

## QUALITY OF URBAN INDOOR ENVIRONMENT AND SOCIO-ECONOMIC CONDITION IN AZAMGARH CITY: A CASE STUDY OF AZAMGARH CITY, UTTAR PRADESH

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**Abstract:** *Housing is one of the basic requirements for the survival of human beings. The economic security and social status of a family can be easily understood by watching physical attributes of their housing. Proper urban indoor environment is an indicator of healthy life as well as it also reveals the quality of life and standard of living of the family. Urban indoor environment is strongly related to socio-economic condition. The socio-economic condition shows the level of wellbeing of people of an area. Socio-economically poor households are generally attributed to many housing problems, like congestion, poor sanitation, household garbage and solid waste issue and indoor air pollution. Thus urban indoor environment clearly reveals an image of socio-economic condition of any region. The objective of this paper is to assess the quality of urban indoor environment and socio economic condition in Azamgarh city. The study is based on primary sources of data, collected through a detailed questionnaire. Result shows that the socio-economic condition is better in developed housing areas.*

**Keywords:** Housing Status, Urban Indoor Environment, Socio-Economic Condition

### Introduction

Every structure, shelter, used for residential or non residential purpose or both or might be vacant terms as house. Housing is a basic requirement of human well-being. Along with the requirement of shelter, other facilities in the micro environment of housing such as type of dwelling unit, drinking water, sanitation, drainage, etc., constitute housing condition of the people that forms a vital component of their overall quality of life (NSS Report). The WHO understanding of 'housing' is based on a four layer model of housing, taking into consideration the physical structure of the dwelling as well as the meaning of home (for a family and each individual), and the external dimension of the immediate housing environment, and the community with all neighbors adequate housing. If this requirement is accomplished, housing provides human beings with satisfaction of physical and mental health needs. Therefore, it is clear that housing condition plays a relevant role for the socio-economic development of any region (Bonney, 2007).

A house encompasses not just a physical structure, but the social and natural environment in which it is situated (Krieger and Higgins, 2002). During the Second HABITAT Conference in Istanbul (1996), United Nations Member States defined housing as; Adequate Shelter means more than a roof over one's head, as well as adequate space, physical accessibility, adequate security, structural stability and durability, good ventilation, basic infrastructure etc. To live somewhere means to develop a special relationship to space, time, self and others. A house, in its concrete reality, brings support to certain aspects of individual psychological structuring- it is the central reference point of human existence (Relph, 1976).

Urban indoor environment has been acknowledging one of the main settings that affect human health. Living and housing conditions are the basis of many factors influencing residential health (Jackson, 2003). Environment is a matter of great importance in the present rapidly urbanizing world. Realization has dawned upon man too late that proper environment of human habitats is as necessary as conserving nature. Concern with the environmental degradation in towns and cities in the western world has resulted in the emergence of new approaches and research tradition to study quality of environment (Mushir, et al,2007). The growing population has increased the pressure on urban lands resulting into congested cities. Poor indoor environment has been proved to be extremely harmful especially for the females and children who live most of the time within the house.

The goal of socio-economic study is to bring about socio-economic development in terms of understanding the present condition of a particular area (Khan,et al, 2013). Housing status is one of the main indicators revealing socio-economic condition of the region. Ownership of a house provides significant economic security and social status for a citizen in the society. Stable, affordable and accessible housing is directly and indirectly linked to human well-being. One can easily understand the socio-economic status of a family just by watching physical attributes of their housing. Good housing and its surroundings indicate the standard of living of the family and provides facilities for education, recreation and many other facets of life. A person deprived of this basic need faces all odds of life and remains discriminated and marginalized in the society (LARRDIS, 2013). Azamgarh is a town of medium size but in the process of fast growth. The town faces host of problems such as those created by recurring floods, growth of slums, increasing congestion, inadequacy of transport and dearth of civic amenities and utilities (Siddique and Alam, 1978). The present study is designed to provide a coherent assessment of quality of indoor environment by identifying the socio-economic condition of the region.

### **Objectives**

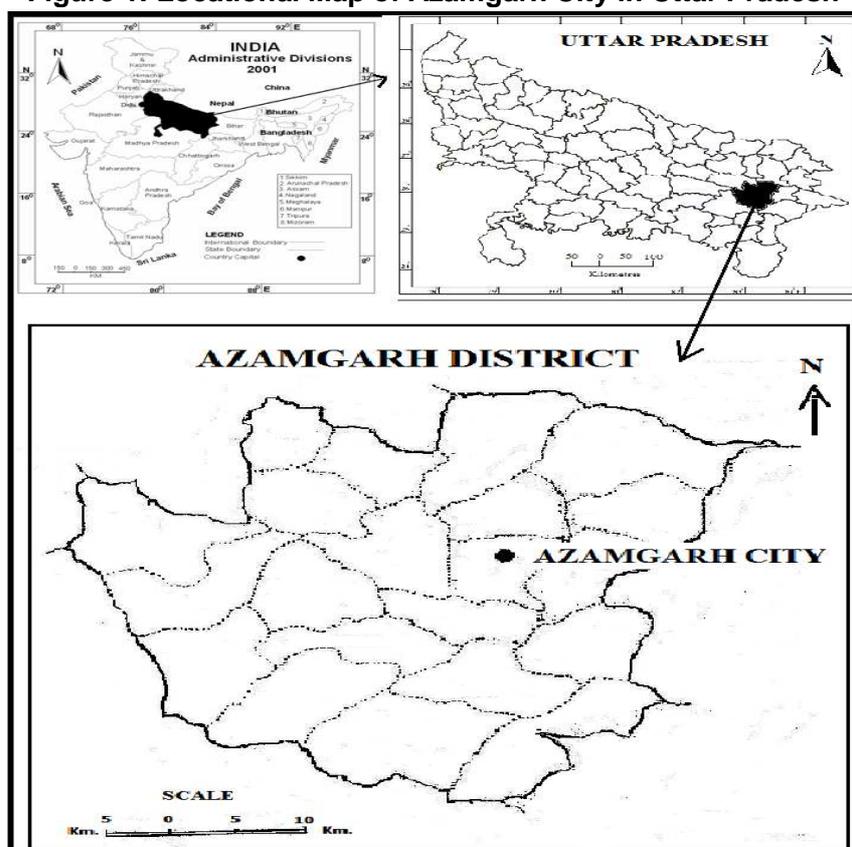
The main objectives of this paper are:

- To analyze the Quality of urban indoor environment in Azamgarh city.
- To examine the housing status, its morphological aspect and the socio-economic condition with respect to housing status in Azamgarh city.
- To find out the problems of the housing in the city and some remedial measures for its betterment.

### **Study Area**

The area under investigation is the headquarter of the district Azamgarh. The city lies between 26° 4' North latitude and 83° 1' East longitude. It comprises 25 wards. It is located on alluvial tract of land in Ganga plain of India with an average elevation of 64 meters. The city is surrounded by the river Tons on three sides and by the seasonal *Dharmu nala* on the north and north-eastern sides. Azamgarh city experiences a humid sub-tropical climate with 22 to 46 °C its summer temperature and 8 to 24 °C winter temperature. The average annual rainfall is 1,110 mm. The total population of Azamgarh city is 1, 10,892 (2011 Census), out of which 52.3 percent are males and 47.7 percent are females.

**Figure 1: Locational Map of Azamgarh City in Uttar Pradesh**



Source: Census of India 2011 and Municipality, Azamgarh.

### **Data Base and Methodology**

The present study is based on the primary sources of information collected by the author in 2014 through well prepared questionnaire, taking in to account of all the variables related to the housing and socio-economic condition of the study area. Azamgarh city has 10,000 households out of which 300 households have been sampled for analysis. Random sampling has been applied in data collection for all the 25 wards. Care was also taken in the selection of households that they should be truly representative of their wards. After collection of data, data were converted into the tabular form. After analyzing these tables and diagrams, inferences have been made pertaining to the various housing and socio-economic conditions of the study area.

### **Results and Analysis**

The data has been collected for analyzing housing status and socio-economic condition in Azamgarh city. General Profile of respondents is shown in Table 1, As regards the Age-wise distribution of respondents, 20 percent and 2 percent respondents falls in the >60 and < 20 age groups. These two age groups together constitute one Forth of the total respondents, are unproductive, i.e dependent. 18.7 percent and 28 percent respondents belong to 40-50 and 50-60 years of age group. The table also shows that 55.7 percent population belongs to Hindu community while 41.3 percent are Muslims. The data of caste and marital status of respondents reveals that 54.7 percent respondents are O.B.C while 38.3 percent and 7 percent belongs to General and SC/ST, respectively.

**Table 1: Distribution of sampled households population in Azamgarh City, 2014**

Age Wise Distribution		Religion Wise Distribution		Distribution of Marital Status	
Age Groups	Percentage	Religion Groups	Percentage	Marital Status	Percentage
< 20	2	Hindu	55.7	Married	76.7
20-30	12.3	Muslim	41.3	Un-married	14
30-40	19	Sikh	1.3	Widow/Widower	6.3
40-50	18.7	Christian	0.7	Divorced	3
50-60	28	Other	1	<b>Total</b>	<b>100</b>
>60	20	<b>Total</b>	<b>100</b>		
<b>Total</b>	<b>100</b>				
Sex-Wise Distribution			Caste Wise Distribution		
Sex-Group	Percentage	Caste	Percentage		
Male	61	General	38.3		
Female	39	O.B.C	54.7		
<b>Total</b>	<b>100</b>	Sc/ST	7		
		<b>Total</b>	<b>100</b>		

Source: Based on Field Survey by the Researcher, 2014.

### Housing Conditions

Proper housing and adequate shelter is a must for healthy life as it enhances the performance of the residents in their domestic and economic duties (Rahman, 2007). While considering the housing conditions of the respondents the variables which are taken into account were the status of house, use of house, Construction material used, total number of floors in the house and total number of rooms in the house. An overview of Table 2 explains the distribution of the sampled households according to the status of house in Azamgarh city. As regards the status of house 82 percent respondents has their own house while 14 percent and 2 percent respondents live in rented and Government house respectively. The table shows that 53 percent respondent resides in bricks house while 28 percent and 11 percent of them lives in semi brick and semi wood/jhuggi houses. 8 percent of them reside in pure jhuggi type of houses. The data related to use of house reveals that 69.7 percent respondents use their house for both residential and commercial purpose. As regards numbers of floors and rooms in the house, it has been analyzed that 57 percent respondents reside in single storey houses; remaining 43 percent respondents have multi storey houses. The multi story houses are too congested. 42.7 percent respondents have 2-3 rooms in their house while 33 percent 10 percent and 14.3 percent respondents have 3 -5, 1 and >5 rooms respectively.

### Urban Indoor Environment

The urban indoor housing environmental concern should be largely focused as it affects our lives or activities some way or the other. The notion, 'indoor' housing pollution is more harmful than the 'outdoor' one. Infants, old people and women who remain mostly inside the house, particularly during winters are more susceptible to indoor pollution.

**Table 2: Distribution of housing status of respondents in Azamgarh city, 2014**

Status of House		Type of House		Use of House	
status	Percentage	Type of House	Percentage	Use of House	Percentage
Own	82	Bricks/Concretes	53	Residential	69.7
Rented	14	Semi-Bricks	28	Res. + Com.	26.3
Government	2	Semi-wood/Jhuggi	11	Res. + Industrial	1
Other	2	Wood/Jhuggi	8	Res. + Com.+ Ind.	3
<b>Total</b>	<b>100</b>	<b>Total</b>	<b>100</b>	<b>Total</b>	<b>100</b>
Number of rooms in the House			Number of Floors		
No. of rooms		Percentage	No. of Floors		Percentage
1		10	Single		57
2--3		42.7	Multiple		43
3--5		33			
>5		14.3			
<b>Total</b>		<b>100</b>	<b>Total</b>		<b>100</b>

Source: Based on Field Survey by the Researcher (2014).

Table 3 is representing the indoor housing environment in the total 300 sampled households. While considering the indoor housing environment in the sampled households the variables which were considered are place of cooking food, drinking water availability, type of Toilet, and proper ventilation. As regards the type of kitchen, 46 percent respondents have separate kitchen, while 39 percent and 15 percent respondents use their verandah and open spaces as kitchen respectively. The table shows that 33.4 percent respondents has hand pumps while 66.1 percent availing water by municipal tap. Proper ventilation in the house is a pre-requisite for the dwelling. For a healthy life better cross ventilation is system is must. The ventilation is not proper according to 57 percent respondents as the houses are compact and congested causing indoor air pollution, 43 percent respondents said it proper. The table also shows the type of toilet, which reveals that 72 percent respondents have private toilet facility while 19 percent respondents have flush toilet.

**Table:3 Distribution of indoor housing environment in Azamgarh city, 2014**

Place of Cooking food		Drinking Water facilities	
Kitchen Type	Percentage	Type of water availability	Percentage
Separate Kitchen	46	Well	0.5
Varandah	39	Handpump	33.4
Open Space	15	Municipal Tap	66.1
<b>Total</b>	<b>100</b>	<b>Total</b>	<b>100</b>
Type of Toilet		Proper Ventilation	
Type of Toilet	Percentage	Proper Ventilation	Percentage
Flush	19	Yes	43
Field	5	No	57
Public	4	<b>Total</b>	<b>100</b>
Private	72		
<b>Total</b>	<b>100</b>		

Source: Based on Field Survey by the Researcher, 2014.

**Table:4 Distribution of social condition of respondents in Azamgarh city, 2014**

Family Type		Health Status	
Family Type	Percentage	Diseases	Percentage
Single	5.7	Fever	18
Nuclear	32.3	Cold	21
Joint	62	Malaria	7
<b>Total</b>	<b>100</b>	T.B	0.6
		Diabetes	6.3
<b>Family Size</b>		Jaundice	1.3
<b>Family Size</b>	<b>Percentage</b>	Diarrhoea	6.3
<3	2	Heart Problem	2.8
3—5	9.7	Asthma	1
5—7	15.3	Typhoid	3
7--10	39	Gastro-ent	11
>10	34	Joint Pain	21.06
<b>Total</b>	<b>100</b>	Alsar	0.64
		<b>Total</b>	<b>100</b>
Educational Status			
Educational Level	Percentage	Educational Level	Percentage
Primary	19	Degree	19
Middle	9	PG/Other	15
High School	10	Not educated	5
Intermediate	23	<b>Total</b>	<b>100</b>

Source: Based on Field Survey by the Researcher, 2014.

### Social Condition

For analysis of social condition in the sampled households the variables which have been selected are family type, family size, education and health. An overview of Table 4 shows the social condition of Azamgarh city. As regards the family type and family size, 62 percent respondents live in joint family, remaining 32.3 percent and 5.7 percent lives in nuclear family and as single, respectively. 39 percent respondents have 7-10 person/house while 34 percent have >10 person/house, remaining 15.3 percent, 9.7 percent and 2 percent respondents have 5-7, 3-5 and < 3 person/ house. The table also reveals educational level of the town. 19 percent respondents are having primary education while 9 percent, 10 percent, 23 percent of them educated up to Middle school level; High School and Inter mediate level respectively. 19 percent respondents are graduate while 15 percent of them are educated up to Post Graduate level; remaining 5 percent respondents were uneducated. As regards the health condition of the respondents frequently suffer by various types of diseases. 18 percent, 21 percent and 7 percent respondents suffered from fever, cold and malaria respectively, while 0.6 percent, 0.64 percent, 1 percent and 1.3 percent respondents have been gone through T.B, Alsar, Asthma and jaundice respectively. Mostly women and old respondents (21.06 percent) suffer from joint pain. Remaining 6.3 percent, 6.3 percent, 2.8 percent, 3 percent, and 11 percent respondents are suffered by diabetes, diarrhea, heart problem, and typhoid and gastro enteritis respectively.

**Table: 5 Distribution of economic condition of respondents in Azamgarh city, 2014**

Occupational Structure		Income Status	
Occupation	Percentage	Monthly Income (Rupees in thousands)	Percentage
Doctor	5.7	< 5	6
Teacher	7.7	5--10	24
Engineer	3	10--30	43
Business	47	30--50	20
Lawyer	1.3	> 50	7
Agriculture	17	<b>Total</b>	<b>100</b>
Abroad	8.3	<b>Possession of Durable goods</b>	
Other	10	<b>Durable goods</b>	<b>Percentage</b>
<b>Total</b>	<b>Total</b>	TV/Radio	19
<b>Nature of Service</b>		Computer	3.7
<b>Nature of Service</b>	<b>Percentage</b>	Fridge	15
Government Service	10	Cycle	20
Private	26	Byke	13
Self employment	56	Mobile	24
Unemployment	8	Car	2.7
<b>Total</b>	<b>100</b>	A.C	2.6
		<b>Total</b>	<b>100</b>

Source: Based on Field Survey by the Researcher, 2014

### Economic Condition

Table 5 is showing the distribution of the sampled households according to the economic condition of the respondents. After analyzing the occupational structure it is found that 47 percent respondents are businessman while 17 percent practiced agriculture. 8.3 percent respondents work abroad especially in Saudi Arab, Dubai, Qatar, Kuwait and Iran etc. 5.7 percent, 7.7 percent, 3 percent and 1.3 percent respondents are Doctor, Teacher, Engineer and Lawyer respectively. Remaining 10 percent perform other jobs. As regards the nature of service 56 percent respondents are self employed while 26 percent are doing private jobs. Only 10 percent respondents are government employees at various grades. Remaining 8 percent are unemployed. The table also reveals the income status of respondents which shows that 43 percent respondents earn 10-30 thousand rupees/ month while 20 percent and 7 percent respondents gets 30-50 and > 50 thousand rupees/ month, respectively.

### Problems and Suggestion

Azamgarh town has congested upland area in central part with high degree of compactness. It includes the mohallas of Ailwal, Paharpur, Takia, Katra, Kot, Bazbahadur and Jalandhri. The house of this area represents generally the old pattern of houses with medium to high socio economic conditions. The low-lying areas include localities of Asifganj, Matbarganj and Sitaram in the South. Civil line which a lie south of the town has anglicized pattern and came into existence during British period. Modern pattern of houses can be seen on the periphery of the town. Today the expansion of the town is mostly northwards which is safe from the floods, while some expansion has also taking place across the Tons towards sidhari in the south. The town of Azamgarh faces a number of problems. This town is surrounded by the river Tons on three sides and by the *Dharmu Nala*, which is seasonal in character, on the north and north-eastern side. These two water courses impose some limits on expansion of the town. Thus, a stagnant situation has made the town very congested. The roads are also irregular, compact, winding and crooked; many places still have non-metallic roads. The sanitation system of the

town is also very poor with open surface drainage. The Tons River is the cause of flood in every monsoon leading to a considerable loss of property and life. It should be controlled by construction of embankment etc. One of the most important problems is the low level of industrialization. It is need of the hour that the town should be provided some diverse industries such as agro-based industries, cotton and textile, small scale manufacturing industries for various employments generation. There is lack of open space in the town which forbids the activities like recreation, sports, park etc. The fast growing population will make compact areas more congested with the passage of time. Thus further construction and extension of buildings should be stopped and Government should develop new planned colonies in the outer zones.

### Conclusion

The study has concluded that housing status of Azamgarh city has highly compact and congested old pattern in upland central areas. In this region the housing status is average with poor indoor environment and socio economic condition. Some of the new colonies such as Rahmt Nagar, Millat Nagar, Hirapatti, sidhari west which are growing towards the periphery are socio- economically better with high education and income. The housing condition is also satisfactory. Some areas in central region like friends colony in Badarka ward, Qila in Bazbahadur is highly developed. But at the same place all the remaining wards are extremely congested with poor compact roads and open drainage system, revealing pathetic housing environment. If there is continued stagnant growth of population it will make a mess. Thus Government should focus on the housing problems and should take some initiatives for socio economic development of the region.

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