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A Review of Change in Landuse Landcover Pattern of Agra-Mathura-Bharatpur Region

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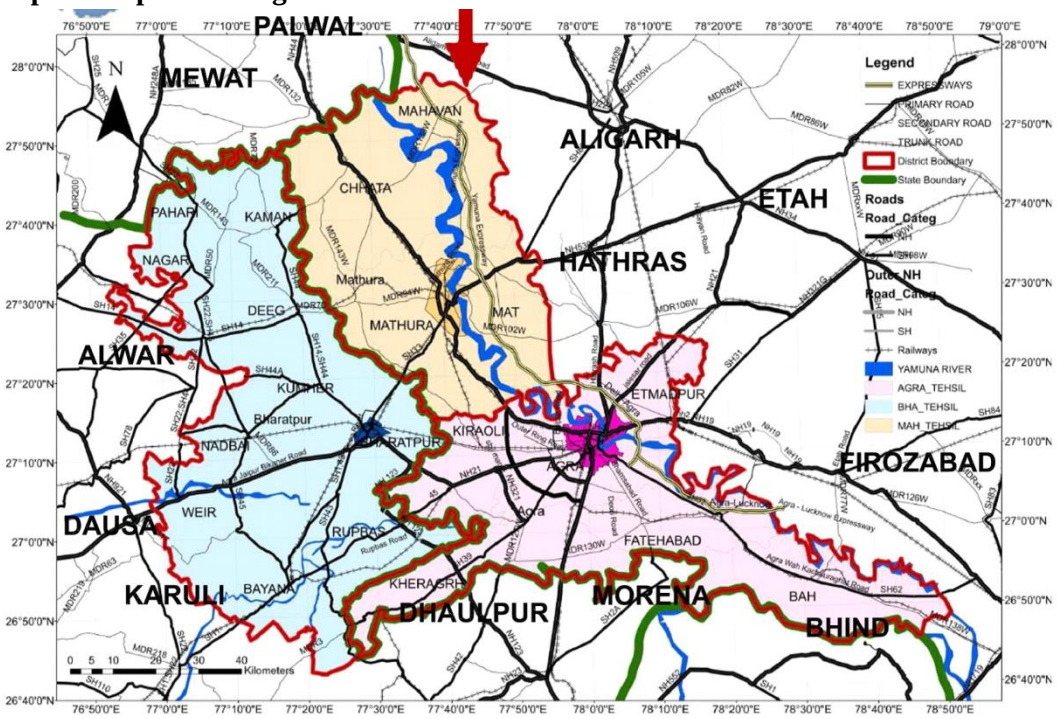
Abstract

The research paper aims of analyzing the existing scenario of LULC and settlement pattern of the Agra-Mathura-Bharatpur Region . The region comprises of whole of the districts of Agra , Mathura and Bharatpur . The defined region is a industrial and tourism based region because of the development of leather, textile and agro based industries in Agra and concentration of tanneries,oil mills , bleaching and dying industries in Mathura along with religious sites at Mathura,Vrindavan and World heritage sites at Agra . The planning region has 94.5Lakhs population with Agra having the largest population share.

Keywords: LULC, Built-Up , Agra-mathura-Bharatpur Region .

1. Introduction

Map 1: Map of the Region



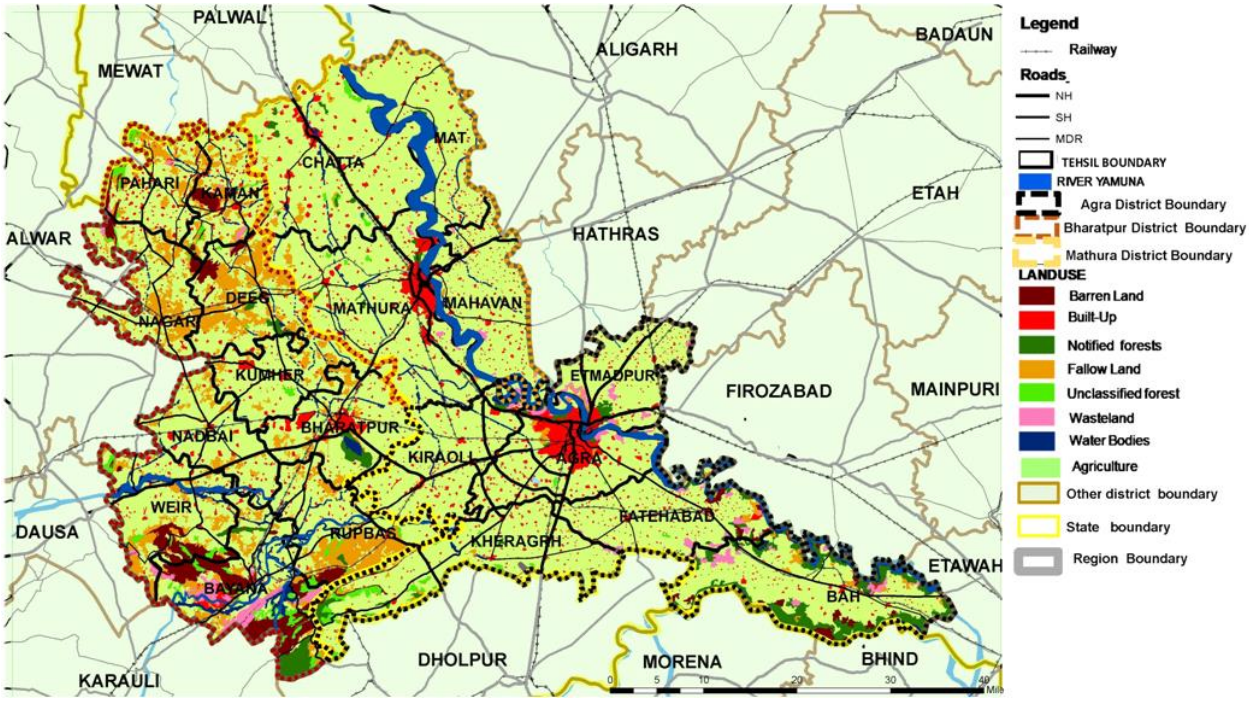
Source:Generated by Author

The region is a intra state region comprising of Bharatpur from Rajasthan State and Agra,Mathura from Uttar Pradesh.Talking of the population composition of the region Agra has the greatest percentage i.e 46% and Mathura and bharatpur have population share of 27% each.The region comprises of 96% rural population and 4% urban population. The total area of theAgra district is 4027sq.km out of which 3835.30 sq.km is rural and 191.8 sq.km is urban . Mathura is oneof the oldest and world famous cities of India. The immigration from rural to urban areas and Urban population growth have augmented the fast spreading urbanization . The land use pattern of the district shows a striking change .The forest land,barren land ,agriculture land and pasture land were decreasing rapidly day by day due to urbanization.The study of Bharatpur revealed that the built-up area has increased significantly by nearly 500% in the past 28years .Population growth , migration from surrounding areas due to urban facilities and the easy lifestyle in cities were found to be major determinants of urban growth within the study area.

The objectives of the research paper is to study the current landuse-landcover profile is to identify issues related to land conversion,existing land features and its changes over the decades and the decadal change in the settlement pattern of the region .

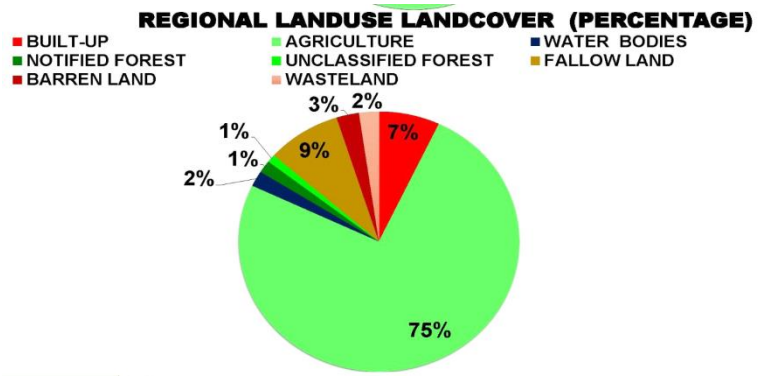
2. Landuse Landcover of the Region

Map 2: LULC 2020 of the Region



Source:Generated by Author

Figure 1:Regional LULC Percentage



Source:Generated by Author on basis of Map 2

The highest percentage is of agriculture i.e 75% in Region i.e 9416sq.km whereas 7% is built-up land i.e 882sq.km ,out of which Agra has the highest proportion of built up and Bharatpur has the least .

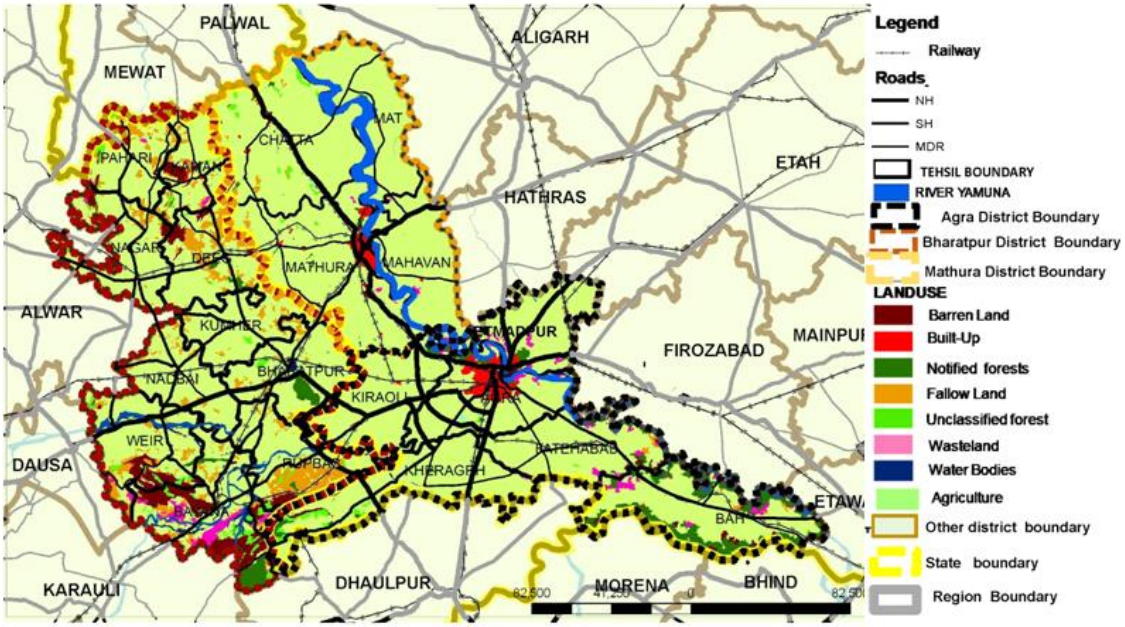
	AGRA	MATHURA	BHARATPUR	REGIONAL AREA
BUILT-UP	376sq.km	348sq.km	107sq.km	882 sq.km
AGRICULTURE	3277.8sq.km	2518sq.km	3613sq.km	9416 sq.km
WATER BODIES	90sq.km	90 sq.km	64 sq.km	244 sq.km
NOTIFIED FOREST	112sq.km	52 sq.km	44 sq.km	174 sq.km
UNCLASSIFIED FOREST	63 sq.km	30sq.km	20sq.km	122 sq.km
FALLOW LAND	35sq.km	157sq.km	804sq.km	996 sq.km
BARREN LAND	11sq.km	10.96sq.km	304sq.km	325.96 sq.km
WASTELAND	115sq.km	70sq.km	91sq.km	276 sq.km

Source:Generated by Author on basis of Map 2

Agra has a high built-up density along the river Yamuna due to historic pattern of settlement around sources of fresh water.Agra Urban area expanded along the major transportation links.Predominant land use in the Agra district is Agriculture followed by Built-up land,Uncultivable land i.e fallow ,barren and wasteland is less.Bharatpur has a large portion of land under fallow and barren land that has proved a barrier to settlement,Built-Up area in Bharatpur is less in comparison to Agra and Mathura ,dense built is observed in Bharatpur and Kumher as they have less land under fallow and barren lands.Bharatpur has major areas under rural settlements due to lack of Urbanization.LULC pattern in Bharatpur district is not similar to that of the general LULC pattern of Rajasthan.In Mathura district ,evolution of Built-Up has occurred along NH19 in the past decade towns like kosi kalan,Chatta , Vrindavan experienced a increase in built Up.Conversion of Agricultural land to other purpose has been done on large scale along Yamuna expressway and NH 19 for development has lead to ribbon development.

3 .Decadal Change in LULC

Map 3: LULC Map 1985



Source:Generated by Author

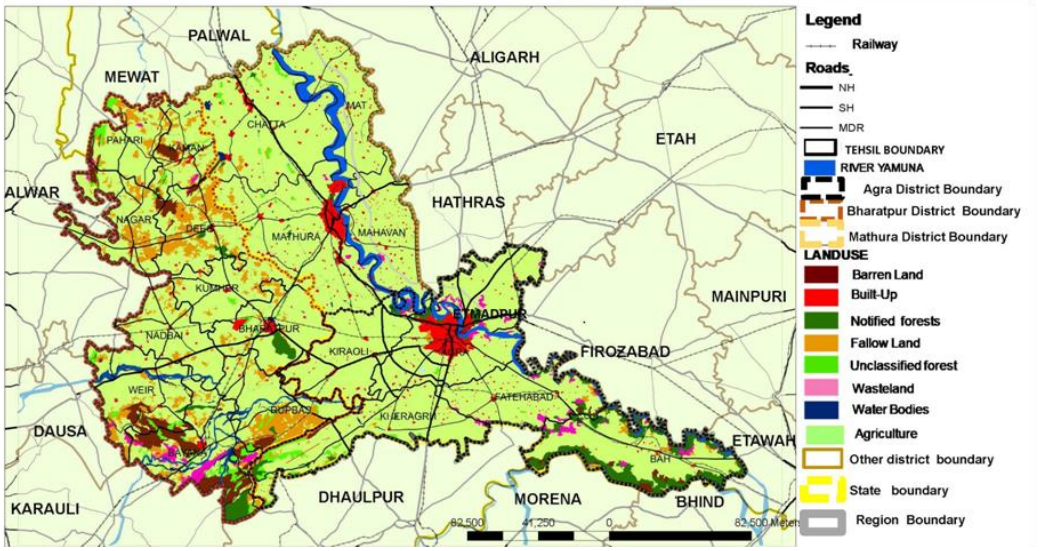
Map 4:LULC Map 1995

Source:Generated by Author

An increase in fallow and wasteland has been observed because of flooding in BHaratpur region . Major percentage of fallow landwas observed in Rupbas and Deeg Tehsils.Area under the notified and unclassified forests has decreased over the decade.Agricultural land has decreased over the decades.Increase in Wastelands has occuredalong the banks of Yamuna river .The highest growth rate of built-up was observed in 2005-2015 decade.During the decade 1985-1995,the maximum portion of land was under Agricultural use followed by fallow land . Built-Up has under gone a increase of .1% .Built-Up was concentrated in Agra city and Mathura in UttarPradesh whereas in Bharatpur it can be

observed in Deeg,Kaman and Bharatpur block .Built-Up in bharatpur district was negligible in comparison to Mathura and Agra. Majority of Bharatpur District is under Fallow,waste and barren land.As we more away from the core ,the built-up density decreases,In agra district BAH has least settlements.

Map 5:LULC Map 2005



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Map 6:LULC Map 2015

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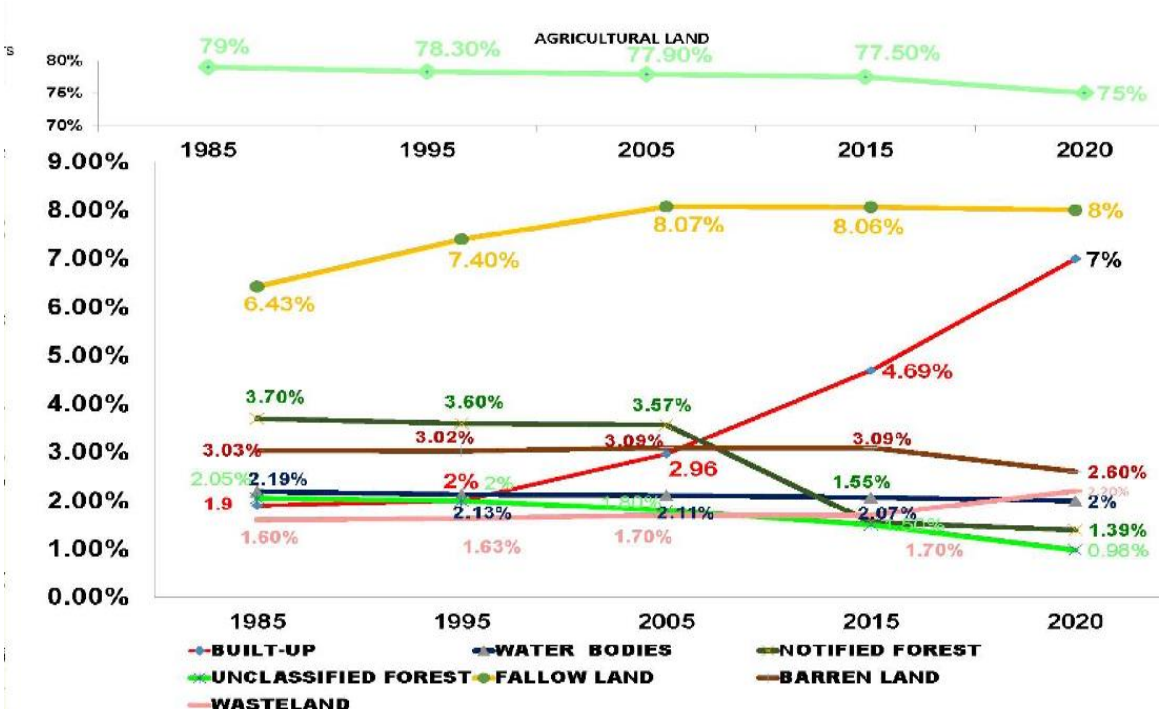
Figure 2:Change in Landuse landcover over Decades



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Increase in Built-Up in the decades 1985-1995 was negligible but during 1995-2005 & 2005-2015the built-Up Increased ,rural pockets of built-up increased.Agricultural land has fallen over the decades,It has decreased from 79% to 75% over the years from 1985 to 2020 due to Urban Sprawl.Area under waterbodies has decreased over the last decades.Area under Notified and unclassified forests decreased considerably between 2005-2015 ,A decrease of 250sq.km and 40 sq.km was seen respectively.

4.Conclusion

The cities have sprawled along connection to major cities like Agra spread towards Gwalior road and NH2.Settlements and Deeg and Chatta area got urbanised due to passing of major transportation linkage.Whereas Deeg also got urbanised due to historical importance . Rural settlements emerged in close proximity to urban areas . In Agra district Bah and ower part of Kheragarh tehsils have lower density due to distance from urban areas.

5.References

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