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DETECTION OF CHANGES IN LAND USE / LAND COVER: A CASE STUDY OF SHRIGONDA TALUKA AHMEDNAGAR DISTRICT.

Jadhav Madhuri S

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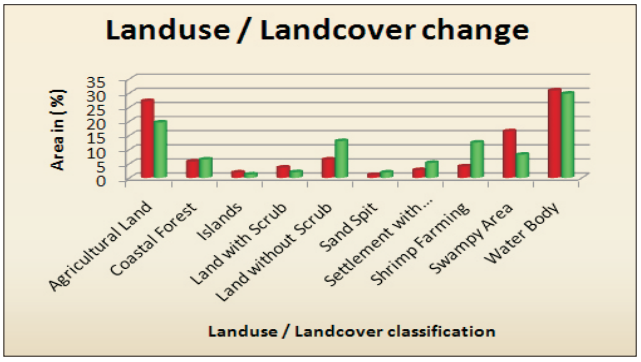
ABSTRACT :

Shrigonda tahsil located in the Southern drought prone zone of Ahmednagar district. The taluka has water resource from the river Bhima,Ghod & kukadi & canal basin.Land use/ Land cover plays an important role in understanding the interaction of human activities with environment.In this paper an attempt is made to study and compare the land use /Land cover changes with help of topsheet (1975) and by using geospatial techniques such as remote sensing and Geographic Information system.which detects analyzes monitors manage & compare the tends in land use landcover . Observation show that there is a change in the pattern. This information reveals to understand the dynamics of land use caused due to the demands changed by the growing population.



KEY WORDS: Land use / Land cover *geospatial remote sensing ,geo-graphical Information system (GIS) Shrigonda.*

INTRODUCTION:

The desirable and undesirable impact occur in land use land cover due to utilization made by the user of land for different purposes. The land use / land cover analysis is important for showing the changing relationship of man and land. The use of land could be agriculture ,grazing, ,mining ,,urban development land use means the way land is utilized eg. Farming, mining, lumbering and land cover describes the physical state of the land surface forest ,wet land water bodies etc. Globally land cover today is altered by direct human use like agriculture grazing of livestock, forest harvesting urban as well as suburban. Construction and development activities. (Meyer 1995).

The global area of land is estimated at 13000 billion hectares one third is forest cover. Two third land is farm land & the remaining is habitat is rural /urban areas unfavorable for agriculture. (Datta2003) Lands use / land cover changes may be grouped into broad categories like conversion and modification. Conversion means shifting from one cover or use type to another while modification involves maintenance of the broad cover or use type in the face of changes in its attributes (Baulies and szej wach 1998) Information on land use / land cover gives a better understanding of the land utilization of cropping patterns follow land forest grazing lands. Wastelands and surface water bodies which is important for development and planning. International institute for land reclamation and improvement (ILRI) (1997) has emphasized that land use planning as The land use planning may be concerned with putting environmental resources to new kinds of productive use. By changing needs and pressures involving competing uses for the same land. The importance of land covers planning guides to take decision on land use such that resource in the environment will be more benefited for man

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which may be sustained for future also. The remote sensing has the potential to make the most important contribution in the areas of land use data collection and more so in the agricultural land use (ed. JE. estate Estes and L. W. Senger 1974)

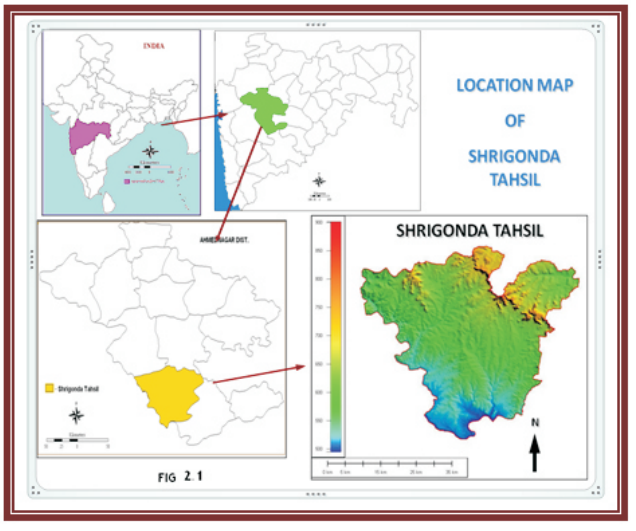
OBJECTIVES:

The main objective of the present investigation is to analyse the nature and extent of land use / land cover changes in Shrigonda Tahsil. To identify the trend and problem of the changes.

STUDY AREA:

Shrigonda tahasil is located in the southern drought prone zone of Ahmednagar district. It is situated partly in upper Sarswati basin & partly Bhima & Ghod river basin. The East to west extent is 60 km. and north to south is 51 km. The average height of Shrigonda is 600m msl. The slope of the tahsil is north to south.

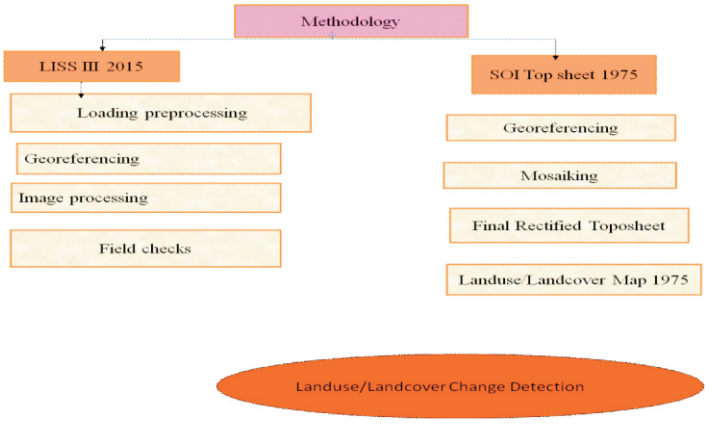
Shrigonda is third largest tahsil in Ahmednagar district with geographical area about 1629.94 sq km. and occupies9.56% of the total area of district. The total population of Shrigonda tahsil.is 315975 as per census of 2011. Shrigonda tahsil extends between the 18º 21´ 18´´ N to 18º 54´ 07´´ N latitudes and 74º 23´ 11´´ E to 74º 56´ 40´´ E longitude.



Methodology-

SOI toposheet -1975

LISS III toposheet no-43/6,43/09 43/10 43/11 43/12 43/13 Dated -18 Jan 2015



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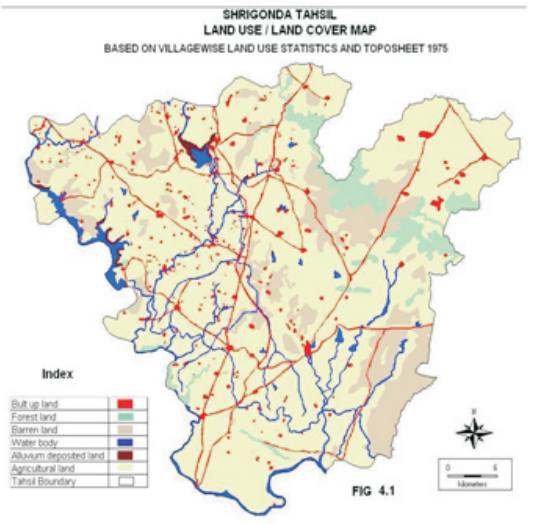
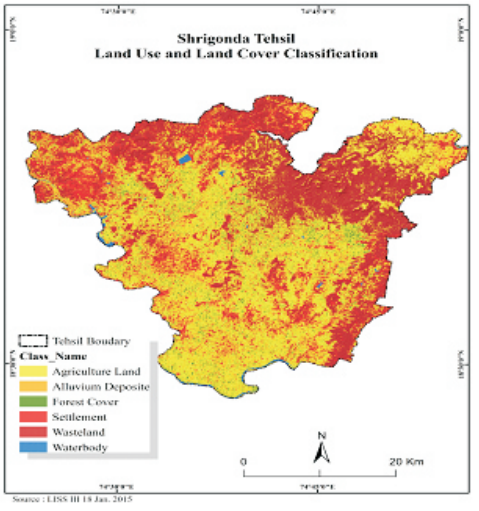
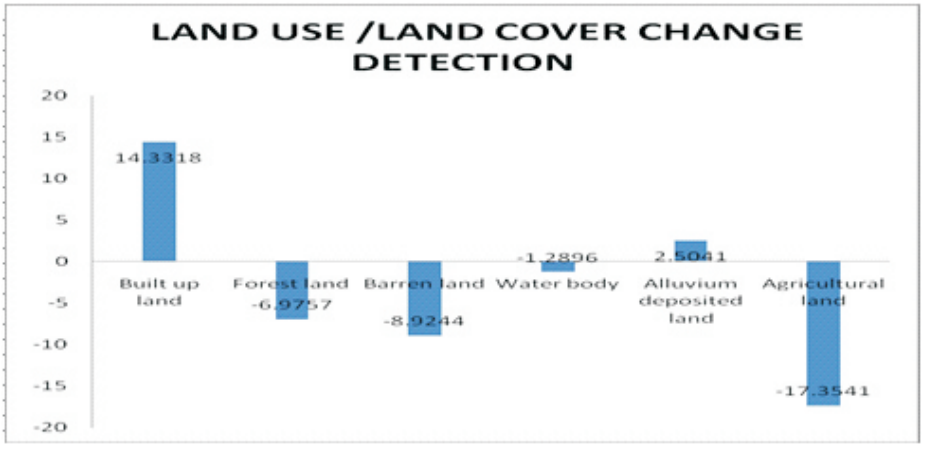




SHRIGONDA TAHSIL
LAND USE /LAND COVER CHANGE DETECTION
(BASED ON LISS III IMAGE 2015 AND REVENUE RECORDS TOPOSHEET 1975)

SR. NO.	Category	LISS III IMAGE (20015)		SOI. TOPOSHEET (1975)		CHANGE DETECTION
		AREA (sq.km.)	AREA (%)	AREA (sq.km.)	AREA (%)	%
1	Built up land	250.4686	15.5593	16.29	1.00	14.3318
2	Forest land	76.2974	4.681	189.49	11.63	-6.9757
3	Barren land	531.9069	32.6344	386.38	23.71	-8.9244
4	Water body	30.9757	1.9004	51.94	3.19	-1.2896
5	Alluvium deposited land	40.7924	2.5041	..		2.5041
6	Agricultural land	699.3233	42.9059	982.18	60.26	-17.3541
	Total	**1629.94**	**100**	**1629.9**	**100**	



Change detection and Analysis:

For determination of land use / land cover change a post classification method was complied. A change matix was produced with the help of uses image eg. Software. Quantitative data of land use land cover change. As well as gains and losses were generated based on identified category 1976 and 2015 respectively.

RESULT AND DISCUSSION:

Change in L u / L c has been attempted to the trend of land utilization in the Shrigonda Tahsil. From google image of Shrigonda was downloaded and LISS III of resolution 23.5 m. has been obtained and digitized accordingly.

Different land use categories thus composed for different years and changes detection has been worked out. In the years 1976 the agricultural land was about (17.3541%) which has decreased to42.90% there is change..The forest area has reduced from 11.63% to 4.681%showing change of -6.9747% the commencement of minor irrigation projects has certainly influenced the areal coverage in practice and most of it is transformed from non irrigated to irrigated .This has reduced forest and barren lands in the study area. In terms of built up land, which also shows net increase in settlement which has increased about 15.5593% in 2015 and change detected is 14.3318 % .Transport network has also increased as well the population. There is decrease in water bodies by-1.2896% The area is well irrigated by Ghod, Kukadi river and Visapur dam and kukadi canal. Alluvial deposits have increased to 2.5041 which shows fertility of soil has increased

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