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# Land Use Utilisation in Bilaspur District of Himachal Pradesh

Geography

**KEYWORDS :** Cropping Intensity, Scientifically, Methodically, Cultivation, Categories.

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## ABSTRACT

*The present paper deals with a study of land use and cropping intensity in Bilaspur district of Himachal Pradesh. An attempt has been made to scientifically and methodically classify the present land use in the areas of study. The utilization of land divided in four categories, viz. land not available for cultivation, uncultivated land, cultivated land and forest. Maximum area covers uncultivated land 43.30% and forest land covers very low (11.51%) of the total area. Cropping intensity index displays variation between 142 in Bandla Nyayapanchayat to 208 in Merikathla Nyayapanchayat. The highest intensity was noticed in marginal farmers, with a few exceptions, followed by the small and semi- medium size cultivators.*

## INTRODUCTION

Land use classification is the systematic arrangement of various classes of land on the basis of certain similar characteristics, mainly to identify and understand their fundamental utilities in satisfying the needs of human society. The best use of each parcel of land requires a scientific and methodically appreciable classification of the present land use. This may help us in investigating the land use problems and the basis of planning for the best use of our land after considering the major land use categories (Mandal, 1982).

It is due to the land use changes to meet the variable demands of the land by the society in its new ways and conditions of life. The demand for new uses of land may be stimulated by a technological change or by a change in size, compositions and requirements of a concerning community. Some changes are short lived while others represent a more constant demand (J.N. Jakson, 1963). The study of land use is of pivotal importance in the point of view of planning and development of an area.

## STUDY AREA

Bilaspur district is situated almost entirely within the Shiwalik range, the outermost range of Himalaya. The area extend between $31^{0}12'$ 30″N to $31^{0}35'$ 45″N latitude and $76^{0}23'$ 45″ E to $76^{0}55'$ 40″ E longitude in a triangular shape. The total area of the district is 1167sq. km. of which 1154 sq. km. is rural and remaining urban. In the north and north- west it is bounded by Hamirpur & Una district, in the north-east by Mandi district, in the south and south-east by Solan district and in the south-west by Ropar district of Punjab.

Administratively, the district has been divided into three tahsils Bilaspur, Ghumarwin and Jhandutta and one sub-tahsil Naina Devi. There are three community development blocks Bilaspur Sadar, Ghumarwin and Jhandutta. The total population, according to the 2011 census is 382,056 in which 356,930 (93.42%) population is rural. Bilaspur district has 136 nyapanchayat and 1044 villages out of which 950 inhabited (See fig.1).

**FIG.1 LOCATION MAP OF STUDY AREA**


## OBJETCTIVES

(1) To analyze the different categories of land utilization.
(2) To study the interrelationship between different categories of land utilization.
(3) To identify of the cropping intensity of study area.

## MATERIALS AND METHODS

The entire data used for the present study have been studied on the basis of secondary data, collected from the office of three tahsil and one sub –tahsil, for the analysis of the data nyayapanchayats have been selected as the basic unit. Data from secondary sources have been collected principally from various bulletins:

1. Bulletins of Agricultural Statistics of Himachal Pradesh (year wise from 1985-86 to 2001-02).
2. Socio-economic review and district statistical abstract of Bilaspur district (year wise from 1985-86 to 2001-02).
3. District census & hand book, Gazetteer agricultural epitomes, season and crops reports published by the department of agriculture.

## GENERAL LAND USE UTILIZATION

Land resource of a particular place is less dependent upon the extent of the geographical area such as compared to the uses to which the land is actually put. Therefore, for assessing the production potential of land, it is important to have reliable and elaborate information, statistical and other, of land utilization and more so because such information has now assumed greater importance in the context of planning for agriculture. The sub- joined table based on revenue returns will serve to give an idea about the position of land utilization in Bilaspur district.

**Table 1 General Land Utilization in Bilaspur district (Area in Hectares)**

| S. No | Particulars | 1985 -86 | 1990-91 | 1997- 98 | 2001 -02 |
|---|---|---|---|---|---|
| 1. | Total Geographical area by village paper | 115470 | 115384 | 115445 | 111775 |
| 2. | Forest | 11453 | 11452 | 12661 | 12866 |
| 3. | Land not available for cultivation | 21742 | 21509 | 18720 | 18767 |
| a | Barren and cultivable land | 15302 | 13453 | 12395 | 11949 |
| b | Land put on non agricultural uses | 6440 | 8056 | 6263 | 6818 |
| 4 | Other uncultivated land excluding, current fallows : | 47751 | 47461 | 47466 | 47342 |

| | | | | | |
|---|---|---|---|---|---|
| a | Permanent pastures and other grazing land | 43106 | 42433 | 41301 | 40949 |
| b | Land under miscellaneous tree crops and groves not included in net area sown | 112 | 89 | 106 | 132 |
| © | Cultivable waste | 4533 | 4942 | 6059 | 6261 |
| 5 | Fallow land | 2733 | 2519 | 2511 | 2434 |
| a | Current fallows | 1892 | 1619 | 1499 | 1321 |
| b | Other fallows | 851 | 900 | 1013 | 1113 |
| 6 | Net area sown | 31791 | 32440 | 30878 | 30366 |
| 7 | Area sown more than once | 25518 | 27320 | 28047 | 27417 |
| 8 | Total cropped area | 57309 | 59742 | 58925 | 57783 |

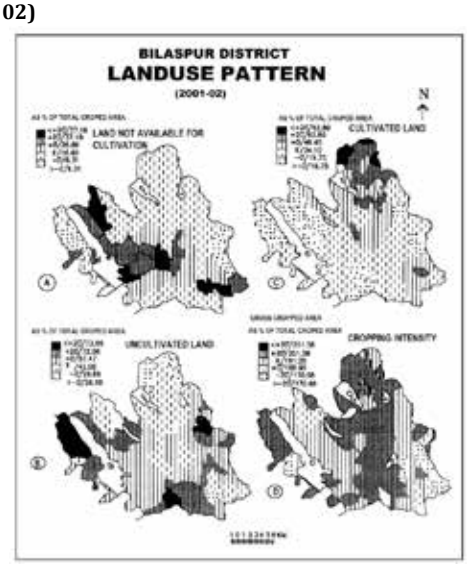
**Source: Office of the District Revenue officer, Bilaspur**

Four categories of land use, namely (i) Land not available for cultivation (ii) Other cultivable land (excluding fallow land), (iii) Cultivated area, and (iv) Forest.

**(i)Land Not Available For Cultivation**

Land under non agricultural uses, i.e. settlements, roads and footpaths, water, burial grounds, barren and uncultivable land are included under this head. As much as 17.16% of the total geographical area of the region falls in this category. The total area land not available for cultivation is 18,767 hectares in rural area of the district. Highest percentage of such land is found in Jhandutta Tahsil since it is the meeting ground of the three khads Sir, Sukar and Siryali and maximum villages of this tahsil are submerged in Govind Sagar whereas the percentage of area not cultivation is low in Shri Naina Devi sub- tahsil (Table 2). Brahimani kalan, Dahad, Nakhlehra, Nakarana, Panjailkhurd, Sakora and kotla nyayapanchayats have the highest area (+2σ/37.18 % of total area) under this category (Fig. 2 A) the area under water is more in these panchayats than others. Dhaon kothi, Dangar, Luharwin, Lehri Raurjaman, Kutehla, Sai kharsi Rajpura and Dhar Tatoh have lowest area(-σ/6.31%)under this category .

**FIG.2 LAND USE PATTERN IN BILASPUR DISTRICT (2001-02)**




| S. No. | Land Use Categories | Bilaspur Sadar | Ghumarwin | Jhandutta | Shri Naina Devi (sub-Tahsil) |
|---|---|---|---|---|---|
| 1 | Land not Available for cultivation | 3,903 | 3,755 | 7,714 | 3,395 |
| 2 | Cultivated land | 7,706 | 12,087 | 7,000 | 3,573 |
| 3 | Uncultivable land (excluding fallow land | 14,118 | 8,425 | 11,425 | 13,338 |
| 4 | Forest | 1,474 | 3,328 | 4,298 | 3,766 |

**Table 2 Tahsil/Sub-Tahsilwise Land Use in Bilaspur District (Area in Hectares)**

**Source: Office of the District Revenue officer, Bilaspur.**

**(ii) Other Uncultivated Land (Excluding Fallow Land)**

The land under permanent pastures and other grazing areas, miscellaneous tree crops and grooves (which are not included in the net area sown but are to some sort of agricultural uses, other than seasonal cropping) and cultivated waste lands are included in this group. Cultivate waste land, includes all lands available for cultivated during the year and last five years or more in succession. The total area under this category is about 47,342(43.30%) hectares in the district. The highest percentages of uncultivated land have been found in Bilaspur Sadar Tahsil (29.82%) and lowest in Ghumarwin Tahsil (17.79%). The numerous Dhar of the district have contributed to high percentage of such land. On nyayapanchayat basis, Tarsuh, Lehri, Raurjaman, Malyawar, kutehla nyayapanchayats have the highest area (+2σ/72.86%) of the total area) under this category (Fig.2 B). The area under permanent pastures and grazing is more in these panchayats than other, whereas Barota, Dangar, Kot, Ghandalwin, Hatwar, Mehrikathla, Auhar and Kotla have lowest area (-σ/26.69%) under this category.

**(ii) Cultivated Area**

This category of land occupies about 27.77% (30366 hectares) of the total geographical area of the region. There is a notable inter- tahsil /Sub-tahsil variation in the share of cultivation land. It varies from 39.80% in Ghumarwin tahsil to 11.76% in Shri Naina Devi sub- tahsil. In the Bilaspur district, this type of land varies from one panchayat to another in the subsequent diagram (Fig. 2 C) an attempt has been made to represent the cultivated area of each nyayapanchayat, out of their respective total area which varies markedly in different parts of the district, depending mainly upon physical conditions of climate, topography and soils. The highest percentage (2σ/62.80% to total area) is found in the upper Sir khad basin where the irrigation facilities are available. Brahmani kalan, Malayawar, Sunihra, Salwar, Ri, Tarsuh, Lehri, Raurjaman ,Bhakara, Ghawanal, kutehla, Nakarana, Dhar –Tatoh, Nyayapanchayats have lowest area(-σ/19.75%) under this category. These panchayats are located in the hilly section, covered by jungles and inhabited mostly by backward people. From this account, it appears that most of the unclassified areas are either barren or unproductive rare suitable only for forests or grazing; the proportions suitable for cultivation are not large.

**(iv) Forest**

The district is not very rich in forests since out of the total geographical area of 1167 sq.Km. Forests occupy only 12,866 hectares (11.51% of the total area). Tahsil/ sub –tahsilwise the share of forest land ranges from 11.45% in Bilaspur sadar Tahsil to 33.40% in the Jhandutta Tahsil as per the latest records of the forest. Departmentally, forest area in the district is 33,958.08 hectares. Out of 33,958.08 hectares, 89.60 hectares area occupied by reserved Forests, 16,266.07 hectares by protected forests, 15,998.24 hectares by unclassified forest and remaining 1604.17 hectares others.

**CROPPING INTENSITY**

The cropping intensity signifies the farming practices for ex-

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tracting the maximum output from a particular patch of land by growing crops more than once in a year. In other words, it refers to the number of crops raised on a field during an agricultural year. In the present study cropping intensity index has been calculated by the following formula:

x 100
Where
t = Total cropped area
N= Net area sown

This index displays variation between 142 in Bandla Nyayapanchayat to 208 in Merikathla Nyayapanchayat. Block wise in the Ghumarwin Block, it ranges 183 to 207, against this, in the Jhandutta block from 168 to 203 and in the Bilaspur Sadar block 143 to 202. A glance at Fig.2 D shows that the index varies greatly with in sort distances in each locality reflecting the local variation in relief, drainage conditions and impact of irrigation as well as other infrastructural elements. The highest intensity was noticed in marginal farmers, with a few exceptions, followed by the small (1-2 hectares) and semi- medium (2-4 hectares) size cultivators.

**CONCLUSION AND SUGGTIONS**

Physical, culture, social and economic factors, influence the land use pattern in the study area. Due to hilly terrain settlement are scattered in the south-west, south and south eastern parts of the district. The land utilization patterns for the last 16 years have been shown in table 3.

**Table 3 Land Utilization Pattern Bilaspur District (Area in Percentage)**

| Years | Geographical Area By Village Paper (Area in Hectares) | Forest | Land Not available for Cultivation | Uncultivated Land | Net Cultivated Land |
|---|---|---|---|---|---|
| 1985-86 | 1,15,470 | 9.91 | 18.82 | 41.35 | 27.53 |
| 1990-91 | 1,15,384 | 9.92 | 18.64 | 41.13 | 28.11 |
| 1997-98 | 1,15,445 | 10.96 | 16.21 | 41.11 | 26.74 |
| 2001-02 | 1,15,775 | 11.51 | 16.78 | 42.35 | 27.16 |

**Source: Office of the district Revenue officer, Bilaspur.**

Table 3 shows that area under forest increased from 9.91% in 1985-86 to 11.51% in 2001-02 with a total increase of 1.6%. Net cultivated area decreased from 27.53% in 1985-86 to 27.16% in 2001-02 with a total decrease of .37%. Uncultivated land has increased from 41.35% in 1985-86 to 42.35% in 2001-02 with a total increase of 1%. Area not available for cultivation decreased from 18.82% in 1985-86 to 16.78% in 2001-02 with a total decrease of 2.04%. Nearly 90.70% of the study area still remains unirrigated.

In the short analysis thus clearly reveals that the area has increased only marginally from the national agriculture development programs. There is little scope to extend the cultivable area which can be extends only if the entire uncultivable land (except garden & pastures) is utilized for cultivation. The forest land is very low (11.51%) in the study area whereas national forest policy expects 60% forest area for hilly region. So there is an urgent need to increase the forest area in the study area. On the banks of Sutlej and in the valleys of its tributaries, intensive cultivation of food crops can be done by providing irrigation facilities, taking to better techniques of production and using fertilizers and improved seeds.

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