Distribution of Central Places in Different Size Group: A Planning For Regional Development

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Abstract:
Central places play an important role as service centers in rural development especially in economic and social life of the people in countries like India. Central places provide goods and services to the surrounding region. They are the nodes in the general fabric of settlements through which overall development takes place.

Central places have central locations where the social gatherings take place. They are an outlet for various social functions. They are also centers of communication, diffusion, innovations. Central place theory provides ground for governmental, private and specialized agencies to establish the new ideas, notion, and policies, for the development. In the present work an attempt has been made to study of Central Places in Parbhani District. The entire work is related to the study of Centrality and Hierarchy of service centers. It also includes spatial distribution of Central Places in relation to physical, social and economic factors of the region.

Key Words: Central Places, Distribution of Settlement, Regional Development

Introduction:
Central Place theory put forward by Walter Christaller (1933) is a deterministic model of spatial pattern of human settlement, concerned with the analysis of size, spacing, distribution and complementary areas of central places. It is a comprehensive theory explaining the location and inter-relationships of settlements. The theory explains both the centralization of service activities and locational characteristics of places in which these are found (Deshmukh, P. W. 1979).

The district is a region of Marathwada which was a great centre of social, political and cultural activities. The region has been described as a land of saints as several saints
have been associated with Parbhani including like saint Namdev from Narsi, Janabai from Gangakhed. The famous mathematician Bhaskarcharya was from Bori in Parbhani District. Syed Shah TurubalHaque was a great Muslim saint also from the district.

**Selection of the Topic and Study Region:**

The selection of the topic under investigation is influenced by so many considerations.
1) Parbhani is one of the district of Marathwada regions, which comprise nine tahsils. It is characterized by diverse physical attributes.
2) The study region is a socio-economically backward as compared to western part of Maharashtra.
3) The region is developing in road and rail transport. Transportation plays an important role in growth and distribution of central places. It is also important for the economic and regional development of the region.
4) The work on the central places in Parbhani district has not been attempted by any geographer hence; such a work can be useful for preparing and implementing development and schemes on sectoral and spatial levels.
5) Parbhani district is nearby area to researcher’s working place.

These are some of the reasons which inspired the researcher to select Parbhani region for study.

**Objectives of the study:**

The present study aims to deal and analyses various aspects of central places in Parbhani district with following objectives.
1) To study the spatial distribution of central places and analyze the factors affecting on the spatial distribution of central places.
2) To know the role of central places in regional development.

**Data Base and Methodology**

The data collected and used comes from primary and secondary sources. The basic data regarding the central places is collected through district census handbooks, socio-Economic abstracts, Maharashtra census tables and Gazetteers. The preliminary inspection is available in district census hand-book. The information collected about settlements, regarding
their population and certain functional establishments was helpful in determining the tentative size of central places. The field checks and general observations were helpful in determining the approximate threshold population required for the establishment of certain lower order functions. It was observed that a settlement of 2000 population is capable of acquiring certain central functions.

The detailed data regarding the settlements which were identified as central places are not available in the published form. For collecting detailed information of central places a questionnaire was prepared and posted to the Sarpanchs of all identified central places. About 45 percent questionnaires were properly filled and only 60 percent questionnaires were received.

To solve the problem of collecting the relevant data on functional and other service characteristics of central places, data is collected by visiting Block Development Offices, District Statistical office, Municipal Office and Office of the District Planning and Development Officer.

To study the organizational set up and functional interdependence of central places few case studies were undertaken from various hierarchic orders of central places. This task was carried out through field work.

**Method for Identification of Central Places:**

Several methods for the identification of central places have been given by different geographers. For the identification of central places, the data of functional characteristics of settlement is necessary, and it is obtained from district census handbook (2001). The district census handbook gives information about the availability of some services like Primary School, Post and Telegraph office, High School, College, Dispensary, Hospital, Health Centre, Weekly Market centre etc.

On the basis of criteria, out of the total 830 rural and urban settlement, 77 central places are identified.

**Location:**

Parbhani district is situated in the central of Maharashtra and lies between 18° 45’ North to 20° 01’ North latitudes and 76° 13’ East to 77° 26’ East Longitudes. The boundaries attached to the neighboring districts on north by Buldhana and Akola, on east by Hingoli and Nanded, on south Latur and Beed and on
west Jalnadistrict. The river Purna runs on the boundaries of Hingoli and Parbhani district and work as attach these two regions. The other River Godavari which runs on the boundaries of Beed and Parbhani forms a part of study region. It runs through Pathri, Sonpeth, Manwat, Gangakhed, Palam and Purnatahsils.

**Distribution of Central Places in Different Size Group:**

The distribution of central places in different size groups fig. no. 1.2 shows a concentration in small size groups. The small size central places show a very high frequency. Nearly 87.01 percent of the central places have a population less than 10,000 persons (Table No. 1.1).

There is a large concentration of central places in the first four population groups, which together account for 87.01 percent of the total central places and about 33.81 percent of their population.

Eighty seven percent central places have a population between 3000 and 10000. Central places with a population of over 10000 are less in number and normally they are tahsil headquarters. The largest numbers of central places occur in below 3000 population group. These are the large villages with agricultural base. In these central places there is accumulation of less important central functions to serve the adjacent village to get their goods and services from these central places.

Central places with population above 10000 are in less number as they are only tahsil and district headquarters. It is essential to note that the village Bori is the only central place which is neither tahsil place nor a district place has a population above 10000. It is a very important central place located in Jinturtahsil. From the planning point of view, it acts as a growth centre in the study area.

The concentration of central places is measured in terms of seven population groups. The higher concentrations of small central places are observed as compared to large size central places (Fig, No. 1.3).
PARBHANI DISTRICT

Correlation

Area and Number of Central Places

Settlement and Central Places Ratio

Population and Central Places Ratio

R = 0.657

R = 0.807

R = 0.881
Table No. 1.1

Parbhani District: Tahsilwise Distribution of Central Places

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Tahsil</th>
<th>Area in sq.km.</th>
<th>No. of Settlements R+U=T</th>
<th>No. of Central places R+U=T</th>
<th>No. of Settlements per 100sq.km</th>
<th>No. of Central Places per 100 sq. km.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parbhani</td>
<td>1113</td>
<td>128+1=129</td>
<td>16+1=17</td>
<td>11.59</td>
<td>1.52</td>
</tr>
<tr>
<td>2</td>
<td>Gangakhed</td>
<td>635</td>
<td>105+1=106</td>
<td>07+1=08</td>
<td>16.69</td>
<td>1.26</td>
</tr>
<tr>
<td>3</td>
<td>Palam</td>
<td>561</td>
<td>81+0=81</td>
<td>06+0=06</td>
<td>14.44</td>
<td>1.07</td>
</tr>
<tr>
<td>4</td>
<td>Sonpeth</td>
<td>383</td>
<td>57+1=58</td>
<td>05+1=06</td>
<td>15.14</td>
<td>1.56</td>
</tr>
<tr>
<td>5</td>
<td>Purna</td>
<td>730</td>
<td>92+1=93</td>
<td>07+1=08</td>
<td>12.74</td>
<td>1.09</td>
</tr>
<tr>
<td>6</td>
<td>Pathri</td>
<td>592</td>
<td>56+1=57</td>
<td>06+1=7</td>
<td>9.63</td>
<td>1.18</td>
</tr>
<tr>
<td>7</td>
<td>Manwat</td>
<td>487</td>
<td>54+1=55</td>
<td>04+1=05</td>
<td>11.30</td>
<td>1.02</td>
</tr>
<tr>
<td>8</td>
<td>Sailu</td>
<td>753</td>
<td>93+1=94</td>
<td>04+1=05</td>
<td>12.48</td>
<td>0.66</td>
</tr>
<tr>
<td>9</td>
<td>Jintur</td>
<td>1257</td>
<td>164+1=165</td>
<td>14+1=15</td>
<td>13.12</td>
<td>1.19</td>
</tr>
<tr>
<td>District</td>
<td></td>
<td>6511</td>
<td>830+8=838</td>
<td>694+8=77</td>
<td>12.87</td>
<td>1.18</td>
</tr>
</tbody>
</table>

The percentage of central places also exceeds the percentage of population of central places. In the first four groups of population classes, the trend is reversed in central places, with population over 10000. In this category a few central places command a relatively larger population of central place population. In fact seven central places with a population over 20000 command 61.46 percentage of the total population of central places.

Conclusions:

There is not uniformity in natural resources in the entire study region for the growth and development of central places. The northern and southern part of the study area consists of Ajanta ranges and Balaghat ranges respectively. It is less developed because of physiographic conditions. The remaining parts of the study region endowed with plain topography and it is well developed in transportation network. The total population of the study region is 1,835,982 (2011 census); the total area is 6511 sq.km. and 830 inhabited villages are located. It is observed that the characteristics of transport, demographic and economic are responsible for the developing nature of the area.

Distribution of central places is influenced by relief, agricultural development, urbanization, industrialization, accessibility, settlement and population density and levels of economic development. The nearest neighbor analysis indicates that the central places are of regular pattern random manner where the degree of regularness is 1.317. Most of the central places in the study region are in the regular pattern random manner having the range of 1.00 to 1.50. High correlation is observed among industrialization transportation, development of agriculture, population density and distribution of central places. It is observed that, the value, coefficient of correlation between percentage of village approach by pucca road and percentage of central places to total settlements is $r = 0.59$ which is considerably high. It is also observed that co-efficient of correlation values for the relationship between settlement density and central place density $r=0.65$ and population density and central place density $r = 0.75$ are also high.

References:
