

Dynamic Land Use Pattern in Hamirpur District: A Block-wise Analysis



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Abstract

Land use is a man-made dynamic process in which human uses land resource to fulfil their various economic, social and cultural needs and the same time it also provides a base for development. This paper an attempt has been made to analyze the changes that have taken place in land use pattern in Hamirpur District from 1994-95 to 2014-15. The study based on secondary data and focused on marginal changes has occurred in all land use categories in district and blocks level. Proportion of net sown area to total area has increased from 72.67 per cent in 1994-1995 to 75.42 per cent in 2014- 2015. Forest and area under non-agricultural uses were recorded also increase. While area under other fallow use has recorded negative change which decline from 3.21 percent in 1994-1995 to 1.32 per cent in 2014 -2015. Positive changes have been recorded in, forest area and Negative changes have been recorded in area under forest, area under the forest permanent pastures and other grazing land permanent pastures, area under current fallow land under miscellaneous trees and groves, fallow land and net sown area.

Keywords: Land Use Pattern, Marginal Changes, Net Sown Area, Land Put To Non Agriculture Uses.

Introduction

The term land use deals the special aspect of all human activities on the land and with the way in which the land surface is adapted, to serve human needs.(R.H Best) Land use is the actual and specific use to which the land surface is put in terms of inherent land use characteristic (Fox, 1956). Land use is the cultural landscape which is result of interaction among the natural, economic, cultural and technological elements. Land use varies place to place and time to time. In rural areas land use can include forestry and farming. In urban areas (towns and cities) land use could be housing or industry economy. Steeply growth of population increased the demand of land for the urbanisation; industrialisation, farm land and many type of construction uses are the major causes of rapidly land use changes. Rapidly change in Land uses effect the environment, ecosystem, economic growth and food security. The proper management, for sustainable development of land, can improve the eco-system and its productivity in a particular region. Land-use-change patterns are the result of the complex interaction between the human and the physical environment.

Review of the Literature

There was lot of work done by various geographers on land use in the world, mostly in 20th century .Stamp, pioneered the land-use study in Britain. In the year 1930, he established an independent research organisation called "Land Utilization Survey of Britain ", And his book "The Land of Britain; Its Use and Misuse" was published in the year 1962. The land-use work of Stamp became the guideline for researchers not only in Britain but all over the world. Land-use studies conducted by many Indian geographers in various parts of the country received inspiration from L. Dudley Stamp, who had attended the 25th Session of the Indian Science

Congress at Calcutta in 1938. . M.Shafi (1956) Dr. S. Sharma and Dr. M.L. Sharma (1993 S. P.) to sellers markets. P. V. Patil, Arun B. Patil and C.U. Mane (2008) Dr. A.R. Siddiqui and Dr. B.C. Jat (2009) Kaushik and Omprakesh (2010) According to them the future of Kangra vally tea production lies the buyers market. Dr. K. Naryana Gowda (2012) Sharma and tiwari (2013), land use pattern in east uttar Pradesh .Saumya mishra ,Sunil kumar Ambrishh rai (2015) Pandey alok (2016),S. D. Shinde He mentioned that, land use is an important aspect of geographic studies particularly relevant to agricultural geography.

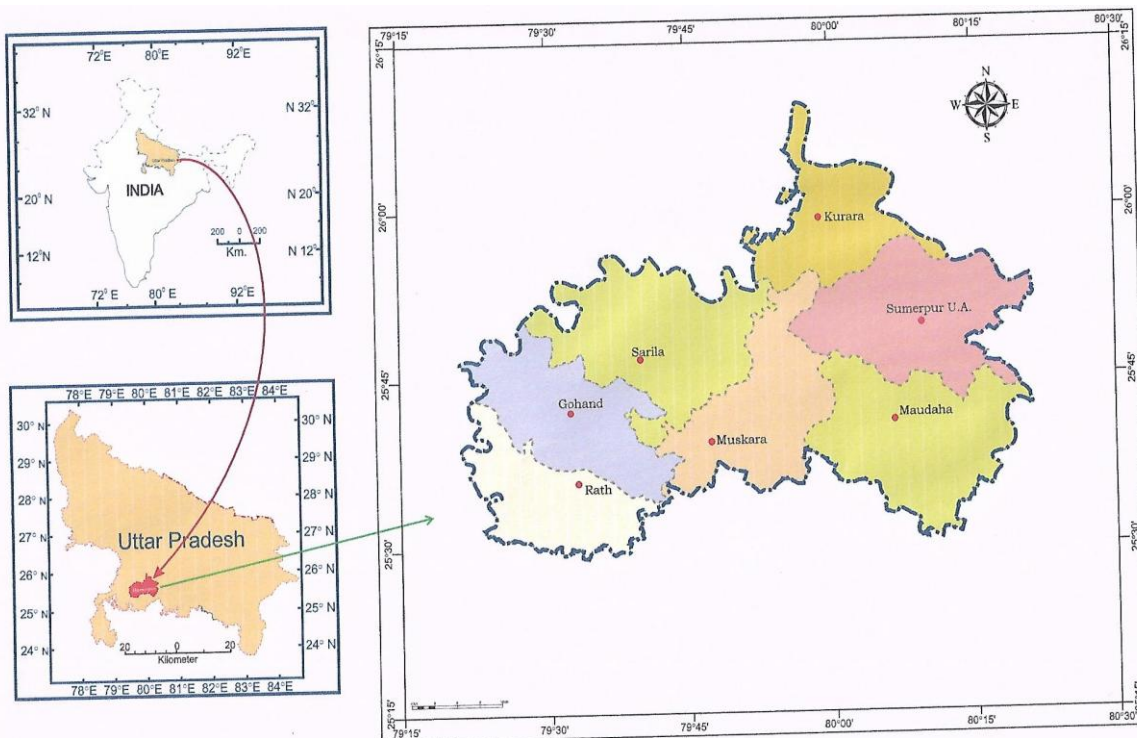
Objective of the Study

1. To analyze the spatio- temporal land use pattern in the study region
2. To analyze the changes that is taking place in land use pattern in Hamirpur District.
3. To find out the inter-development blocks variations in land use pattern.

Study Area

The Hamirpur district has been selected as a study area which is lie south west part of utter

Pradesh known as Bundelkhand(Hamirpur is one of the seven districts of bundelkhand U .P.) the district located between 25°13'N to 26°22'N latitude and 79°07' to 80°22' east longitude the district bounded by Jhansi in the west , Mahoba in the south, Banda in the east and jalaun, Kanpurand fatehpur in the north headquarter situated at the bank of betava and Yamuna. The district is divided in seven development blocks such as Sarila, Rath Maudaha, Muskara, Sumerpur and Hamirpur .



Research Methodology

The study is based on secondary sources of data taken from Statistical Handbook of Hamirpur district. An attempt has been made to tabulate process, analyze and interpret the land use data by applying simple percentage and cartographic

techniques. Study of Survey of India's Toposeet 1:50000 to generate the map of the study area. The Classification of the land use category based on Directorate of Economics and Statistics, Ministry of Agriculture, Government of India classification.

Percentage of Area under the different land use categories in Hamirpur district(block wise) (1994-95)

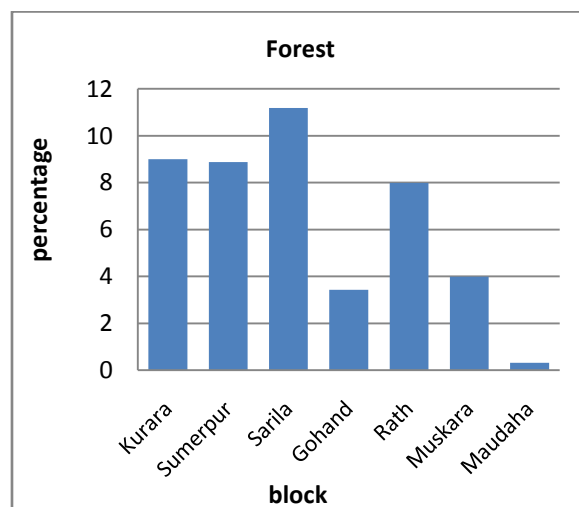
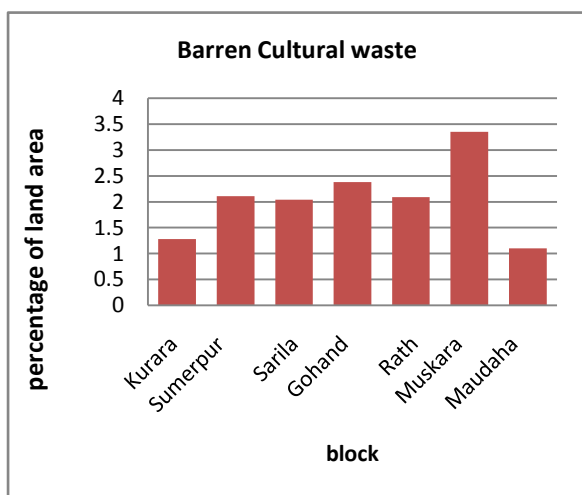
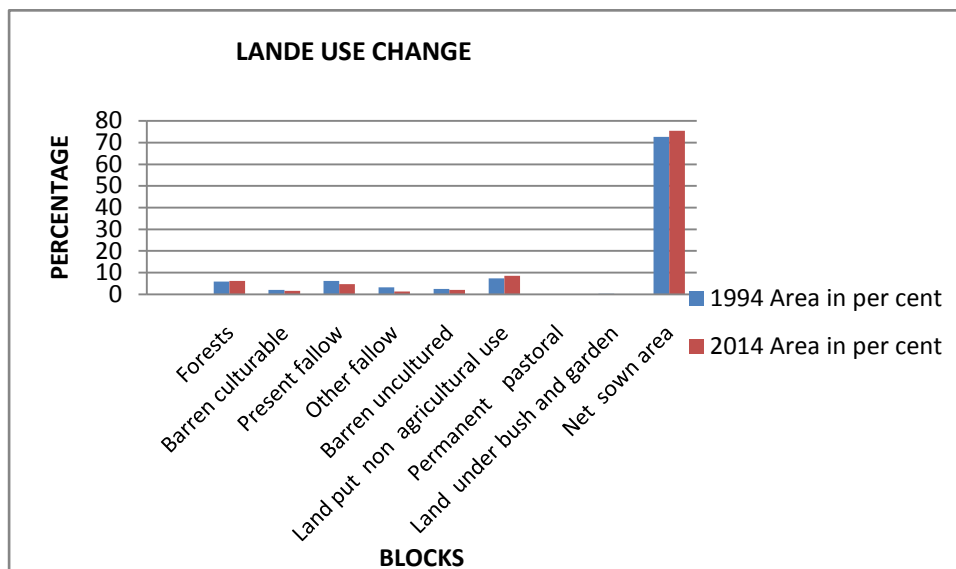
BLOCKS	Forest	Barren Cultural waste	Present Fallow land	Other fallow land	Barren and uncultured land	Land put to non agricultural	Permanent pastures	Area under bush and garden	Net sown area
Kurara	9.00	1.28	6.8	1.98	4.42	8.33	0.07	0.31	67.66
Sumerpur	8.88	2.11	5.96	3.88	2.23	6.39	0.17	0.02	78.42
Sarila	11.18	2.04	12.8	3.57	4.52	6.86	0.05	0.10	59.69
Gohand	3.42	2.38	6.76	2.60	2.13	8.39	0.09	0.61	74.66
Rath	7.99	2.09	4.12	2.60	1.66	9.38	0.008	0.17	68.48
Muskara	3.98	3.35	7.44	2.04	2.84	6.99	0.38	0.23	70.79
Maudaha	0.31	1.10	2.16	4.00	1.07	6.45	0.01	0.05	85.13
District	5.8	1.95	6.18	3.21	2.50	7.27	0.10	0.18	72.67

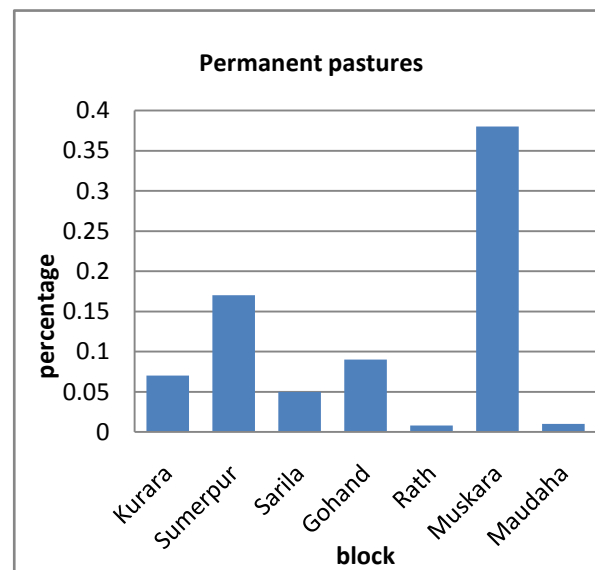
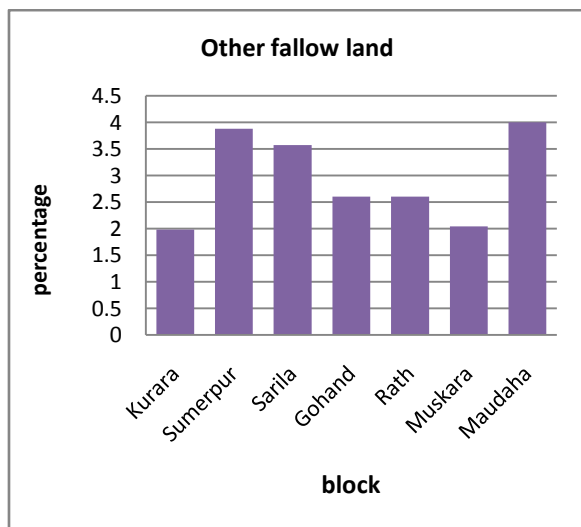
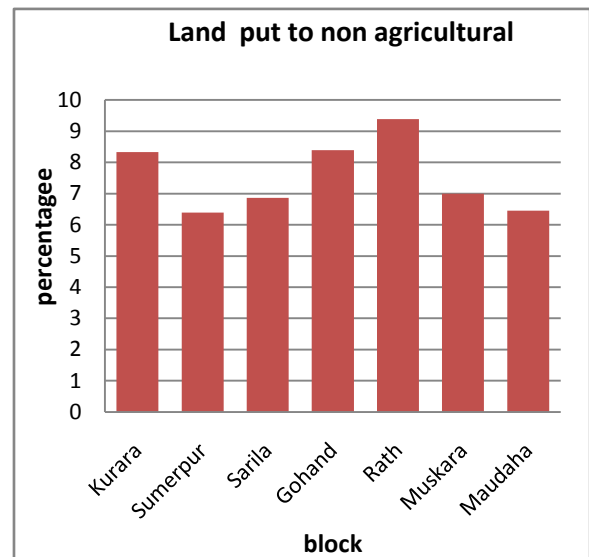
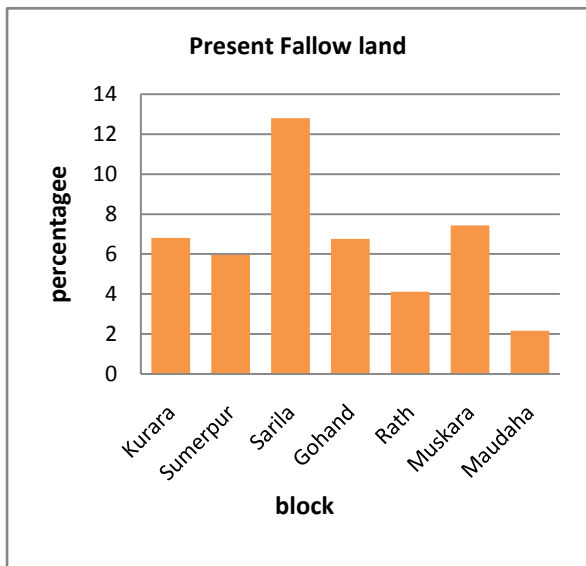
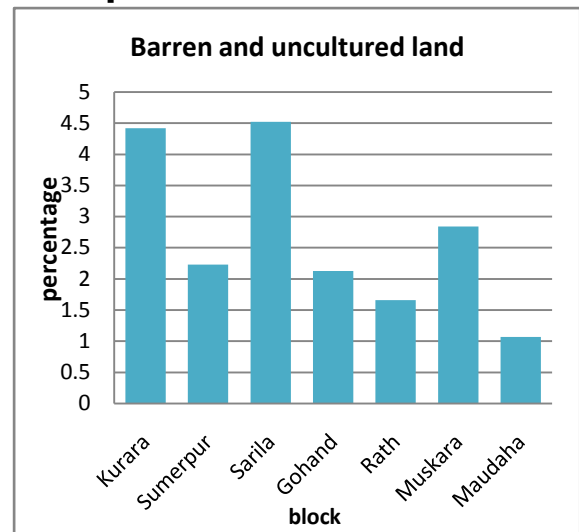
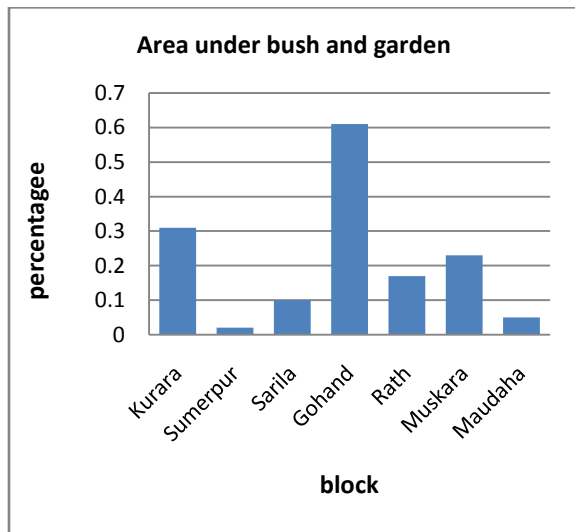
Source: District Statistical Handbook of Hamirpur District, 1995-96

Percentage of area under the different land use categories in Hamirpur district (block wise) (2014-15)

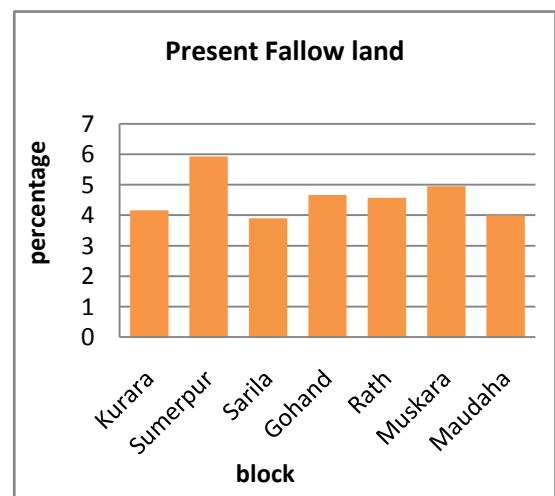
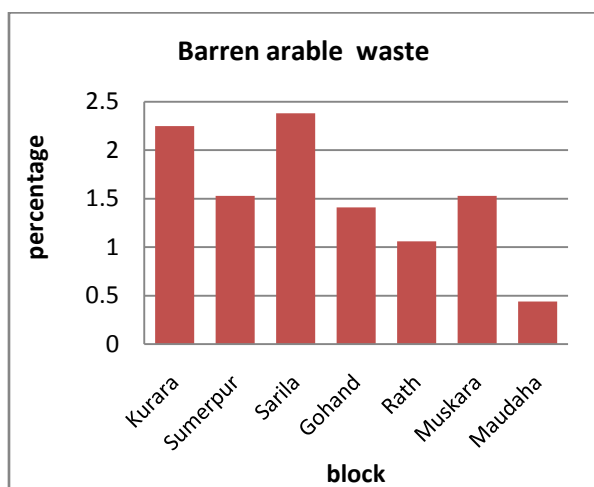
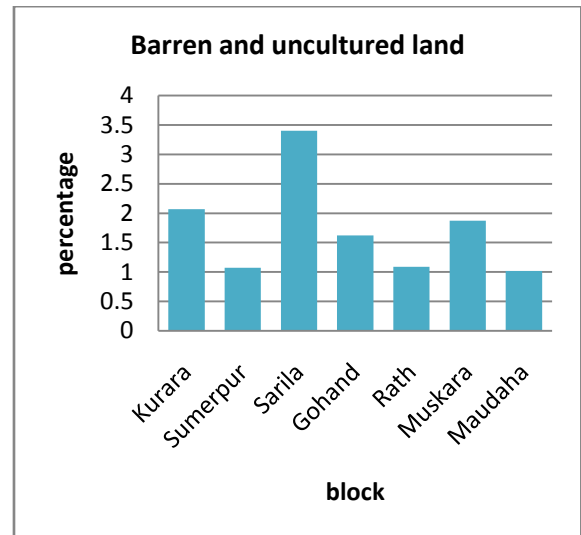
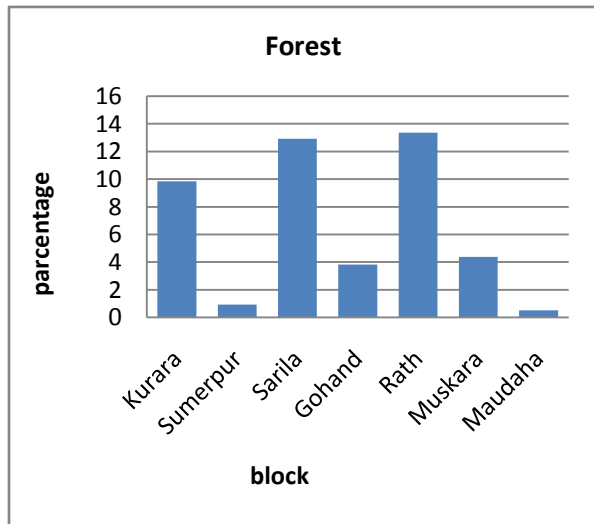
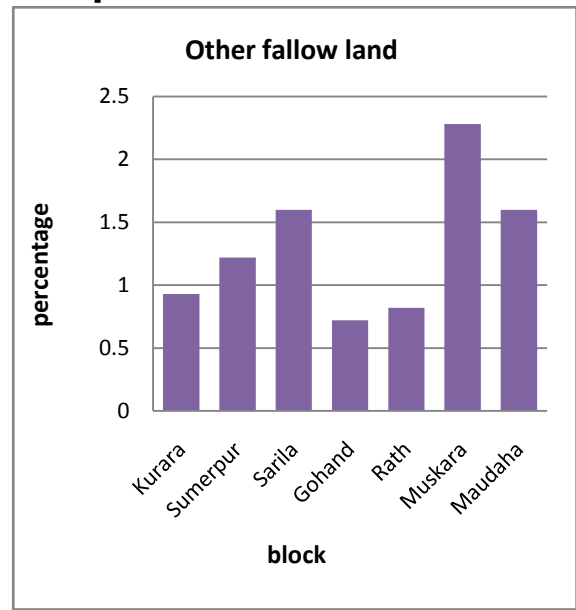
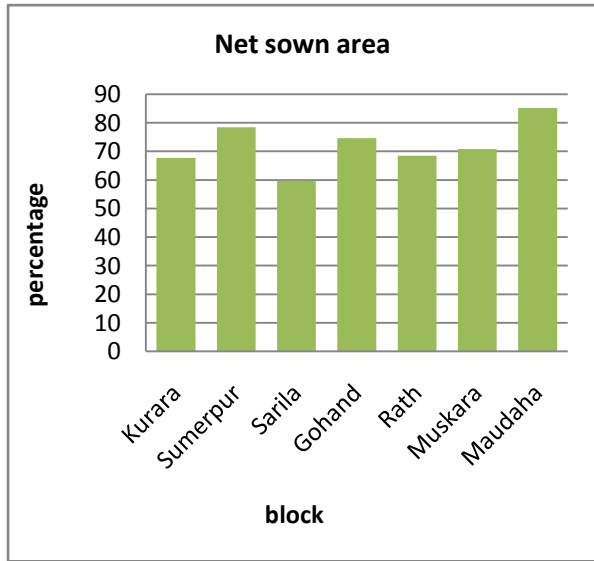
Blocks	Forest	Barren Culturable waste	Present Fallow land	Other fallow land	Barren and uncultured land	Land put to non agricultural	Permanent pastures	Area under bush and garden	Net sown area
Kurara	9.83	2.25	4.16	0.93	2.07	11.15	0.07	0.13	69.11
Sumerpur	0.92	1.53	5.93	1.22	1.07	7.81	0.17	00.05	81.25
Sarila	12.93	2.38	3.90	1.60	3.40	6.73	0.07	0.20	68.75
Gohand	3.82	1.41	4.67	0.72	1.62	8.59	0.09	0.35	78.68
Rath	13.35	1.06	4.57	0.82	1.09	10.76	0.01	0.20	68.10
Muskara	4.38	1.53	4.95	2.28	1.87	7.13	0.03	0.188	77.61
Maudaha	0.50	0.44	3.99	1.60	1.02	5.62	0.30	0.11	85.87
District	6.14	1.58	4.66	1.32	2.06	8.48	00.11	0.17	75.42

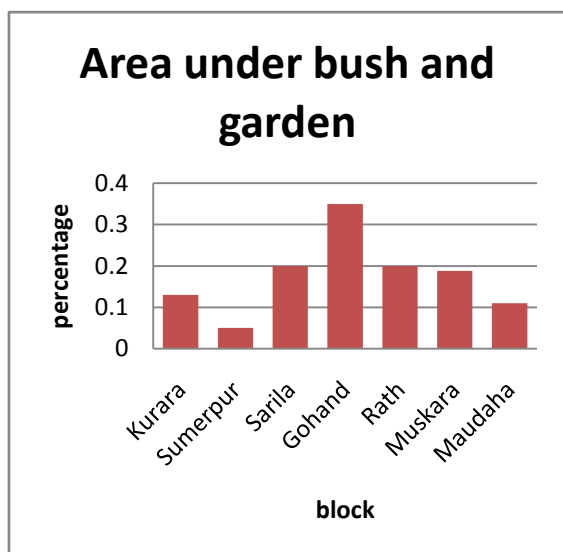
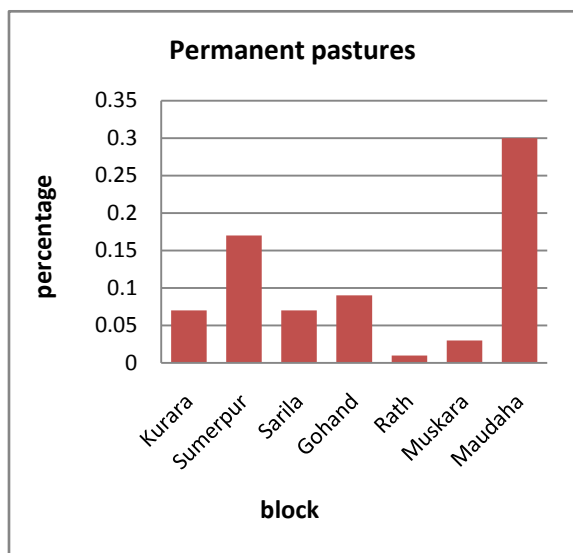
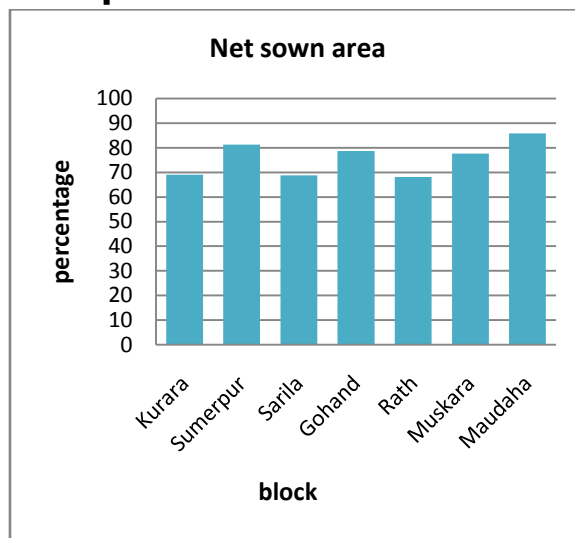
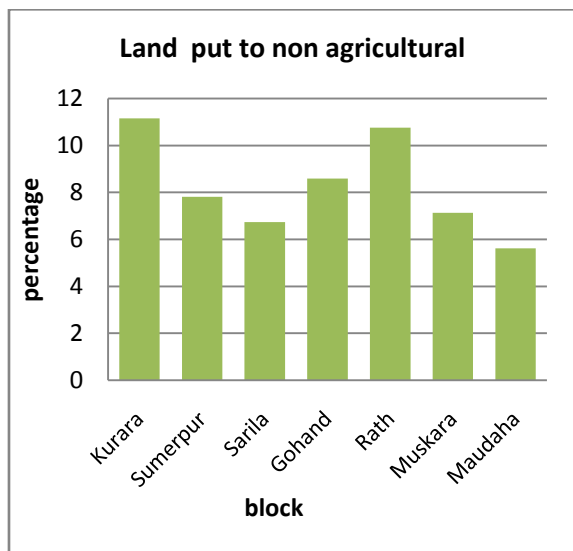
Source: District Statistical Handbook of Hamirpur District, 2015-16
Land use pattern in Blocks level 1994-95





Land use pattern Blocks level 2014-15.





Pattern of Land Use

Forest Area

This includes the all land classified either as forest under any legal enactment or administered as forest, whether state-owned or private, whether wooded or maintained as potential forestland. In Hamirpur district proportion of area under this category was recorded 5.8 percent of total area in 1994-95 while 6.14 percent recorded in 2014-15.

In 1994-95 maximum area under this category was recorded in Sarila block(11.18) followed by kurara block(9.00),Sumerpur block(8.88)and minimum in Maudaha block(0.31) (table2). there are four blocks have area under this category above the district percentage of this category.

In 2014-15 maximum area under this category was recorded in Rath block (13.35 percent) which was (7.99 percent) in 1994-95 . but maximum decrease was recorded in sumerpur from 8.88 percent to 0.9 percent in last 20 years. (Table 3)

Arable Waste Land

This includes land available for cultivation, whether taken up or not taken up for cultivation once, but not cultivated during last 5 years or more in succession including the current year for some reasons in the district proportion of area under this category was recorded 1.95 percent in 1994-95, While 1.58 percent in 2014-15. The area was decreased by (0.37 percent) in last 20 years.

In block level highest proportion of area under this category was recorded in Muskara block (3.35) percent follow by Gohnd block(2.38), Sumerpur (2.11), Rath 2.09, Sarila 2.04, Kurara 1.28 and Maudaha 1.10 in 1994-95.(table 2)

In 2014-15 highest proportion of area under this category was recorded in sarila block (2.38) follow by Kurara (2.25), muskara block(1.53) ,Sumerpur block (1.53), Gohand (1.40), Rath (1.06,) and Maudaha (0.44). (table3)

Current Fallow Land

This category defined such as the land which was not cultivated from last one year. main reason for the current fallow the land are low soil fertility, poor irrigation facilities, uncertainty of rainfall and limited economic means of farmers. In the district

the category of land use has decreased from 6.18 percent to 4.66 percent during period of study (from 1994-to 2015). The total area of Current fallow land was recorded more than forest area in 1994-95 but it was less than total forest in 2014-15. Highest proportion of the area was recorded in Sarila block (12.8) percent follow by Muskara block (7.44) in 1994-95. There were four blocks which have percentage above the district percentage, (Table 2). In 2014-15, highest percentage of the area was recorded in Sumerpur block (5.93) percent followed by Musakara (4.57), Gohand (4.67) but it was rapidly decreased in Sarila block (3.90). Minimum recorded in Maudaha block (3.99) percent. (table3)

Other Fallow

In the district level the land use was recorded (3.21) percent in 1994-95 (table2) while (1.32) percent in 2014-15 (table3). In Block level, highest proportion of the area under this category was recorded in Maudaha block (4.00) follow by Sumerpur block (3.88), Sarila (3.57) all these blocks percentage of the land use had recorded above the district percentage in 1994-95. But three blocks such as Musakara (2.04), Gohand (2.60) Rath (2.60) was recorded less than the district percentage (table2). In 2014-15, the highest area was recorded in Muskara block (2.28) percent. This was single block which proportion of area under this category was recorded increased from 1994-95 and minimum area recorded in Gohand block (0.72) percent. (table3)

Barren Uncultured Land

The area under this category includes all land covered by mountains, deserts, etc. and land that cannot be brought under cultivation except at an exorbitant cost whether such land is in isolated blocks or within cultivated holdings define by Directorate of Economics and Statistics, Ministry of Agriculture, Government of India

In district the area has decreased from 2.50 percent in 1994-95 to 2.06 percent in 2014-15. In 1994-95, Highest proportion of the area was recorded in Sarila block (4.52%) follow by Kurara block (4.42%) and Muskara block (2.84%) minimum recorded in Maudaha block (1.07%) follow by Rath block (1.66%) and Gohand block (2.13%). (Table 2) in 2014-15, the highest proportion of area was recorded in Sarila block (3.40) follow by Kurara block (2.07) the area of this category in all blocks have decreased. Table (3)

Land Put To Non Agricultural

This includes all lands occupied by buildings, roads and railways or under water, e.g. rivers and canals and other lands put to uses other than agriculture. The share of under this category was highest (7.27%) after the net sown area (72.5%) from total area of district in 1994-95. The area has recorded increase from (7.27%) in 1994-95 to (8.48%) in 2014-15. Proportion of the area under this category was recorded highest in Rath Block (9.38%) and minimum in Sumerpur block (6.39%) in 1994-95. (table2)

In 2014-15, the highest proportion of area under the non-agricultural use was recorded in Kurara block (11.15) percent out of total reported area of the

block followed by Rath block 10.76 percent. All blocks data has show in the (Table3).

Pastures Land Use

Permanent Pastures and other Grazing Lands: includes all grazing lands whether they are permanent pastures and meadows or not. Village common grazing land is included under this head. The land use category plays a significant role in district economy because it is necessary for the livestock in the district. It covered 0.10 percent area out of the total reported area of district in 1994 while 0.11 percent in 2014-15. The area was recorded increased by 0.01 percent from 1994 to 2014. In the Block level the highest proportion of pasture land use was recorded in Muskara block (0.38%) followed by Sumerpur block (0.17%), Gohand block (0.09%), Kurara block (0.07%) and in Rath block (0.008%) table2. In 2014-15 The highest proportion of pasture land was recorded in Maudaha block 204 hectares (0.30%) followed by Sumerpur block 100 hectares (0.17%), and minimum in Rath block (0.01). Table3

Land under Miscellaneous Tree Crops Use

This includes all cultivable land that is not included in net area sown but is put to some agricultural use. Land under trees, thatching grasses, garden, and other groves for fuel etc are classified under this category. In 1994 this land use category covered 0.18 percent area out of the total area of district, and it was 0.17 percent in 2014.

Net Sown Area

This represents the total area sown with crops. Area sowed more than once in the same year is counted only once. Net sown area refers to the part of cropped on which sowing is actually done at least once during a year (Dhian 1991). This land use category plays a significant role to food security, employment and economic development and it is a indicator of agricultural production and development. In the district the percentage of net sown area to total reported area was 72.67% in 1994-95 which was increased and reached at 75.42% in 2014-15. In the block level Highest proportion of net sown area was recorded in Maudaha block 85.13 percent of total area of block and lowest percentage in Sarila block 59.69 percent. Three blocks have more than the district average (72.67 percent) and four blocks have less than district average in 1994-95. In the block level the net sown area range was 59.69%-85.13% in 1994-95. Other hand in 2014-15 Highest proportion net sown area was recorded in Maudaha block (85.87) followed by Sumerpur block (81.25) minimum recorded in Sarila block. There are four blocks which have percentage of the category more than district.

Conclusion

The study concludes that marginal changes have occurred in land use pattern during past two decades in the district. The proportion of net sown area has increased from 72.67 per cent in 1994-95 to 75.42 per cent in 2014-15. Forest area and land put to non-agricultural use were recorded also increased during the same period. Forest area increased but its proportion of the area to total area is very low compare to national level. The proportion of area

under non-agricultural uses has increased from 7.27 per cent in 1994 to 8.48 per cent in 2014 because of urbanization, construction and developmental works (roads, railways, establishment of industries). Due to these reasons,. The proportion of other fallow area has rapidly declined from 3.21 per cent in 1994-95 to 1.32 per cent in 2014-15. Marginal changes have been found in all remaining.

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