

Rural Landuse Pattern in Hisar District: A Block Level Study

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Statement of the Problem:

The landuse refers to activities on land or classification of land according to how it is being used. The land utilised for different economic purposes and various socio-cultural activities constitutes a very significant indicator of the agricultural development. The higher share of area under cultivation may be taken as indicator of efficient landuse for the purpose of agricultural development. The various segments of earth have shown significant regional differences in landuse pattern. These ought to be because of regional differences in various factors such as relief structure, rainfall, soil fertility, irrigational facilities and various technological and socio-economic aspects. These factors play significant role in conditioning the spatial pattern of landuse. Primarily, the regional variations in landuse are related to the conditions of physical environment, yet the factors such as new agricultural technology and management, agricultural modernisation, characteristics of human population and changing societal needs have played important role in this regard (Singh, Jasbir. 1974, pp. 115 - 118.).

Keywords: Agriculture development, Landuse, Spatial Pattern.

Literature Review:

Ahmad et al. (2018) He examined the effect of changes made in the land use of Bihar state. It is clear from the results that the conversion of non-agricultural land has had a negative impact on the present fallow land. Mangalagowri and Nagaraj (2016) studied the changing pattern of land use of Mysore district and concluded that current fallow land is increase and cultivable waste land decrease over the study period. Singh, J. (2015) studied that the dynamics of land use patterns in Punjab. The study results that in land use categories big imbalances exist in Punjab. Sindhu, R. (2014) reveals in his study based on secondary data that the percentage of net sown area to total area has increased significantly during the past fifty years in Haryana. It has increased from 65.74 per cent in 1951-54 to 81.96 per cent in 2006-09. Expansion of net sown area was mainly responsible for increasing production during the fifties and early sixties. During the period 1951-54 to 1966-69, the proportion of net sown area increased from 65.74 per cent to 77.37 per cent. Its proportion increased to 82.23 per cent in 1980-83. In fact, the proportion of net sown area has declined marginally from 82.26 per cent in 1980-83 to 81.77 per cent in 2006-09. This indicates that the possibility of horizontal expansion of area under cropping had exhausted by early eighties.

Objective of the Study:

This paper examines the spatial variation of land use patterns in Hisar district.

Method and Material:

In this paper mainly second data has been used. The information on land use of villages of district Hisar has been obtained from Census of India, 2011. The information on the landuse provided by the census of India is based on nine-fold (2011) classification of landuse by the Revenue Department, Government of

India. Block level wise proportion of area under different landuse categories has been calculated by adding the landuse data of villages of concerned block and presented in tabular form. The spatial variations in landuse at block level have been depicted using pie chart.

Study Area:

The study area of the present study is Hisar district of Haryana state. The District Hisar is located between $28^{\circ} 53' 45''$ N to $29^{\circ} 34' 50''$ N latitude and $75^{\circ} 19' 44''$ E to $76^{\circ} 18' 15''$

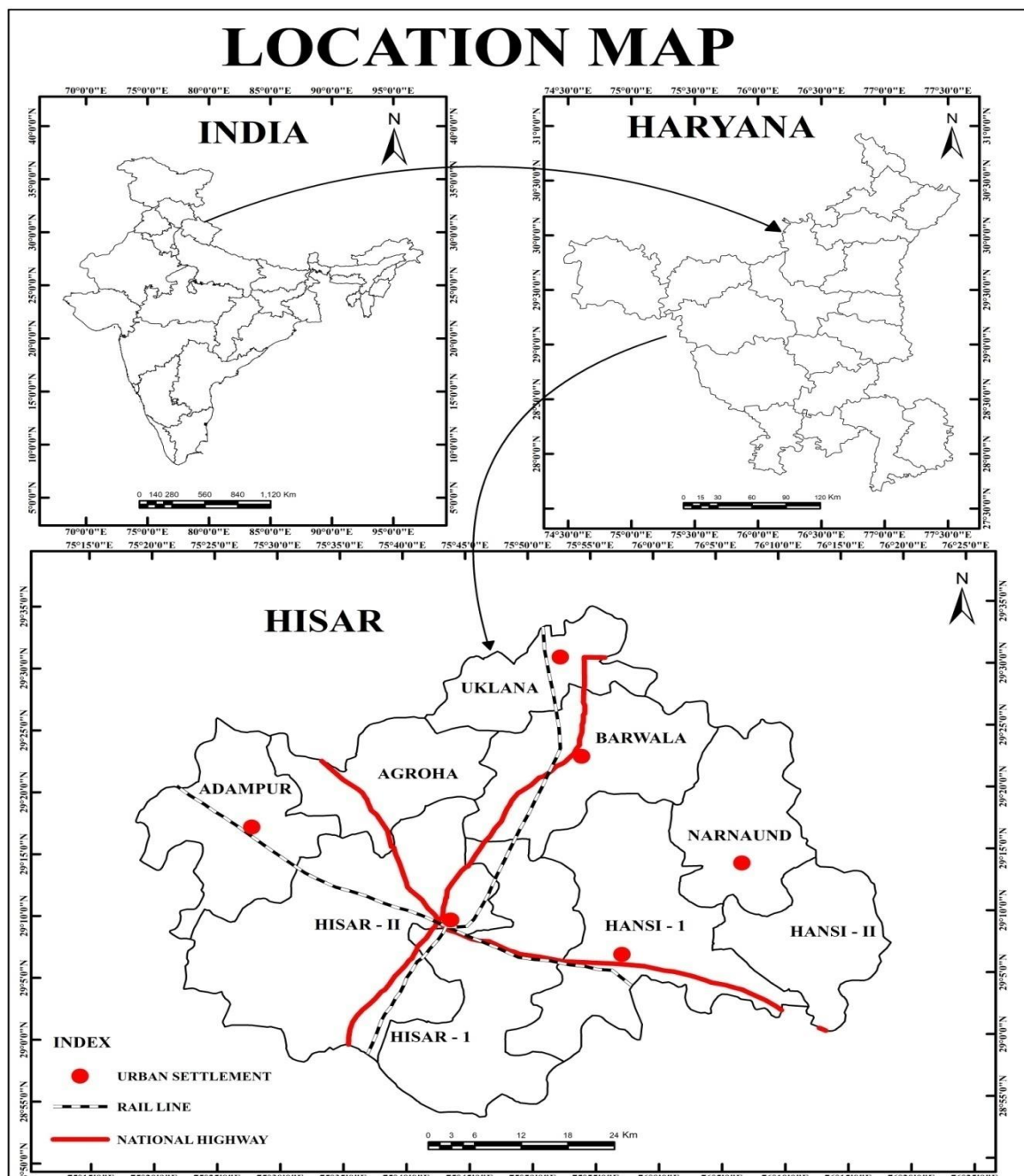


Fig.-1: E longitude.

Its total geographical area is 3983.00 square kilometres in which rural and urban areas are 3835.53 square kilometres and 147.47 square kilometres respectively. The district headquarter of Hisar is Hisar city. There are nine developmental blocks i.e. Hisar-I, Hisar-II, Hansi-I, Hansi-II, Barwala, Narnaund, Uklana, Adampur and Agroha. Two National highway i.e. NH-9 and NH-52 cross the district. Hisar station has the railway junction of Rewari-Bhiwani-Hisar-Sirsa & Sadulpur-Hisar-Ludhiana railway line. Hisar district has an institute of agricultural research for contributing in agricultural development such as CCS Haryana Agricultural University, Agricultural & Livestock Farms, etc. As per census 2011, the total population of Hisar district is 1,743,931 with a male and female population of 931562 and 812369 respectively. The proportion of Urban & Rural population is 1,743,931 and 1,190,443 persons respectively.

Spatial Variation in Landuse:

Table 1 and Fig. 2 are displaying the spatial pattern of rural landuse in different blocks of Hisar district in 2011. Out of total area of Hisar district i.e. 374283 hectares, Hisar-II block accounted about one-fifth (19.31 percent) followed by Hansi-I (14.53 percent), Hisar-I (13.08 percent), Barwala (11.29 percent), Narnaund (10.15 percent), Adampur (9.28 percent), Agroha (8.81 percent), Hansi-II (8.00 percent) and Uklana (5.56 percent). It is also evident that in 2011, net sown area was the dominant landuse accounting for 89.93 percent of total area. The detail account of landuse pattern are as under;

Area under Forest:

Forest land, approved and classified by the administration and legal acts, is kept in the forest area, whether it is protected under public or local / private ownership, wild or potential forest land. The crop and grazing reserve land on the forest approved area has been considered under forest land (District Census Handbook, Hisar, p.82). According to the revenue records, 2011, only two villages namely Pali and Gamra of Narnaund block of Hisar district have found area under forest i.e. 77 hectares. Rest of blocks, there is no land recorded under forests. The proportion of area under forest in the Haryana state was only 0.89 per cent in 2009-12 (Sindhu, R. 2014:181). In the National Forest Policy, one-fifth of the total plains geographical area has been approved for forests. Going by this standard, Hisar district desperately needs to increase its forest cover. The government has to take some effective measures to plant more trees on Panchayat and community owned lands. About 2289 hectares of Barren and Uncultivable Land in the Hisar district may be available for plantation. A further increase in the forest cover is possible if social forestry programme is implemented and tree cultivation is taken up along with cropping.

Area under Non-Agricultural Use:

Buildings, roads, railway lines and land buried under water are subordinate to this category, e.g. waterways, lakes, non-agricultural land use. (District Census Handbook, Hisar p.83).

In 2011, the share of non-agricultural uses in the total area was 8.06 percent. Area under this landuse category shows a significant spatial variation. Hisar-I (9.89 percent) & Barwala (8.89 percent) blocks have shown more than district average of area devoted to this category while Hisar-II (7.97 percent), Hansi-II (7.85), Adampur (7.85 percent), Agroha (7.70 percent), Narnaund (7.65 percent), Hansi-I (7.34 percent), Uklana (6.18 percent) showed lower than district average of area devoted to this category.

Barren and Uncultivable Land:

Barren and uncultivated lands like mountainous, desert are under this category. Despite the enormous efforts and economic costs, the land which is not subordinate to agricultural works should be kept in the uncultivated category, whether it is in a town or within the land holdings. (District Census Handbook, Hisar p.83). In 2011, Hisar district was only 0.61 per cent of the area under barren and uncultivable land. Though, this category constituted a very small proportion of total area, it showed a considerable spatial concentration in the village Talwandi Badshahpur (60 ha) of Hisar-I block (2.19 percent) & Mehanda (131 ha), Sheikhpura (156 ha), Kheri Gangan (97 ha), Bir Hansi (21 ha), Banda Heri (15 ha) of Hansi-I (0.77 percent) block of the district. Kheri Shioran (23 ha) & Luhari Ragho (116 ha) of Narnaund block, Chudhriwali (53 ha) of Adampur block, Bir Hisar (1417 ha), Bhiwani Ruhelan (79 ha), Shahpur (46 ha), Sundawas (20 ha), Patan (16 ha), Salemgarh (7 ha) of Hisar-II block and Durjanpur (16 ha), Jagan (13 ha) & Fransi (3 ha) of Agroha block were also observed with this category of land.

Permanent Pastures and Other Grazing Land:

All types of grazing areas are placed in this category. Apart from the grazing land of the village, permanent and non-permanent pastures are also included in this category. (District Census Handbook, Hisar p.83). In 2011, barely 0.04 per cent of total area was under this landuse category in the district. The Kutabpur village (98 ha) of Hansi-I block, Bir Hisar (50 ha) of Hisar block and Chuli Bagarian (8 ha) of Adampur block recorded such landuse.

Area under Miscellaneous Tree Crops, etc.:

All cultivable land has been kept in this category. Although this land is outside the “Net Sown Area”, but some land is used for agricultural purposes. The land involved in the use of trees, thatch, bushes, fuel (other than garden land) etc. is divided into this category. (District Census Handbook, Hisar p.83). Area under this category of landuse noted only 0.30 percent in Hisar district. This category of landuse was observed in few villages of block Hisar-II (Bir Hisar (1000 ha), Shahpur (4 ha) & Gawar (35 ha), Agroha (Fransi (15 ha), Durjanpur (25 ha) & Jagan (5 ha), Narnaund (Aurang Shahpur (14 ha), Raj Thal (10 ha) & Milakpur (3 ha), Hisar-I (Talwandi Badshahpur (10 ha) & Mangali Surtia (2 ha), Adampur (Chuli Bagarian (3 ha) and Hansi-I (Depal (6 ha).

Cultivable Wasteland:

The land available for agriculture is included in this group, even if this land is not used or used for agriculture but this land has not been cultivated for the last five years including the current year. The land covered with fallow, bushes or dense forests is not used for any purpose.

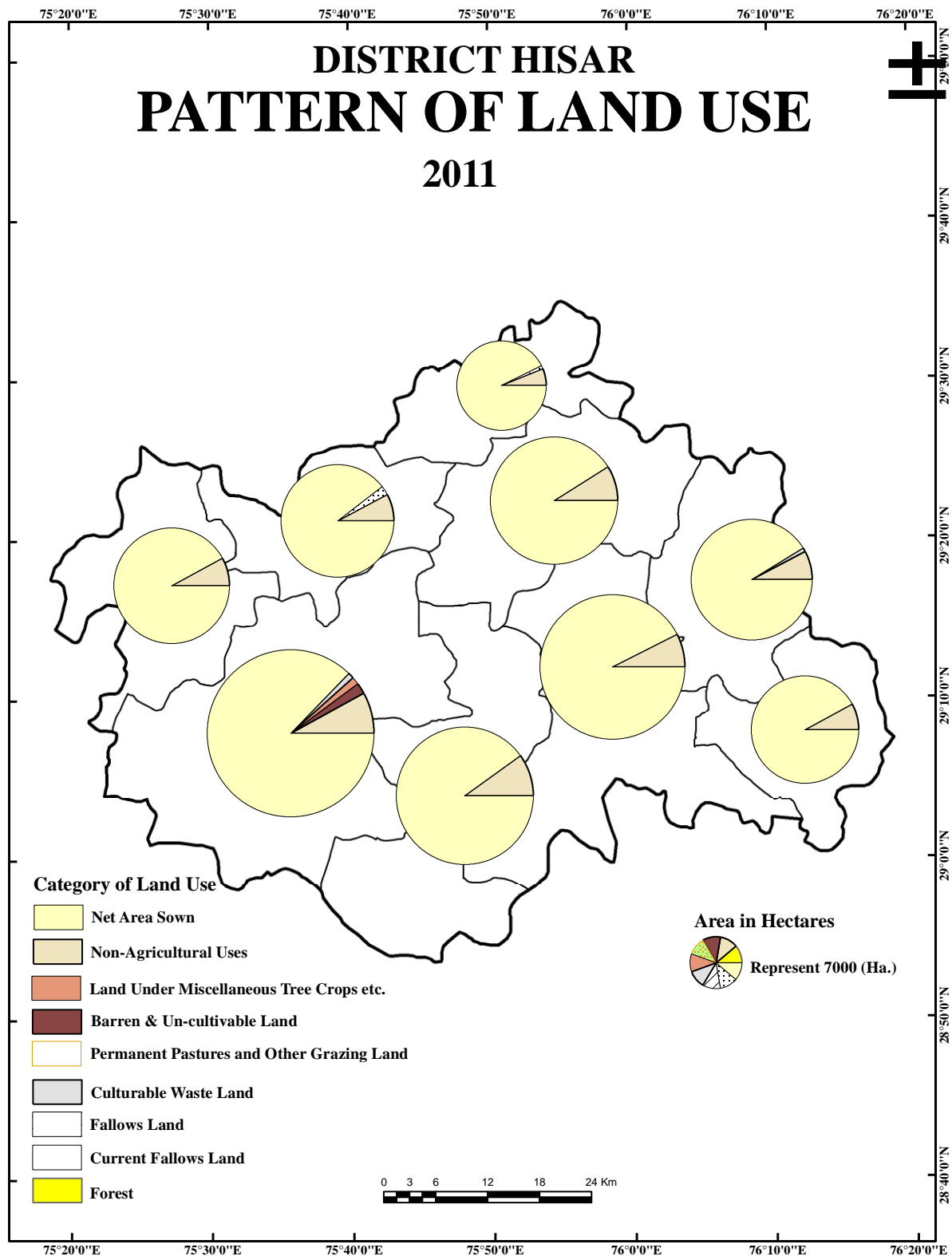


Fig. 2

Due to being within the block and land holdings, its evaluation is impossible. (District Census Handbook, Hisar p.83). Cultural Wasteland occupied just 0.68 per cent of total area in the district. However, it was observed in every blocks of the district. The block Hisar-II was observed with highest share i.e. 1.11 percent of this land followed by Narnaund block (1.06 percent). Out of 262 villages of Hisar district, about 37 percent villages observed with cultural wasteland category of landuse. Higher proportion of area under cultivable waste in some areas in the district is largely attributed to intensive canal irrigation leading to concentration of soluble salts in soils profile and water logging.

Fallow Lands other than Current Fallows:

All those lands that were eligible for cultivation were classified in this category. But this land has been kept out of the category of cultivation for a minimum period of less than one year and for a period of five years or more. (District Census Handbook, Hisar p.83). Only just .01 percent of district area was found in this category of this landuse. It was observed only in the four villages i.e. Talwandi Badshahpur (12 ha) of block Hisar-I, Burak (10 ha) & Bandaheri (10 ha) of Block Hisar-II and Raj Thal (8 ha) of block Narnaund.

Current Fallows:

In the current cropping period, fallow land has been kept in this category. (District Census Handbook, Hisar p.83).

About .34 percent of total area was accounted for current fallows. The block Agroha (2.70 percent) and Uklana (1.27 percent) contributed higher share of fallow land as compare to Hisar-I, Hisar-II, Hansi-I & Hansi-II. The fallow land does not exist in Adampur and Barwala block. Decline in the proportion of area under current fallow may be attributed to increase in irrigational facilities and changing nature of agriculture in the region.

Table – I
Spatial Pattern of Landuse in Hisar District
2011

Block Name	Forest Area (in %)	Area under Non-Agricultural Uses (in %)	Barren & Uncultivable Land Area (in %)	Permanent Pastures and Other Grazing Land Area (in %)	Land Under Miscellaneous Tree Crops etc. Area (in %)	Culturable Waste Land Area (in %)	Fallow Lands other than Current Fallows	Current Fallow Land (in %)	Net Area Sown (%)	Total Geographical Area (in Hectares)	Total Geographical Area (in %)
Adampur	0.00	7.85	0.15	0.03	0.01	0.22	0.00	0.00	91.74	34746	5.56
Agroha	0.00	7.70	0.10	0.00	0.14	0.75	0.00	2.70	88.62	32978	8.00
Barwala	0.00	8.89	0.00	0.00	0.00	0.66	0.00	0.00	90.45	42248	8.81
Uklana	0.00	6.18	0.00	0.00	0.00	0.16	0.00	1.27	92.38	20793	9.28
Hisar-1	0.00	9.89	0.12	0.00	0.02	0.68	0.02	0.08	89.18	48944	10.15
Hisar - 2	0.00	7.97	2.19	0.07	1.44	1.11	0.03	0.02	87.17	72265	11.29
Hansi - 1	0.00	7.34	0.77	0.18	0.01	0.53	0.00	0.06	91.10	54399	13.08

Hansi - 2	0.00	7.85	0.00	0.00	0.00	0.30	0.00	0.15	91.70	29938	14.53
Narnaund	0.19	7.65	0.37	0.00	0.07	1.06	0.02	0.00	90.64	37972	19.31
Total	0.02	8.06	0.61	0.04	0.30	0.68	0.01	0.34	89.93	374283	100

Net Sown Area:

The area sown under orchards and crops has been included in this category. In a particular year, the land with more than one sowing is counted at once. (District Census Handbook, Hisar p.83). The proportion of net sown area in the total area is a very important indicator of level of agricultural development. In Hisar district, about 90 percent of the total area i.e. 374283 hectares was occupied by net sown area. It is mainly due to high irrigation intensity in the district i.e. 85.78 percent. There is a significant variation at block level in the proportion of cultivated area. In Uklana (leading with 92.38 percent), Adampur, Hansi-II, Narnaund, Barwala, and Hansi-I blocks, more than 90 per cent of area was under cultivation. On the other hand, Hisar-II (87.17 percent) block showed lagging behind in proportion of cultivated area.

Conclusion:

The ongoing discussion revealed that the possibility of horizontal expansion of area under cropping had exhausted. The increasing demand for settlements is seen under non-agricultural use to solve the processes of rapid growth of population and technological development. The barren & uncultivable land, pastures & grazing land, Culturable waste land & fallow land are in very insignificant quantity. For further raising the income of cultivators, it is only possible through proper utilization of land availability i.e. to raise the cropping intensity, Miscellaneous Tree Crops etc.

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