Indian Streams Research Journal
Vol - I , ISSUE - IX October 2011 : Geography **ISSN:-2230-7850**

A GEOGRAPHICAL COMPARATIVE ANALYSIS OF SERVICE AREAS OF CATTLE MARKET CENTRES IN SOLAPUR DISTRICT, MAHARASHTRA

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ABSTRACT

Keeping in view the importance of cattle market centres in socio – economic development of a region, the main objective of the present investigation is to make an enquiry into service area of cattle market centres in Solapur district of Maharashtra. The measurement of service areas of cattle market centres are important for understanding marketing data, market centres performance and such kind of studies help to find out the served areas as well as poorly, moderately and highly served area in the study region. Geographers have adopted several techniques to delimit market area of cattle market centres. Prakash Rao's modified method, Reilly's modified breaking point method and empirical methods are applied for the analysis of service areas. These techniques are primarily based on field survey for which schedule and questionnaire techniques are employed. It is also supplemented by the secondary data. Results derived are shown cartographically. The spatial impact of the market centres on the surrounding area is also important discussed by various geographers. While planning for the rational allocation of marketing facilities in the region, the results derived from present analysis need be given a top priority.

Keywords: *Cattle Market Centres, Spatial impact, Service Areas, Delimitation.*

INTRODUCTION

Cattle market centres are economically most important the regional development of pattern. Cattle Market Centres cannot function in isolation. Their origin growth and development largely depend on surrounding areas, called as area of influence, service area of cattle market or trade area. The service areas of cattle markets are related to their functional importance distance between the cattle markets and the size of markets. The measurements of service areas of cattle market centres are important for understanding marketing data. Such studies help to find out the poorly served areas in the region, which has got significance for planning and development purpose. Geographers have adopted several techniques to delimit market area. These techniques are primarily based on gravity models, some theoretical formulae or empirical methods based on field survey.

Market centres are located at convenient points of focus of producers, sellers and buyers, who keep visiting the points of order to carry out their business activity and fulfill needs. The spatial impact of the market centres on the surrounding areas is also important point discussed by various geographers (Hartshorne, 1980). There are no precise boundaries for a service area of cattle market centre. Infact these areas are simply generalized one; otherwise each commodity has its own range of cattle's and its own service area. In view of this the present investigation deals with delimitation and appraisal of service area of different hierarchical orders of cattle markets in the study region not only in spatial context, but also in population context. Cattle Market Service areas also help in increasing social contact, serve as cattle market service centres of diffusion and become focus for political and other activities. Hence, the cattle market centre have predominant economic important in any area. Cattle market service areas play a vital role in social – economic- political development of area.

OBJECTIVES

Present view of the above present investigation aims to delimitation and compare the service areas of cattle market centres of the study area on the basis of theoretical and empirical methods.

DATA BASE AND METHODOLOGY

Present study is based on the intensive fieldwork carried out in the study area, which is suppleme0nted by the secondary sources of data abstracted from socio – economic reviews district statistical abstracts and census handbook. The questionnaire and interview techniques have been employed to collect the data and information regarding all aspects of cattle market centres.

In present study service area of cattle market centres has obtained by Prakash Rao's (1958) modified method, Reilly's (1931) breaking point method and empirical method are used for the delimitation and analysis of service areas of cattle market centres in the study region.

STUDY REGION

Solapur district is an administrative district in the state of Maharashtra in India. The District headquarters are located at Solapur. Geographically Solapur is located between 17° 10' north and 18° 32' north latitudes and 74° 42' east and 76° 15' east longitudes. It covers geographical area of 14895.40 sq. km. divided into 11

tahsils and total population of 38, 49,543 as per 2001 census (Fig.1). It lies entirely in the Bhima and Sina basins. Whole of the district either by Bhima River or its tributaries. In the district the cattle market centres at Sangola, Akluj, Barshi, Solapur, Pandharpur, Modnimb, and Kurduwadi are the biggest cattle market centres and are famous for *khilari* bullocks and cows all over India (Fig. Photo Plate 2).bullocks and cows all over India (Fig. Photo Plate 2). Assessed against such a socio – economic backdrop, the study is likely to be useful for evolving efficient cattle marketing system.

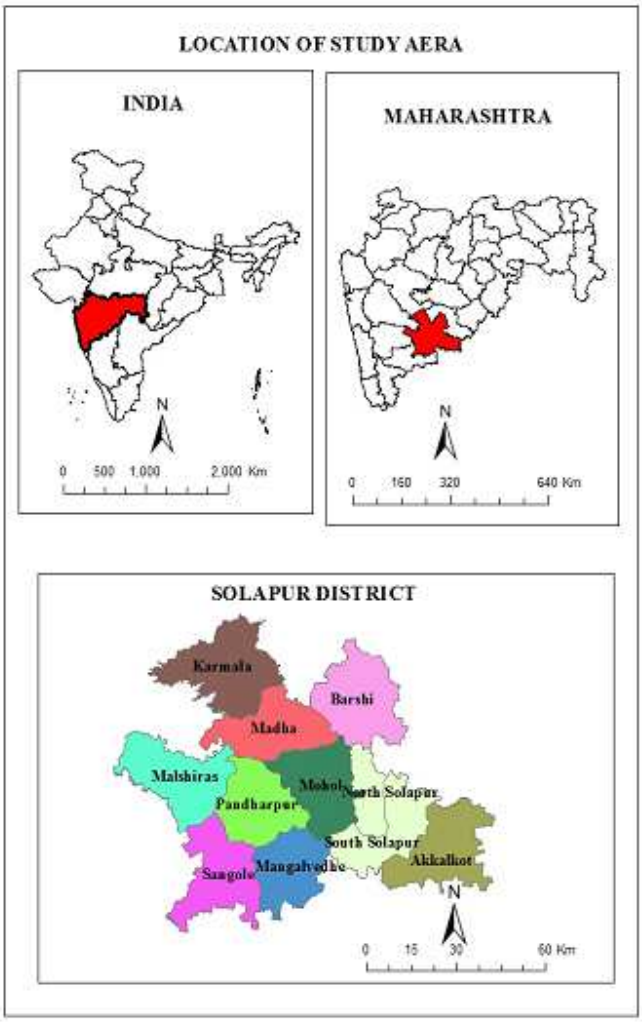

Fig.1.

SPATIAL ANALYSIS OF CENTRALITY AND HIERARCHY

Based on the centrality score for selected functions, results obtained by employing Davies (1967) "Location Quotient Method" indicates that cattle market centres having high centrality are located in the western and central part of the region whereas the northern and south eastern parts have association of centres having low centrality.

Delimitation of Cattle Market Service Areas

Following methods are adopted for the present investigation.

Fig.Photo Plate 2

Prakash Rao's Modified Method

In the present study, the zone of influence of 35 weekly and fair cattle market centres of study region has been demarcated by Prakash Rao's (1958) mathematical equation with some modification as follows:

$$S.I. = \frac{TC \times A}{C} \qquad R = \frac{\sqrt{TC \times A}}{C}$$

Where, S.I. = is sphere of influence,

TC = is total centrality value of cattle market service centres,

A = is the total area **(**km²) of the study region,

C = is total centrality of all cattle market service centres, and

R = is radius of a circle indicating the sphere of influence.

The R values of the each of the cattle market service centres are The R values of the each of the cattle market service centres are considered and shown in figure 3.

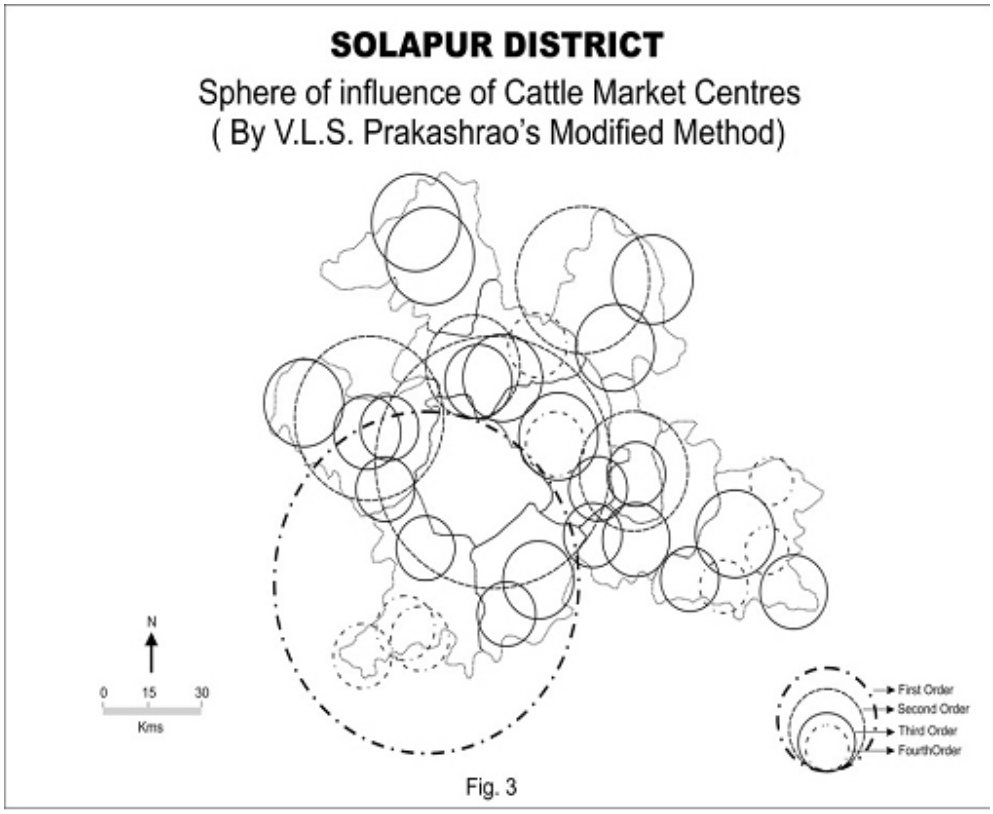

Fig. 3

Spatial Distribution:

The degree of influence calculated by this method shows the fact that there is a considerable overlapping in the zone of influence of the cattle market service centres in the central and western part of the study region, where a large number of cattle market service centres have agglomerated (Fig.3).

The analysis reveals the three categories of cattle market service centres, such as poorly, moderately and fairly served area of the cattle market centres has categories in three zones.

1. Poorly Served Area:

Poorly served area occupies mainly the extreme eastern part of the study region and northern part of Karmala tahsil.

2. Moderately Served Area:

It is located adjacent to the fairly served area, where comparatively less concentration of cattle market service centres is observed.

3. Fairly Served Area:

The mid western part of the study region fairly served by the cattle market service centres where concentration of the number of cattle market service centres is observed.

Empirical Method:

For the empirical derivation of cattle market service area boundaries, data of interaction of sellers and buyers with cattle market centres were obtained for each cattle market service centre. These have been plotted in figures 4. A, B and C. and wind rose figures, thus have been drawn for the various cattle market service centres of different orders.

i. First Order of Cattle Market Service Centres

The only first order cattle market service centre of the study area is The only first order cattle market service centre of the study area is Sangola (weekly & fair) and Pandharpur (Tri Annual Fair), with a large cattle market centre. It is an important sellers and buyers commercial centre of the area having a focus of the

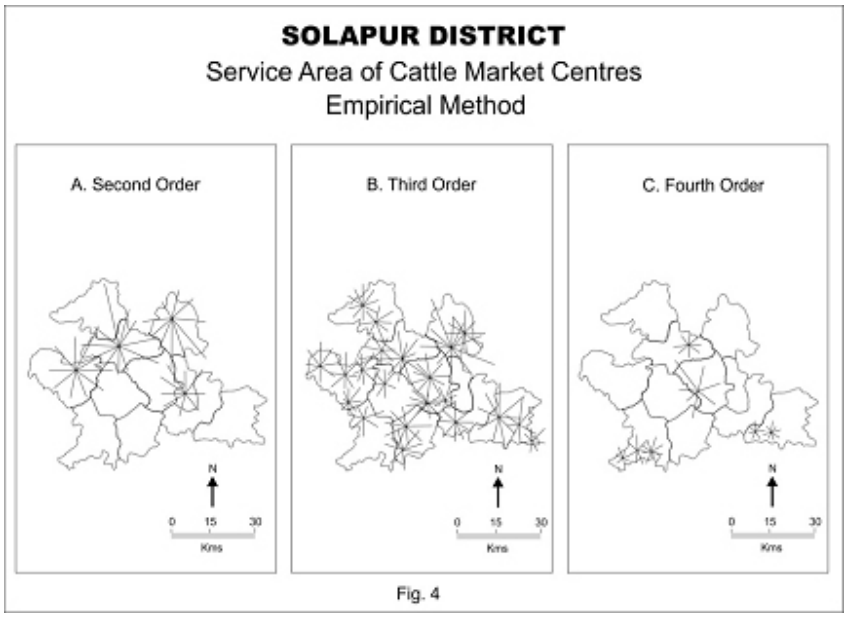

Fig. 4

economic, social and religious activities of the region. It attracts people from all over the region. It also provides specialized high level services like vatineary medical, banking, communication etc.

ii.Second Order of Cattle Market Service Centres

Five cattle market centres in the second order from an average distance of 150 kms. They provide the services like exchange of cows, bullocks, buffalo, goat and sheep etc. These cattle Market centres are located in Barshi (Barshi), Madha (Modnimb, Kurduwadi) and Malshiras (Akluj) Tahsil (Fig. 4A).

iii. Third Order of Cattle Market Service Centres

Twelve cattle market centres of this order are mostly urban places and overgrowing villages. The sellers and buyers or farmers visit these cattle market service centres for weekly marketing purchasing/ selling cows, bullocks, buffalo, goat, sheep and others, attracting sellers and buyers from an average distance of 100 kms. (Fig. 4 B).

iv. Fourth Order Cattle Market Service Centres

The fourth order cattle market service centres serve only the sellers and buyers of the surrounding. Sixteen cattle market centres of this order from an average distance of 50 km one each. There range of cattle and services varies according to the regional variation from 25 to 50 kms. (Fig. 4 C).

PLANNING:

The optimum location of infrastructural facilities and the developmental activities constitute the crux of planning process aimed at the balanced socio – economic development of a region. The cattle market service centres along with their service areas present an optimum spatial system for the locational or regional planning of an area. The problem of service – gap areas can be solved by opening new cattle market service centres in those areas.

The authors, thus, suggest that there should be separate place for cattle market with all infrastructure facilities like compound wall, drinking water facilities, web camera, entry and exit gate, etc. The big cattle market (Sangola, Akulj) should be specialized means for cow Monday, for buffalo Tuesday, for bullocks Wednesday, for Goat and Sheep Thursday etc. In Pandharpur there is tri annual cattle market centre (Kartaki, Maghi and Chaitra fairs). There should be free medical facilities by govt. at cattle market centre and proposed weekly cattle market service centres. There should be awareness programmed about insurance of cattle. There is a need of scientific research of high yielding and health variety of cattle's.

CONCLUSION:

Cattle market centres are the central places which serve the needs of surrounding area. In the study region there are 35 weekly, tri annual and annual fair cattle market centres are identified. The foregoing analysis reveals that the spatial pattern of cattle market centres is characterized by their uneven distribution throughout the region. Summarizing the main features of cattle market service areas, a number of points seem worthy of attention. Prakash Rao's modified method gives some qualitative results. So far the facilities are concerned the mid-western part of the region are fairly served, whereas moderately served area is situated adjacent to highly served areas. The poorly served areas occupy the eastern and extreme northern part of the region. The empirical observation with positivistic approach show that various seller and buyers are attracted towards various orders of cattle market centres to fulfill their needs. To eradicate the disparities in services, the top priority need be given to the eastern and northern part of the study region while planning for infrastructural facilities in the region. The cattle market should be specialized days types of cattle and need free medical facilities, scientific research of high yielding and healthy variety of cattle's.

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