

ROLE OF SERVICE CENTRES IN RURAL DEVELOPMENT: A CASE STUDY OF THARALI TEHSIL OF CHAMOLI DISTRICT

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Abstract- Service centres play an important role in the development of any area. Service centres act as a link in rural development. Location of services and availability of infrastructure facilities such as health, education, connectivity, economic institutions, administrative functional bodies etc. play an extremely important role in promoting development in rural areas. Due to their central location, service centres are centres of convenience for their nearby areas. In this paper an attempted has been made to understand the functions of the service centres of Tharali Tehsil based on services provided in rural areas. The study area is situated in the southern Chamoli district. The study is based on primary and secondary data collected from different sources and questionnaires in the present study. A total 18 service centres have been identified as first, second, third and fourth order service centres. The centrality score is calculated based on the Functional Centrality Index and Weightage Index Score. There are 33 functions on services selected from five sectors (educational, health, agricultural and finance, transport and communication and administration) to measure the centrality of the service centre. The main objective of the study is to understand the facilities provided by the service centres in the development of rural areas.

Keywords: -Service Centre, Functional Centrality Index, Weightage Score, Rural development

Introduction

The rural service centres are the nodal points in the rural space, economy and function. Transport, communication, agriculture and market have a direct impact on the development of rural service centres. Rural Service Centres work at the lowest point of the urban-rural system. In present time, Rural Service Centres are playing an important role in rural planning. Rural service centres fulfil the primary needs of any village, which leads to the development of those villages. Service centres play an important role in the social and economic development of any area. (Singh, 2018) These service centres allow new ideas to filter down from the metropolitan cities and reach the villages and hamlets, where the development of service centres happens in a strong and systematic form. At present time, service centres are becoming very important poles in rural planning as they work at the lowest point of the town-rural system. They are found in the form of small towns, markets, and rural markets where rural people buy and sell goods at their convenience. To promote rural development, planners have developed service centres at various places. (Floerkemeier et al., 2021)

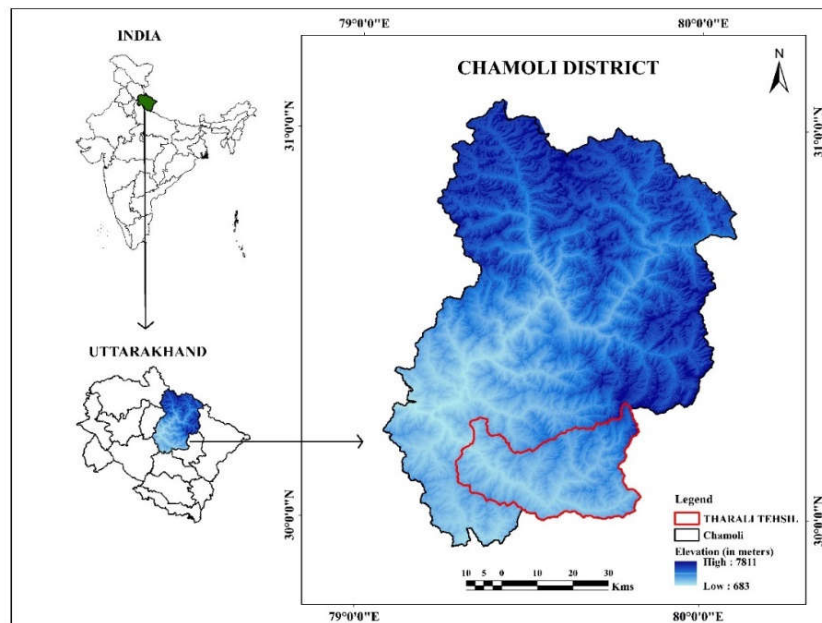
Rural development is the process of improving the quality of life and economic well-being of people living in rural areas. According to the Census of India (2011), 68.84% of the total population lives in villages. Rural Service centres are the growth points or settlements with relatively high intensity of functional magnitude and distinctiveness. The basic traits of these centres are to serve their surrounding territory in terms of cultural, commercial, administrative and other requirements. Centrality is an expression of the consumer behaviour of the population of an area due to which the centres can be arranged in a hierarchical order. The Development of an area is characterised by development poles and development points from where it spreads through various channels in the entire area. Small industries are established around the large industries which influences the development of the area. Misra, R.P. (1974) propounded the concept of 'Growth Foci Model' by integrating the basic elements of central place theory, Growth Pole theory and spatial diffusion of innovation theory and proposed five-tier hierarchy from top to bottom as Growth Pole (national level), Growth Centre (regional level), Growth Point (sub-regional level), Service Centre (micro-regional level), Growth Foci as central village. (Christaller, 1933) The rural central places are important nodal centres on communication lines enjoying centrality in a given area or a

region concerning a variety of functions or services for its contiguous surrounding areas. (SARKAR, 2018; Perroux, 1950; Berry, 1967; Sen et. al., 1971; Haggerstrand, 1952) The term growth point (GP) stands for increasing size both in the number of facilities, buildings and services provided at an identified centre. If well-managed growth points have demonstrated the potential to become commercially realizable places that can create a lot of employment opportunities for people in rural areas. During the last few decades, India has initiated a few measures towards globalization, liberalization and decentralization at the micro level to achieve a dynamic economy, growth and development. (The World Bank in India, 2023) The rapid growth and quick development of information technology in developed nations have created awareness in the developing world to have such a database system at the district level on various planning issues and problems needed for multifaceted development programs (Mallick, 1998). Due to limited resources, it is better to provide certain services and facilities related to health, education, economic institutions, & administrative offices etc. At some resolute points in space rather than consuming the resources by providing them to each village. There is certainly a strong need for data and information base for the successful planning and development operations at different levels. The need to develop a network of socio-economic institutions which could provide relevant programmes for the general development of rural areas was recognized in the Fourth Plan period. (Rutuja, 2023). The government of India took over a Pilot Research Project on Growth Centres to identify focal points which could act as levers for rural development programmes (Shah, 1974). The socio-economic activities such as trade, transport, communications, agricultural inputs, finance, administration, education and health are so distributed as to be available at a few points in an area and be useful by several points from the same area. The study aims to identify the service centres based on functionality and population and to examine the services provided in the rural area of Tharali tehsil.

Geographical Background of the Study Area

Tharali tehsil (30°08'52"N 79°33'33"E) is located in the Chamoli district of Uttarakhand. It is an administrative division of Chamoli district. It is located on the banks of the Pinder River. In 1960, Chamoli district was separated from Pauri Garhwal, at that time there were 4 tehsils, out of which there were 4 development blocks under Karn Prayag tehsil, Karn Prayag, Tharali, Gairsain, Narayanbagar. Tharali received the status of sub-tehsil in 1977, after that in 1989, Tharali was converted to a permanent tehsil which spreads in three development blocks viz. Narayanbagar, Tharali and Dewal. The total population of the tehsil is 89114 out of which

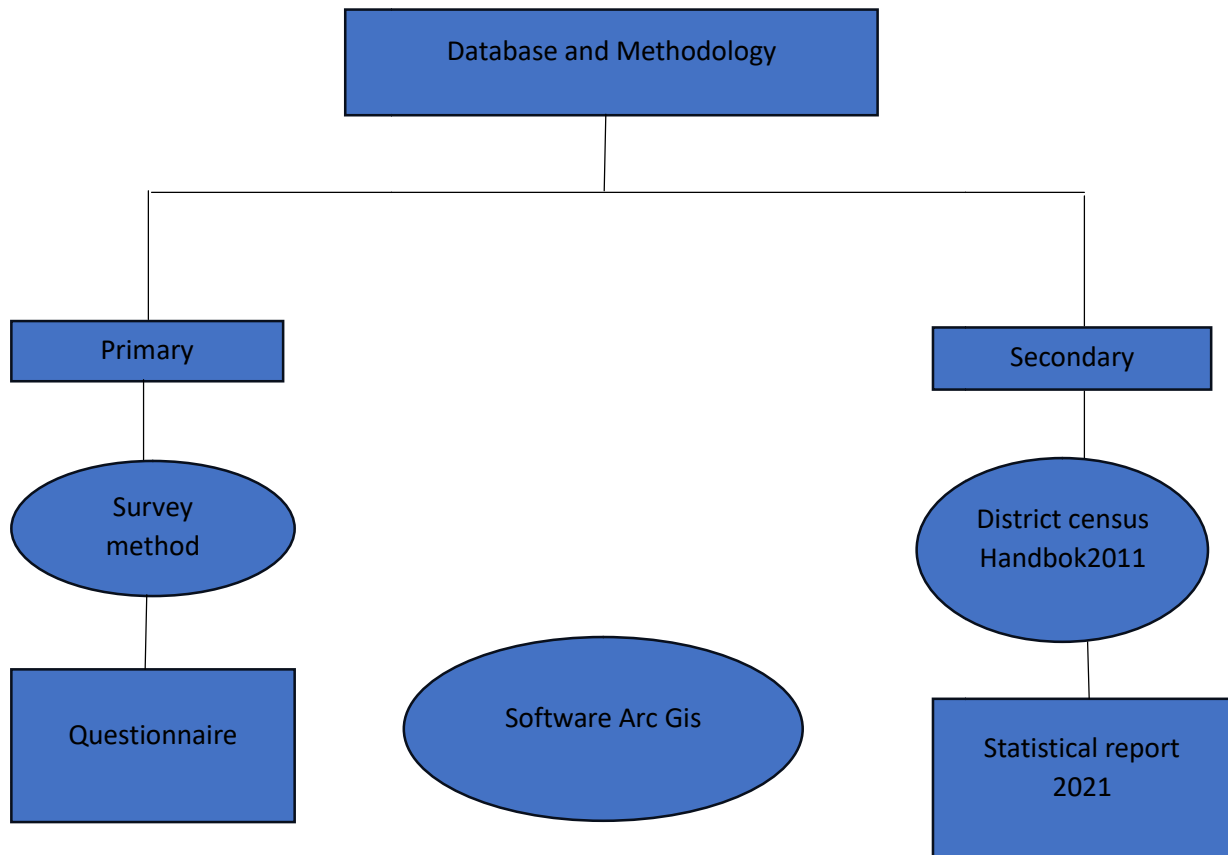
42556 are males while 46558 are females. The total number of villages in Tharali tehsil is 315 having 19739 households.



Map01: Location map of Tharali tehsil

Database and Methodology

The present study is based on primary as well as secondary data. Primary data is collected through a pretested questionnaire and secondary data is collected from the District Census Handbook Statistical Report of Chamoli district. Garmin GPS & Arc Gis software have been used to prepare maps.



Identifications of Service Centres

In the present study, all the 315 villages of Tharali tehsil have been pointing to identify the service centres and the service centres have been selected using the sampling method, in each of which 18 villages have been selected for which certain criteria have been given below:

- The permanent settlement should have 800 or more population
- It must have three basic functions from all functional groups(education, health, transport and communication, administrative and agriculture and finance).
- It should be connected by road transport
- It must constitute at least 0.10 per cent share total population of Tharali Tehsil,
- It must account for at least 0.13 values as FCI.

In this context, a total 33 numbers of functions are selected under five categories to compute functional weightage.

Functional Centrality Index Value (FCI)

FCI is the measurement of the functional availability of any centre. It has been computed by adding the all-available functions weightage of any centre and then it is divided by the combined weightage of all selected centres. In this study educational, health, administration,

agriculture and finance, transport and communication type 33 functions or services have been taken for the computation of FCI. It may be calculated as:

$$FCI = \sum_i^n \frac{W_{id}}{w} \times 100$$

F=Functional Centrality Index

W_{id} =Weightage for d_{th} Centres

W=Total weightage of all the functions

Results and Discussion

Measurement of Centrality

The centrality of service centres has been determined on different grounds by various Indian scholars. Bhatt (1976) used the Weightage technique to find the centrality of service centres. (Sen et al., 1971; Kayastha and Mishra, 1981) derived centrality based on functional hierarchy of settlements. In the present study, the Functional Centrality Index and Weightage Index have been used to find out the hierarchy of service centres. The table provides a comprehensive overview of various essential services categorized into different functional groups, along with the number of services and their corresponding weighted scores.

Functional Group	Sr.No.	Selected Services	Number of Services	Weighted Score
Education	1	Pre-primary school	3	105.00
	2	Primary school	94	3.35
	3	Middle school	49	6.42
	4	secondary school	22	14.31
	5	Senior secondary school	13	24.23
	6	Degree collage	1	315.00
	7	Anganwadi centre	67	4.70
Health	8	Primary health centre	2	157.5
	9	Primary health Sub-centre	6	52.5
	10	Community health centre	1	315.00
	11	Maternity and Child Welfare Centre	3	105.0

	12	Family Welfare Centre	5	63.0
	13	Dispensary	4	78.75
	14	Hospital allopathic	6	52.5
Transport and Communication Services	15	Bus services	17	18.52
	16	Telephone connection	67	4.70
	17	Post office	2	157.5
	18	Sub post office	20	15.75
	19	Connected to the National Highway	2	157.5
	20	Connected to State Highway	19	16.57
Agriculture and Finance	22	Connected to Major District Road	19	16.57
	23	Commercial and CCo-operative Bank	10	31.5
	24	ATM	2	157.5
	25	Mandi	13	24.23
	26	Agricultural credit society	11	28.63
	27	Agricultural marketing society	2	157.5
	28	Public distribution system shop	75	4.2
Administrative	29	Power supply for domestic use	21	15.0
	30	Police station	1	315.0
	31	Block headquarter	1	315.0
	32	Tehsil headquarter	1	315.0
	33	VDO Office	1	315.0

Source-District Statistical Handbook (2019)

Table 1: Weighted Score for the Selected Functions in Tharali Tehsil

1. **Education:** This category encompasses various levels of educational institutions, including pre-primary schools, primary schools, middle schools, secondary schools, senior secondary schools, degree colleges, and Anganwadi centres. The data reveals the distribution of educational services across different levels, with varying numbers of institutions and corresponding weighted scores.
 - i. **Pre-primary schools:** There are three pre-primary schools listed in the data, with a weighted score of 105.00. Pre-primary education plays a crucial role in early childhood development and school readiness.

- ii. **Primary schools:** The data shows a significant number of primary schools, with 94 institutions and a relatively low weighted score of 3.35 per school. Primary education forms the foundation of a child's learning journey.
 - iii. **Middle schools:** There are 49 middle schools listed, with a higher weighted score of 6.42 per school compared to primary schools. Middle schools cater to students in the intermediate phase of their education.
 - iv. **Secondary schools:** With 22 secondary schools listed, each has a relatively higher weighted score of 14.31, indicating the importance of secondary education in the region.
 - v. **Senior secondary schools:** The data shows 13 senior secondary schools, each with a considerable weighted score of 24.23, reflecting the significance of higher secondary education.
 - vi. **Degree colleges:** There is one-degree college listed, with the highest weighted score of 315.00, underscoring the importance of tertiary education in the region.
 - vii. **Anganwadi centres:** There are 67 Anganwadi centers listed, with a moderate weighted score of 4.70 per center. Anganwadi centers play a crucial role in providing early childhood care and nutrition.
2. **Health:** In this category, various healthcare facilities and services are included, such as primary health centres, sub-centres, community health centres, maternity and child welfare centres, family welfare centres, dispensaries, and allopathic hospitals. The data highlights the distribution of healthcare services and their relative importance based on weighted scores.
- i. **Primary health centres:** There are two primary health centres listed, each with a high weighted score of 157.5, indicating their significance in providing primary healthcare services to the population.
 - ii. **Primary health sub-centres:** Six primary health sub-centers are listed, with a moderate weighted score of 52.5 per center.
 - iii. **Community health centres:** One community health center is listed with a high weighted score of 315.00, emphasizing its importance as a secondary healthcare facility.
 - iv. **Maternity and Child Welfare Centers:** Three centers are listed, each with a weighted score of 105.0, highlighting their role in maternal and child healthcare.

- v. **Family Welfare centres:** Five centres are listed with a weighted score of 63.0, indicating their importance in providing family planning and reproductive health services.
 - vi. **Dispensaries and allopathic hospitals:** Four dispensaries and six allopathic hospitals are listed, with moderate weighted scores ranging from 52.5 to 78.75.
3. **Transport and Communication Services:** This category includes essential transportation and communication infrastructure such as bus services, telephone connections, post offices, and connectivity to highways and roads. The data illustrates the availability and accessibility of these services in the region.
- i. **Bus services:** Seventeen bus services are listed, with a moderate weighted score of 18.52 per service.
 - ii. **Telephone connections:** Sixty-seven telephone connections are listed, with a relatively low weighted score of 4.70 per connection.
 - iii. **Post offices and sub-post offices:** Two post offices and twenty sub-post offices are listed, with weighted scores ranging from 15.75 to 157.5.
 - iv. **Connectivity to national, state, and district roads:** The data shows connectivity to national highways, state highways, and major district roads, each with varying numbers of connections and corresponding weighted scores.
4. **Agriculture and Finance:** This category encompasses services related to agriculture, banking, and finance, including commercial banks, ATMs, agricultural markets, agricultural credit societies, agricultural marketing societies, public distribution system shops, and domestic power supply.
- i. **Commercial and cooperative banks:** Ten banks are listed, with a weighted score of 31.5 per bank.
 - ii. **ATMs:** Two ATMs are listed, each with a high weighted score of 157.5.
 - iii. **Mandis:** Thirteen mandis are listed, with a weighted score of 24.23 per market.
 - iv. **Agricultural credit and marketing societies:** Eleven agricultural credit societies and two agricultural marketing societies are listed, with weighted scores ranging from 28.63 to 157.5.
 - v. **Public distribution system shops and power supply:** Seventy-five PDS shops are listed, with a relatively low weighted score of 4.2 per shop, while twenty-one power supply connections for domestic use are listed, each with a weighted score of 15.0.
5. **Administrative:** In this category, key administrative offices such as police stations, block headquarters, tehsil headquarters, and VDO offices are included. The data underscores the

importance of administrative infrastructure in supporting governance and public service delivery.

i. **Police stations, block headquarters, tehsil headquarters, and VDO offices:**

Each administrative office is listed once, with a high weighted score of 315.0, reflecting their critical role in governance and public administration.

In summary, the data provides valuable insights into the distribution and significance of essential services across different functional groups in the region. The weighted scores offer a quantitative measure of the relative importance of each service, guiding policymakers and stakeholders in prioritizing resource allocation and development interventions to meet the diverse needs of the population effectively.

Hierarchy of Service Centres in Tharali Tehsil

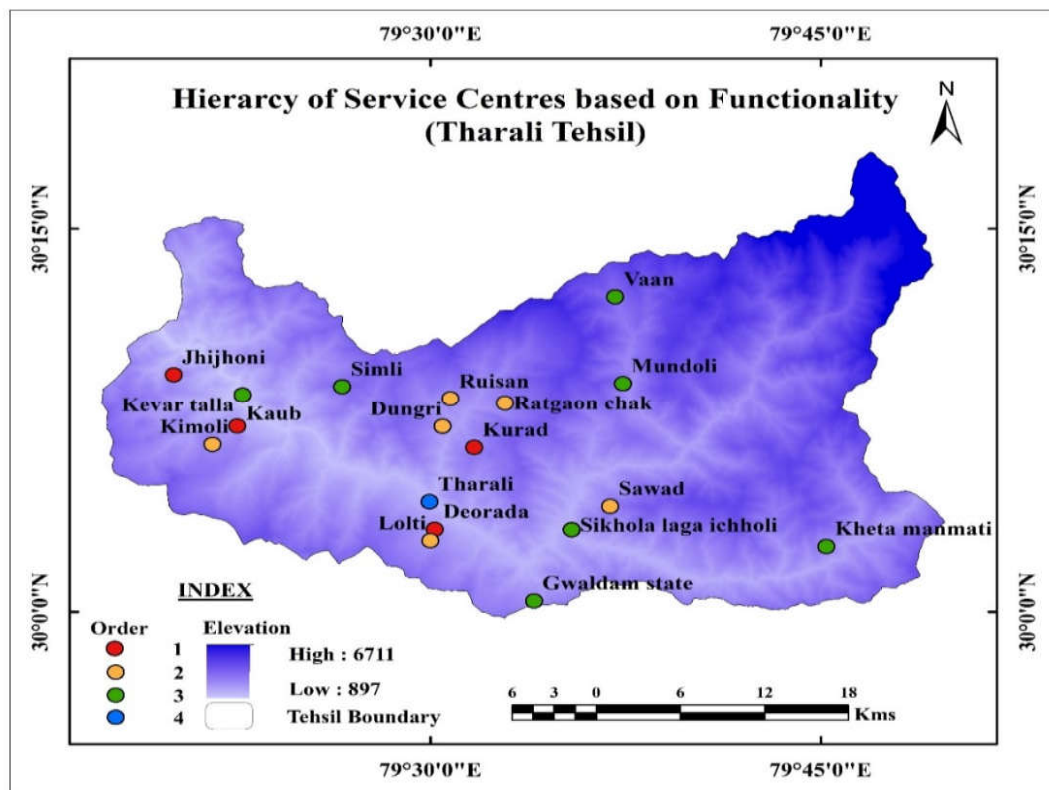
18 villages have been identified as service centres in the tehsil. Based on the functional centrality index and weightage score. The service centres have been classified into four hierarchic orders using the value of mean and standard deviation those centres that get low scores are treated as the first-order service centres and the highest scorer centres are treated as four-order centres.

Sr. No.	Service Centre	Population	No. of Functions	Weightage	Functional Centrality Index	Order
1	Kaub	1122	7	2.57	10.98	I st
2	Kurad	859	9	2.0	14.12	
3	Jhinhoni	864	5	3.6	7.84	
4	Deorada	1579	4	4.5	6.27	
5	Dungri	1229	14	1.2	23.53	II nd
6	Kimoli	1079	10	1.8	15.68	
7	Ratgaonchak	1256	12	1.5	18.82	
8	Sawad	1282	14	1.28	22.06	
9	Ruisan	1321	13	1.38	20.46	
10	Lolti	1023	11	1.63	17.32	
11	Gwaldam state	2920	20	0.9	31.37	III rd
12	Kevar talla	1189	19	0.94	30.04	
13	Khetamanmati	1349	22	0.81	34.86	

14	Mundoli	944	24	0.75	37.65	
15	Sikhola Laga Ichholi	1257	23	0.78	36.20	
16	Vaan	1371	19	0.94	30.04	
17	Simli	867	19	0.94	30.04	
18	Tharali	1956	25	0.72	39.22	IV th

Source- Data Collected through Primary Data Survey

Table 02: Hierarchy of Service Centres in Tharali Tehsil



Map02: Hierarchy of Service Centres Based on Functionality

First Order Service Centres

There are four service centres (Kaub, Kurad, Jhinjhoni and Deorada) marked as first-order service centres with a weightage score of 2.0 to 3.6. These centres fulfil local people's needs with limited choices and relatively lower order of function. Most of them are equipped with a basic level of services like primary school, middle school, sub-PHC, etc. (Map.02)

Second Order Service Centres

There are six service centres (Dungri, Kimoli, Ratgaon Chak, Sawad, Ruisan and Lolti) marked as second-order service centres with weightage scores of 1.2 to 1.68. It has

been Sub-Primary Health Center (PHC), secondary school, maternity and child welfare centres, sub post office etc for the influence area. (Map.02)

Third Order Service Centres

There are eight service centres Gwaldam state, Kevar Talla, Kheta Manmati, Mundoli, Sikhola Laga Ichholi, Vaan, Tharali and Simli marked as third-order service centres with a weightage score of 0.9 to 0.94. In this order, centres mostly have a market area which has transport facilities, postal services, co-operative banks, agriculture credit societies etc. (Map.02)

Fourth Order Service Centres

Tharali Tehsil and two block-level service centres were selected as fourth-level service centres in which Tharali Tehsil is the headquarters with a weightage score of 0.72 the largest unit of study. Presently this is the main service centre in this area but services are here limited.

Conclusion

Chamoli district is a mountainous district of Uttarakhand situated in the Himalayan region. Tharali Tehsil comes under the rural area of the Chamoli district. Being a rural area, service centres haven't been developed as per their potential. Some service centres are located at high altitudes having lack facilities, as the altitude increases, the number of facilities and service centres decreases. The elevation in the study area varies from 897 m to 6711 m which shows a great variation in the elevation difference. Thus, the development of facilities has taken place in the lower elevation regions better than the villages of higher elevations. In the present study, 18 service centres have been selected to measure the hierarchy level of centres. There are four orders of service centres by considering the criteria of functional centrality score (FCI) and weightage index (WI). There are 4 service centres marked as first-order service centres with a weightage score is 2.0 to 3.6 which provide basic services like primary school, middle school, and Sub-Primary Health Center (PHC). There are six second-order service centres having weightage scores of 1.2 to 1.68. It provides a Sub-Primary Health Center (PHC), secondary school, maternity and child welfare centres, sub-post office etc. for the area. Eight service centres are marked as third-order service centres with a weightage score of 0.9 to 0.94. In this order, centres mostly have a market area which has transport facilities, postal services, cooperative banks, and agriculture credit societies. Fourth-order centres at the block level and tahsil headquarters, have administrative services like the Police station, Post office, telephone exchange, electricity office, and CHC, with a weightage score

of 0.72. The distance of small service centres in the study area is more than the major service centres due to which the people of rural areas are not able to get the benefits of the facilities. There has been very little development of health services in the study area. There has been a proper development of education and health services in 7 service centres which provide services to their surrounding villages. Tharali tehsil is a major service centre in the study area, but several services such as health services have not been developed here at an adequate level.

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