

# CHANGES IN LAND USE PATTERN: A CASE STUDY OF NALANDA DISTRICT

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**ABSTRACT:** *The Nalanda District agriculturally once of the most developed regions of the south Gangafic Plain of the state. The plain and fertile soil, availability of water. Commercial of rich farmer and educational people of the main bacteria since long. Which have developed the agricultural practices? Kharif (R.C.), Rabi (wheat, Pusse, Corio, Moong, Vegetables etc.) a main product and these sus fain the socio economic status of the area. Almost at land are under infinitive udog. There is no wash land or even current bellow land is intensive cultivation is in practices. Where double and triple cropping pattern in most common. Production off C. Road and cash crops are done and several agro based industries have been developed, ncs into 10, man flour miles, Agricultural machine life, therefore, thorny, harvesters etc. Oil mil, are the main Agro based Industries which boast of the deco-economic candidates of the people sufficient electricity and transport system play. In important role supply of chemical fertiliser and lack of Agra cultivar which need to failed with the help of govt agencies.*

**KEYWORDS:** Gangafic plain, Fertile soil, Agricultural crops, Transport system, Geomorphology, etc.

## 1. INTRODUCTION

Agricultural Land use indicated the surface aassemblage of anthropocentric and nature element on the earth surface. According to Dafries and Eshleman (2004). There is graph need of monitoring the land use in the recant fine due to its imminence impact on the Global environment. Most of the investigation are based on the consequence of the land use change natural process. (Kimaroefa.c., 2005, Pct chprayoo net al 2010. It has been changed due to the barbule land the present population growth, highly ambitious person, demand of food and supply and nature of climate commercial persons or infrastructure development in this region. The recent accelerated population growth has triggered unplain increased in land use in term of build up are and cultivable land of the lost of forest, water landand waterbodies. ( Bulf at ac 2015) The drastic change in the agricultural land use has imposed sever threat on the natural need of global concern for proper plan at Local and large scale (percentage (loot, Butt et al 2005) Monitoring the Land use at watershed level gives better due to the geomorphic homogeneity (Bishtcand Kothyari 2001, Buff et al 2005.

Primary or secondary data provide a reliable of base in studying Agricultural Land Use change. Primary sources and secondary sources of good and easy source of data of interpreting the land use change due to their continuous arability for longer interval of time. Indeed “No life of worked be continuance upon this Earth, where if not for socio upon this Earth, where if not for socio (white and Ranner). Nalanda there is great role of Geomorphology, climate, Soil, Infrastructural development life Road ways, Railways, Urban, Education) etc. humanefforts on Land Use.

## 2. Objective of Study :

The objective of the prodding paper is to show in the change of Land use Pattern due to population bomb and the use of high technology in agriculture to sustain Socio economic condition of Nalanda District. Mainly this area ID agricultural dominant where 80%. Population the total population depend upon Agriculture directly or indirectly. The study area mainly related on agriculture Land use change in Nalanda District.

## 3. METHODOLOGY

The study ID base on imperial m the and primary or secondary sources of data. The authoress only dited conducted a few pardons and several article and books, Journal and necessary paper for this research article.

## 4. STUDY AREA

Nalanda District is situated in the southern part of the Ganga plain in South Bihar which have district geographical personality.

It extend to from 24. 48' to 25.28' North Latitude and 85.11' to 85'11' to 85'-5N east longitude. It cover an area of 2370sq km with a population of 2872523 (2011) persons. The are a is bounded by Patna District in the North Nuclear and Gay District in the south shephpyra in the as and Jeharaboal in the west.

**The study area is & divided into following regions:**

1. Rajgir Lilly Areas and its our linear.
2. The high level surface.
3. The law level surface

## 4. INTERPRETATION AND ANALYSIS OF CHANGE IN LAND USE

Table:1 Land use of Nalanda District has man changes between 1991-92 and 2012 – 15.

Lande Use	Bihar %	Area in cat Hect.	1991-92 %	2012-13 %	Changing %
Permanent method	2	-	0.01	-	-
Garden	2.6	460.31	0.08	0.5	0.42
Fallow Land	1.3	-	0.13	0.1	-0.03
Current F. Land	9.2	3920.32	6.88	0	10.69
Non Ag Land	43	114529.05	19.53	32.2	10.69
Net sown Area	57	420031.57	71.74	67.5	-4.24
Forest	6.64	9613.92	1.64	1.98	-0.34
Custarep wast other than palaced land	-	783.55	0.02	-	-

The above table shows 0.01% per nemlpastare in 1991-92 and it Id 0.0% in 2012-13. In gardening 0.0r% in 1991-92 and it become 0.5% in 2012-92 and it becomes 0.5% in 2012-13. Between there years 0.42% . Increased in gradening, follow land 0.13% in 1991, which is induced in 0.1% in 2012-13. Net sown area of Nalanda district is 79.7% in 1991-92 and 67.7% in 2012 and between fluseperiod. Non-agriculture Land in Nalanda District 19.53% in 1991-92 it uncreated 30.2% in 2012-13. If 10.69% in non agricultural area in Nalanda district forest Land is 1.6% in 1991-92 and 1.98 in 2013-13.

**Forest Land is increased 0.03% between 1991-92 and 2012-13.**

In 1991-92 current follow and other follow land 0.02%. In 1991-92 which became nill 2012-13. The those is major changes in net so were area in Nalanda District net so were area in Nalanda District it is 71.74% in 1997-92. Which became 67.5% 2012-13? 4.24% decreased between these period non-ag. Land use also changed in 1991-92 if ED 19.5% which became 1991-92 and 31% in 2012-13. Non and land use of the District changed 10.69% in cultural land used has been changed in fisheries, dairy farming and murgi farm now always in whole Nalanda District 2011-15 91% that, in 2012-16.2 kg/hect. In 2013-10.4 kg and it get in decreasing 10.4kg/hect from 16.9 kg/hect.

## 5. CHANGING SCENARIO OF LAND USE

Change is her nile of nature, the land it change of Nalanda district iD not them exception of in Land use of Nalanda distance changed time to time and this change has been sean in three ways. (i) Ancient time before 1966-69 (ii) 1990-91 to (iii) from 1991 to time now.

1. In the anperiod under kharif crop (Bharaj and Aghani was famous as ragi, TulbutiaMaiza, Tice, Kurthi, Paddey, Sugar Cane etc. These crop has beard continued up to 1966
2. 1996-67 to 1990-91 middle age: After Green Revolution (Bhodai Crops-Gagi, Tulbuseda Maize, Kurthi and had bea d. creased, continuously and paddy, wheat pulse, has been and grama paddy in tice 1990-91.

3. From 1990-90 the Lagod cost pattern has been changed agricultural land has been decreased and Non Agricultural Land had laze incr and day to day but due to infrastructural dev. The ct production has been increased. Under mixed Economy Agriculture cultural Land used has been changes in fisheries, dairy farming and murgi farm noul always in whole Nalanda District.

## 6. PATTERN OF AGRICULTURE

Nalanda District is the lap of agriculture fertile land. The use of modern technic and infrastructure development in Agriculture or population pressure have completed the farmer to change the cropping pattern in this district. So many traditional crops Bhadai and Agrani has gone life Ragi, Tulbutia Mecca, Tile, en has gone from this area inplace of these crops under Bhadri and Aghari has taken place kharif crops under kharif paddy is dominant crop in the whole area of the district.

Under Garma crops moong and vegetable crops has taken place. The farmers of this district has grown different crops also grow like onion, betel, flowers, etc, under commercial crops. Still ad a main crops of the district that is grown in the whole district is Under kharif (paddy), under (Rabi under kharif (paddy), under (rabi, wheats, and pul. These figure man crop available in table, agricultural crops production and productivities of important comocodities in Nalanda District from 2010 to 2015.

Table:2

Production and Productivity and Important Commodities District Nalanda																			
Sl. No.	Name of The Commodity	2010			2011			2012			2013			2014			2015		
		A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	Paddy	130000	3406000	26.2	128000	3456000	27	128000	3520000	27.5	126000	3843000	30.5	130000	4238000	32.6	136000	44333600	32.6
2	Wheat	93000	2077620	22.34	92000	2024000	22	870000	1948800	22.4	92000	2410400	26.2	93500	2552550	27.3	86500	2361450	27.3
3	Pulses	44060	744614	16.9	42050	668595	15.9	44600	722520	16.2	44200	724880	16.4	45400	472160	10.4	43500	452400	10.4
	A-Area in '000' ha			P-Production '000'			Y-Yield (productivity) in Kgs./ha.												

The above said data a largely shows than the area has been plactualed time to time under than paddy crops but hectare production has been increased where the production of paddy in per hectare was 26.2 kg in 2010 in increased 27 Hect. In 2011, 27.5 kg/hect.in 2012, 30.5 in 2013, 32.6 kg/hect in 2014 and 32.6 kg/ hect. in 2015.

Under Rabi crops (wheat) in looka like same exceptional year is 2011 22 kg/hect production as where 2010 22.84 kg/hect; 2011-22 kg/hect., 2012. 22.4 kg/hect, 2013.26 kg/hect, 2014-32.6 kg/hect and it is stable in 2015 as 32.6 kg/hect.

The data of pulse is not satisfactory from 2010 to 2015 due to deasnd of food /hect area under pulse has been decreased and Geographical condition of the pulse is also not suitable for the production of pulse it Id char from the above said table under pulse crops where in 2010. The production of pulse is in hect 16.9, in

## CONCLUSION

It is concludly say that the land use of Nalanda district has be changed time to time due to Geographical condition, human nature, demised of food, population bomb modern technique, infrastructure bomb Modern technique, Infrastructural development and Non Agricultural development as Renege, Road ways, Industries, Institutional development etc. So there is need of proper seed Irrigation faculty crop decadesaccording to nature though sustainable development has been going on.

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