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Research Article

SPATIAL VARIATION IN THE PERCEPTION OF URBAN RESIDENTIAL ENVIRONMENTAL, QUALITY OF LIFE IN SRINAGAR CITY (J &K)

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Abstract

The paper examined the sensitiveness among the sample wards of Srinagar city – quality of life, built up condition, perception of residents annoyed by various environmental pollution indicators. Environmental quality may be analyzed objectively based on facts & figures .it should also be viewed through the mental map of residents the way they perceive their environment. The way they experience it such an image of the environment is bound to be partial, distorted, & simplified one .the Z-score variate has been used to examine the level of literacy. The spatial variation in perceiving the quality of life & the way to perceive the environment is reliant on the primary source the reason for the variation among the sample wards is due to the poor environmental management & socio- economic conditions.

Keywords: sample wards; urban environmental quality; perception of residents; environmental pollution; neighborhood; literacy

Introduction

The environmental quality is relative in nature by it varies over time & space.. it is very difficult to achieve the minimum level of environmental quality as desired by the developed countries standard may be difficult to achieve in the underdeveloped nations with high density of population, low income & education of residents, limited resources & limited funds available to local authorities. However, in any situation, the protection of physical qualities of environment is highly desirable. It is equally important to have congenial social environment too. As Desai (1990) says that it is very difficult to measure & to understand precisely the qualitative aspects of any phenomena, to study the interaction between humans & their natural environment in the broader sense. the quality of life means as satisfaction of needs , feeling of wellbeing , good or bad working conditions & other indicators including the physical & psychological dimensions, as (Mishra 2010) studied the socio- economic profile of Oraon tribal living in & around Sambalpur town , Orissa , & assessment of the quality of life with regard to demographic features , occupational structure , educational status ,facilities available in the area & living conditions ,structure & income distribution etc. The process of development of a country or region is characterized by regional inequality in respect of different socio-economic factor and infrastructure facilities. Several research studies have been conducted on the regional

inequalities in educational development in India. The lack of water is the greatest obstacle to sustainable development and the most visible symbol of the growing gap between the rich and the poor United Nations, (2002). Sheyki (2006) made an extensive sociological study of Quality of life by examining the fertility behavior from a multidimensional perspective. Noronha and Nair (2005) adopted participation process, case histories, biomedical health analysis and spatial and environmental analysis in developing a Quality of Life

Davies et al. (2008) studied the potential impacts of climate change and continued urbanization on waste and storm water flows in the combined sewer of central Helsingborg, South Sweden. Environmental governance at the municipal level can play an essential role in allowing the local population to participate in building their own safe environment. Akhter (1997) in his research paper on ‘urban health hazards of Srinagar city’ (j & k) the study highlighted the fact that the variations in the assessment of health hazard is related to socio- economic structure of the population concerned. The economically & educationally well off assessed noise & air pollution as health hazards while they are quite “deeply concerned” with cleanliness-situation. Contrary to this, residents in other medium & high density areas assessed unhygienic environment & traffic density as a health hazard.

According to Dravnieks and O'Neill (1979) the extent of annoyance due to a given source is influenced by, for instance, the frequency of occurrence of a source, its intensity, and its duration. The extent of annoyance people experience then may be measured either directly or indirectly. Directly, this may be done by asking people to what extent they are annoyed. Indirectly, by asking residents to evaluate a source according to, for instance, its frequency, intensity, and duration. Subsequent aggregation of these evaluations would yield an indirect estimate of perceived annoyance Winsemius, (1987). Annoyance is a frequently used measure for the negative, affective consequences of exposure to a variety of environmental factors (e.g., noise, malodor, (social) safety risks, crowding

Srinagar city, the summer capital of the state is located between 74° 36' 16"E -75° 01' 26" East Longitude and 33°-53' 49"N -34°17' 14' North Latitude, having population more than 1186568 persons with population density 4048 persons /sq.km (census 2011) Srinagar city has total area of 294 km² and the total study area has divided into sixty eight wards. The city has shown a heavy growth of population from 34.31% in 1981 to 40.13% in 2001 & 22.15 in 2011. Rapid growth of population has led to overcrowding & congestion in old city areas, lack of economic constraints in new urban areas, creation of slums & above all nuisance from drains & solid waste disposal sites.

Objectives

- The focus of the study is man-made, urban environment of an Indian city of Srinagar of Jammu & Kashmir. To understand how the humans use their surrounding & how much they are annoyed by different environmental indicators. The study also focuses upon the quality of life & the awareness of resident's in surveyed households of Srinagar city

Methodology & Data Sets

Since the area of study is too large. A stratified & systematic random sampling method has been worked out. The field work has been done during the year 2012-13. First of all, all the wards have been analyzed into various population density zones on the basis of secondary data (Table 1& Fig. 1). Then select thirty five percent of wards from each

population density zone. Finally one percent of household has been selected in every hundred dwelling of the ward. However the Questionnaire has been designed in a structured format.

The study is elucidated upon a field survey with a structured questionnaire. The study is based on major aspects of assessment of environmental by physical aspects, housing conditions, distribution of diseases density persons per room by qualitative & quantitative measures with the help of primary data resident's sensitivity to various physical & social problems of the environment. The awareness or sensitivity of residents as expressed by them to various environmental phenomena is measured in a five point scale of sensitivity index.

- The general environmental quality of each household & its surrounding area has been evaluated with a score on a five point scale. This assessment of environmental quality is basically physical in nature and is called physical perception index the variables here included are- housing facility, disease index, housing density index.
- The assessment of the environmental quality is then compared with that of residents; a comparative & composite index called Accuracy of perception index has been allotted to each resident for various environmental phenomena. The ratio of Accuracy of perception index is an indicator of whether the environmental qualities have been overestimated, underestimated

The data obtained has been standardized or computed into a standard score based on Z-score technique, which explains the departure of individual observations, expressed in a comparable form in other words it is linear transformation of the original data . The normal equation is as follows:

$$Z_i = \frac{X - \bar{X}}{S_x}$$

Where Zi is the Z-score for observation 'i' Xi is the value of X for the ith observation

\bar{X} is the mean of all the values of X

Sx is the standard deviation of the X values

Table 1: Population distribution & density (ward wise) in Srinagar city 2011

Electoral ward no.	Ward Name	Area (sq. km.)	Population	Population %age	Pop./sq.km.
1	Harwan	9	23884	2.02	2653
2	Nishat	11	26252	2.22	2386
3	Dalgate	5	18345	1.55	3669
4	Lal-chowk	2	11342	0.95	5671

Electoral ward no.	Ward Name	Area (sq. km.)	Population	Population %age	Pop./sq.km.
5	Rajbagh	2.2	11385	0.97	5175
6	Wazir-bagh	1.2	10807	0.92	9005
7	Sarai-Balla	2.1	20850	1.76	9928
8	Mehjoor nagar	3.5	27246	2.29	7784
9	Natipora	2.2	28345	2.38	12884
10	Chanapora	1.9	26478	2.23	13935
11	Baghat-Barzulla	8	21937	1.85	2742
12	Rawalpora	7.5	18727	1.56	1971
13	SheikhDawoodcolony	1	39015	3.29	39015
14	Batmallo	1	34630	2.92	34630
15	Allochi-Bagh	1	29150	2.45	29150
16	Magarmal-Bagh	1	30571	2.57	30571
17	NundReshi colony	3	31581	2.66	7895
18	Qamerwari	1	18357	1.54	18357
19	Parimpora	2.2	11022	0.93	3899
20	Zainakot	3.5	13065	1.10	2903
21	Bemina (A)	2.2	11143	0.95	5065
22	Bemina (B)	6	23590	1.98	3931
23	Shaheed Gunj	1	16751	1.41	16751
24	Karan Nagar	1.5	24431	2.06	16287
25	Chattabal	1	21450	1.81	21450
26	Syed Ali Akbar	0.5	14229	1.19	28458
27	Nawab Bazar	0.5	20450	1.73	40900
28	Islamyarbal	0.5	39821	3.36	79642
29	Ali Kadal	0.5	26423	2.22	52846
30	Ganpathyar	0.5	19560	1.64	39120
31	Malik-Agan	0.3	21622	1.83	72073
32	Barbarshah	1.2	29527	2.48	24605
33	Khan-khai-Moulla	0.8	25724	2.16	32115
34	S.R.Gunj	0.3	21121	1.78	70403
35	Aqil-Mir-khanyar	0.5	18043	1.53	36086
36	Khawaja-Bazar	1.3	24429	2.05	18791
37	Safakadal	1.1	15907	1.35	14460
38	IID-Gah	2.2	18564	1.56	8438
39	Tarabal	1.3	15168	1.28	6594
40	Jogilankar	2	19949	1.68	99745
41	Zindshah-sahib	0.5	6421	0.54	12842
42	Hassnabad	1.3	15286	1.28	11758
43	Jamia-Masjid	0.2	5215	0.44	26075
44	Mukhdoom sahib	2.1	33215	2.79	15816
45	Kawdara	2	13141	1.10	6570
46	Zadibal	2	15128	1.27	7564

Electoral ward no.	Ward Name	Area (sq. km.)	Population	Population %age	Pop./sq.km.
47	Madin-sahib	2.2	10155	0.86	4615
48	Now-shera	1	9441	0.79	9441
49	Zoonimar	1.6	4401	0.37	2750
50	Lal-Bazar	3.5	8140	0.68	2325
51	Umarcolony	4.5	5754	0.49	1065
52	Soura	1	5123	0.44	5123
53	Buchpora	2.7	5454	0.46	2020
54	Ahmad-Nagar	7	4001	0.33	571
55	Zakura	15	4114	0.34	242
56	Hazratbal	3	7030	0.59	2343
57	Tail-bal	6	7169	0.61	1194
58	Bud-Dal	13	9233	0.78	710
59	Locut-Dal	9	5985	0.51	665
60	Dara	13	8643	0.73	664
61	Alesteng	11	13628	1.15	1238
62	Palpora	22	19160	1.61	798
63	Maloora	7	10374	0.88	1482
64	Laweypora	10	14419	1.23	1201
65	KhumaniChowk	15	9194	0.78	612
66	Humhama	17	22925	1.94	1348
67	Pandrathan	4	15324	1.29	3831
68	Khanmoh	7	17604	1.48	1956
total		293.1	1186568	100.00	4048

Source: census of India, Jammu & Kashmir, Srinagar 2011.

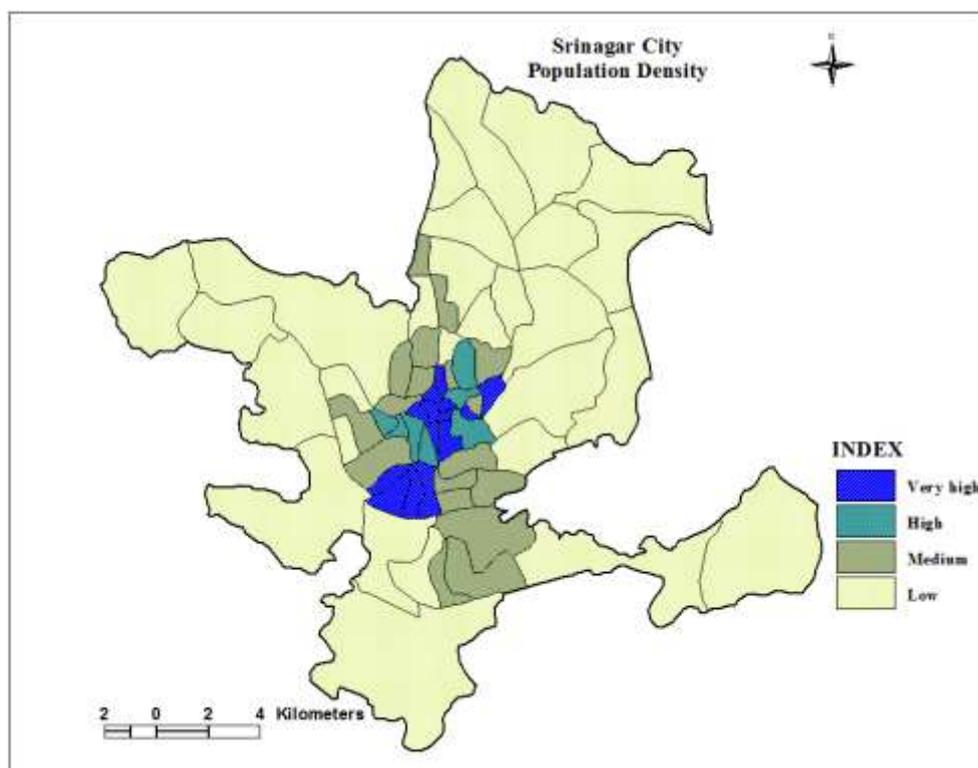


Fig 1: Map showing population density of Srinagar city

Major Environmental Quality Findings

It is significant to know that the relationship between the environmental quality & environmental ratings & sensitivity of residents to environmental problems. Most of the residents are fairly sensitive to environment. Variation is seen among the sample areas of Srinagar city in rating the environmental quality.

Environmental quality

Though in the Table 2 it is clear that the quality of houses its maintenance & the facilities within the houses in the sample areas of Srinagar city either in fair or in good condition. 78.08 percent of households have good toilet facilities with a range of 54 percent to 93 percent's. Similarly 77.80 Percent of households have good bath facilities within the house with a range of 56 percent to 94percent of households in the sample areas of Srinagar city.

Table 2: Housing facility by ward

S.N.	ward	Houses with toilet/flush (%)	Houses with quality bath (%)	Houses with water tap (W.in H) (%)	Houses with toilet/flush (W.in H) (%)	House with bath (W.in H) (%)	Facility index
1	Batmloo	73.12	74..33	73.32	69.15	71.35	0.71
2	Mahraj gunj	78.33	79.54	78.33	78.33	78.33	0.78
3	Aloochei bagh	76.63	76.63	78.45	69.64	75.45	0.74
4	Malik agan	79.66	78.25	79.21	72.63	74.12	0.75
5	Chattbal	78.63	76.23	71.82	78.63	79.38	0.76
6	Barbarshah	75.56	75.53	75.53	78.41	79.38	0.77
7	Magarmal bagh	89.54	93.45	89.56	87.58	90.58	0.89
8	Jawahar nager	78.64	79.64	76.37	80.52	80.52	0.79
9	Nwabazar	81.36	79.62	78.26	78.63	79.25	0.78
10	Bemina east	90.64	92.33	93.54	89.25	92.25	0.91
11	Karanager	90.33	91.55	91.25	88.36	90.45	0.90
12	Channapora	81.23	82.54	78.23	76.82	78.65	0.77
13	Lal bazaar	78.53	81.44	78.56	79.21	76.23	0.78
14	Mukhdoom sahib	58.22	53.54	58.33	52.34	56.34	0.55
15	Mehjoor nager	73.23	74.53	69.44	70.57	71.35	0.7
16	Rajbagh	93.54	94.64	90.34	92.34	94.52	0.92
17	Wazir bagh	91.34	92.56	90.54	89.99	91.63	0.90
18	Khonmoh	58.33	57.24	61.33	61.78	58.92	0.60
19	Rawalpoa	71.44	72.33	68.34	68.93	68.93	0.68
20	Baghat barzulla	89.21	92.36	91..55	89.61	93.45	0.91
21	Khumani chowk	62.32	6363	61.34	54.21	58.25	0.57
22	Bud dal	54.34	57.45	55.41	53.56	61.12	0.56
23	Panthchowk	88.34	86.14	80.12	83.72	84.25	0.82
24	zainakoot	78.35	75.24	73.61	76.46	79.78	0.76
25	maloor	81.23	81.54	78.16	78.63	80.65	0.79
	X	78.08	78.66	76.22	75.97	77.80	0.76

Source:-Based on data obtained from sample households obtained by the authors

0 - .20 = very poor (0*); 21 - .40 = poor (0*); 41 - .60 = fair (4*); 61 - .80 = good (14*); 81 - 1.00 = very good (7*)

*Values in the parenthesis indicate frequency.

Health status

It is significant to mention that the relationship between the environment & the health of an area is just as cause & effect relationship. With respect to the distribution of different diseases in the surveyed sample wards of Srinagar city;

Table 3 clearly depicts that Batmaloo , Barbarshah have shown high concentration of disease . While as Rajbagh, Panthchowk, Wazir bagh, Bud dal have shown low concentration of different diseases in the sample areas of Srinagar city

Table 3: Distribution of disease by ward

Ward	Bronchitis	Malaria	Hyper tension	Heart disease	E.F	W.C	T.B	others	Total	%age
Batmloo	12	2	12	6	7	8	2	8	57	9.31
Mahraj Gunj	9	1	9	4	5	8	1	7	44	7.18
Aloochi bagh	4	-	6	7	3	6	-	5	31	5.06
Malik agan	5	-	3	6	3	7	2	6	32	5.22
Chattbal	5	1	6	7	4	3	2	4	31	5.06
Barbarshah	8	-	10	5	3	4	2	6	38	6.20
Magarmal bagh	5	-	9	10	4	6	-	4	34	5.55
Jawahar nager	2	-	3	2	2	1	-	1	11	1.79
Nwabazar	4	-	3	4	3	2	-	2	18	2.94
Bemina east	2	-	2	3	2	1	-	1	11	1.79
Karanager	7	1	8	6	3	3	1	2	31	5.06
Channapora	10	1	9	7	6	7	2	4	46	7.51
Lal bazaar	3	-	3	1	2	1	-	1	11	1.79
Mukhdoom sahib	12	1	10	2	1	7	2	11	46	7.51
Mehjoor nager	7	1	6	5	3	2	1	2	27	4.41
Rajbagh	1	-	2	1	-	-	1	1	6	0.98
Wazir bagh	1	-	2	1	-	2	1	3	8	1.30
Khonmoh	6	-	4	10	3	3	-	2	28	4.57
Rawalpoa	5	-	6	5	3	3	1	2	25	4.08
Baghat barzulla	2	-	6	1	1	2	1	2	15	2.45
Khumani chowk	2	-	2	3	3	1	-	1	12	1.96
Bud dal	2	1	1	1	1	1	-	1	8	1.30
Panthchowk	1	-	2	2	1	1	-	1	8	1.30
zainakoot	3	-	1	2	3	3	-	2	14	2.28
maloora	2	-	3	2	3	1	-	1	12	1.96
Total	125	9	124	108	77	81	15	73	612	100
	20.42	1.47	20.26	17.65	12.58	13.24	2.46	11.92	100%	

Source: Based on data obtained from sample households obtained by the authors

Below 1.90 =Very Low (7*); 1.91-3.90=Low (5*); 3.91-5.90=Medium (8*); Above 5.90 =High (6*)

*Values in the parenthesis indicate frequency.

However it is significant to know the impact of certain disease in sample areas. For this purpose five disease have been selected to know the accurate results- Bronchitis, Whooping cough, hyper tension, T.B, Influenza. Table 4

have shown that Khonmoh Bud dal Mukhdoom sahab have shown high concentration of these disease. It is obvious that these areas are either poor or congested areas. And the remaining wards with either “fair” or “good” condition.

Table 4: Distribution of diseases by prevalence of certain diseases in sample areas

S.N.	Ward	Bronchitis W.C	Hyper-tension T.B	Influenza	X	Disease index
1	Batmloo	4.62	3.24	1.62	3.16	.50
2	Mahraj gunj	5.51	3.24	0.97	3.24	.52
3	Aloochi bagh	4.80	2.85	0.95	2.86	.44
4	Malik agan	5.19	2.16	1.29	2.88	.69
5	Chattbal	3.80	3.80	1.29	2.96	.57
6	Barbarshah	4.08	2.72	1.36	2.72	.68
7	Magarmal bagh	2.85	4.12	0.31	2.42	.72
8	Jawahar nager	2.88	2.88	0.96	2.24	.76
9	Nwabazar	2.95	2.47	0.98	2.13	.77
10	Bemina east	3.06	2.04	1.02	2.04	.78
11	Karanager	3.86	3.47	0.77	2.70	.68
12	Channapora	4.82	3.12	0.56	2.83	.69
13	Lal bazaar	3.84	2.88	0.96	2.56	.67
14	Mukhdoom sahib	5.53	3.49	3.20	4.07	.39
15	Mehjoor nager	3.13	2.43	0.69	2.08	.79
16	Rajbagh	1.68	1.68	0.84	1.4	.94
17	Wazir bagh	1.49	1.49	1.49	1.49	.94
18	Khonmoh	6.42	4.28	1.42	4.04	.39
19	Rawalpoa	3.37	2.95	0.42	2.24	.76
20	Baghat barzulla	1.47	2.57	0.73	1.59	.91
21	Khumani chowk	3.12	2.08	1.04	2.08	.79
22	Bud dal	7.5	2.5	2.5	4.16	.38
23	Panthchowk	2.67	2.67	0.89	2.07	.79
24	zainakoot	3.94	1.31	1.31	2.18	.77
25	maloora	3.12	3.12	1.04	2.42	.72
	Total					

Source:-Based on data obtained from sample households obtained by the authors

Note: %age is calculated from grand total of population in each ward

0 - .20 = very poor (0*); .21 - .40 = poor (3*); .41 - .60 = fair (4*); .61 - .80 = good (15*); .81 - 1.00 = very good (3*)

*Values in the parenthesis indicate frequency.

Density of Persons per Room in Sample Areas of Surveyed Areas of Srinagar City

In the Table 5 it is clear that there is a high crowd of population upon the available rooms. The wards of Mukhdoom sahab, Bud dal, are in very high crowd, Malik Agan, Jawharnagar & khonmoh are in high crowd. Again Rajbagh Panthchowk, Wazir bagh, Bemina East are in low crowd & the remaining wards are followed with fair crowd

Composite Index on Total Environmental Quality

Majority of the wards in the sample areas in the Srinagar city are in the “low” condition. Combining the available

information on facility index, diseases index & density index on environmental quality a composite index on environmental quality has been prepared. Fig. 2 clearly depicts that out of twenty five sample wards of Srinagar city two wards come in the category of fair condition Batmaloo & Aloochoi Bagh, seventeen wards come in the category of “low” three wards come in the category of “very low” Rajbagh, Wazirbagh, Baghat Barzulla, Again wards – Mukhdoom Sahab, Khonmoh, & Bud Dal come in the category of “poor” condition

Table 5: Density of persons per room in sample households

S.N.	Ward	No. of households surveyed	No. of persons	No. of rooms	No. of persons per room	Density index
1	Batmloo	54	432	107	4.03	.44
2	Mahraj gunj	44	308	93	3.31	.56
3	Aloochoi bagh	30	210	57	3.68	.46
4	Malik agan	33	231	59	3.91	.39
5	Chattbal	30	210	69	3.84	.47
6	Barbarshah	42	294	71	4.19	.41
7	Magarmal bagh	45	315	78	4.03	.43
8	Jawahar nager	13	104	25	4.16	.36
9	Nwabazar	29	203	59	3.44	.51
10	Bemina east	14	98	41	2.39	.73
11	Karanager	37	259	89	2.91	.58
12	Channapora	44	352	109	3.22	.53
13	Lal bazaar	13	104	26	4	.43
14	Mukhdoom sahib	49	343	60	5.71	.04
15	Mehjoor nager	41	287	67	3.83	.43
16	Rajbagh	17	119	46	2.58	.67
17	Wazir bagh	29	201	77	2.61	.66
18	Khonmoh	20	140	28	5	.13
19	Rawalpoa	29	237	73	3.24	.52
20	Baghat barzulla	34	272	72	3.16	.50
21	Khumani chowk	12	96	31	3.09	.51
.22	Bud dal	5	40	7	5.71	.04
23	Panthchowk	16	112	44	2.54	.71
24	zainakoot	19	152	48	3.16	.50
25	maloora	12	96	30	3.20	.49
	Total	711	5215	59	3.51	0.48

Source: Based on data obtained from sample households during the field work 2013

0 - .19 = very high (3*); 20 - .39 = high (2*); 40 - .59 = fair (16*); 60 - .79 = low (4*); 80 - 1.00 = very low (0 *)

*Values in the parenthesis indicate frequency.

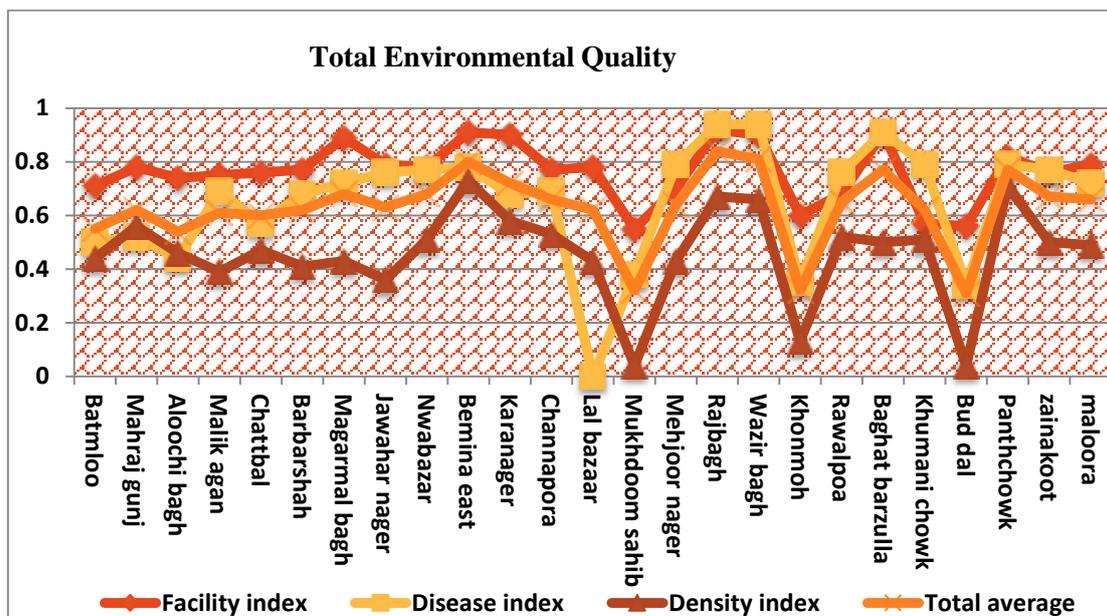


Fig 2: Total Environmental quality of sample areas of Srinagar city

Built-up Condition of Sample Areas of Srinagar City

Table 6 depicts that 15.67 % of the sample areas of Srinagar city are above the age of 120 years with a high percentage(Above 20%) in the wards of khonmoh, Batmaloo, mahraj gunj, Malik agan, Mukhdoom sahib , Bud dal, Medium percentage(10-20) in the wards of Aloochoi Bagh, Chattabal, Barbarshah, Magarmal Bagh, jawahar Nagar, NawaBazar, Chanapora, LalBazar, MehjoorNagar, Khumani Chowk, Panthachowk, Zainakoot, Maloorra with a low percentage(below 10%) in the wards of Raj Bagh, Kara Nagar, Bemina East, Wazir Bagh, Baghat Barzulla

Table 6: Built up of Srinagar city

S.N.	Ward	Age of buildings			
		Below 39	40-79	80-119	Above 120
1	Batmloo	19.34	30.21	24.36	26.09
2	Mahraj gunj	21.23	32.21	26.25	20.13
3	Aloochoi bagh	18.35	30.65	35.42	19.58
4	Malik agan	20.36	31.23	25.52	22.89
	Chattbal	24.23	35.25	28.31	12.21
6	Barbarshah	23.65	34.36	26.42	15.57
7	Magarmal bagh	27.54	35.23	23.52	13.71
8	Jawahar nager	26.32	35.67	25.42	12.59
9	Nwabazar	24.31	34.42	25.63	15.64
	Bemina east	30.24	41.32	25.35	2.91
10	Karanager	31.34	41.35	24.23	3.08
11	Channapora	29.52	35.62	24.65	10.21

S.N.	Ward	Age of buildings			
		Below 39	40-79	80-119	Above 120
12	Lal bazaar	28.24	34.21	24.52	13.03
13	Mukhdoom sahib	24.63	29.52	23.64	22.21
14	Mehjoor nager	23.43	33.21	28.65	14.71
15	Rajbagh	33.35	46.23	18.65	1.77
16	Wazir bagh	34.52	45.62	16.42	3.48
17	Khonmoh	23.52	26.53	25.42	24.53
18	Rawalpora	26.25	28.53	22.31	22.91
19	Baghat barzulla	30.13	41.23	12.43	8.21
20	Khumani chowk	26.23	27.32	27.38	19.07
21	Bud Dal	10.23	12.53	32.10	45.14
22	Panthchowk	23.63	34.62	30.12	11.23
23	zainakoot	25.06	32.12	24.32	18.5
24	maloorra	24.36	31.63	31.52	12.49
25	X	25.2004	33.6328	25.3024	15.67

Source:-Based on data obtained from sample households obtained by the authors

Above 20% = High (7*); 10-19 = Medium (13*); Below 10 Low (5*)

*Values in the parenthesis indicate frequency.

Though in the Table 6 depicts that 25.30 percent of the buildings in the sample areas are in the age between 80-119 with a high percentage in the Aloochoi Bagh, Panthachowk, Maloorra, Bud dal & low percentage in the wards of Raj Bagh, wazir Bagh, Baghat Barzulla. And the remaining

wards with a medium percentage in the age of buildings. However in the table 25.30 percent of the buildings are below 39 years of age with a high percentage in the wards of Rajbagh, Wazir Bagh, Bemina east, KaraNagar & low percentage in the wards of Bud Dal, Batmaloo, Aloochoi Bagh, & the remaining wards are in medium percentage.

Perception of Residents Annoyed by Noise Pollution

Table 7 depicts that most of the residents in the sample areas of Srinagar city are annoyed with “Not at all” to “Fair”. Though in the table 24.42 percent of population is much annoyed with noise pollution with high percentage in the wards of Batmaloo, Mukhdoom Sahab, Bud Dal, & the wards with low percentage are Raj Bagh, Wazir Bagh & the remaining wards with a medium percentage are annoyed with noise pollution.

Perception of Residents Annoyed by Water Pollution

Water is the basic need for a good health development of a nation. In the Table 7 of sample areas of Srinagar city 18.52percent of population are annoyed with the pollution of water with a high percentage in the wards of Khonmoh, Bud Dal, Mukhdoom Sahab, Batmaloo & again with a low

percentage in the wards of Rajbagh , Wazir Bagh, &the remaining wards are annoyed with a medium percentage

Perception of Residents Annoyed by Crowding

Table 7 clearly indicates that there is a high crowding almost in all the surveyed households 30.63 percent in the sample households are in crowding with a high percentage in the wards of Batmaloo, Mahraj Gunj, AloochoiBagh, Malik Agan, Barbarshah, LalBazar, Mukhdoom Sahab, Khonmoh, Buddal & Again the wards with low percentage are in RajBagh & Wazirbagh, & the remaining wards with a medium percentage.

Perception of Residents Annoyed by Litter

Table 7 clearly indicates that 30.40 percent of the surveyed households are poorly managed by the public authorities by which they are annoyed with litter with a high percentage in the wards of Balmaloo, MahrajGunj, AloochoiBagh, Mlikagan, Khonmoh Mukhdoom Sahab ,Buddal. Again the wards with a low percentage are- wazir bagh & Rajbagh & the remaining are followed with a medium percentage.

Table 7: Percentage of population annoyed by various environmental indicators “much”

Ward	No. of households surveyed	Noise “Much”	water “Much”	crowding “Much”	Litter “Much”	average	Annoyed index
Batmloo	54	41.02	22.22	40.74	38.88	35.17	0.35
Mahraj gunj	44	37.23	22.27	38.63	36.36	33.62	0.33
Aloochoi bagh	30	35.27	20.00	40.00	36.67	32.98	0.32
Malik agan	33	32.22	21.21	39.39	36.37	32.29	0.32
Chattbal	30	32.84	20.00	33.34	33.34	29.88	0.29
Barbarshah	42	39.35	21.43	35.72	33.34	32.46	0.32
Magarmal bagh	45	21.22	17.77	33.33	31.11	25.85	0.25
Jawahar nager	13	15.69	15.38	30.76	30.76	23.14	0.23
Nwabazar	29	17.67	20.68	31.04	27.58	24.24	0.24
Bemina east	14	15.82	14.28	28.57	21.42	20.02	0.20
Karanager	37	28.74	18.91	35.13	32.43	28.80	0.28
Channapora	44	21.45	18.18	31.81	29.54	25.24	0.25
Lal bazaar	13	19.34	15.38	38.47	30.78	25.99	0.25
Mukhdoom sahib	49	29.43	22.44	38.79	40.09	32.68	0.32
Mehjoor nager	41	17.34	19.51	31.70	31.71	25.06	0.25
Rajbagh	17	5.34	-	-	11.76	8.55	0.08
Wazir bagh	29	6.84	-	-	13.79	10.31	0.10
Khonmoh	20	40.31	50	35.00	40.00	41.32	0.41
Rawalpura	29	19.57	20.68	31.03	31.04	25.58	0.25
Baghat barzulla	34	15.64	14.70	26.48	23.53	20.08	0.20
Khumani chowk	12	18.34	16.66	25.00	25.00	21.2	0.21
Bud Dal	5	40	40.00	40.00	40.00	40	0.40
Panthchowk	16	23.67	18.75	31.25	25.00	24.66	0.24
zainakoot	19	18.31	21.05	26.32	26.32	23.02	0.23
maloora	12	17.94	16.66	33.33	33.34	25.31	0.25
X		24.43	18.52	30.63	30.40	25.99	0.25

Source:-Based on data obtained from sample households obtained by the authors

Above 32 = high (8*); 22-32 = medium (12*); 12-22 = low (3*); Below 12 = very low (2*)

*Values in the parenthesis indicate frequency.

Perception of Residents on Total Environmental Pollution of Sample Households

Combining the different environmental pollution indicators a composite index has been prepared out of twenty five, 8 wards come in the category of high environmental pollution- Mukhdoom Sahab, Bud Dal, Khonmoh, Batmaloo, Mahraj Gunj, AloocheiBagh, Malik Agan, Barbarshah, 12 wards come in the category of Medium-Chattabal, Magarmal Bagh, jawharNagar, Nawabazar, KaraNagar ,Channapora, LalBazar, MehjoorNagar, Rawalpora, Panthachowk, Zainkoot & Maloora, three wards come in the category of low environmental pollution KhumaniChowk, Bemina East, BaghatBarzulla & two wards come in the category of very low RajBagh &Wazir Bagh

Resident's Awareness

Table 8 clearly depicts that only 61.29 % of population are aware about to solve cultural problems & the remaining population are either not to solve or they have no answer to solve the cultural environment in the region. Though in the table Rajbagh (83.33), wazir bagh (82.44) & Baghat Barzulla (79.33) have high concentration of population aware to solve cultural environment in the area. However in the Khonmoh (49.33) Bud Dal (49.41) Mukhdoom Sahib (51.33) have low concentration of population to aware to solve cultural environment in the area. And the remaining sample areas are in medium awareness to solve the cultural environment in the area.

Table 8: Resident's awareness & participation to environmental Problems

ward	Interested to solve cultural problems			Interested to keep the area clean		
	Yes	No	No answer	Yes	No	No answer
Batmaloo	53.43	6.86	37.71	66.28	6.26	27.46
Mahraj gunj	59.43	6.26	34.31	64.58	6.36	29.06
Aloochei bagh	61.36	7.26	31.38	67.22	5.36	27.42
Malik agan	51.33	8.21	40.46	63.14	5.21	31.65
Chattbal	57.44	8.88	33.68	61.21	6.31	32.48
Barbarshah	58.43	8.89	32.68	63.89	6.26	29.85
Magarmal Bagh	63.44	7.26	29.3	71.21	4.98	23.81
Jawahar Nager	59.22	7.33	33.45	67.27	5.61	27.12
Nwabazar	61.21	6.98	31.81	59.23	5.21	25.56
Bemina east	72.33	5.22	22.45	79.61	4.98	15.41
Karanager	69.41	5.33	25.26	77.67	4.97	17.36
Channapora	59.33	6.44	34.23	67.73	4.76	27.51
Lal bazaar	58.21	8.33	34.56	63.48	5.79	30.53
Mukhdoom sahib	51.33	9.44	39.23	52.33	10.44	37.23
Mehjoor nager	59.46	7.33	33.33	61.44	6.33	32.22
Rajbagh	83.33	4.33	12.34	89.44	2.13	8.43
Wazir Bagh	82.44	4.76	12.8	88.36	2.78	8.86
Khonmoh	49.33	12.17	38.5	51.33	11.33	37.34
Rawalpoa	53.44	8.26	38.3	59.66	7.1	32.24
Baghat barzulla	79.33	5.43	15.24	79.36	5.43	15.21
Khumani chowk	59.66	5.67	34.58	61.96	5.13	32.07
Bud dal	49.41	10.33	40.26	51.13	11.76	37.11
Panthchowk	61.33	5.44	33.33	69.33	5.11	25.56
zainakoot	59.41	5.26	35.33	68.12	5.33	26.55
maloora	59.33	5.76	34.91	67.76	5.88	26.36
Total	61.29	7.09	31.57	67.18	5.9	26.37

Source: Based on data obtained from sample households during the field work 2013

Though in the Table 8 we can say that 67.18 % of population are aware to keep the area clean 26.37% have no answer of awareness to keep the area clean 5.9% population of the sample areas in Srinagar city are not totally aware to keep the area clean. Again here Raj bagh (89.44), wazir bagh (88.36), Baghat Barzulla (79.36) have high concentration of population aware to keep the area clean. However in the khonmoh (48.67), Bud dal (48.87), Mukhdoom sahab (47.67) have high concentration of population which have either no answer or not interested to keep the area clean

Level of Literacy (Z-Score technique)

The data obtained has been standardized or computed into a standard score based on Z-score technique, which explains the departure of individual observations, expressed in a comparable form in other words it is linear transformation of the original data . The normal equation is as follows:

$$Z_i = \frac{X - \bar{X}}{S_x}$$

Where Zi is the Z-score for observation ‘i’ Xi is the value of X for the ith observation

X is the mean of all the values of X

Sx is the standard deviation of the X values

Education is a crucial social factor that plays a pivotal role in the initiation of the process of socio-economic and cultural advancements. Education helps to overcome the social barriers and enhance earning potential and Productivity of the people through acquisition of skills and play a dominant role in influencing the quality of human resources as it helps in conveying ideas, thoughts and events over time and space. The analysis pertaining to the literacy in surveyed households of Srinagar city shows the spatial variation in the levels of literacy in terms of their Z-Score. Surveyed households of Srinagar city has been arranged into three categories viz. High, Medium and low in terms of their literacy

High Level of Literacy

The wards with mean Z-Score over +1 are categorized under high level of literacy. Table 9 clearly depicts that the wards like Wazirbagh+2.10, Rajbagh +2.08, Baghat Barzulla + 1.66 Rawalpura +1.29 Jawhar Nagar +1.09

Medium Level of Literacy

The wards with mean Z-score ranges from -0.95 - 1 are categorized on the medium level of literacy are Panthachowk +0.84, Bemina East +0.57Zainakoot+0.55& Channapora +0.55

Low Level of Literacy

However the field survey reveals that thirteen wards come the category of low literacy with mean Z-score -1.5 -0.95 are Batmaloo -0.84, Barbarshah -0.81, Magarmal Bagh -0.79 Nawabazar-0.75, Mahraj gunj-0.66,Malik agan-0.57,Chattabal-

0.44, Maloora-0.41,Mehjoor Nagar-0.30, AlooohhiBagh-0.27,Khumani Chowk-0.22 Karanagar -0.18,Lal Bazar-0.01

Table 9: Ward wise mean composite Z-score on Literacy in Sample areas of Srinagar city

Ward		Males	females	Total
Batmloo	432	0.38	-1.54	-0.84
Mahraj gunj	308	-0.11	-0.92	-0.66
Alooohi bagh	210	-0.72	0.08	-0.27
Malik agan	231	-1.19	-0.04	-0.57
Chattbal	210	-0.44	-0.36	-0.44
Barbarshah	294	-1.12	-0.45	-0.81
Magarmal bagh	315	-1.69	-0.04	-0.79
Jawahar nager	104	-0.76	1.17	1.09
Nwabazar	203	-0.7	-0.65	-0.75
Bemina east	98	-0.82	0.33	0.57
Karanagar	259	-0.27	-0.07	-0.18
Channapora	352	-0.41	0.56	0.55
Lal bazaar	104	0.95	-65	-0.01
Mukhdoom sahib	343	-1.07	-1.31	-1.36
Mehjoor nager	287	-0.23	-0.39	-0.3
Rajbagh	119	1.47	2.15	2.08
Wazir bagh	201	1.9	1.88	2.1
Khonmoh	140	-1.75	-1.59	-1.86
Rawalpoa	237	0.66	1.5	1.29
Baghat barzulla	272	1.8	1.28	1.66
Khumani chowk	96	-0.04	-0.39	-0.22
Bud dal	40	-0.37	-1.21	-1.35
Panthchowk	112	0.21	0.82	0.64
zainakoot	152	1.09	0.11	0.55
maloora	96	-0.66	-0.16	-0.41
Total		-0.15	-2.56	0.024

Source: Based on data obtained from sample households obtained by the authors

Very Low Level of Literacy

field survey in the table depicts that three wards under -1.5 literacy levels are Khonmoh -1.86 Mukhdoom sahib-1.36 & Bud Dal -1.35

Conclusion

The overall environmental quality is “Fair” in the sample wards of Srinagar city. “Poor” in the wards of *Mukhdoom sahib, Bud Dal, & Khonmoh* housing facility & density of persons per room is “poor” in *Mukhdoom sahib, Bud Dal & khonmoh* & rest of the wards with “fair” to good condition.

There is a variation in the perception on rating the environmental quality by the residents in the sample households eight wards depict their perception in “high” category *Mukhdoom Sahab, Bud Dal, Khonmoh, Batmaloo, Mahraj Gunj, AlooichiBagh, Malik Agan, Barbarshah*. More than 38 % of population is not aware whether to participate in any development program to solve environmental problem in the city. This is mainly because people are not well aware about the quality of environment its management & conservation. These areas are either congested or poor areas of the city & at the same time govt. authorities are not up to date to provide the basic amenities.

Another important aspect from the study reveals that the built condition in the city depicts that almost 17 percent buildings are above the age of 120 years. It is also significant to mention that above 50 percent buildings are constructed in the city with the old & traditional methods, as the whole Kashmir are come under the seismic zone iv . So there is high risk of disaster. This is the indication that majority of population are not sensitive towards environmental safe guard. Educational setup in the sample wards of the city reveals that the wards fall in the “fair” to “low” environmental quality perception have also the low literacy rate. That means education & environmental safe guard have close co –ordination with each other.

Recommendations

Successful approaches to urban environmental problems in developing countries must include ensuring local political commitment, strengthening policy and institutional capacities to deal with interrelated problems and improved interagency coordination, and mobilizing public support and participation. This means establishing clearly defined institutional arrangements and improving the effectiveness of the policy decision-making process through increased information, awareness, and participation.

Development assistance projects succeed only if they can build effective local policy-making, planning and management capabilities, and institutional frameworks.

Keeping the social system into consideration the physical conditions can be improved by organizing youth clubs for social activity & cleanliness. Environmental education of practical type would be valuable. As a part of this, children can be encouraged to join in weekly drives of cleanliness in

the wards vocational training centers can be organized by local authorities to encourage traditional skills in occupation, & marketing facilities can be increased by encouraging the environmental & revenue laws. The increased remuneration & possibly spare time would be essential prerequisite to resident’s participation in planning activity. For example, monthly public meetings in a ward could be organized to raise collective consciousness to their responsibilities to public health & clean protection on one hand & their responsibilities to public health environment on the other hand. A joint effort of the planner & increased awareness & participation of residents can only protect the deteriorating condition of our urban environment.

References

- Akhter R (1997) Contemporary approach to Indian Geography. Published by APH publishing Corporation, Daryaganj, New Delhi, 110002, pp.191-204.
- Annette SD and et.al. (2008) The impacts of climatic change and urbanization on drainage in the Helsingborg, Sweden: combined sewer system. *Journal of Hydrology* **350**: 100-113.
- Desai A (1981) Differential perception of residents to environmental quality of urban area: the case of Ahmadabad. *Geographical review of India* **43**(2): 156-165.
- Dravnieks A and et.al. (1979) Annoyance potentials of air pollution odors. *American Industrial Hygiene Association Journal* **40**(2): 85-102.
- Mishra PC and et.al. (2010) Corporate social responsibility: a case study on quality of life of people around Bargarh cement works of Orissa, India. *Curr. Res. J. Soc. Sci.* **1**(3): 93-110.
- Noronha L and Nairy S (2005) Assessing quality of life in a mining region. *Econ. Polit. Weekly* **40**(1): 72-78.
- Sheyki MT (2006) General review of the sociological changes and prospects of population in Iran-a Sociological study of quality of life. *J. Soc. Sci.* **12**(1): 21-32.
- United Nations (2002) Water for people, Water for life”, world Water Report published by UNISCO, pp-103.
- Winsemius P (1987) Gast in eigen huis. Beschouwingen over milieu management. Essays on environmental management (4th ed.). Alphen aanden Rijn: Samsom HD Tjeenk Willink, pp. 227.