

LEVEL OF INCOME AND HOUSEHOLD ENVIRONMENTAL CONDITIONS IN THE RESIDENTIAL SUBURBS OF FAIZABAD CITY

Sadaf

Senior Research Fellow

Department of Geography, Aligarh Muslim University, Aligarh, India

Email: Sadafmalik849@gmail.com

Abdul Munir

Professor, Department of Geography Aligarh Muslim University, Aligarh, India

Email: abdulmunir.amu@gmail.com

Abstract: *The growth of cities continuously changes the physical landscape in their vicinity, resulting in a mixture of urban and agricultural land uses. This process leads to the development of residential suburbs just beyond city limit. Residential suburbs generally have unique characteristics. These residential suburbs are the mixture zone characterized by both traditional types of facilities and modern facilities. In residential suburbs the entire income group could not facilitate by better household environmental conditions, however lower income group are most deprived people. The inadequacy of better household environmental conditions affects the quality of life and social well being. Low income households are generally, characterized by congestion, lack of facilities and environmental problems, which have affected the living conditions of the people. The main objective of this study is to assess income-wise household environmental conditions (like housing conditions, sanitation conditions and water supply conditions). This study is mainly based on primary sources of data collected through the questionnaire. The 250 households were selected from suburbs with the help of stratified random sampling. The paper reveals that the overall better household environmental conditions existed only along the Parikarma road. The study found that higher income group are facilitated by better environmental conditions. The paper also suggests some remedial measures for improving the overall housing conditions.*

Key words: Suburbs, Housing, Urbanization, Transitional, Landscape.

Introduction

Nowadays, the developing world is becoming more urban. About 54 percent of the total world population is living in urban areas and it is expected to increase 66 percent by the 2050 (United Nation 2014). The concentration of urban population growth is more in developing countries. In India, unprecedented growth of urbanization leads to the formation of various new phenomena, in which suburbs are very common. Murphy R.E. (1973) defines the term suburb as "the zone of transition zone that surrounds a city". At present time, accelerating growth of cities are continuously encroaching the peripheral agricultural land and generating the suburbs in their vicinity. Suburbs are developed along the transport routes because of the better accessibility. Suburbs are of two types i.e. residential as well as industrial but it is observed that suburbs are generally residential in character in India. Residential suburbs are the residential area just beyond the municipal limit of the city. Residential suburbs are characterised by urban in nature but facilities are very poor. The household environmental conditions (like housing conditions, sanitation conditions, water supply conditions) influenced the quality of life of the people. Ali B.M.K., et.al (2014) emphasized that the quality of urban environment depends on the quality of utility services

like sanitation, sewerage, drainage, drinking water supply, garbage disposal, electricity, gas and fuel for cooking. Household environmental conditions and the level of income of the people are interrelated to each other (Singh A.L., et. al., 1996, Adamkiewicz G, et.al., 2012). Residential suburbs are mixed zone in which different kinds of societies are living. Poor people lives in core village and rich people lives in new colonies in suburbs. The residents of new colonies are living in better environmental conditions. In core villages housing conditions, water quality and sanitation conditions are very poor. Poor household environmental conditions are one of the basic factors that affect the health profile of the residents in residential suburbs (Rahman A, 2005, Adjei P. O. W. & Kyei P.O, 2013, Lawanson T.O. and Fadare S., 2013, Ali J. M. and Shrivastava G.P. & Rathnamala G. V., 2015). The study examines the household environmental conditions of different income groups in the residential suburbs of Faizabad city. These people are lacking in the household environmental conditions. It is found that low income group people are suffering from poor household environmental conditions in the residential suburbs of Faizabad city.

Objectives

The present study has certain specific research objectives:

- To assess the environmental conditions of different income groups in residential colonies and villages located in the residential suburbs.
- To correlate the household environmental conditions to the levels of income in the residential suburbs of city.

Database and Methodology

The study is mainly based on primary data collected through in field survey of the households of residential suburbs of Faizabad city. For the population growth secondary data has taken from the Census of India 2011. Personal interviews with the respondents on the basis of questionnaire was undertaken to collect the relevant data. Residential colonies and villages were selected within the radius of two km from the city boundary according to the transport routes. Thereafter a questionnaire was prepared to acquire the data pertaining to the household environmental conditions of respondents in residential suburbs of Faizabad city. Ten percent Households from each selected colonies and villages were randomly selected for collecting information. For the purpose of selecting the sample, stratified random sampling adopted. Thereafter, 50 percent poor people, 25 percent middle class people and 25 percent rich people of total 10 percent households have surveyed. Finally, simple percentage has been calculated for obtaining the results and the data was presented in suitable tables and diagrams. For the purpose of this study, these are the following factors were taken into considerations- 1) House type a) Kutcha house b)Mixed house c) Pucca house 2) Kitchen facilities in the house- a) Open air b) Multipurpose verandah c) Separate kitchen 3) Electricity in the house- a) Yes b) No 4) Water logging around the house - a) Yes b) No 5) Toilet facilities in the house - a) Open defecation b) Manual c) Flush 6) Types of drainage - a) Kutcha b) Pucca c) No drainage 7) Sources of water - a) Roadside hand pump b) Hand pump inside the house c) Tap water 8) Disposal of the waste outside the house- a) Disposal on road/street sides b) Disposal in open fields c) In open potholes built by the Government. Household environmental conditions are divided into three levels 1) Poor 2) Average 3) Good conditions. In poor conditions Kutcha house, open air kitchen, no electricity facilities, water logging around the house, open defecation, roadside hand pump, no drainage, and disposal of the waste on road are considered. Average conditions include mixed house, multipurpose room, manual toilet in the house, hand pump inside the house and disposal of the waste in open fields. Good conditions include pucca house, separate kitchen, presence of electricity facilities, no water logging, submersible, pucca drainage, tap water, flush toilet in the house and disposal of waste in open potholes built by government.

Table 1: Sampled Income Group Households in Residential Suburbs of Faizabad City

Income group	Income (Rs. per month)	No. of sampled households	Percentage
Low	<1500-2999	125	49.2
Medium	3000-4999	63	26
High	5000-10000 and above	62	24.8
Total		250	100

Table 2: Selected Localities in the Residential Suburbs of Faizabad City

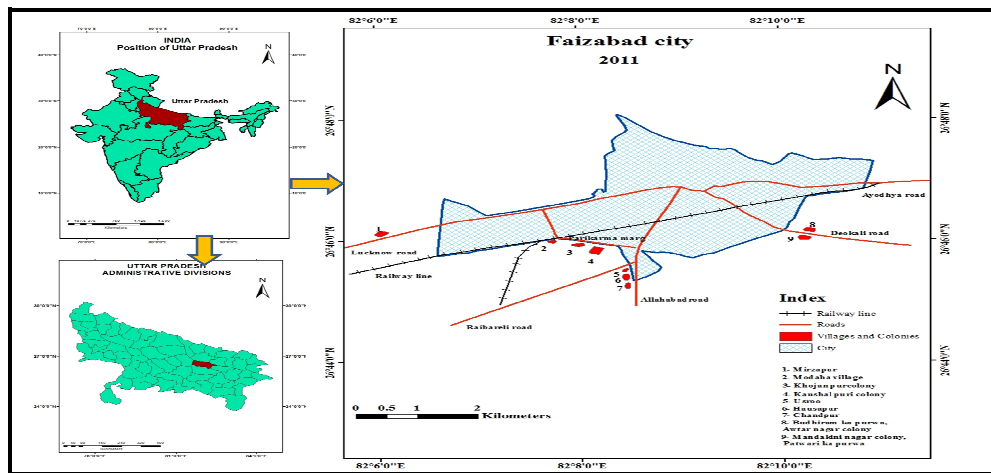
Name of the Roads	Name of the Localities
Lucknow road	Mirzapur
Deokali road	Awtar nagar colony, Budhiram ka purwa, Mandakini nagar colony, Patwari ka purwa
Raibareli road	Osrogaon
Allahabad road	Chandpur, Hausapur
Parikarma road	Khojanpur, Kaushalपुरi colony
Railway line	Modha village

Table 3: Sampled Households in different Localities of Faizabad City

Name of the Roads	No. of Households			
	Total sampled households	No. of sampled low income household	No. of sampled middle income households	No. of sampled high income households
Lucknow road	45	23	11	11
Deokali road	28	14	7	7
Raibareli road	10	5	3	2
Allahabad road	85	42	22	21
Parikarma road	47	21	13	13
Railway line	35	18	9	8
Total	250	123	65	62

Study Area

Faizabad city (figure1) is located in the eastern Uttar Pradesh state in Northern India, lies between 27° 53' N latitudes and 78° 4' E longitudes. Faizabad city is class I (having > 100,000 population) city of medium sized with a history of 250 years. It was the capital of nawabs before Lucknow. Faizabad city is the headquarters of Faizabad district as well as Faizabad division. The city has 29 wards and each ward has 4 to 7 mohall's (colonies). Faizabad city is 6 km away from the Ayodhya city. Faizabad and Ayodhya city is called twin city. The total population of city is 165228 and it was 144705 in 2001. In three decades the city population has increased at a very fast rate. The total population of Faizabad urban agglomeration is 256624 in 2011. Faizabad urban agglomeration is consists of Faizabad city, Ayodhya city, Cantonment board and three newly created towns in 2011. The city is big urban centre in Faizabad district. It provides the various services such as schools, colleges, university, market, hospitals, nursing homes, and various administrative services to the people of neighbouring areas. The city is continuously increasing in both ways: in terms of population as well as area. The ever increasing population due to rural urban migration and natural growth of population engulfing the agricultural land and forms various residential clusters in the vicinity of the city. The orbit of Faizabad city has become the zone of residential agglomerations of mix land uses or residential suburbs along the transport routes.



Population Growth of Faizabad City

Table 4 shows the total population, decadal variation and percentage decade variation of Faizabad city from the year 1901 to 2011. The city was enjoying highest growth rate of population in the decade of 1941-1951. The population was decreased in 1981 due to the separation of Ayodhya Municipal board to the Faizabad municipal board. After 1981 the population of city is continuously increases. In 2011 the total population of Faizabad city was 165228, covering 29 wards. In future, it is expected that the population of city will increase rapidly due to the migration and natural growth.

Table 4: Population Growth of Faizabad City

Year	Total Population	Decadal variation	Percentage decade variation
1901	71,179	-	-
1911	54,655	- 16525	- 23.21
1921	56,620	+ 1965	+ 3.60
1931	59,992	+ 3372	+ 5.96
1941	55215	- 4777	- 7.96
1951	76582	+ 21367	+ 38.70
1961	83717	+ 7135	+ 8.61
1971	102,835	+ 19118	+ 23.63
1981	101,873	- 962	- 0.94
1991	124437	+ 22564	+ 22.15
2001	144,705	+ 20268	+ 16.28
2011	165,228	+ 20523	+14.18

Source: Census of India 2011

Discussion

Household Environmental Conditions of Low Income Group (1500-2999)

Table 5 shows the household environmental conditions of low income group of residential suburbs. It is observed that out of total sampled households 56.91 percent were living in Kutcha house, 25.20 percent in mixed type of houses and 17.88 percent in Kutchha houses. Better types of housing conditions were found along the Deokali road, Raibareli and Lucknow road. Field survey revealed that out of the total low income sampled households 65.04 percent were having open air kitchen, 23.57 percent were having multipurpose rooms/verandah and 11.38 percent were having separate kitchen low in suburbs. It is found that out of total sampled households 68.85 percent were having electricity facility and more than 34.14 percent households did not have electricity facility. Out of total sampled households 62.60 percent households were facing water logging problem both by wastewater or rainwater.

About 67.47 percent households were defecating in open fields, 26.01 percent sampled households have manual toilet in the house and only 6.5 percent households have flush toilet inside the house. Quality of water plays a very important role for health and hygiene of the people, so study of sources of water is also very important for determining the overall household environmental conditions. Out of total sampled households 46.34 percent households used roadside hand pump, 53.65 percent used hand pump inside the house and no single sampled households of low income were using tap water. Study revealed that out of total sampled households 56.09 percent households were having Kutcha *nali* (drainage), 20.32 percent were having no drainage and 23.57 percent were having pucca *nali*. Field survey revealed that sanitation condition was very poor in suburbs. Out of total sampled households 67.47 percent households disposed their household wastes on road, 32.52 percent disposed wastes in open fields outside the house. It was observed that overall household environmental conditions were very poor of low income people in the residential suburbs of Faizabad city.

Household Environmental Conditions of Middle Income Group (3000-4999)

Table 6 shows the household environmental conditions of middle income group of residential suburbs. It is observed that out of total sampled households 16.92 percent were living in Kutcha house, 32.30 percent in mixed type of houses and 50.76 percent pucca houses. Better type of housing conditions was found along the Raibareli road, Deokali road and Parikarma road. Field survey revealed that out of the total middle income sampled households 26.15 percent were having open air kitchen, 30.76 percent were having multipurpose rooms/verandah and 43.07 percent were having separate kitchen in suburbs. It is found that out of total sampled households 100 percent were having electricity facility. Field survey revealed that out of total sampled households 50.76 percent households were facing water logging problem both by wastewater or rainwater and sometimes by both sources. About 24.61 percent households were defecating in open fields, 24.61 percent sampled households have manual toilet in the house and only 50.76 percent households have flush toilet inside the house. Out of total sampled households 21.53 percent households used roadside hand pump, 50.76 percent used hand pump inside the houses and 27.69 percent households were using tap water. Study revealed that out of total sampled households 63.07 percent households were having Kutcha *nali* (drainage), 10.76 percent were having no drainage and 38.46 percent were having pucca *nali*. Out of total sampled households 20 percent households disposed their household wastes on road, 47.69 percent disposed wastes in open fields outside the house and 32.30 percent households disposed their household waste in potholes built by the government.

Household Environmental Conditions of High Income Group (5000 and above)

Table 7 shows the household environmental conditions of high income group of residential suburbs. It is observed that out of total sampled households 30.64 percent households are characterized by mixed type of houses and 69.35 percent households are pucca houses in residential suburbs of Faizabad city. Better type of housing conditions was found along the, Raibareli road, Railway line and Lucknow road. Field survey revealed that out of the total high income sampled households, 27.41 percent were having multipurpose rooms/verandah and 72.58 percent were having separate kitchen low in suburbs. It is found that out of total sampled households 100 percent households were having electricity facility. Field survey revealed that out of total sampled households 22.58 percent households were facing water logging problem both by wastewater or rainwater and sometimes by both sources. About 100 percent households have flush toilet inside the house. Out of total sampled households 51.61 percent used hand pump inside the house and 48.38 percent sampled households of high income were using submersible. Study revealed that out of total sampled households 100 percent were having pucca *nali*.

Table 8 is showing the averages of household environmental conditions of low, medium and high income group households and it is found that the overall poor household environmental conditions of low income group are found along the Lucknow road,

Allahabad road and railway line whereas overall good household environmental conditions are found along Parikarma road. Table shows the overall household environmental conditions of middle income group is better as compared to low income group. It is found that out of total sampled households, average poor household environmental conditions are found along Deokali road. Overall good household environmental conditions are found along the Raibareli and Parikarma road. Table shows the overall household environmental conditions of high income group is in better condition as compared to middle and low income group. Overall better household environmental conditions of high income group are found along the Raibareli road, Deokali road and Parikarma road.

Conclusion

Field survey reveals that the overall household environmental conditions are very poor among all the level of income groups but low income group are in worst conditions in the residential suburbs of Faizabad city. It is found that the better environmental conditions are found along the Raibareli road (Usroo settlements), Parikarma road (Kaushalपुरी colony). Poor household environmental conditions are found along the Allahabad road, Lucknow road and Railway line because in these settlements income of the people is very low. Study is concluded that residential suburbs are lacking in all the facilities because neither city nor villages provides the facilities to the suburbs. On the basis of study it is necessary that govt. should draw attention on the household environmental conditions in the residential suburbs. Government and planners should introduce policies for improving their household environmental conditions. Government should generate employment in the residential suburbs so that the income of the residents as well as household environmental conditions will improve.

References

1. Adamkiewicz G, et.al. (2012) Environmental conditions in low-income urban housing: clustering and associations with self-reported health, *American journal of public health*, 104(9), pp. 1650–1656.
2. Adjei P. O. W. & Kyei P.O. (2013) Linkages between income, housing quality and disease occurrence in rural Ghana, *Journal of Housing and the Built Environment*, Volume 28, Issue 1, pp 35-49.
3. Ali B.M.K. & et.al (2014) Urban Socio-Economic and Environmental Condition of Hill Tracts Bangladesh: A Case Study in Bandarban Municipality, *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)* Volume 19, Issue 4, Ver. VII (Apr. 2014), PP 36-44.
5. Lawanson T.O. and Fadare S. (2013) Neighbourhood differentials and environmental health interface in Lagos metropolis, Nigeria, *Habitat International journal* 39, pp. 240-245.
6. Murphy R. E. (1973) *The American City: An Urban Geography*, McGraw Hill Book Company, pp. 36-37.
7. Rahman A. (2006) Assessing income wise household environmental conditions and disease profile in urban areas: Study of an Indian city, *Geo journal* Volume 65, Issue 3, pp 211-227, Kluwer Academic Publishers
8. Singh A.L., et. al. (1996) Income, Environment and Health A Household Level, Study of Aligarh city, India, *Habitat inter. Journal* , VOL. 20, No. 1, pp. 77-91, Pergamon-Elsevier Science Ltd. Great Britain.
9. Shrivastava G.P. & Rathnamala G. V. (2015) Study on Household Income, Environmental Variables and Health Diseases in Rural Areas, *International Journal of Emerging Technology and Advanced Engineering*, Volume 5, Issue 3, pp. 236-240.
10. esa.un.org/unpd/wup/highlights/wup2014-highlights.pdf
11. <http://censusindia.gov.in/>

Table 5: Household environmental conditions of low income groups (1500-2999)

Name of the roads	House type			Kitchen facilities in the house			Electricity facilities		Water logging around the house		Toilet facilities			Sources of water			Types of drainage			Disposal of waste outside the house		
	Kutcha	Mixed	Pucca	Open air	Multipurpose room/veranda	Separate kitchen	Yes	No	Yes	No	Open defecation	Manual toilet in the house	Flush toilet in the house	Roadside hand pump	Hand pump inside the house	Tap water	Kutcha	Pucca	No drainage	Disposal on road/treet sides	Disposal in open fields	In pot holes built by the Govt
Lucknow road	34.78	39.13	26.08	65.21	26.08	8.65	56.52	43.47	60.8	39.13	78.26	13.04	8.69	43.47	56.52	-	52.17	26.08	21.73	78.26	21.73	-
Deokali road	50	21.42	28.57	71.42	28.57	-	71.42	28.57	71.42	28.57	71.42	21.42	7.14	42.85	57.14	-	42.85	42.85	14.28	71.42	28.57	-
Raibareli road	60	20	20	40	60	-	60	40	60	40	80	20	-	20	80	-	60	20	20	80	20	-
Allahabad road	64.28	23.80	11.90	71.42	14.28	14.28	71.42	28.57	71.4	28.57	59.52	35.71	4.76	47.61	52.38	--	59.52	19.04	21.42	59.52	40.47	-
Parikarma road	71.42	14.28	14.28	47.61	33.33	19.04	71.42	28.57	47.61	52.38	47.61	38.09	14.28	38.09	61.0	-	47.61	28.557	23.80	47.61	52.38	-
Railway line	55.55	27.77	16.66	72.22	16.66	11.11	55.55	44.44	55.55	44.44	88.88	11.11	-	66.66	33.33	-	72.22	11.11	16.66	88.88	11.11	-
Total households	56.91	25.20	17.88	65.04	23.57	11.38	65.85	34.14	62.60	37.39	67.47	26.01	6.5	46.34	53.65	-	56.09	23.57	20.32	67.47	32.52	-

Source: Field survey, 2015

Table 6: Household Environmental Conditions of Middle Income Group (3000-4999)

Name of the roads	House type			Kitchen facilities in the house			Electricity facilities		Water logging around the house		Toilet facilities			Sources of water			Types of drainage			Disposal of waste outside the house		
	Kutchha	Mixed	Pucca	Open air	Multipurpose room/veranda	Separate kitchen	Yes	No	Yes	No	Open defecation	Manual l. In the house	Flush l. In the house	Roadside hand pump	Hand pump inside the house	Tap water	Kutchha	Pucca	No drainage	Disposal on road/street sides	Disposal in open fields	In pot holes built by the Govt
Lucknow road	18.18	45.45	36.36	36.36	36.36	27.27	100	-	54.54	45.45	45.45	18.18	36.36	18.18	45.45	36.36	72.72	27.27	9.09	18.18	54.54	27.27
Deokali road	14.28	14.28	71.42	39.57	29.57	29.57	100	-	57.14	42.85	42.85	28.57	28.57	42.85	42.85	14.28	57.14	10.71	14.28	14.28	28.57	57.14
Raibareli road	-	-	100	-	33.33	66.66	100	-	33.33	66.66	-	-	100	-	66.66	33.33	66.66	10	-	-	66.66	33.33
Allahabad road	22.72	31.81	45.45	27.27	27.27	45.45	100	-	54.54	45.45	27.27	27.27	45.45	27.27	45.45	27.27	50	54.54	9.09	27.27	45.45	27.27
Parikarma road	7.69	38.46	53.84	23.07	30.76	53.84	100	-	38.46	61.53	-	23.07	76.92	15.38	53.84	30.76	76.92	23.07	15.38	15.38	46.15	38.46
Railway line	22.22	33.33	44.44	22.22	33.33	44.44	100	-	55.55	44.44	22.22	33.33	44.44	11.11	66.66	22.22	66.66	33.33	11.11	22.22	55.55	22.22
Total households	16.92	32.30	50.76	26.15	30.76	43.07	100	-	50.76	49.23	24.61	24.61	50.76	21.53	50.76	27.69	63.07	38.46	10.76	20	47.69	32.30

Source: Field survey, 2015

Table 7: Household Environmental Conditions of High Income Group (5000 and above)

Name of the roads	House type			Kitchen facilities in the house			Electricity facilities		Water logging around the house		Toilet facilities			Sources of water			Types of drainage			Disposal of waste outside the house		
	Kutchha	Mixed	Pucca	Open air	Multipurpose room/veranda	Separate kitchen	Yes	No	Yes	No	Open defecation	Manual l. In the house	Flush l. In the house	Roadside hand pump	Hand pump inside the house	Tap water	Kutchha	Pucca	No drainage	Disposal on road/street sides	Disposal in open fields	In potholes built by the Govt
Lucknow road	-	27.27	72.72	-	27.27	72.72	100	-	18.18	81.81	-	-	100	-	36.36	63.63	-	100	-	18.18	27.27	54.54
Deokali road	-	28.57	71.42	-	28.57	71.42	100	-	28.57	71.42	-	-	100	-	57.14	42.85	-	100	-	14.28	28.57	57.14
Raibareli road	-	-	100	-	-	100	100	-	-	100	-	-	100	-	50	50	-	100	-	-	50	50
Allahabad road	-	38.09	61.90	-	28.57	71.42	100	-	23.80	76.19	-	-	100	-	61.90	38.09	-	100	-	14.28	14.28	71.42
Parikarma road	-	30.76	69.23	-	23.07	76.92	100	-	15.38	84.61	-	-	100	-	38.46	61.53	-	100	-	30.76	23.07	46.15
Railway line	-	25	75	-	37.5	62.5	100	-	37.5	62.5	-	-	100	-	62.5	37.5	-	100	-	-	37.5	62.5
Total household		30.64	69.35	-	27.41	72.58	100	-	22.58	77.41	-	-	100	-	51.61	48.38	-	100	-	16.12	24.19	59.67

Table 8: Averages of All Three Levels of Low, Medium and High Income Groups

Name of the roads	Low income			Middle income			High income		
	Poor conditions	Average conditions	Good conditions	Poor conditions	Average conditions	Good conditions	Poor conditions	Average conditions	Good conditions
Lucknow road	39.13	26.08	20.64	21.58	34.08	38.63	4.54	14.77	80.67
Deokali road	21.42	24.99	22.31	28.56	24.99	42.40	5.35	17.85	76.78
Raibareli road	20	32.5	17.5	4.16	36.10	59.58	-	12.5	87.5
Allahabad road	23.80	28.27	18.74	26.13	28.40	44.88	4.76	17.85	77.37
Parikarma road	14.28	30.83	24.99	17.30	33.65	49.03	5.76	14.42	79.80
Railway line	27.77	21.52	17.35	22.22	36.10	41.66	4.68	20.35	75
Total household	25.20	32.36	20.32	23.45	31.14	41.91	4.83	17.98	78.42

Source: Field survey 2015