

Status of housing condition, household amenities and assets in rural-urban fringe of Faizabad city, India

SADAF¹

¹ Assistant Professor, P.G. Department of Geography, Veer Kunwar Singh University, Ara, Bihar India
 * Corresponding author: sadafmalik849@gmail.com

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Abstract

The main aim of this paper is to examine the effect of urbanization on housing conditions and access to basic amenities in rural urban fringe of Faizabad city. Food, clothing and shelter are the basic needs for the survival of human beings. Although food and clothing have their own importance, however, the need of better housing conditions cannot be ignored. The inadequacy of housing conditions affects the quality of life and social well-being. Rural-urban fringe generally has unique characteristics. The mixture zone is characterized by both traditional and new houses with all facilities. This study is mainly based on secondary sources of data collected from the village directory and housing listing tables from the census of India. The paper reveals that the overall better housing conditions and housing amenities exist only in primary fringe. Thus, this paper suggests some remedial measures for improving the overall housing conditions in rural-urban fringe of Faizabad city.

Keywords: *rural-urban fringe, housing conditions, amenities, urbanization.*

Rezumat. Situația condițiilor de locuit, a dotărilor și a facilităților domestice din franja rururbană a orașului Faizabad, India

Scopul principal al acestei lucrări este de a examina efectul urbanizării asupra condițiilor de locuire și a accesului la facilitățile de bază în periferia rururbană a orașului Faizabad. Hrana, îmbrăcămintea și adăpostul sunt nevoile de bază pentru supraviețuirea ființelor umane. Deși alimentele și îmbrăcămintea au propria lor importanță, totuși, nevoia unor condiții de locuit mai bune nu poate fi ignorată. Starea inadecvată a condițiilor de locuit afectează calitatea vieții și bunăstarea socială. Franja rururbană are, în general, caracteristici unice. Această zonă mixtă este caracterizată atât prin prezența unor case tradiționale, cât și a unor case noi cu toate facilitățile. Acest studiu se bazează în principal pe surse secundare de date colectate din arhivele rurale și din statisticile legate de locuire de la recensământul național. Lucrarea relevă faptul că doar în franja primară condițiile generale de locuit și dotările locuințelor sunt mai bune. Astfel, această lucrare sugerează câteva măsuri ameliorative pentru îmbunătățirea condițiilor generale de locuit în periferia rururbană a orașului Faizabad.

Cuvinte-cheie: *franjă rururbană, condiții de locuit, facilități, urbanizare.*

Introduction

Urbanization is the process of transformation of rural landscape into urban landscape. It has become a global phenomenon. The world has been urbanizing rapidly in the last decades. Nowadays, more population globally lives in urban areas than in rural areas. In 2018, more than half the world's population resided in urban areas. Overall, 4.2 billion people reside in urban settlements as compared to 3.4 billion in rural areas (United Nations, 2018). Developing countries of the world have experienced rapid rate of urbanization. India is a developing nation and urbanization is taking place rapidly in the country. Indian cities are urbanizing either due to migration or to natural growth, but migration is one of the dominant factors. Due to rapid urbanization, Indian cities are expanding beyond the physical boundary and cause a new phenomenon i.e. rural-urban fringe. Rural-urban fringe is a mixed zone between well-recognized urban areas and purely rural landscapes. Arif et al. (2019) define the rural-urban fringe or periurban zone as a place where urban and rural activities coincide, which is economically and

socially heterogeneous and subject to rapid change. This rapid expansion does not only affect the city itself but also the peripheral areas of the city. Based on spatial determinants i.e. distance gradient, rural-urban fringe zone has been divided into primary fringe, secondary fringe and rural fringe. Primary fringe is to be found very close to the city and characterized by rapid rate of transformation. On the other hand, rural fringe is characterized by a more dominant rural occupancy than urban and it is very close to pure rural areas.

The mixture zone has unique characteristics because it is characterized by both traditional and new houses with all facilities. It is obvious that the share of inhabitants engaged in non-agricultural activities is quite high in primary fringe. So, the income level is also higher in the villages of primary fringe. Access to adequate housing and basic amenities are related to higher economic and social status (Srinivasan and Mohanty, 2004; Huang and Jiang, 2009; Ahmad, 2012). Housing conditions and availability of housing amenities such as source of lighting, safe drinking water, housing facility, separate kitchen, toilet facility reflect lifestyle and socio-economic status. Accessibility of basic amenities such as drinking water, electricity,

toilet facility and clean fuel are important factors that affect the quality of life in most developing countries like India. Housing conditions, availability of drinking water, sanitation facilities affects the health of people and determines the quality of life for the entire society (Nayyar, 1997). Housing and availability of household amenities as well as assets is considered to be the most important indicator of lifestyle and socio-economic status of society. Although in the 21st century, the majority of Indian people have been deprived of standard housing, safe water supply, toilet facilities and electricity facilities which remain major challenges in rural and urban India. Housing is one crucial basic need of human beings, but certain disadvantaged groups of the society still do not have access to it. The use of safe drinking water and sanitation facilities is target of Goal Seven (7) of Millennium Development Goals (MDG's) in India. Shortages of adequate housing and inequity in the availability of household amenities and assets have become serious problems that need to be addressed. The present research paper analyzes the spatial variations of housing conditions, household amenities and assets in respect of availability of safe drinking water, improved sanitation, clean cooking fuel and drainage facility in rural urban fringe of Faizabad city. Also, the study tried to assess the relationship between housing conditions, household amenities, assets and the distance from the city centre.

Literature review

Access to adequate housing, household amenities and assets, is essential for human development. In India, the access to basic amenities and quality housing is unequally distributed and remote areas as well as poorest communities in the society still lack adequate housing facilities. According to the Census of India (2011), "the household is usually a group of persons who normally live together and take their meals from a common kitchen unless the exigencies of work prevent any of them from doing so." The house not only provides shelter and a place to eat and sleep, but it also provides the base for family and social activities. Housing provides privacy and security against any kind of interferences, both physical and emotional (Nicholas and Patrick, 2015). However, the term "basic amenities" refers to drinking water supply, sanitation, electricity and so on (Shaw, 2007). The quality of housing is considered as households having basic amenities and assets which are meant to be necessary for living. Lack of quality of housing, without basic amenities, is a major rising problem across India in both rural and urban areas, because of low incomes, poverty and unemployment. Quality housing and availability of household amenities like electricity, drinking water, toilet facility and clean fuel is considered to be the critical determinants of quality of life as well as socio-economic status. The amenities like

electricity, water, sanitation and clean fuel are the critical determinants of living conditions and health of the urban people (Indongo, 2015). Access to basic amenities like drinking water, sanitation, electricity, housing, drainage and others are crucial to well-being (Kumar, 2014). Quality housing with availability of household amenities plays a crucial role to the health status of the population. Pawar et al. (2015) stated that health promoting factors such as housing conditions, availability of drinking water, sanitation facility, light, affect the health of people and sometimes such conditions are more important than health services. Sources of clean water and sanitation facilities are considered as the backbone of an effective public health system. Marsh et al. (2000) collected data in Great Britain and observed that poor housing conditions both affect current as well as future health status. The deprivation of drinking water, sanitation and toilet facilities is most obvious in rural areas and also in small and medium towns. Poor sanitation and inadequate access to safe water are public health concerns because they create such conditions which are favourable to the spread of diseases (Bhagat, 2011). Living conditions in the absence of basic household amenities such as safe water supply, sanitation and toilet become miserable and unsafe for everybody's health. Karn et al. (2003) studied the environmental conditions and health of slum dwellers in Mumbai and they observed that income, literacy, sanitation and personal hygiene affect the morbidity of the people.

Housing, access to household amenities and assets are directly or indirectly related to the economic status of population. Sadaf and Munir (2017) assessed the household environmental conditions like house types, kitchen, electricity and sanitation facilities of groups having different income (high, medium and low) in the residential suburbs of Faizabad city and observed that level of income is highly correlated with housing conditions. Infrastructural facilities such as roads, water electricity, telecommunications and safe disposal of waste play very important roles in achieving societal welfare, socio-economic and political growth of urban and rural areas (Gabriel and Abraham, 2009). Some studies also pointed that shelter, basic amenities and assets not necessarily reflect the income of the population, it may also be due to social, cultural and political factors. Kundu et al. (1999) have different views; it was pointed out that poor housing conditions and lack of basic household amenities is not necessarily related to non-availability or deprivation of a particular amenity, it could be due to natural, social and cultural factors. Recent increase in poverty and rapid population growth have created substantial pressure on housing and availability of household amenities in developing countries. Similar to the other developing countries, India is also experiencing inequality in housing and basic amenities (Edelman

and Mitra, 2006). There is unequal distribution of housing conditions and access to basic amenities in rural as well as in urban areas. Pal et al. (2015) analyzed that access to drinking water, toilet facility and electricity is better in urban areas as compared to the rural areas in most states of India. The basic services, such as drinking water, sanitation and toilet are unequally distributed, particularly in the rural areas. Chandoke (1977) mentioned that villages suffer from health problems. The area outside the houses is insufficiently planned and badly maintained, making it a poor environment. The rural-urban fringe is a heterogeneous zone and it is an amalgamation of pucca, semi pucca and kutcha houses. The urban fringe is heterogeneous in its social composition and it constitutes the habitat of diverse communities including lower income groups, who are particularly vulnerable to negative externalities of both rural and urban systems such as risks to health, life and physical hazards related to the occupation of unsuitable sites, lack of access to clean water and basic sanitation and poor housing conditions (Amao and Ilesanmi, 2013). The share of non-agricultural workers is comparatively low in rural fringe than the adjoining areas of the city. So, the percent of low income households is even greater in the rural fringe. Moreover, the access to basic amenities and adequate housing is highly correlated with economic status of population. Therefore, this paper is to examine the relationship of distance from city to the housing quality, household amenities and assets in a rural-urban fringe.

Study area

Faizabad city is located in the eastern Uttar Pradesh state in Northern India. The city lies between 27°53' N latitudes and 78°4' E longitudes. This city is located on the south bank of the Saryu (Ghaghra) river in Faizabad district (Fig. 1). It is medium sized class I city. It is a very old city, its history is 250 years old as Faizabad city was the capital of the Nawabs before Lucknow city. The total population of Faizabad was 144705 in 2001 and it has increased to 165228 in

2011. Faizabad and Ayodhya cities are known as twin urban centers. Faizabad is at a 6 km distance from Ayodhya city.

The whole area is well connected by roads and railway network. National highway 28 connects the city to Nepal and it is connecting with Lucknow (capital of Uttar Pradesh). The city is well connected with Azamgarh, Allahabad (Prayagraj), Raibareli, Basti, Gonda, Balrampur, Bahraich and Gorakhpur. Faizabad railway connects the city with many big cities such as Mumbai, Surat, Ahmadabad and Delhi. The city is the district headquarters related to administration, transportation and education. All administrative offices, hospitals, universities and colleges are located in Faizabad city.

The rural-urban fringe of Faizabad city of extends over 115.8 sq. km. The total area of rural-urban fringe zone lies within 10 kilometers from the center of Faizabad city. The primary fringe has 56,614 inhabitants and 9,568 households, whereas secondary fringe has 55,466 inhabitants and 9,132 households and rural fringe consists of 54,122 inhabitants and 8,793 households (Table 1). Total population as well as number of households is decreasing with the increasing distance from the city centre.

Data base and methodology

The study is based on the secondary sources of data obtained from the Primary Census Abstract and house listing table (Census of India, 2011). For the delineation of the rural-urban fringe, the study area has been divided into three zones with a radius of 5, 7.5 and 10 km from the city center. A village has been considered as a smallest unit for the study. Village wise housing conditions, household amenities and assets in rural urban fringe have been depicted with the help of simple percentage. Regression analysis has been used to analyze the relationship between urbanization and housing conditions, household amenities and assets (Fig. 2). ArcGIS 10.2.1 software has been used for obtaining adequate cartographical products.

Table 1 Number of households and population in rural-urban fringe of Faizabad city

S.I. No.	FRINGE ZONE	Zone (distance from the city centre)	Number of villages	Number of households	Total population	Area [sq. km]
1.	Primary Fringe	0-5 km	22	9,568	56,614	29.22
2.	Secondary Fringe	5-7.5 km	23	9,132	55,466	42.52
3.	Rural Fringe	7.5-10 km	24	8,793	54,122	44.14
Total			69	27,493	166,202	115.8

Source: author's processing

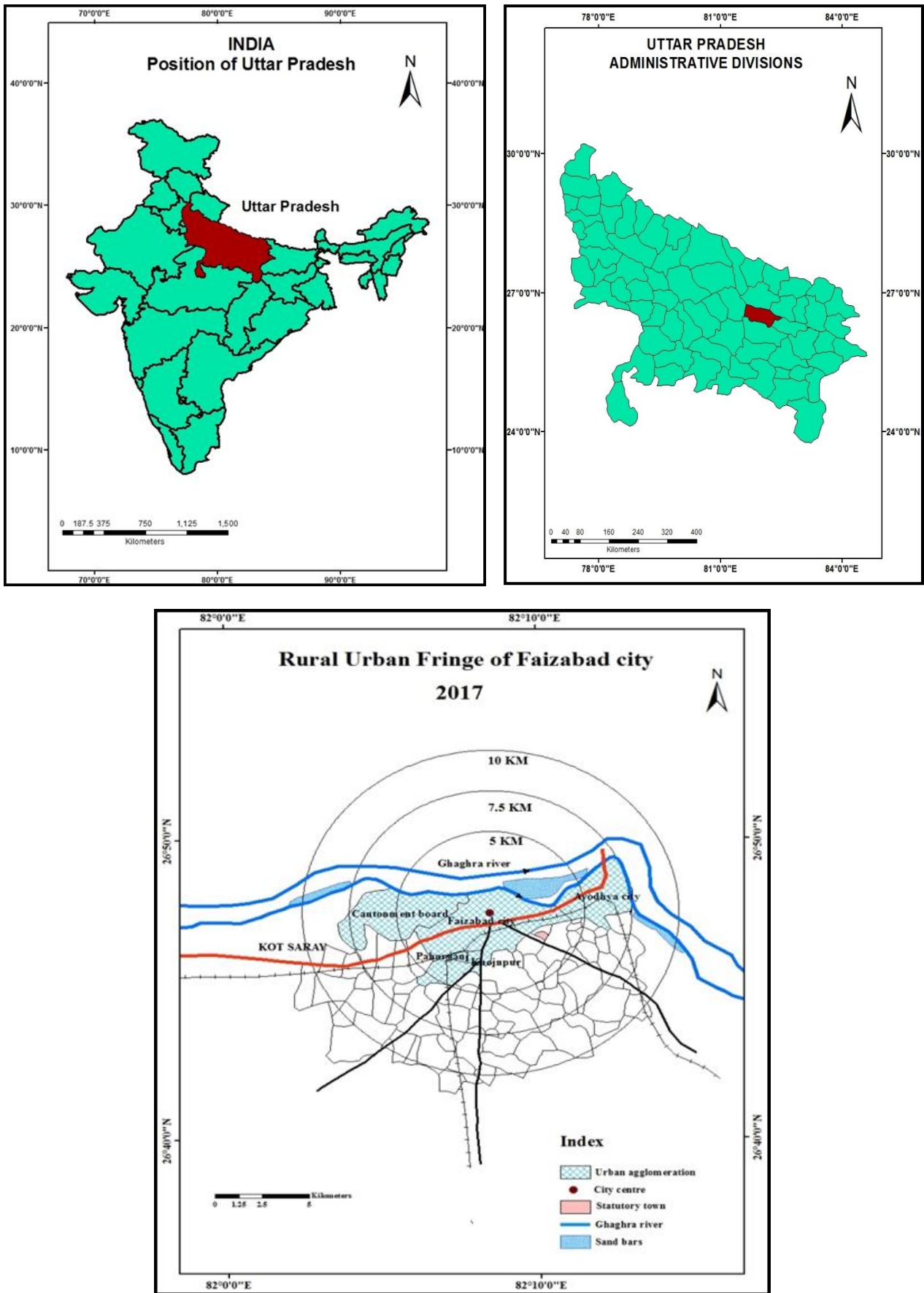


Fig. 1: Location of the study area (based on the Census of India, 2011)

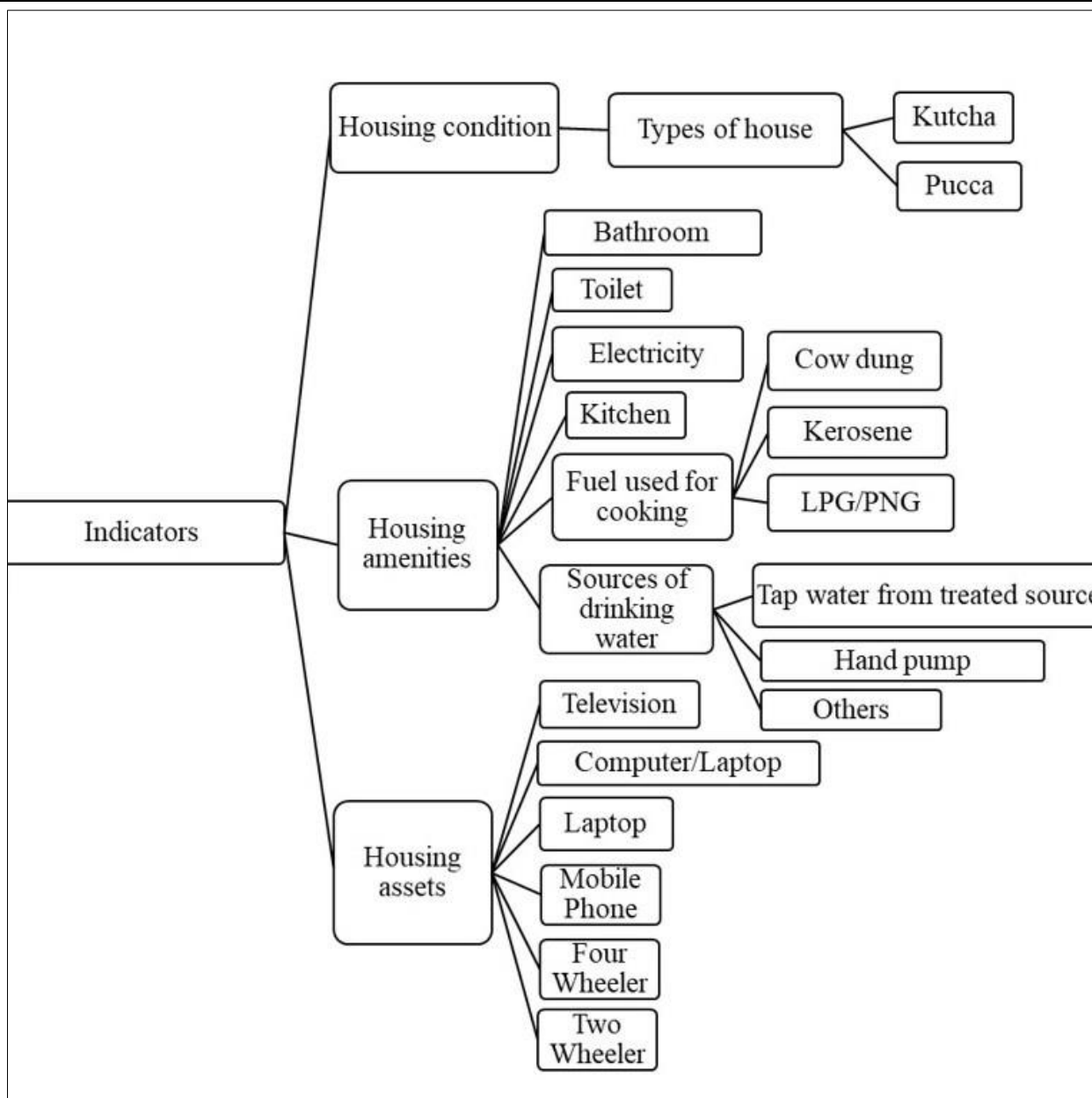


Fig. 2: Indicators used for Housing Condition, Household Amenities and Assets

Results and discussion

Housing conditions in rural-urban fringe of Faizabad city

Housing is one of the basic needs of every human being. A house is the place where we can cook food, take rest and sleep. Housing is not only a necessity, but it also affects all aspects of our life.

Lawrence (2004) said that "housing is meant to provide shelter and security and is considered a fundamental development process, in which the built environment is created, used and maintained for the physical, social and economic well-being and quality

of life of individuals and households". Housing conditions are related to standard of living and quality of life.

According to census of India, "pucca houses are those houses made up of Burnt brick, stone, slate, G.I./metal/asbestos sheets and concrete". A Kutchha house is made of mud walls, mud roof and has an earthen floor. It is very obvious that pucca house provides more durable shelter than Kutchha house. Available data revealed that higher proportion of the population is living in pucca houses in the primary fringe (Table 2). Primary Fringe records 79.6% Pucca Houses and it decreases in secondary fringe (75.93%) and rural fringe (70.54%). The percentage of Kutchha houses is lower in adjoining villages of the city while the percentage of Pucca houses is decreasing with increasing distance from the city (Fig. 3, Fig. 4).

Table 2 Types of House in Rural Urban Fringe, in percentages (2011)

S.I. No.	Fringe Zone	Kutcha house	Pucca house
1.	Primary Fringe	20.40	79.6
2.	Secondary Fringe	24.07	75.93
3.	Rural Fringe	29.46	70.54

Source: author's processing

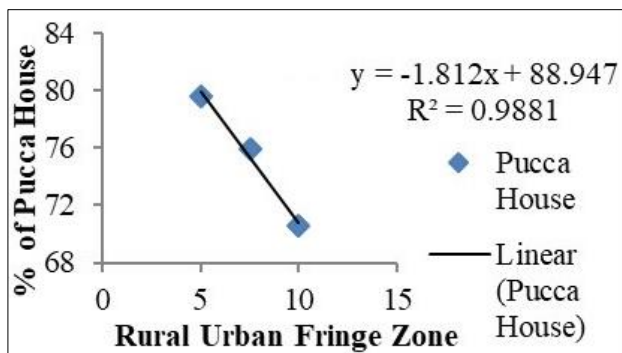


Fig. 3. Pucca house in rural-urban fringe of Faizabad city (2011)

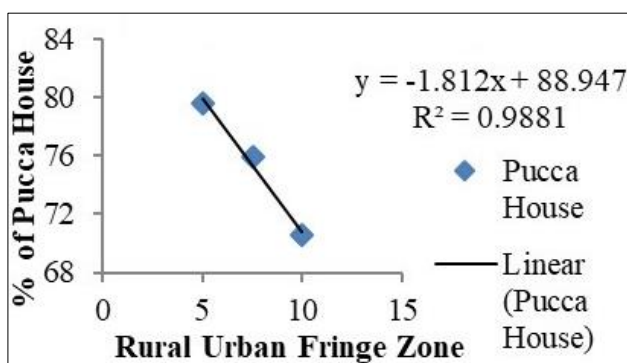


Fig. 4: Kutcha house in rural-urban fringe of Faizabad city (2011)

The access to basic amenities like electricity, bathroom, toilet, kitchen, drinking water and clean fuel

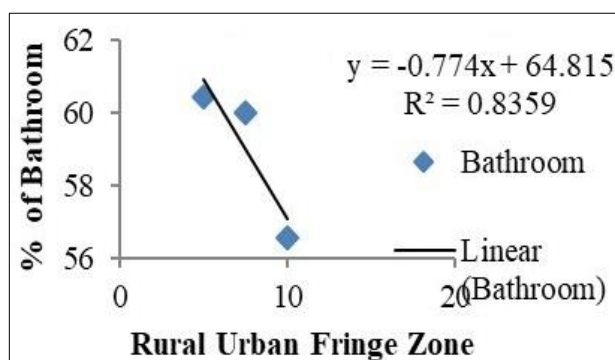


Fig. 5: Bathroom facility in rural-urban fringe of Faziabad city (2011)

are critical indicators of quality of life in most developing countries like India.

Bathroom facility is considered critical determinant of quality of life and social equity. More than 60% households having bathroom facilities (both inside and outside the house) in primary fringe, it goes on declining in secondary fringe (60%) as well as in rural fringe (56.58%) (Fig. 5).

Available data revealed that 43.08% of the households have a toilet facility in the primary fringe (Table 3). Proportion of toilet facility is very low (21.28%) in the rural fringe. Most of the people in villages defecate in open areas. Open defecation is one common practice in rural India.

More than 59 per cent of the villages within the primary fringe have electricity connections. In contrast to that, the distant villages from the city have low rates of electrification such as 50.48% of villages in secondary fringe have electricity and villages in rural fringe having 45.93% electricity. The number of households that have access to electricity is decreasing away from the city centre (Fig. 7).

Generally, pucca households preferred separate kitchen arrangement within the dwelling whereas in Kutcha households cooking is done in open area. The kitchen facility is better in primary fringe (94.08%) and less developed in secondary fringe (91.66%) and rural fringe (91%) (Fig. 8).

Table 3 Household amenities in rural-urban fringe, in percentages (2011)

S.I. No.	Fringe Zone	Bath-room	Toilet	Elec-tricity	Kitchen
1.	Primary Fringe	60.45	43.08	59.67	94.08
2.	Secondary Fringe	60	23.51	50.48	91.66
3.	Rural Fringe	56.58	21.28	45.93	91

Source: author's processing

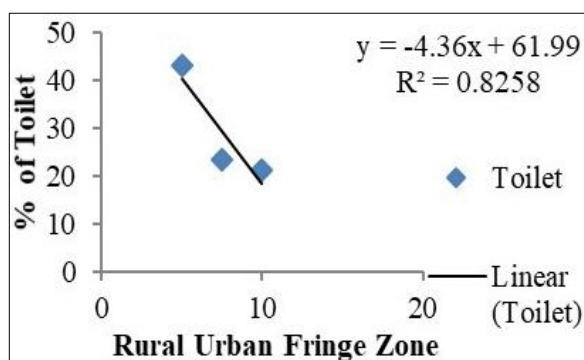


Fig. 6: Toilet facility in rural-urban fringe of Faziabad city (2011)

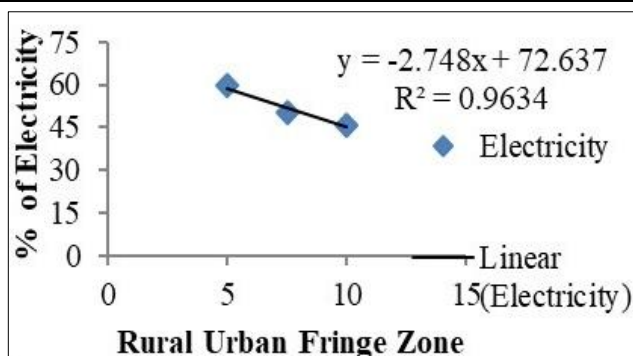


Fig. 7: Electricity facility in rural-urban fringe of Faziabad city (2011)

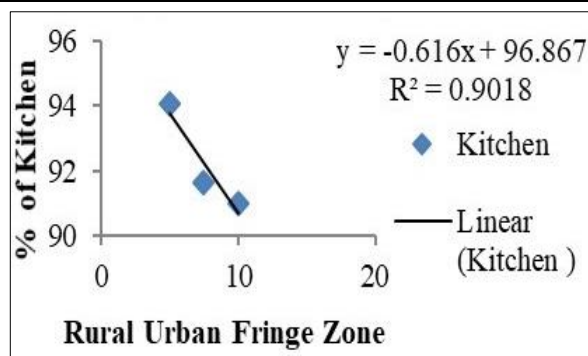


Fig. 8: Kitchen facility in rural-urban fringe of Faziabad city (2011)

Quality of cooking fuels is major factors in determining the quality of life. Prosperous households have better access to quality household fuels. The use of solid fuels for cooking in households usually results in the emission of hundreds of compounds, some of which may cause cancer and other health problems and it also produces greenhouse gases that is responsible for global climate change. The type of fuel used in cooking is the most important source of indoor air pollution.

Solid fuel such as crop residue and cow dung cake are the most important cooking fuels for cooking in the households of rural fringe while kerosene followed by LPG/PNG are the primary source for cooking in the households of primary fringe (Table 4, Fig. 9, 10, 11). Almost 32% households of primary fringe are using LPG/PNG as a source of fuel that goes on decreasing in secondary fringe (16.13%) and rural fringe (11.52%). Cow dung cakes are the second most common cooking fuel used by 10.54% of the households in primary fringe, 10.56% of the households in secondary fringe and 24.73% of the households in rural fringe. The other biomass fuel used for cooking is crop residue and 2.50% of the households in primary fringe, 5.98% of the households in secondary fringe and 6.02% of the households in rural fringe are using crop residue.

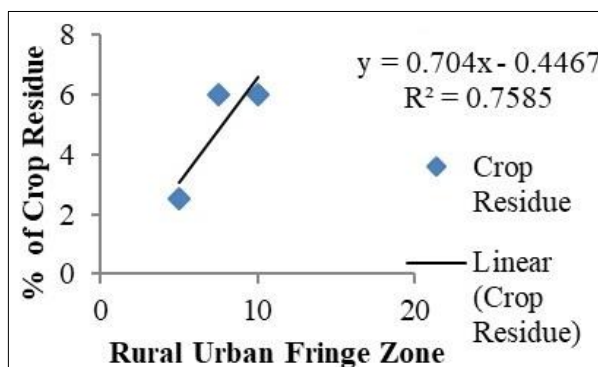


Fig. 9: Crop residue in rural-urban fringe of Faziabad city (2011)

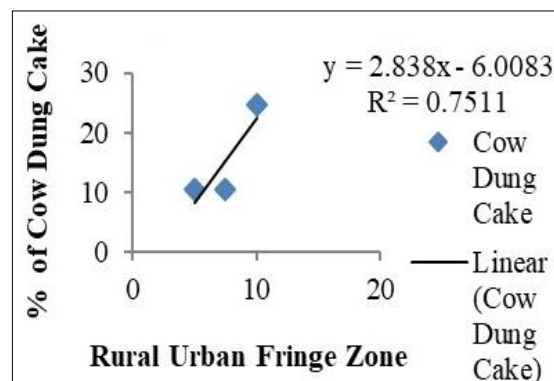


Fig. 10: Cow Dung Cake in rural-urban fringe of Faziabad city (2011)

Table 4 Fuel Used for Cooking in rural-urban fringe, in percentages (2011)

S.I. No.	Fringe Zone	Crop Residue	Cow Dung Cake	Kerosene	LPG/PNG
1.	Primary Fringe	2.50	10.54	0.75	31.29
2.	Secondary Fringe	5.98	10.56	0.40	16.13
3.	Rural Fringe	6.02	24.73	0.35	11.52

Source: author's processing

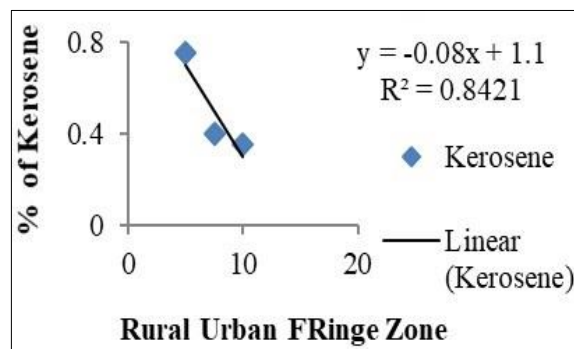


Fig. 11: Kerosene in rural-urban fringe of Faziabad city (2011)

Sources of clean water enrich the effective public health system. Basic hygiene provided by safe drinking water is related to the health status of the population. Safe drinking water facilities not only reduce morbidity and mortality, but it increases worker productivity and overall well-being. Sources of water supply determine the quality of drinking water.

Main source of drinking water in rural-urban fringe is hand pump followed by tap water. More than 83% of primary fringe households get hand pump water from treated sources in their homes, 81.29% households get hand pump water in secondary fringe and 75.77% households get hand pump water in rural fringe (Table 5).

Table 5 Sources of drinking water in rural-urban fringe, in percentages (2011)

S.I. No.	Fringe Zone	Tap Water	Hand Pump	Others
1.	Primary Fringe	17	82	2
2.	Secondary Fringe	13.92	81	5.08
3.	Rural Fringe	13	75.77	6.23

Source: author's processing

Only 15.41% of households with tap water from treated source are available in primary fringe records due to the influence of the city. Only 2% households get drinking water from other source (river, ponds, well, tube well/borehole and canals) in primary fringe. Sources of drinking water such as tap water from treated sources and hand pump are declining away from the city centre (Fig. 12, Fig. 13, Fig. 14).

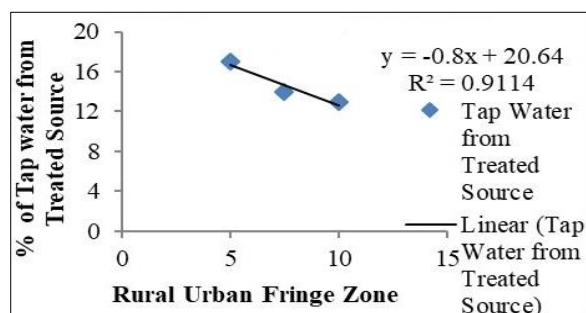


Fig. 12: Tap water from treated source in rural-urban fringe of Faziabad city (2011)

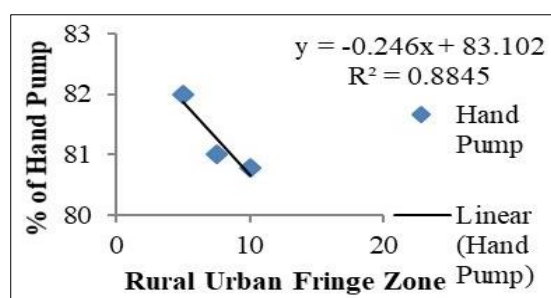


Fig. 13: Hand pump in rural-urban fringe of Faziabad city (2011)

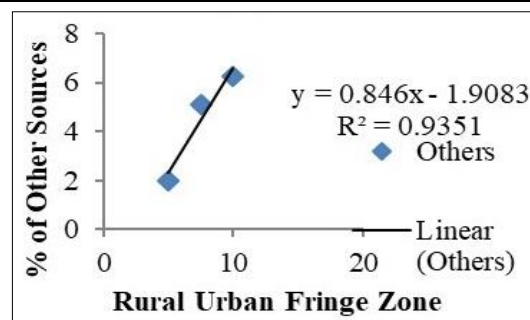


Fig. 14: Other sources of drinking water in rural-urban fringe of Faziabad city (2011)

Household assets in rural-urban fringe of Faizabad city

Household assets like television, computer, laptop and telephone are the modern information and communication technologies. These modern communication technologies are the important instruments in the process of development. In the era of digitalization, use of information communication technologies has increased in urban as well as in rural areas. With the help of telephones, computers and internet people can exchange their experiences and learn from each other. People can also help to overcome traditional barriers and update their day to day life.

Table 6 Household assets in rural-urban fringe, in percentages (2011)

S.I. No.	Fringe Zone	Tele-vision	Com-puter, Lap-top	Two Wheel-ers	Four Wheel-ers
1.	Primary Fringe	47.44	8.00	28	3.54
2.	Secondary Fringe	37.21	7.39	23.08	3.52
3.	Rural Fringe	30.42	7.37	20.90	3.28

Source: author's processing

The most common asset is television, which is available for 47.44% in the households of primary fringe, 37.41% in the households of secondary fringe and 30.42% in the households of rural fringe (Table 6). The use of computers/laptops is still very reduced and it is reserved for extremely small pockets of population in rural urban fringe. The asset like computer/laptop is uneven in different zones of rural urban fringe. Only 8% households have computer/laptop in primary fringe and it goes on decreasing with distance from the city centre (Fig. 16). Mode of transportation is also very important factor for level of development. Two wheelers is the one of the most important mode of transportation in rural urban fringe and 28% households have two wheelers in primary fringe, 23.08% households in secondary fringe and only 20.90% households have two wheelers in rural fringe (Fig. 17).

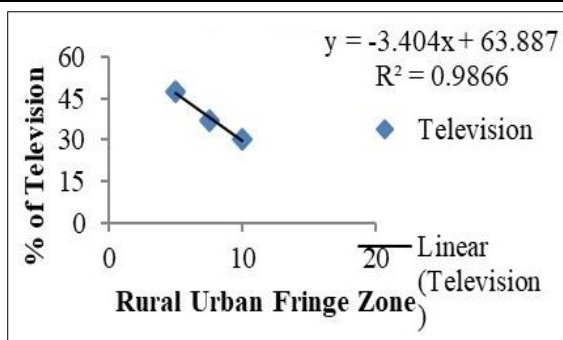


Fig. 15: Television in rural-urban fringe of Faziabad city (2011)

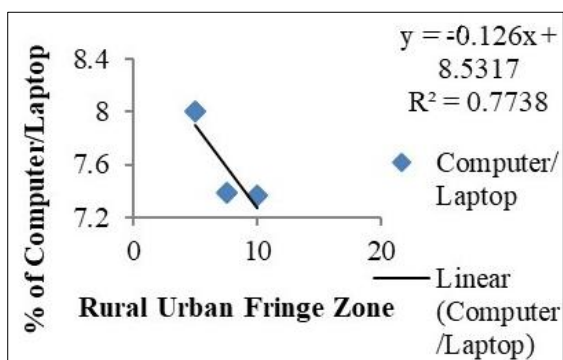


Fig. 16: Computer/laptop in rural-urban fringe of Faziabad city (2011)

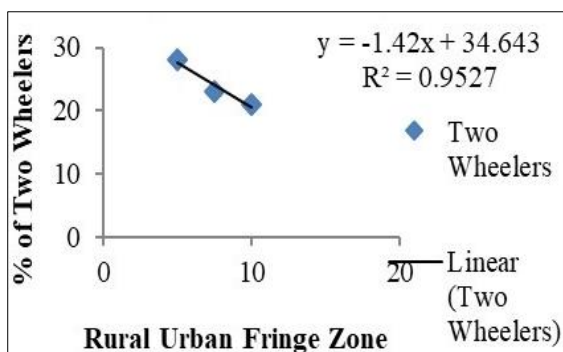


Fig. 17: Two wheelers in rural-urban fringe of Faziabad city (2011)

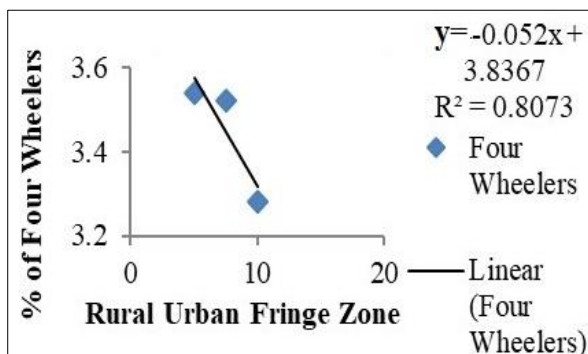


Fig. 18: Four wheelers in rural-urban fringe of Faziabad city (2011)

Conclusion

Using the census data of 2011, it is found that the distribution is unequal with rural fringe having lower access to basic amenities. This analysis suggests that access to basic amenities, such as drinking water and sanitation is highly correlated with the economic status of households. This finding is also supported by the regression analysis which examines the determinants of housing conditions in rural urban fringe.

Economic and social backgrounds of the household are major determinants of housing conditions in both rural and urban India. The villages of the analyzed primary fringe possesses good quality of housing condition and housing amenities in rural-urban fringe of Faizabad city. Whereas, the villages of rural fringe are not in good condition and the villages of secondary fringe are having moderate conditions. The study shows that the housing condition and availability of housing amenities decreases from high in primary fringe to low in the rural fringe. There is a declining trend in availability of household assets from the city centre to the rural-urban fringe of Faizabad city.

All in all, despite the existing various schemes for rural development such as PURA (provision of urban amenities to rural area), Pradhan Mantri Adarsh Gram Yojana, Sansad Adarsh Gram Yojana (SAGY) and Shyama Prasad Mukherji rural mission (SPMRM), rural-urban gap in terms of housing and basic amenities remains high. At present, lack of proper policy funding, corruption within the programmes at different levels, lack of people's involvement hinders the completion of any programmes in India.

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