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Housing Environment in Saharanpur City

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Abstract:
The first and basic frame of environment in which humans live is their house. Housing conditions influence human health through ecological linkages. Housing is one of the basic requirements for human survival. Housing encompasses a bundle of characteristics, which are necessary for human well-being.
In the present study, the housing environment of Saharanpur city has been analyzed in terms of status of housing, building material and housing facilities. Saharanpur city is a medium size city of India, and like the other cities of the country, Saharanpur also has a housing environment that is directly related with the economic status of the occupants. Housing environment over the city space shows no definite pattern accept a weak tendency that good quality residential enclaves have a better housing environment than the old and underdeveloped areas of the core and the peripheral areas of the city.

Keywords: *Ecological linkages, well-being, housing environment, core, peripheral areas*

1. Introduction

The first and basic frame of environment in which humans live is their house (Fakhruddin 1991:101). Housing conditions not only have implications for aesthetic sense and transportation, but also influence human health through ecological linkages. Housing is one of the basic requirements for human survival. The unauthorized and unplanned housing is hazardous in terms of drainage and sanitation. It may also influence disease transmission as housing design affect ventilation, air temperature, humidity and housing facilities as toilets and bathrooms all of which affect transmission of airborne pathogens and personal hygiene. Housing encompasses a bundle of c89haracteristics, that are integral to family well-being, housing must be decent and safe (Rachel G. Bratt, 2002). Thus, housing environment is one of the most important element in the livability of an urban habitat. Therefore, this problem in the present paper is addressed by taking Saharanpur city as a case study to make generalization as how spatial imbalances in quality of environment conditions are developed by land occupation process in a developing city. This problem is examined in terms of status of housing, planning status, building material and housing facilities.

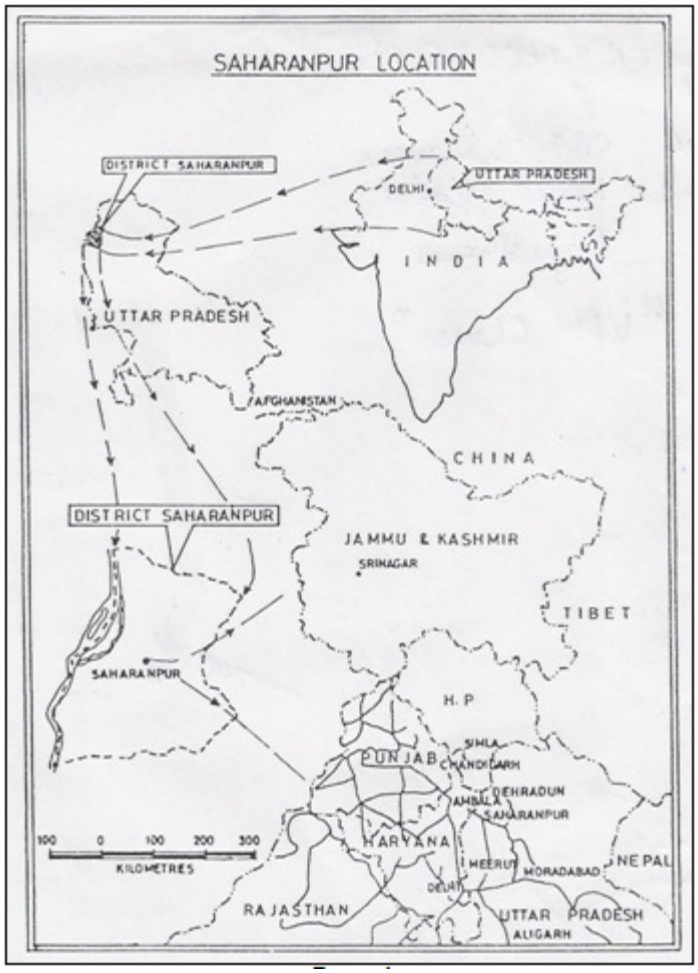

Figure 1

2. Data Base and Methods

The present study is empirical in its treatment of the theme of inquiry. Information about the housing types and facilities is gathered from the household survey. The collected data is processed and compiled on the ward level, which is taken as the unit of analysis. The wards of the city are classified into four categories of very high, high, low and very low. This has been achieved by applying nested means method.

The nested means method, in the first instance involves arranging observations on a variable in ascending or descending order. In the second instance a grand mean is calculated taking all the observations into account. This grand mean divides the entire series of observations into two sub-sets, one containing observations smaller than the grand mean and the other having observations larger than the grand mean. In the third instance two separate means are calculated, one for the observations larger than the grand mean and the other for the observation smaller than the grand mean. These three means provide limits for four classes. The values above the means of the larger values are designated as very high and values falling between the mean of smaller values and the grand mean are classified as low and values below the mean of smaller values are labelled as very low.

2.1. Status of Housing

In cities, especially in big cities, there is a tendency of development of unauthorized housing, the unauthorized housing here is defined for practical purposes as erection of housing structures without agreement of concerned labeled owner of the land. This type of housing results in the development of squatter settlements and slums. These may develop anywhere in the city, along the roads or in underdeveloped areas. These are hazardous to the quality of life in the urban centers. Apart from aesthetic degradation and transport hazards, they also are source of health hazards. The sub-human living conditions in squatters and slums generate harmful garbage, which together with the practice of defecation in the open and on the roads become hazardous to health. The most negative consequence of this housing is that it defies the urban development plans and, therefore is a hindrance in planning a sustainable development of towns and cities.

2.2. Planning Status

Planned housing in the urban habitats is an important indicator of well being of its inhabitants and their level of awareness of sanitation and hygiene. In Indian cities there is generally observed a duality of housing pattern which is strongly influenced by the historical growth of the city: unplanned housing in older parts and planned housing in newer parts. This is also true of Saharanpur city. In order to analyze the planning status of housing in Saharanpur, the houses in each of the city are classified into two groups: (1) planned and (2) unplanned. Of the total houses surveyed 27.20 percent are planned in Saharanpur. The highest percentage of planned houses is 100.00 while the lowest is 20.00. About twenty-five out of forty wards have no planned housing. The proportion of planned and unplanned houses is shown below.

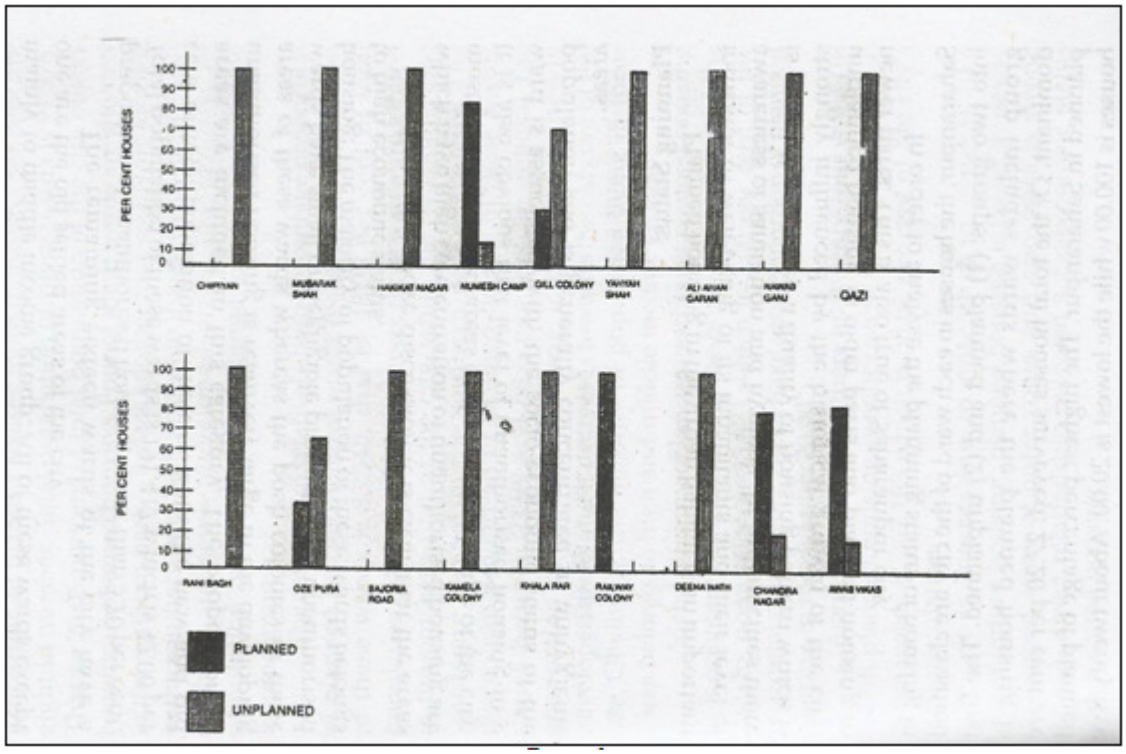

Figure 2

From the figure it is made out that wards having a proportion of planned houses more than 58.63 percent are eight in number. Total population of these wards is 69770. That is, 20.05 percent of total population of the city enjoys benefits of planned housing. Four of these wards are situated in the northern part, whereas another four wards are located in the southern part with respect to the centre of the city. All of these wards are newly developed. The majority of population of these wards belongs to high and middle-income groups.

The category of high percentage proportion of planned houses includes seven wards. Total population of these wards is 63,781. That is, 18.33 percent of total population of the city enjoys a high level of planned housing environment. Of these seven, three wards are located in the northern part of the city, while the remaining four are located in the south. The percentage of planned housing in these wards varies between 22.99 and 58.63 percent. In general, the proportion of planned housing is high in the newly developed areas and it decreases towards the old core of the city. Obviously, the majority of population living in these areas belongs to high and middle-income groups.

In the third category there is only one ward located in the northern most part of the city. Its population is 9,326 that is 3.00 percent of the city's total population. The percentage, proportion of planned housing in this ward is 20.00 percent.

As mentioned above there are twenty-four wards in which planned housing is non-existent. Total population of these wards is 205,080 that make 58.62 percent of the city total population.

It is interesting to note that like unauthorized housing, planned housing is found in newly developed areas of outer zones and also there is a strong and direct relationship between socio-economic status and planned housing.

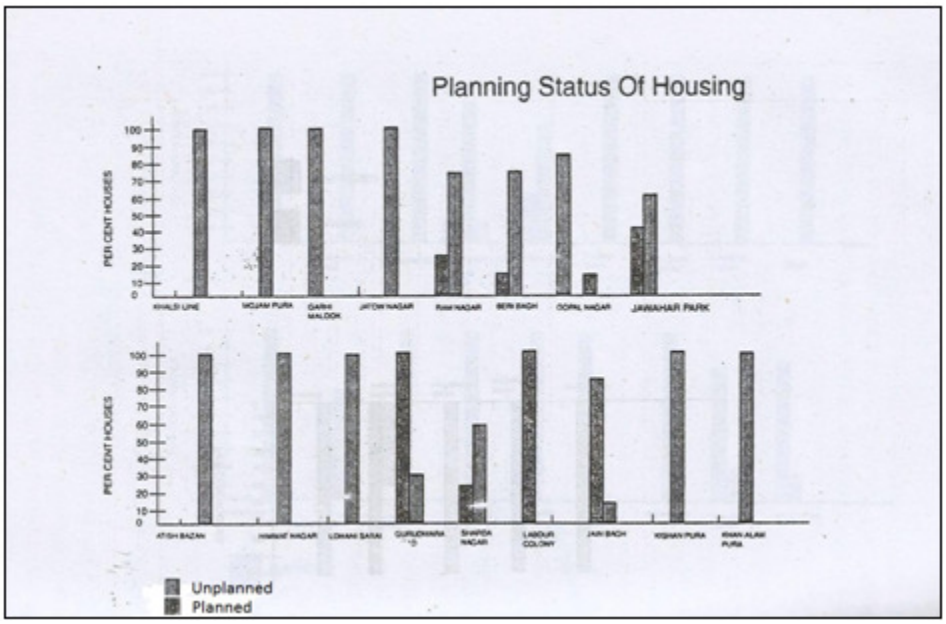

Figure 3

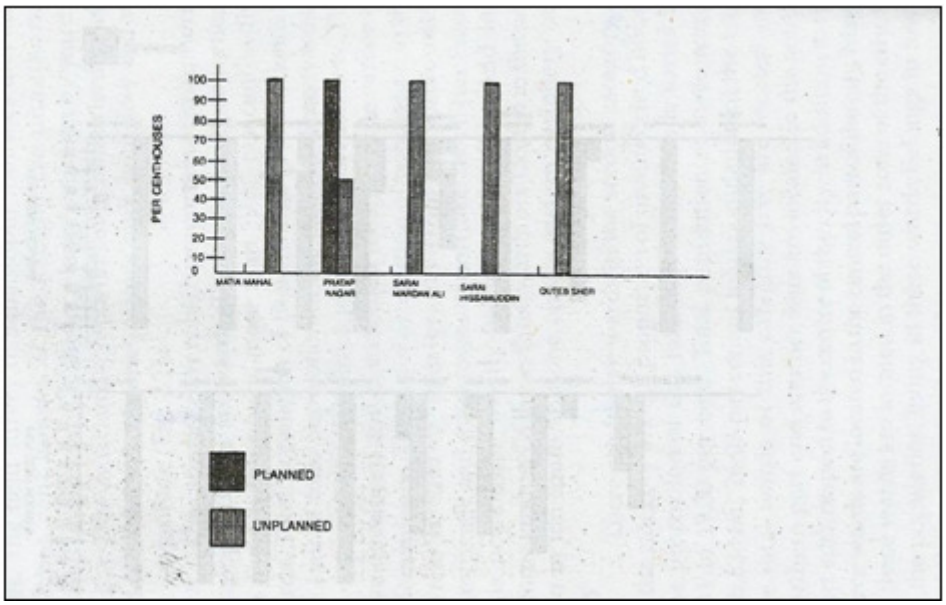

Figure 4

2.3. Building Material

In the present study, four types of houses are recognized on the basis of building material. These are, *pucca* houses, mixed houses, *kutcha* houses and *jhuggis*. The *pucca* houses include all residential houses built of concrete and bricks. These are good quality houses. They account for 80.80 percent of all sample houses. The *mixed* houses are generally built of bricks and mud. They make up 11.11 percent of all surveyed houses and are of medium quality. The *Kutcha* houses are made of mud and sun-burnt bricks and are of low quality houses. Their proportion in the total houses surveyed is 5.10 percent. The *jhuggis* are very low quality houses and are made up of makeshift material. They are found to constitute 3.00 percent of all the sample houses. The ward wise distribution of these types of houses is show in figure.

2.4. Pucca Houses

The total number of pucca houses in the city is estimated as 48,984. The wards of the city are classified into four categories. First category is of very high concentration of *pucca* houses. It has nine wards where more than 91.60 percent houses are pucca. Total population of these wards is 81,391 i.e. 23.39 percent of total population of the city. Five of these wards are located in the north of the city centre, and four are located to the south. Most of these wards are newly developed areas, not developed earlier than sixty years. Majority of the population belongs to high and middle income groups.

The category of high concentration of *pucca* houses also includes nine wards. The percentage proportion of *pucca* houses varies between 82.80 and 91.60 percent. Total population of these wards is 68,811 that is, 19.78 percent of the city's total population. All of these wards are located in the northern half of the city and except two wards all of them are old settled parts of the city. Majority of the population of these words belongs to middle income group.

There are thirteen wards in the category of low proportion of concrete-brick houses. Their proportion varies from 72.80 percent to 82.80 percent. Total population of these wards is 120,134, that is, 34.53 percent of the city's total population. Both the new and old areas are included in this category. The majority of population of these wards is middle class and lower middle class. The fourth category includes ten wards. Concentration of pucca houses in these wards is less than 72.80 percent. This category includes both the new and the old areas of the city. These areas have a low-socio economic base. The majority of the population is of lower middle and lower class. The above discussion shows that the pucca houses are found all over the city space but their proportion varies from one part to another. The economic status of population is a very important determinant for the existence of pucca houses.

2.5. Mixed Houses

Mixed houses are actually *kutcha* houses which are renovated and, therefore have some pucca parts. These houses are semi- *pucca* and generally house low income group people. According to the estimate, there are 6,536 mixed houses in the city. The distribution of mixed houses is shown in Fig2.

The first category is of very high concentration of mixed houses. Nine wards fall in this category. The proportion of mixed houses in this category is more than 16.60 percent. The total population of these wards is 92,742, which is, 26.65 percent of total population of the city. Seven of these wards are situated in the northern part of the city. One in the south and one in the east. All these areas are the underdeveloped and mostly low income people reside here.

In the second category twelve wards are included. The proportion of medium quality houses varies from 10.78 to 16.60 percent. The population of these wards is 116,947 which is, 33.61 percent of the city's total population. Seven wards of this category are located in the northern part of the city and five are located in the south. These wards include both new and old settlements, but mixed houses are commonly found in the localities where low income people are living.

The category of very low proportion of mixed houses has seven wards. Here the percentage proportion of these houses is less than 6.01 percent. These wards together contain 48560 peoples, which is, 15.96 percent of the city's total population. Broadly speaking these are newly developed parts of the city and house largely medium and high income population.

In conclusion it can be said that mixed houses exist in small proportion all over the city. They are more abundant in the old congested parts of the city on the contrary their proportion is small or negligible in the newly developed high class residential localities.

2.6. Kutcha Houses

According to the estimate there are 3188 *kutcha* houses in Saharanpur city. *Kutcha* houses are, in fact remnants of old houses of the poor, which in the process of development are being rebuilt into *pucca* houses. For the spatial analysis they have been divided into four categories of very high, high, low and very low proportion. In the first category twelve wards are included. Here the proportion of *kutcha* houses is more than 10.11 percent. Fig.2 shows their distribution by wards of the city.

These wards have 9.13 percent of city's total population. All of these are the old settled parts of the city. Nine wards are located in the northerner part of the city and three in the south.

Second category is of high concentration of *kutcha* houses includes nine wards where the proportion of *kutcha* houses varies between 5.70 and 10.11 percent. In these wards 17.66 percent of the city's total population resides. Most of these are located on the peripheral parts of the city where villages are brought in the municipal limits recently. A considerable proportion of population here belongs to the poor section.

In the third category four wards are included. The percentage proportion of low quality houses ranges between 2.00 and 5.70 percent. These wards contain 29.05 percent of total population of the city. All these areas are the old settled parts.

Twelve wards of the city have no *kutcha* house. All of these are newly developed parts.

Thus, in large parts, low quality housing is confined to old areas or to villages recently included in the city limits. Very few houses are observed in the southern part of the city which is a recently developed area.

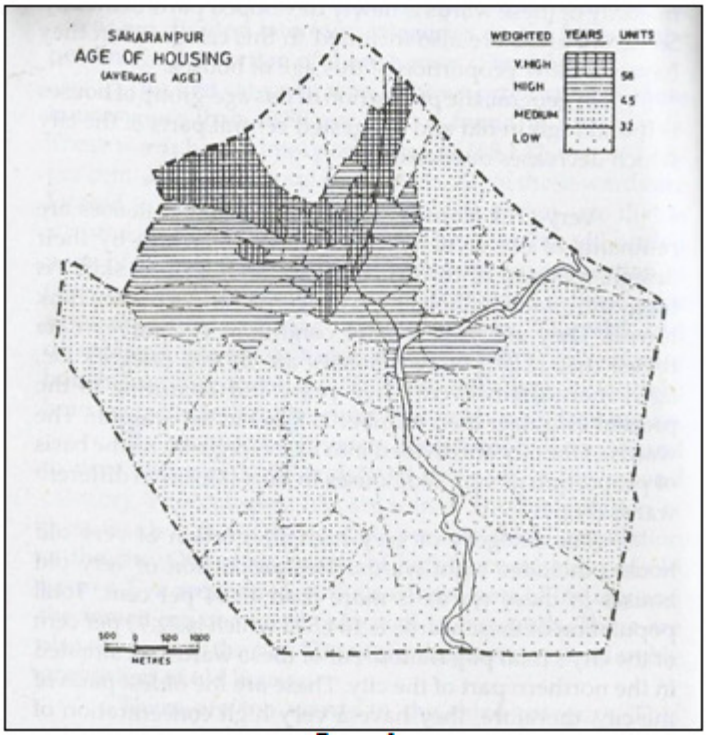

Figure 5

2.7. Jhuggis

These are very low quality houses made up of makeshift material and are the residences of people at the bottom of poverty. These *jhuggis* are found generally along the roads, on the vacant lands and near the nullahs. As such, these are found in unhygienic areas and their residents are prone to every type of indoor and outdoor environment related health hazards. The wards of the city are divided into four categories on the basis of proportion of these houses. In the first category there are eight wards. The proportion of *jhuggis* in these wards is 8.01 percent or more. These wards contain 68433 people that is, 19.67 percent of the city's total population (Fig2.) Most of these wards are located in the outer zone of the city. The population of these wards belongs to medium and low income groups. There are nine wards in the second category in which high proportion of very low quality of houses is observed. The proportion of *jhuggis* varies from 4.10-8.01 percent. Six of these wards are located in the north and three are located south of the city centre. These are old settled parts of the city which have a considerable proportion of poor population largely of rural origin from the surrounding countryside.

In the third category there is only one ward. The proportion of jhuggis in this ward is 3.96 percent of total surveyed houses.

The remaining twenty-one wards fall in the fourth category. In these wards no jhuggi is found. These are the areas of high and middle income population.

As a whole, the very low quality housing has a strong tendency to locate either in the core of the city or on the periphery. In the core these houses are concentrated because they have easy access to the job sites of the occupants. While on the periphery they have abundant vacant land to make squatter colonies.

In general, housing by building material shows a random pattern which in most cases is related with the socio-economic status of the residents. However, in the case of low quality housing there is observed a strong tendency to locate in the inner and outer zones, while the middle zone has good quality housing. However, in both areas of its preference, the low quality housing is restricted to small pockets and is a part of inner and outer slums and squatter colonies. As a whole, excluding some pockets of concentration of the *jhuggis*, housing in terms of building material is no major problem in Saharanpur.

2.8. Housing Facilities

Housing facilities are not only the indicator of socio-economic status of people but also determine livability both in terms of well-being and ecological consequences. Poor standards of housing exert an influence over a range of other issues (Cole, I: 2001). Provision of latrines and bathrooms was not essential in most houses in India in the past. This situation to some extent still persists in medium and small towns of the country. In the absence of latrines, people generally defecate in the open areas or on the roads and streets. In such a case, excreta flow into drains running along the houses, exposing the entire community to health hazards and foul environment. The absence of bathrooms influences personal hygiene and bathing in open results in the accumulation of water pools-the breeding grounds of mosquitoes. The situation aggravates when drainage is poor and restricted.

The survey data from Saharanpur indicate that 33.52 percent households in the city do not have adequate latrines. Of these households a large number (about 40 percent) defecates in open and the remaining (60 percent) share latrines with other households. Similarly,

29.23 percent households do not have exclusive bath facilities. Of these, a number of men bath outside the house near the source of water supply and 25 percent households share baths with other households and remaining households have their separate baths. The most affected segment of population by the absence of baths is women folk.

Thus, shortage of latrines and baths is one of the important problems of environmental nature is Saharanpur. This problem in the city is examined in terms of pressure on latrines and bathrooms.

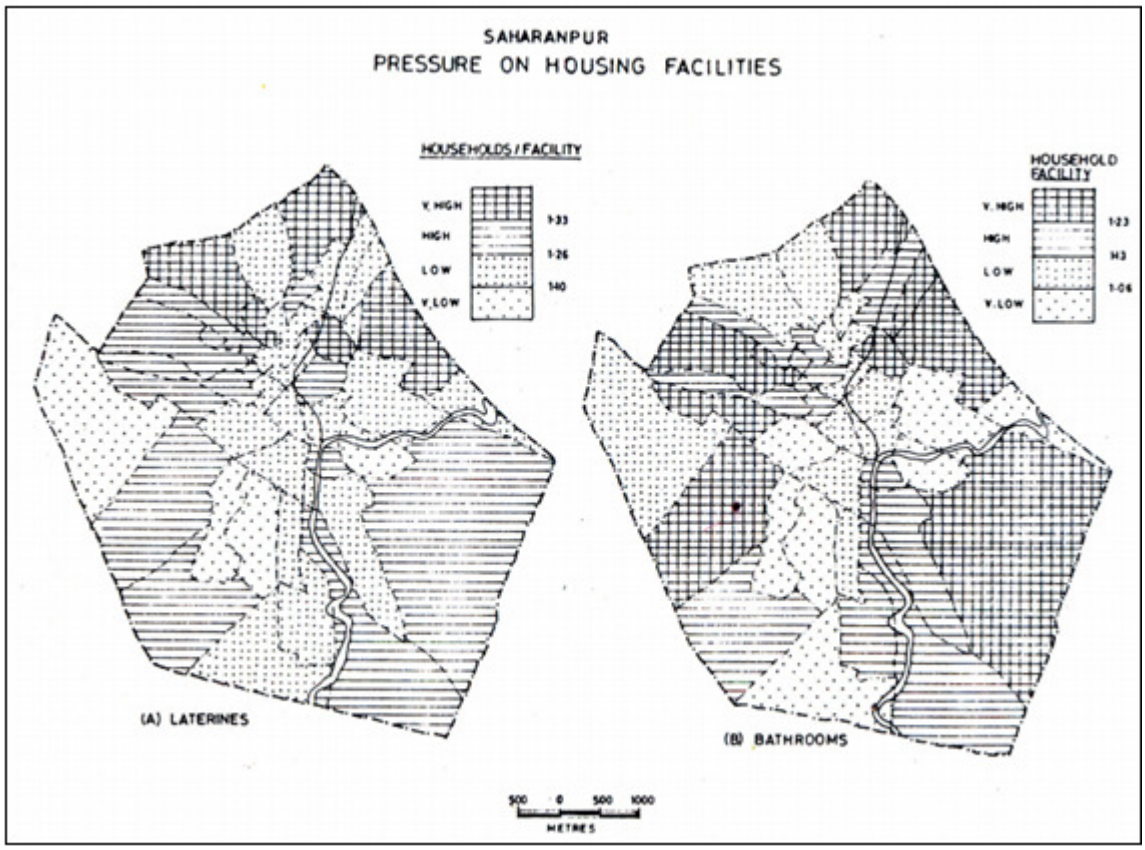

Figure 6

2.9. Pressure on latrines

To analyze the availability of latrines to the households in Saharanpur, the number of households in a ward are divided by total number of functional latrines. The resulting figures, indicating pressure on available facilities, show variations around the city average of 1.26 households per facility. For the spatial analyses wards of the city are divided into four classes (Fig.3)

This first category is of very high pressure and consists of six wards where more than 1.33 households share the common facility. It means more than one third households do not have their own latrines in these wards. These wards together comprise of a population of 60,609 that is 17.42 percent of total population of the city. Five of these wards lie north of the city-center and one ward lies south east of the city center in the middle zone. All these wards have in majority a population of low and middle income groups. Since these wards lie close to the city centre, tenancy is very high and households are bound to share housing facilities.

The second category is of high pressure on latrines includes eleven wards where 1.26 to 1.33 households use the same latrine. Total population of these wards is 100,671, which is, 28.93 percent of total population of the city. These wards are mostly concentrated in the western parts of the city. Mostly these houses are of poor people where due to non- availability they are forced to share housing facilities.

The category of low pressure on latrines includes eighteen wards. Total population of these wards is 148,364 that is, 42.64 percent of total population of the city. Eight of these wards are observed in the central zone whereas the remaining ten wards of the category are found in peripheral zone. The wards lying in the northern part are mostly old settled, densely populated areas with majority of population of middle income group. Since literacy level is relatively high, so to maintain privacy and better living, people in these wards generally do not share latrines with others. The standard of living is good therefore pressure on housing facilities is found low here.

Very low pressure on latrines is found in four wards. In these wards less than 1.10 households share the latrine. These are exclusive enclaves of high income people which have recently emerged on the townscape. By virtue of their economic status they have exclusive facilities in their houses. However, presence of poor people in these wards increases the pressure slightly.

2.10. Pressure on Bathrooms

Bathroom is one of the basic facilities of a house and has great impact on personal hygiene and therefore, on the health of the people. However, due to low incomes and successive partition of houses to accommodate increasing population, it is not possible that every household has separate bathroom. Pressure on bathrooms has been calculated by dividing number of households by the number of reported bathrooms in the sample houses. Pressure on bathrooms is an indicator of housing environment. To study the spatial pattern of pressure on bathrooms, wards of the city are divided into four categories (Fig.)

The first category includes wards where pressure on baths is highest amounting more than 1.23 households per bath. There are eight such wards. Total population of these wards is 72,547 which is 20.85 percent of the city's total population. Spatially these wards show a random pattern with a tendency to localize in the peripheral areas. These wards have majority of population of low to medium economic status. Most of these areas are old settled. The peripheral zone hosts a population, the majority of which has rural origin with the rural way of life, where there is no specific place for bathing in the houses. Further they have joint families.

The second category includes the wards which have pressure on baths that ranges between 1.13 and1.23 households per bath. These wards are fourteen in number. Population of these wards is 110063 which is 31.63 percent of total population of the city. It means that a sizable proportion of the city is experiencing shortage of bathrooms. The majority of the population of these wards is of low and middle economic status with low awareness of personal hygiene.

The third category is of low pressure on bathrooms. In these ward pressure varies between 1.06 and 1.13 households per bathroom. Ten wards are in this category. Total population of these wards is 70,726, that is, 20.33 percent of the city's total population. Four of these wards are found north-west of the city centre and the other sector extends in the north – south direction and includes some parts of the city centre. The majority of the population of these wards is of middle and high income groups. Population of these wards can afford the basic housing facilities.

The fourth category has wards where pressure on bathrooms varies less than 1.06 households per bath. There are recorded eight wards in this category. Total population of these wards is 94,621 which is 27.19 percent of the city's total population. It means that a significant proportion of population has this facility. All these are posh areas of the city where upper and middle class people reside.

Like pressure on latrines, pressure on bathrooms shows no definite spatial pattern except a tendency of high pressure in the inner zone and a low pressure in the parts of outer zone. Generally, areas of middle income group and low income group population show high pressure. In the former areas, bathroom facilities are largely shared with other households while in the case of latter areas people generally baths outside the house near the source of water supply.

3. Conclusion

As a whole, housing standard in Saharanpur presents a very dismal picture of the city. On an aggregate level about 45 percent of population lives in sub-standard housing condition and another 25 percent lives in just bearable housing condition. Only about one-third of the total population of the city lives in adequate housing environment. The most severe problems of housing environment in the city is the absence of planned houses.

The housing conditions in most of the intermediate zone are of medium standard. Housing standard in the city though shows some relation with the gradual occupation of the city, it is more closely associated with the socio-economic status and concentration of population. The core of the city is most problematic as it shows, in large part, a degraded housing environment. The low and middle income people have densely concentrated in the core of the city. As a result, dwelling units have multiplied by construction, addition and partition of houses which generally are old. This has resulted in the absence of proper ventilation, sharing of living space and shortage of housing facilities. As such, most of the core of the city has degraded into slum. Due to lack of land and its high price in the core, low income people have either illegally occupied vacant land or purchased low lying land in the outer zone. However, due to congestion and crowding in the central zone, high income people have also developed their residential enclaves in the outer zone. Thus, the outer zone is characterized by both sub- standard and high quality housing environments

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