



Ecosystem Services Improvement Project

a strategy for climate change mitigation

enhancement of forest cover

improvement of ecosystem services

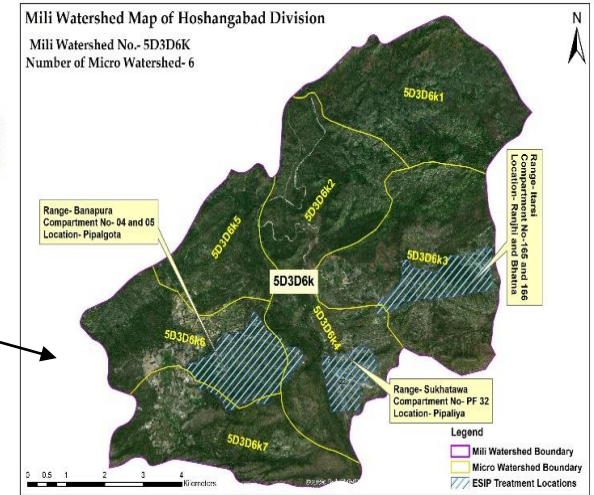
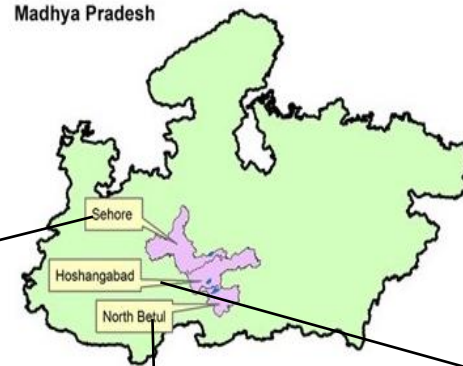
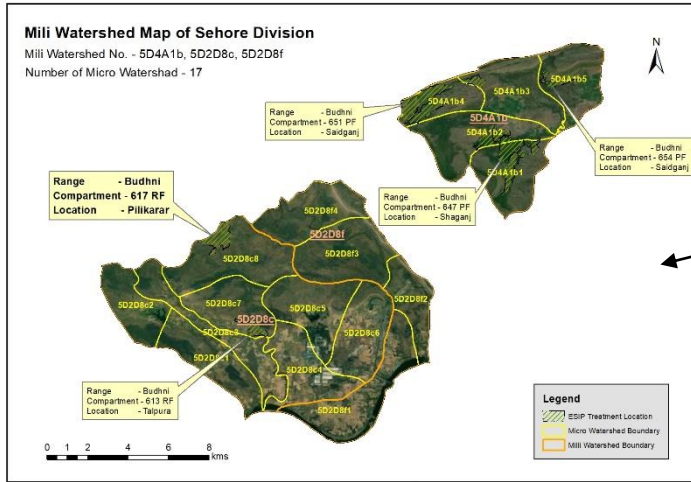
livelihood opportunities for forest dependent communities

ESIP Ninth Implementation Support Mission

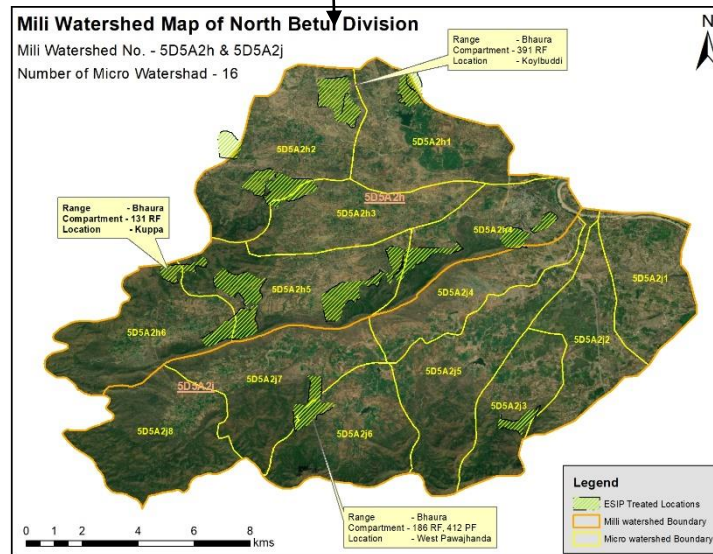
15-17 May, 2023

SPIU- Madhya Pradesh

LOCATION MAP OF SELECTED LANDSCAPE UNDER ESIP



Hoshangabad
 Kesla: 5D3D6k



North Betul
 Bhaunra: 5D5A2h
 Shahpur: 5D5A2j

Sehore
 Budhni: 5D4A1b, 5D2D8c & 5D2D8f



ESIP LANDSCAPES

Division	villages	Male	Female	Total	HH	Sex ratio	SC	ST	SC%	ST%	Literacy %
Hoshangabad	20	5616	5233	10849	2135	332	586	7630	5.4	70.33	47.92
Sehore	17	8186	7087	15273	3087	865	2045	6492	13.39	42.51	55.58
Betul	9	3640	3544	7184	10728	758	627	5381	5.84	50.16	50.12
Total of Project	46	17442	15864	33306	15950	652	3258	19503	9.78	58.56	51.2

S. No.	L1 Level Landscapes	L2 Level Landscapes		L3 Level Landscapes	Forest Area (ha)				Non-Forest Area (ha)	Total Area (ha)
		Division	Milli-Watershed	Micro-Watershed	Dense Forest	Open Forest	Blank	Total Forest		
1	Satpura-Narmada	Hoshangabad	5D3D6k	7(5D3D6k1-7)	5947.253	128.932	491.612	6567.797	63.845	6631.642
2		North Betul	5D5A2h	6(5D5A2h1-6)	3622.989	1063.962	754.283	5441.234	4139.343	9580.577
			5D5A2j	8(5D5A2j1-8)	4073.528	696.507	835.679	5605.714	5735.509	11341.223
Satpura-Narmada L1 Landscape Total Area					13643.77	1889.401	2081.574	17614.745	9938.697	27553.442
3	Vindhya Plateau	Sehore	5D4A1b	5(5D4A1b1-5)	1187.833	1443.478	98.185	2729.496	1676.75	4406.246
			5D2D8c	8(5D2D8c1-8)	1757.581	1337.763	204.617	3299.961	4308.482	7608.443
			5D2D8f	4(5D2D8f1-4)	543.113	1467.895	92.685	2103.693	1819.229	3922.922
Vindhya Plateau L1 Landscape Total Area					3488.527	4249.136	395.487	8133.15	7804.461	15937.611
Total	2	3	6	38	17132.3	6138.54	2477.06	25747.895	17743.158	43491.05



Transforming Forest Landscapes to Fight Climate Change

Identification	Planning	Intervention	Outcome
<ul style="list-style-type: none">• Scientific criteria• Baseline Status• Future Projection• Factors of Vulnerability• Stakeholder Identification	<ul style="list-style-type: none">• Participatory Planning• Identifying key factors of vulnerability• Problems Prioritization• Stakeholder engagement• Activity Planning• Result Framework• Benchmarking	<ul style="list-style-type: none">• Community Mobilization• Capacity Building• Upgrading Infrastructure• Restoring Landscape• Transparent Monitoring System in place	<ul style="list-style-type: none">• Improved-<ul style="list-style-type: none">• <i>Natural Regeneration</i>• <i>Growing Stock</i>• <i>Forest Cover</i>• <i>Carbon Stock</i>• <i>Utilization of NTFPs</i>• Increase in<ul style="list-style-type: none">• <i>Surface water</i>• <i>Ground water</i>• Livelihood Opportunities• Increased Acreage in Agriculture

Transforming Forest Landscapes to Fight Climate Change



Indicators	Baseline (2017)	Current (2023)	Remark
Forest Landscape restored (Ha)	0	3624	Fire protection & Maintenance work are ongoing
Status of Natural Regeneration (per ha) Regeneration Recorded in 260 Grids of Plantation Year 2019	852.04	1644.63	93.02% increase
Forest nurseries with state of art technology (Capacity of number of plants in lakhs per year)		47.5	10 Nurseries upgraded
Carbon Stock assessed (t/ha) (As per report submitted by ICFRE)	60.31		Average for ESIP landscapes
Total carbon (ton)	1,172,639.19		from 20016.38 hac Forest Area of ESIP landscape
CO2 eq.	4,299,677.03		
Growing Stock (Volume cu.m)	640.36	704.78	Data for 220 grids was analyzed out of the total 260 grids laid in year 2019 in three ESIP divisions (10.06% increase)
Forest Based / diversified livelihood opportunities (Nos)	0	6666	
Acreage (in acre) under rabi crop	40871.60	48555.56	18.80 % increase

ESIP Landscape indicators



3,624 of **25,748** ha of forest in the landscape (**43,491** ha) restored



852.04 to **1644.63** per ha
(**93.02%** increase)
Natural Regeneration



11,75,963
Plants planted



640.36 to **704.78** cmt
(**10.06%** increase in Growing
Stock recorded in **220** grids



10 Nos
Upgradation of Forest Nurseries



60.31 t/ha.
Baseline for Carbon Stock as estimated
by ICFRE



STARMAP
GIS Based Monitoring Platform

Social Indicators



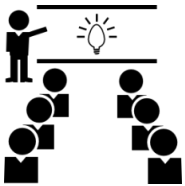
109

**Awareness Workshops
Conducted**



2026

**Skill Development for
Additional employment Opportunities**



71

**Capacity Building
Trainings Organized**



4640

**Forest Based Livelihood
Ensured to HHs**



31

**Exposure Visits
Conducted**



102

**FD Staff trainings organized in
use of GIS System**



**Sustainable Harvesting
Protocols Developed for 25
NTFP species**

Persons trained- 745



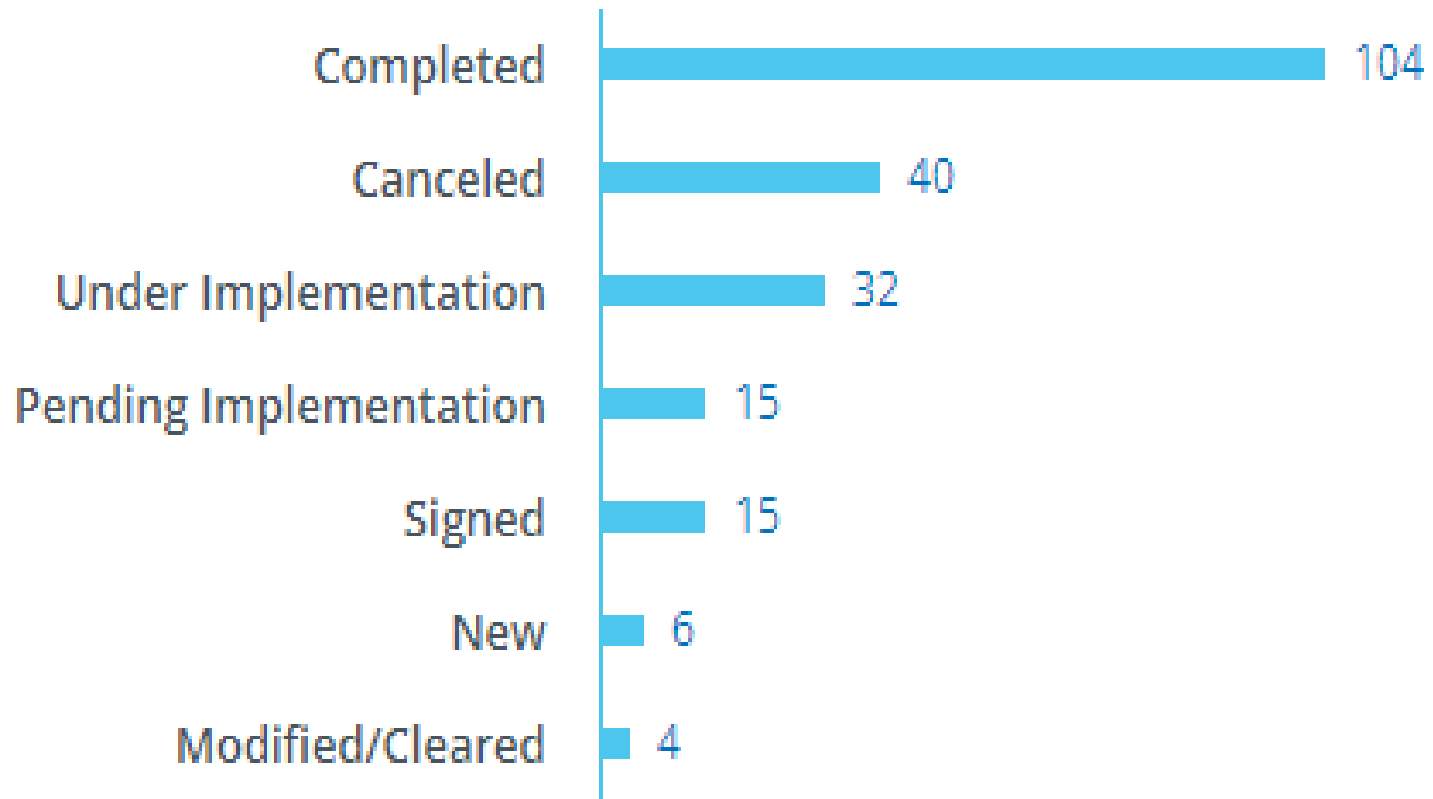
Statement of Expenditure and reimbursement Details

Component	Project Component	Cost in US\$ mn	Cost (INR crore) after receiving \$ savings	Total Expenditure till 31 st March 2022	Expenditure in FY 2022-23	Cumulative Expenditure till 31 st March 2023
1	Strengthening Capacity of Government Institutions in Forestry and Land Management Programs	1.08	8.70	4.13	1.50	5.63
2	Investments for Improving Forest Quality in Selected Landscapes-	7.11	51.85	43.23	6.91	50.14
3	Scaling up SLEM in selected landscapes	0.06	0.40	0.39	00	0.39
4	Project Management and Coordination	0.71	5.26	3.18	0.95	4.13
	Total Outlay	8.96	66.21	50.93	09.36	60.29

Claims Reimbursed till 31st March 2023 :- USD \$ 7.4 mn



Activity Status on STEP





ESIP APO FY 2023-24 (upto July 2023)

Component	Project Cost (in mn \$)	Project Cost (In INR Cr.) after receiving \$ savings	Total exp (till 31 st March) 2023	Balance amount to be utilized after March 2023	Proposed ESIP APO 2023- 24
1	1.08	8.70	5.63	3.07	1.54
2	7.11	51.85	50.14	1.71	3.65
3	0.06	0.40	0.39	0.00	0.00
4	7.11	5.26	4.13	1.12	0.71
Total	8.96	66.21	60.29	5.90	5.90



Re-appropriation Proposal

Component	Project Cost (in mn \$)	Project Cost (In INR Cr.) after receiving \$ savings	Excess Amount to be reappropriated in component 2	Proposed Cost after reappropriation
1	1.08	8.71	1.52	7.18
2	7.11	51.85	(1.94)	53.79
3	0.06	0.40		0.40
4	7.11	5.26	0.42	4.84
Total	8.96	66.21		66.21

Excess amount of Rs 1.52 Cr. from component (1) and Rs. 0.42 Cr. from component (4) is proposed to be reappropriated in component (2). Hence, the cost proposed in component (2) is Rs. 53.79 Cr.



Activities Proposed (APO 2023-24, upto July 2023)

Sl. No.	Items	Target Physical
Component – 1	Strengthening Capacity of Government Institutions in Forestry and Land Management Programs Staff & JFMC Capacity-Building	
1.1	Plantation Monitoring Mobile Application Training for field staff of 63 Territorial Forest Divisions (nos.)	63
1.6.3	Divisional Level Workshop (nos.)	03
1.6.4	Documentation and Publicity Material Divisions (nos.)	02
	IEC Consultancy Project (nos.)	01
1.11	NTFP Capacity Building Consultancy Project (nos.)	01
Component -2	Improving Forest Quality & Productivity	
2.1.1	Upgrading/Modernization of selected forest nurseries to raise high-quality native species planting material (nos.)	10
2.1.3	Investments in restoration works on degraded forestlands (ha.)	2545
	Processing of Satellite Imagery under Monitoring and Evaluation Consultancy Project	01



Activities Proposed (APO 2023-24, upto July 2023)

Sl. No.	Items	Target Physical
Component-2.2	Developing community-based models for sustainable utilization of NTFP	
2.2.1	Mahua Collection Net Distribution (nos.)	4750
2.2.2	Mahua collection & value addition/ (Establishment of Mahua Bakery Unit) (nos.)	01



Progress APO (2022-23)

S.no.	Items	Cumulative	
		Target (Phy)	Achieved (Phy)
Component – 1 Strengthening Capacity of Government Institutions in Forestry and Land Management Programs			
1.1	Staff training in use of GIS systems (Mobile App Training (ToT) to the field staff of 63 territorial division) Number of Staff Trained	63	63
1.6.5	Exposure visit (nos.)	06	04
1.6.2 & 1.6.3	Workshop (nos.)	20	16
1.6.6	Skill Development Activities (Trainings) Persons trained	15	15 442
Component-2.2 & 1.6.6: Developing community-based models for sustainable utilization of NTFP & Skill Development and Employment generation activities			
2.2.1	Mahua Nets Distributed	2350	2350
	Livelihood ensured (Beneficiary nos.)	-	1598



Progress (APO 2022-23)

S. No.	Items	(March, 2023)	
		Target (Physical)	Achievement (Physical)
Component -2 Investments for Improving Forest Quality in Selected Landscapes			
1	Site preparation (ha.)		
2	Plantation created (ha.)	600	600
3	Area under Maintenance (ha.)	3024	3024
4	Plants Planted (nos.)	-	2,30,500
5	Upgrading/modernization of select forest nurseries	10	10

1.6.6 Skill Development Activities for youth- Diversified Livelihood Activities

Progress APO (2022-23)

<i>Activities</i>	<i>Beneficiaries</i>				
	<i>Male</i>	<i>Female</i>	Total	<i>ST</i>	<i>Other Communities (SC/OBC/GEN)</i>
<i>Stitching & Tailoring</i>	0	35	35	35	-
<i>Electrician & Motor Winding</i>	30	0	30	30	-
<i>Automobile Technician(Two wheeler repair assistant)</i>	124	0	124	73	51
<i>LMV Driving</i>	78	0	78	76	02
<i>Beauty Therapist</i>	0	70	70	42	28
<i>Plumbing</i>	30	0	30	27	03
<i>Unarmed Security Guard</i>	45	0	45	31	14
Grand Total	337	105	442	314	98
<i>Percentage of female beneficiaries</i>					23.75%
<i>Percentage of ST beneficiaries</i>					71.04%
<i>Percentage of other communities (SC/OBCs/GEN)</i>					22.17%

1.6.6 Skill Development Activities for youth- Forest Based Livelihood Activities

Progress APO (2022-23)

<i>Activities</i>	<i>Beneficiaries</i>				
	<i>Male</i>	<i>Female</i>	Total	<i>ST</i>	<i>Other Communities (SC/OBC/GEN)</i>
<i>Mahua Net Distribution</i>	387	739	1126	825	301
<i>Mushroom Cultivation</i>	0	30	30	30	-
Grand Total	387	769	1156	855	301
<i>Percentage of female beneficiaries</i>					66.52%
<i>Percentage of ST beneficiaries</i>					73.96%
<i>Percentage of other communities (SC/OBCs/GEN)</i>					26.03%

Progress APO 2022-23

Exposure Visit to Danikundi Multi-facility cum Value Addition Centre, Marwahi, Chhattisgarh



कृषि वानिकी



लाख से चूड़ी



ढेंकी चावल की सफाई



सीताफल पल्पिंग विधि



Progress IEC Consulting Services Project



Figure: ESIP 3 fold Flyer



Figure: ESIP Comprehensive Progress Report 2017-18 to 2020-21



Vermicompost

Landscape Transformation

Mahua Net

<https://www.youtube.com/watch?v=G9YQorO0aEk>

<https://www.youtube.com/watch?v=zPC5lu-gcA4>

<https://www.youtube.com/watch?v=C9gJcglU1-k>

Figure: Audio video spots

Progress of consulting agencies for NTFP Project

Sl. No.	Project Title	Agency Name	Status
2.	Sustainable Harvesting Protocols , Value Addition & Value Chain development for Non Timber Forest Products in selected district of MP.	MP Vigyan Sabha, Bhopal	<ul style="list-style-type: none">• 3 range and 1 divisional level inception workshop completed.• Inception Report Submitted.• Training on Sustainable harvesting techniques for NTFPs completed at Sehore forest division.• Sustainable harvesting protocols submitted<ol style="list-style-type: none">1. For 15 species (Hindi)2. For 25 species (Hindi)3. English (25 species)• Sustainable harvesting Training manual submitted.• NTFP Value Addition for 25 species submitted.• Mahua Bakery Enterprise setup in progress.

Progress APO 2022-23 Mahua Bakery Enterprise Setup, N. Betul



Progress APO 2022-23 Mahua Bakery Enterprise Setup, N. Betul



Mahua Flower Collection Using Net



Latitude: 22°52'25"
Longitude: 77°44'3"
Elevation: 322.57±3 m
Accuracy: 3.9 m
Time: 18-04-2021 10:57
Note: महूआ तलाई khatpura



Latitude: 22°52'25"
Longitude: 77°44'3"
Elevation: 322.74±3 m
Accuracy: 3.7 m
Time: 18-04-2021 10:58
Note: महूआ तलाई khatpura

Number of Mahua Collection Nets distributed (nos.)	9092
Number of families benefited with Mahua net (nos.)	3962
Quantity collected using net (Quintals)	1981
Dry Mahua flower export to UK (Quintals)	47

<https://www.youtube.com/watch?v=C9gJcglU1-k>

नर्मदापुरम भास्कर

इटारसी ▶ पिपरिया ▶ सिवनीमालवा ▶ माखननगर ▶ सोहागपुर ▶ बनखेड़ी ▶ पचमढ़ी

नर्मदापुरम, मंगलवार, 22 नवंबर, 2022

मार्गशीर्ष कृष्ण पक्ष 13-14 - 2079

भास्कर एक्सक्लूसिव • 17 क्विंटल की पहली खेप पहुंची लंदन, अगली बार 100 क्विंटल भेजने का लक्ष्य लंदन में नर्मदापुरम के महुए की महक: 35 रुपए किलो बिकता था, नेट लगाकर गुणवत्ता सुधारी, इंग्लैंड की कंपनी ने 100 के भाव खरीदा

रामभरोसग्रीणा | नर्मदापुरम

लंदन तक में अब नर्मदापुरम का महुआ महक रहा है। इससे केसला वन परिक्षेत्र के महुआ उत्पादक किसान आत्मनिर्भर तो बन ही रहे हैं उन्हें पहली बार में ही तीन गुना मुनाफा हो हुआ। नर्मदापुरम के गांवों से एकत्र किए गए 17 क्विंटल महुए की पहली खेप लंदन पहुंच गई है। यह संभव हुआ है मप्र में वनवासियों के हित में चलाई जा रही कुशल नीति से। स्थानीय बाजार में महुआ 30 से 35 रुपए किलो तक बिकता था। महुआ उत्पादकों को ग्रीननेट बांटी। गुणवत्ता सुधारी और इंग्लैंड की कंपनी ने 100



नर्मदापुरम। इस तरह नेट लगाकर महुए का संग्रहण किया गया। इनसेट लंदन में ऐसे पेय पदार्थ बनेंगे।

रुपए किलो तक महुए की खरीदी की। अगली बार 100 क्विंटल तक महुआ लंदन भेजने का लक्ष्य है। केसला समिति प्रबंधक शिवनारायण ने

बताया समिति को महुए का 1 लाख 70 हजार का भुगतान बस्तर फूड की रजिस्ट्री शोख ने किया। समिति को इससे 1 लाख से ज्यादा लाभ मिला।

लंदन में बनाए जाएंगे पेय पदार्थ

नर्मदापुरम से भेजे गए महुए का लंदन में कई प्रकार के पेय पदार्थ बनाए जाएंगे। वन मंडलाधिकारी डीके वासनिक ने बताया इंग्लैंड भेजे जाने वाले महुए का संग्रहण वन धन केंद्र केसला वन परिक्षेत्र के विभिन्न ग्रामों से कराया गया था। इंग्लैंड में इसकी बिक्री के लिए रसिया शोख बस्तर फूड की कंपनी से संपर्क कर पहले

चरण में 1 किलो महुआ का सैपल भेजा गया। महुआ वन-धन केंद्र केसला में संग्रहित किया। कंपनी ने परीक्षण कराया तो गुणवत्ता उच्च बताई। तुरंत 17 क्विंटल महुआ फूल का ऑर्डर दिया था। इंग्लैंड भेजे जाने वाले महुए का संग्रहण ग्रामीणों ने वन विभाग की निगरानी में किया।

ग्रीन नेट लगाने से धूल, मिट्टी से बचे महुए के फूल: वन मंडलाधिकारी डीके वासनिक ने बताया इसका संग्रहण जमीन से तीन फीट ऊपर ग्रीननेट बिछाकर हवा में ही किया जाता है। इससे महुआ फूल धूल-मिट्टी तथा खरपतवार रहित हो जाता है और यह उच्च गुणवत्ता युक्त होता है। गौरतलब है कि राज्य में वर्तमान में महुए का न्यूनतम समर्थन मूल्य 30 से 40 रुपए निर्धारित है, जबकि इंग्लैंड की कंपनी इस महुए की खरीदी दोगुने दाम अर्थात् 100 रुपए पर की जा रही है।



Cumulative Progress (APO 2018-19 to 2022-23)

Increased rabi crop area after forest restoration under ESIP

Division Name	Treated Area (Ha) under ESIP	Baseline Year	Current Year	Percent Increased
		2017-18	2022-23	
Hoshangabad	4164	9914	10917	10.12
Sehore	1226	5176	5309	2.57
North Betul	2576	1463	3439	135.06
Total	7966	16,553	19,665	18.80

Cumulative Progress (APO 2018-19 to 2022-23)



Increased rabi crop area after forest restoration under ESIP



Paddy & Maize Harvest, Bhauradhana, N. Betul

296
8912
9±100 m
n
21 12:04
ouradhana maize crop raised



Cumulative Progress (APO 2018-19 to 2022-23)

Soil Moisture Conservation work under ESIP

SMC Structures	Units	North Betul	Sehore	Narmadapuram
New Pond Construction	Nos (CuM)	13 (3882.33)	15	-
Pond Deepening	Nos (CuM)	3	4	1 (2277)
Percolation Tank	Nos (CuM)	57 (10043.74)	162	-
Percolation Pit	Nos (CuM)	-	2945	-
Stone Check Dam	Nos (CuM)	297 (5403.59)	2254 (4055)	45 (6100)
Brushwood Check Dam	Nos (CuM)	(735))	-	138 (9863)
Stop Dam	Nos	2	1	-
Contour Trenches	Nos	-	500	-

Cumulative Progress (APO 2018-19 to 2022-23)



Vermi-compost units & production

Division	Range	Village Name	Vermicompost Units (Nos)	Construction Year	Production of Vermicompost (in Kg)	Utilized
1. North Betul	Bhoura	Koyalari	10	2018-19	1100	Self Used
		Kuppa	10		700	
		Tetar	10		100	
		Handipani	10		800	
		Banabaheda	10		500	
		Kachhar	10		600	
		Bhouradhana	10		700	
		Koyalbuddi	10		500	
Total			80		5000	
2. Sehore	Budni	Khatpura	26	2019-20	1950	Self Used
		Akola	24		1500	
		Paraswada	13		1000	
		Hathlewa	6		400	
		Saidganj	11		900	
Total			80		5750	
3. Narmadapuram (Hoshangabad)	Sukhtawa	Pipariya Khurd	15	2018-19	45500	Self Used & Sell to Forest Department
		Itarsi	Ranjhi Bhatna		35	
	Banapura	Peepalgota	50		35000	
	Total				100	
Total of ESIP Divisions			260		107080	

2849 Vermicompost units distributed by ICFRE, Dehradun in ESIP villages of MP

<https://www.youtube.com/watch?v=G9YQorO0aEk>

Cumulative Progress (APO 2018-19 to 2022-23)



Fodder Collection by villagers from ESIP Treated Areas

Division	Range	Fodder in Quintal	Beneficiaries (nos.)	Name of Village/JFMC
1. North Betul	Bhoura	974.36	920	Bhouradhana, Koyalbuddi, Kachhar, Kuppa, Banabaheda, Handipani and Koyalari,
	Shahpur	794.00	68	Pawarjhhanda and Pahawadi
2. Sehore	Budhni	86.00	99	Saidganj, Shahganj, Khatpura, Pilikarar and Talpura
3. Narmadapuram (Hoshangabad)	Banapura	450.00	18	Peepalgota
	Sukhtawa	4.30	10	Pipariya
	Itarsi	44.56	36	Bhatna and Ranjhi
Total		2353.22	1151	



Latitude: 22.215116
Longitude: 77.809356
Elevation: 436.9426 m
Accuracy: 118.1 m
Time: 28-12-2022 13:27
Note: West pawarjhhanda RF186 P412(ESIP) से थार ल आठे डुर ग्रामीण

Geotagged Photographs of Plantation Sites in ESIP Landscape



29 April 2019



Plantation Year = 2019
Compt. No. = PF-391
Treated Area = 75 ha.
Plants Planted = 75,000
Range = Bhoura
Division = North Betul

Latitude: 22°19'7"
Longitude: 77°49'19"
Accuracy: 4503.0m
Time: 29-04-2019 15:40
Note: esip plantations pf 391 me koyalbuddi haf filmg kary

16 Sept. 2022



Latitude: 22°18'32"N
Longitude: 77°48'37"E
Elevation: 401.5±10 m
Accuracy: 3.9 m
Time: 09-16-2022 11:48
Note: esip plantation koyalbuddi 75 he. p391 year 2019

Status of Natural Regeneration

Baseline Year (Y0) = 301.47/ha

Current Status (Y4) = 1779.41/ha

Increase % = 490.24%

Geotagged Photographs of Plantation Sites in ESIP Landscape



21 Jan 2019



Plantation Year = 2019
Compt. No. = PF-389
Treated Area = 25 ha.
Plants Planted = 25,000
Range = Bhoura
Division = North Betul

Latitude: 22.295499
Longitude: 77.778188
Elevation: 480.56m
Accuracy: 6.0m
Time: 27-01-2019 13:41

9 Aug. 2022



Latitude: 22°17'39"
Longitude: 77°46'24"
Elevation: 527.08±15 m
Accuracy: 3.3 m
Time: 09-08-2022 14:15
Note: pf 389 Kachhar. bit

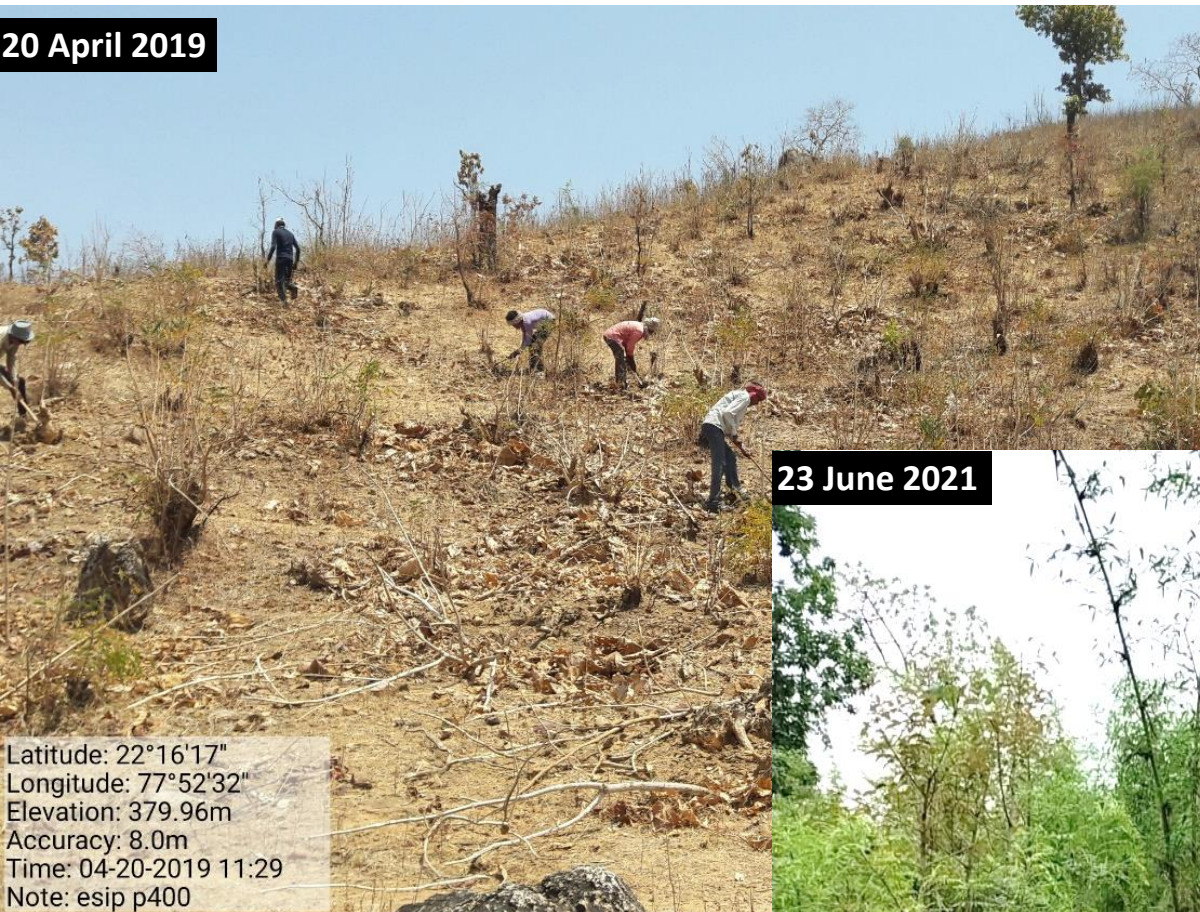
Status of Natural Regeneration

Baseline Year (Y0) = 527.78/ha
Current Status (Y4) = 1986.11/ha
Increase % = 276.31%

Geotagged Photographs of Plantation Sites in ESIP Landscape



20 April 2019



Latitude: 22°16'17"
Longitude: 77°52'32"
Elevation: 379.96m
Accuracy: 8.0m
Time: 04-20-2019 11:29
Note: esip p400

Plantation Year = 2019
Compt. No. = PF-400
Treated Area = 29 ha
Plants Planted = 5,800
Range = Bhoura
Division = North Betul

23 June 2021



Latitude: 22°16'15"N
Longitude: 77°52'23"E
Elevation: 389.69 m
Accuracy: 3.8 m
Time: 06-23-2021 08:35
Note: p400

Status of Natural Regeneration

Baseline Year (Y0) = 93.75/ha

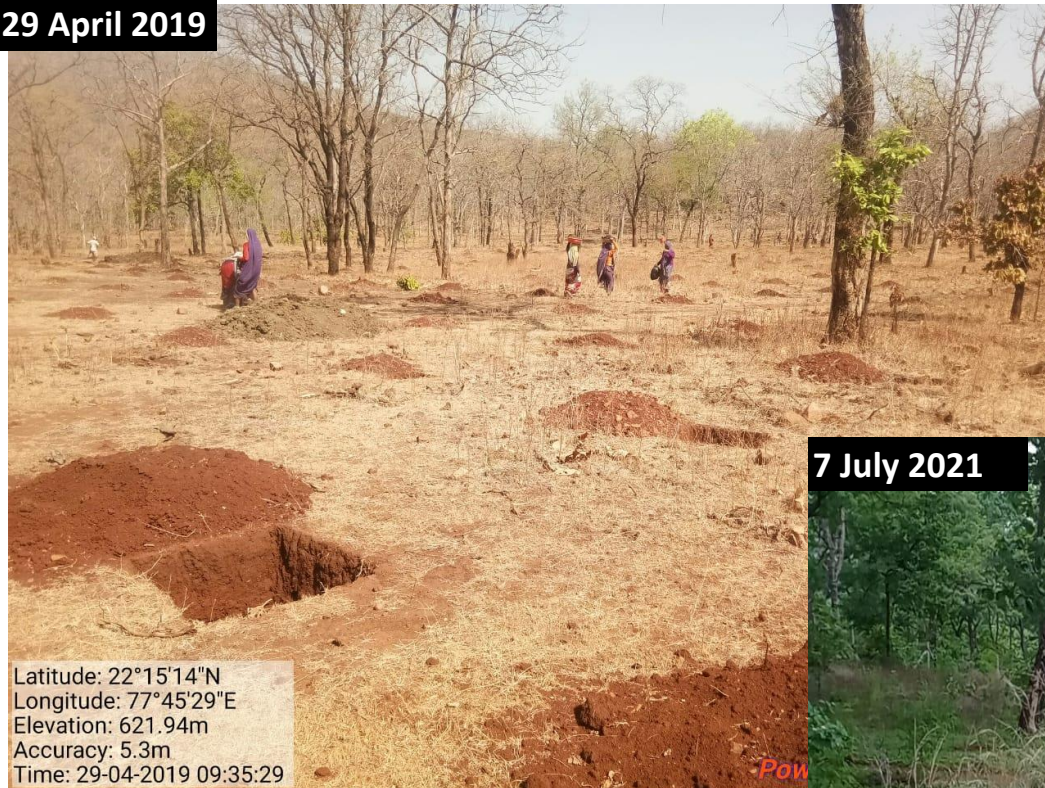
Current Status (Y1) = 2437.50/ha

Increase % = 2500%

Geotagged Photographs of Plantation Sites in ESIP Landscape



29 April 2019



Plantation Year = 2019
Compt. No. = RF-131
Treated Area = 50 ha
Plants Planted = 20,000
Range = Bhoura
Division = North Betul

Latitude: 22°15'14"N
Longitude: 77°45'29"E
Elevation: 621.94m
Accuracy: 5.3m
Time: 29-04-2019 09:35:29

7 July 2021



Latitude: 22°15'14"N
Longitude: 77°45'29"E
Elevation: 628.54 m
Accuracy: 1.5 m
Time: 07-07-2021 16:16
Note: E S I P बांस रोपण RF 131

Status of Natural Regeneration

Baseline Year (Y0) = 287.50/ha
Current Status (Y1) = 2225.00/ha
Increase % = 774%

Geotagged Photographs of Plantation Sites in ESIP Landscape



17 June 2020



Latitude: 22°15'12"
Longitude: 77°46'60"
Elevation: 444.55m
Accuracy: 7.0m
Time: 17-06-2020 16:32
Note: kuppa rf130

Plantation Year = 2020
Compt. No. = RF-130
Treated Area = 125 ha
Plants Planted = 11,500
Range = Bhoura
Division = North Betul

10 Sept. 2022



Latitude: 22.251886
Longitude: 77.783698
Elevation: 437.54±9 m
Accuracy: 5.2 m
Time: 10-09-2022 16:57
Note: RF 130 kuppa

Status of Natural Regeneration

Baseline Year (Y1) = 221.15/ha

Current Status (Y3) = 2519.23/ha

Increase % = 912.22%

Geotagged Photographs of Plantation Sites in ESIP Landscape



19 June 2020



Latitude: 22.241775
Longitude: 77.775372
Elevation: 492.73m
Accuracy: 5.0m
Time: 06-19-2020 15:01
Note: rf 181

Plantation Year = 2020
Compt. No. = RF-181
Treated Area = 130 ha
Plants Planted = 10,200
Range = Bhoura
Division = North Betul

10 Sept. 2022



Latitude: 22.239476
Longitude: 77.771654
Elevation: 454.88±10 m
Accuracy: 13.9 m
Time: 10-09-2022 16:42
Note: RF 181 kuppa

Status of Natural Regeneration

Baseline Year (Y0) = 335/ha
Current Status (Y3) = 3214.29/ha
Increase % = 859.49%

Geotagged Photographs of Plantation Sites in ESIP Landscape



10 May 2020



Latitude: 22°18'23"N
Longitude: 77°48'52"E
Elevation: 411.6m
Accuracy: 3.5m
GPSTime: 10-05-2020 18:19
Note: esip plantation pf 391 koyalbuddi 50 hectare part 2 gadda khudai Kary

Plantation Year = 2020
Compt. No. = PF-391
Treated Area = 50 ha
Plants Planted = 50,000
Range = Bhoura
Division = North Betul

16 Sept. 2022



Latitude: 22°18'24"N
Longitude: 77°48'51"E
Elevation: 402.4±4 m
Accuracy: 9.9 m
Time: 09-16-2022 11:32
Note: esip plantation koyalbuddi 50 he. p391 year 2020

Status of Natural Regeneration

Baseline Year (Y0) = 364.58/ha
Current Status (Y3) = 1979.17/ha
Increase % = 442.86%

Geotagged Photographs of Plantation Sites in ESIP Landscape



29 April 2019



Plantation Year = 2020
Compt. No. = RF-159
Treated Area = 50 ha
Plants Planted = 40,000
Range = Bhoura
Division = North Betul

9 Aug. 2022



Latitude: 22.312874
Longitude: 77.831889
Elevation: 406.97m
Accuracy: 3.8m
Time: 12-19-2019 14:49
Note: lantana unmulan karya Koylari Rf159



Latitude: 22°18'45"N
Longitude: 77°49'58"E
Elevation: 413.03±6 m
Accuracy: 9.3 m
Time: 09-08-2022 10:58
Note: Esip 50hec. RF159 2020. Shishu

Powered by NoteCam

Status of Natural Regeneration

Baseline Year (Y0) = 204.55/ha

Current Status (Y3) = 1556.82/ha

Increase % = 661.09%

Geotagged Photographs of Plantation Sites in ESIP Landscape



19 June 2020



Plantation Year = 2020
Compt. No. = RF-128
Treated Area = 125 ha
Plants Planted = 9,000
Range = Bhoura
Division = North Betul

Latitude: 22°17'8"N
Longitude: 77°48'1"E
Elevation: 414.57m
Accuracy: 6.1m
Time: 06-19-2020 14:53
Note: Esip poudharopn128 Handipani

16 Sept. 2022



अक्षांश: 22°17'1"N
देशान्तर: 77°48'11"E
उन्नयन: 411.59±32 m
सटीकता: 24.1 m
समय: 16-09-2022 11:38
नोट: 128

Status of Natural Regeneration

Baseline Year (Y1) = 690.00/ha
Current Status (Y3) = 2350.00/ha
Increase % = 240.58%

Geotagged Photographs of Plantation Sites in ESIP Landscape



9 May 2020



Plantation Year = 2020
Compt. No. = RF-166-167
Treated Area = 135 ha
Plants Planted = 17,000
Range = Bhoura
Division = North Betul



9 Aug 2022



Latitude: 22.261989
Longitude: 77.830123
Elevation: 403.55m
Accuracy: 5.0m
Time: 09-06-2020 11:10
Note: RF166

Latitude: 22.248386
Longitude: 77.813603
Elevation: 485.55±5 m
Accuracy: 7.3 m
Time: 09-08-2022 11:02
Note: 166-banabehda

Status of Natural Regeneration

Baseline Year (Y1) = 863.64/ha

Current Status (Y3) = 2772.73/ha

Increase % = 221.05%

Geotagged Photographs of Plantation Sites in ESIP Landscape



11 Feb. 2020

Latitude: 22°15'49"N
Longitude: 77°50'3"E
Elevation: 394.55m
Accuracy: 18.0m
Time: 11-02-2020 14:59
Note: RF 163 lan tana

Plantation Year = 2020
Compt. No. = RF-163
Treated Area = 80 ha
Plants Planted = 8,500
Range = Bhoura
Division = North Betul



8 Sept. 2022

Latitude: 22°17.208'
Longitude: 77°50.491'
Elevation: 6304.58±130 m
Accuracy: 553.0 m
Time: 08-09-2022 13:01
Note: RF 163

Powered by NoteCam

Status of Natural Regeneration

Baseline Year (Y0) = 775.00/ha

Current Status (Y3) = 2900.00/ha

Increase % = 274.19%

Geotagged Photographs of Plantation Sites in ESIP Landscape



23 Sept. 2020



Plantation Year = 2021
Compt. No. = RF-159
Treated Area = 35 ha
Plants Planted = 25,000
Range = Bhoura
Division = North Betul

9 Aug. 2022



Latitude: 22°19'4"N
Longitude: 77°50'10"E
Elevation: 413.22m
Accuracy: 3.8m
Time: 11-23-2020 17:34
Note: ESIP koylari RF 159 Part -2 -35hec.

Latitude: 22°19'20"N
Longitude: 77°50'5"E
Elevation: 436.42±24 m
Accuracy: 19.3 m
Time: 09-08-2022 10:14
Note: Esp 35hec. RF159 2021 Bamboo

Status of Natural Regeneration

Baseline Year (Y0) = 500.00/ha

Current Status (Y2) = 1937.50/ha

Increase % = 287.50%

Geotagged Photographs of Plantation Sites in ESIP Landscape



29 Oct. 2020



Latitude: 22°17'10"N
Longitude: 77°46'58"E
Elevation: 447.37 m
Accuracy: 3.8 m
Time: 29-10-2020 16:08
Note: r. f127

Plantation Year = 2021
Compt. No. = RF-127
Treated Area = 60 ha
Plants Planted = 30,000
Range = Bhoura
Division = North Betul

16 Oct. 2022



Latitude: 22.285462
Longitude: 77.786332
Elevation: 428.53±12 m
Accuracy: 4.7 m
Time: 10-16-2022 13:46
Note: pf 127 kachchar

Status of Natural Regeneration

Baseline Year (Y0) = 897.73/ha

Current Status (Y2) = 1409.09/ha

Increase % = 56.96%

Geotagged Photographs of Plantation Sites in ESIP Landscape



24 June 2021



Plantation Year = 2021
Compt. No. = PF-400
Treated Area = 56 ha
Plants Planted = 20,000
Range = Bhoura
Division = North Betul

10 Oct. 2022



Latitude: 22°16'9"N
Longitude: 77°51'48"E
Elevation: 388.2 m
Accuracy: 3.8 m
Time: 06-24-2021 11:01
Note: p400 56h

Latitude: 22.271115
Longitude: 77.865082
Elevation: 388.12±8 m
Accuracy: 7.6 m
Time: 10-10-2022 08:47
Note: pf 400 BHOURA 56 h.

Status of Natural Regeneration

Baseline Year (Y0) = 275.00/ha
Current Status (Y2) = 1137.50/ha
Increase % = 313.64%

Geotagged Photographs of Plantation Sites in ESIP Landscape



10 Nov. 2021



Latitude: 22°16'2"N
Longitude: 77°49'11"E
Elevation: 424.44±20 m
Accuracy: 10.0 m
Time: 10-11-2021 17:22
Note: pF 396 C B O LANTANA UNMULAN

Plantation Year = 2022
Compt. No. = PF-396
Treated Area = 14 ha
Plants Planted = 7,000
Range = Bhoura
Division = North Betul

16 Sept. 2022



Latitude: 22.268325
Longitude: 77.823056
Elevation: 486.56±4 m
Accuracy: 2.1 m
Time: 09-16-2022 08:53
Note: PF396banabehda

Status of Natural Regeneration

Baseline Year (Y0) = 1166.66/ha

Current Status (Y1) = 2125.00/ha

Increase % = 82.14%

Geotagged Photographs of Plantation Sites in ESIP Landscape



4 Dec. 2021



Plantation Year = 2022
Compt. No. = PF-397
Treated Area = 24 ha
Plants Planted = 8,000
Range = Bhoura
Division = North Betul

Latitude: 22°17'18"N
Longitude: 77°48'32"E
Elevation: 426.88±103 m
Accuracy: 3.1 m
Time: 04-12-2021 12:17
Note: kachar beat pf 397

11 Octo. 2022



Latitude: 22°17'17"
Longitude: 77°48'21"
Elevation: 468.48±25 m
Accuracy: 3.4 m
Time: 2022/10/11 16:39
Note: p397

Powered by NoteCam

Status of Natural Regeneration

Baseline Year (Y0) = 0/ha

Current Status (Y1) = 1025/ha

Increase % = 1025%

Geotagged Photographs of Plantation Sites in ESIP Landscape



12 Nov. 2021



Plantation Year = 2022
Compt. No. = PF-391
Treated Area = 52 ha.
Plants Planted = 30,000
Range = Bhoura
Division = North Betul

24 Sep. 2022



Latitude: 22°18'23"
Longitude: 77°49'15"
Elevation: 404.8±12 m
Accuracy: 3.0 m
Time: 12/11/2021 15:40
Note: e.s.i.p. plantation koyalbuddi p 391 52 ha.gadda khuday kary

Latitude: 22°18'24"N
Longitude: 77°49'10"E
Elevation: 477.9±4 m
Accuracy: 4.0 m
Time: 24-09-2022 14:28
Note: ई एस आई पी मिश्रित रोपण koyalbuddi 52 है बांस

Status of Natural Regeneration

Baseline Year (Y0) = 325/ha
Current Status (Y1) = 562.5/ha
Increase % = 73.08%

Geotagged Photographs of Plantation Sites in ESIP Landscape



16 Feb. 2022



Latitude: 22°12'53"N
Longitude: 77°48'0"E
Elevation: 468.34±6 m
Accuracy: 13.1 m
Time: 16-02-2022 11:49:13
Note: esip 186/412

Plantation Year = 2022
Compt. No. = RF-186
Treated Area = 110 ha
Plants Planted = 45,000
Range = Shahpur
Division = North Betul

14 Sept. 2022



Latitude: 22.213879
Longitude: 77.805832
Elevation: 428.99±10 m
Accuracy: 160.7 m
Time: 14-11-2022 13:19
Note: West Pawarjhanda RF 186 P412 ESIP

Status of Natural Regeneration

Baseline Year (Y0) = 678.57/ha
Current Status (Y1) = 1059.52/ha
Increase % = 56.14%

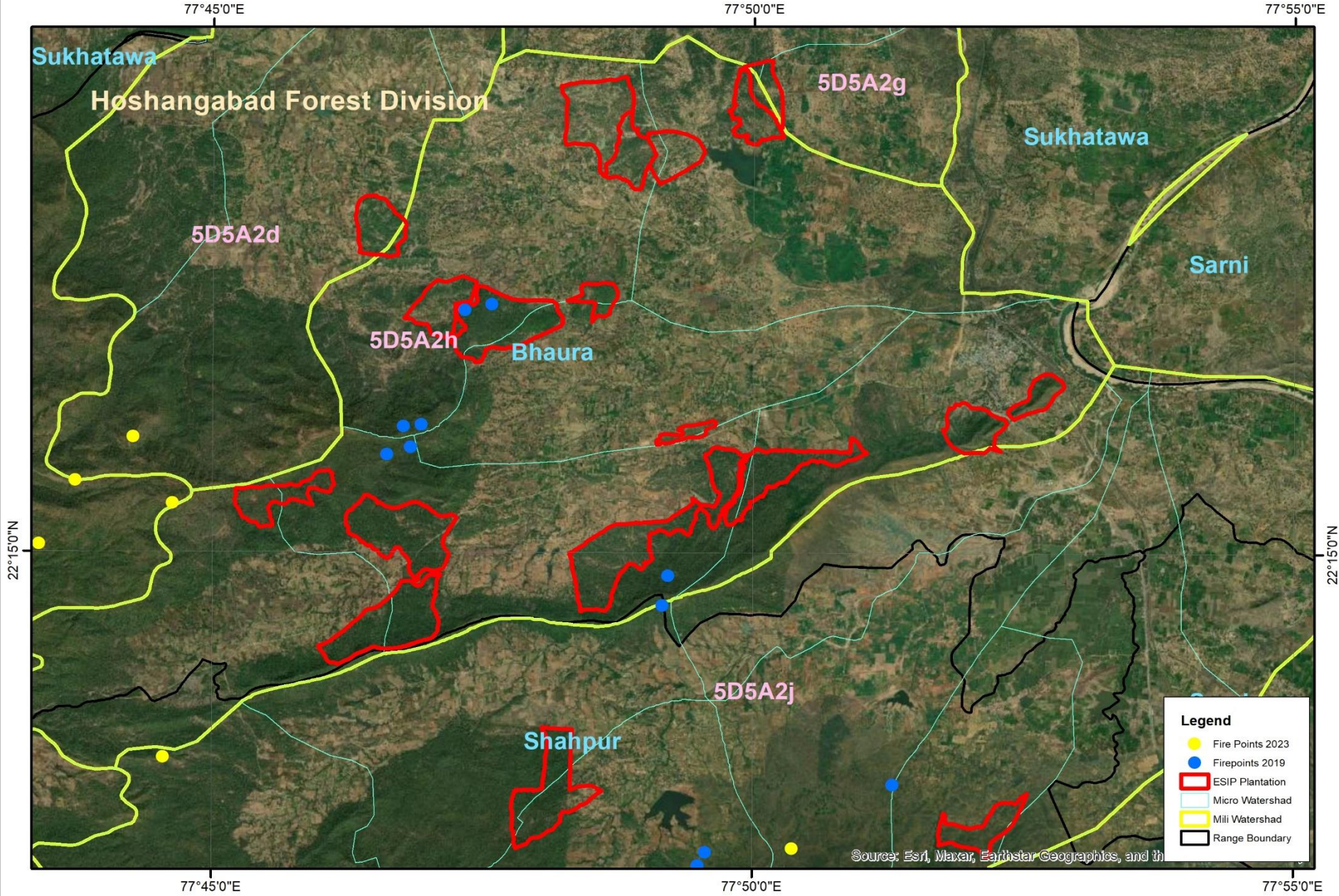
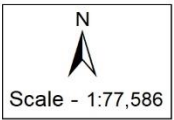
Cut-Back Operation (CBO) In ESIP Landscape



Forest Landscape Restoration: Dramatic Reduction in Fire Incidences due to using Nets for Mahua Flower Collection

ESIP Landscape

Mili Watershad - 5D5A2d, 5D5A2h, 5D5A2j District Betul, Madhya Pradesh India



- Legend**
- Fire Points 2023
 - Firepoints 2019
 - ▭ ESIP Plantation
 - ▭ Micro Watershad
 - ▭ Mili Watershad
 - ▭ Range Boundary

Source: Esri, Maxar, Earthstar Geographics, and the



Regeneration Status North Betul Division:

Division - North Betul (Per Hac. Plant Regenerated)

2.1.3 Investments in restoration works on degraded forestlands

Circle/Division	Range	Compt / Village	Plantation ID	Year of Plantation	Area (Hac)	No. of Plants	Regeneration Plant Per Hac					
							Baseline (Y0)	1st Year (Y1)	2nd Year (Y2)	3rd Year (Y3)	4th Year (Y4)	
Betul / North Betul	Bhoura	391 PF	105004	2019	75	75000	301.47	992.65	1088.24	1433.82	1779.00	
		131 RF	105307		50	20000	287.50	612.50	650.00	850.00	2225.00	
		389 PF	105308		25	25000	527.78	916.67	1013.89	1805.56	1986.00	
		400 PF	105309		29	5800	93.75	531.25	937.50	1406.25	2438.00	
	Total					179	125800					
	Bhoura	181 RF	108695	2020	130	10200	299	950.00	1522.32	4344.00		
		128 RF	108696		125	9000	690.00	915.00	1885.00	2350.00		
		166 & 167 RF	108697		135	17000	863.64	1678.03	2041.67	2772.00		
		130 RF	108698		125	11500	221.00	595.00	995.19	2519.00		
		159 RF	108699		50	40000	204.55	1295.45	1693.18	1556.00		
		163 RF	108701		80	8500	775.00	1018.75	1762.50	2900.00		
		391 PF	109055		50	50000	364.58	1385.42	1562.50	1979.00		
	Total					695	146200					
	Bhoura	400 PF	119700	2021	56	20000	275.00	537.50	1138.00			
		128 RF	119704		35	25000	500.00	1812.50	1937.00			
		166 RF	119705		60	30000	897.73	1272.73	1409.00			
	Total					151	75000					
	Shahpur	413 PF	119706	2021	50	15000	613.64	750.00	1056.00			
	Total					50	15000					
	Shahpur	186 PF	121020	2022	110	45000	678.57	1059.52				
	Bhoura	396 PF	121026		14	7000	1167.00	2125.00				
		397 PF	121027		24	8000	0.00	1025.00				
		391 PF	121028		52	30000	335.00	563.00				
Total					200	90000						
Grand Total					1275	452000						

Regeneration Status on Plantation Monitoring System:



North Betul Division Regeneration Status

S.No.	Division	Range	Comp No.	Plantation ID	Scheme	Plantation Year	Area Hac	No of Grids	Natural regeneration status at baseline year Y0				Natural regeneration status in year 1 of treatment Y1				Natural regeneration status in year 2 of treatment Y2				Natural regeneration status in year 3 of treatment Y3				Natural regeneration status in year 4 of treatment Y4			
									Negligible	adequate	adequate	Profuse	Negligible	adequate	adequate	Profuse	Negligible	adequate	adequate	Profuse	Negligible	adequate	adequate	Profuse	Negligible	adequate	adequate	Profuse
1	North Betul	Bhaura	391 PF	105004	ESIP	2019	75	17	13	4	0	0	3	11	3	0	10	2	3	2	1	10	5	1	3	6	4	4
2	North Betul	Bhaura	131 RF	105307	ESIP		50	10	7	3	0	0	5	5	0	0	5	5	0	0	5	4	0	1	0	3	4	3
3	North Betul	Bhaura	389 PF	105308	ESIP		25	9	2	7	0	0	4	5	0	0	3	5	1	0	0	3	4	2	0	2	5	2
4	North Betul	Bhaura	400 PF	105309	ESIP		29	4	4	0	0	0	2	2	0	0	1	2	1	0	0	3	1	0	0	0	3	1
Total Regeneration 2019							179	40	26	14	0	0	14	23	3	0	19	14	5	2	6	20	10	4	3	11	16	10
Percent of area naturally regenerating									0				7.50				17.50				35.00				65.00			
5	North Betul	Bhaura	181 RF	108695	ESIP	2020	130	25	18	7	0	0	3	19	3	0	1	15	4	5	0	0	5	23				
6	North Betul	Bhaura	128 RF	108696	ESIP		125	25	12	9	3	1	12	9	3	1	2	7	10	6	2	2	9	12				
7	North Betul	Bhaura	166 RF	108697	ESIP		135	33	12	15	6	0	9	7	8	9	6	7	9	11	0	7	10	16				
8	North Betul	Bhaura	130 RF	108698	ESIP		125	25	21	4	0	0	15	10	0	0	7	16	1	2	0	1	11	14				
9	North Betul	Bhaura	159 RF	108699	ESIP		50	11	10	0	1	0	4	2	3	2	0	5	5	1	0	5	6	0				
10	North Betul	Bhaura	163 RF	108701	ESIP		80	20	8	11	1	0	7	8	3	2	4	6	4	6	0	2	6	12				
11	North Betul	Bhaura	391 PF	109055	ESIP		50	12	8	4	0	0	4	3	3	2	1	8	2	1	0	4	7	1				
Total Regeneration 2020							695	151	89	50	11	1	54	58	23	16	21	64	35	32	2	21	54	78				
Percent of area naturally regenerating									7.95				25.83				44.37				87.42							
12	North Betul	Bhaura	400 PF	119700	ESIP	2021	56	10	8	2	0	0	5	4	1	0	2	6	2	0								
13	North Betul	Bhaura	128 RF	119704	ESIP		35	4	3	0	1	0	0	3	0	1	0	2	1	1								
14	North Betul	Bhaura	166 RF	119705	ESIP		60	11	4	5	2	0	3	5	2	1	1	6	3	1								
15	North Betul	Shahpur	130 RF	119706	ESIP		50	11	6	5	0	0	4	6	1	0	2	8	0	1								
Total Regeneration 2021							201	36	21	12	3	0	12	18	4	2	5	22	6	3								
Percent of area naturally regenerating									8.33				16.67															
12	North Betul	Bhaura	396 PF	121026	ESIP	2022	14	3	1	1	1	0	0	0	2	1												
13	North Betul	Bhaura	397 PF	121027	ESIP		24	5	5	0	0	0	0	5	0	0												
14	North Betul	Bhaura	391 PF	121028	ESIP		52	10	7	3	0	0	4	6	0	0												
15	North Betul	Shahpur	186 RF	121020	ESIP		110	21	13	6	1	1	4	14	3	0												
Total Regeneration 2022							200	39	26	10	2	1	8	25	5	1												
Percent of area naturally regenerating									7.69				15.38															

Natural Regeneration = Unestablished+Established/Total No of Grids*100

Percentage of Area Naturally Regenerating = Adequate + Profuse / Total No of Grids * 100

GIS Based Monitoring:



Division – N. Betul

Range – Bhaura

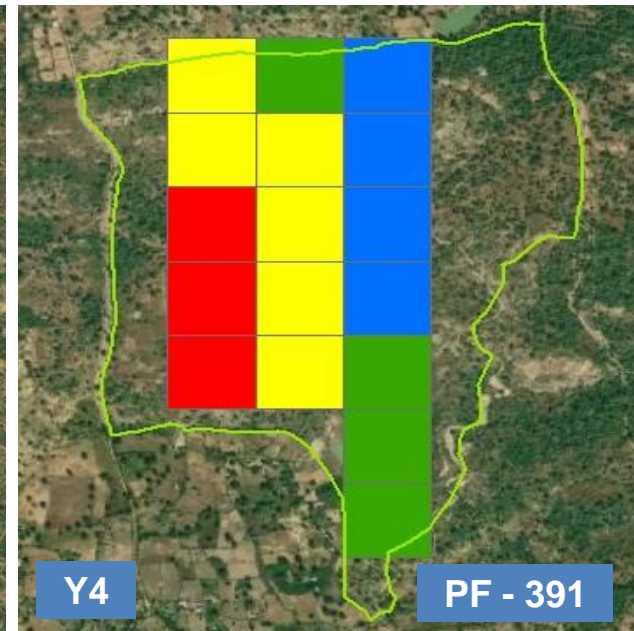
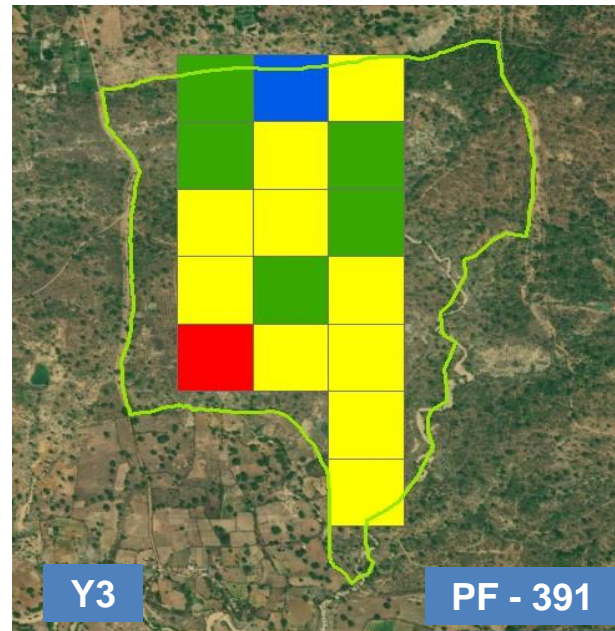
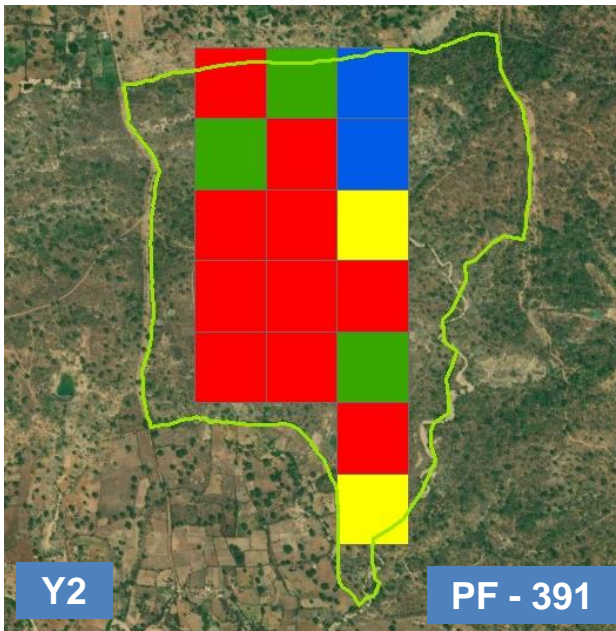
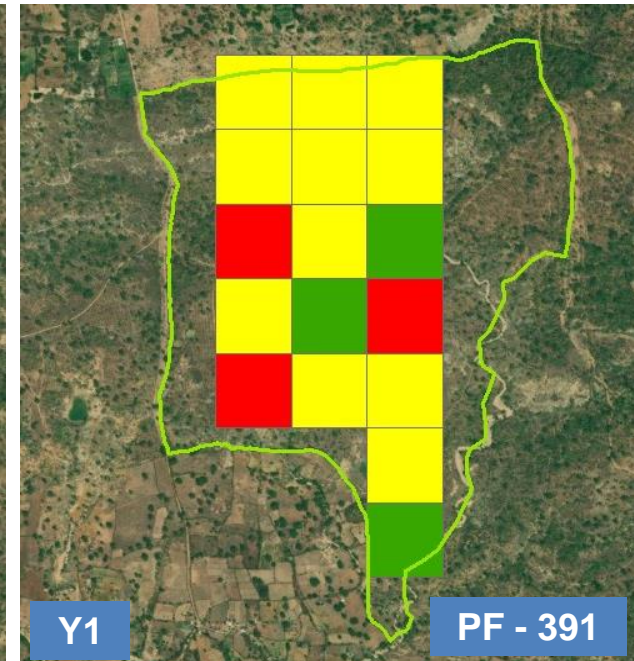
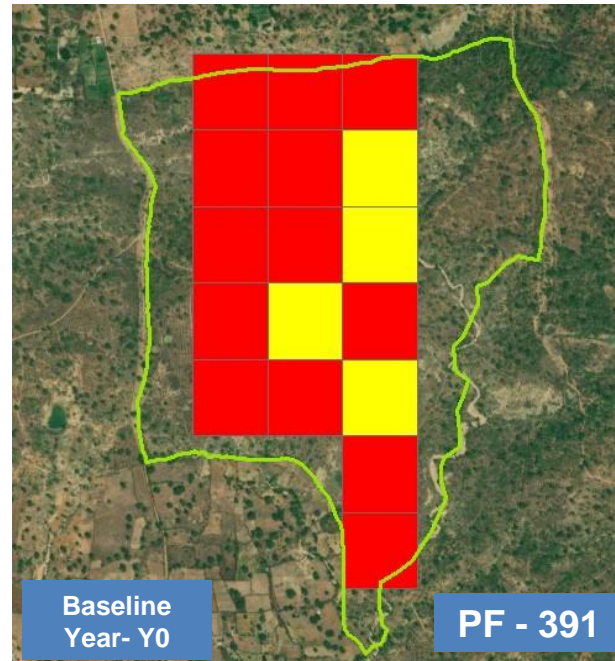
Baseline Y0= 2018

Y1 = Year 1

Y2 = Year 2

Y3 = Year 3

Y4 = Year 4



Regeneration Status Hoshangabad

Division:



Natural Regeneration Survey Results

Division - Hoshangabad (Per Hac. Plant Regenerat

2.1.3 Investments in restoration works on degraded forestlands

Circle/Division	Range	Compt / Village	Plantation ID	Year of Plantation	Area (Hac)	No. of Plants	Regeneration Plant Per Hac				
							Baseline (Y0)	1st Year (Y1)	2nd Year (Y2)	2nd Year (Y3)	
Hoshangabad / Hoshangabad	Banapura	4 RF	106350	2019	300	90000	855.77	1183.93	1980.36	2150.00	
	Itarsi	165 RF	106390		200	15293	1009.87	1802.63	1914.00	2236.84	
	Sukhatawa	32 PF	106395		100	25000	1025.00	1085.00	1285.00	1375.00	
	Total					600	130293				
	Banapura	437 RF	109062	2020	300	75000	646.67	1010.00	1438.33		
	Itarsi	160 RF	109028		150	21920	1087.00	1340.00	1339.74		
	Sukhatawa	32 PF	109061		150	21500	1650.64	1878.00	2050.00		
	Total					600	118420				
	Itarsi	167 RF	119996	2021	200	21500	1084.13	1689.90			
	Total					200	21500	1084.13	1689.90		
	Grand Total					1400	270213				

Regeneration Status on Plantation Monitoring System:



Hoshangabad Division Regeneration Status

S.No.	Circle	Division	Range	Comp No.	Plantation ID	Scheme	Plantation Year	Area hac	No of Grids	Natural regeneration status at baseline year Y0				Natural regeneration status in year 1 of treatment Y1				Natural regeneration status in year2 of treatment Y2				Natural regeneration status in year 3 of treatment Y3				
										Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse	
1	Hoshangabad	Hoshangabad	Banapura	4 RF	106350	ESIP	2019	300	70	35	21	10	4	30	19	14	7	3	22	28	17	3	19	25	23	
2	Hoshangabad	Hoshangabad	Itarsi	165, 166 RF	106390	ESIP	2019	200	38	16	15	2	5	15	8	5	10	8	6	15	9	4	7	15	12	
3	Hoshangabad	Hoshangabad	Sukhatawa	32 PF	106395	ESIP	2019	100	25	14	5	3	3	8	13	2	2	9	9	3	4	9	9	3	4	
Total Regeneration 2019									600	133	65	41	15	12	53	40	21	19	20	37	48	30	18	35	43	39
Percent of area naturally regenerating									20.30				30.08				57.14				68.33					
4	Hoshangabad	Hoshangabad	Banapura	437 RF	109062	ESIP	2020	300	75	37	33	4	1	21	39	14	1	6	41	22	6					
5	Hoshangabad	Hoshangabad	Itarsi	160 RF	109028	ESIP	2020	150	39	7	27	5	0	5	18	16	0	5	18	16	0					
6	Hoshangabad	Hoshangabad	Sukhatawa	32 PF	109061	ESIP	2020	150	39	8	20	4	7	7	20	4	8	8	18	3	10					
Total Regeneration 2020									600	153	52	80	13	8	33	77	34	9	19	77	41	16				
Percent of area naturally regenerating									13.73				28.10				37.25									
5	Hoshangabad	Hoshangabad	Itarsi	167 RF	109028	ESIP	2021	200	52	21	18	9	4	3	31	10	8									
Total Regeneration 2021									200	52	21	18	9	4	3	31	10	8								
Percent of area naturally regenerating									25.00				34.62													

Natural Regeneration = Unestablished+Established/Total No of Grids*100

Percentage of Area Naturally Regenerating = Adequate + Profuse / Total No of Grids * 100

Legend:

- Above 2501-Profuse
- 1501 to 2500-Adequate
- 501 to 1500-Inadequate
- Less then 500-Negligible

GIS Based Monitoring:



Division – Hoshangabad

Range – Banapura

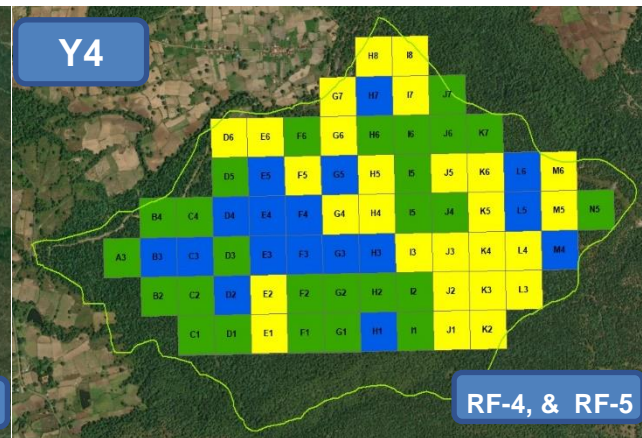
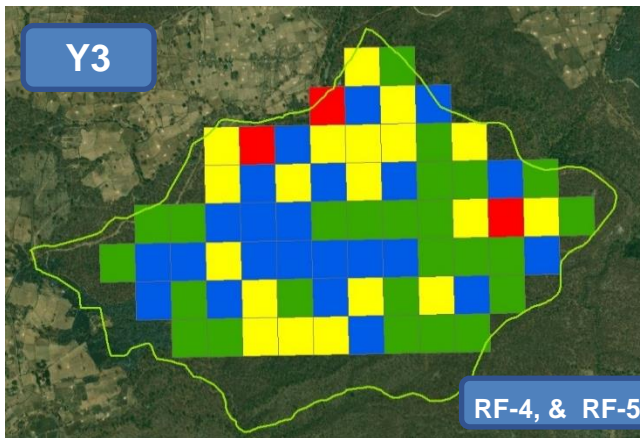
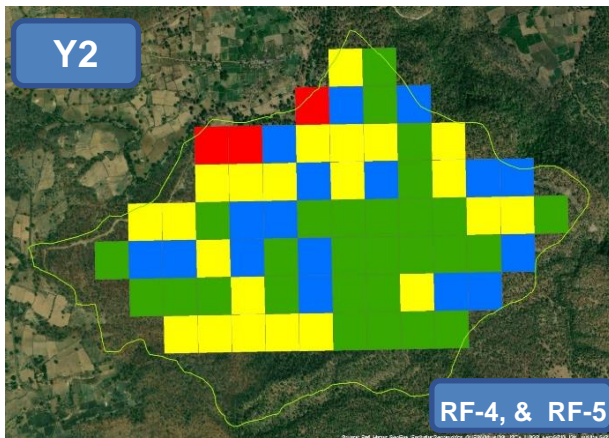
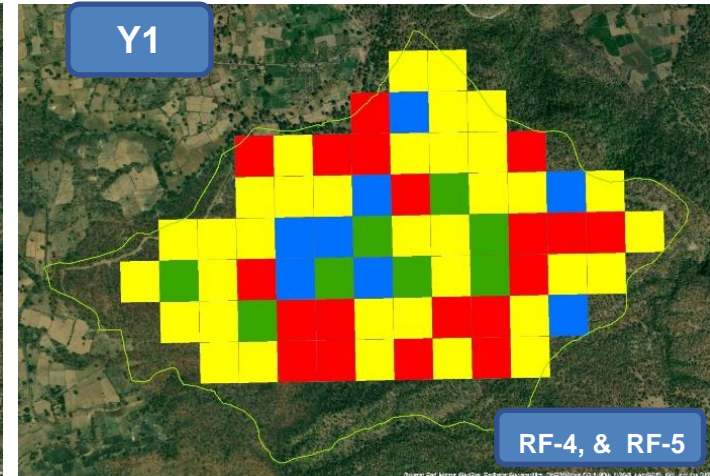
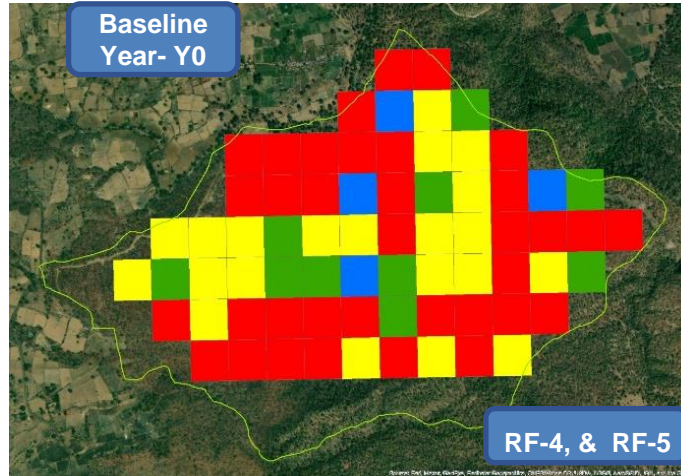
Baseline Y0 = 2018

Y1 = Year 1

Y2 = Year 2

Y3 = Year 3

Y4 = Year 4





Regeneration Status Sehore Division:

Division - Sehore (Per Hac. Plant Regenerated)

2.1.3 Investments in restoration works on degraded forestlands

Circle/ Division	Range	Compt / Village	Plantation ID	Year of Plantation	Area (Hac)	No. of Plants	Regeneration Plant Per Hac				
							Baseline (Y0)	1st Year (Y1)	2nd Year (Y2)	3rd Year (Y3)	3th Year (Y4)
Bhopal / Sehore	Budhni	651 PF	106744	2019	50	31250	250.00	514.71	617.65	867.65	911.76
		652 PF	106745		30	18750	375.00	520.83	468.75	739.58	812.50
		646 PF	106748		30	18750	2875.00	1500.00	1833.33	3229.17	3416.67
		651 PF	106749		30	18750	210.94	468.75	398.44	625.00	710.94
		661 RF	106751		30	18750	1604.17	1354.17	750.00	1437.50	1645.83
		647 PF	106754		35	21875	479.17	1041.67	937.50	1916.67	2312.50
		648 PF	106757		25	15625	1437.50	1500.00	1812.50	2281.25	2406.25
		654 PF	106758		25	15625	750.00	975.00	700.00	1350.00	1500.00
		650 PF	106760		25	15625	214.29	446.43	535.71	1035.71	1267.86
	645 PF	106769	20	12500	2187.50	1625.00	3093.75	3218.75	3437.50		
	Total					300	187500				
	Budhni	647 PF	109430	2020	50	12000	1922.62	2279.76	2565.48	2726.19	
	Total					50	12000				
	Budhni	617 PF	120556	2021	150	93750	269.89	585.23	849.43		
		613 PF	120561		50	20000	2357.14	2776.79	2750.00		
Total					200	113750					
Budhni	626 RF	122381	2022	100	62500	2284.48	2443.97				
Total					100	62500					
Grand Total					650	375750					

Regeneration Status on Plantation Monitoring System:



Sehore Division Regeneration Status

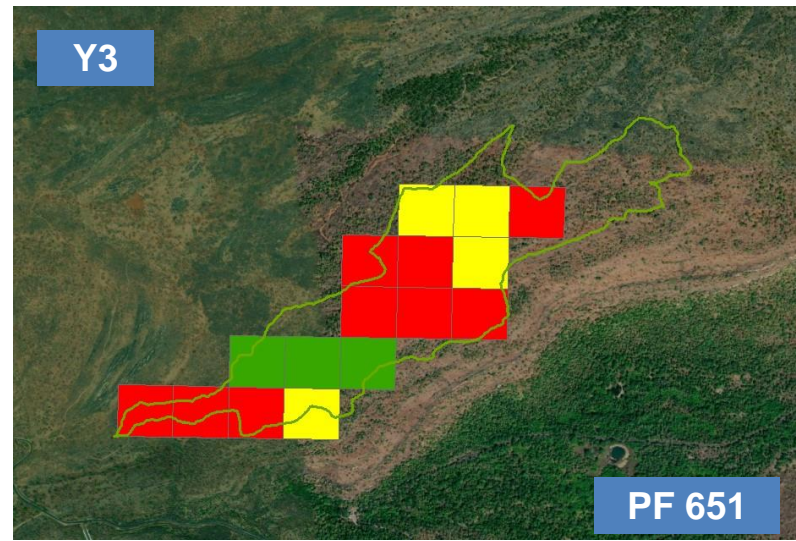
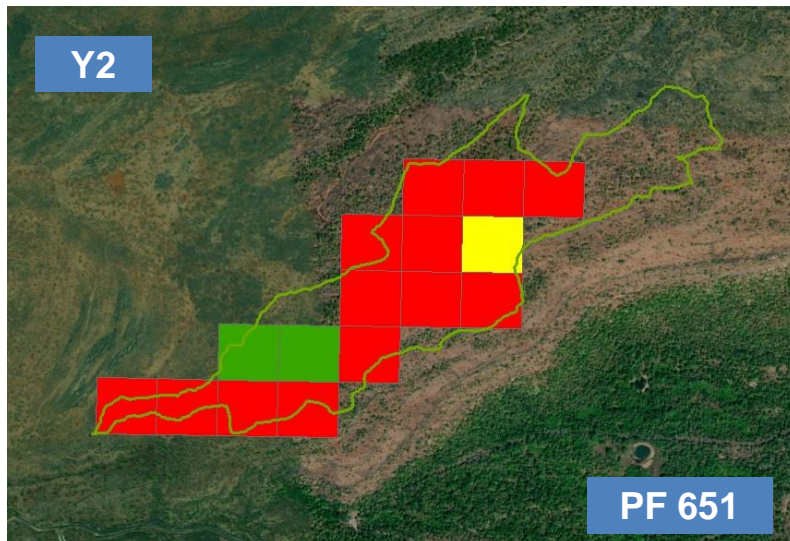
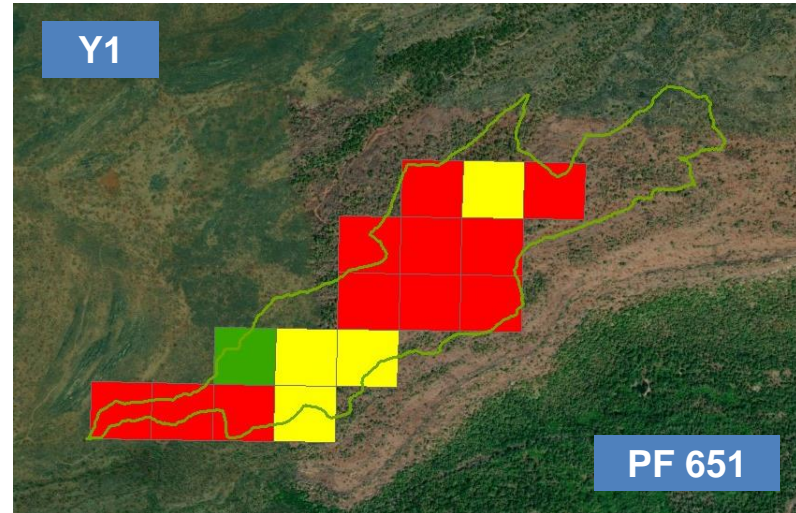
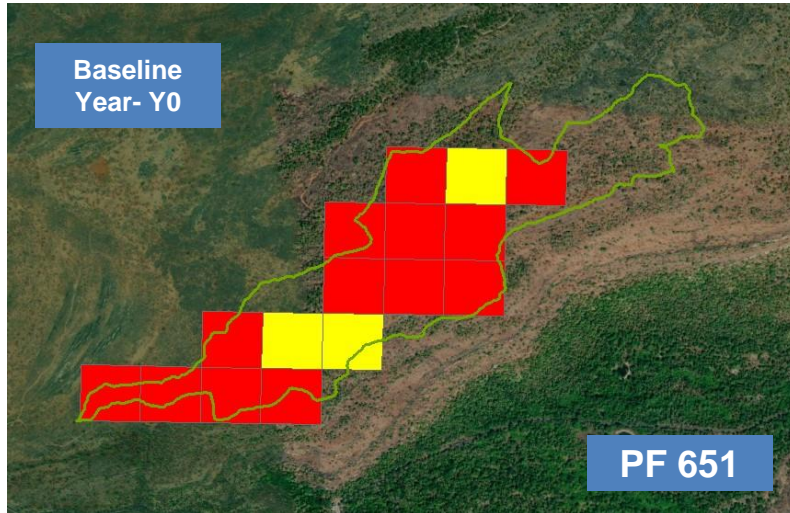
S.No.	Division	Range	Compt No.	Plantation ID	Scheme	Plantation Year	Area Hac	No of Grids	Natural regeneration status at baseline year Y0				Natural regeneration status in year 1 of treatment Y1				Natural regeneration status in year 2 of treatment Y2				Natural regeneration status in year 3 of treatment Y3				Natural regeneration status in year 4 of treatment Y4			
									Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse	Negligible	Inadequate	Adequate	Profuse
1	Sehore	Budhni	651 PF	106744	ESIP	2019	50	17	13	4	0	0	11	5	1	0	11	4	2	0	4	12	1	0	4	12	1	0
2	Sehore	Budhni	652 PF	106745	ESIP		30	12	9	3	0	0	7	4	1	0	7	5	0	0	6	4	2	0	4	6	2	0
3	Sehore	Budhni	646 PF	106748	ESIP		30	6	1	3	0	2	0	4	2	0	2	2	0	2	0	0	2	4	0	0	2	4
4	Sehore	Budhni	651 PF	106749	ESIP		30	16	13	3	0	0	11	4	1	0	13	1	2	0	9	4	3	0	9	5	2	0
5	Sehore	Budhni	661 RF	106751	ESIP		30	6	2	2	0	2	2	3	0	1	4	1	0	1	2	3	0	1	1	4	0	1
6	Sehore	Budhni	647 PF	106754	ESIP		35	6	3	3	0	0	3	2	0	1	2	4	0	0	0	2	3	1	0	2	3	1
7	Sehore	Budhni	648 PF	106757	ESIP		25	8	2	2	3	1	3	1	3	1	0	2	5	1	0	0	6	2	0	0	5	3
8	Sehore	Budhni	654 PF	106758	ESIP		25	5	2	2	1	0	1	2	2	0	2	2	1	0	1	2	1	1	1	2	1	1
9	Sehore	Budhni	650 PF	106760	ESIP		25	7	7	0	0	0	4	3	0	0	4	3	0	0	1	6	0	0	1	5	1	0
10	Sehore	Budhni	645 PF	106769	ESIP		20	4	0	1	2	1	0	1	3	0	0	0	1	3	0	0	1	3	0	0	1	3
Total Regeneration 2019							300	87	52	23	6	6	42	29	13	3	45	24	11	7	23	33	19	12	20	36	18	13
Percent of area naturally regenerating							13.79				18.39				20.69				35.63				35.63					
11	Sehore	Budhni	647 PF	109430	ESIP	2020	50	21	2	10	4	5	1	11	2	7	0	4	10	7	0	4	10	7				
Total Regeneration 2020							50	21	2	10	4	5	1	11	2	7	0	4	10	7	0	4	10	7				
Percent of area naturally regenerating							42.86				42.86				80.95				80.95									
12	Sehore	Budhni	617 PF	120556	ESIP	2021	150	44	39	3	0	2	29	10	3	2	28	12	1	3								
13	Sehore	Budhni	613 PF	120561	ESIP	2021	50	14	3	3	4	4	2	4	2	6	2	4	2	6								
Total Regeneration 2019							200	58	42	6	4	6	31	14	5	8	30	16	3	9								
Percent of area naturally regenerating							17.24				22.41				20.69													
14	Sehore	Budhni	626 RF	122381	ESIP	2022	100	29	13	4	3	9	10	5	5	9												
Total Regeneration 2019							100	29	13	4	3	9	10	5	5	9												
Percent of area naturally regenerating							41.38				48.28																	

GIS Based Monitoring:

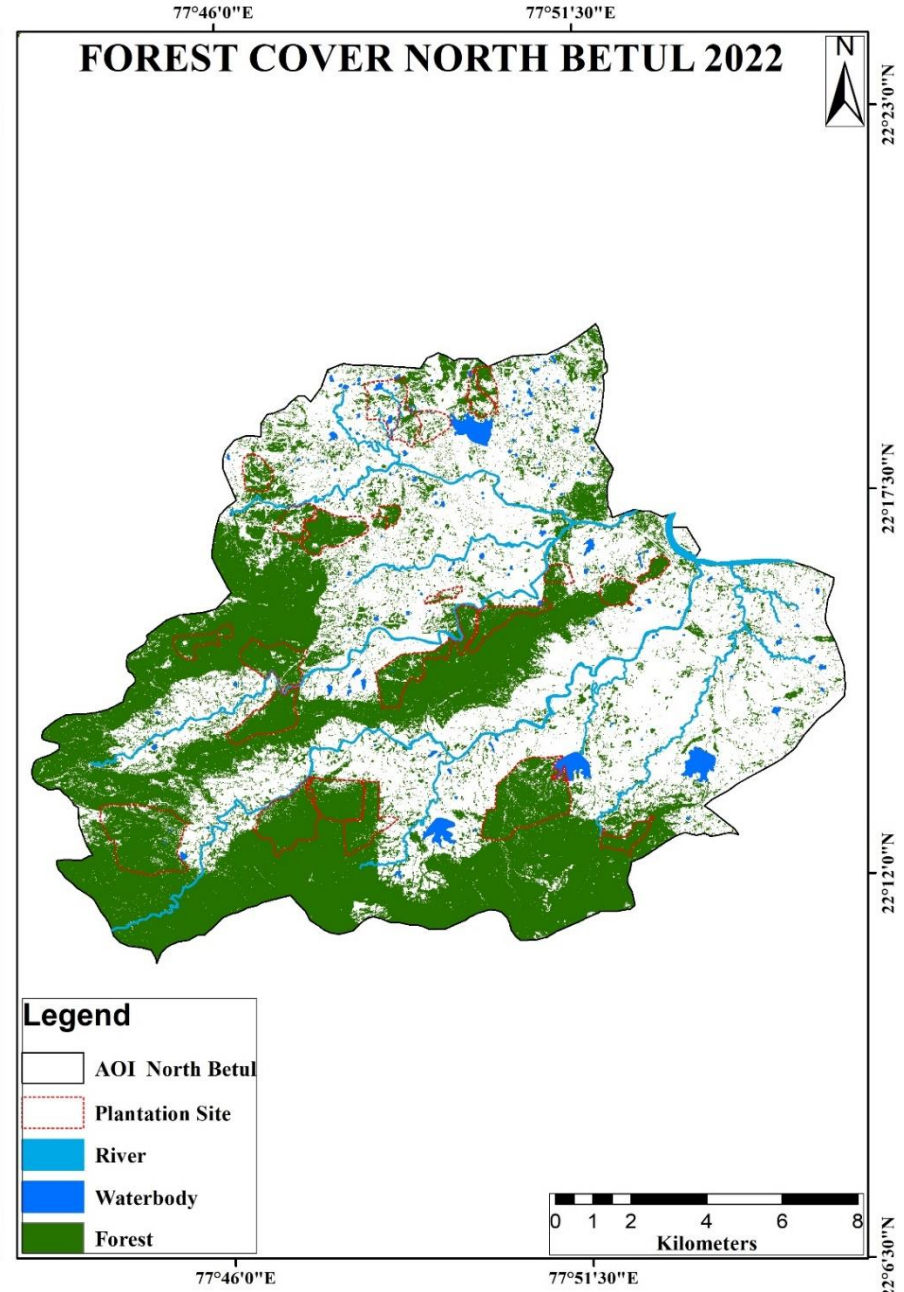
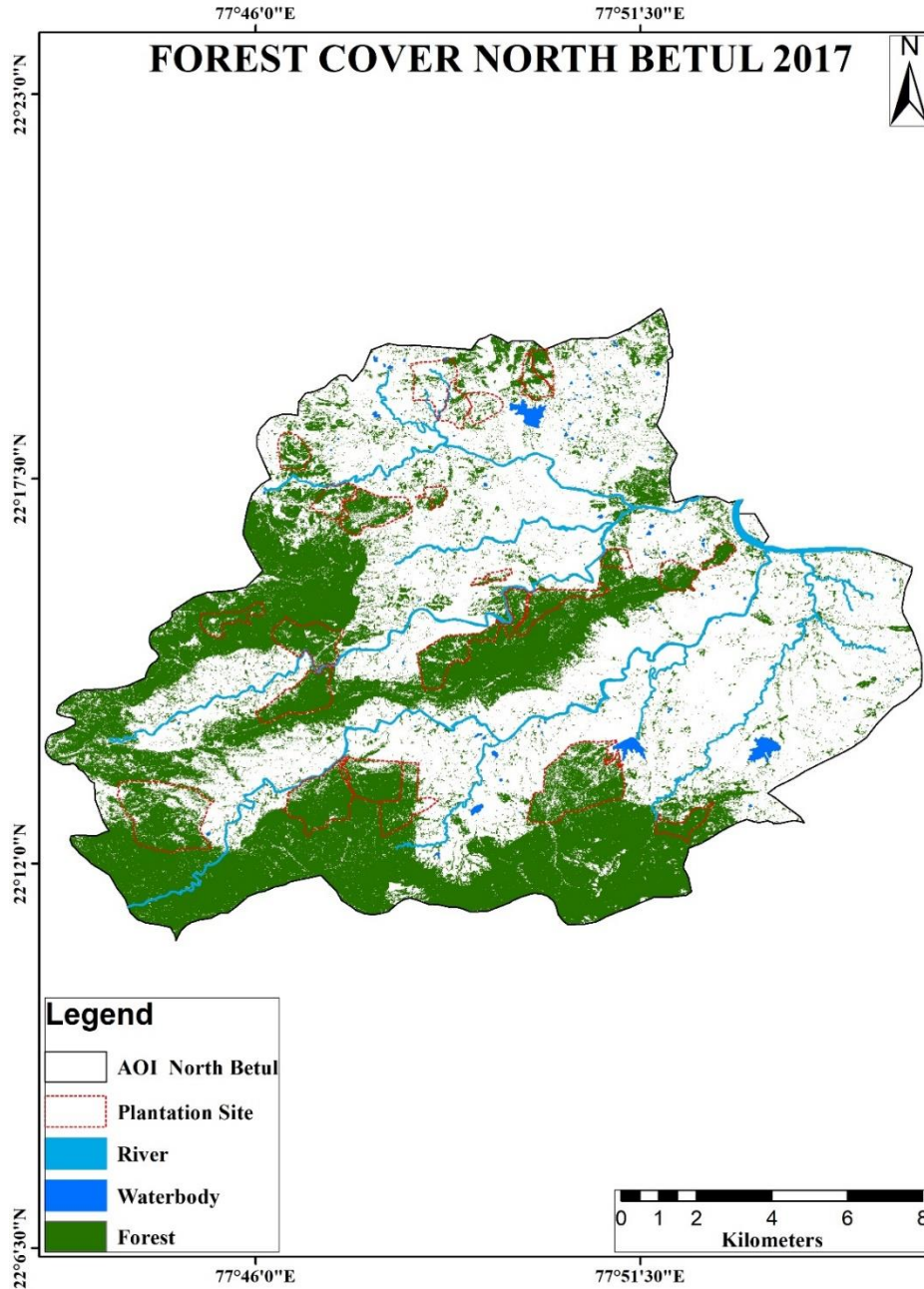


Division – Sehore, Range – Budhni

Baseline Y0= 2018, Y1=Year 1, Y2=Year 2, Y3= Year 3



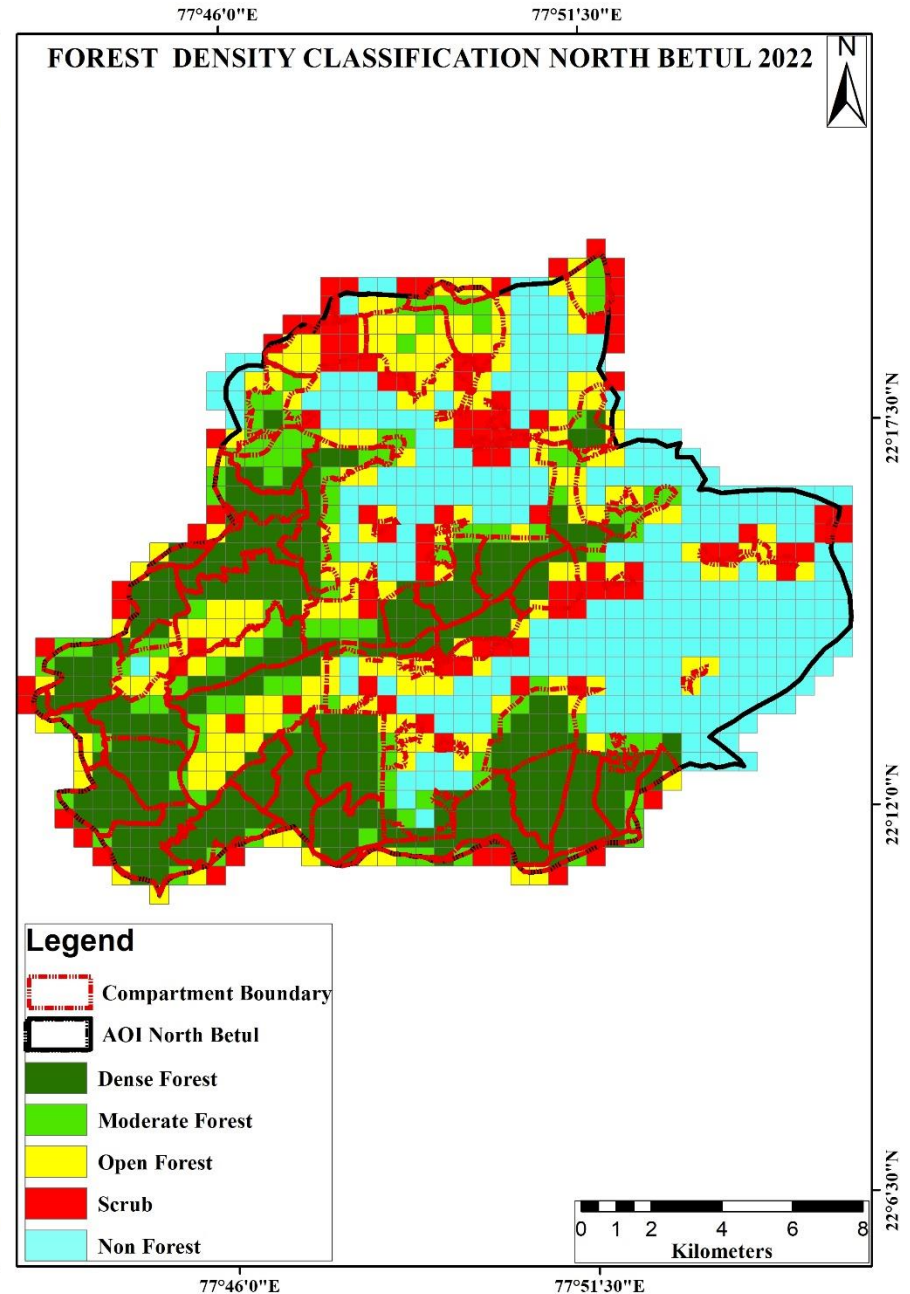
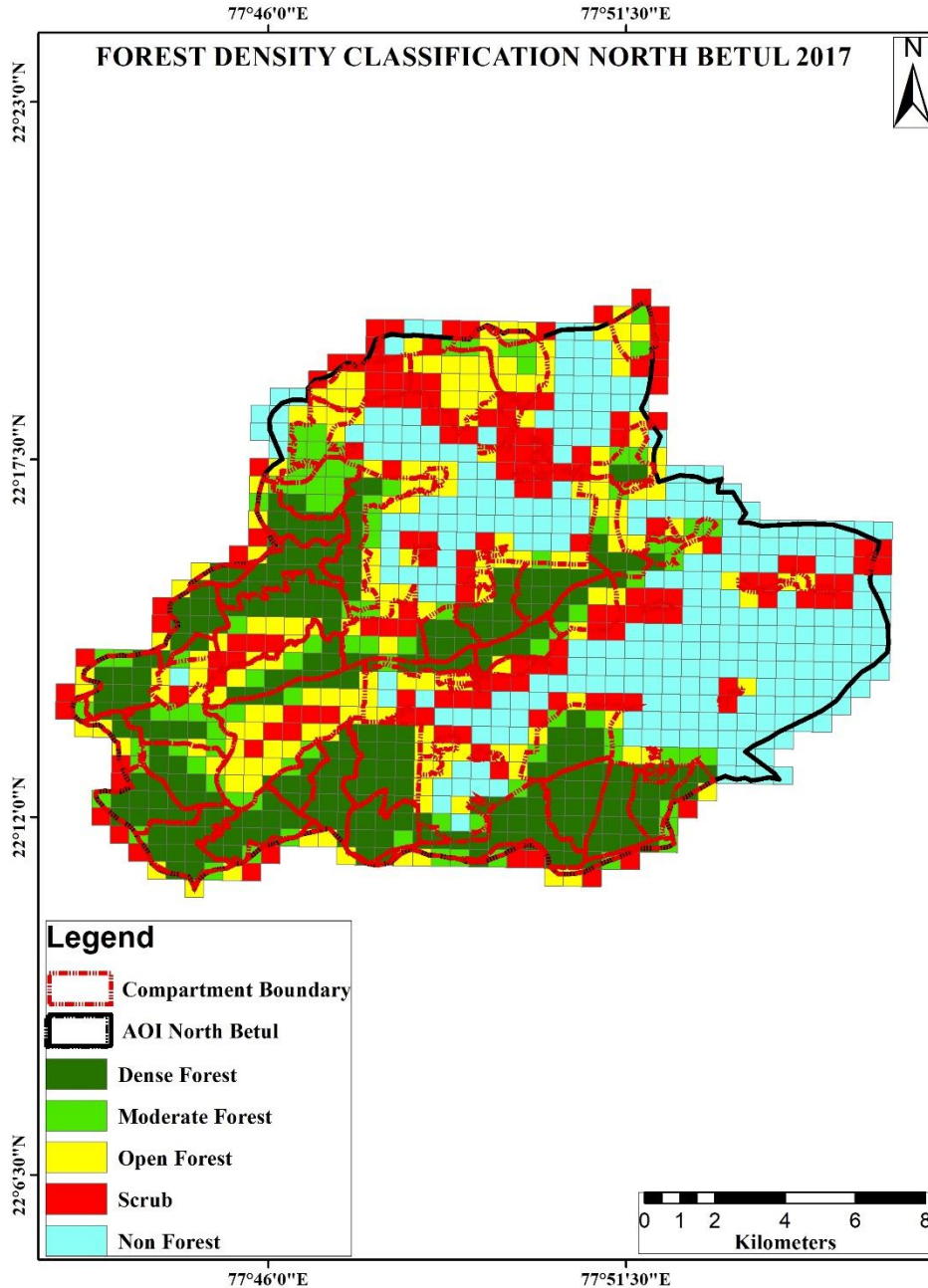
Satellite Image Processing for Restoration Assessment and Monitoring of Forest Cover & Waterbody Change in Landscape Area – North Betul



Forest Cover Change in Landscape Area (In Hac) – North Betul

Year	Compt	Area (Ha)	Forest Cover2017 (Ha)	Forest Cover2022 (Ha)
2019	131 RF	58.07	55.57	60.1
2019	389 PF	60.55	38.29	40.55
2019	391 PF	109.12	17.2	24.35
2019	400 PF	29.51	27.61	28.38
2020	181 RF	132.40	128.88	137.1
2020	130 RF	133.44	124.06	131.25
2020	166 RF	180.28	165.9	177.17
2020	128 RF	125.74	88.79	116.51
2020	159 RF	49.72	24.76	27.1
2020	163 RF	85.74	78.45	87.4
2020	391 PF	52.74	14.61	20.91
2019	183 RF	323.64	242.39	311.19
2020	192 RF	329.30	260.32	318.89
2021	413 PF	52.44	54.24	55.44
2022	186 RF, 412 PF	117.23	96.75	110.7
2022	184, 185 RF	186.62	178.45	193.24
2022	186 RF	135.93	119.07	132.18
2021	400 PF	57.11	49.32	51.75
2021	159 RF	35.76	23.02	24.12
2021	127 RF	60.24	32.88	36.57
2021	162 RF	31.49	19.84	21.5
2022	391 PF	52.19	10.24	12.05
2022	396 PF	14.06	6.38	6.57
2022	397 PF	24.02	13.81	20.49

Forest Density Change in Landscape Area – North Betul



Satellite Image Processing for Restoration Assessment and Monitoring of Forest Cover & Waterbody Change in Landscape Area – Narmadapuram

77°43'30"E

77°50'0"E

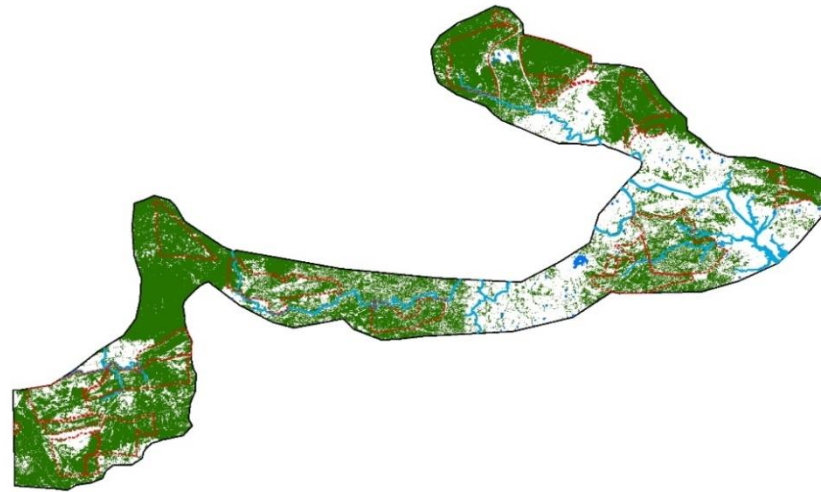
FOREST COVER HOSHANGABAD(NARMADAPURAM) 2017



22°33'30"N

22°27'0"N

22°20'30"N



Legend

- AOI Hoshangabad(Narmadapuram)
- Plantation Site
- River
- Waterbody
- Forest

0 1 2 4 6 8
Kilometers

77°43'30"E

77°50'0"E

77°43'30"E

77°50'0"E

FOREST COVER HOSHANGABAD(NARMADAPURAM) 2022



22°33'30"N

22°27'0"N

22°20'30"N



Legend

- AOI Hoshangabad(Narmadapuram)
- Plantation Site
- River
- Waterbody
- Forest

0 1 2 4 6 8
Kilometers

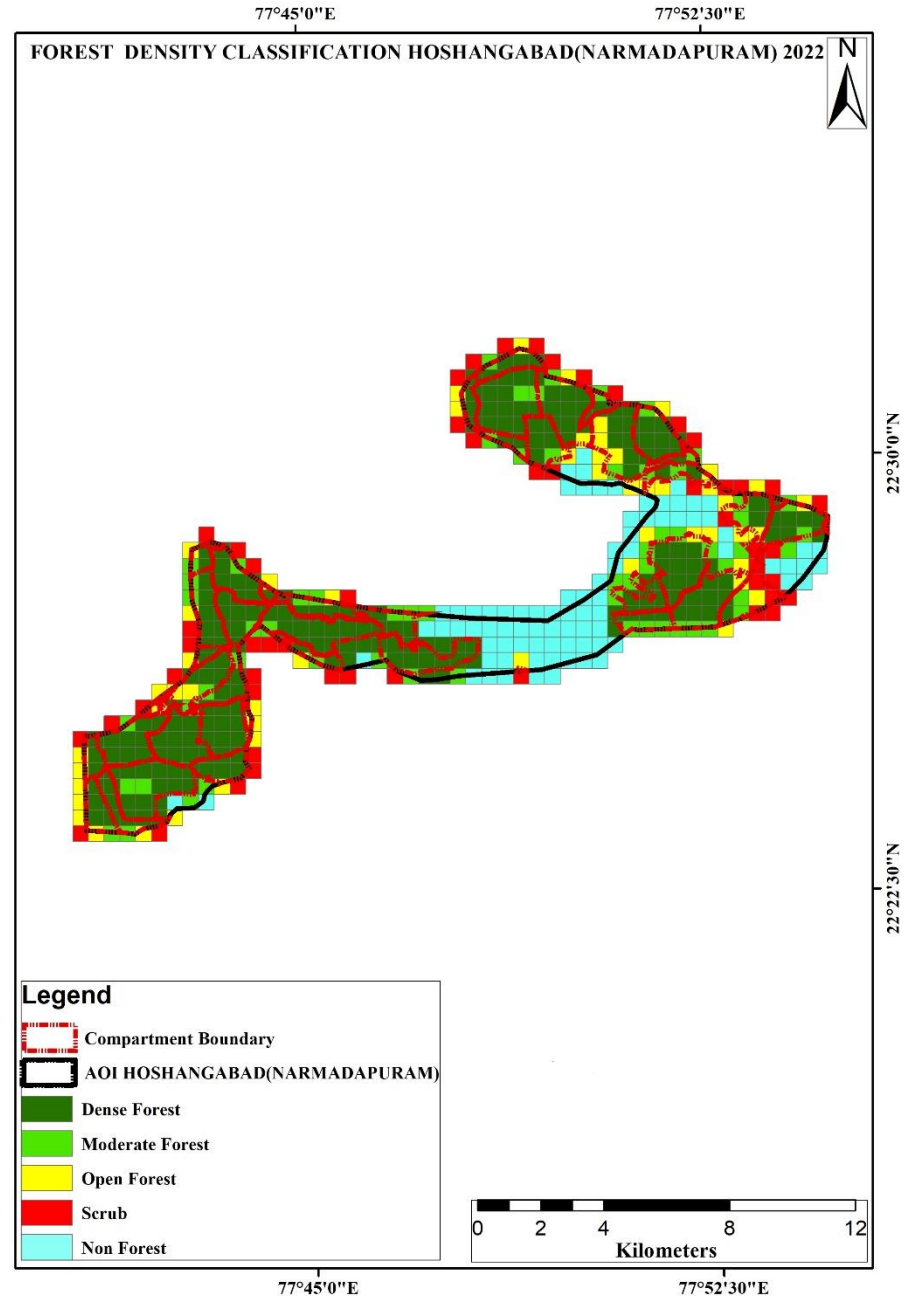
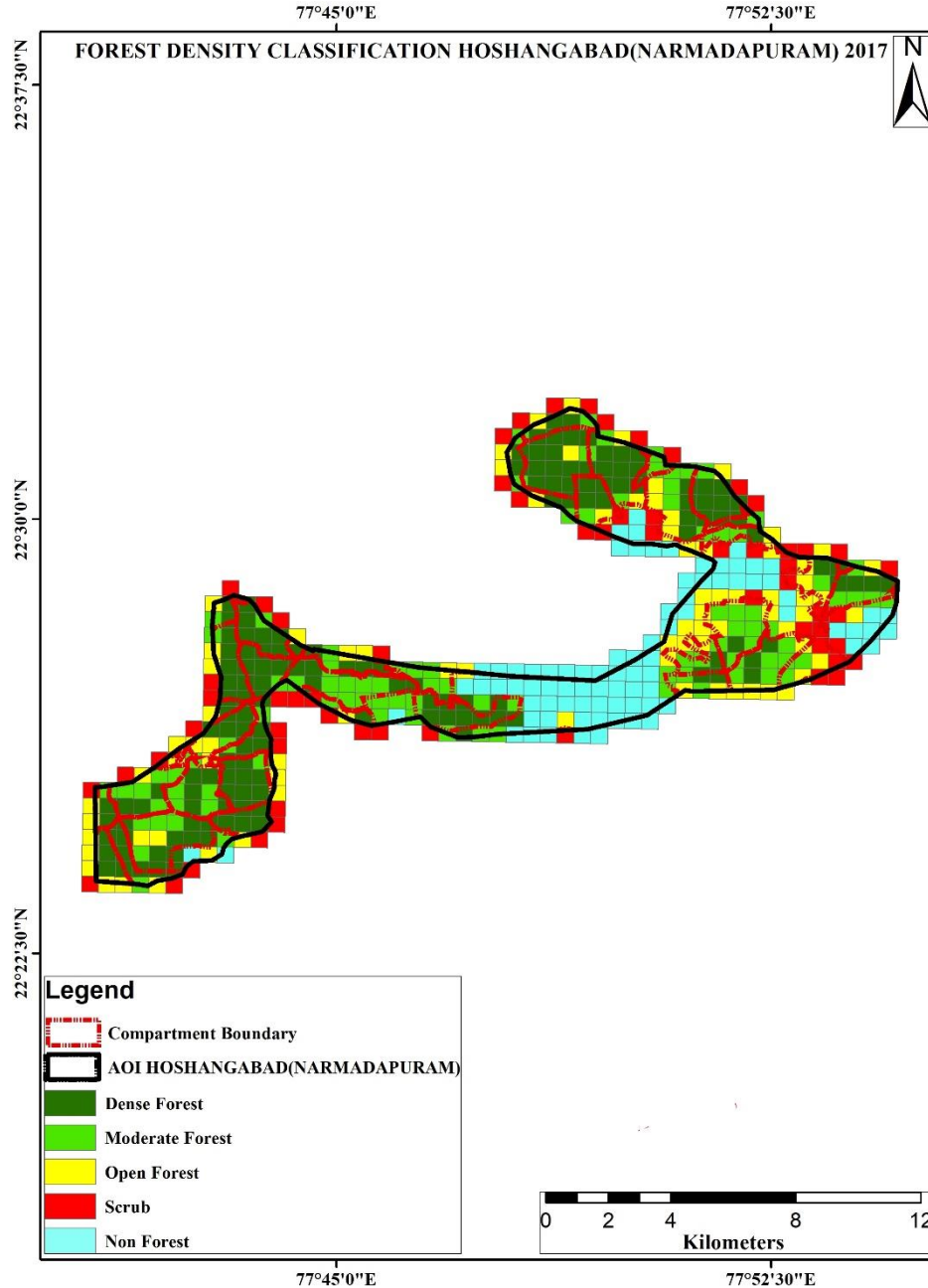
77°43'30"E

77°50'0"E

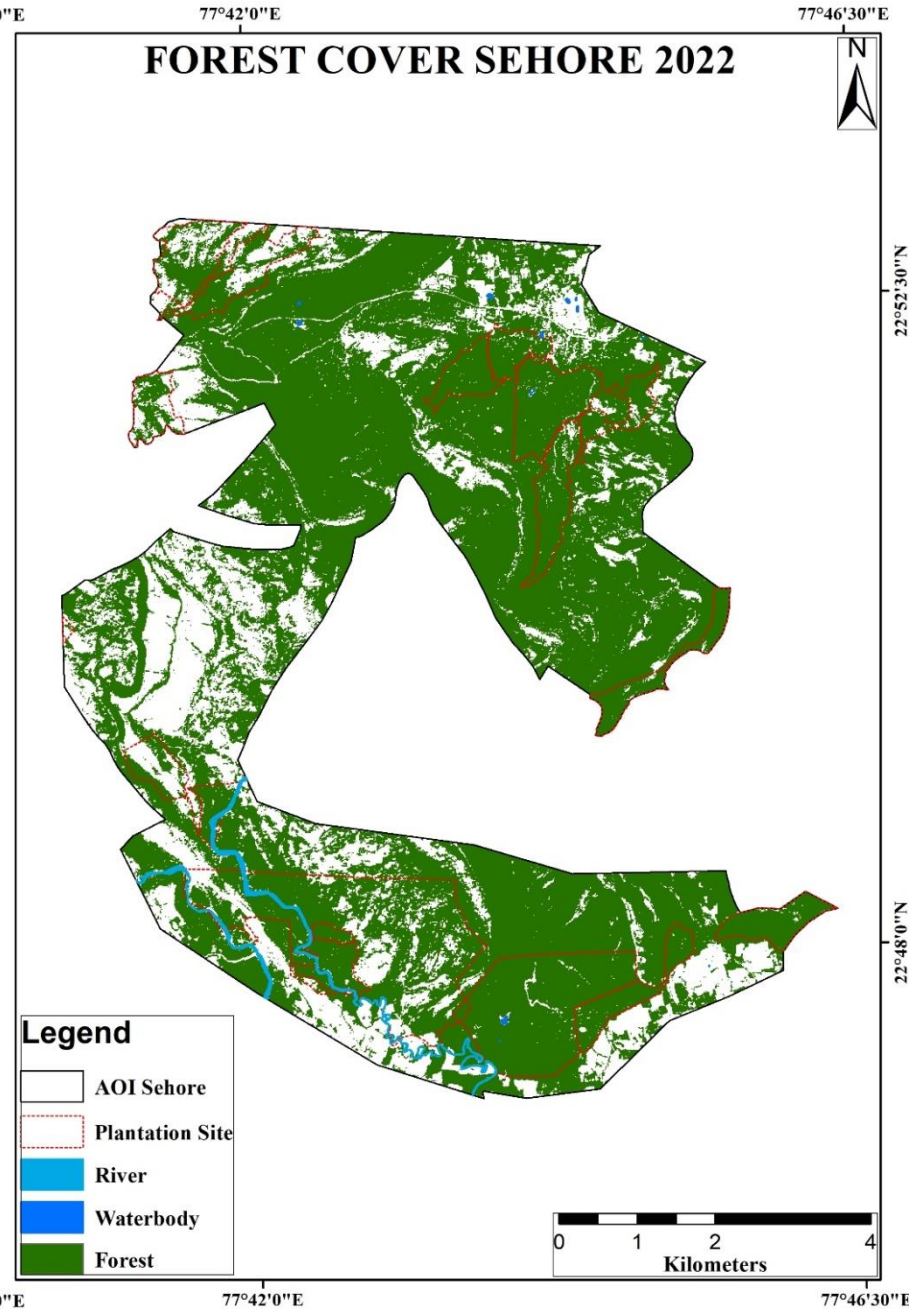
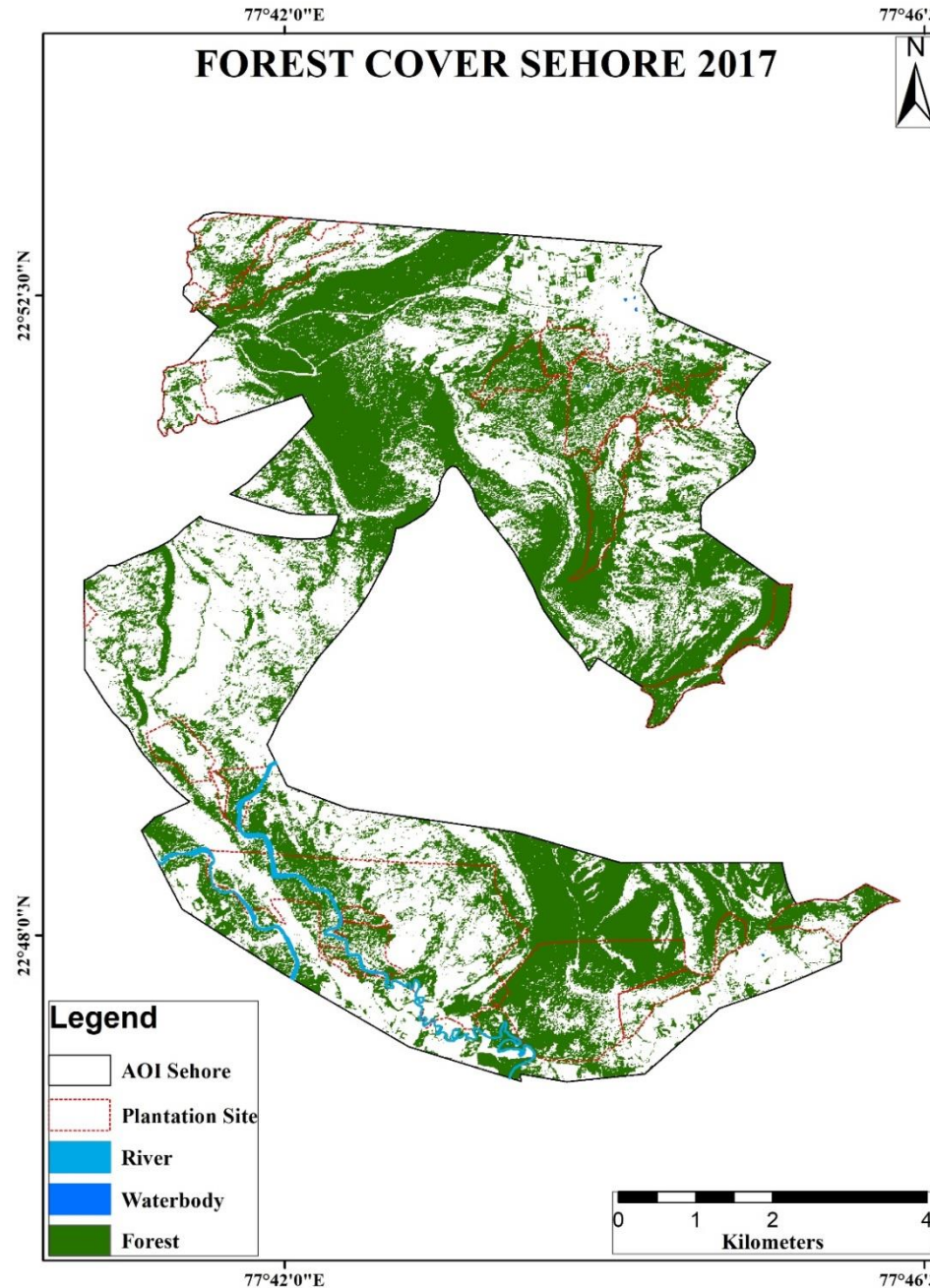
Forest Cover Change in Treatment Area (In Hac)– Narmadapuram

Year	Compt.	Area (Ha)	Forest Cover 2017 (Ha)	Forest Cover 2022 (Ha)	Change in Forest Cover
2019	4, 5 RF	5.18	4.22	5.6	1.38
2019	32 PF	131.23	81.86	106.41	24.55
2019	165 RF	200.96	166.27	203	36.73
2020	31, 32 PF	172.55	158.25	174.56	16.31
2020	160, 161 RF	150.29	149.25	163.14	13.89
2020	154 RF	137.80	117.74	147.51	29.77
2020	44 PF	257.97	250.63	277.05	26.42
2020	47 RF	10.71	8.87	11.24	2.37
2020	123 PF	123.55	124.87	134.42	9.55
2020	76 PF	13.74	7.06	9.5	2.44
2020	76 PF	17.21	15.16	17.63	2.47
2020	60 RF	28.10	22.73	28.1	5.37
2019	75 PF	336.10	214.29	333.07	118.78
2019	47 RF	25.23	14.24	23.28	9.04
2020	132 RF	11.08	9.57	12.04	2.47
2022	163 RF	98.19	85.93	98.12	12.19
2021	167 RF	218.93	140.85	211.68	70.83
2022	32 PF	58.27	42.5	53.45	10.95
2022	60 RF	15.17	13.5	16.33	2.83
2022	72, 73, 74 PF	207.08	146.31	213.08	66.77
2022	74 PF	17.89	9.66	15.31	5.65
2019	156 RF	240.28	163.69	242.04	78.35
2023	47, 48 RF	204.04	208.49	220.13	11.64

Forest Density Change in Treatment Area – Narmadapuram



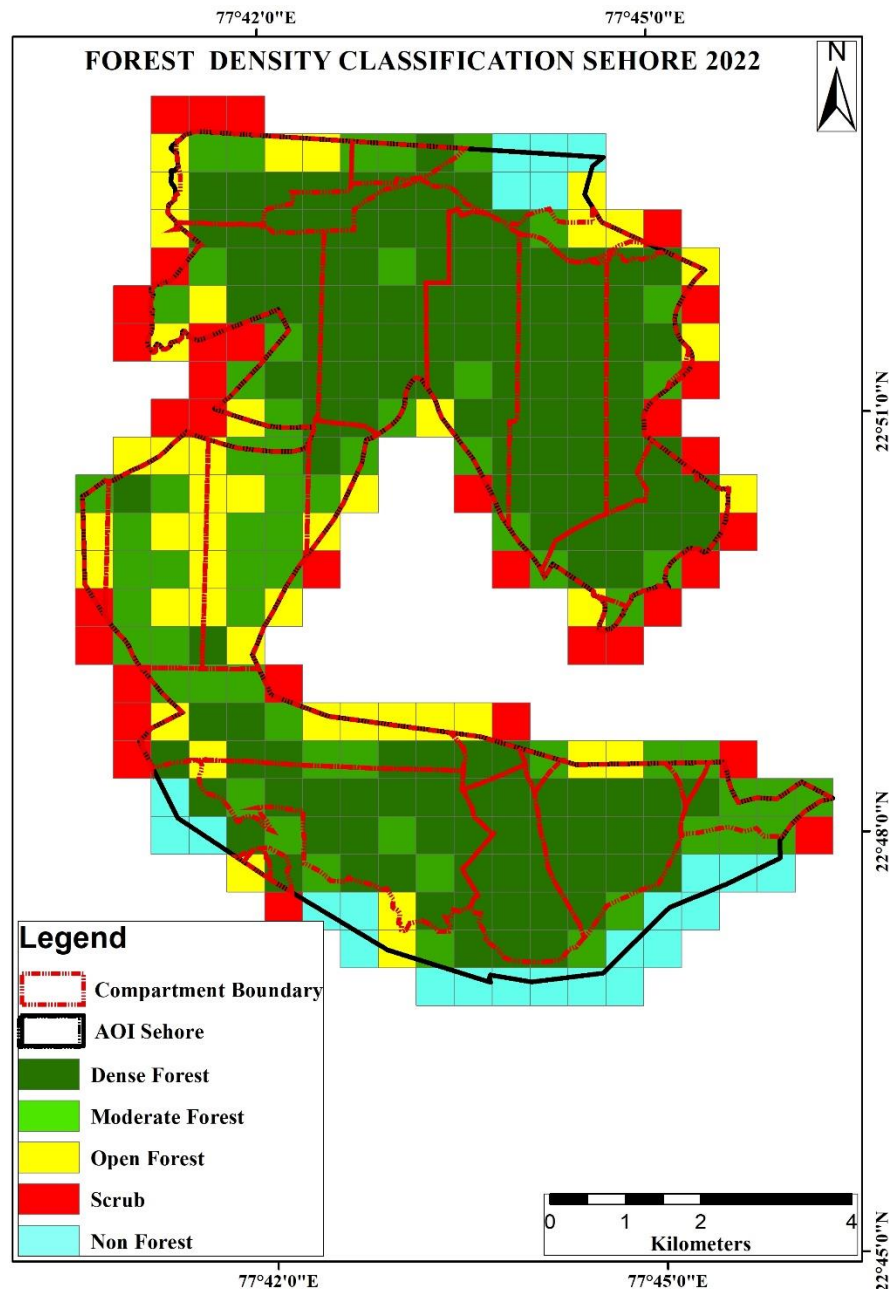
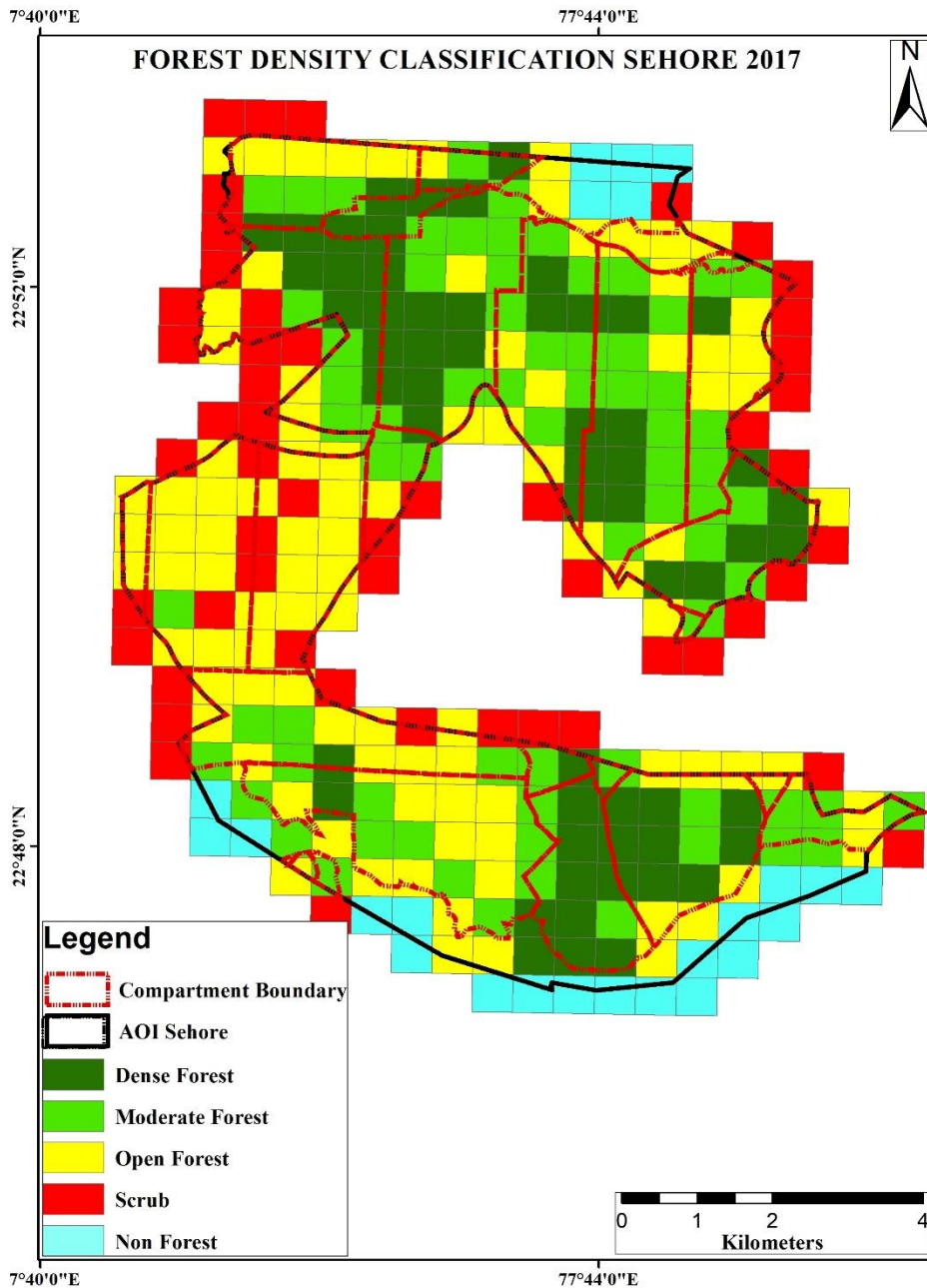
Satellite Image Processing for Restoration Assessment and Monitoring of Forest Cover & Waterbody Change in Landscape Area – Sehore



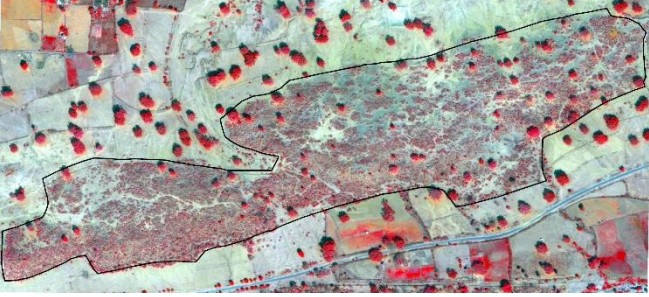
Forest Cover Change in Treatment Area (In Hac)– Sehore

Year	Scheme	Compt	Area (Ha)	Forest Cover 2017 (Ha)	Forest Cover 2022 (Ha)	Change in Forest Cover
2019	ESIP	661 RF	48.19	44.51	50.72	6.21
2019	ESIP	650 PF	43.53	13.04	26.47	13.43
2019	ESIP	645 PF	35.35	19.51	35.75	16.24
2019	ESIP	651 PF	75.68	29.35	48.96	19.61
2019	ESIP	646 PF	37.38	24.4	35.58	11.18
2019	ESIP	651 PF	71.23	32.24	48.53	16.29
2019	ESIP	647 PF	66.66	43.62	67.19	23.57
2019	ESIP	648 PF	40.14	34.83	43.33	8.5
2019	GIM	641 PF	2.74	0.02	0.75	0.73
2019	GIM	642 PF	38.57	11	19.47	8.47
2019	GIM	638 PF	5.60	1.2	2.35	1.15
2019	GIM	638 PF	25.76	16.67	24.2	7.53
2019	GIM	659 RF	50.97	32.93	54.12	21.19
2019	GIM	658 RF	55.00	27.88	58.74	30.86
2020	GIM	637 PF	9.17	5.99	9.83	3.84
2020	GIM	637 PF	37.28	22.32	38.27	15.95
2020	GIM	637 PF	467.33	195.08	374.64	179.56
2020	GIM	655 RF	232.36	188.63	247.17	58.54
2020	ESIP	647	92.43	62.49	98.24	35.75

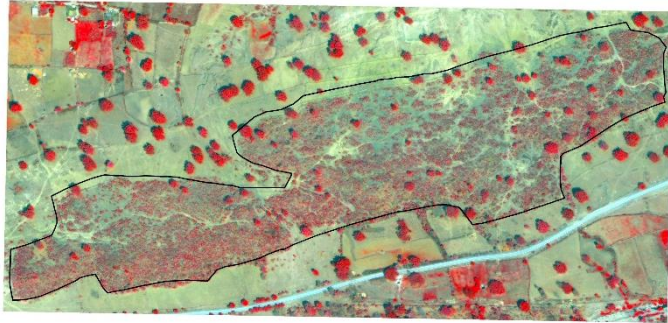
Forest Density Change in Treatment Area – Sehore



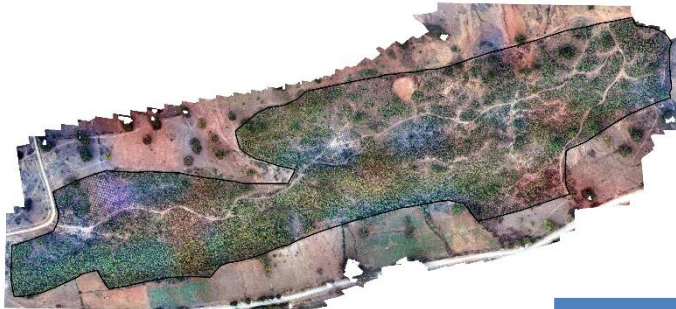
Forest Cover & Density in the Treatment Area



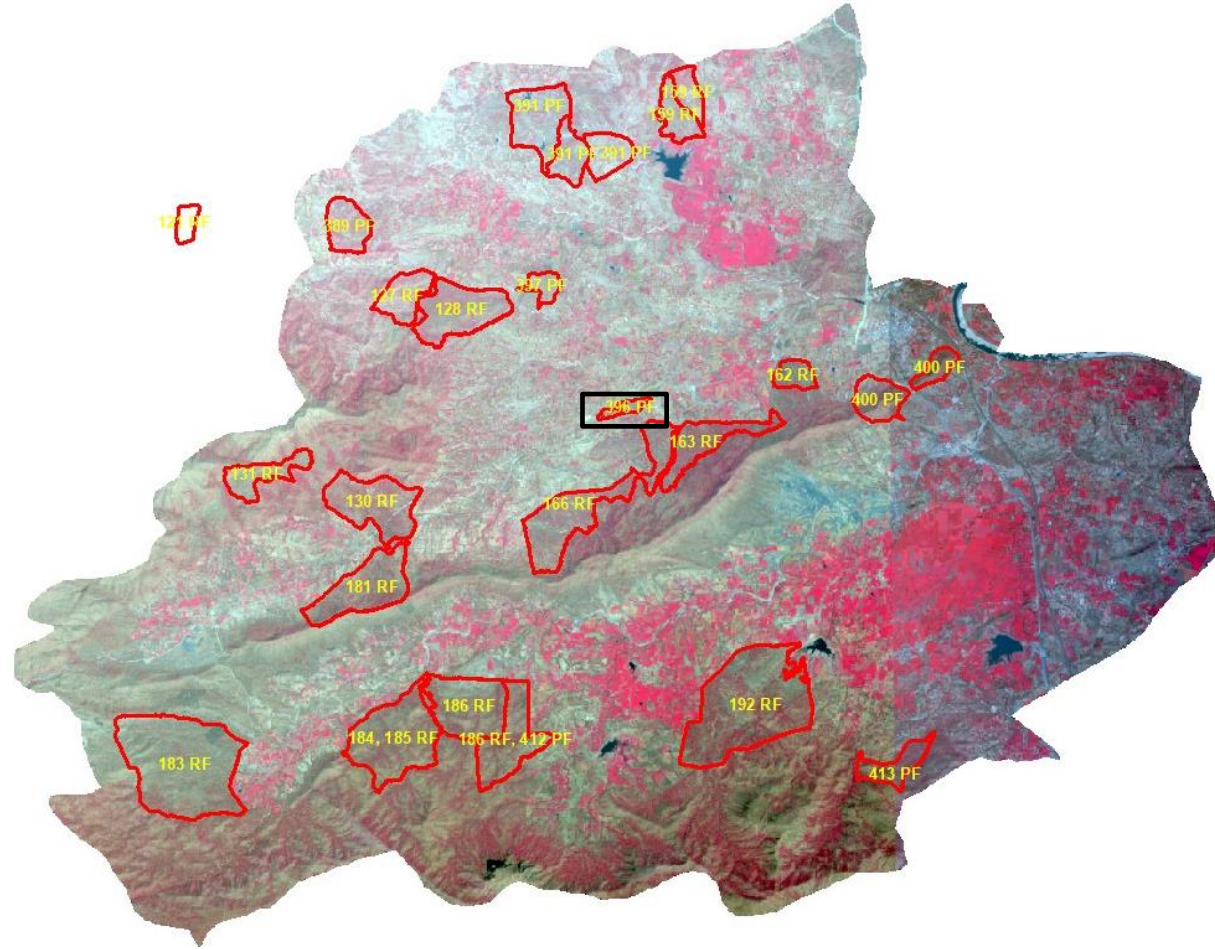
Maxar 2017



Maxar 2021

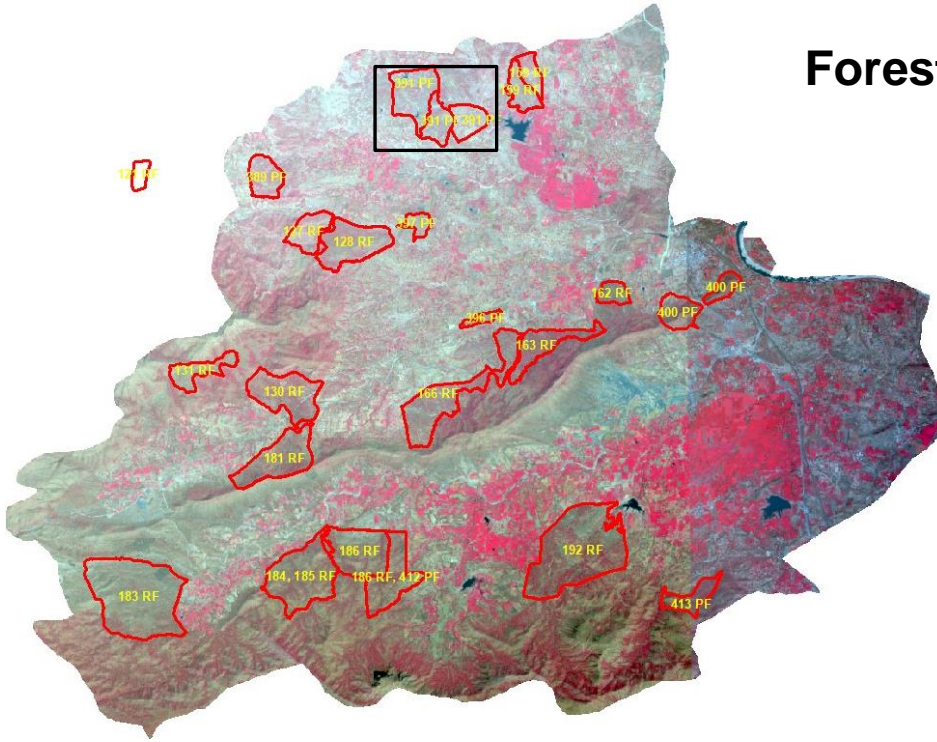


Drone ORI 2022

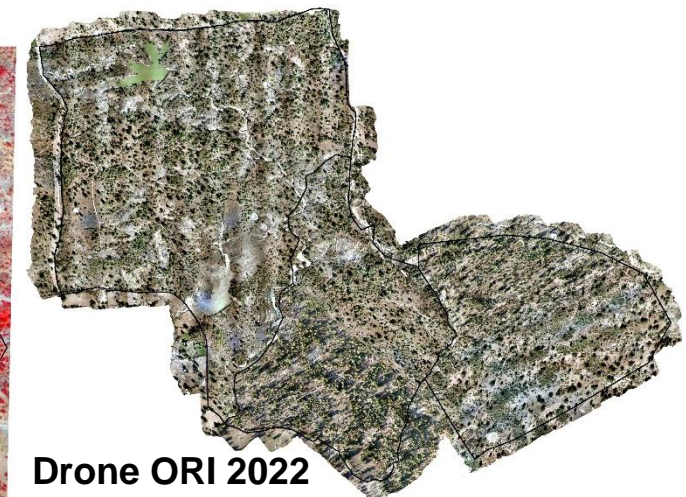
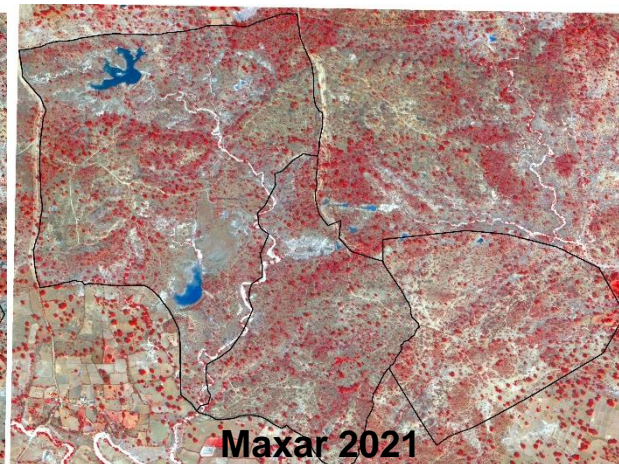
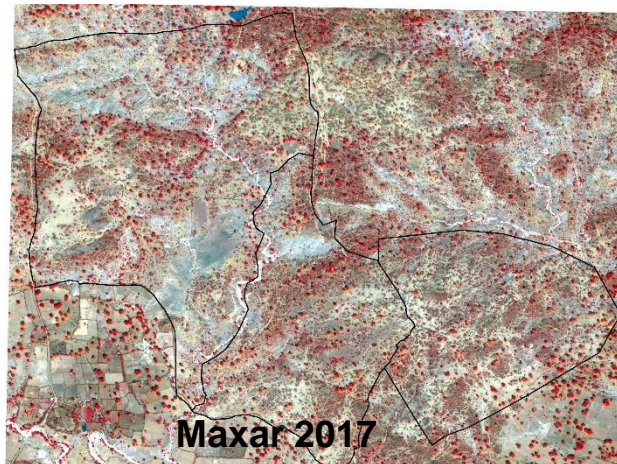


Compt	FOREST Cover 2017	NON FOREST AREA 2017	FOREST AREA 2022	FOREST DENSITY 2017	NON FOREST DENSITY 2017	FOREST DENSITY 2022	FOREST CLASS 2017	FOREST CLASS 2022
396 PF	7.15	0.21	7.36	37.14	1.09	38.23	Open Forest	Open Forest

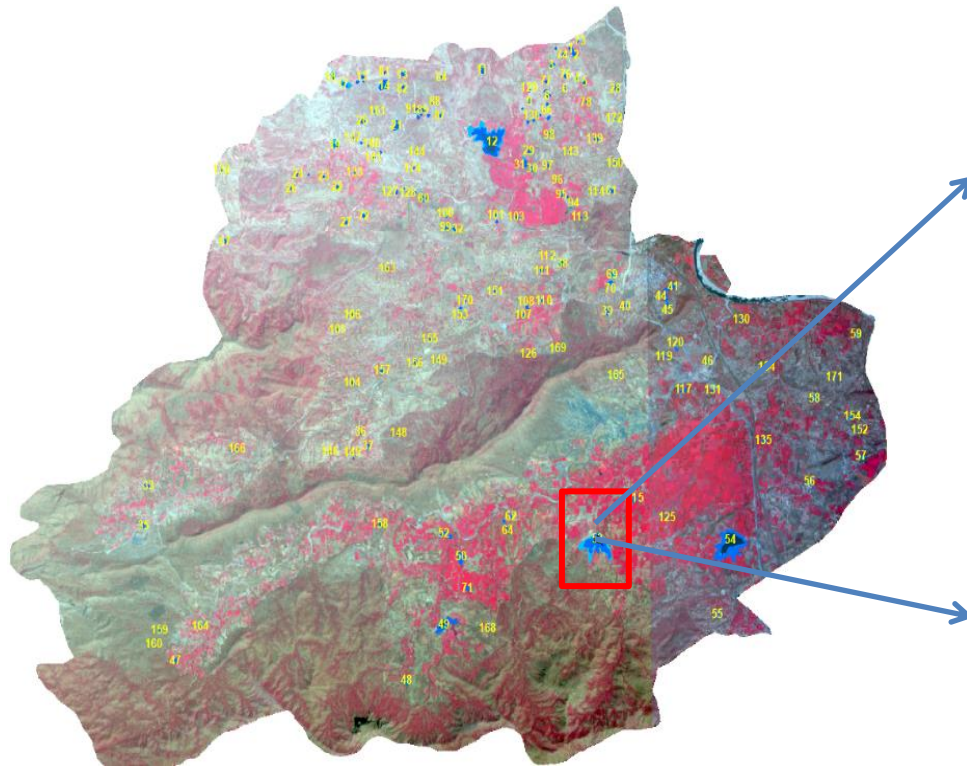
Forest Cover & Density in the Treatment Area



Compt	FOREST AREA 2017	NON FOREST AREA 2017	FOREST AREA 2022	FOREST DENSIT Y 2017	NON FOREST DENSIT Y 2017	FOREST DENSIT Y 2022	FOREST CLASS 2017	FOREST CLASS 2022
391 PF	17.2	7.15	24.35	15.76	6.55	22.31	Open Forest	Open Forest
391 PF	14.61	6.3	20.91	27.70	11.94	39.64	Open Forest	Open Forest
391 PF	10.24	1.81	12.05	19.62	3.46	23.08	Open Forest	Open Forest

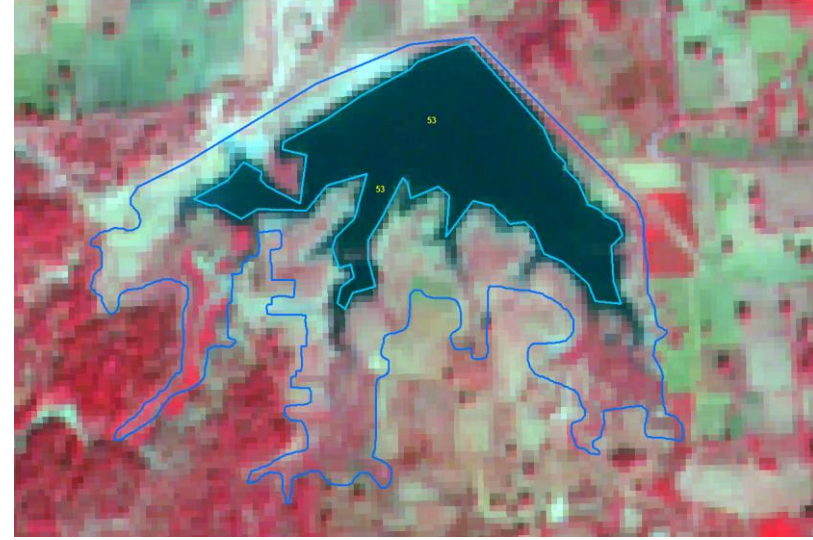


Waterbody Change in Landscape Area (North Betul)

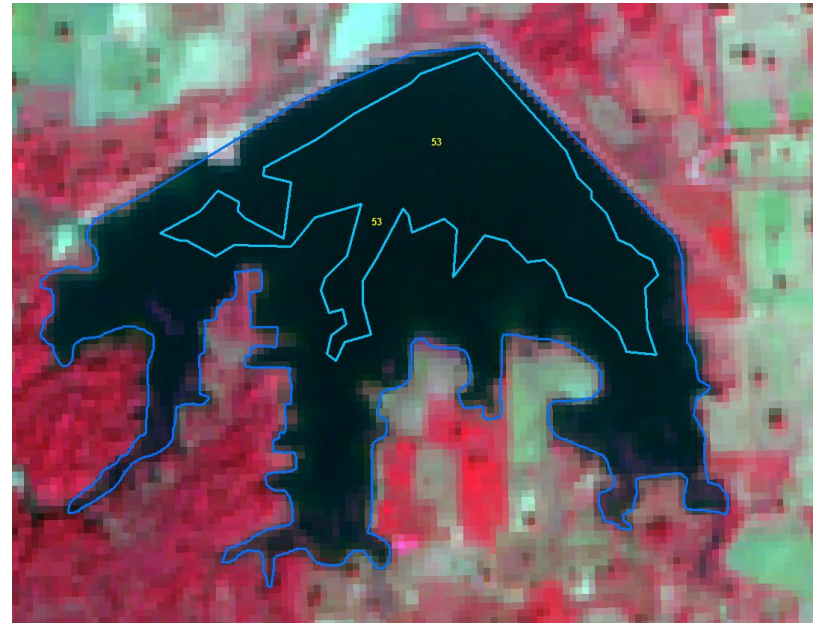


Legend

-  Waterbody North Betul 2022(Sentinel)
-  Waterbody North Betul 2017(Sentinel)



SENTINEL December 2017



SENTINEL December 2022

Monitoring & Evaluation : ESIP Result Framework

Improve forest quality, land Management and non-timber forest produce(NTFP) benefits for forest dependent communities in selected landscape in MP

PDO Level Results indicators	Unit of Measure	Base line	End Target	Cumulative Achievement	Frequency	Description/ Definition	Remarks
Indicator One People in targeted forest and adjacent communities with increase monetary or non-monetary benefits from forests (disaggregated by: Female; ethnic minority/indigenous people)	Target Number	0	2500	22,816	Annual	Increase in monetary and non-monetary benefits from improved management of NTFPs in selected landscapes.	Number of beneficiaries from Skill Development, NTFP Trainings, Labour Work in ESIP treated area, NTFP based livelihood, Exposure Visits, Workshops.
Females				9017			
Ethnic minority/ Indigenous people				19,041			

Monitoring & Evaluation : ESIP Result Framework

Improve forest quality, land Management and non-timber forest produce(NTFP) benefits for forest dependent communities in selected landscape in MP

PDO Level Results indicators	Unit of Measure	Baseline	End Target	Frequency	Description/ Definition
Indicator Two Land Area under Sustainable Land Management Practices	Target (ha.)	0	12500	Annual	-
	Accumulative Achievement (ha.)		43,491		

Monitoring & Evaluation : ESIP Result Framework

Improve forest quality, land Management and non-timber forest produce(NTFP) benefits for forest dependent communities in selected landscape in MP

PDO Level Results indicators	Unit of Measure	Baseline	End Target	Frequency	Description/ Definition
Indicator Four Targeted beneficiary groups engaged in participatory planning under the project	Target Number	0	250	Annual	Targeted beneficiary groups include tribal, vulnerable, women, farmers, Live stocks owners, forest dependent communities, producer groups
	Accumulative Achievement Number		315		

Monitoring & Evaluation : ESIP Result Framework

Improve forest quality, land Management and non-timber forest produce(NTFP) benefits for forest dependent communities in selected landscape in MP

PDO Level Results indicators	Unit of Measure	Base line	End Target	Frequency	Description/ Definition
Indicator Five Direct Project Beneficiaries, of which female	Target Number (%)	0	12500 (50)	Annual	Targeted beneficiary groups include tribal, vulnerable, women, farmers, Live stocks owners, forest dependent communities, producer groups
	Cumulative Achievement Number (%)		22,816 (40%)		

Monitoring & Evaluation : ESIP Result Framework

Intermediate Results Component-1 Strengthening Capacity of Government Institutions in Forestry and Land Management Programs in MP

PDO Level Results indicators	Unit of Measure	Baseline	End Target	Frequency	Description/ Definition
<p>Intermediate results 1.1</p> <p>Area of forestlands and corridors under biodiversity monitoring by SFD using protocol developed by the project</p>	Ha	0	12,500	Annual	
	Achievement Ha.		25,748		

Monitoring & Evaluation : ESIP Result Framework

Intermediate Results Component-1 Strengthening Capacity of Government Institutions in Forestry and Land Management Programs in MP

PDO Level Results indicators	Unit of Measure	Baseline	End Target	Frequency	Description/ Definition
<p>Intermediate results 1.3</p> <p>Government institutions provided with capacity building support to improve management of forest resources</p>	Target Number	0	4	Annual	
	Achievement Number		73		

Monitoring & Evaluation : ESIP Result Framework

Intermediate Results Component-1 Strengthening Capacity of Government Institutions in Forestry and Land Management Programs in MP

PDO Level Results indicators	Unit of Measure	Baseline	End Target	Frequency	Description/ Definition
Intermediate results 2.1 New areas outside protected areas managed as biodiversity-friendly	Ha	0	15,000	Annual	
	Achievement Number		43,491.04		

Monitoring & Evaluation : ESIP Result Framework

Intermediate Result (Component 2): Investments for improving forest quality in selected landscapes

Intermediate Result Indicators	Unit of Measure	Baseline 2015	End Target	Cumulative Achievement	Frequency	Description/ Definition
Intermediate Results 2.2: Landscape area restored through treatment of 10,000 ha through project support	Ha	0	25000	25082	Annual	Details of plantation is uploaded on plantation monitoring system. Regeneration status of restored area is published on GIM landscape portal.

Thank You