

AGRICULTURAL LAND USE DYNAMICS: IN DISTRICT BHIWANI

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Abstract :- *The present paper examines the agricultural land-use changing pattern which has taken place during different successive periods. The objectives of the paper are aimed at establishing a cause-effect relationship between the various factors in relation to changing land-use pattern in Bhiwani district. The study also throw an adequate light on various related issues of institutional framework and its effects on land use and miss-used taken placed during different periods in the Bhiwani district of Haryana.*

Key words : *Agricultural land-use, changing scenario, institutional framework, successive periods.*

INTRODUCTION: -

The physical environment of man consists of landforms, climate, water, soil, natural vegetation and native animal life. These resource complex is necessary for human existence since it provides him with living space with food and with vast variety of raw materials used in the satisfaction of human wants land resources play a strategic role in the determination of man's economic, social and cultural progress which could be easily seen and clearly understood through reference to economic history of different countries. But unfortunately, the development and use of such an important resource was left in the past entirely to trial and error method which has naturally led to its improper use in many part of the world. Consequently, this basic resource has gradually deteriorated in a world short of food and other basic raw materials. Conservation of land resource is one of the basic necessities. In countries were efforts are being made to modernize agricultural through the adoption of scientific methods, there is an excellent opportunity for correcting part of errors in land use and to get rid of future errors through detailed mapping and classification of map.

MEANING OF LAND USE: -

The land which is effectively being used for a particular purpose for the man by the man known as land use. Land use describe how a partical of land is used such as agricultural, residences or industry.

IMPORTANCE OF LAND USE: -

For human existence, with in certain biotic, ecological and economic conditions the utilization of land is of prime importance. It involves a relationship that exist between the societies on the one hand and cultural advancement, resource planning and carrying capacity of the land on the other. The intensive use of land depends upon prosperity through better agricultural production, human establishment, industrial location, communication and transport line, while extensive use of land is related to sparse population, dispersed settlements, the absence of communication lines and the crude forms of transport. Thus the study of land use is to immense value in tracing out the past use of land and its future trend.

STUDY AREA: -

Bhiwani district comes into existence on December 22, 1972. The district Bhiwani lies in between latitude 28° 19` and 29° 05` and longitude 75° 28` to 76° 28`. The total area of Bhiwani is 5,140 sq. km. this city of Bhiwani lies about 120 km. North West of Delhi. Its height from sea level is 215 meters.

Objectives:

1. To study the land use pattern of Bhiwani district (1993-94 to1998-99)
2. To study the changing pattern of Bhiwani district (1993-94 to 1998-99)

Database and methodology:

Statistical abstract is the important source of data collection. The data has been collected from statistical abstract of Haryana (1993-94 to 1998-99). Percentage and pie or ring diagrams have been used.

LAND USE PATTERN OF BHIWANI DISTRICT (1993-94 TO 1998-99): -

Land use study means how the land is used for different purpose. Total agricultural area of Bhiwani district increased in 1998-99 due to existence of new tehsil 'Siwani' having area 679.80 sq.km.which was the part of Hisar district. The total land of Bhiwani district can be classified into following categories:-

Table no.1 Land use categories of Bhiwani district (1993-94)

| LAND CLASSIFICATION | TOTAL AREA IN THOUSAND HACT. | % TO THE TOTAL AREA | DEGREE |
|--|------------------------------|---------------------|--------|
| NET AREA SOWN | 345 | 85.61 | 308.18 |
| LAND NOT AVAILABLE FOR CULTIVATION (land put to non-agricultural uses+barren and unculturable land) | 36 | 8.93 | 32.16 |
| FALLOW LAND | 14 | 3.47 | 12.51 |
| FORESTS | 08 | 1.98 | 7.15 |
| TOTAL | 403 | 100.00 | 360 |

SOURCE: Statistical Abstract of Haryana

Formula : $\frac{\text{Given Area}}{\text{Total Area}} \times 100$ (For Percent Area)
 $\frac{\text{Given Area}}{\text{Total Area}} \times 360$ (for degree)

LAND USE (1993-94)

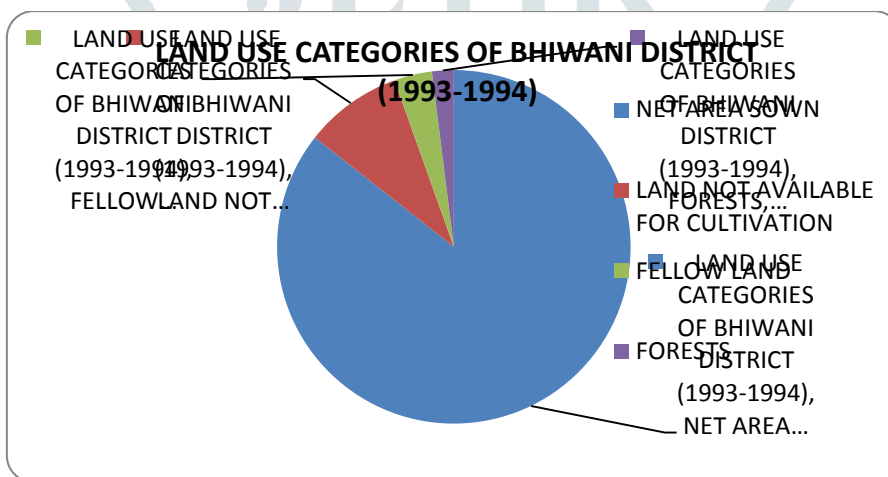


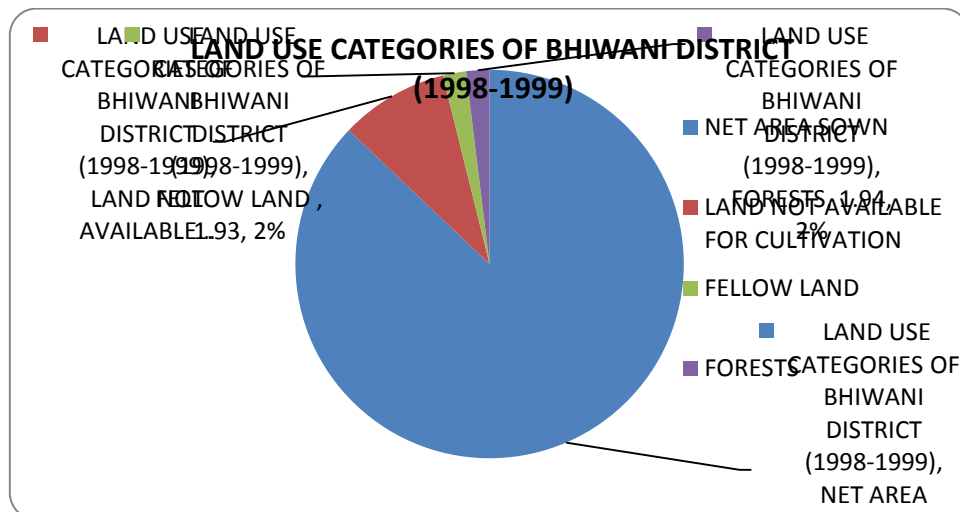
Table no.2 Land use categories of Bhiwani district (1998-99)

| LAND CLASSIFICATION | TOTAL AREA IN THOUSAND HACT. | % TO THE TOTAL AREA | DEGREE |
|--|------------------------------|---------------------|--------|
| NET AREA SOWN | 405 | 87.10 | 313.54 |
| LAND NOT AVAILABLE FOR CULTIVATION (land put to non-agricultural uses+barren and unculturable land) | 42 | 9.03 | 32.51 |
| FALLOW LAND | 09 | 1.93 | 06.96 |
| FORESTS | 09 | 1.94 | 06.96 |
| TOTAL | 465 | 100.00 | 360 |

SOURCE: Statistical Abstract of Haryana

Formula : $\frac{\text{Given Area}}{\text{Total Area}} \times 100$ (For Percent Area)
 $\frac{\text{Given Area}}{\text{Total Area}} \times 360$ (for degree)

LAND USE (1998-99)



NET AREA SOWN: -

The term net area which is sown with crops in the year in any crop season. In this year (1993-94), Net Area sown is covered the maximum area of Bhiwani district. Under this category total area is 345 thousand hect. Which is 85.61% of the total land use area where as in 1998-99 the net area is 405 thousand hect. Which is 87.10% of total use area.

LAND NOT AVAILABLE FOR CULTIVATION: -

Under this category the land is divided into two parts:

1. Land put to non agricultural uses
2. Barren and uncultivable land

1. *Land put to non agricultural uses:* this type of land comes under the second broad type the two other type barren and cultivable waste land comes in this categories. Land put to non-agricultural was stand for all land occupied by building roads, rivers, canal, settlements and other land.

2. *Barren and uncultivable land:* This type of land includes all such land which are unfit for cultivation at present time due to some restriction. In the year (1993-94),the barren and uncultivable land or non-agricultural land is covered the total area 36 thousand hect. Which is 8.93% of the total land use where as in the year (1998-99) the total area 42 thousand hect. Which is 9.03% of the total land use.

FALLOW LAND: -

The term fallow land which is left unsown for two or more Cropping seasons. The land is left unsown to regain the fertility of soil also some other factors, such as lack of water and due to economic factors. Under this category, in the year (1993-94) the total area 14 thousand hect. Which is 3.47% of the total land use whereas in the year 1998-99 the total area 9 thousand hect. Which is 1.93% of the total land use.

FORESTS: -

The land which is covered by different type of trees. The forests mainly consist of waste strips on side of the roads, canals and railway. Protected forests in Loharu, Nangal mala, Nawan, Naurangabad, Digrauta and Rawaldhi.

Under this category in the year 1993-94 the total area is 8 thousand hect. Which is 1.98% of the total land use. Where as in the year 1998-99 the total area is 9 thousand hect. Which is 1.94% of the total land use. In brief it can say that the land use pattern is better in the bhiwani district. There is maximum land use area is covered by net area sown. Fallow land is decreased and forest land is increased during the year 1993-94 to 1998-99.

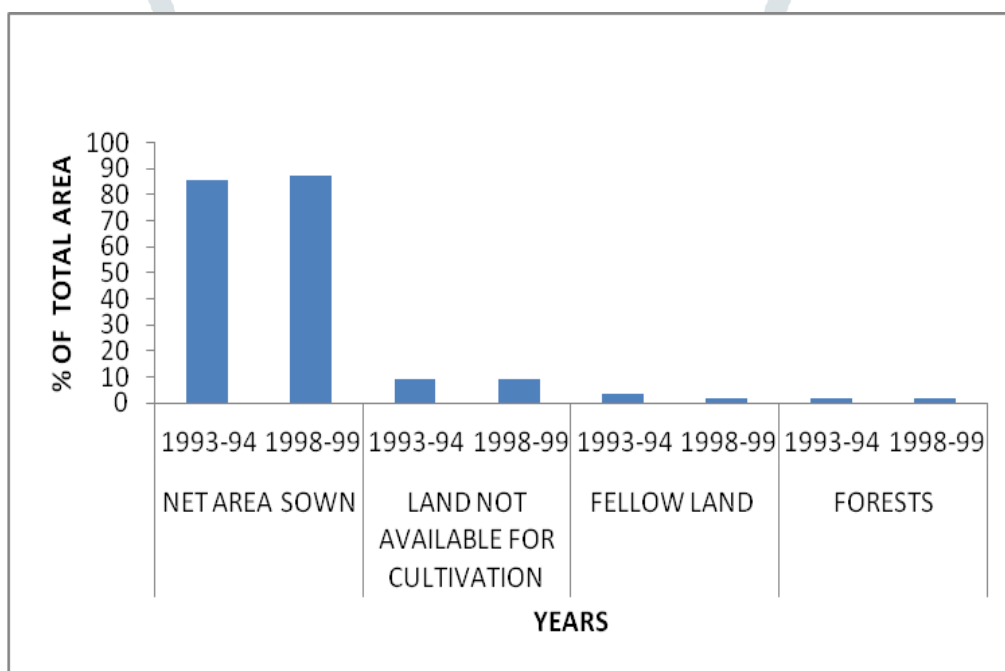
COMPARATIVE STUDY OF LAND USE IN BHIWANI DISTRICT (1993-94 TO 1998-99)

In this comparative study we compare the both land use table of the year (1993-94 to 1998-99)

Table no.3 CHANGE IN LAND USE (1993-94 to 1998-99)

| LAND CLASSIFICATION | TOTAL AREA (IN THOUSAND HACT.) | | % TO THE TOTAL AREA | | Change Area in % |
|------------------------------------|--------------------------------|---------|---------------------|---------|------------------|
| | 1993-94 | 1998-99 | 1993-94 | 1998-99 | |
| NET AREA SOWN | 345 | 405 | 85.61 | 87.1 | 1.49 |
| LAND NOT AVAILABLE FOR CULTIVATION | 36 | 42 | 8.93 | 9.03 | 0.10 |
| FALLOW LAND | 14 | 9 | 3.47 | 1.93 | -1.54 |
| FORESTS | 8 | 9 | 1.94 | 1.98 | 0.04 |
| TOTAL | 403 | 465 | 100 | 100 | |

CHANGE IN LAND USE (1993-94 to 1998-99)



Net area sown: - Net area sown in 1993-94 was 345 thousand hect. Which is increased 56 thousand hect. In 1998-99 i.e. 405 thousand hect. Which is 1.49% of the land use area.

Land not available for cultivation: - Land not available for cultivation was 36 thousand hect. In 1993-94 where as in 1998-99 it was 42 thousand hect. It means that 6 thousand hect. Land not available for cultivation is increased which is 0.10% of the land use area.

Fallow land: - The fallow land was 14 thousand hect. In 1993-94 which become 9 thousand hect. In 1998-99. It means that 5 thousand hect. Fallow land is decreased which is -1.54% of the land use area.

Forests: - The forests has increased one thousand hect. During this period which is 0.04% of the land use area.

Total area: - Total area of land use in also increased. In the year 1993-94 it was 403 thousand hect. Where as in 1998-99. It was 465 thousand hect. Which is 62 thousand hect. area of total land use. Total agriculture area of Bhiwani district Increased in 1998-99 due to existence of new Tehsil Siwani having area 679.80 sq. km which was the part of Hisar district.

The comparative study shows that net area sown and forests have increased during this period. Whereas fallow land is decreased during this period which is clearly show the development in agricultural area. The land not available for cultivation was 36 thousand hect. In 1993-94 whereas in 1998-99 it was 41 thousand hect. which shows the increase of industries and other infrastructure facilities in the study area.

CONCLUSION : -

It is concluded that land use study means how the land is used for different purpose. In Bhiwani district total agricultural area is increased in 1998-99 due to existence of new Tehsil ‘Siwani’ having area 679.80 sq. Km. Which was the part Hisar district. In this district their are

four main categories of land pattern. Mostly area is covered by the net area sown after than land not available for cultivation, fallow land and forests. It is concluded that there are so many problems & factors which increased the land not available for cultivation and fallow land. These are lack of irrigation, unchecked soil, old method and techniques of agricultural, small holdings and fragmentation of farmers. Lack use of new seeds and fertilizer, modern instruments of agricultural and unreliability of rain all which limited the future progress of the district. But now the Government of India is trying to progress in agriculture by using all methods and fertilizer of modern type when the district will be linked with the irrigation facilities of canals and hydro-electricity power, the chance of progressing will increase.

SUGGESTIONS: -

The existing problem stands in the way of prosperity of the district. No farmers are struggling against the environment for the betterment of their agricultural but there are certain suggestions which may go a long way to held the future agricultural planning in district.

1. Irrigation facilities must be improved.
2. A detailed study of the chemical and physical properties of soil should be made.
3. The changes for the sewerage water should be high as cannot be afforded. There should not be fluctuations in flow of water in the sewerage channel.
4. Population pressure on agriculture should be reduced by engaging the people in other occupation. Small scale industries should be set up.

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