

Land Use and Agriculture in Patna Division

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1. Introduction

Land is one of the most important natural resource of a region which provides base for the economic development. It is the land which provides room for human settlements, agriculture, forests, orchards, factories, communication line and many more activities. The land use of any region is influenced by two factor: Surface Characteristics and Human. The surface characteristics includes topography, climatic condition and soil type. Human factors are socio- economic status and technological level of the region. Both factors determine the extent to which the physical capacity of land is utilised. The proper management and utilisation of land resource offer a chance to accelerate economic growth.

The land use capabilities classification portrays the physical capabilities of land to produce over a long period of time under stated conditions of uses and which can provide land operation with a basis for actual practice of specific unit of land [1]. Numerous attempts in India and abroad as well as in Bihar state has been made to classify the land use. Any classification of land in any part of the world is guided primarily by the classification made by L. Dudley Stamp in 1930 who in his pioneer work classified the land of Britain into six major categories [2]. In India, before 1951 the land use statistics were collected by Ministry of Agriculture, Government of India and

had classified the land into six major categories:- [3] (1) Total geographical area (2) Area under forest

(3) Net area available for cultivation (4) Current fallow (5) Other uncultivated land and (6) Net sown area. Bihar government has also classified the land of different districts into nine categories [4]. These are i. Net sown area ii. Current fallow iii. Other fallow iv. Culturable Waste

v. Permanent pasture and other grazing land vi. Trees and groves vii. Forest viii. Barren and uncultivated land and ix. Non-agricultural land. The table 1.1 shows land use of the study area.

Table 1.1 reveals that agricultural activities consume about two third geographical area in the study area. About 63.53 percent of the total area is net sown area. Net sown area denotes the geographical extension of sown land during a particular year. Non-agricultural land is the second largest consumer of land in Patna division. The land put under non-agricultural uses are occupied by buildings, factories, water bodies, roads, railways etc. About 249288 hectares of the land of Patna division are under this category which accounts for about 15.86 percent of the total area.

Table - 1.1
Patna Division : Land Use (2009-10)

Sl. No.	Land Use Category	Areas Hectares	Percent
1	Net sown area	997895	63.53
2	Current fallow	56540	3.60
3	Other fallow	10805	0.69
4	Culturable waste	4779	0.30
5	Permanent pasture	455	0.03
6	Trees and groves	8370	0.53
7	Forests	184458	11.73
8	Barren & uncultivated land	58630	3.73
9	Non-agricultural land	249288	15.86
Total		1572120	100.00

Source: Directorate of statistics & Evaluation, Government of Bihar, Patna, 2013.

Forest occupies third position in land use. In fact forest extension is visible in the highland lying south of the Bhojpur plane and along Rajgir hills. The high lands of Kaimur, Rohtas, Patna and Nalanda covers forest area of about 184458 hectares which account for about 11.73 percent of geographical area of Patna division. An important fact about the land use in the study area is that about 58630 hectares land is barren and

unculturable. Most of such lands are hill of the plateau. According to Bihar government report

67345 hectares land is fallow. The fallows include two types of land: Current fallow and other fallow. Both types of fallow are arable land. Current fallows are those land which were not put under any crop during the time of reporting but it was shown

in recent past. This type of land awaits favourable weather for its cultivation, seeds or labour or allowed to rest (Chaumas) with a view to retain the fertility or to obtain good yields . Area under current fallow is 56540 hectares. On the other hand other fallow due to less fertility of the soil and other factors it cannot be ploughed continuously . Such land remains uncultivated for two to five years and then put under crops. It should not remain out of cultivation for less than one year and more than five years.

Area under such fallow is 10805 hectares. Both fallows account for about 4.29 percent of total geographical area. In 2009 –2010 about 4799 hectares land were culturable waste, 455 hectares under permanent pasture and 8370 hectares under trees and groves.

There is a regional variation in land use in Patna division. All the six districts present different picture of land use. In table 1.2 district wise land use is shown.

Table -1.2
Patna Division : District wise Land Use , 2009 -2010

Sl.no.	Land Use Category	D I S T R I C T S					
		Patna	Nalanda	Bhojpur	Buxar	Rohtas	Bhabua
1	Net sown area	144551	157058	185925	133461	238670	139130
	%	45.56	67.48	78.33	79.91	61.08	40.62
2	Currentfallow	23862	11378	3138	2966	7650	7546
	%	7.52	4.88	1.32	1.78	1.96	2.2
3	Other fallow	1572	186	2564	609	789	5085
	%	0.49	0.08	1.08	0.36	0.2	1.48
4	Culturable waste	764	216	629	665	1116	1389
	%	0.24	0.09	0.27	0.4	0.29	0.41

Source : Directorate of Statistics & Evaluation , Govt. of Bihar ,Patna ,2013.

Table 1.2 reveals that in Nalanda , Bhojpur and Buxar districts land use pattern is almost uniform. Due to flatness of surface, soil fertility and irrigation facility net sown area is relatively

high. In Nalanda, Bhojpur and Buxar it is 67.48 percent, 78.33 percent and 79.91 percent respectively. In Rohtas it declines to 61.08 percent, Patna to 45.56 percent and Bhabua 40.62 percent. It is due to physiographic hindrances. Contrary to this in Rohtas and Bhabua forest coverage is high , it is 17.08 percent and 33.01 percent respectively while Patna have just 0.01 percent of total forest and due to Rajgir hills Nalanda covers an area of 1.99 percent under forest. There is no area under forest in Bhojpur and Buxar. Current fallow in all the four districts of old Shahabad are almost uniform except Patna and Nalanda. Patna is the highest with 7.52 percent followed by Nalanda with 4.88 percent. In Bhabua it is 2.20 percent, Rohtas 1.96 percent, Buxar

percentandBhojpur1.32percent.OtherfallowishighestinBhabua(1.48percent),followed by Bhojpur (1.08 percent), Patna (0.49 percent), Buxar (0.36 percent), Rohtas (0.20 percent) and Nalanda (0.08 percent) respectively. In all the districts of the study area barren and uncultivated land are relatively high with the exception of Nalanda district which have just 0.50 percent of it. It is due to ruggedness of surface as well as tract of unfertile soil. In Bhabhu 5.62 percent land comes under this category followed by Rohtas (4.33 percent) , Patna (3.89 percent) ,

Bhojpur (2.82 percent) and Buxar (1.32 percent) . In all the six districts organised Orchard and gardens are relatively low, which is less than onepercent.

Non-agricultural land uses which includes buildings, factories, roads, railways, water bodies etc. is the highest in Patna (24.38 percent) due to its metropolitan nature followed by Nalanda (17.45 percent), Bhojpur (14.10 percent), Rohtas (12.08 percent) , Buxar (10.17 percent) and Bhabhu (9.83percent).Areaunderpermanentpastureandgrazinglandinallthesixdistrictsarenegligible. (Table1.2).

All the nine land use categories may be grouped into three sectors :-

2. Agro-sector :

Agro-sector together accounts for about 68.12 percent of the total geographical area of the study area. Agro-sector includes other than net sown area which can be brought under agricultural uses. Current fallow, other fallows and culturablewaste are temporarily out of cultivation due to practice of crop rotation and some other reasons. These lands can be brought under agricultural practices, if facilities are provided to it.

1	Agricultural Sector (Agro-sector)	Net sown area
		Current fallow
		Other fallow
		Culturable waste
2	Cological Sector (Eco-sector)	Permanent pasture & other grazing land
		Trees and groves

		Forest
		Barren and unculturable land
3	Non-agricultural sector	Non-agricultural land

3. Eco - Sector :

In order to maintain ecological balance it is necessary to put some land to this sector. Area under forest and miscellaneous trees and grove directly come under eco-sector. Barren and unculturable land along with permanent pasture and grazing land may also be included under eco-sector. Considerably good area covers in the study area under this sector. About 16.02 percent area comes under this category. Forest cover is visible only in Rohtasand Bhabua district with a mere presence in Nalanda while it is almost nil in Patna and completely absent in Bhojpur and Buxar district (Table-1.2).

4. Non - Agro Sector :

This sector includes those lands which are directly used for non - agricultural purposes. The land under this sector can not be brought under agro or eco-sector. Under this category land is occupied by buildings, roads, railways, factories, water bodies etc. In the study area about 15.86 percent area comes under this category. It is the highest in Patna followed by Nalanda, Bhojpur, Rohtas, Buxar and Bhabua.

5. Land Use Shift:

It is possible to intra and inter shift in the land use of three broad sectors. In ecological sector land use may change from miscellaneous trees to permanent pasture and forest and it will not adversely affect ecological implications. The shift from

barren to forest gives rise to favourable ecological consequences But shift from forest to permanent pasture which may possibly occur in hill. area does have some adverse implications on ecology. In agriculture sector no land can be transferred from non- agriculture sector .Hence in agriculture sector land can be transferred only from ecological sector and it will have serious implications. From agriculture sector land may go to ecological or non Agricultural sectors or to the both sectors. A change within agriculture sector will have some implications also towards ecological situation and Agricultural growth. Increase in net sown area will be favourable at least for Agricultural growth and it will be at the cost of ecological sector.

6. Conclusion :

On the basis of above study it is apparent that agriculture is the minimum land consuming sector in Patna division but the people of this region are deeply associated with agricultural practices. About 63.53 percent of the total land is nets own area. However, much regional variation is visible. The highest net sown area is found in Buxar district(79.91 percent) followed by Bhojpur (78.33 percent), Nalanda(68.48 percent), Rohtas (61.08 percent), Patna (45.56 percent) and Bhabua (40.62 percent). The region is famous for rice cultivation and popularly known as Rice-Bowl of the country.

References

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