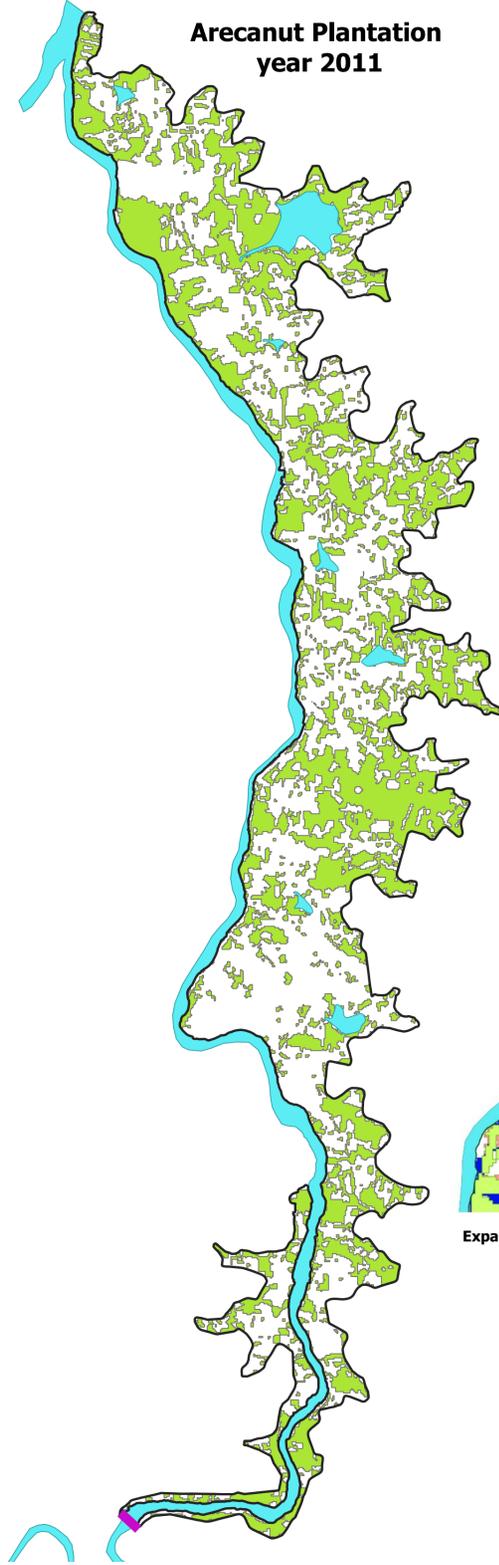
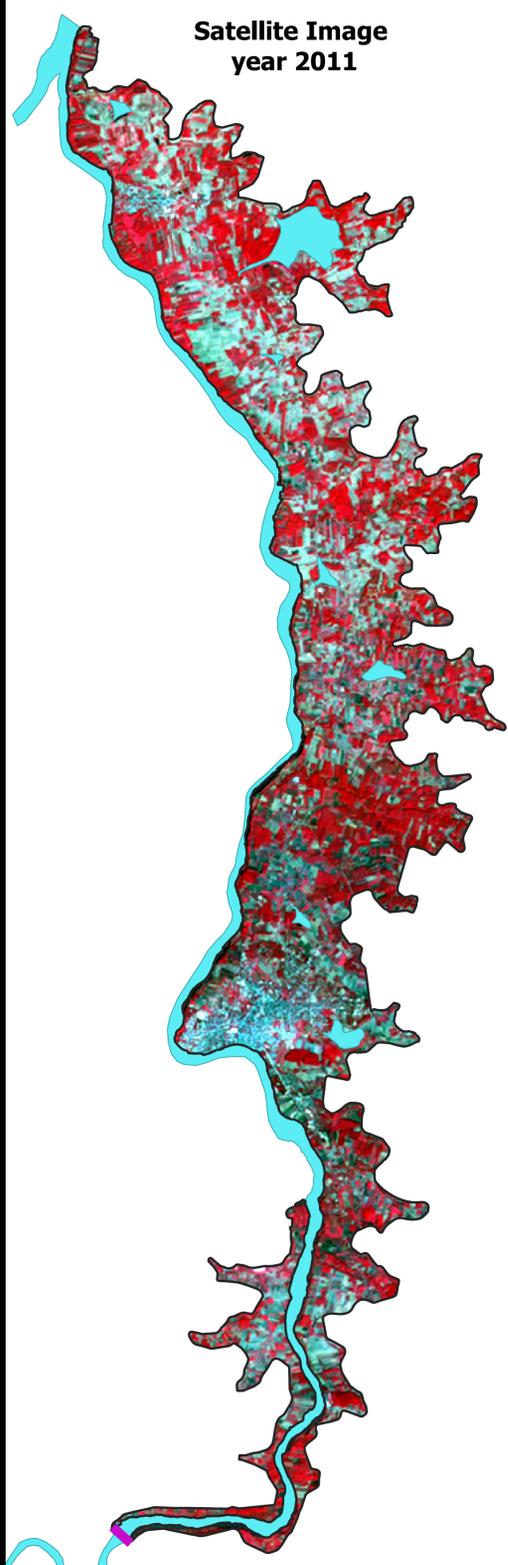
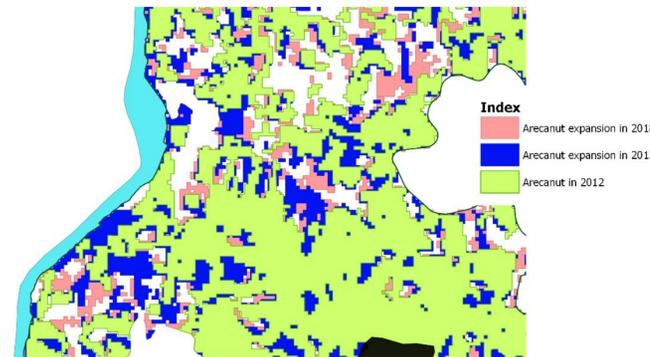
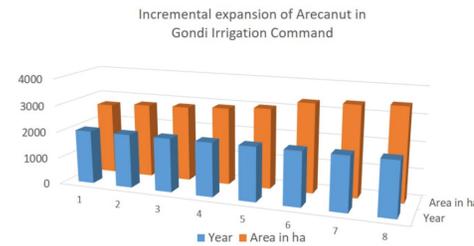
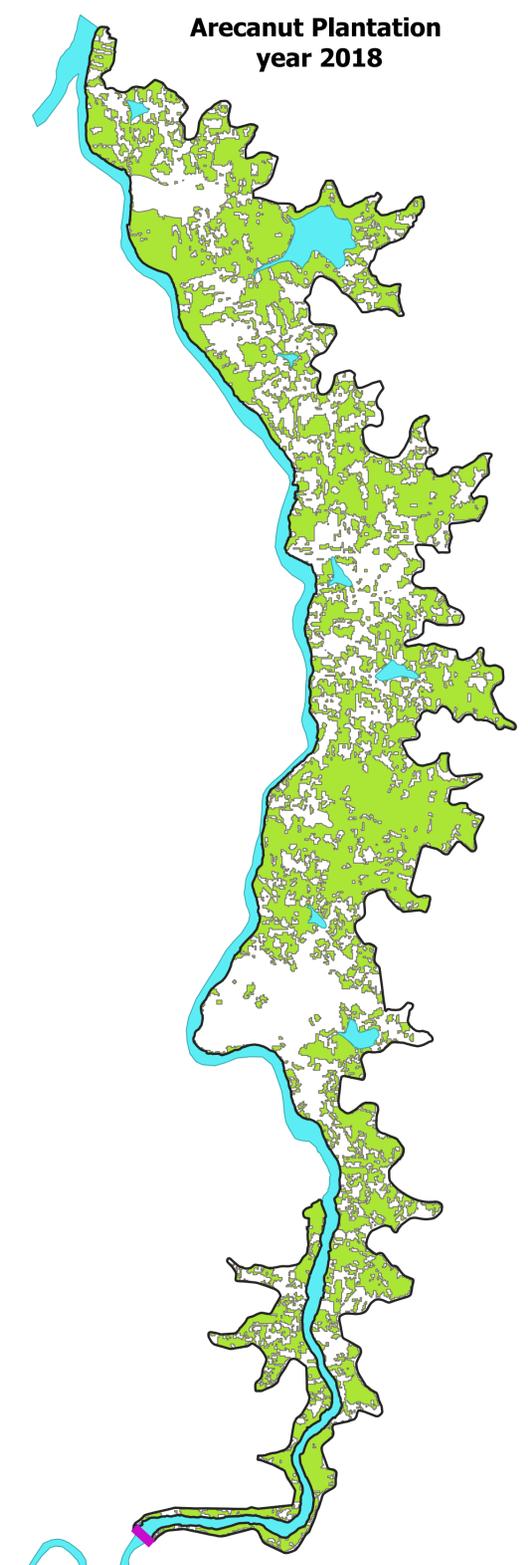
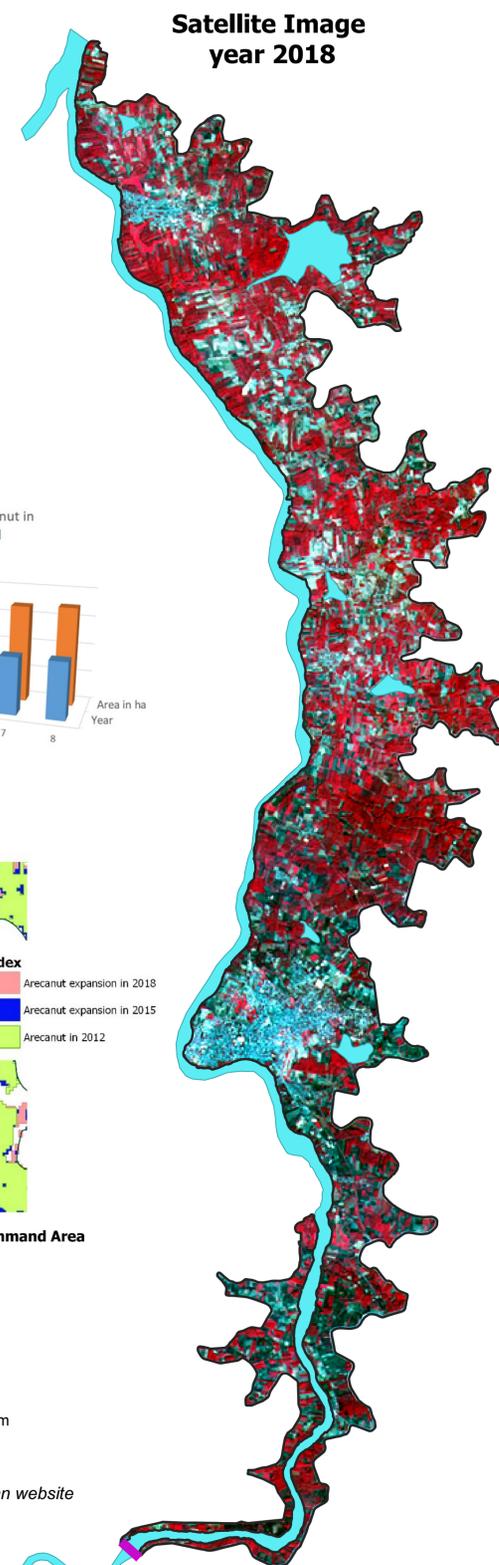


Changing Pattern of Arecanut Plantations in Gondi Irrigation Command area



Extent of Arecanut Plantation in Gondi Irrigation Command Area
Cultivable Command Area of Gondi Irrigation Project: 4,600 ha.

Sl. No.	Year	Area in ha	Incremental expansion in % w.r.t base year (2011)
1	2011	2691	Base year - 100
2	2012	2791	104
3	2013	2829	105
4	2014	2907	108
5	2015	3012	112
6	2016	3333	124
7	2017	3394	126
8	2018	3458	129



Source: Resourcesat-1/Resourcesat-2 LISS III from Bhuvan website

Conclusion:

1. The image characteristics of arecanut plantation like zonality, structure and tone that are normal in the hilly terrain are not observed in the Gondi Irrigation Command which is almost a plain terrain.
2. Supervised classification has been able to differentiate area under arecanut plantation. There are few locations where coconut is grown as mixed crop and further, young plantation that have not developed good canopy could not be delineated. More training sets and high resolution (providing more insights on canopy/ crown density) may provide better results.
3. The LISS III data archives was helpful in getting the images of desired cropping season for all the years and facility provided in the Bhuvan could be conveniently used for the study. The open source platform of QGI along with plugin have been helpful to derive the results efficiently.

4. Historical data indicate that since the region covered by Gondi Irrigation Project, cropping pattern shifted from dry cultivation to paddy cultivation and later more towards sugarcane. Though it is difficult to interpret (in the absence of reliable spatial data like images) the extent of arecanut prior to 2011, subsequent increments are indication of shift towards commercial (horticultural) crops.
5. Recent report related to modernization of canals in the Gondi Project with the assistance of Asian Development Bank indicates that area under arecanut is 3368 Ha. and coconut is 103 Ha. The results of image processing indicated that the total extent of arecanut is 3458 Ha. As it was not possible to distinguish arecanut and coconut separately (many a times grown as mixed), the results are comparable.
6. Since arecanut requires more water than paddy, area and pattern of distribution are important for water management.



Team Name: PIXEL

Topic: Changing Pattern of Arecanut Plantations in Gondi Irrigation Command area

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