

# Location Quotient

The ratio of the proportion of any characteristic in an area to its proportion in the whole region is known as Location Quotient.

## FORMULA:

$$LQ_i = \frac{P_{ij}/P_i}{P_j/P}$$

Where,  $P_{ij}$  = number of person in  $j$ th category of area  $i$

$P_i$  = total population in all categories of area  $i$

$P_j$  = sum of persons of category  $j$  in all the areas, i.e, population of region under category  $j$

$P$  = Sum of  $P_i$  in all the areas, i.e, total population of the region in each category.

## EXAMPLE:

The district-wise total population of Scheduled Castes in state X is given below. Find out the areas of relative concentration of scheduled caste population.

Sl. No.	District	Total Population	Population of Scheduled Caste
1	A	2225103	120006
2	B	2854183	164762
3	C	1736181	77104
4	D	1580995	167263
5	E	1837389	86920
6	F	2922719	77789
7	G	379310	9820
8	H	76047	826
9	I	1713318	208867
10	J	332390	82

**SOLUTION:**

Sl. No.	District	Total Population	Population of Scheduled Caste (SC)	$P_{ij}/P_i$	$P_j/P$	Location Quotient for SC
1	A	2225103	120006	0.05393	$\updownarrow$ 0.05834	0.924
2	B	2854183	164762	0.05773		0.990
3	C	1736181	77104	0.04441		0.761
4	D	1580995	167263	0.10580		1.814
5	E	1837389	86920	0.04731		0.811
6	F	2922719	77789	0.02662		0.456
7	G	379310	9820	0.02589		0.444
8	H	76047	826	0.01086		0.186
9	I	1713318	208867	0.12191		2.090
10	J	332390	82	0.00025		0.004
		$\Sigma P=15657635$	$\Sigma P_j=913439$			

$$\text{Location Quotient or LQ}_i = \frac{P_{ij}/P_i}{P_j/P}$$

Where,  $P_{ij}$  = number of person in  $j$ th category of area  $i$

$P_i$  = total population in all categories of area

$P_j$  = sum of persons of category  $j$  in all the areas, i.e, population of region under category  $j$

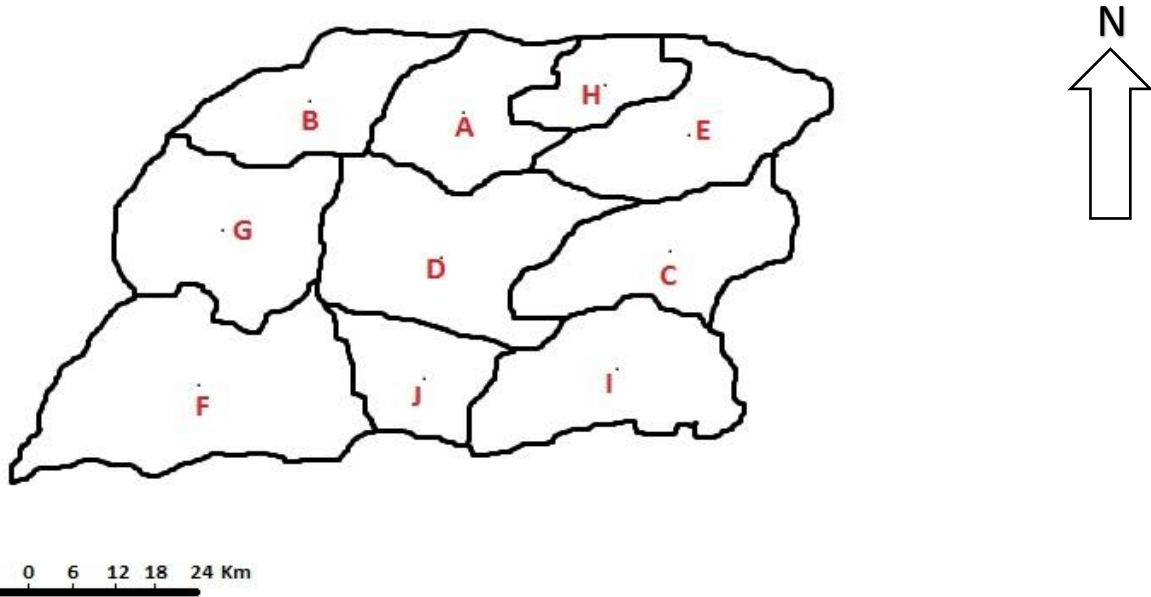
$P$  = Sum of  $P_i$  in all the areas, i.e, total population of the region in each category.

Here,  $P_{ij}$  = SC population of each district

$P_i$  = total population of each district

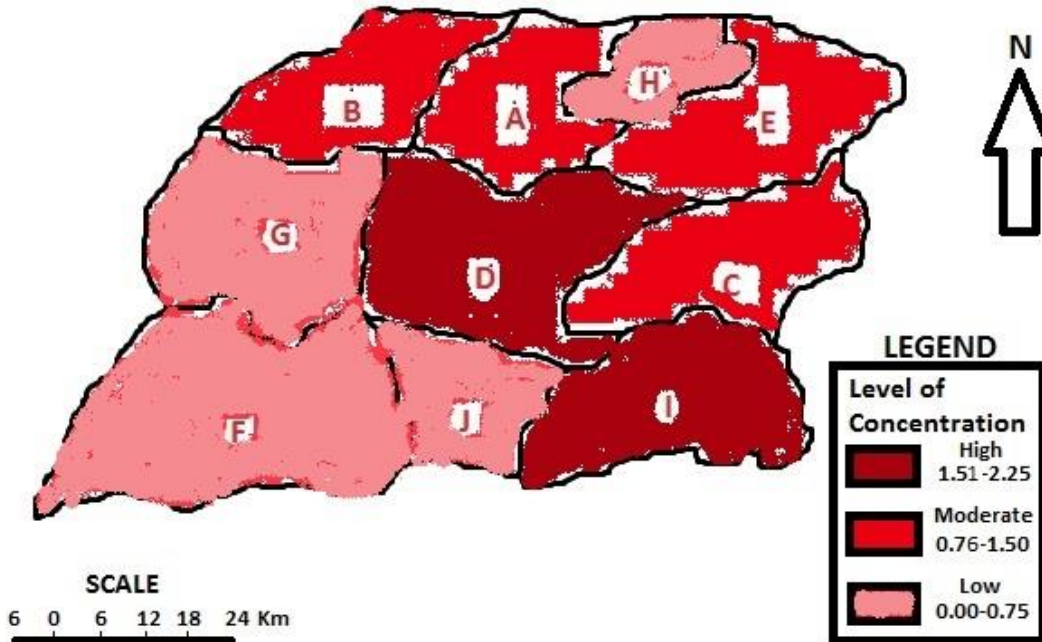
$P_j$  = sum of SC population of state X

$P$  = sum of total population of state X



**Solution:**

**LOCATION QUOTIENT  
SHOWING  
LEVEL OF CONCENTRATION OF SCHEDULED CASTE POPULATION IN STATE X**



## **Interpretation:**

Location Quotient is the ratio of the proportion of a category in an area to its proportion in the whole region thereby revealing its degree of concentration in the whole region. We know that any region with a location quotient less than unity ( $\leq 1$ ) has low level of concentration of the category concerned, a region with a location quotient equivalent to unity ( $=1$ ) has moderate level of concentration, while a region with a location quotient more than unity ( $\geq 1$ ) has high level of concentration.

In the above map, the whole region of state X has been classified into three categories of low (LQ 0.00-0.75), moderate (LQ 0.76-1.50) and high (LQ 1.51-2.25) level of concentration of scheduled caste population through choropleth mapping with the help of Location Quotient.

It is evident from the classification that districts F, G, H and J have a lower concentration of SC population with district J having the lowest location quotient of 0.004. Districts A, B, C and E show a moderate level of concentration of SC population indicating proportional population distribution of SC and non-SC population. Districts D and I portray high level of concentration of SC population with district I having the highest concentration of SC population.

Hence, most of the state has low to moderate concentration of SC population with only two districts having high concentration maybe due to availability of earning opportunities and cluster settlement of this section of population in those areas. The Government should thus, look into this matter and encourage economic participation through creation of job opportunities while at the same time discouraging social discrimination.