



*International Journal Of*  
**Recent Scientific  
Research**

ISSN: 0976-3031  
Volume: 6(12) December -2015

PHYSICAL ECOLOGY OF SLUMS IN SRINAGAR CITY

Sameer Fayaz., Rather G.M., Zoya Naqshbandi.,  
Hakim Farooq., Jahangeer A. Parray., Arif. H.  
Shah and Sultan Bhat M



THE OFFICIAL PUBLICATION OF  
INTERNATIONAL JOURNAL OF RECENT SCIENTIFIC RESEARCH (IJRSR)  
<http://www.recentscientific.com/> [recentscientific@gmail.com](mailto:recentscientific@gmail.com)



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

*International Journal of Recent Scientific Research*  
Vol. 6, Issue, 12, pp. 7972-7977, December, 2015

**International Journal  
of Recent Scientific  
Research**

## RESEARCH ARTICLE

### PHYSICAL ECOLOGY OF SLUMS IN SRINAGAR CITY

**Sameer Fayaz\*, Rather G.M., Zoya Naqshbandi., Hakim Farooq., Jahangeer A. Parray.,  
Arif. H. Shah and Sultan Bhat M**

Department of Geography and Regional Development University of Kashmir-190006

#### ARTICLE INFO

##### Article History:

Received 15<sup>th</sup> September, 2015  
Received in revised form 21<sup>st</sup>  
October, 2015  
Accepted 06<sup>th</sup> November, 2015  
Published online 28<sup>st</sup>  
December, 2015

##### Key words:

Slums, Cluster, Housing, Physical  
ecology

#### ABSTRACT

Slums are manifestation of urban poverty. Clustering was done on the basis of geographical and economic factors. These clusters show inequality in various aspects like housing conditions, age of slums, drainage facilities. The quality of housing conditions increases from core to periphery while as the urban amenities decreases from core to periphery (Fayaz, 2014). Random sampling was used to study the housing environment and other physical attributes of slums in Srinagar city. Slum in Srinagar city have unique characteristics of being permanent in nature and land ownership. This paper attempts to study the physical ecology of slums in Srinagar city.

**Copyright © Sameer Fayaz et al., 2015**, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

#### INTRODUCTION

Slums are the expression of poverty, group inequality and social exclusion ([Slums of the World-2003](#)). Slums are caused due to various factors like migration from rural to urban areas, poverty and employment ([Das, 2007](#)). The slums are characterized by poor housing and environmental conditions (Bunch, 1996). The population in slums of India is growing dramatically each decade. The number of people living in the slums of India has doubled in the past two decades i.e. 27.9 million in 1981 to 61.8 million in 2001 and 65 million in 2011 ([Census of India, 2011](#)).

The demand for basic amenities, migration of rural people to urban areas is the root causes of growth of slums ([Chopra, 2006](#)). Slums are commonly seen as breeding grounds for social problems such as crime, drug addiction and high rate of diseases due to unsanitary conditions ([Siddhartha and Mukharje, 2001](#)). There is profound effect of housing on health and general welfare of the community ([Omole, 2011](#)). The major health hazard to urban slums is bad sanitation and inaccessibility to water. ([Bagheri, Kahkesh and Nikbakhesh, 2011](#)). Parveen (2005) analyzed urban poverty is the result of lack of basic urban services and migration and urban wealth

([Verma, 2002](#)). The quality of life in slums is very poor because of being under the shadows of neglect, sufferings and ignorance or alienation ([Govindaraju, 2012](#)).

In Srinagar city about 19 % of population constitute the people living below poverty line (Town Planning Organization Kashmir, 2006). The present study of spatial pattern of slums is important to understand the organizing factors which are responsible for the growth of slums. The very purpose of present study is to focus on the physical or environmental aspects of slum households in Srinagar city ([Sinthia, 2013](#)). Slums play an important role in city life as they provide low cost labor and are involving in different informal activities ([Mitra, 1994 and Fox, 2013](#)).

##### Study area

The present study has been carried out in the Srinagar city. Latitudinal extent of the city is 33°53'49'' - 34°17'14''N latitudes and 74°36'16'' - 75°01'26''E longitudes and encompasses an area of 278.1 km<sup>2</sup>. Srinagar has had a glorious history (Lawrence, 1967). The name of the city of great antiquity is first found in Kalhan's Rajtarangini. Throughout the ages Srinagar has remained an active growth pole. Srinagar is the summer capital of J & K state and its population is above

\*Corresponding author: **Sameer Fayaz**

Department of Geography and Regional Development University of Kashmir-190006

12 lacs which makes it the largest urban centre in Jammu and Kashmir. Srinagar city is situated around the banks of Dal Lake and Jhelum River (Bhat, 2007). It experiences moderate climate during summer and severe cold in winter. The study area is shown in Fig 1.

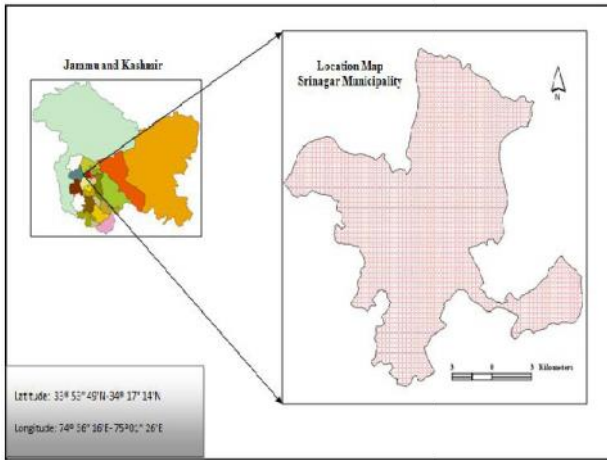


Fig: - 1

Source: - SMC 2011

**Objectives of the study**

The study focused to achieve the following objectives;

1. To analyze the Physical-ecological characteristics of Slum areas.
2. To suggest the suitable measures for improvement of Socio-Economic well being of slum dwellers in the city.

**DATA BASE AND METHODOLOGY**

The Survey of India toposheets (1971) on scale 1:50000 (J/12, J/16 and K/13) were used in the present study to generate various data layers such as slum distribution map with commercial areas, industrial areas. Drainage and water bodies map, road map were also generated etc. These toposheets were also used to delineate the study area. This study relied more on primary sources of data and partly on secondary data. Primary data has been generated through sample survey with the help of structured questionnaires/ schedules, interviews, observations etc. The data pertaining to various socio-economic and demographic variables of slum areas have been collected from various departments. The data on population and its various attributes was obtained from Census Department; data regarding the rehabilitated Dal dwellers in various parts of Srinagar city have been collected from Srinagar Municipal Corporation (SMC), Town Planning Organization (TPO), Srinagar Development Authority (SDA) and J & K Housing Board Srinagar.

The SOI toposheets (1971) on scale 1:50000 (J/12, J/16 and K/13) were geometrically registered through polyconic projection technique in compatible format for subsequent analysis in ERDAS 9.0. Further, the toposheets of the study area was registered and rectified with reference to already geo-referenced 1:50000 scale topographic maps of the same area. Further, the area of interest from the already geo-referenced SOI topographic maps was clipped out by the technique of

Subset to facilitate a perfect mosaic in GIS. Subsequently, the data regarding slums of the study area was processed in Arc View 3.2a for the preparation of various thematic maps.

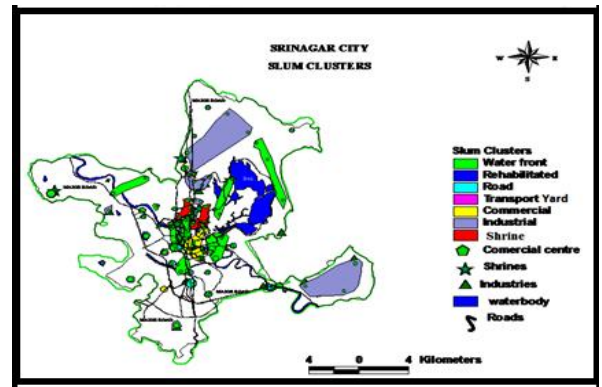


Fig 2

Source: - Based on SMC data, 2011

Though the slum population of the city is distributed among the different wards, their spatial distribution pattern is the outcome of geographical and economic factors. The identification of slums was done on the basis of parameters used by Srinagar Municipal Corporation and Town Planning Organization of Kashmir. The slums have been classified in the following clusters based on geographical and economic factors 1. Water Front Cluster 2. Rehabilitated Cluster 3. Road Cluster 4. Transport Yard Cluster 5. Commercial Cluster 6. Industrial Cluster 7. Shrine Cluster. A well structured questionnaire/schedule was framed after consulting the literature that was available in libraries and on internet.

Random sample survey was used for data collection and the questionnaire/schedule was the main tool. A sample size of 2 percent of the households was selected for the sample survey. Household survey of 374 sample households was carried out to study the physical ecology and socio-economic characteristics of different slums in Srinagar city. Pilot survey / personal observation and personal interview were the techniques of data collection. Statistical techniques like correlation and chi-square test were employed to explore the relationship and association between physical parameters.

**Table 1** Sample Frame

S.No	Name of the Cluster	No. of Slum Locations	Population (Persons)	No. of House holds	No. of Sample Household
1.	Water Front Cluster	26	45240	5376	107
2.	Rehabilitated Cluster	03	5873	633	13
3.	Road Cluster	15	32817	3790	76
4.	Transport Yard Cluster	02	5326	591	12
5.	Commercial Cluster	12	31318	3560	71
6.	Industrial Cluster	14	22088	2681	54
7.	Shrine Cluster	11	16476	2030	41
<b>TOTAL</b>		<b>83</b>	<b>159138</b>	<b>18661</b>	<b>374</b>

Source: - Based on SMC data, 2011

**Household Size**

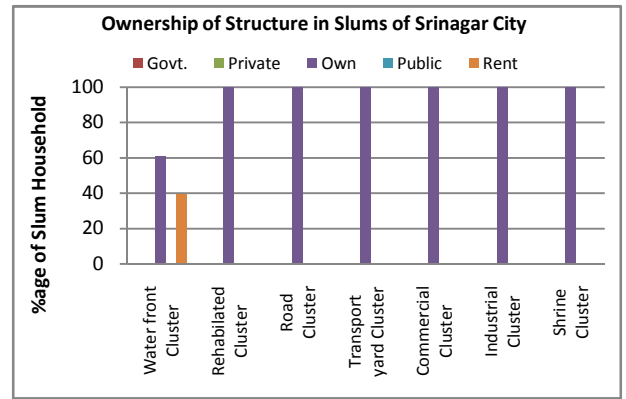
The size of household plays an important role in maintaining the health condition. In Srinagar city the average size of slum household is 5.5 persons. Analysis of the table 2 reveals that the household size varies from cluster to cluster.

The water front cluster and rehabilitated cluster have the highest number of persons in the household (5.8 persons each). The lowest number of persons in the household is found in commercial cluster (4.7) and Shrine cluster (4.8).

**Table 2** Average Household Size

Slum Cluster	No. of Sample households	Total No. of Persons	Average size of H.Holds
Water front cluster	107	618	5.8
Rehabilitated Cluster	13	75	5.8
Road Cluster	76	425	5.5
Transport yard Cluster	12	61	5.1
Commercial Cluster	71	337	4.7
Transport yard Cluster	54	302	5.5
Shrine Cluster	41	198	4.8
	374	2016	5.5

Source: - Sample survey- 2013



**Fig 3**

Source: - Based on data obtained through Sample survey- 2013

**Table 3** Distribution of Population and Gender Composition

Slum Cluster	No. of Sample Household	Sample Population (persons)	No. of Sample persons		
			Percentage to Total	Males	Females
Water front cluster	107	618	30.65	317 (51.29)	301 (48.71)
Rehabilitated Cluster	13	75	3.72	34 (45.34)	41 (54.66)
Road Cluster	76	425	21.08	227 (53.00)	198 (47.00)
Transport yard Cluster	12	61	3.03	36 (59.00)	25 (41.00)
Commercial Cluster	71	337	16.72	173 (51.00)	164 (49.00)
Industrial Cluster	54	302	14.98	162 (54.00)	140 (46.00)
Shrine Cluster	41	198	9.82	104 (53.00)	94 (47.00)
Total	374	2016	100.00	1053 (52.23)	963(47.77)

Source: - Sample survey 2013

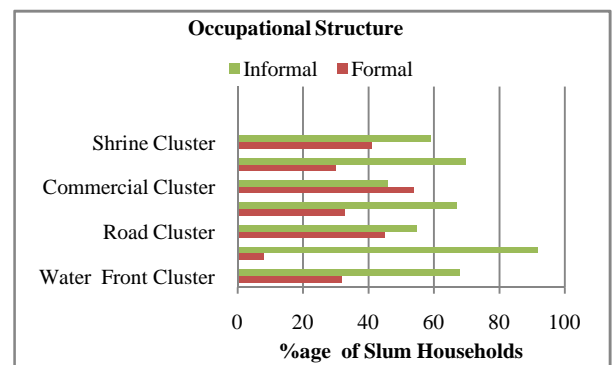
Note: - Figures in parenthesis represent percentage to total

From table 3 gender ratio of Srinagar city was found to be 963 per thousand males. The gender ratio is higher than the state average (883 per thousand males) and national average (943 per thousand males).

The slums in Srinagar city are mostly self owned i.e. they have their own land and house except in water front cluster in which about 39 percent are living on rented land as shown in Fig 3.

**Housing Conditions and Environment**

The housing structure is the most important parameter for identification of slum or slum like condition and has direct effects on the state of health, socio-economic well being and emotional stability of the residents (Omole, 2010). In Srinagar city out of 374 households 141 households have Kuchha\* housing, 181 households have semi-pucca housing and 81 households have pucca\* housing. The housing structure is shown below in table 4. To study whether the distribution of Kuchha settlements in all clusters are even or not. In order to test the assumption Chi-Square test values were worked out. The distribution pattern of Kuchha settlements is uneven as the value of X2 is 13.79 which is statistically significant at 1%.



**Fig - 4**

Source: - Based on data obtained through Sample survey- 2013

**Table 4** Housing Structure in Slum of Srinagar City

Slum Cluster	No. of Sample Household	No. of Sample Households with Housing Structure		
		Kuchha	Pucca	Semi - Pucca
Water front cluster	107	54 (50.47)	14 (13.09)	39 (36.44)
Rehabilitated Cluster	13	10 (76.92)	3 (23.08)	0 (0.00)
Road Cluster	76	12 (15.80)	16 (21.05)	48 (63.15)
Transport yard Cluster	12	6 (50.00)	1 (9.00)	5 (41.00)
Commercial Cluster	71	30 (43.00)	5 (6.00)	36 (51.00)
Industrial Cluster	54	3 (6.00)	11 (20.00)	40 (74.00)
Shrine cluster	41	25 (61.00)	3 (7.00)	13 (32.00)
Total	374	140 (37.43)	53 (14.17)	181 (48.40)

Source: - Sample survey-2013

Note: - Figures in parenthesis represent percentage to total



### Age of Buildings in Slums of Srinagar City

Origin of slums is the result of unemployment, substandard quality of houses and spatial disparity that ultimately results in very low quality of life, housing (Anuradha, 2006). The buildings in Srinagar city varies according to age. Generally the older structures are found in the core of the city and younger buildings are found in the outer part of Srinagar city.

old and civil line parts of Srinagar city where facilities of surface drains have been provided, sullage waters are directly disposed into these drains where from it is draining either directly in river Jhelum and other khuls or disposed into deep drains, which gets finally drained into different water bodies without any treatment (Town Planning Organization Srinagar, 2006).

**Table 5** Age of Building in Slums of Srinagar City

Cluster	No. of Household Surveyed	No. of Sample Households with age of Buildings				
		< 10 Yrs	10 - 19 yrs	20 - 29 yrs	30 - 39 yrs	> 40 yrs
Water front cluster	107	0 (0.00)	6 (5.60)	10 (9.36)	91 (85.04)	0 (0.00)
Rehabilitated Cluster	13	13 (100.00)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Road Cluster	76	8 (10.52)	26 (34.18)	27 (35.52)	12 (15.78)	3 (4.00)
Transport yard Cluster	12	0 (0.00)	0 (0.00)	0 (0.00)	1 (9.00)	11 (91.00)
Commercial Cluster	71	0(0.00)	0 (0.00)	0 (0.00)	3 (4.00)	68 (96.00)
Industrial Cluster	54	0 (0.00)	20 (37.00)	24 (44.00)	10 (19.00)	0 (0.00)
Shrine cluster	41	0 (0.00)	0 (0.00)	0 (0.00)	1 (2.00)	40 (98.00)
Total	374	21 (5.62)	52 (13.90)	61 (16.31)	118 (31.55)	122 (32.62)

Source: - Sample survey- 2013

Note: - Figures in parenthesis represent percentage to total

### Crowding Index in Slums of Srinagar City

Crowding generally refers to people's psychological response to density that is, to their feelings of being crowded, having a lack of privacy or an increase in unwanted interactions or psychological distress (Crothers et al 1993, Gove et al 1979, Jazwinski 1998).

### Toilet Facility in Slums of Srinagar City

The availability of latrines is an important indicator of the state of sanitation (Gabriel and Abraham, 2009). Findings from the study revealed that pit latrine is rampant in rehabilitated cluster which accounts for 100 percent.

**Table 6** Housing Characteristics/ Crowding Index in Slums of Srinagar City

Cluster	Avg. Size H.Holds	Total No of Rooms	Total H. Holds in the House	Persons Sharing each Room	Room Size Sq Fts	No. of windows per room
		Recommended Standard (CIEH)		2 persons	150 sqft	2 (3/3)
Water front cluster	5.8	2.41	2.24	2.73	113	1.1
Rehabilitated Cluster	5.8	1.69	1.38	3.69	100	1.2
Road Cluster	5.5	2.89	1.47	2.13	115	1.5
Transport yard Cluster	5.1	2.25	2.00	2.46	107	1.3
Commercial Cluster	4.7	2.08	2.34	2.53	112	1.3
Industrial Cluster	5.5	2.98	1.46	2.07	114	1.4
Shrine cluster	4.8	2.46	2.41	2.39	107	1.2
	5.5	2.4	1.90	2.57	110	1.3

Source: - Sample survey- 2013

In Srinagar city the average household size is 5.5 persons and the average persons sharing each room is above 2.5. The average room size is found 110 sq Fts. The room size or living space within the house is a vital parameter for good health. The overcrowded accommodation has its natural impact on health and hygiene. The spread of diseases is facilitated by such living conditions (Chandramouli-2003).

From the study all the clusters have the crowding index more than normal value. Among all clusters the rehabilitated cluster has the highest number of persons per room (crowding index) i.e. 3.69. The room size in all clusters are below average (less than 150 sqft).The room size of 150 sq ft is favorable for two persons only (adapted from Chartered Institute of Environmental Health). It is quite logical from the table 6 that the inner part of Srinagar city has poor ventilation condition.

### Sanitation in Slums of Srinagar city

Slum people lead detrimental life due to lack of sanitary conditions (Ahmad, Alam, and Ahmad, 2010). The situation in

**Table 7** Toilet Facility in Slums of Srinagar City

Cluster	No. of Sample Household	No. of Sample Households with toilet facilities		
		Attached	Separate	Pit Latrine
Water front cluster	107	52 (48.59)	51 (47.66)	4 (3.75)
Rehabilitated Cluster	13	0 (0.00)	0 (0.00)	13 (100.00)
Road Cluster	76	25 (33.00)	36 (47.00)	15 (20.00)
Transport yard Cluster	12	4 (33.00)	8 (67.00)	0 (0.00)
Commercial Cluster	71	48 (68.00)	23 (32.00)	0 (0.00)
Industrial Cluster	54	8 (15.00)	11 (20.00)	35 (65.00)
Shrine cluster	41	16 (39.00)	25 (61.00)	0 (0.00)
Total	374	153 (40.90)	154 (41.19)	67 (17.91)

Source: - Sample survey- 2013

Note: - Figures in parenthesis represent percentage to total

The reason for the pit latrines is poverty, non implementation of policies of government at right time and lack of awareness. Industrial clusters had 65 percent of pit latrines. These areas are mostly located in periphery and most of them has rural economic base. The rest of clusters have better facility of toilets as shown in table 7.

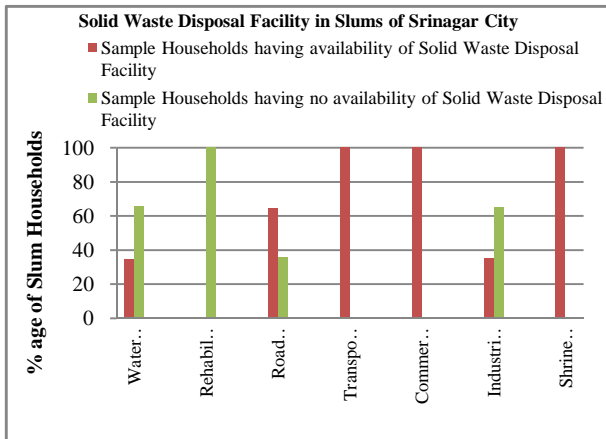


Fig 5

Source: - Based on data obtained through Sample survey- 2013

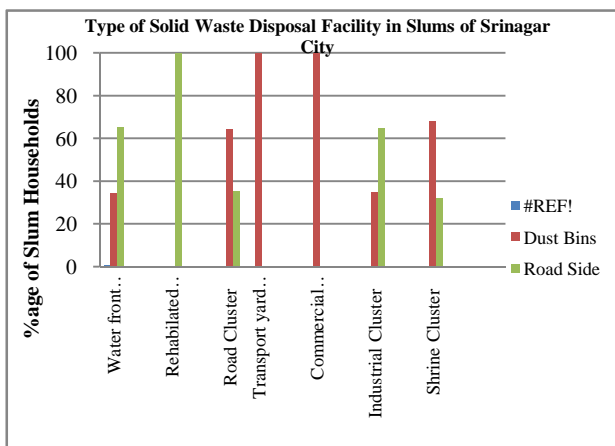


Fig 6

Source: - Based on data obtained through Sample survey- 2013

### Sewerage Disposal in Slums of Srinagar City

In rehabilitated cluster 100 percent households have no sewerage disposal facilities. Mostly open sewerage disposal is present in shrine cluster (68%), transport yard cluster (67%), commercial cluster (65%) and water front cluster (51.4%). The closed drains are mostly found in road cluster (43%). About 48 % of the households in industrial cluster have no sewerage disposal (Fig 7).

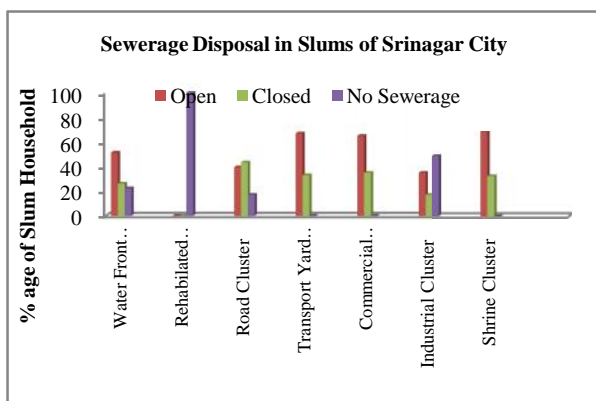


Fig 7

Source: - Based on data obtained through Sample survey- 2013

## CONCLUSION

The present research was carried out in the Srinagar city with the main objective of analyzing the physical ecology slums in Srinagar city. The study on Physical ecology of slums in Srinagar City indicate that slum are not evenly distributed among different wards of the city which leads to various problems like inequality in standards of life and deterioration of city environment (Afzal, 2012).

The analysis of the physical parameters indicates that there is a lack of basic facilities among different clusters. Some clusters are more developed in terms of a particular facility while others lag far behind the mean level of development of the city in terms of that facility. The study leads to the conclusion that the housing condition is dilapidated in the commercial (87 %), rehabilitated (76.92 %), transport yard (75 %), water front cluster (73.83 %) and shrine cluster (70.73 %) while as in industrial and road clusters, housing is proper, only 22.22 percent and 22 percent houses are dilapidated .

Age of buildings decreases from the core towards the periphery. In slums of Srinagar city about 32.62 percent and 31.55 percent of buildings are above 40 years and 30-39 years. The average household per residential house is 1.90 and the persons sharing each room are found to be 2.57 persons. Out of 374 households, 153 households have attached toilets, 154 households have separate toilets and 67 households have pit latrine. Rehabilitated cluster is totally without any solid waste disposal facility. Mostly open sewerage is present in shrine cluster (68%), transport yard cluster (67%), commercial cluster (65%) and water front cluster (51.4%). The closed drains are mostly found in road cluster (43%). About 48 % of the households in industrial cluster have no sewerage. There is facility of sewerage in commercial (100%), shrine (100%) and transport yard clusters (100%). In road clusters (17.10%), industrial (48%), water front cluster (22.42%) and rehabilitated cluster (100%) has no sewerage system.

### Main Findings

1. The emergence of slums in Srinagar city has an overwhelming influence of geographical and economic factors. About 92% informal occupation is found in rehabilitated cluster and 46% informal occupation is found in commercial cluster.
2. The geographical factors have facilitated in providing the affordable residential location in the form of marginalized sites whereas economic factors have provided the occupational sustenance for these slum dwellers. About 28.43% slums have emerged along Water fronts, 3.69% in Rehabilitated Cluster, 20.62% along Roads, 3.55% near Transport Yards, 13.88% in Commercial cluster and 19.68% around Industrial Cluster.
3. Based on field survey and empirical observation, slums of Srinagar city have distinct characteristics from the rest of the country in terms of housing structure and tenure. The Kuchha housing is found in Water cluster (50.47%), Rehabilitated Cluster (76.92%), Transport Cluster (50%), Commercial Cluster (43%), Shrine

Cluster (61%), Industrial Cluster (6%), and Road Cluster (15.8%).

- The persons sharing each room are above two persons in all clusters (2.57 persons per room). The room size in all clusters is less than 120 sq feet which is not suitable for 2 persons according to standard (Chartered Institute of Environment and Health).

### Suggestions

Slum upgrading consists of physical, social, economic, organizational and environmental improvements undertaken cooperatively and locally among citizens, community groups, businesses and local authorities (Hall, 1975). Actions include:

- Installing or improving basic infrastructure – for example, sanitation/waste collection in industrial and road cluster, rehabilitation in water front cluster, commercial cluster, sewerage and flood prevention in water front cluster, electricity, security lighting and public parks in industrial, rehabilitated and road clusters.
- The type of disposal available in water front cluster, rehabilitated cluster, and industrial cluster are inadequate. The immediate planning measure is to provide better disposal means in such clusters.
- The immediate need of the hour is rehabilitation, renewal and renovation in water front, shrine and Commercial clusters.

### References

- Ahmad, M.A; Alam, B.J and Ahmad, M.A (2010), Evaluation of Sanitation Hygiene: A case study of slums in Sylhet, *Proceeding of Regional Conference on Appropriate Water front Supply, Sanitation, and Hygiene* pp.1-10.
- Anuradha, S (2006), *Quality of Life of Slum Dwellers: A case study of Bindtoli, Patna West, Annals*, NAGI Vol 26, pp. 72-86.
- Bagheri, M; Kahkesh, F.H and Nikbakhsh, B (2011), Monitoring the situation of slum dwellers, Face of urban poverty the case of Mallashieh-Iran. *American Journal of Scientific Research*, Issue 22 (2011) pp.101-109.
- Bhat, M.S (2007), *Urban System in Himalayas*. Dilpreet Publishing House New Delhi.
- Bunch, M J (1996), Physical Ecology of Slums in Madras, *Indian Geographical Journal*, Vol. 71(1), 1996.
- Census (2001), Jammu and Kashmir, Govt. of India.
- Census (2011), Jammu and Kashmir, Govt.of India.
- Chandramouli, S (2003), Slums in Chennai-A Profile in Martin J Bunch, V Suresh and Kumaran T, eds; *Proceedings of the Third International Conference on Environment and Health Chennai India*, Department of Geography, University of Madras and Faculty of Environmental Studies, York University, pp. 82-88.
- Chopra, G (2006), *Urban Geography*. Common Wealth Publishers New Delhi.
- Crothers, C. Kearns, R. and Lindsey, D (1993) *Housing in Manukau City: Overcrowding, Poor Housing and Their Consequences* Working Papers in Sociology No. 27 University of Auckland.
- Das, B (2007), *Slum dwellers in Indian cities: The case of Surat in western India*, centre for social studies south Gujarat University campus, pp.1-49.
- Fayaz, S (2014), *Physical Ecology and Socio-Economic Characteristics of Slums in Srinagar City*, Un Published M.Phil Dissertation, University of Kashmir.
- Fox, F (2013), The Political Economy of Slums: Theory and Evidence from Sub-Saharan Africa, *International Development LSE*, ISSN 1470-2320.
- Gabriel, F and Abraham, T (2009), Urbanization, Housing and Infrastructural Facilities in Logas-Nigeria, *Journal of Architecture and Built Environment*, vol.37, pp. 9-14.
- Gove, W. and Hughes, M (1980), *The effects of crowding found in the Toronto study: some methodological and empirical questions: A comment on Booth and Edwards* (ASR 1976), *American Sociological Review*, 865- 870.
- Govindaraju, B.M (2012), *Quality of Life of Slum Women: A Case Study of Mangalore City*.
- Hall, P (1975), *Problems in Modern Geography*. David and Charles Publications London, pp. 43-44.
- Lawrence, W. R (1967), *The Valley of Kashmir*, Kaiser Publications, Srinagar, Pp. 219-220.
- Mandal, R.B (1998), *Urban Geography*, Rawat Publications Jaipur, Pp.459-461.
- Master Plan 2000-2021, Srinagar Metropolitan Area, Srinagar Development.
- Mitra, A (1994), *Urbanization, Slums, Informal Sector Employment and Poverty-An Explanatory Study*, B.R Publishing corporation Delhi, pp.244.
- Omole, F.K (2010), *An Assessment of Housing Conditions and Socio-economic Life Styles of Slum dwellers in Akure-Nigeria*, Contemporary Management Research, vol. 6.
- Parry, J.A (2012), *spatial analysis of urban amenities in Srinagar city*, Unpublished M.phil Dissertation, Department of Geography & Regional development, University of Kashmir.
- Praveen, S (2005), *Changing Face and Challenges in urbanization- A case Study of Uttar Pradesh*, concept Publishing Co. New Delhi, pp.62.
- Siddhartha, K; Mukherjee (2001), *Cities, Urbanization and Urban Systems*, Kisalaya publications, New Delhi, pp.200-202.
- Sinthia, S.A (2013), Sustainable Urban Development of Slum Prone Area of Dhaka City, *World academy of Science, Engineering and Technology*, Vol.75.
- Smith, E.B (1966), *Health Hazards of the Slums*, Journal of the National Medical Association, Vol. 59, No. 2.
- Town planning Organization Kashmir (2006), *City Development Plan for Srinagar City*.
- UN-HABITAT (2003), *The Challenge of Slums, Global Report on Human Settlements 2003*, United Nations Human Settlements Programme London, Earth scan. University Press, New Delhi.
- Verma, L.N (2006), *Urban Geography*, Rawat Publications, Jaipur, pp. 221.

T.SSN 0976-3031



9 770976 303009 >