

CONCENTRATION OF SCHEDULED CASTE POPULATION USING LOCATION QUOTIENT METHOD IN JAMMU PROVINCE

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ABSTRACT

The present article investigates the concentration of Scheduled Caste (SC) population which is fundamental for understanding the population geography of any area. The simple proportion of SC population to the total population does not reveal anything about its picture in the entire region and it is the location quotient method which gives relative picture of such proportion. A quotient equal to one signifies that the tehsil for which it is obtained has its normal share and a quotient less than one indicates that it has less than its share, therefore of less significance. In the present study the core areas of heavy as well as sparse concentration of SC population has been delineated with high degree of accuracy which is highly useful as this particular section of population is a subject of interest for the social scientists, social workers, reformers, policy makers, economists and geographers

KEYWORDS: *Concentration, Location Quotient, Scheduled Caste, Population Geography*

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INTRODUCTION

The analysis of population distribution and its concentration is fundamental for understanding the population geography of any area. The population distribution means the spatial arrangement of people in a region, which is mostly based on aggregate of investigation about the people within small areal unit of region. Population distribution is a dynamic process, which is ever changing and its cause and effect vary in spatio-temporal formulate (Prasad, 1990). The spatial distribution, concentration and ramification of Scheduled Caste (SC) provide some clues about the social structure of other groups with which they interact. The question whether Scheduled Caste function as an autonomous social group in the interacting system of all other social groups in a particular ecosystem can be answered to some extent through the understanding of their distributional pattern. The disparities in the level of socio economic attributes of the SC and of the region indicating the process of the interactions can be considered as contingent upon their distributional pattern (Husain, 2015).

Since a simple proportion of SC population to the total population do not reveal anything about its picture in the entire region (Koul, 2014). An idea about the extent of concentration of relative geographic phenomenon to the total phenomenon can be obtained if we consider the distribution of that phenomenon in relation to the total phenomenon and in this context the use of location quotient method could be helpful (Jahan, & Oda, 2000). Therefore the method of location quotient which is universal for regional specialization with respect to a relative phenomenon can be applied to identify the specialization of certain geographical phenomenon like concentration of population or industries of a particular group

within its total population or industries (Jing and Cai, 2010). Thus the location quotients are analysed to identify patterns of clustering (Reveiu & Dardala, 2011). Location Quotients are frequently used in demography, economics and any type of location analysis. Thus it is an index for comparing a particular population's share with the total population over a certain area (Kumar, 2020). In the present study by using location quotient the core areas of heavy distribution as well as areas of sparse distribution of SC population has been delineated for the census of 2011 with high degree of accuracy.

DATA BASE AND METHODOLOGY

This is primarily a census based study where the secondary data from Primary Census Abstract SC, Jammu and Kashmir, 2011 where the tehsil has been considered to be the most suitable and basic unit for assessing spatial distribution and concentration of SC population. The software used for data pre-processing, preparation, and data analysis, editing and output generation was ArcGIS 10.5. Also, the basic cartographic methods i.e. choropleth and isopleths techniques have been used to prepare the maps to show the data spatially.

In order to examine the pattern of concentration of the SCs population and its spatial variation, the location quotient method is employed which gives relative picture of such proportion and has been calculated for each tehsil with the help of following formula as (Kumar, 2020):

$$LQ = \frac{t}{T} \times \frac{D}{d}$$

Where;

- LQ = Location Quotient
- t = Scheduled Caste population of the Tehsil
- T = Total Population of the Tehsil
- D = Total Population of the Jammu province
- d = SC population of the study area (Jammu province)

A quotient equal to one signifies that the tehsil for which it is obtained has its normal share and a quotient less than indicates that it has less than its share, therefore of less significance. Accordingly:

- **If $LQ > 1$** , this indicates a high spatial concentration of the SC population in a given region, compared to the average share of each region (high spatial concentration)
- **If $LQ = 1$** , the SC population has a share of the total in accordance with its average share, thus indicates normal share of population (medium spatial concentration)
- **If $LQ < 1$** , the SC population has insignificant share of the total population (low spatial concentration).

STUDY AREA AND TARGET POPULATION

The location of study area (Jammu province) which is one of the provinces newly created UT of Jammu and Kashmir extends between 32° 20' N to 33° 10' N latitude and 74° 45' E to 75° 55' E longitude and falls in the great north-western complex of the Himalayan ranges (Raina, 2002). Geographically Jammu and Kashmir (erstwhile state of J&K) was divided into three agro climatic zones that are cold arid desert areas of Ladakh, temperate Kashmir valley and humid sub tropical province of Jammu

(Akhter & Acharya, 2015). Jammu Province which is situated in the southern part has ten districts and 37 tehsils according to 2011 census. It is the most heterogeneous and comprehensive region of the erstwhile state of Jammu and Kashmir. Geographically, its topography and physical settings is quite varied, as there are plains, low-lying tracts, and hilly and mountainous terrains (Sharma, 2017). With respect to the present paper the target population group is SC of Jammu province, these are those castes which remain at the bottom of social hierarchy and have been socially discriminated since time immemorial (Singh, 2009)¹. In the study area there are 13 SCs notified out of them, Megh, Chamar, Doom and Batwal constitute majority *i.e.* 87 per cent of the total SC population (Bhat & Bhatt, 2016). As per 1981 census the number of tehsils containing SC population were 25 which were increased to 28 in 2001 census and 35 in the census year of 2011.

RESULTS AND DISCUSSIONS

Spatial Distribution of SC Population

According to 2011 census, there is glaring spatial variations in absolute numbers of SC population ranging from 2 persons in Banihal tehsil to 188942 people in Jammu tehsil. However, in all three census years *i.e.* 1981, 2001 and 2011 Jammu province (study area) accounts for more than 99 percent of the total population of SCs in the state of Jammu and Kashmir (PCA, SC, J&K, 1981, 2001 and 2011). The tehsil of Bishnah accounted for the highest population of 40.33 percent followed by R.S. Pura and Ramnagar whereas the tehsils namely Thanamandi and Banihal have no SC population followed by Surankote which had negligible SC population of 0.01 percent. Marwah and Darhal tehsil do not register SC population as shown in the following table:

Table 1: Spatial Distribution of SC Population, 2001 and 2011

Tehsils	2011	Tehsils	2011
Samba	28.80	Kalakote	12.00
R.S.Pura	38.79	Nowshehra	27.37
Jammu	19.47	Rajouri	4.43
Akhnoor	26.91	Sundarbani	8.87
Bishnah	40.33	Haveli	0.26
Ramnagar	33.29	Mender	0.10
Udhampur	20.29	Banihal	0.00
Reasi	20.13	Thathri	15.48
Gool	2.83	Bhaleesa	10.03
Chenani	22.60	Surankote	0.01
Kishtwar	8.15	Thanamandi	0.00
Bhaderwah	19.31	Chhatroo	3.72
Doda	11.03	Majalta	26.10
Ramban	8.77	Mandi	0.07
Billawar	20.45	Bani	15.25
Basholi	15.82	Paddar	9.82
Kathua	28.55	Marwah	N.A
Hiranagar	23.18	Darhal	N.A
Budhal	0.73	Jammu Province	17.06

Source: Calculated on the basis of Primary Census Abstract SC, Jammu and Kashmir, 2001 and 2011. **Note:** Figures are given in percentage to the total population.

Although above table has shown the spatial patterns of SC population but it do not depicts the relative picture in

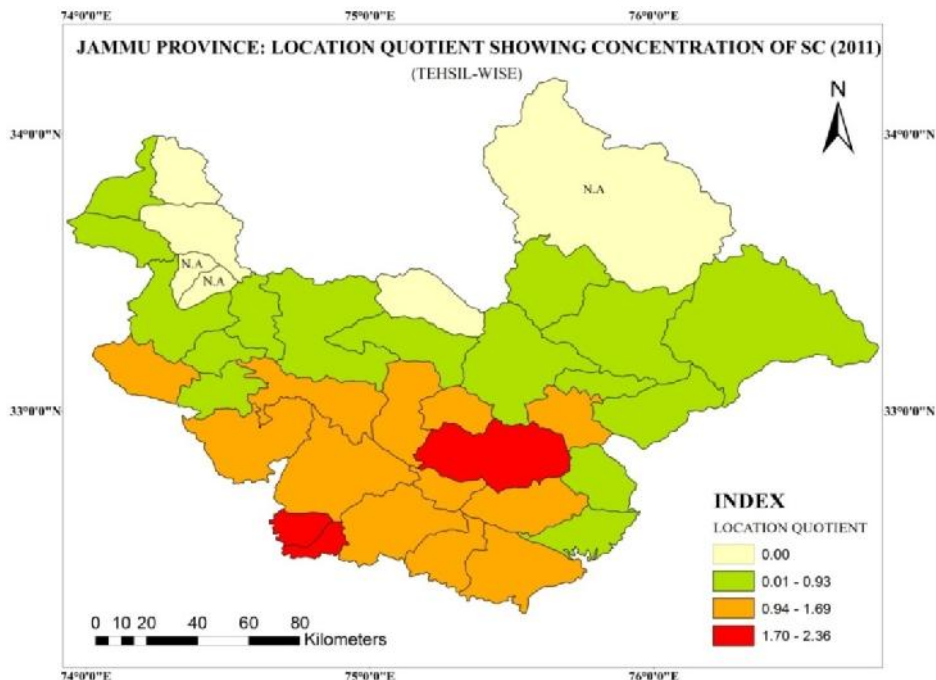
¹Singh, D. (2009), "Development Of Scheduled Castes In India- A Review, Journal Of Rural Development", Vol. 28, Issue 4, Pp 529-542

the entire region with respect to total population. Therefore it is the Location Quotient method which serves the purpose.

Concentration of SCs Population through Location Quotient

To assess the concentration of the SCs population, the location quotient method gives relative picture of such proportion. Statistically the areas recording a very high concentration can be described as core areas, while the medium, low and very low concentration areas as periphery in the context of the concentration of SC population. According to 2011 census, the location quotients are fairly below 1 in the Lesser Himalayan Tehsils where these values vary from 0.0005 in Surankote tehsil to 0.004 in Mandi tehsil. In the hilly tracts of the north in which population is predominantly Muslim, the distribution of SC population is insignificant. There is contiguous belt of thirteen tehsils, stretching from Haveli in the north-west to Basholi in south-east in which the location quotient value is below 1, again indicating an insignificant concentration of SCs. Other tehsils included in this belt are Mendhar, Rajouri, Sundarbani, Budhal, Kalakote, Gool, Ramban, Doda, Kishtwar and Baderwah. In this region the proportion of the SCs to the total population is less than 18 percent which is less than the average of the province. Another contiguous belt stretching from south-west to south-east from Nowshehra to Kathua tehsils running almost parallel to first belt has location quotient value more than one, thereby indicating a medium concentration of SCs. Ten tehsils namely Nowshehra, Akhnoor, Billawar, Jammu, Chenani, Udampur, Ramnagar, Samba, Hiranagar and Kathua fall in this belt which covers almost the foothill terrain and the Siwaliks hills. The south-west corner of Jammu province has highest concentration of SC population (Husain, 2015).

The spatial concentration of SC population for various tehsils of Jammu province for the census year of 2011 has been shown below with the help of choropleth map:



Source: Primary Census Abstract SC, Jammu and Kashmir, 2011

Figure 1: Map No. 1

From the map above it is clear that the southern tehsils of Jammu province have higher concentration of SC population whereas the northern tehsils are far behind in this category. The study area is divided into different categories on the basis of concentration of SC population according to the location quotient index for the census year of 2011 are as follows:-

Tehsils with Very High Concentration of SCs Population (1.70 <LQ > 2.36)

This area sprawling over the tehsils of Bishnah, Ramnagar and R. S. Pura the location quotient of which is over 1.70. The percentage of SC population in these two tehsils is very high that is approximately 40 percent. These tehsils lies in southernmost part of Jammu plains (except Ramnagar) and touches Punjab plains. The high value of LQ is due to predominantly Hindu population, which only contains SC population. The coincidence of several other factors like influx of migrants from northern tehsils due to better employment opportunities, better climate, even topography etc have resulted into high percentage of SC population in these tehsils. Also the tehsils of Jammu plains have high share of urban population.

Tehsils with High Concentration of SCs Population (0.94<LQ <1.69)

The LQ having value more than one is considered having high concentration of a particular section of population in a region. In this category there are 12 tehsils namely Nowshehra, Akhnoor, Reasi, Jammu, Samba, Hiranagar, Kathua, Billawar, Majalta, Chenani, Udhampur and Baderwah. Most of the tehsils lies in Jammu plains having good carrying capacity and easy accessibility. Other tehsils have dominant Hindu population and hence SC population.

Tehsils with Low Concentration of SCs Population (0.01 <LQ < 0.93)

Kalakote, Doda, Bhaleesa, Paddar, Mendhar, Sundarbani, Kishtwar, Rajouri, Chhatroo, Gool, Budhal, Haveli, Thathri and Ramban. These tehsils have low concentration of SC population because of moderate Hindu population as well as Muslim population, rough terrain, in accessibility and hence out migration.

Tehsils with Negligible Concentration of SCs Population (LQ = 0)

Banihal, Mandi and Surankote. The tehsils account for negligible share of SC population because of predominantly Muslim population and unsuitable geographical factors.

CONCLUSIONS

Statistically as explained above the areas recording a very high concentration can be described as core areas (lies in southern part), while the medium, low and very low concentration areas (lies in northern part) as periphery in the context of the concentration of SC population. It may be clear from the above discussion that the SC concentration varies from mountainous and hilly track of the north to plain areas of the south and south-west. Roughly the core areas lies in *Outer plains* which constitute 61.23 percent of the total scheduled caste population of the study area and have very high concentration of SC population because of favourable geographical conditions. The periphery *areas* (sparse areas) are *The Shivalik Zone and Middle Himalayan or Northern Zone*. These regions have relatively low concentration of scheduled caste population as we move from south to north-west because of rough terrain, harsh climatic conditions, out migration from the region in search of job opportunities. Other major factors responsible for the least concentration are poor accessibility, dominant Muslim population and narrow resource base. The identification of core and low concentration areas of Scheduled Castes will be highly useful to provide clues about their social structure and they can act as target areas for welfare schemes policy implementations for their socio-economic upliftment. And for proper development of socio economic condition of the Scheduled Caste population a comprehensive developmental approach can be undertaken with maximum thrust on core areas of their concentration.

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APPENDICES

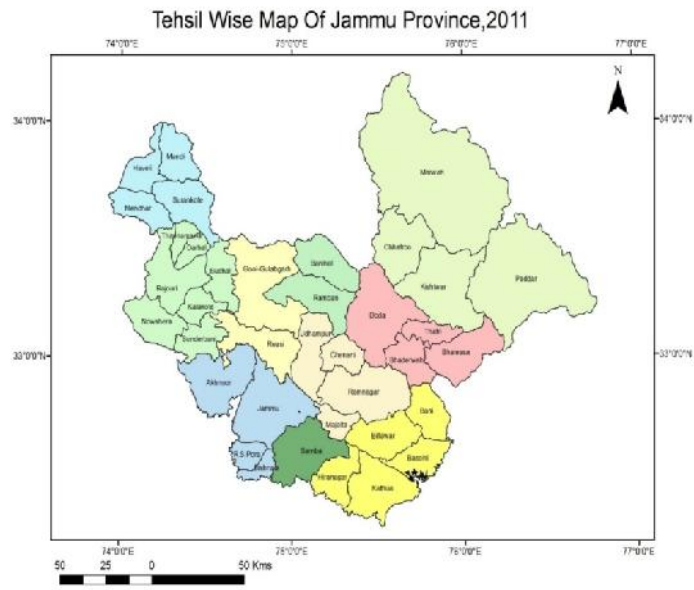


Figure 2

