MICRO - LEVEL SPATIAL ORGANIZATION OF RURAL SERVICE CENTRES IN DARIAPUR C.D. BLOCK OF SARAN DISTRICT (BIHAR)

Dr. Sushma Parashar
Principal,
Govt. Girls Sr. Sec. School,
Chhapra, Saran (Bihar)

ABSTRACT

Here an attempt has been made to identify the micro-level spatial organization of the rural service centres in Dariapur community development block of Saran District (Bihar). Irrespective of the fact whether an area is developed or otherwise, rural service centres by and large come into existence but a balanced spatial organization will not necessarily exist every where. It is subjected to the physical as well as socio-cultural and economic conditions prevailing in the area concerned. The methodology here used will be of the centrality index and index of the distinctiveness. The study has shown that the evolution of rural service centres in this micro unit has been determined to a very great extent by the enemical hydrographic conditions of the area. The layout of roads, lanes, streets etc. is governed by the degree of immunity from the submergence and water logging and therefore service centres have to come into existence accordingly.

Key Words

Centrality, Distinctiveness, Ecological, Behavioral, Altitude, Survivorship, Growth pole, Growth centre.

Regional Setting

The south-eastern section of Saran district is formed of Dariapur C.D. block of the Sonepur sub-division. It extends from the latitude $25^0 45'$N to $25^0 54'$N and longitude from $84^0 55'$E to $85^0 10'$E. It has an area of 225.72 km^2 and a total population of 2,96,164 persons (2011). It is approachable by both, the road and rail within an hour from Chapra, the Distt. Hqtrs and one and half hour from Muzaffarpur, the commercial capital of Bihar.

Patna, the state capital can be rather approached sooner than both Chapra and Muzaffarpur.

The landscape in Dariapur C.D. block is made of a dead- level depositional plain, drained by Mahi and its two tributaries i.e. Dabra and Gandaki. Mahi river is a significant physical feature in this anchal which from hydrographic point of view clearly divides it into the two unequal halves to the east and west of the aforesaid river. The Wn one is prone to flood by both, the backflow of Ganga into its tributaries and S pill from Ghaghara river. The flood however, is not only a curse but a boon as well by spreading fresh silt and making the soil naturally fertile.

Conceptional Frame-Work

Functional distinctiveness of varying levels arising from variations in the socio - economic and ecological conditions and behavioural attitude of the people, is bound to exist in the cultural landscape of a certain region. As a rule, when a territory comes under human occupance, human activities of one kind or the other start taking place in a certain space. Subsequently, depending upon the extent and possibility of survivorship, a particular activity or say, the most profitable, oriented towards development or so, may stabilize at a place, finally to take the shape and dimension of a certain function, specific to that place. Even with similarity in respect of function, some of the places may become distinct by virtue of having relatively high intensity of the functional magnitude and distinctiveness of the places concerned. Such points or places have been termed as Growth poles, Growth centres, Central places and Service centres (Singh, R.B. 1986)

The concept of Growth centre which owes its existence from the postulation of Perroux who while thinking over spatial organization in the economic context, has viewed the space as (i) the planning area of decision unit (ii) the field of forces acting upon the decision units and (iii) the field of homogeneous objects (Lausen, J.R. 1972 cited by Singh, R.B. 1986)

The space as viewed in the spatial typology of Perroux, is the "set of different relations that define an object" (Lausen, J.R., 1972 cited by Singh, R.B. 1986 : 63). Here settlement system with its organization in the present study has been considered as servicing system or service centre which serves the nerve or the nodal point by injecting transformational energy of the rural area into the centre. As a result, people are enabled (i)

to exercise their control from a central place   (ii)   to have a centre for the exchange of goods and (iii)   to process the resource materials   efficiently. The first two of the aforementioned functions are fundamental to a central place or a service centre.

Identification of service centres

Keeping the limit of population over 3000, there were only two service centres namely Bela and Sutihar on the basis of 1981 census. Since then the population has increased as well as the percentage of commercial population over the last 20 years has changed, a fresh attempt here has been made to identify the service centres with the same technique and procedure as mentioned below-

$$Ci = (cPi/\textstyle\sum cp)\ 100$$

Where Ci is the index of centrality, cPi is the Commercial population of a centre and cP is the total commercial population of the area under study.

Commercial population say with a few of the stalls and betel shops occur on a large number of the cross-roads and along the roads across rural settlement. Inclusion of each and all in the computation is neither possible nor logical at this place. Hence, with a view to validate the selection of service centres, the following criteria were taken into consideration -

(a) Settlement with a minimum population of 3000 persons.

(b) Minimum one market day in a week.

(c) Minimum one percent of the total population being commercial.

(d) Minimum of one primary school and a post-office.

(e) Road-link.

The functional distinctiveness of the service centres   may be explained by the location quotient which denotes relationship between the percentage of commercial population of a centre and its percentage share in commercial population of the region as a whole. It can be worked out as follows -

$$cpc = \frac{C.C.}{Ctp}\ \times 100$$

The values of L.Q. are inversely related with the commercial capacity of the centres. That means higher the value, lower the capacity and vice-versa.

Table 1

Dariapur C.D. Block : Location Quotient

S.N.	Service centres	Total Population 2011 (Provisonal)	Commercial Population	Percentage	Commercial Population (Saran distt.)	Commercial Population of the centre as Percentage of Saran distt.	L.Q.
I.	Pirari	5087	103	3.53	136011	0.12	28.85
2.	Sutihar	12419	913	12.86		1.17	10.97
3.	Bela	11954	521	7.63		0.66	11.47
4.	Saidpur	4509	313	12.14		0.40	30.17
5.	Pratappur	4999	87	3.06		0.10	29.16
6.	Sajanpur Mattihan	4537	75	2.88		0.08	33.00
7.	Bishambharpur	4910	96	3.43		0.12	28.00
8.	Mangarpal Nuran	5393	89	2.88		0.10	27.50

Source – Census 2011, Collected from Block office.

The service centres indentified here are contained in the Table 1. Their functional distinctiveness, determined on the basis of their location quotient, has been given in column 4th of the Table referred above. In order of the magnitude of functional distinctiveness they are-

1.Sutihar 2. Bela 3. Mangarpal Nuran 4. Bishambharpur 5. Pirari
6. Pratappur 7. Saidpur and 8. Sajanpur Matihan.

Leaving Pratappur, Saidpur and Mangarpal Nuran, the remaining all the centres (Pirari, Sutihar, Bela, Bishambharpur and Sajanpur Matihan) are concentrated and confined to the Wn   Section of the block and their intra-service centre distance is < 3 km. Their concentration in the western section has the support of both, the accesibility by roads and immunity from flood, developing from their location along the left bank of Mahi river which lies in the zone of Gandak cone in the plain. Functionally, Sutihar and Bela with the lowest location Quotient of 10.97 and 11.47 respectively, are more distinct compared to other centres of the anchal. Sutihar is comparatively more favourably situated on Dighwara - Amnour road coming across with a masonary bridge over Mahi river. Bela being nearer to Sitalpur and situated on a cross-road, is functionally distinct in the En section of the anchal towards Dariapur, the headquarters of the anchal. Yet further eastward Mangarpal Nuran is the only service centre along Nuran Gandak river. The

intervening area between Mangarpal and Bela being a big gap, is mostly formed of the Hardia chaur.

Table 2

Dariapur C.D.Block: Centrality index of the service centres.

S.N.	Service Centres	Commerical Population	Centrality index
1.	Sutihar	913	0.67
2.	Bela	521	0.38
3.	Saidpur	313	0.23
4.	Pirari	103	0.07
5.	Bishambharpur	96	0.07
6.	Pratappur	87	0.06
7.	Mangarpal Nuran	89	0.06
8.	Sajanpur Matihan	75	0.05

Source – Worked out by author.

Table 3

Dariapur C.D.Block : Hierarchy of Service Centres.

S.N.	Service Centre	Location Quotient	Hierarchy within block
I.	Sutihar	10.97	Higher
2.	Bela	11.47	Higher
3.	Mangarpal Nuran	27.50	Middle
4.	Bishambharpur	28.00	Middle
5.	Pirari	28.85	Middle
6.	Pratappur	29.16	Middle
7.	Saidpur	30.17	Lower
8.	Sajanpur Matihan	33.00	Lower

Source – Worked out by author.

The centrality indices as contained in Table 2, further magnify the relative distrinctiveness of the centres mentioned above. In this respect, Sutihar with the highest centrality index of 0.67, followed by Bela with the second highest of 0.38, are by far the most prominent. Saidpur, Pirari and Bishambharpur with 0.07 each, are the next to enjoy centrality in Dariapur anchal. Mangarpal Nuran, Pratappur and Sajanpur Matihan have the least of centrality as rural service centres.

Finally, in hierarchial order within block, Sutihar and Bela are higher than Pirari, Bishambharpur and the latter both, being in middle order are higher than Saidpur and Sajanpur Matihan of the lower order (Table 3).

The travel distance between service centres and the villages served, is an important aspect of the I.R.D. The standard distance (Roy P. 1977) in this regard fixed in conformity with observations (Thaha A. and Thaha M. 1979) elsewhere, here it may be ascertained as given in the Table 4.

Table 4

Distance Norms for the availability of facilities

Hierarchial order	Maximum standard distance (km)	Maximum distance in Dariapur anchal (km)	Name of the centres	Facilities & Services
Lower	3	<3	Saidpur and Sajanpur Matihan	Brick-soled road, Primary and Middle school, Private Doctor and Manufacturing of Bullock-Cart wheels.
Middle	5	<5	Pirari,Bisham-bharpur, Mangarpal Nuran and Pratappur	Brick-soled road and shop of Agro-implement repair.
Higher	8	<8	Sutihar and Bela	Regulated market, Middle and High schools, T.V. Tower and Metalled Road.

It appears from the Table 4 that the distance to be actually covered to reach the service centres in comparison to the distance norm set in course of the Pilot Research Project conducted in the selected 20 blocks of the country is longer in all the hierarchial orders in the block under review. As a matter of fact, here in Dariapur, the road distance is not an unsurmountable problem. Even, the embankment of Mahi river on both the banks, has emerged into very good brick- soled roads Dighwara- Amnour road but the latter by virtue of belonging to the big population size, is a service centre while the former is still a village, receiving services from Bishambharpur in the north and Sajanpur Matihan in the south.

Though the service centres serve areas smaller than the standard size, they exist because they are situated in a population belt having very high density of population. As such, assuming 10,000 persons as an average serving capacity of a centre, at least 25 more centres including the existing, may be proposed with a frequency of 5,8 and 12 in the three tier system, consisting of the higher, middle and lower order with a view to reduce the gaps and encourage a rational interactional pattern with a minimum requirement of the cost, time and distance.

The proposed number of service centres can further help in ascertaining the direction of investment on supportive infrastructure for the different sectorial activities. After indentifying the different orders of service centres, the investment in agricultural, industrial and social infrastructure will become appropriate and profitable. The third order centre seems to be more rational unit for providing an agricultural infrastructure and lower level social facilities. It is a spatial unit where optimum provisions of the primary education, health and communication, is possible. Similarly, there would be a rationalised use of the industrial infrastructure in the second order of the service centres.

Suggestions

Here twenty-five service centres have been proposed (i) to put larger agro-input in the farm (ii) to enhance agricultural efficiency and (iii) to provide rural employment. It is further expected that these centres will locationally fill in both, the traditional as well as

spatio-temporal frame and in future also they would grow in the locational-functional hierarchy of population.

In the name of well-developed transport, the centres of the first order would need to be connected with metalled roads while the centres of the lower order at least be connected with the brick-soled roads i.e. motorable round the year. The centres on the periphery of the Mahartha chaur should rather be connected to the embankment of Mahi river. Besides the pre-existing bridges at Patti, Barahmua and Derni on Mahi river, the bridges recently constructed at Bela near Siwala and Bhushi Tola connecting Raghupur and the neighbouring villages has become very significant with respect to the connecting between rural service centres to east and west of Mahi river. Thus unless the objectives of spatial integration between the urban and rural functions and interaction among the village markets and service centres remain unattained, the I.R.D. goals mentioned below will not be achieved in the anchal under study-

1. Increase in the agricultural efficiency by technification and intensification in the use of irrigation, H.Y.V. seeds and chemical fertilisers.
2. Improvement in the efficiency of using scarce raw materials like Mustard, Kusum Tulsi, Neem and other medicinal plants.
3. Creation of the employment sectors and
4. Equitable income distribtution, all aiming at raising the living standard of the rural population.

The following suggestions specific to the anchal under review   for attainment of the above-mentioned goals are worthmentioning-

1. The spatial integration promoting flow in the economy and mobility of the work-force will be essential for accelerating the development.
2. The spatial articulation will be possible only when there is increase in the linkage which is possible here by bridging the rivers at multiple points.
3. The extension in transport network will be possible only when he linkages through bridges are provided.
4. The linkage among service centres of the different orders and their influents, is to a very great extent dependent upon an efficient transport network, free from bottleneck and barriers.

5. lnterlinking besides as aforesaid, will be essential between the society at large on one hand and the administration on the other.

6. It is but natural that when the process of rural development begins, locally some people will be unwillingly affected. Their involvement then will be essential in the process of development.

7. Low cost locally acceptable methods of change will rather be preferred to those involving heavy capital outlay and so being attractive among the people.

8. Both, the existing and proposed service centres should be developed so as to act as mediator between the modernised urban and traditional rural society.

9. The service-centre basically being an agropolitan strategy with agriculture in the front has an inseparable link with the rest of sectors, reared in the market, town and cities.

References

1. Lausen, J.R. 1972: Growth Poles in N.M. Hausen, ed. Growth Centres in Regional Economic Development, New York; Free Press. 22 cit. in Geography of Rural Development by Singh R.B., Inter India Publications, New Delhi, 1986.

2. Roy, P and Patil, B.R., 1977 : Manual for Block level Planning, Delhi : The Macmillan company.

3. Singh, R.B., 1986 : Geography of Rural Development, Inter-India Publication, New Delhi, P-63.

4. Thaha A. and Thaha M. 1979 : A manual for Integrated Rural Development, Quilon Sahada Manzil Uliyascovil, 101, also Maithani B.P. 1978, Central place system in District Pithoragarh: Analysis and Application, Ph.D. Thesis, Agra University.