EXECUTIVE SUMMARY OF MINOR RESEARCH PROJECT

01	TITLE OF THE PROJECT:	Change Detection Analysis of Land Use/Land Cover in Jalna City Using Remotely Sensed Data
02	NAME AND ADDRESS OF THE PRINCIPAL INVESTIGATOR	Dr. Prakash Rajeshyam Konka Assistant Professor Department of Geography, Shri Bankatswami Mahavidyalaya, Beed.
03	NAME AND ADDRESS OF THE INSTITUTION	Shri Bankatswami Mahavidyalaya, Jalna Road, Beed-431122 (M.S.)
04	UGC APPROVAL NUMBER AND DATE	F.23-1781/14 (general)/194(WRO) XII Plan Dt.22/03/2017
05	DATE OF IMPLEMENTATION:	April 2017
06	TENURE OF THE PROJECT:	02 Years
07	TOTAL GRANT ALLOCATED:	165000/-
08	OBJECTIVE OF THE PROJECT	• To analyse the land use/ land cover changes in study area over period of time. • To assess the implications of the changes observed in study area and make appropriate recommendation.
09	WEATHER OBJECTIVE WERE ACHIEVED:	The objectives of the study has been successfully achieved
10	ACHIEVEMENTS FROM THE PROJECT:	The land use/land cover assessment using satellite imagery provides reliable and accurate

		information, which cost and time effective. It also offers a holistic view of large areas for better monitoring of land use/land cover. Hence, the satellite remote sensing is useful for assessing the land use/land cover. From this project it is clear that analysis of land use/land cover of the area can be effectively determined and can be used for future planning.
11	SUMMARY OF THE FINDINGS (IN 500 WORDS)	Annexure -I
12	CONTRIBUTION TO THE SOCIETY:	The findings of this project can provide the insight and enable planners and policy makers to understand different aspects of the complex urban as well as regional environment. Subsequently, it can help to evolve the effective plans and policies for the future development. It is Generally accepted and established that generation of the comprehensive urban information by the conventional methods are not scientific more time consuming demanding huge manpower and also the an uneconomic. Therefore there is need for reliable, real time accurate and comprehensive information to monitor and predict the physical growth pattern and development trends.
13	TOTAL NO. OF PUBLICATION OUT OF THE PROJECT	Two Papers

Annexure -I

SUMMARY OF THE FINDINGS

Land is the most important natural resource for man. The survival of man depends on land upon which the entire fabric of human settlements including shelter, infrastructure and services are built. The land constitutes the fundamental base not only for settlement but also for various human activities such as agriculture, industrial, commercial and transportation. Thus, this limited non-renewable resource used by man for various purposes. Therefore, land use is an important aspect of various branches of geography including urban geography.

The rapid development of multi-spatial and multi-temporal remote sensing data has now made it possible to monitor urban land use / land cover changes in a very efficient manner. Keeping this view in mind it was decided to study the land use/land cover using applications like remote sensing and geographical information system.

Objectives of the study:

- To analyse the land use/ land cover changes in study area over period of time.
- To assess the implications of the changes observed in study area and make appropriate recommendation.

Land Use/Land Cover Change from 1998 to 2008:

Land use/land cover layers represent the digital image of city classified into five classes as agriculture, vegetation, built up, barren land and fallow land. To get the clear scenario of land use/ land cover, the area was measured and presented in tabular form.

Study reveals that, the major changes were detected in the built-up and agricultural land use categories. Significant changes also observed in vegetation land cover. Percentage share of other categories like agriculture, barren and fallow land declined in the period of investigation. In 1998 land use/ land cover map of Jalna city, the vegetation land was 11.12 percent of the total geographical area of the city. By the year 2008, area under this category increased up to 14.62 percent of the total geographical area due to social plantation on government land within the city limit.

Agricultural land in 1998 was 23.54 percent and it decreased by 14.41 percent (-8.82) in the year 2008 due to lack of irrigation facility within the city limit.

Barren land also decreased from 31.14 in 1998 to 29.89 in 2008 due to many industrial establishments on government land. Fallow land decreased due to agriculture land converted in to non-agriculture. Under this category 20.15 percent in 1998 and it deceased by 17.95 of total geographical area. Major changes were detected in built-up land use/ land cover. In this category 14.06 percent in 1998 and it increased up to 22.83 in 2008, due to increasing population and people came to settle from nearby rural areas for employment opportunities available in industrial sector of Jalna city.

Land Use/Land Cover Change From 2008-2018:

Study reveals that, drastic changes were detected in the built-up land use/land cover. During this period, built-up area increased by 12.04 percent. On the other hand, percentage shares of vegetation and barren land declined by 4.43 and 4.26 percent respectively. Area under agriculture and follow land categories reported marginal negative change.

In the year 2008 land use / land cover map of Jalna city, built-up land use was 22.83 percent of the total geographical area of the city. By the year 2018, area under this category increased up to 34.87 percent of the total geographical area. It happened mainly due to further growth in industries, service sector, educational facilities and employment opportunities in the city area.

Vegetation cover in 2008 was 14.62 percent and it decreased by to 10.19 percent in the year 2018. Agricultural and fallow land decreased by 1.94 and 1.42 percent respectively during the period under investigation. The area under barren land was 29.89 percent in the year 2008, whereas it was 25.36 percent in 2018. From the study of satellite imagery it is seen that barren land declined by 4.26 percent because of development of government projects and real estate projects on barren land area within the city limits.

Conclusion

The present study reveals the changes in the land use/land cover pattern of Jalna city between the years 1998 to 2018. The changes in land use/land cover can said to be positive change in built-up land. On the other hand, the changes are said to be negative in other land use categories like vegetation cover, agriculture, barren and fallow land.

From the above study, it is concluded that analysis of land use/land cover of the area can be effectively determined and can be used for future planning.

Dr. Prakash Rajeshyam Konka
Principal Investigator

Date: 22/03/2019
Place: Beed