
10	Tambave	1029.94	1065	5082	0.930	1.55	1.05
11	Vadgaon	1396.00	1395	6825	1.261	2.03	1.41
12	Kolewadi	614.55	578	2680	0.555	0.84	0.55
13	Rethare	1488.14	2397	12004	1.344	3.50	2.48
	Total	110659.00	68462	483237	10.665	27.33	18.24
	Average				0.820	2.102	1.40

Source: District at a glance 2011-12

MARKET CENTERS AND AREA

Market center cannot function in isolation, it dependence on the surrounding area is un-questionable (Saxena, 1974). The importance of any periodic market depends on the rich agricultural hinterland. It means that, larger the market area, greater will be the area of influence. In fact the market is a geographical area from which a market draws its customers and offers retail as well as other services. The market areas are

fixed in space for recognizable period of time and their boundaries are zones and are flexible, not rigid. The market center and area which served by particular market have close relationship. Every market center has its own influencing area. The population of that area is attracted by market center. If the center is large and fulfill of all facilities then it attracts the population of large surrounding area. If centers is small and lower commodities available in market then influencing area is smaller. Physiography, transportation facility, economical status and political situation are affecting on relationship of population and area. The number of commodity as well as the specialty of commodity also attracts the population from the surrounding area. In the present study in an average each market center serves 0.82 Per cent area of the tehsil. The Masur (1.09%) and Kale (1.22%) Rethare (1.34%) rural market center served more than the tehsil average. The Undale rural market center known as hilly region so, the settlements are very sparse and the small settlements are located in long distance as well as the highest area and less market centers compare to other circle in the district influences. The highest concentration of market is found in Shenoli (0.78%), Kole (0.58%), Undale (0.42%) Supne (0.46%) circle, it serves 30.76% area of the tehsil. The Masur (1.9%), Umbraj (0.52%) Kale (1.22%) area served which is less than the average of tehsil. The high concentration of markets is found in such circles.

MARKET CENTERS AND POPULATION

The population served by particular center is mostly depends on the administrative status of that center. If the market centers having first order market center then it serves the population of totally region. Second order then third order a center has its own influencing population besides, this geographical condition also affecting on the service population. In plain region the large settlements are located as well as in hilly and adverse region small settlements are located so market centers in plain area served more population compare to the market center in the hilly area.

Each market center serves a definite proportion of population in the area around it in each market center. It is calculated that on an average each market center serves 1.40 Per cent of the tehsil population. Out of 13 market center, 3 market centers such as Umbraj (3.48%), Rethare (2.48%), Masur (1.84%) serves higher percentage of population than the tehsil average, whereas in rest of six market center such as Kolewadi (0.55%), Shenoli (0.77%), Kole (0.96 %) market center serves less percentage of population than tehsil average. The lowest average population served in Unbale (0.54%) tehsil.

MARKET CENTERS AND NUMBER OF HOUSE HOLD

Each market centers serves surrounding villages based on the hierarchy. The spacing of settlement affecting on the relationship between the market centers and number of served villages in the geographical condition affecting on this relationship.

The market centers served surrounding villages in different manner. The table shows that each market center serves on an average 2.10% of the villages of the tehsil. The percentage share of each market center in the three market center such as Umbraj (5.42%), Rethare (3.50%) Masur (2.75%)

DISTRIBUTION OF MARKET CETERS BASED ON PHYSIOGRAPHY

The physical factors play a prevalent role in location and distribution of market centers in any region. The study region has all physical characteristics that have great influence on location distribution and development of market centers in study area. The western part of tehsil is hilly region and has only three market centers. This is mainly due to forest coverage area and topography, topographical disturbances that's a leads to lack of accessibility and sparsely distributed settlement with low population size. The eastern part of the tehsil in Kale, Rethare, and have low concentration of market centers due to the physiography of area on the other hand, the better transport network and high production of agriculture allows the growth of market centers in plain region of Karad tehsil.

DISTRIBUTION OF MARKET CENTERS BASED ON TRANSPORTATION

Transportation is key factor in rural marketing activities, the effective transportation enhance the process of exchange of goods and services. An easy access to a trade center is paramount to its vigorous growth and therefore most of the market towns are located at the point of route convergence or at the cross road nodes (Saxena 2004).

Considering the location of rural market centers, in the study region with respect to transportation network one can found out that almost all market centers located on road side. Out of 13 market centers 08 market centers located on the main roads mostly the State Highways and National Highway sides besides this some rural market centers located on near to state highway in periphery of 3 km which has beneficial for the development of rural market center as well as the regional development.

TEMPORAL DISTRIBUTION

The temporal aspect is also an important dimension in geography. The geographer not only works on spatial distribution but also on temporal point of view. The distribution of markets on temporal basis in geographical space is normally termed as temporal distribution. In Karad Tahsil, the weekly markets are distributed on the basis of temporal aspect such as the market meetings are located in villages having the temporal history.

MARKET PERIODICITY

Periodicity is an essential aspect of rural weekly market. It enable the region to have greater number of markets to achieve the threshold of demand than would be possible otherwise and should result in an efficient allocation of marketing activities and opportunities within the area encompassed by periodic cycle. Market periodicity is that phenomena whereby in set of market, any particular market is held on certain days in advance (Thinklar 1973). Such periodicity varies from region to region,

influenced by regional, cultural, economic and religious diversity and is beneficial to the traders as well as consumers.

The variation in periodicity is a common feature of the periodic markets and in a region one can find market being held. In the study area seven markets are bi-weekly. In study region 13 markets are functioning as the weekly market centers as they meet once in a week.

Table: 1.3: Circle Wise Market Periodicity

Sr. No.	Name of Circles	Weekly Market	Total No. of market Meetings
1	Koparde	00	00
2	Masur	01	01
3	Umbaraj	01	01
4	Indole	00	00
5	Supne	02	02
6	Kole	01	01
7	Undale	03	03
8	Kale	01	01
9	Shenoli	04	04
10	Karad	00	00
	Total	13	13

Source: Field Survey, 2016

Unable Circle having the highest market centers is 03. It is observed that the Unable Circle is irrigated by Krishna and Koyana River which highly influenced on the agricultural activities. As a result, large quantities of agricultural products are produced in surplus which needs to have marketed. Population is also high in this circle besides well-developed political background; transportation facilities are responsible for the development of market centers. The Supne is second largest in

number and growth of market centers.

MARKET MEETINGS

Table: 1.4: Weekly Market Meetings In Karad Tahsil

Sr. No.	Name of Market Center	No. of Weekly Market Center	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total No. of Market Meeting
1	Masur	01				01				01
2	Umbaraj	01		01						01
3	Supne	01				01				01
4	Kole	01				01				01
5	Undale	01							01	01
6	Kale	01					01			01
7	Shenoli	01						01		01
8	Karve	01			01					01
9	Ond	01				01				01
10	Tambave	01							01	01
11	Vadgaon	01			01					01
12	Kolewadi	01							01	01
13	Rethare	01					01			01
	Total	13	0	01	02	04	02	01	03	13

Source: Field Survey, 2016

Besides daily markets, there are some particular days in a week on which marketing activity reaches its peak. On a whole 13 market meetings are held in Karad Tehsil in every week. There is four market meeting are Wednesday in Karad tehsil. There is slight variation in the number of market meetings held on different days in the district. As Wednesday stand first with 04 market meetings. Monday stand last with

01 market meetings. Tuesday and Thursday have equal market meetings e.g. 02. The number of market meeting held on Saturday, Thursday and Monday are 03, 02 and 01 respectively.

PHYSIO-LOCATIONAL TAXONOMY OF PERIODIC MARKETS

The physio-locational taxonomy refers “A scheme of classification of market location based on Physiographic condition” The present analysis intends to make use of Google Earth image of the study region in order to identify and classify the market centers and their location. The quantitative techniques have employed to study the spatial distribution of market centers and their relationship with other factors that influence the distribution. The temporal distribution of market center is of great interest among geographers during recent years. Hence, an attempt is also made in this chapter to understand the Spatio-temporal relationship of market centers in the light of methods devised by scholars in marketing geography.

Table 1.5: Physio-Locational Classification of Periodic Markets

Sr. No.	Location of Market Centers	Sign	Market Centers	
			In Numbers	In Percentage
1	Market Centers on foot hill sides	A	03	23.07
2	Market Centers on River sides	B	02	15.38
3	Market Centers on Main Road Sides	C	03	23.07
4	Market Centers on Nodal Centers	D	05	38.46
	Total		13	100

Source: Field Work, 2016

MARKET CENTERS AT FOOT HILL SIDES

The market centers are established on locations where the physical and socio-economic factors are supported. The physiography of the region also impact on the location of market centers because agriculture, transportation and other factors are depend on the physiography. These factors are not found in hill sides so no more market centers found in the sides of hilly area. Less transportation facility, unavailability of rail network, less agricultural developments are responsible for the lower number of market centers on foot hill side.

The study region is the diversified physical condition the hilly area found in the branch of Machindragad, Hajarmachi hills such physiography are not supported to the development of market centers in this region, so in study region only 3 market found in the hill side location. In which Ond, Kolewadi, Tambave, have 23.07 per cent from total market centers in Karad tehsil.

MARKET CENTERS AT RIVER SIDES

Now a day's those settlements are become the nodal points of region. Rivers are source of water as well as the early locations and growth of settlements are found on river side. The agricultural growth, availability of transportation facility as well as the political and social importance of these centers is responsible for enlargement of market centers in this region. The weekly markets are the points are where agriculture products are sold and river sides are basic source of production of vegetables and provider of large settlements all these factors responsible for development of market centers on river sides. Krisha, Koyana, Mand rivers flow on western region and become lifelines of peoples in western sides of study region. In present study initiate, 02 market centers have been located river side which has 15.38% share in distribution. Kale and Rethare Bk. market centers are developing in study regions.

MARKET CENTERS AT MAIN ROAD SIDES

Roads are the lifelines and the basic indicator of regional development. The roads are developed on the plain regions mostly and it's become the basic factor of export as well as import the goods the roads are important for the movement of peoples from one location to another location. The study region have the political as well as the agricultural importance from long time as well as is located as middle where the western Konkan and eastern plain region are joined so study region have full network of transportation Undale, Karve, Vadgaon Haveli and become factor are affecting on the development of market centers in the Karad tehsil. The National Highway No. 4, State Highway No.47 and 12 some major district roads are find in the Karad tehsil which are playing crucial role in the origin and development of market centers in Karad tehsil.

The 03 market centers have been identify on main road side which constitute 23.07 % of its share as per as the distribution is concerned. The share of market centers of road side is higher compare to other class in the distribution. Undale, Karve, Vadgaon Haveli Market Centers developed on main road sides.

MARKET CENTERS AT NODAL CENTERS

Points in a road network at which roads intersect clearly become major nodes of transportation and play crucial role in origin and growth of market centers. The study region is well developed by transport network like, National Highway, State Highway, and Major District road. Along with Masur, Shenoli market centers are the rail connectivity. As a result, most of the market centers are located on nodal center. Nodal centers are places where people's meet from more than to locations are ideal for develop as market place hence 05 market centers have been emerged on nodal centers which has 38.46% of total share of market centers. The market centers namely Undale, Kole, Masur, Shenoli, Supne located as nodal centers and developed as market centers in Karad tehsil.

Conclusion:

The weekly market centers are particularly known as the where buyers and sellers are meets together and they satisfy their needs and wants for some few days. It is also inferred that the buyers and sellers are frequently reach at particular day in a week and particular place where they sell their product. And also seems that the buyers are visit the particular seller to get their product. This is what the simply function of the weekly market in rural areas of the tehsils of Karad in the district Satara.

The spatial distribution of weekly market centers in the tahsil is affects by physiographic structure of the tahsil therefore the distribution of the markets were looking hampered. As many as 13 weekly market centers from 10 administrative circles are looking the tahsil and all are selected for sample study to analyze the condition and functions. Mostly (08) weekly markets are located at road side especially along to state highways and at nodal point. At foot hill side 03 weekly markets are locates.

In the Karad tahsil majority of the market centers are located on the Nodal centers i.e. 05 because it has good road network connectivity as well as some centers are located near the railways which provides transport network to buyers and seller. River side market centers (02) are decreased due to floods situation and another side reason is, main markets are developed in the rural-urban fringe area where large numbers of buyers reaches from both rural as well as urban areas. Therefore in the study region development of market centers are observed in the Nodal centers.

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