

SPATIO-TEMPORAL ANALYSIS OF IMPACT OF POPULATION ON LAND USE PATTERN OF TEHSILS OF BARABANKI DISTRICT

¹Abhinav Pandey ²Minakshi Patial ³Dr. D.C. Goswami

¹Research Scholar ²Research Scholar ³ Associate Professor

¹Pt. L.M.S.Autonomous Govt. P.G.College, Rishikesh, India

Abstract: Land is a non renewable resource and as the population increases pressure on it also increases. So each and every piece of land should be used appropriately. In the last decade population of Barabanki has increased sharply so it becomes important to study the effect of population on land use. Barabanki is adjacent with district Lucknow in the north east, located between 25°3''-24°16'' north latitude and 85°9'-84°26' east longitude. Major objective of the study is to analyse the impact of population on various land use categories and to suggest a suitable land use planning model. Data has been collected from secondary sources, census department, district level statistical diaries of state statistical directorate. With the continuous increase of population a lot of forest and land under miscellaneous tree crops has been converted into agricultural and residential purposes therefore a suitable land use plan has been suggested in the study.

Keywords: Land use, Residential, Land use planning

I: Introduction

Our planet earth comprises of about 71.80% water and 28.20% land. It is in this 28.20% that whole of the world is situated. The population of the world in last 200 years has increased in a dynamic way and this has caused a huge population pressure on land. In this way land has become an essential recourse of human society whose availability is very limited. So the need of the hour is to use every piece of land according to its potential and in an accurate way.

Land use is the surface utilization of all developed and vacant land on a specific point, at a given time and space. Land use is the use actually made of any parcel of land whereas the term residential, industrial and agricultural refers to a system of land utilization. Land use is mainly related to the optimum use of the limited land between the alternative major types of land use. In rural areas, the major types of land use is as follows : agricultural land, non-irrigated, irrigated land, dry farming areas, grazing areas, forest land, recreational land use.

India is a country where 68.84% of its population lives in rural areas. Its 57.8% of population depend on agriculture for its livelihood. So the development of agriculture is important. It can only be done by studying the cropping pattern in relation to its physical and social environment, the condition of various agricultural components, how a particular piece of land is being used. It is only with the study of above given point a suitable land use plan can be prepared which will further improve the socio-economic condition of the society.

II: Study area

District Barabanki is named after the twelve vana (jungles) in ancient period found in the area. Barabanki is adjacent with district Lucknow in the north-east, located between 25°03' – 24°16' North Latitude and 85°09' – 84°26' East Longitude.

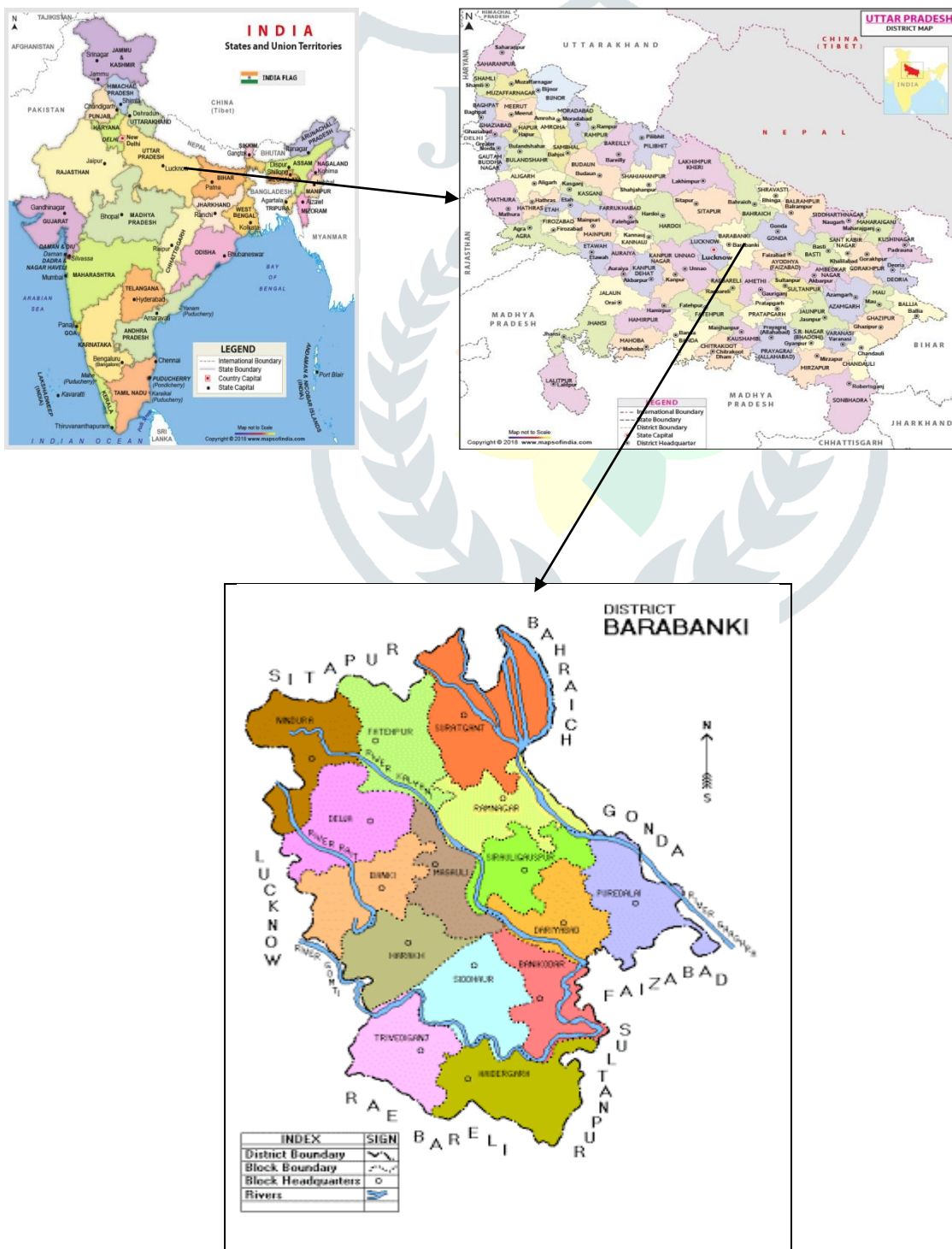
District Faizabad in the east, Rae Bareilly and Sultanpur in the south, Lucknow in the west, Bahraich and Gonda in the northeast and Sitapur in the north-west form the common boundaries. The total geographical area of the district Barabanki is 4402 sq.km. There are 7 tehsils and 17 blocks. There are 2 municipalities, 11 town areas, 1 census town, 2063 inhabited revenue villages and 24 uninhabited villages. There are 1139 Gram Sabha, 154 Nyaya Panchayat, 2 Parliamentary and 8 Legislative Assembly Constituencies.

Barabanki has plane fertile alluvial soil, except a little under wasteland, which is undertaken for treatment. River Ghaghra flows from north to south-east and forms the district boundary distinctly. From Lucknow, River Gomti enters in Barabanki and flows in the southern part of Haidargarh Tehsil. There are other tributaries like *Roth*, Chauki, Chaurari and Simli, which sometimes create floods during monsoon season.

During 2003-04 district was having 9298 hectare or 1.41 per cent forest land where only ordinary wood is available. The biggest patch of forest of 1564 hectares is found in Banikoder block which is at the southern part of the district. Barabanki has no mineral resources, except sand of river Ghaghra which is used for construction of buildings.

There are three important religious places where tourists from other parts are attracted, they are Deva Shrine of Haji Waris Ali Shah, LodheshwarMahadev Temple for ‘Kanvariya’, and Kotwadham of Baba Jagiwan Das. An indigenous tree of Vedic period is found in Village Barouliya.

Location map of Barabanki district (U.P.)



III: Objective

The objective of the study is to find out the impact of population on land use pattern and its change in Barabanki district and to suggest a suitable land use plan for sustainable development of area.

IV: Methodology

Secondary data has been collected from census of India and land use department of Uttar Pradesh. On the basis of above collected data, data interpretation of every tehsils has been done and after that the data has been presented in the form of pie chart and bar diagram to show easy comparison between different decades. On the basis of above inference suitable suggestion has been made.

V: Data Analysis**Table 1 : Land use data of Barabanki district of 1991 and 2011**

Tehsils	Forest Area In (hc.)		Net sown area In (hc.)		Are under miscellaneous tree, crops etc.		Culturable waste land In (hc.)		Area under non agricultural uses. In (hc.)	
	1991	2011	1991	2011	1991	2011	1991	2011	1991	2011
Fatehpur	502	783	33269	52859	19802	1053	13824	1962	9188	14685
Nawabganj	2928	1862	56988	90213	11058	2641	9036	3414	11418	30778
Sirauligauspur	2849	112	25080	28217	16686	619	8548	612	11636	10548
Ramsanehighat	1300	629	35469	38211	20595	1570	13407	1300	13235	17979
Haidergarh	338	1340	38327	52513	11202	1540	15810	2046	8396	17274
Ramnagar	574	166	24675	32511	16160	624	5026	640	5197	11000

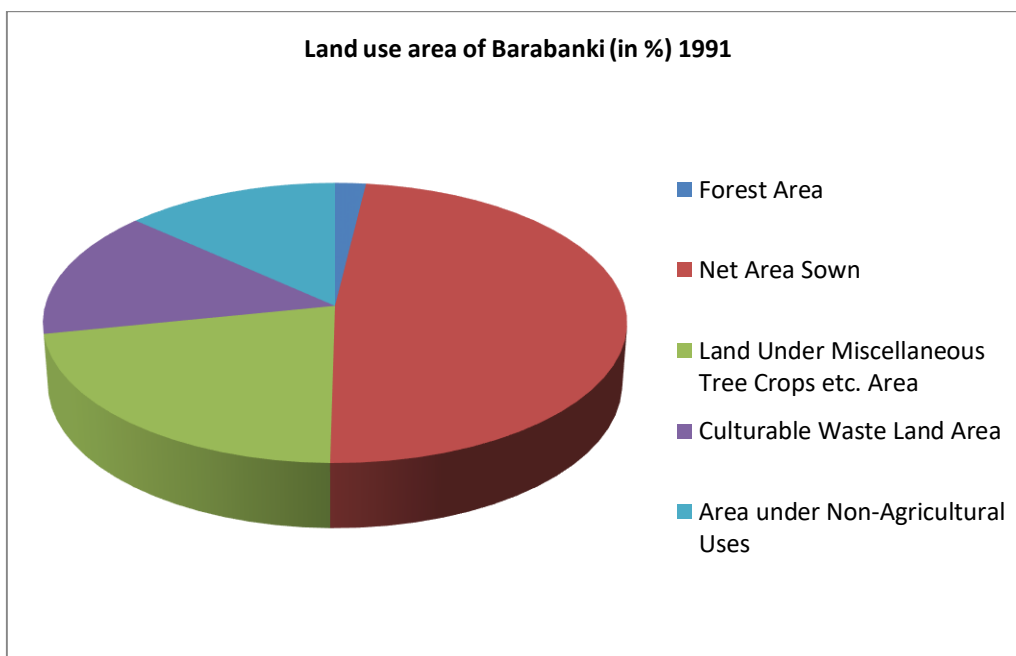


Figure 1

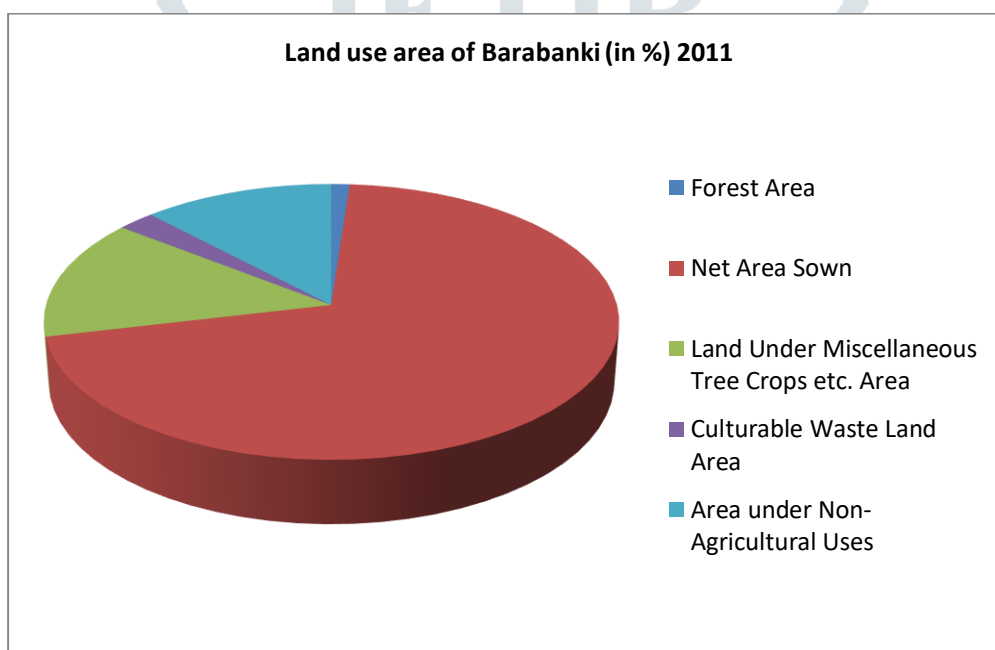


Figure 2

Table 2: Population of each Tehsils of Barabanki distict of 1991 and 2011

Tehsils	1991	2011	% change
Fatehpur	346214	589657	70.31
Nawab ganj	507148	978098	92.86
Sirauli Gauspur	304489	321452	5.57
Ram sanehi Ghat	402716	445217	10.55
Haider Garh	397736	621474	56.25
Ram Nagar	239955	304801	27.02

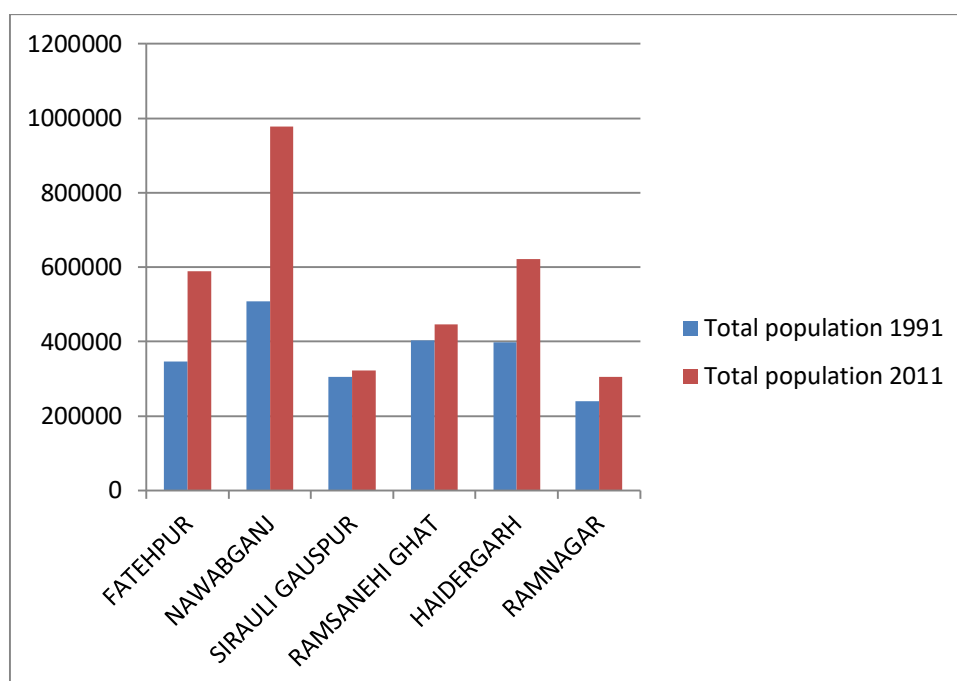


Figure 3

VI: Results and discussions

In Fateh pur tehsil population has been changed from 346214 to 589657 from 1991 to 2011 in the mean time forest area has been increased from 502 hc. to 783 hc. Net area sown has been increased from 33269 to 52859 hc. Area under miscellaneous tree crops has been decreased from 13824 hc to 1962 hc. and area under non agricultural uses has been increased from 9188 to 14685 hc. In Nawabganj tehsil population has been increased from 507148 to 978098 hc. from 1991 to 2011. In the mean time land use under forest area has been decreased from 2928 to 1862 hc. Net area sown has been increased from 56988 to 90213 hc. Area under miscellaneous tree crops has been declined from 9036 to 3414 hc. and area under non agricultural uses has been increased from 11418 to 30778 hc. In tehsils sirauli gauspur papolation has been increased from 304489 to 321452 hc. In the mean time land use under forest area has been declined from 2849 to 112 hc. Net area sown has been increased from 25080hc to 28217 hc Area under miscellaneous tree crops has been declined from 8548hc to 612 hc and area under non agricultural uses has been declined from 11636 to 10548 hc. In Ramsanehi Ghat tehsil population has been increased from 402716 to 445217 from 1991 to 2011. In the mean time land use under forest area has been declined from 1300hc to 629hc. Net area sown has been increased from 35469hc to 38211hc area under miscellaneous tree crops has been declined from 11202 hc to 1540hc Area under culturable waste land has been declined from 15810hc to 2046hc and area under non agricultural uses has been increased from 8396 to 17274 hc. In Haidergarh tehsil population has been increased from 397736 to 621474 from 1991 to 2011. In the mean time land use under forest has been increased from 38327 to 52513 hc. Area under miscellaneous tree crops has been declined from 11202to 1540hc. Area under culturable waste land has been declined from 15810hc to 2046hc. Area under non agricultural uses has been increased from 8396 to 17274hc.

VII: Conclusion

After analysing the above data we have concluded that there is a negative correlation between population increase and land use area under forest, miscellaneous tree crops and culturable waste land. It means as the population increased area under above land use categories has declined this is because increasing population require more land for agricultural and residential purposes.

There is a positive correlation between population increase and land use under net area sown and area under non agricultural uses. It means as the population increases area under above land use categories also increases .

This shows that increasing population requires more land for agricultural and residential purposes, to fulfil the above requirement forests are being cut down which are causing huge loss of biodiversity and ecosystem and deteriorating our atmosphere too.

VIII: Suggestions

To correct the above problem in the region there is a need to increase the land under forest through reforestation and various forest conservation program. Simultaneously there is also need to increase the agricultural infrastructure to increase the per hectare agricultural production so that the increasing demand of food grain by growing population can be meet out.

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