CHANGE DETECTION USING LISS III DATASETS
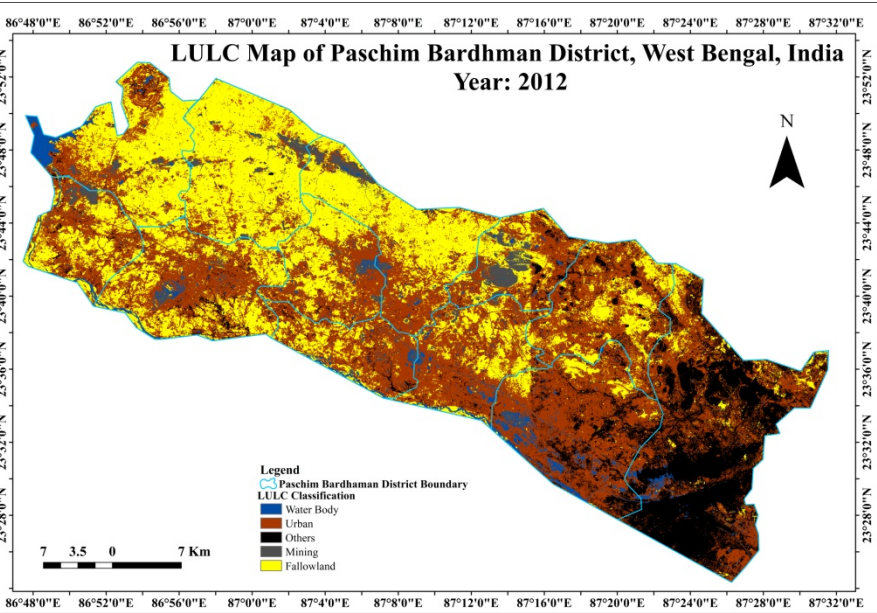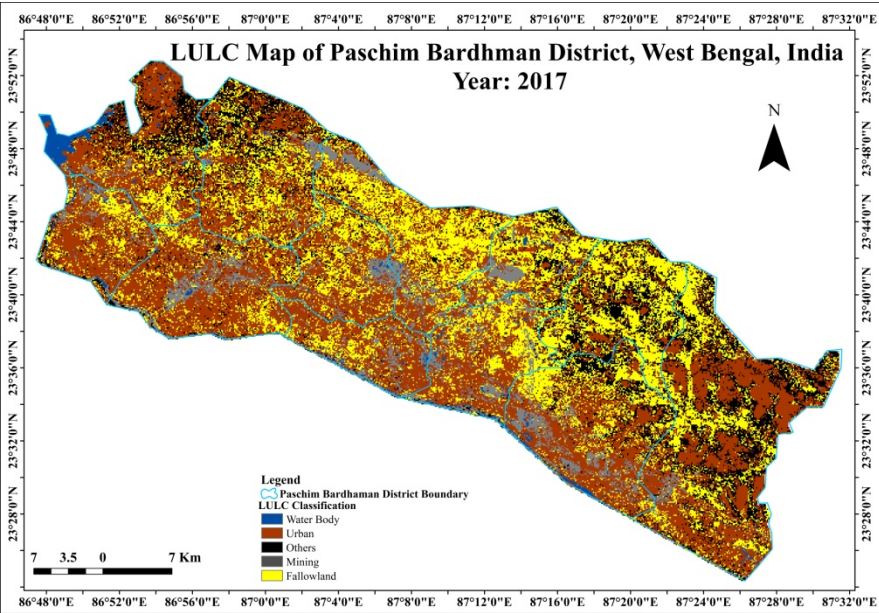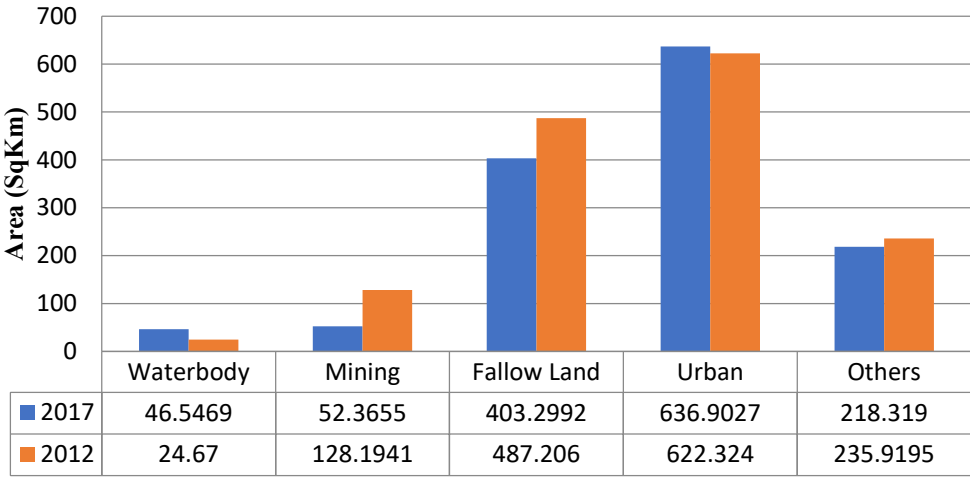
MapDescription

1. Introduction: Change detection enables us to assess the gains and losses among various types of land use and land cover in a region over a period of time. Remote sensing data is widely used for change detection due its high temporal resolution, wide coverage and cost effectiveness over field surveys/inventories. Change detection can be used as diagnostic tool to understand the impact of anthropological effects on natural resources, which might further help us to prepare a sustainable planning measure to protect our environment .

2. Study Area: The study area consists of 3 municipalities and 2 municipal corporations of Asansol-Durgapur Development Region which covering an area about 1651 sq.km. This region was set up in 1980. The northern and southern side of this region is surrounding by Ajay River and Damodar River. The latitudinal and longitudinal extension of this area are 23º22′20″N to 23º53′59″N and 86º46′25″E to 87º29′03″E . Before 7th April 2017 this region was lying on the western side of Bardhaman district but now this region is falling under newly formed district called Paschim Bardhaman. The population is increased from 25, 52,781 in 2001 to 28, 82,031 in 2011. The decadal growth rate of population is 12.90% between 2001 and 2011.

3. Materials Used for the present work : Resourcesat-1/Resourcesat-2 LISS-III data for 2012 (February) & 2017(May). Data obtained from Bhuvan ISRO's Geoportal.

4. Steps Used for this work: a. Data obtained from Bhuvan , **b.** Merge the downloaded Satellite images, **c.** Clip the study area portion from the merged satellite image, **d.** Supervised classification through QGIS software using the Semi-Automatic Classification Plugin (SCP) , **e.** Area calculation for all training site sample, **f.** Graph Plotting.

5. Use of these Map: Change detection in GIS is a method of understanding how a given area has changed between two or more time periods. Change detection is helpful for understanding the change in forest coverage, ice sheets, and land use. Change detection involves comparing changes between aerial photographs taken over different time periods that cover the exact same geographic area.

LULC Map of Paschim Bardhman District, West Bengal, India
Year: 2017

Legend
Paschim Bardhaman District Boundary
LULC Classification
- Water Body
- Urban
- Others
- Mining
- Fallowland

LULC Map of Paschim Bardhman District, West Bengal, India
Year: 2012

Legend
Paschim Bardhaman District Boundary
LULC Classification
- Water Body
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LULC Changes Graph

	Waterbody	Mining	Fallow Land	Urban	Others
2017	46.5469	52.3655	403.2992	636.9027	218.319
2012	24.67	128.1941	487.206	622.324	235.9195

Data courtesy: *Bhuvan ISRO's Geoportal.*

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Topic Name: Change Detection using LISS III Dataset

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