

THE SPATIO-TEMPORAL SPACING OF CATTLE MARKET PLACES IN AMRAVATI DISTRICT MAHARASHTRA

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An analysis of the pattern of distribution and the development of cattle market network can be useful to identify the processes, which give rise to the locational spacing. The relationship between temporal and locational spacing is a fundamental characteristic of cattle marketing system in Amravati district. In this research paper an attempt has been made to show correlation ship between temporal separation and locational spacing of cattle market places.

HYPOTHESIS: -There is direct relationship between temporal and locational spacing of cattle market centers.

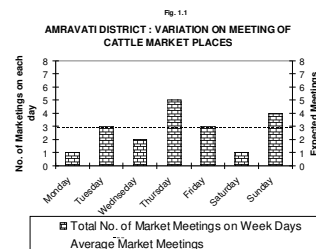
OBJECTIVE -Analyse the spatial distribution of cattle Market centers. To analyse the cattle Market centers relationship to area, population and levels of development.

DATA BASE AND METHODOLOGY: -A data have been collected from the field survey, District census hand book, District Gazetteers, B&C office, The statistical Methods viz, Nearest neighbor, chi-square test applied for the distributional pattern of cattle Market centers in Amravati District Experience of senior citizens, interviews and questionnaires has been taken in to consideration for the study of the cattle Market centers.

STUDY AREA: -Amravati district is selected as a study region for the present investigation. The district of Amravati is one of the 35 districts in Maharashtra. Amravati district is situated right in the center of the north border of Maharashtra state. It lies between 20° 32' north and 21° 40' north latitude and 76° 37' east and 78° 27' east longitudes. The district has an area of 12212 Sq. km. which constitutes 0.04 percent of the total area of the state. It ranks 8th in terms of area and 16th in terms of population among the 35 districts of the state.

THE TEMPORAL DISTRIBUTION OF CATTLE MARKETS- Table (1.1) incorporates the observed number of cattle market meeting per day, the expected number of cattle market meetings and the departure value (0-E) through the week in the Amravati district in Maharashtra state of India. (See Table-1) Thus the uneven distribution of cattle market places over the seven days of the week (Table 1.1) and the variation in meetings of the cattle market centres (Fig. 1.1) are caused by a variety of reasons. Firstly, at urban centres

at Anjangaon Surji, Dharni, Anjansingi, Kholapur held in Monday Saturday and Wednesday. These cattle market centres have spectacularly, extensive service areas and cater to the most of the needs of seller and buyers involved. This cattle marketing phenomenon adversely effects the cattle marketing activities of the nearest cattle market-places held on the same day, as well as pre adjacent and post adjacent day i.e., Saturday and Monday, respectively. As a consequence Monday and Saturday have smaller number of cattle market meeting. Secondly, through the week specially, Monday has the minimum number of cattle market meetings as Anjangaon Surji has the cattle market on Monday.

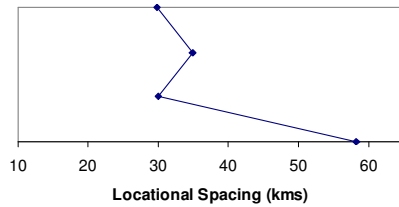


The relatively wide-spaced distributional pattern of cattle market places, per unit areas, in the Amravati district may be attributed to comparatively little surplus of agricultural commodities an account of undeveloped state of irrigation and inadequate transport facilities in forested tracts. This 'V' Value clearly shows that the distribution of Cattle Market Meetings in the Amravati district is more uniform. The distribution of cattle market centres in Amravati district is scattered in everywhere.

TEMPORAL AND LOCATIONAL SPACING OF THE CATTLE MARKET MEETINGS- The cattle market meetings are held on the fixed days, chosen in such way that the same day does not coincide with that of neighbouring cattle market places, It meetings of two cattle market-places are held on the same adjacent days, and if they are located close together, they will be competing in the same service area. Cattle market-places, with days of meetings widely separated in time, can be located close to each other because they will not be simultaneously competing for same

hinterland. The empirical evidence incorporated in the Table 1.4 reveals the existence of a complementary relationship between spatial and temporal competition in the Amravati district in Maharashtra State.

The Relation between Temporal and Locational Spacing in Amravati District



The average spacing of cattle market places occurring on the same day 58.4 kms that is the maximum spatial separation. The average spacing of cattle market centres occurring on adjacent day 8.1 kms, having the lower of same temporal spacing locational spacing is one day 35 kms and locational spacing of two days is lower of 29.9 kms in assessing the relative linear distance among cattle market centres held on the same and different days. Perfect agreement is revealed in the locational spacing on pre or post adjacent day, and cattle market-places in these categories are invariably separated by the shortest distance than cattle market-places on the same day. Inversion of spatio-temporal relationship appear only in cattle market centres of longer temporal separation

for example, in Table 1.4, there is a minor inversion between adjacent and two days separation.

Table 1.5 brings out the average spacing of cattle market meetings occurring on each day of the week throughout the Amravati district. In addition, this table indicates that Thursday has greater locational spacing of 58.4 kms and Sunday has lowest locational spacing 29.9 kms. Friday has a larger average locational spacing 30 kms. followed by Saturday 35 kms. Saturday is the only one cattle market centre in the Amravati district. The average spacing of cattle market centres in the Amravati district is 38.33 kms. Average spacing of cattle market meetings on each day of the week in the Amravati district is set forth in the following Table 1.5

There are three distinct contagious processes which result in the clustering together of units agglomerations and one of mutual repulsion (Hudson 1969) Quoted by Smith, (1971), which will result in a uniform pattern of cattle market-places. A uniform would result when each individual cattle markets, occurring simultaneously on the same day, are engaged in direct functional competition with one another, it seems appropriate to hypothesize that they should display uniform spacing pattern (Smith, 1971).

CONCLUSION-The hypothesis posed have been fully tested and accepted. The table (1.3) reveals that number of cattle market meetings is dissimilar in the Amravati district. The temporal separation and locational spacing of cattle market places gives certain patterns of spatial interactions between two principal categories of participants, i.e., buyers and sellers.

Table 1.1

Temporal distribution of Cattle-Markets

Days of the week	Observed No. of Cattle Market Meeting (O)	Expected Meetings (E)	Departure (O-E)
Monday	1	2.71	-1.71
Tuesday	3	2.71	.29
Wednesday	2	2.71	-.71
Thursday	5	2.71	2.9
Friday	3	2.71	.29
Saturday	1	2.71	-1.71
Sunday	4	2.71	1.29

Table 1.2

The Number of Cattle Market Meetings in the Amravati district

Region	No. of cattle market meetings	Percentage of cattle market meetings to the total no. of cattle market meetings of Amravati district	Total area in sq. km.	Percentage of total area of cattle market places to the total area of the Amravati district.
Amravati District	19	100%	2591.46	100%

Table 1.5

Average spacing of Cattle Market Meetings

Day of Week	Average spacing of cattle market meetings (in kms)
Monday	35
Tuesday	33.33
Wednesday	63.33
Thursday	58.4
Friday	30
Saturday	30
Sunday	33.33

Source: - Field Survey.

Table 1.4

Temporal and locational spacing in seven-day cattle market places in the Amravati district

Temporal spacing (days)	No. of cattle market meetings	Locational spacing average distance (in kms.)
Same	5	58.4
Adjacent	2	30
One	1	35
Two	11	29.9

Table 1.6

Locational Pattern of Cattle Market Places in Amravati district.

Region	No. of cattle market centers	Mean nearest neighbors in km.	dist in	Expected value	R.N. value	Chi-square test value
Amravati district	19	16.08	12.98	1.23	4.94	

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