



HIERARCHICAL ORGANIZATION OF MARKET CENTRES IN DAUND TALUKA OF PUNE DISTRICT, MAHARASHTRA.

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Abstract

The present paper has been attempting to study the hierarchical organization of market centres in Daund Taluka, Pune District. Efficient marketing system becomes a key to the success of rural economy. The present study has examined the market network of Daund taluka in Pune district. The present investigation is based on the intensive field-work which comprises the use of interview and questionnaire techniques. The market centers in study region have indentified by type and number of functions and services available at the market center; behavior of buyers and sellers and connectivity index of market centers. The spatial organization of market centres and their orders have distributed in geographic space as major consideration in present study. Hence, the gradation and grouping of market centres into size of classes is termed as hierarchy. The importance of each market centre is governed by transport, population, service area etc. Further, the influence of each factor can differ from one settlement to another. In order to determine hierarchy of market centres for present study region, six indicators have been chosen, namely, number of stalls, market attendance, market duration, market fee, transport and administrative status for obtaining composite index. In this method each indicator is equally weighted assigning a maximum weightage of one. The analysis reveals the market have played an important role as a rural development.

Key words: Commodities, Buyers, Sellers, Hierarchical order, composite index, Centrality index.

Introduction:

Marketing process has originated from the exchange of commodities and the creation of market exchange system. The market is a geographical space where commodities are kept for selling. Market centres as an authorized public gathering of buyers and sellers for purchasing and selling commodities. Market is a geographical phenomenon where exchanging goods and services takes place. Moreover market centres performs exchanging of goods and services and ideas and information too. These centres are the places of social contacts. The different groups of society gather and make contact among themselves at market places. Market centres provide knowledge for surrounding villages and act as nodes in the settlement system.

The market is a place of exchange and process functions. Such process could be called as marketing. The main function of market is to provide better prices for goods and services to be exchanged. Marketing includes all activities involved in flow of goods and services from production to consumption. Market centres are the integral part of geo-economical and cultural landscape of the region having fixed location where exchange of commodities takes place. It is an authorized public gathering of buyers and sellers at the determined hours. A specific typology of market places can be evolved based on the physico-socio-economic and administrative factors prevailing in region. Market centres are the first contact point to provide opportunities for selling and purchasing of commodities besides social contact. Thus, markets are the centres of economic, social, political, religious and cultural activities for rural folk. Markets are the centres of economic activities. Market centres play important role in accelerating rural development particularly economic and social life of people.

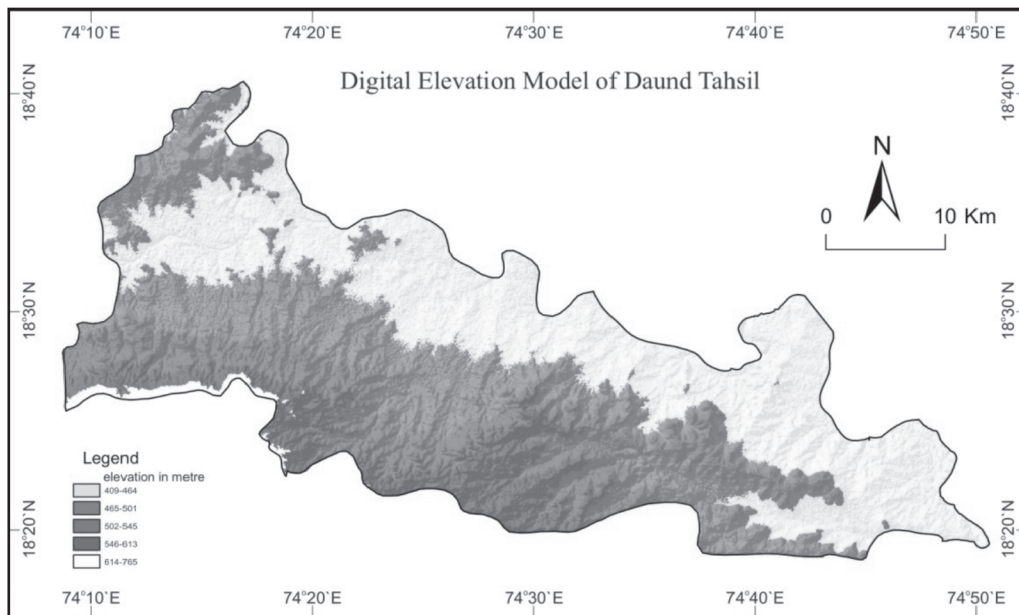
Study Region:

Daund taluka lies in Pune district consisting 102 villages and one urban centre. Geographically, this region extents from 180 '18 to 180 '40 north latitudes and 740 '6 to 740 '50 east longitudes. The region is drained by river Bhima on both north and east parts in study region. Purandhar taluka is in southwest, Indapur taluka in southern and on Haveli taluka belongs to west part

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of Daund taluka. The area of study region is 1288.04 square kilometres. According to 2011 Census population of region is 382535 persons (198269 male) and (184266 female). And the density of population is 297 persons per square kilometre. The river Bhima and its tributary, namely, Mula-Mutha are dominating in study region.

The study region experiences semi-arid climate. May is the hottest month and temperature gradually reduces in December and January. The highest mean temperature is observed in May (30.60 centigrades) and lowest in January (20.40 centigrades). The slope of region is towards north and northeast. The region falls under scarcity zone receiving rainfall between 500 mm. to 750 mm. There are three soil types, namely, coarse shallow, medium black and deep black soils occupying 60 percent, 25 percent and 15 percent area respectively. The coarse shallow soil is confined to south and central parts, medium black soil lying in north and black soil in low lying area of Bhima and Mula-Mutha rivers. The soil fertility supports for growing sugarcane, groundnut, jowar, bajara and onion. The region has less 0.91 percent deciduous trees and is found scatterly distributed. The irrigated land is 74463 hectares accounting 58.05 percent. National highway, state highway, major district road, other district road and village road and railway are major routes of transport in study region. Daund is a headquarter of this taluka.



Objective:

- a) To examine the market network of Daund taluka in Pune district.
- b) To examine the nature of hierarchical order of market centres in Daund taluka.
- c) To assess the market centers and influencing factors.

Database and Methodology:

This research work is based on both primary and secondary sources of data. The primary data have been collected from fieldwork in 2015. This data have behaviors of pertaining to sellers and buyers were gathered from market centres, namely, Patas, Kedgaon, Ravangaon, Rahu, Warwand, Kurkumbh, Yewat, Khadki and Daund by administering questionnaire. The questions were on location, duration, economic functions, sex, education, transport, etc. Out of existing number of shops

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and peoples, 10 percent sellers and buyers have been selected for this study for each market centre. The secondary data have obtained from District Census Handbook, Pune district (1991, 2001 and 2011, Pune District Gazetteer and Socio-economic Abstract, Pune District (1991 to 2011). Other sources of data have gathered from Daund Tahsil Office. The obtained data were converted into percent. The process data have displayed by relevant maps and figures.

Table-1: Indicators and Their Weightages

I) Number of Shops	Weightages	(II) Market Duration	Weightages
Below50	0.1	One hour	0.1
-	0.2	Two hour	0.2
250 – 450	0.3	Three hour	0.3
450 -650	0.4	Four hour	0.4
650 – 850	0.5	Five hour	0.5
850 – 1050	0.6	Six hour	0.6
1050 -1250	0.7	Seven hour	0.7
1250 – 1450	0.8	Eight hour	0.8
1450 -1650	0.9	Nine hour	0.9
Above1650	1.0	Ten hour	1.0
(III) Market Attendance	Weightages	(IV) Market Fees (Rs.)	Weightages
Below -1000	0.1	Below -100	0.1
1000 – 2000	0.2	100 – 200	0.2
2000 – 3000	0.3	200 – 300	0.3
3000 – 4000	0.4	300 – 400	0.4
4000 – 5000	0.5	400 – 500	0.5
5000 – 6000	0.6	500 – 600	0.6
6000 – 7000	0.7	600 – 700	0.7
7000 – 8000	0.8	700 – 800	0.8
8000 – 9000	0.9	800 – 900	0.9
Above – 9000	1.0	Above – 900	1.0
(V) Transport	Weightages	(VI) Administrative Status	Weightages
Cart track	0.1	Annual fair	0.1
Kaccha road	0.2	Annual fair / urs	0.2
Paccha road	0.3	Weekly market (3 hour)	0.3
Nodal road	0.4	Weekly market (6 hour)	0.4
Minor district road	0.5	Weekly market (9 hour or more)	0.5
Major district road	0.6	Bi-Weekly market	0.6
State highway	0.7	Tri-Weekly market	0.7
ailway (meter gauge)	0.8	Daily market	0.8
Railway (broad gauge)	0.9	Regulated market (class-II)	0.9
National highway	1.0	Regulated market (class-I)	1.0

Source : Computed by Researcher

Hierarchy of Market Centres:

Market settlements differ in size and function and are found influenced by physio-historic and socio-economic conditions. The market centres can be graded and grouped in hierarchical order in study region. The spatial organization of market centres and their orders as distributed in geographic space is the major consideration in the present study. Hence, the gradation and grouping of market centres into size of classes is termed as hierarchy. The importance of each market centre is governed by transport, population, service area etc. Further, the influence of each factor can differ from one settlement to another. In order to determine hierarchy of market centres for present study region, six indicators have been chosen, namely, number of stalls, market attendance, market duration, market fee, transport and administrative status for obtaining composite index. In this method each indicator is equally weighted assigning a maximum weightage of one.

By using the above mentioned equation, the centrality index was calculated for all market centres and they were classified into three orders on the basis of the calculated centrality values (Table-1). On the basis of composite index, centrality index has been computed. Finally, hierarchical order of market centres has been determined and attempt has here made to compute the trade area for analyzing the hierarchy of market centres. Centrality index is basically an important indicator for the attractiveness of individual market centres. It is based on important parameters which are varying from one market centre to another market centre. In study region, it is observed that buyers generally have attended the nearest market centres due to low per capita income. The following formula has used to measure the centrality for nine market centres in study region.

$$Ci = \frac{Oms \times 100}{Mx}$$

Where : Ci = Centrality index of market centres.
Os = Observed or weighted composite score.
Mx = Maximum weighted scores

Table-2 : Daund Tahsil Market Centres Centrality and Hierarchy

Sr. No.	Market Centres	Weightages on Parametres						Coi	Ci	HO
		I	II	III	IV	V	VI			
1	Patas	0.4	0.9	0.6	0.1	1.0	0.5	3.5	83.33	II
2	Kedgaon	0.5	0.9	0.9	0.1	0.9	0.5	3.8	90.48	II
3	Ravangaon	0.3	0.5	0.2	0.1	1.0	0.4	2.5	59.52	III
4	Rahu	0.3	0.7	0.3	0.1	0.6	0.4	2.4	57.14	III
5	Warwand	0.3	0.9	0.5	0.1	1.0	0.5	3.3	78.57	II
6	Kurkumbh	0.3	0.7	0.4	0.1	1.0	0.4	2.9	69.04	III
7	Yawat	0.7	0.9	1.0	0.1	1.0	0.5	4.2	100	I
8	Khadki	0.2	0.5	0.2	0.1	1.0	0.4	2.4	57.14	III
9	Daund	0.5	1.0	0.8	0.2	0.9	0.8	4.2	100	I

Source: Computed by Researcher

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Note: I) Number of shops
 III) Market duration
 V) Transport
 Coi-Composite index
 Ho-Hierarchical order
 II) Market attendance
 IV) Market fees
 VI) Administrative status
 Ci-Centrability index

Table-3: Hierarchy of Market Centres

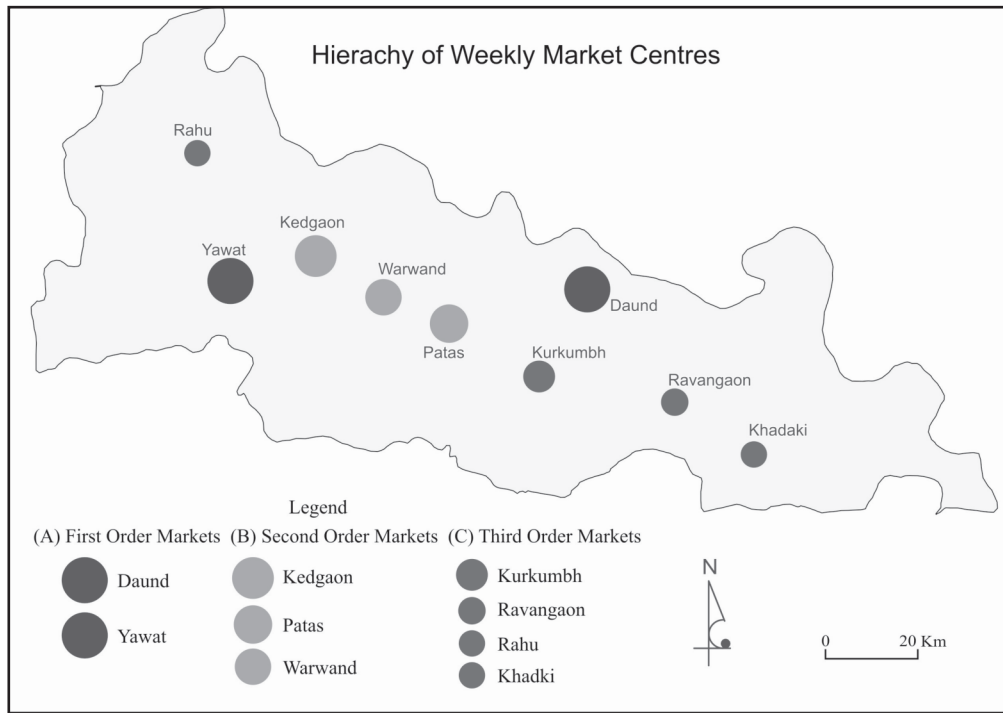
Sr. No	Hierarchical Order	Centrality Value	No. of Market Centres	Type of Market Centres	Name of the Market Centres
1	First Order	100	2	Regional	Daund, Yawat
2	Second Order	78.57-90.48	3	Major	Kedgaon, Patas, Warwand
3	Third Order	57.14-69.04	4	Minor	Rahu, Kurkumbh, Ravangaon, Khadki

Source: Computed by Researcher.

Table-4: Market Hierarchical Orders, Population, Settlement and Served Villages

Sr. No.	Name of Market Centres	Centrality Index	Population Served	No. of Settlements Served	Area Served in Sq. Km.
A) First Order					
1	Daund	100	114569	23	238.22
2	Yawat	100	68771	24	234.68
B) Second Order					
1	Kedgaon	90.48	41040	13	117.79
2	Patas	83.33	40268	9	199.54
3	Warwand	78.87	43406	8	152.63
C) Third Order					
1	Kurkumbh	69.04	17043	6	99.21
2	Ravangaon	59.52	16059	6	106.40
3	Rahu	57.14	22197	7	100.23
4	Khadki	57.14	19182	7	126.63

Source: Computed by Researcher



Daund and Yawat markets are identified as first order market centres in study region. Daund is the tahsil headquarter and has weekly and regular market centres in study region. The people from surrounding tahsils are also attracted for administrative work, marketing, medical recreation too. It also appears that farmers of villages bring their perishable produces namely, onion, vegetables and fruits for selling at better prices in this market. It is true that market centres for wholesale and retail transactions of perishable and non-perishable produces. Hence, it is treated as regional market. Daund market is connected with road and railway routes. Hence, outside sellers and buyers use both railway and roads for travelling to market. This market centre serves 23 villages consisting of 114569 population including service area (Table-4). Yawat is another first order market centre in study region and this centre is biggest involving large range of commodities and population in market other than market centres in study region. Moreover, this market centre is well linked with roads and railway as a result more number of buyers and sellers are attending. This market centre serves for 24 villages having 68771 population including service area. Besides this, Yawat in this market livestock market, therefore, buyers travell from longer distance to the market.

Three market centres have been identified as second orders market and they exhibit rural characters and slowly moving towards urban characters. These market centres serve the settlements in varying number. The maximum villages served by Kedgaon are 13 villages and is found centrality index (90.48). Although, other two settlements have identified second order market having variations in respect of area, population and settlements served. This has been attributed to prevailing condition in study region. Patas and Warwand market centres serve by 9, 8 villages and centrality indexes are 83.33 and 78.57 respectively (Table-2). The third order market situated is the rural nodes, namely Rahu, Kurkumbh, Ravangaon and Khadki in study region. Its centrality index is low and serves 6 to 7 villages consisting 22197, 17043, 16059 and 12663 population respectively. This market centre is

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essentially rural in character and mainly deals with retailing of consumer goods and rural produces and serves as link to the hierarchical market as base for their function in exchange of commodities in study region.

The emergence of hierarchical markets has attributed to locational advantage, transport, administrative factors and by strong background support extended by rural markets. In other words, it is appeared that markets of higher order perform their function by taking support from rural markets.

Concluding remarks:

Markets are key function in the economy of any region. Market functions and their role in the economy are highly dynamic in nature. Daund and Yawat market have identifies as first order market centres with advantages of better connectivity by roads and railways. Kedgaon, Patas and Warwand market centres have identified as second orders markets. The third order market situated over the rural nodes, namely Rahu, Kurkumbh, Ravangaon and Khadki in study region. The settlements with the market must have led to the development of rural economy.

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