

Housing Conditions in Rural Haryana: A Regional Analysis

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Abstract

In the present research work an attempt has been made to analyze the regional pattern of housing conditions in rural Haryana. The tehsil wise census data of 2011 has been used. The data in respect of rural houses and its uses and housing conditions have been used. Initially, the housing conditions like good, livable and dilapidated at tehsil, district and broad regional level in proportion to total rural houses have been calculated in per cent. After that Z score method has been applied to identify the regional patterns of housing conditions in rural Haryana. About 93 per cent houses are found as occupied census houses while only 7 per cent houses are recorded as vacant houses. Residence houses are covered a large proportion of occupied houses that is 62 per cent. It is observed that nearly half of the (48.20 %) houses are in good condition, 46.72 per cent houses are in livable condition and only 5.08 per cent houses are in dilapidated conditions in Rural Haryana. Based on z score values, the highest good condition houses is recorded in Kalka (2.19 'z score') tehsil while lowest is found in Punahana (-3.16 'z score'). On the other hand, the highest livable condition houses are observed in Punahana (2.94 'z score'). The lowest livable condition houses are found in the tehsil of Kalka that is -2.84 'z score'. While the largest proportion of dilapidated condition houses is recorded in the tehsil of FerozepurJhirka (3.57 'z score') and smallest is in Manesar (-2.13 'z score'). Finally, the study area has been divided into eight broad regions with the help of concentration index, size of household, literacy rate and work participation rate for the regional analysis. The largest share of houses in good condition is found in southern region. On the other hand, the highest percentage of livable condition houses is recorded in south southeastern region (51.0 %). While the highest percentage of houses in dilapidated condition is found in south southeastern region (6.7%) in the study area.

Introduction

House is a basic need of human to protect the hard climatic condition. Human dwelling forms an essential element of cultural landscape, as it is the best manifestation of man's material progress and his relationship with the environment. It is essential to consider the location,

architectural style, shape and size, building materials, house plan, cost, classification and occupancy rate of houses. Chamar, K.V. (2002) has worked on “Rural Dwelling and House Types in Desert Land of Haryana: A Case Study of Bhiwani District” in which he examined the distribution, types, size, functional characteristics, used building materials and plan of the rural households. This study is based on primary as well as secondary data. On the bases of selected parameters like density, growth, literacy rate, sex-ratio and work participation rate of rural population the study area has been divided into four regions. It has been recorded that 51 per cent of the total rural dwellings are pacca, 20 per cent are mixed and 29 per cent are kaccha. Further, it is found that the street pattern is irregular and unplanned. He is observed that architectural design and conditions of the households are good and attractive in the eastern region. This is due to prevailing prosperity of the local people. On the other hand in the western region, households are generally kaccha and lack modern facilities and inhabited by the poorer people.

Singh, Rashmi and Bilas (2013) examined the housing conditions and quantify the extent of housing stock and housing shortage in Uttar Pradesh. They identified that there is a huge gap in the decadal growth of population (20.2 %), households (27.8 %), houses (31.7 %) and housing stocks (28.9 %) in the study area during 2001-11. Further, they found that substantial proportion of the houses in the Uttar Pradesh is not in good condition. The main objective of the present study is to analyze the uses of census houses and housing conditions in rural India. In the same year, Chamar and Chamar have worked on “Rural Dwelling and House Types in Village Sirsa Kheri: A Case Study”. In this work they used primary data. It is found that about six-tenth households in the village have two or three rooms. Most of the households having four or more rooms belong to the agricultural castes like Jats and Brahmans. Mostly, they belong to economically poor or moderately better off sections of the village. It has been recorded that more than three fourths of the total households are mixed and the rest are pacca. The floors of almost dwellings are made of cement and burnt bricks, burnt bricks and stones are main construction material of walls and stones and tiles are most popular roof material.

In 2016, Chamar and Seema evaluated the housing condition in rural India. The census data of 2011 has been used. The data of uses of rural households and housing conditions is used at district and state level. India has been divided into seven regions on the basis of selected

parameters like concentration index, sex ratio, household size, literacy rate and work force. It is observed that about 94 per cent houses are occupied in which 42.47 houses are residential houses. The maximum proportion of residence houses are recorded in eastern region (75 %) while minimum is in north western region (58 %). Further it is observed that about 46 per cent houses are in good, 48 per cent in livable and only 6 per cent in dilapidated condition. Recently, Ahmed, N.N. (2017) has studied "An Assessment of Housing Quality in Uttar Pradesh: Spatial Inequality". He constructs the Housing Quality Index by using Principal Component Analysis. For the construction of HQI, he is used three sub indices namely, housing structure index, housing service index and proxy wealth index incorporating 19 indicators. It is observed that about 24 urban population lives in temporary shanties. The main obstacles in the line of housing provision in this area are unavailability of land, high infrastructural cost, high rate of rural urban migration and lack of proper finance mechanism. The main objective of the present study is to analyze the uses of census houses and housing conditions in rural India.

Source of Data and Research Methodology

The census data of 2011 has been used for the present research work. The data in respect of rural houses and its uses and housing conditions have been used. The housing conditions data is available at tehsil, district and broad regional level. The district and regional level housing condition data in proportion to total rural houses have been calculated in per cent. After that 'Z score' (data-mean/standard deviation) method has been applied to identify patterns of housing conditions in rural Haryana. The study area has been divided into eight broad regions i.e. north northeastern, north eastern, east central, southern, south southeastern, northern, western and south western on the basis of selected parameters like concentration index, household size, sex ratio, literacy rate and work participation rate. Finally, the maps have been prepared with the help of choropleth method by using the Arc GIS 10.1 (Arc MAP Version 10.1).

Study Area

Haryana is a wealthy state of India. After the reorganization of the Punjab on linguistic basis as well as cultural, Haryana came into being on 1st November 1966. Haryana is a landlocked state of northern India. Haryana lies between 27°39' N to 30°35' N latitude and 74°28' E to 77°36' E longitude. As per census 2011 Haryana has 4 administrative divisions, 21

districts and 74 tehsils. Haryana geographical boundaries have in northern side with Punjab and Himachal Pradesh, eastern side is with Uttar Pradesh and Delhi and Rajasthan is with the south western boundaries of Haryana. Haryana is a small state and has an area of just 44212 sq. km that 1.4 per cent of the India. Haryana state has total population of 25351462 persons in 2011, out of which 13494734 (53.23%) are male and 11856728 (46.77%) female. Haryana has 16509359 rural population, out of which 8774006(53.15%) are male and 7735353 (46.85%) female. Out of the total population in the state 65.12 % population lived in 62.66 % households in rural areas and 34.88 per cent in 37.34 % households in urban areas. The average literacy rate is found 71.42 per cent in rural Haryana. The average work participation rate is recorded 36.36 per cent in the study area. The household size is recorded 5.4 persons/ household while sex ratio is 882 females/1000 males in rural Haryana as per census 2011.

Census Houses and Its Uses

There are different uses of census houses in rural Haryana. Census of India classified the total houses into two broad categories that is (i) vacant houses and (ii) occupied houses. In 2011, nearly 93 per cent houses are recorded occupied houses in rural Haryana. The occupied houses are divided into ten categories. It is observed that maximum occupied houses are used as residence that is 62.08 per cent, followed by other non-residential (21.48 %), residence cum-others (9.76 %), shop/office (4.65 %). Other categories like place of worship (0.60 %), school/college (0.41 %), factory/workshop/work shed etc. (0.34%), locked houses (0.32 %), hospital/dispensary (0.19 %) and hotel/lodge/guest houses (0.15%) have recorded less than one per cent of the total rural houses as shown in the Table-1. The district wise different uses of census houses have also identified in rural Haryana.

| Table No. 1: Distribution of Census Houses and Its Uses in Rural Haryana, 2011. | | | |
|--|-----------------------------|----------------------|--------------------|
| Sr. No. | Use of Census Houses | No. of Houses | In Per Cent |
| Total Census Houses | | 4,444,365 | 100 |
| 1 | Vacant Census Houses | 322,995 | 7.27 |
| 2 | Occupied Census Houses | 4,121,370 | 92.73 |
| Categories of Occupied Census Houses | | No. of Houses | In Per Cent |
| 1 | Residence | 2,558,711 | 62.08 |
| 2 | Residence-Cum-Other Use | 402,376 | 9.76 |
| 3 | Shop/ Office | 191,764 | 4.65 |

| | | | |
|---|------------------------------|------------------|--------------|
| 4 | School/ College | 17,072 | 0.41 |
| 5 | Hotel/ Lodge/ Guest House | 6,232 | 0.15 |
| 6 | Hospital/ Dispensary | 7,913 | 0.19 |
| 7 | Factory/ Workshop/ Work shed | 13,990 | 0.34 |
| 8 | Place of Worship | 24,873 | 0.60 |
| 9 | Other Non-Residential | 885,407 | 21.48 |
| 10 | Locked Houses | 13,032 | 0.32 |
| Total Occupied Census Houses | | 4,121,370 | 92.73 |
| Source: Census of India, HH 2011. Compiled by Authors. | | | |

District Level Census Houses and Its Uses in Rural Haryana

The district wise different uses of census houses in rural Haryana is shown in Table-2. The largest proportion of occupied houses that is more than 95 per cent is recorded in only two districts namely Mewat and Sirsa and these districts are confined to the extremely southern and western part of Haryana. While the large share of occupied houses (90-95 %) is found in 16 districts such as Kurukshetra, Fatehabad, Yamunanagar, Palwal, Karnal, Kaithal, Faridabad, Jind, Ambala, Hisar, Bhiwani, Rohtak, Panipat, Panchkula, Sonapat and Rewari. Most of these districts are situated in the northern, east central and southern part of the study area. While in the category of less than 90 per cent occupied houses are found in three districts such as Gurgaon, Jhajjar and Mahendragarh which are situated in the southern part of the study area.

It is further recorded that the highest proportion that is more than 70 per cent houses in the category of **residence** are found in only one district that is Mewat (73.03 %) and it is situated in the extremely southern part of the Haryana. It may be noted that the district Mewat is dominated by Muslim population. While low proportion (<55 %) is recorded in the district of Jind (51.35 %) and it is confined to the northern part of the study area. The large share of **residence cum other houses** (>14 %) is found in the district of Jind, Kaithal and Hisar and these are situated in the north western part of the study area. Very small proportion of houses (< 5 %) in this category is observed in the Mewat, Kurukshetra and Faridabad in the northern and extremely southern part of rural Haryana.

The largest proportion of houses in the category of **shop/office** is observed in Panchkula (7.02 %) while smallest share is recorded in Rohtak that is 2.68 per cent of rural Haryana. Large share (> 25 %) in the category of **other non residence** is found in the districts of

Kurukshetra, Yamunanagar and Sonipat which confined to the northern and east central part of Haryana. On the other hand, smallest proportion is found in the district of Hisar (16.60 %) in the same category. While, **other categories** which include school/college; hotel/lodge/guest houses; hospital/dispensary; factory/workshop/work shed; place of worship and locked houses have recorded average share of 2.02 per cent of the total rural houses. It is recorded that the highest proportion of houses in this category is recorded in Panchkula (3.28 %) district while the smallest share is observed in the district of Jind that is 1.51 per cent of rural Haryana.

| District Census Code | Name of the Districts | Vacant Census Houses | Occupied Census Houses | Major Categories of Occupied Census Houses | | | | |
|----------------------|-----------------------|----------------------|------------------------|--|-------------------------|--------------|----------------------|--------|
| | | | | Residence | Residence Cum Other Use | Shop/ Office | Other NonResidential | Others |
| 69 | Panchkula | 9.10 | 90.90 | 60.18 | 5.78 | 7.02 | 23.74 | 3.28 |
| 70 | Ambala | 6.48 | 93.52 | 63.10 | 5.43 | 6.70 | 21.79 | 2.99 |
| 71 | Yamunanagar | 5.42 | 94.58 | 59.29 | 6.14 | 6.27 | 25.69 | 2.62 |
| 72 | Kurukshetra | 5.05 | 94.95 | 61.82 | 3.36 | 5.84 | 26.63 | 2.35 |
| 73 | Kaithal | 5.79 | 94.21 | 55.84 | 14.98 | 6.05 | 21.45 | 1.68 |
| 74 | Karnal | 5.69 | 94.31 | 61.13 | 9.01 | 6.04 | 21.86 | 1.96 |
| 75 | Panipat | 8.59 | 91.41 | 59.79 | 12.53 | 5.50 | 20.20 | 1.98 |
| 76 | Sonipat | 9.31 | 90.69 | 58.91 | 11.00 | 3.19 | 25.33 | 1.57 |
| 77 | Jind | 6.28 | 93.72 | 51.35 | 20.17 | 3.87 | 23.11 | 1.51 |
| 78 | Fatehabad | 5.09 | 94.91 | 63.23 | 10.03 | 5.44 | 19.27 | 2.04 |
| 79 | Sirsa | 4.90 | 95.10 | 67.96 | 8.56 | 4.73 | 16.71 | 2.04 |
| 80 | Hisar | 6.66 | 93.34 | 60.58 | 17.75 | 3.51 | 16.60 | 1.56 |
| 81 | Bhiwani | 8.19 | 91.81 | 66.37 | 8.49 | 4.01 | 19.13 | 2.01 |
| 82 | Rohtak | 8.26 | 91.74 | 59.29 | 12.50 | 2.68 | 23.82 | 1.71 |
| 83 | Jhajjar | 10.48 | 89.52 | 62.66 | 8.08 | 3.54 | 23.74 | 1.98 |
| 84 | Mahendragarh | 10.05 | 89.95 | 64.10 | 7.92 | 3.52 | 22.19 | 2.26 |
| 85 | Rewari | 9.85 | 90.15 | 60.31 | 9.80 | 3.86 | 23.66 | 2.37 |
| 86 | Gurgaon | 14.48 | 85.52 | 66.11 | 6.36 | 5.75 | 19.08 | 2.70 |
| 87 | Mewat | 3.95 | 96.05 | 73.03 | 3.12 | 3.76 | 18.27 | 1.81 |
| 88 | Faridabad | 6.23 | 93.77 | 68.46 | 4.68 | 6.24 | 18.55 | 2.07 |
| 89 | Palwal | 5.67 | 94.33 | 67.06 | 5.25 | 3.92 | 22.15 | 1.62 |
| Rural Haryana | | 7.27 | 92.73 | 62.08 | 9.76 | 4.65 | 21.48 | 2.02 |

Source: Compiled by Authors.

Housing Conditions in Rural Haryana

Housing conditions is an important indicator of the socio-economic development of the country or any region or area. Statistical information relating to housing conditions in quantitative terms is essential for an assessment of the overall housing needs of the people and also for the formulation of housing policies and programs. Thus, a regular flow of reliable data on housing

conditions has assumed great importance for the Government and planning bodies to enable them to give proper attention to various housing problems of the day. As per 2011 census, the total rural houses are 2966053(62.87%) of the total houses in Haryana. Census of India has classified the houses in to the three broad categories that are **good, livable and dilapidated**. According to census 2011, it is recorded that 1429735 (48.20 %) houses are in good condition, 1385715 houses (46.72%) are in livable condition and only 150603 houses (5.08%) are in dilapidated conditions. It is found that nearly 95 percent in good and livable conditions out of total houses in rural Haryana.

| District Code | Name of the Districts | Good Condition Houses | Livable Condition Houses | Dilapidated Condition Houses |
|------------------------------|------------------------------|------------------------------|---------------------------------|-------------------------------------|
| 69 | Panchkula | 59.9 | 35.21 | 4.89 |
| 70 | Ambala | 51.42 | 44.24 | 4.34 |
| 71 | Yamunanagar | 46.53 | 47.07 | 6.4 |
| 72 | Kurukshetra | 49.71 | 46.02 | 4.27 |
| 73 | Kaithal | 46.77 | 48.45 | 4.78 |
| 74 | Karnal | 47.58 | 47.5 | 4.92 |
| 75 | Panipat | 48.26 | 47.58 | 4.16 |
| 76 | Sonipat | 45.08 | 50.24 | 4.68 |
| 77 | Jind | 43.99 | 51.06 | 4.95 |
| 78 | Fatehabad | 47.95 | 46.36 | 5.69 |
| 79 | Sirsa | 52.4 | 41.71 | 5.89 |
| 80 | Hisar | 48.04 | 46.46 | 5.5 |
| 81 | Bhiwani | 48.8 | 45.86 | 5.34 |
| 82 | Rohtak | 45.95 | 49.3 | 4.75 |
| 83 | Jhajjar | 50.06 | 45.07 | 4.87 |
| 84 | Mahendragarh | 54.83 | 42.08 | 3.09 |
| 85 | Rewari | 55.07 | 41.66 | 3.27 |
| 86 | Gurgaon | 57.46 | 39.29 | 3.25 |
| 87 | Mewat | 32.59 | 58.42 | 8.98 |
| 88 | Faridabad | 52.43 | 43.23 | 4.34 |
| 89 | Palwal | 42.63 | 51.09 | 6.28 |
| Rural Haryana | | 48.2 | 46.72 | 5.08 |
| Source: Compiled by Authors. | | | | |

District Wise Housing Condition in Rural Haryana

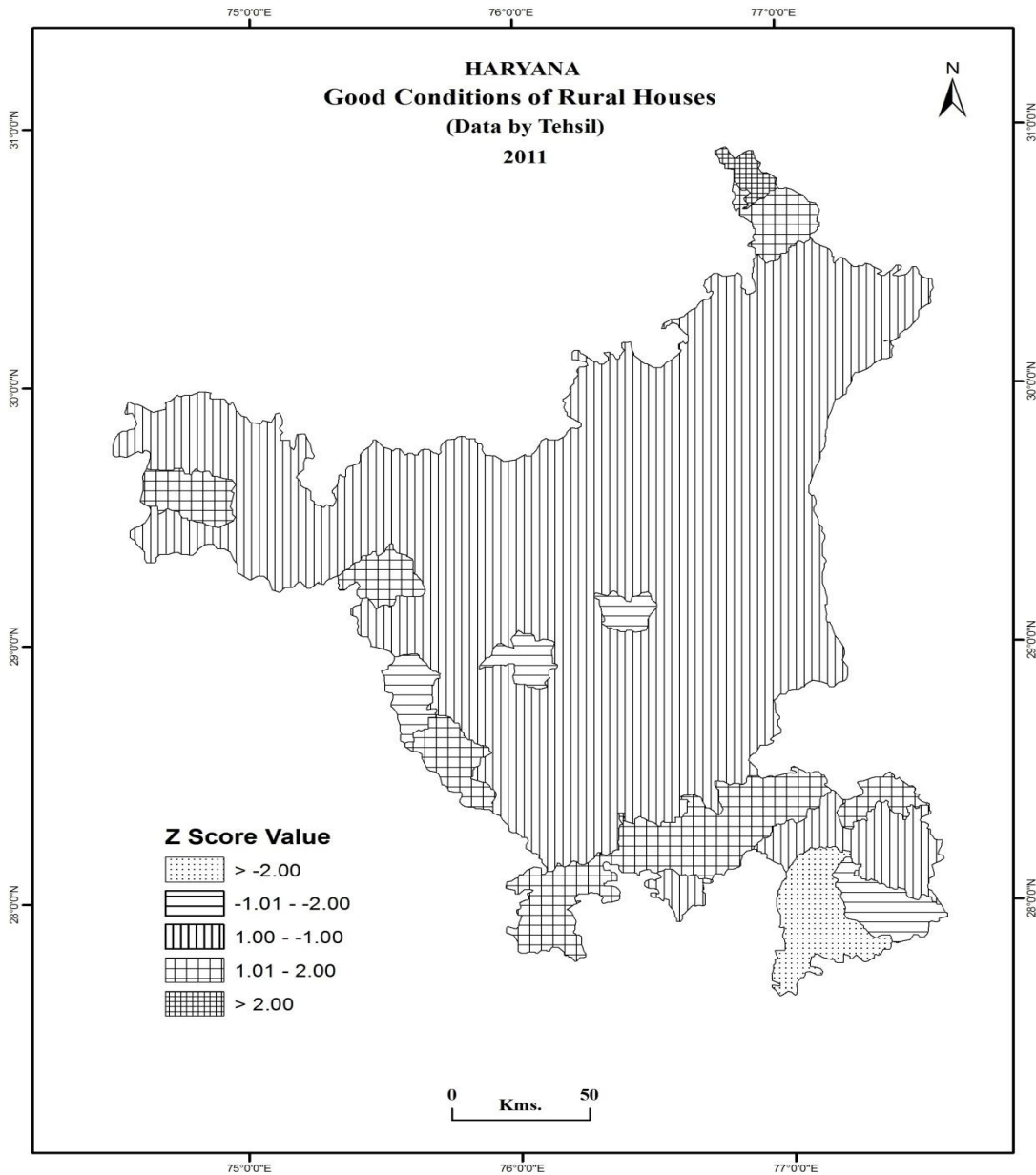
Table-3 indicates the district wise good, livable and dilapidated condition of houses in rural Haryana as per census 2011. The large share of good condition houses (> 55%) is found in the district of Panchkula (59.90 %), Gurgaon (57.46 %) and Rewari (55.07 %) while small proportion of good condition houses that is less than 45 per cent is recorded in three districts of the study area. This category is occupied by Mewat (32.59 %), Palwal (42.63%) and Jind (43.99%) in rural Haryana. The largest proportion of livable condition houses that is more than 50 per cent is observed in the district of Mewat that is 58.42 percent followed by Palwal (51.08) and Jind (51.06 %) in the study area. The small share of livable condition houses (< 40 per cent) is recorded in Panchkula (35.21 %) and Gurgaon (39.29%) in rural Haryana. On the other hand, the largest proportion of dilapidated condition houses that is more than 8 per cent is observed in the district of Mewat (8.98 %). While smallest share of dilapidated condition houses (< 4%) are found in three districts namely Mahendragarh (3.09 %) preceded by Gurgaon (3.25 %) and Rewari (3.27 %) in rural Haryana.

Tehsil Level Pattern of Good Condition Houses in Rural Haryana

The pattern of good housing condition in rural Haryana is represented in the Fig-1 and Table-4. The very large and large share of good condition houses (>1.00 'z score') are found in 12 (16.22%) tehsils of rural Haryana and these are confined to the southern, western and northern part of the study area. The largest share of good condition houses (2.19 'z score') is recorded in Kalka tehsil. This is due to the availability of good educational facilities, means of transport network, communication and nearness to the state capital. The large proportion of good condition houses having the values ranging from 1.01 to 2.00 'z score' are found in 11 tehsils (14.16 %) of the study area. The highest good condition houses in this category is observed in Gurgaon, followed by Pataudi, Panchkula, Loharu, Farrukhnagar, Manesar, Faridabad etc. tehsils., mostly confined to the southern and western peripheral boundaries of the study area.

While the moderately good condition houses (1.00 to -1.00 'z score') are recorded in 54 tehsil that is 73 per cent of the total tehsils of the study area. The important tehsils of this category are Badhra, Ambala, Israna, Bawal, Pehowa, Sampla, Beri, Palwal, Rohtak, Gohana, Narwana covering whole of the study area except southern part and western and northern

peripheral patches of rural Haryana. On the other hand, the very small and small share of good condition houses (< -1.00 'z score') are found in eight tehsils (10.81%) of the total tehsils in rural Haryana.

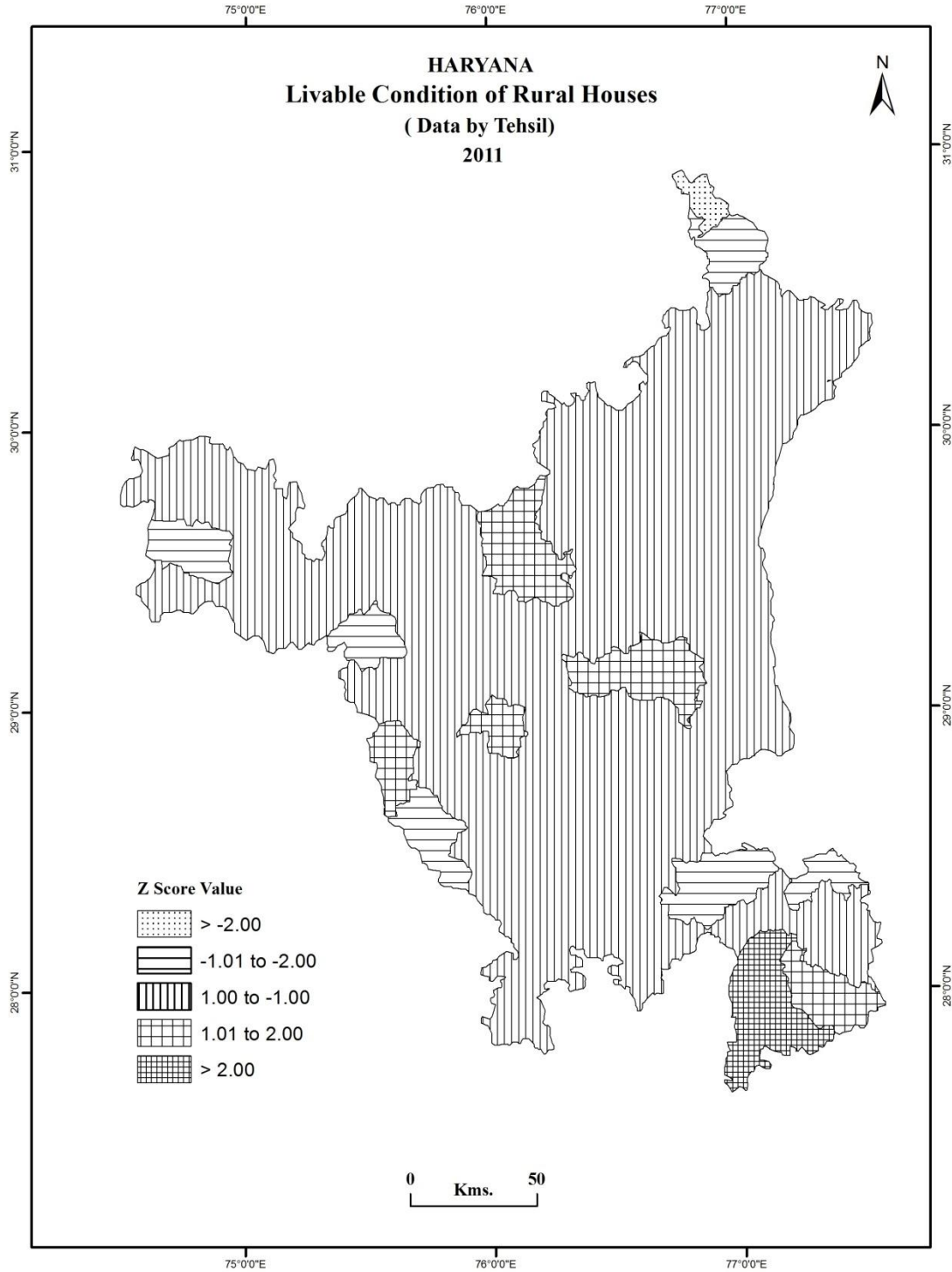


The small share of good condition houses (-1.01 to -2.00 'z score') are found in 5 tehsils (6.76 %) namely Julana, Siwani, Bawani Khera, Hodal and Hathin. The very small proportion of good condition houses are found in only three tehsils (4.05 %). The smallest share of good condition houses is recorded in the tehsil of Nuh, followed by Ferozepur Jhirka and Puna Hanatehsils which have large population size and low socio economic status. These tehsils are situated in extremely southern part of the Haryana in the form of large patch.

Tehsil Level Pattern of Livable Condition Houses in Rural Haryana

The tehsil level pattern of livable condition houses in rural Haryana is represented in Fig-2 and Table-5. The very large and large share of livable condition houses (> 1.00 'z score') are observed in 10 (13.51 %) tehsils of the study area and these are situated in the southern and central part of the study area. The very large proportion of livable condition houses (> 2.00 'z score') are found in only three tehsils namely Puna Hanatehsil, Nuh, Ferozepur Jhirka and these are confined to extremely southern part in Mewat district. This area is dominated by Muslims which have low socio economic status and literacy rate. While the large share of livable condition houses having the values ranging from 1.01 to 2.00 'z score' are observed in seven tehsils (9.46%) namely Hathin, Julana, Narwana, Bawani Khera, Hodal, Gohana and Siwani. Most of the tehsils in this category are situated in southern and central part of the study area in form of patches. The moderate livable condition houses (1.00 to -1.00 'z score') are recorded in 54 tehsils that is 73 of the total tehsils of rural Haryana. Some important tehsils of this category are Ganaur, Narnaund, Rohtak, Kaithal, Bhiwani, Hisar, Dadri, Beri, Kosli, Sohna, Narnaul, Rewari covering whole of the study area except southern, western, northern peripheral and central patches of rural Haryana.

The very small and small proportion of livable condition houses (< -1.00 'z score') are recorded in 10 tehsils (13.51 %) of the total tehsils of the study area. The small share of livable condition houses (-1.01 to -2.00 'z score') are found in nine tehsils (12.16%) namely Manesar, Farrukhnagar, Faridabad, Adampur, Panchkula, Rania, Loharu, Pataudi and Gurgaon. These tehsils are confined to the northern, southern and western peripheral boundaries of Haryana. While the very small share of livable condition houses (< -2.00 'z score') are recorded in only one tehsil (1.35 %) that is Kalka (-2.84) and it is situated in the extremely northern part of Haryana.



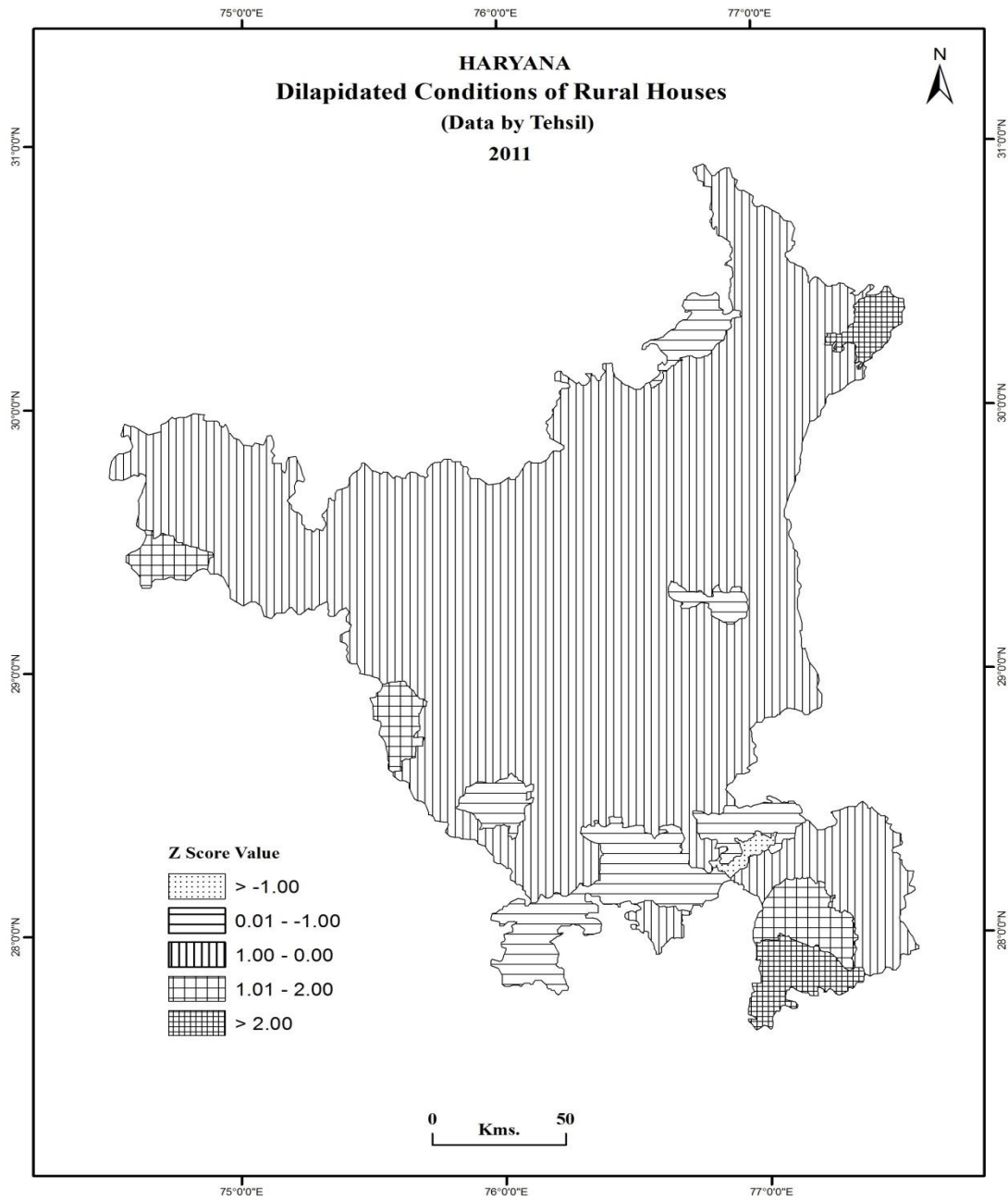
| Table No 5: Livable Condition Houses in Rural Haryana, 2011. | | | |
|---|-----------------------|--------------------|----------------|
| Category | No. of Tehsils | In Per Cent | Remarks |
| > 2.00 | 03 | 4.05 | Very Good |
| 1.01 to 2.00 | 07 | 9.46 | Good |
| 1.00 to -1.00 | 54 | 72.97 | Moderate |
| -1.00 to -2.00 | 09 | 12.16 | Poor |
| > -2.00 | 01 | 1.35 | Very Poor |
| Total | 74 | 100.0 | |
| Source: Compiled by Authors. | | | |

| Table No 6: Dilapidated Condition Houses in Rural Haryana, 2011. | | | |
|---|-----------------------|--------------------|----------------|
| Category | No. of Tehsils | In Per Cent | Remarks |
| > 2.00 | 03 | 4.05 | Very Good |
| 1.01 to 2.00 | 04 | 5.41 | Good |
| 1.00 to 0.00 | 58 | 78.38 | Moderate |
| 0.01 to -1.00 | 08 | 10.81 | Poor |
| > -1.00 | 01 | 1.35 | Very Poor |
| Total | 74 | 100.0 | |
| Source: Compiled by Authors. | | | |

Tehsil Level Pattern of Dilapidated Condition Houses in Rural Haryana

The pattern of dilapidated housing condition in rural Haryana is represented in the Fig-3 and Table-6. The very large and large share of dilapidated condition houses (> 1.00 'z score') are found in seven tehsils that is 9.46 per cent of the total tehsils of rural Haryana. The very large proportion of dilapidated condition houses having the values ranging from more than 2.00 'z score' are observed in three tehsils (4.05 %) such as Ferozpur Jhirka, Punahana and Chhachhrauli. This is due to the lack of basic infrastructure like transport, communication and poor economic condition. These tehsils are situated in the northern and extremely southern part of Haryana. While the large share of dilapidated condition house (1.01 to 2.00 'z score') is found in Nuh, Hathin, Ellenabad and Siwanitehsils which are confined to the southern and western peripheral boundaries of the study area. This category is occupied by four tehsils (5.41 %). On the other hand, the moderate dilapidated condition houses (1.00 to -1.00 'z score') are found in

58tehsils that is 78 per cent of the total tehsil of the study area. The prominent tehsils of this category are Bhiwani, Taoru, Bilaspur, Beri, Hisar, Palwal, Julana, Karnal, Sampla, Sonipat,

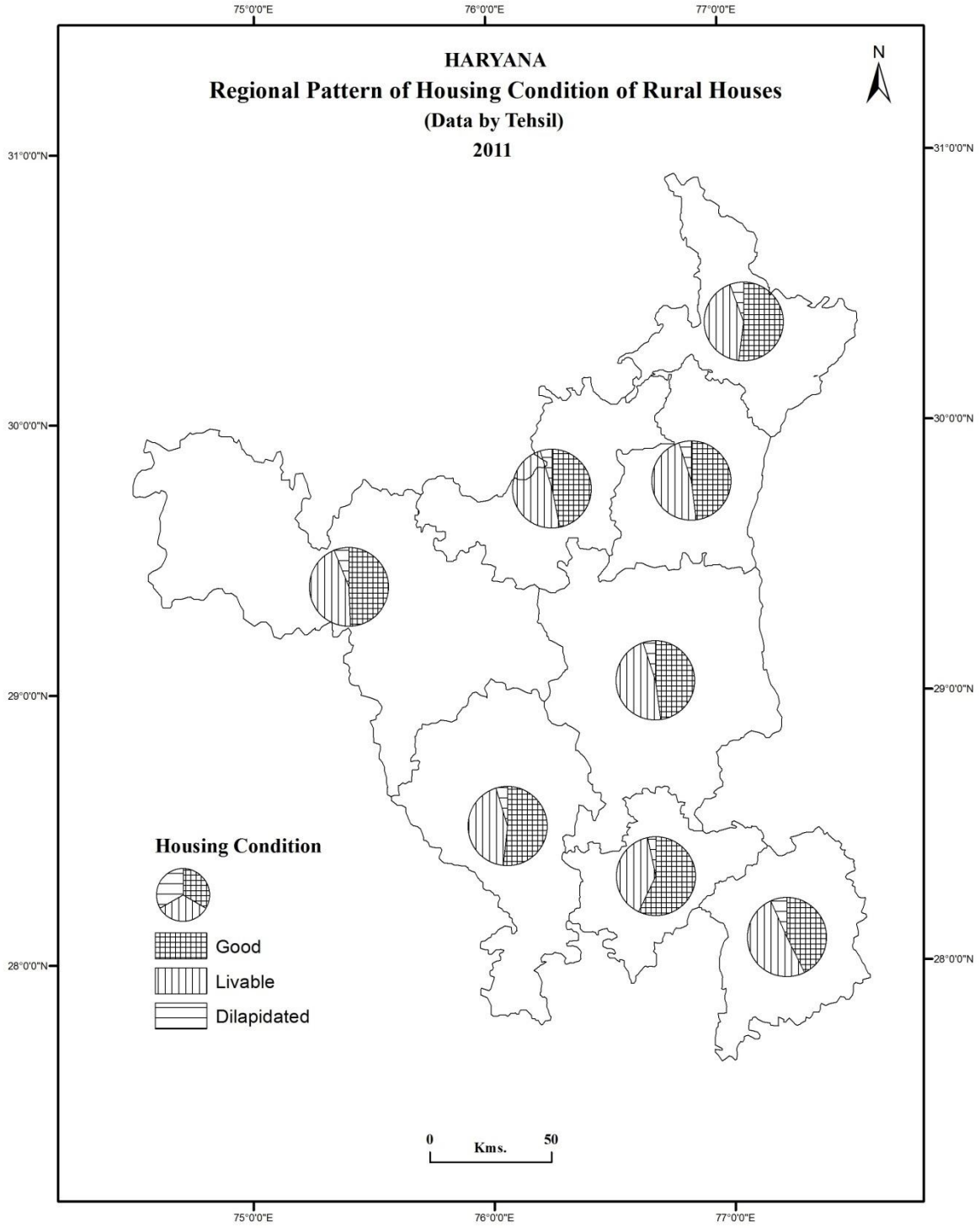


Panchkula and Faridabad. These tehsils are covering whole of the study area except southern, western and northern peripheral patches of rural Haryana. The very small and small share of dilapidated condition houses (<-1.00 'z score') covers 9 tehsil (12.16 %). The small proportion of dilapidated condition houses (-1.01 to -2.00 'z score') are found in eight tehsils (10.81 %) of the study area. This category is occupied by Ambala, Gurgaon, Israna, Kosli, Rewari, Farrukhnagar, Badhra and Narnaul tehsils and these are mainly confined to the southern, northern and central part of Haryana. While the smallest share of dilapidated condition houses is recorded in the tehsil of Manesar (-2.03) and it is situated in the southern part of the study area. This is due to the availability of good educational facilities, means of transport network, communication and industrial area.

Housing Conditions in Rural Haryana: A Regional Analysis

The housing conditions across the broad regions differ significantly in rural Haryana. On the basis of selected parameters like concentration index, household size, sex ratio, literacy rate and work participation rate the study area has been sub divided into eight regions to describe the housing conditions. The largest share of houses in good condition is found in southern region (56.1 %), preceded by north northeastern (51.8 %), south western region (50.9 %) and western region (49.3 %) and small percentage are observed in south southeastern region (42.3 %), northern region (46.4 %), east central (47.1) and north eastern region (47.9 %) in rural Haryana. Regional pattern of housing condition is shown in Fig-4 and Table-7.

| Region | No. of Tehsils | Good | Livable | Dilapidated |
|-------------------------------------|----------------|--------------|--------------|-------------|
| North Northeastern | 08 | 51.8 | 42.7 | 5.5 |
| North Eastern | 08 | 47.9 | 47.2 | 4.9 |
| East Central | 16 | 47.1 | 48.2 | 4.7 |
| Southern | 08 | 56.1 | 40.4 | 3.5 |
| South Southeastern | 10 | 42.3 | 51.0 | 6.7 |
| Northern | 05 | 46.4 | 49.0 | 4.6 |
| Western | 11 | 49.3 | 45.0 | 5.7 |
| South Western | 08 | 50.9 | 44.5 | 4.6 |
| Haryana | 74 | 48.20 | 46.72 | 5.08 |
| Source: Compiled by Authors. | | | | |



On the other hand, the highest percentage of livable condition houses is recorded in south southeastern region (51.0 %), followed by northern region (49 %), east central region (48.2) and north eastern region (47.2) while lowest proportion of houses in this category is recorded in southern region (40.4 %), preceded by north northeastern region (42.7 %), south western region (44.5 %) and western region (45.0%) in the study area. The magnitude in share of house in dilapidated condition also varies significantly from region to region. The highest percentage of houses in dilapidated condition is found in south southeastern region (6.7%), preceded by western (5.7 %), north northeastern (5.5 %) and north eastern region (4.9 %) while smallest share is recorded in southern region (3.5 %), followed by northern region (4.6 %), south western region (4.6 %) and east central region (4.7 %) respectively.

Conclusion

It is concluded about 93 per cent houses are found occupied houses in rural Haryana in 2011. More than 62 per cent occupied houses are used as residence followed by other non-residential (21 %), residence cum-others (10 %), shop/office (5 %). Other categories like place of worship, school/college, factory/workshop/work shed, locked houses, and hospital/dispensary and hotel/lodge/guest houses have recorded less than one per cent of the total rural houses of the study area. Further, it is observed that nearly 48 per cent houses are in good condition, 47 per cent in livable condition; and only 5 per cent are found in dilapidated conditions out of total rural houses in Haryana in 2011. The condition of houses across the broad regions differs significantly in the study area. Among the regions, the highest number of houses in the category of good condition is recorded in southern region (56.1 %) and lowest is observed in south southeastern region (42.3 %) in rural Haryana. The magnitude in proportion of houses in livable condition also varies significantly. The highest proportion of houses in livable condition is recorded in south southeastern region (51.0 %) while lowest is found in southern region (40.4 %). On the other hand, the largest share of houses in dilapidated condition is observed in south southeastern region (6.7 %) and smallest in southern region (3.5 %) in rural Haryana. High dilapidated housing condition in extremely southern Haryana is mainly due to the lack of infrastructure, poverty and this region is dominated by Muslim population.

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