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## Research Article

### LOCATIONAL ANALYSIS OF RATION DEPOTS IN JAMMU AND SRINAGAR URBAN CENTERS JAMMU AND KASHMIR, INDIA

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#### ABSTRACT

Urban amenities comprise the infrastructure, goods and services that are collectively needed for the urban society. These are central to urban society without which urban society cannot emerge and sustain. There is uneven distribution of the different urban amenities particularly in the developing countries. Srinagar city also shows significant unevenness in the provision of urban amenities. The analysis of the data reveals that there is complete disparity in the distribution of ration depots in different wards (Municipal units) of the city. In case of ration stores, thirty six wards out of sixty eight (53 percent) have above normal concentration, while as the rest thirty two wards (47 percent) have deficiency in the arrangement of provision of ration stores. Even six wards in the city have absence of the ration stores. Ward wise wazirbagh leads the hierarchy as having highest concentration of Ration stores. The amenities generally decrease from the core of the city to its peripheries. Therefore it becomes imperative to find a sustainable solution for the provision of adequate and balanced urban amenities and their optimum utilization. In case of Jammu City there are at least two ration depots in each ward of the city with few exceptions but still there is disparity so far as their number is concerned. The highest concentration of these stores is in the central parts of the cities than the outer parts because the former has more private stores than the latter. The reason for the high concentration of private ration stores in the core of the city is increased demand for food which enhances its threshold.

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#### INTRODUCTION

Human life and development is based on the extent to which man can satisfy the basic needs such as food, clothing and shelter. In order to fulfill these and other needs, man requires access to certain facilities such as market, housing, water supply, electricity and adequate transportation (Adekunle *et al*, 2011). The access to basic amenities like electricity, drinking water, toilet facility, sanitation, health care facilities and solid waste management are critical determinants of urban quality of life (Bhagat, 2010). Though these infrastructures form an important and integral part of life of any community, either rural or urban but they are unequally distributed over space. Many empirical findings have shown that facilities are unequally distributed in our communities such that the vast majority of the people are caught in a never ending struggle to gain access to these infrastructures in order to improve their quality of life (Eyles, 1996; Oyerinde, 2006). These inequalities are for the most part, the direct and inevitable result of the normal operations of the capitalist mode of production. Capitalist inequalities is a major factor in determining the physical and psychological plight of the

majority of the human race, particularly in the areas of income distribution, life expectancy, infant mortality, morbidity, physical and mental illness all of which are examples of deprivation which threaten the social order and development of any nation. Inequalities exist between spatial units as they do between individuals (Anderson and Pomfret, 2004; Henderson, Shalizi and Venables, 2001; Kanbur and Venables, 2005). Inequalities in access to social infrastructures may be as a result of inefficiency in the distribution and allocation of facilities between areas or as a result of social barriers like ethnicity, religion or status which may directly limit certain groups from having access to public facilities. This is a prominent characteristic of a capitalist economy (Stevenson, 2004). The spatial variation in availability and access to infrastructure result in spatial disparities in living standards both within and between regions and localities (Madu, 2007). Knowledge of the nature and pattern of distribution of existing facilities in any region is needed before we make any attempt to project and plan their future development.

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### Objectives

- To analyze the spatial distributional pattern of stores in Srinagar and Jammu Urban Centers.
- To examine and analyze the magnitude of spatial concentration and disparity in the provision of Ration stores in the Srinagar and Jammu Urban centers.

### Data Base

The Survey of India toposheets (1971) on scale 1:50000 were used in the present study to generate base map. Data pertaining to various socio-economic variables like total population of the cities, its ward wise distribution, location and strength of different urban amenities etc. have been gathered accordingly from various departments. The data on population and its various attributes was obtained from Census Department; Information pertaining to different types of Ration Depots Department of Consumer Affairs and Public Distribution. Srinagar (J&K) was consulted to provide data related to ration stores in the city.

Software's used

- i) ERDAS IMAGINE 9.0                      ii) Arc GIS 10.2.

### Study Area

Srinagar city is located between 34°0' - 34°14' N latitudes and 74°43' - 74°52' E longitudes (Fig.1.1). It is the summer capital of the state of Jammu & Kashmir. It is situated at an altitude of 5200 feet above the mean sea level and has grown over the past about eleven hundred years on either banks of river Jhelum of Kashmir valley, so vast and so level that the people living here have forgotten that they live in Himalayas. Making a sharp loop, the river Jhelum (200 ft. wide) swirls through the heart of the city. The city has cradled along this river over a length of 29 Kms and an average depth of about 6 Kms on either side of the river. The city as well as its hinterland is encircled by the natural wall of mountains (the sub-mountain branches of the Pir Panjal range) whose height varies from 1800 to 4300 meters above the mean sea level midst of an oval shaped valley of Kashmir. Srinagar is situated in the centre of Kashmir valley.

It has a unique site and situation. The total area of the city at present is 278.1Km<sup>2</sup> excluding cantonment area under defense use. Non developed area of the city is mainly occupied by rice fields, orchards, vegetables, wetlands and lakes etc. According to the provisional figures of Census of India 2011, the Srinagar city has a total population of 1269751 persons, out of this the population of males is 675667 and that of females is 594084. According to the newly formulated Master Plan (2000-2001), the projected population for the year 2021 will be 23.5 lakhs.

Jammu city, the city of temples and the winter capital of Jammu & Kashmir, is located on both the banks of the river Tawi. The City lies between 32°38'15" and 32°48'00" North latitude and between 74°47'18" and 74°50'05" East longitude (Fig. 1.2). The city is located at an elevation of 1,030 feet above the sea level. It is believed that Raja Jamboo Lochan originally founded the city in the 14th century B.C eventually, which came to be known as "Jamboo" after his name. The Jammu city actually took shape in 1962 and its municipal limits were extended on both banks of the river Tawi over an area of 16.87 sq. km. which increased to 112 sq. km including Tawi river. Large scale urbanization and industrialization has given to what is called now Greater Jammu, the name given to old, new and the suburbs of Jammu. Jammu is located about 585 km to the North-west of Delhi on National Highway-1A. It is about 290 km to the south of Srinagar, the summer capital of J&K State (Zutshi, 1996). The city is well connected by roads with all parts of J&K as well as with other major cities/towns of Punjab and Himachal Pradesh. (Nandy, et al, 2001).

Since people in the urban areas are engaged with the tertiary activities, so they are dependent on the import of food items, resulting in the setting up of ration depots in every nook and corner of the cities or urban areas. The food items especially the rice is being provided to the people through a vast network of ration depots on subsidized rates by the government. Besides, the food items are also being served to the inmates of the cities by the private ration depots. The distribution of ration depots in the cities has been presented in the figure 1.3 and 1.4.

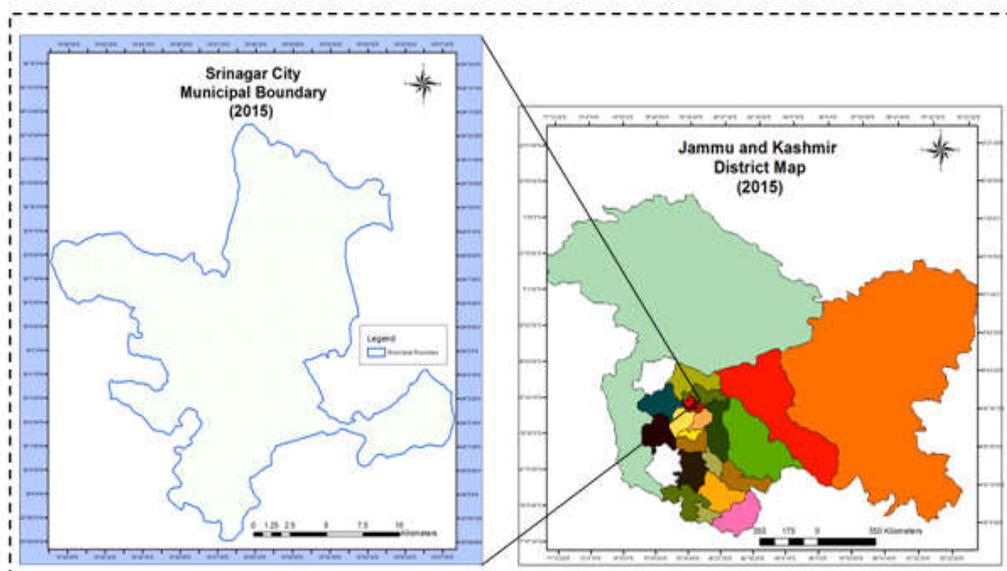


Fig 1

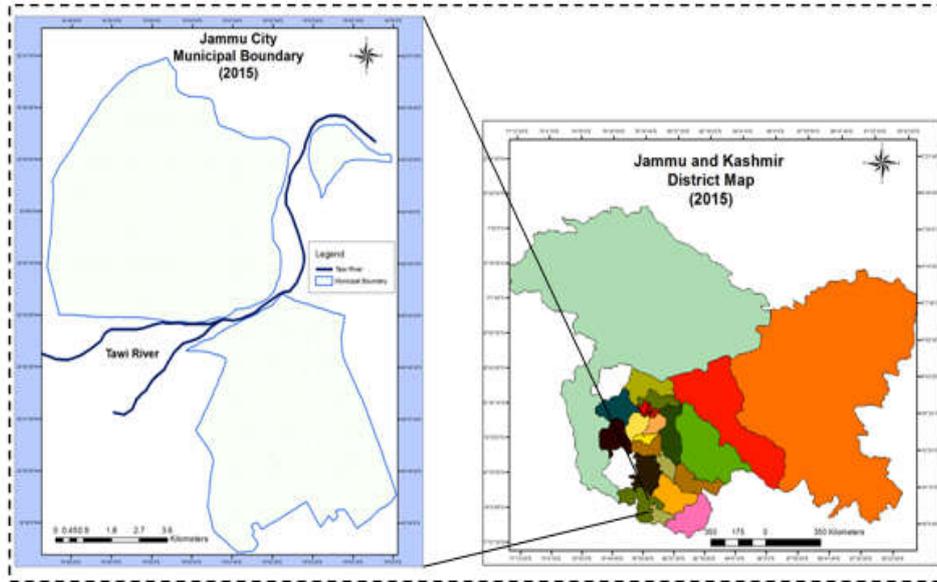


Fig 2

Table 1 Spatial Distribution of Ration Depots in Jammu and Srinagar City

Ward Names Srinagar City	Population	Ration Stores	Wards Jammu City	Population	Ration Depots
Harwan	27884	9	Panjthirthi	6207	1
Nishat	19795	15	Jullaka mohalla	5888	3
Dalgate	16582	7	Mast garh	7517	0
Lalchowk	9919	7	Bhabarian	3734	1
Rajbagh	10142	7	Talab-Khatikan	4392	2
Jawahar Nagar	14807	3	Gujjar_Nagar	4416	2
Wazir Bagh	3084	3	Kanji House	7538	0
Mehjoor Nagar	25294	7	Dogra Hall	9428	2
Natipora	14372	9	mohalla Ustad Ol	7101	2
Channapora	21779	2	Pacca danga	6750	3
Bhagat Barzulla	29937	10	Mohalla Malhotri	2072	0
Rawalpora	13727	5	Krishna Nagar	6025	6
Sheikh Dawood Colney	9830	4	Resham ghar Colo	7750	8
Batamaloo	15732	3	Bagwati nagar	5165	4
Aloochoi Bagh	16824	15	Partap Garh	4293	3
Magarmal Bagh	7456	5	New Plot	9974	5
Nundreshi Colony	11819	5	Ambphalla	3851	2
Qamarwari	8830	5	sarwal	8109	4
Parimpora	17022	14	Chand nagar	8227	3
Zainakot	21065	10	Gandhi Nagar North	8773	5
Bemina East	14143	4	Gandhi Nagar south	7145	4
Bemina West	26590	0	Shastri Nagar	5391	2
Shaheed Gunj	9375	6	Nai Basti	10391	5
Karan Nagar	11120	6	Rehari Colony No	6153	6
Chattabal	17152	3	Rehari Colony So	4561	5
Syed Ali Akbar	16229	4	Subash Nagar	8628	6
Nawab Bazar	14469	1	Bakshi Nagar	6044	5
Islamyarbal	11494	2	Gurah-Bakshi Nag	7359	1
Aali Kadal	8765	3	Rajpura Mangotri	8717	2
Ganpathyar	13132	9	Talab Tillo North	6499	6
Malik Aangan	15622	2	Tallab Tillo South	8529	6
Barbarshas	20527	4	Gole	11202	1
Khankhai Mohalla	15724	2	Shiv Nagar	7470	8
S.R.Gunj	18121	2	Janipora North	4653	3
Aqil-Mir Khanyar	18043	1	Janipora South	4042	3
Khawja Bazar	17429	0	Janipora Central	6788	4
Safakadal	19907	6	Janipora West	13899	5
Idd Gah	26564	4	Paloura	6653	6
Tarabal	9168	3	Top-Sherkahania	8226	6
Jogilangar	21949	2	Poonch House	11067	1
Zind Shah sahab	12421	4	Bohri	8229	2
Hassanabad	17286	1	Nanak Nagar West	6511	3
Jamia Masjid	8215	6	Nanak Nagar East	7559	3

Mukhdoom Sahab	18755	0	Nanak nagar North	10244	4
Kawdara	23141	4	Digiana	11837	2
Zadibal	15128	3	Sanjay Nagar	8265	3
Madin Sahab	13155	3	Bahu east	11008	2
Now Shehra	11441	3	Bahu West	4593	3
Zoonimar	15401	3	Narwal/Bala Chand	3824	2
Lal Bazar	22140	14	Channi Himmat	8151	5
Umer Conony	26754	2	Channi Himmat/Th	3388	2
Soura	11629	4	Channi Biza	8262	4
Buchpora	23119	11	Trikuta Nagar	7062	2
Ahmad Nagar	30511	3	Channi rama /tri	3684	2
Zakura	11114	3	Deeli	6952	2
Hazratbal	17218	13	Gangyal -I	7298	2
Teal bal	17369	7	Gangyal-II	6533	2
Bud dal	13233	2	Digiana	7393	2
Lokut Dal	19985	3	Palour Top	7766	5
Dara	23943	6	Palour centre	5189	4
Alesteng	18928	3	Patta Paloura	10676	3
Palpora	26160	8	Keran-I	6863	1
Maloor	21374	0	Keran_II	5291	1
Laweypora	12419	0	Chak Changarwan	11097	2
Khumani Chowk	25194	12	Barnai/Upper Dha	9753	1
Humhama	18929	3	Upper Muthi	11029	4
Pandrathen	17324	9	Lower Muthi	8012	5
Khanmoh	13908	0	Greater Kailash	3943	2
Total		339	Sainik Colony -I	3757	2
			Sainik Colony-II	4042	0
			Tawi Vihar/Sidha	3359	3
			Total		221

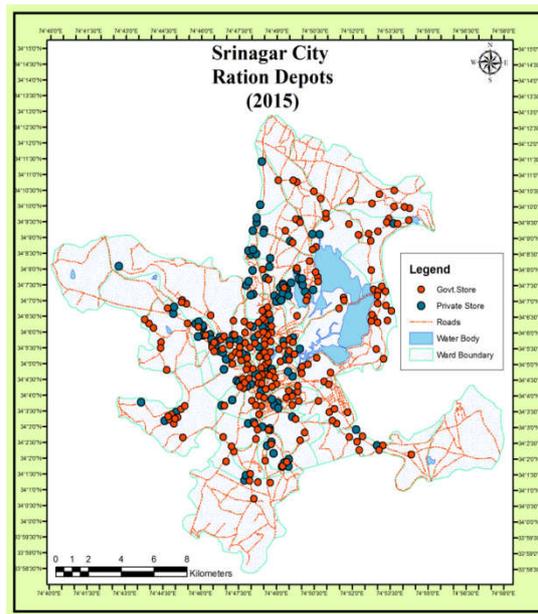


Fig 3

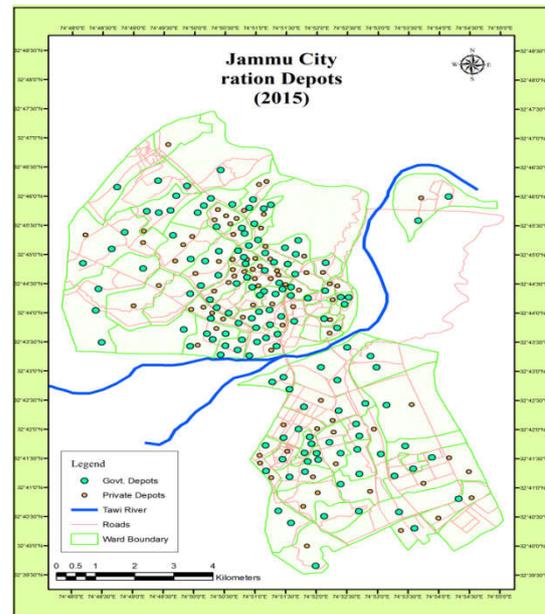


Fig 4

Source: Consumer Affairs and Public Distribution (CAPD) Department, Jammu Srinagar, J&K.

Though there are at least two ration depots in each ward of the city with few exceptions but still there is disparity so far as their number is concerned. The highest concentration of these stores is in the central parts of the cities than the outer parts because the former has more private stores than the latter. The reason for the high concentration of private ration stores in the core of the city is increased demand for food which enhances its threshold.

### Spatial Locational Analysis

The spatial Locational analysis of urban amenities holds an important place in the formulation of Locational planning

strategy and development of urban amenities in any geographical region. This type of analysis serves as a vital input for planning the establishment of these amenities. In order to make their optimum and balanced use, a number of following measures have been employed to measure the pattern of distribution of these amenities in Srinagar and Jammu cities.

### Location Quotient

The location quotient is a device for comparing a ward's percentage share of a particular facility with its percentage share of its population.

**Table 2** Spatial concentration of Ration Depots in Jammu and Srinagar City

Ward Names Srinagar City	Population	L.Q. Ration Depots	Ward Names Jammu City	Population	L.Q. Ration Depots
Harwan	27884	1.09	Panjthirthi	6207	0
Nishat	19795	2.57	Jullaka mohalla	5888	0
Dalgate	16582	1.43	Mast garh	7517	1
Lalchowk	9919	2.39	Bhabarian	3734	0
Rajbagh	10142	2.34	Talab-Khatikan	4392	1
Jawahar Nagar	14807	0.69	Gujjar_Nagar	4416	1
Wazir Bagh	3084	3.3	Kanji House	7538	1
Mehjoor Nagar	25294	0.94	Dogra Hall	9428	0
Natipora	14372	2.12	mohalla Ustad Ol	7101	0
Channapora	21779	0.31	Pacca danga	6750	1
Bhagat Barzulla	29937	1.13	Mohalla Malhotri	2072	1
Rawalpora	13727	1.23	Krishna Nagar	6025	0
Sheikh Dawood Colney	9830	1.38	Resham ghar Colo	7750	2
Batamaloo	15732	0.65	Bagwati nagar	5165	2
Aloochi Bagh	16824	3.02	Partap Garh	4293	2
Magarmal Bagh	7456	2.27	New Plot	9974	2
Nundreshi Colony	11819	1.43	Ambphalla	3851	1
Qamarwari	8830	1.92	Sarwal	8109	1
Parimpora	17022	2.79	Chand nagar	8227	1
Zainakot	21065	1.61	Gandhi Nagar North	8773	1
Bemina East	14143	0.96	Gandhi Nagar south	7145	1
Bemina West	26590	0	Shastri Nagar	5391	1
Shaheed Gunj	9375	2.17	Nai Basti	10319	1
Karan Nagar	11120	1.83	Rehari Colony No	6153	1
Chattabal	17152	0.59	Rehari Colony So	4561	2
Syed Ali Akbar	16229	0.84	Subash Nagar	8628	2
Nawab Bazar	14469	0.23	Bakshi Nagar	6044	2
Islamyarbal	11494	0.59	Gurah-Bakshi Nag	7359	2
Aali Kadal	8765	1.16	Rajpura Mangotri	8717	0
Ganpathyar	13132	2.32	Talab Tillo North	6499	1
Malik Aangan	15622	0.43	Tallab Tillo South	8529	2
Barbarshas	20527	0.66	Gole	11202	2
Khankhai Mohalla	15724	0.43	Shiv Nagar	7470	0
S.R.Gunj	18121	0.37	Janipora North	4653	2
Aqil-Mir Khanyar	18043	0.19	Janipora South	4042	1
Khawja Bazar	17429	0	Janipora Central	6788	2
Safakadal	19907	1.02	Janipora West	13899	1
Idd Gah	26564	0.51	Paloura	6653	1
Tarabal	9168	1.11	Top-Sherkahania	8226	2
Jogilangar	21949	0.31	Poonch House	11067	2
Zind Shah sahab	12421	1.09	Bohri	8229	0
Hassanabad	17286	0.2	Nanak Nagar West	6511	1
Jamia Masjid	8215	2.48	Nanak Nagar East	7559	1
Mukhdoom Sahab	18755	0	Nanak nagar Nort	10244	1
Kawdara	23141	0.59	Digiana	11837	1
Zadibal	15128	0.67	Sanjay Nagar	8265	0
Madin Sahab	13155	0.77	Bahu east	11008	1
Now Shehra	11441	0.89	Bahu West	4593	0
Zoonimar	15401	0.66	Narwal/Bala Chan	3824	1
Lal Bazar	22140	2.14	Channi Himmat	8151	1
Umer Conony	26754	0.25	Channi Himmat/Th	3388	1
Soura	11629	1.17	Channi Biza	8262	1
Buchpora	23119	1.61	Trikuta Nagar	7062	1
Ahmad Nagar	30511	0.33	Channi rama /tri	3684	1
Zakura	11114	0.92	Deeli	6952	1
Hazratbal	17218	2.56	Gangyal -I	7298	1
Teal bal	17369	1.37	Gangyal-II	6533	1
Bud dal	13233	0.51	Digiana	7393	1
Lokut Dal	19985	0.51	Palour Top	7766	1
Dara	23943	0.85	Palour centre	5189	1
Alesteng	18928	0.54	Patta Paloura	10676	2
Palpora	26160	1.04	Keran-I	6863	1
Maloora	21374	0	Keran_II	5291	0
Laweypora	12419	0	Chak Changarwan	11097	0
Khumani Chowk	25194	1.61	Barnai/Upper Dha	9753	0
Humhama	18929	0.54	Upper Muthi	11029	0
Pandraithen	17324	1.76	Lower Muthi	8012	1
Khanmoh	13908	0	Greater Kailash	3943	1
			Sainik Colony -I	3757	1
			Sainik Colony-II	4042	1
			Tawi Vihar/Sidhra	3359	0

The location quotient of different municipal wards in cities with respect to a particular facility provides knowledge about the level of concentration of that facility in those wards. For calculating the location quotient (L.Q.) for a particular facility 'i' in a particular ward, the following formulae has been used.

$$L.Q = \frac{ni/p}{Ni/P}$$

Where,

*ni* = Number of facility 'i' in a given ward, *p* = Population of the concerned ward,

*Ni* = Number of facility *i* in Srinagar City, *P* = Total population of Srinagar City

If the value of the quotient for a particular facility in a particular ward exceeds 1 (one), concentration is indicated as the per capita availability of that facility in the ward exceeds that of the city as a whole. An indication of deficiency is given by a value less than 1 while a value of 1 or close to 1 indicates self-sufficiency (Isard, 1960). Using the above formula a table of location quotients for the selected public amenities for wards of Srinagar and Jammu cities has been prepared.

of the amenity exceeds the city average, while as seven wards have average concentration means the amenity-population ratio in these wards is in proportion to the city average and the remaining thirty two wards are below average which means these wards are underserved in context of this amenity. However, the degree of concentration varies between the over served wards as well so far as the amenity-population ratio is concerned. This can be understood from the fact that wazirbagh has three ration depots having population of 3084 persons (1 ration depot/ 1028 persons), while as Nishat has one ration depot for 1319 persons (15 ration depots for 19795 persons).

In case of Jammu city, the spatial concentration variation is more pronounced than Srinagar city. The location quotient analysis as shown in the table 2 depicts that sixteen wards (23 percent) in the city have no ration depot, while as forty wards (56 percent) have normal concentration and fifteen wards (21 percent) possess above average concentration of the amenity. From the figure 2, it is evident that interior wards in the northern part of the city exhibit much concentration than the wards located on the southern part of the city.

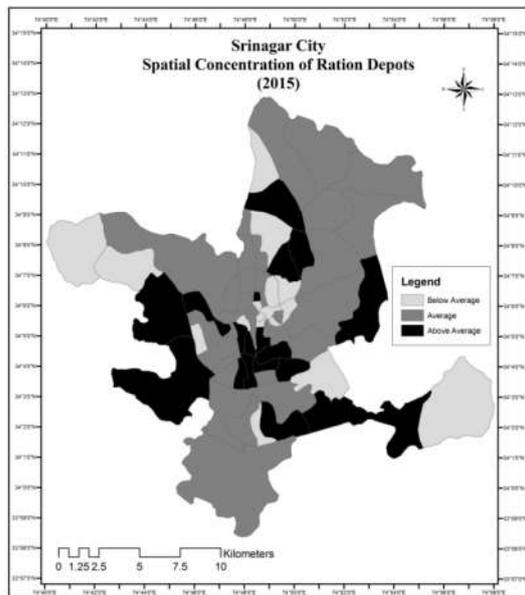


Fig 1

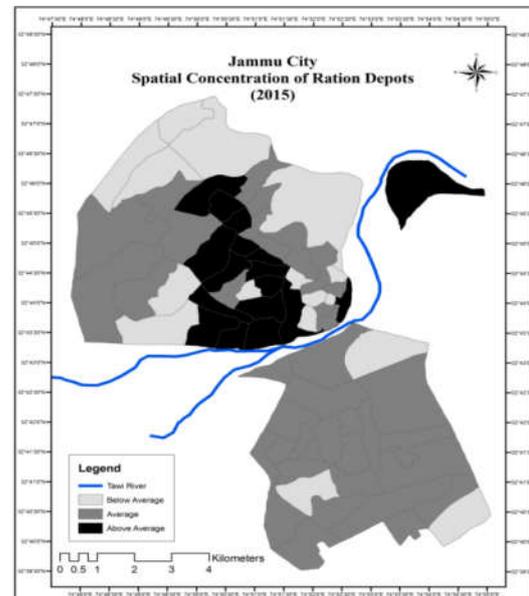


Fig 2

### Spatial Concentration Pattern of Ration Depots

In order to determine the spatial concentration of ration stores in Srinagar and Jammu city, location quotient was worked out (Table 2). It is clear from the table that in Srinagar city, thirty six wards out of sixty eight (53 percent) have above normal concentration i.e; the per capita availability of the facility exceeds that of the city as a whole, while as the rest thirty two wards (47 percent) have deficiency in the arrangement of provision of ration stores. Even six wards in the city have absence of the ration stores. Ward wise wazirbagh has the highest concentration of Ration stores with the value of location quotient equals to 3.3. The spatial concentration pattern of ration depots is presented in the figure 2.1. Though ration depots are present in each ward of the city with few exceptions, but their concentration varies between different wards. From the figure, it is evident that twenty eight wards have high concentration of the amenity. i.e., the concentration

Sidhra ward is the only peripheral ward possessing high concentration. The southern part of the city overall have normal concentration than the wards located on the northern part of the city.

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