

FOREST MONITORING-LALITPUR

(1983 – 2023)

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INTRODUCTION

FOREST MONITORING IS THE PROCESS OF REGULARLY OBSERVING AND ANALYZING FOREST ECOSYSTEMS TO ASSESS THEIR HEALTH AND IDENTIFY CHANGES IN THEIR CONDITION OVER TIME. THE PRIMARY GOAL OF FOREST MONITORING IS TO PROVIDE INFORMATION TO POLICYMAKERS, LAND MANAGERS, AND SCIENTISTS TO INFORM MANAGEMENT DECISIONS AND GUIDE CONSERVATION EFFORTS.

THERE ARE SEVERAL KEY COMPONENTS OF FOREST MONITORING, INCLUDING MEASURING FOREST STRUCTURE AND COMPOSITION, TRACKING CHANGES IN FOREST COVER AND LAND USE, MONITORING WILDLIFE POPULATIONS, AND ASSESSING THE IMPACTS OF HUMAN ACTIVITIES ON THE FOREST ECOSYSTEM. FOREST MONITORING CAN ALSO INVOLVE THE USE OF REMOTE SENSING TECHNOLOGIES, SUCH AS SATELLITE IMAGERY AND AERIAL SURVEYS, TO PROVIDE A COMPREHENSIVE VIEW OF THE FOREST LANDSCAPE.

FOREST MONITORING PLAYS AN IMPORTANT ROLE IN HELPING TO PROTECT AND MANAGE FOREST RESOURCES, PARTICULARLY IN THE CONTEXT OF GLOBAL ISSUES SUCH AS CLIMATE CHANGE AND BIODIVERSITY LOSS.

THE TOTAL FOREST AREA IS 21.71% OF THE GEOGRAPHICAL AREA OF THE COUNTRY & ESTIMATED COUNTRY'S TREE AREA COVERING IS IN INDIA AS PER ISFR- INDIA STATE OF FOREST REPORT 2021, 2.91% OF THE GEOGRAPHICAL AREA OF THE COUNTRY. THEREFORE, THE TOTAL COVERAGE OF FORESTS AND TREES IS 24.62% OF THE GEOGRAPHICAL

AREA OF THE COUNTRY. IT IS RELEASED BY THE MINISTRY OF ENVIRONMENT, FORESTS, AND CLIMATE CHANGE (MOEFCC).

IN UTTAR PRADESH BELONG TO FIVE FOREST TYPE GROUPS, WHICH ARE FURTHER DIVIDED INTO 28 FOREST TYPES. MAJOR PART OF THE STATE IS **AGRARIAN**. BASED ON THE INTERPRETATION OF IRS RESOURCESAT-2 LISS III SATELLITE DATA OF THE PERIOD OCT 2017 TO JAN 2018, **THE FOREST COVER IN THE STATE IS 14,805.65 SQ KM WHICH IS 6.15 % OF THE STATE'S GEOGRAPHICAL AREA**. IN TERMS OF FOREST CANOPY DENSITY CLASSES, **THE STATE HAS 2,616.43 SQ KM UNDER VERY DENSE FOREST (VDF), 4,080.04 SQ KM UNDER MODERATELY DENSE FOREST (MDF) AND 8,109.18 SQ KM UNDER OPEN FOREST (OF)**. FOREST COVER IN THE STATE HAS **INCREASED BY 126.65 SQ KM AS COMPARED TO THE PREVIOUS ASSESSMENT REPORTED IN ISFR 2017.**

TABLE 11.28.2 Forest Cover of Uttar Pradesh
(in sq. km)

| Class | Area | % of GA |
|--------------|------------------|-------------|
| VDF | 2,616.43 | 1.09 |
| MDF | 4,080.04 | 1.69 |
| OF | 8,109.18 | 3.37 |
| Total | 14,805.65 | 6.15 |
| Scrub | 586.52 | 0.24 |

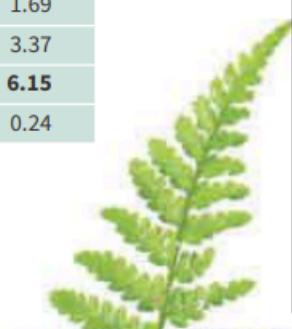
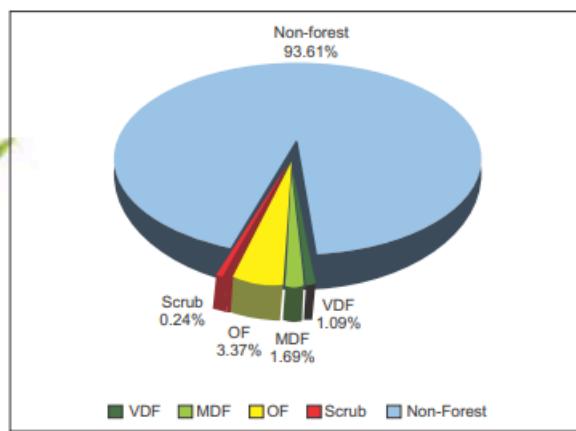


FIGURE 11.28.1 Forest Cover of Uttar Pradesh



THE REGION OF LALITPUR DISTRICT IS PART OF JHANSI DIVISION COVERS AN AREA OF 5039SQ.KMS. AND LIES BETWEEN THE COORDINATES MASS OF HILLS WHICH APPROACHES HEIGHT OF 650M ABOVE THE MEAN SEA LEVEL. 24.40N,78.25E BY 24.68N,78.42E. LALITPUR IS THE MAIN TOWN AND ADMINISTRATIVE HEADQUARTER. IT IS GENERALLY A ROCKY AREA WHICH HAS HIGHEST GROUND IN THE SOUTH WITH SCRAPS OF THE VINDHYAN PLATEAU, RUNNING FROM THE BETWA IN SOUTH-EASTERLY DIRECTION AD GRADUALLY BREAKING UP INTO A CONFINED MASS OF HILLS WHICH APPROACHES HEIGHT OF 650M ABOVE THE MEAN SEA

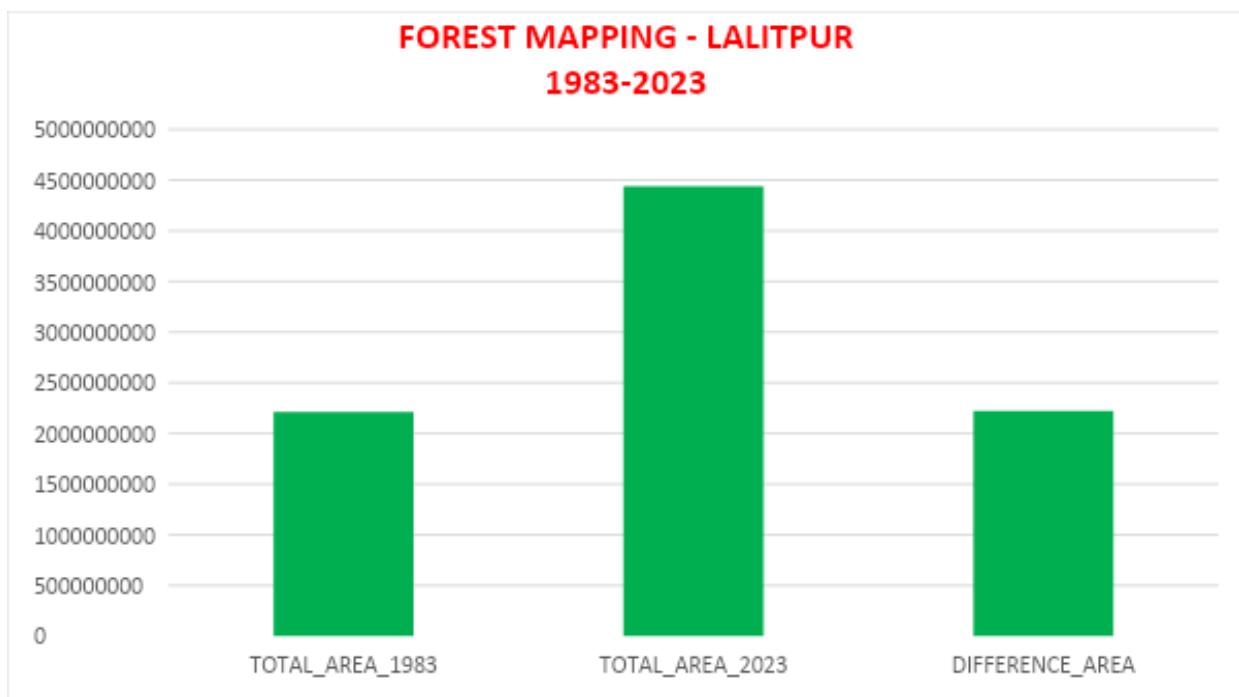
LEVEL. SLOPES ARE MOSTLY PREDOMINANTLY COVERED BY SCRUB FOREST.

DATABASE AND METHODOLOGY USED

WE HAVE USED THE LALITPUR TOPOSHEETS OF 1983 FROM SURVEY OF INDIA GOVERNMENT SOURE AND HAVE OBSERVED THE FOREST COVER IN LALITPUR. ALSO, WE HAVE USED MICROSOFT EXCEL TO CALCULATE THE DIFFERENCE BETWEEN THE FOREST AREA EXPANSION IN 1983 AND 2023(CURRENT SCENARIO). WE CAN SEE THE FOREST AREA DATA OF 1983 AND 2023 COMPUTED USING MICROSOFT EXCEL BELOW: -

| FOREST_MAPPING_1983 [Read Only] - Excel | | | | | | |
|-----------------------------------------|----|-----------|--------|------------------|------------------------------|------------------------------|
| File | | Home | Insert | Page Layout | Formulas | Data |
| Clipboard | | Font | | Alignment | Number | Styles |
| 1 | A | B | C | D | E | F |
| 1 | id | NAME | TYPE | FOREST_AREA_1983 | FOREST_AREA_2023 | G |
| 2 | 1 | HARTHAU | PF | 3536388.95 | 489210500.2 | |
| 3 | 2 | GOLAKOT | RF | 466754905 | 664429353.7 | |
| 4 | 3 | LAKHARI | RF | 12242350.47 | 93998865.67 | |
| 5 | 4 | SIMLAR | PF | 846650.79 | 1967204581 | |
| 6 | 5 | ISAGARH | RF | 1509103.47 | 202277265.3 | |
| 7 | 6 | NANON | RF | 32778079.7 | 369574806.8 | |
| 8 | 7 | BAJAWAN | PF | 7674120.71 | 309462814.5 | |
| 9 | 8 | DONGRA | RF | 64356359.39 | 81889109.69 | |
| 10 | 9 | KANJIYA | RF | 2076150.73 | 56919115.32 | |
| 11 | 10 | DEWAL | RF | 89172509.85 | 2370477.02 | |
| 12 | 11 | DHAURISS | RF | 1185464778 | 22089119.64 | |
| 13 | 12 | SUKORA | RF | 8032788.21 | 96687101.4 | |
| 14 | 13 | SOJNA | RF | 13448509.69 | 82935916.65 | |
| 15 | 14 | DIGWSR | RF | 2856767.99 | TOTAL_AREA_2023 = 4439049027 | DIFFERENCE_AREA = 2224985945 |
| 16 | 15 | DAILWSRA | RF | 1003118.65 | | |
| 17 | 16 | CHACHOR | RF | 4515238.09 | | |
| 18 | 17 | RICHHAI | RF | 3857138.1 | | |
| 19 | 18 | BUDHNA | RF | 474519.08 | | |
| 20 | 19 | PADRA | PF | 1729813.48 | | |
| 21 | 20 | MOHARI | PF | 1315352.48 | | |
| 22 | 21 | TAPARIYSP | PF | 21106933.56 | | |
| 23 | 22 | SUKWSN | RF | 7694371.56 | | |
| 24 | 23 | CHAURAR | RF | 2492589.99 | | |
| 25 | 24 | BABINA | RF | 976642.9 | | |
| 26 | 25 | MANPUR | RF | 2274850.5 | | |
| 27 | 26 | HANSSR | RF | 32023733.39 | | |

| | A | B | C | D | E | F |
|---|----|-----------|-----|------------------------------|------------------------------|------------------------------|
| 3 | 12 | SUKORA | RF | 8032788.21 | 96687101.4 | |
| 4 | 13 | SOJNA | RF | 13448509.69 | 82935916.65 | |
| 5 | 14 | DIGWSR | RF | 2856767.99 | TOTAL_AREA_2023 = 4439049027 | DIFFERENCE_AREA = 2224985945 |
| 6 | 15 | DAILWSRA | RF | 1003118.65 | | |
| 7 | 16 | CHACHOR | RF | 4515238.09 | | |
| 8 | 17 | RICHHAI | RF | 3857138.1 | | |
| 9 | 18 | BUDHNA | RF | 474519.08 | | |
| 0 | 19 | PADRA | PF | 1729813.48 | | |
| 1 | 20 | MOHARI | PF | 1315352.48 | | |
| 2 | 21 | TAPARIYAN | PF | 21106933.56 | | |
| 3 | 22 | SUKWSN | RF | 7694371.56 | | |
| 4 | 23 | CHAURAR | RF | 2492589.99 | | |
| 5 | 24 | BABINA | RF | 976642.9 | | |
| 6 | 25 | MANPUR | ERF | 2274850.5 | | |
| 7 | 26 | HANSSR | RF | 32023733.39 | | |
| 8 | 27 | THANA | RF | 914205.87 | | |
| 9 | 28 | KARESARA | RF | 3553815 | | |
| 0 | 29 | PAWA | RF | 7660183.54 | | |
| 1 | 30 | MOHSRA | PF | 133571570.6 | | |
| 2 | 31 | MATHURA | RF | 15161774.83 | | |
| 3 | 32 | KHATGAW | RF | 5308261.21 | | |
| 4 | 32 | MOHANGA | RF | 69504473.64 | | |
| 5 | 33 | BETWA | RF | 8175033.01 | | |
| 6 | | | | TOTAL_AREA_1983 = 2214063082 | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |



WE HAVE ALSO USED THE QGIS SOFTWARE FOR DOING COMPARISON AND ANALYZING THE FOREST COVER IN 1983 AND

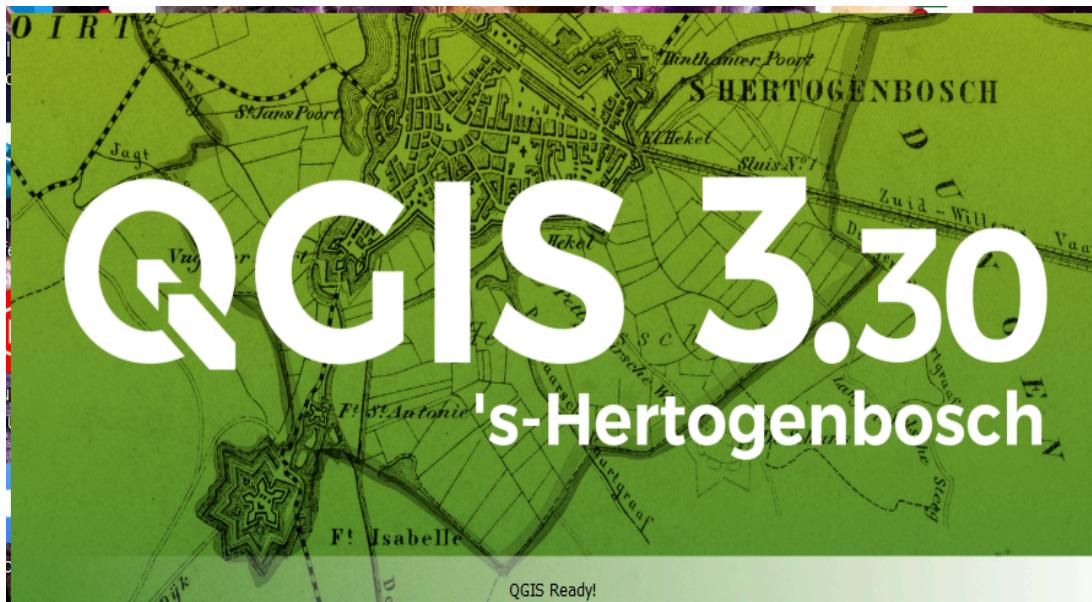
FOREST AREA EXPANSION OR DECREASE IN FOREST COVER HAPPENED TILL NOW.

WE HAVE ALSO USED SOME STATISTICAL TOOLS FOR CALCULATING THE AREA OF HOW MUCH FOREST COVER HAS BEEN OBSERVED WITH THE HELP OF QGIS SOFTWARE.

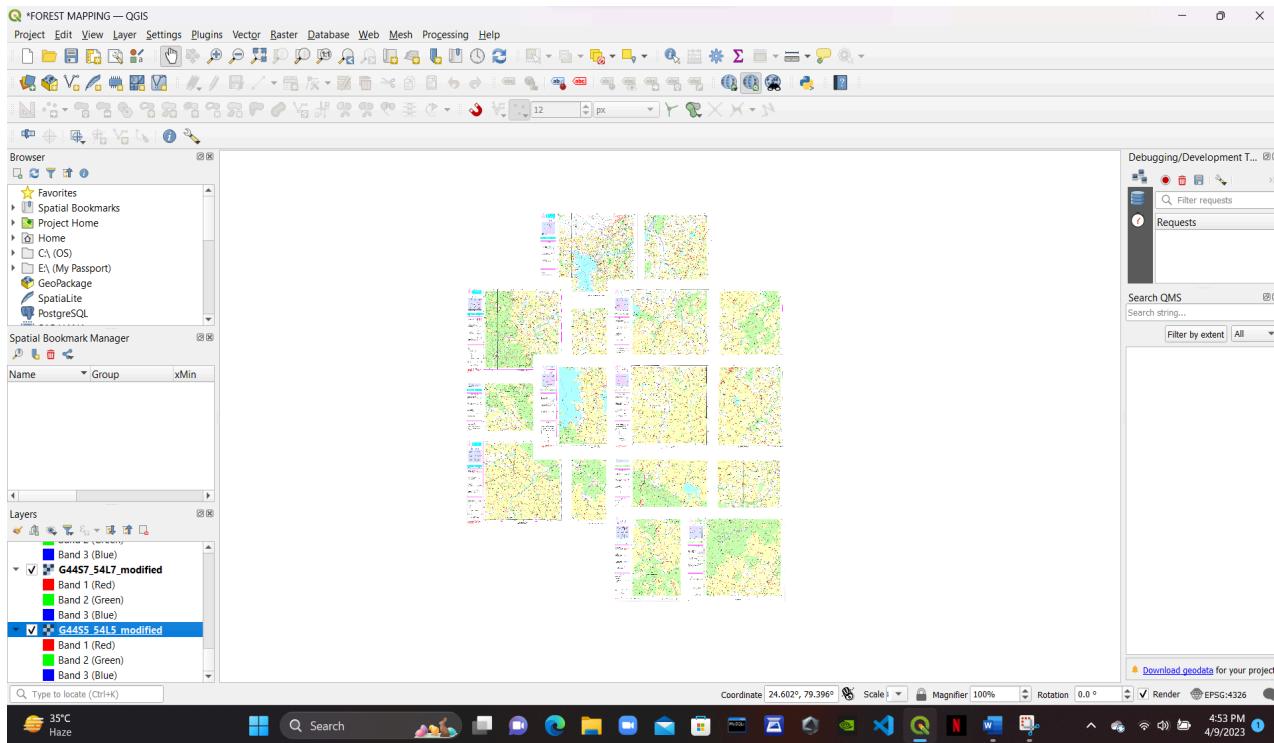
WE HAVE USED QGIS SOFTWARE 3.30.1(LATEST VERSION) AND HAVE PERFORMED REQUIRED STEPS TO COMPARE AND ANALYZE THE FOREST COVER BETWEEN TWO DIFFERENT TIME PERIODS.

STEPS:-

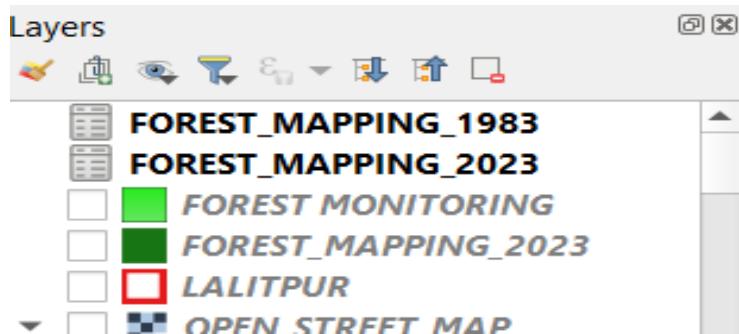
- 1. OPEN QGIS SOFTWARE 3.30.1 VERSION.**



- 2. THEN GEOREFERENCE THE TOPOSHEETS OF LALITPUR DISTRICT IN UTTAR PRADESH.**



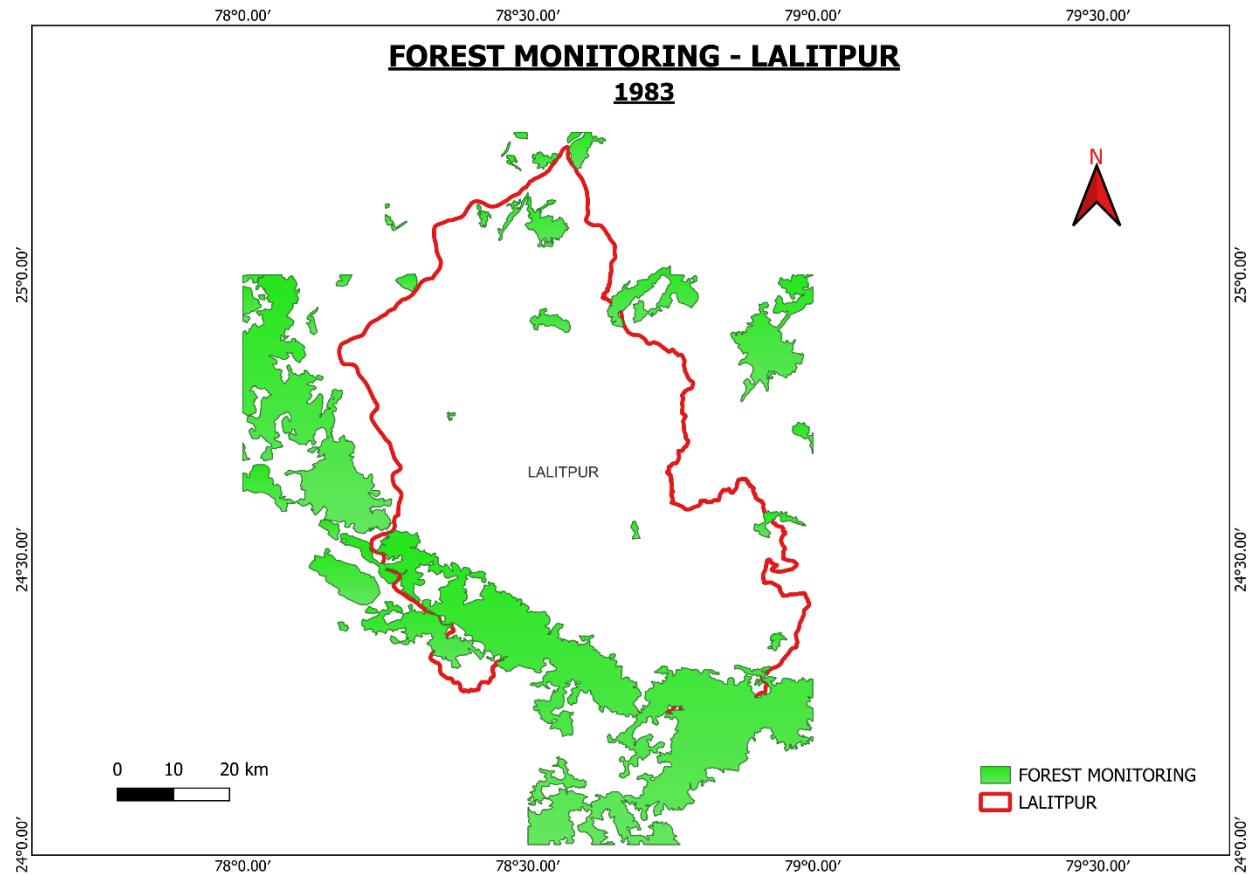
3. CREATE A NEW SHAPE FILE LAYER TO DIGITIZE THE AREA WITH THE HELP OF POLYGON.



4. THEN DIGITIZE THE FOREST AREA BOTH THE RESERVED AS WELL AS PROTECTED FOREST WITH THE HELP OF POLYGON.

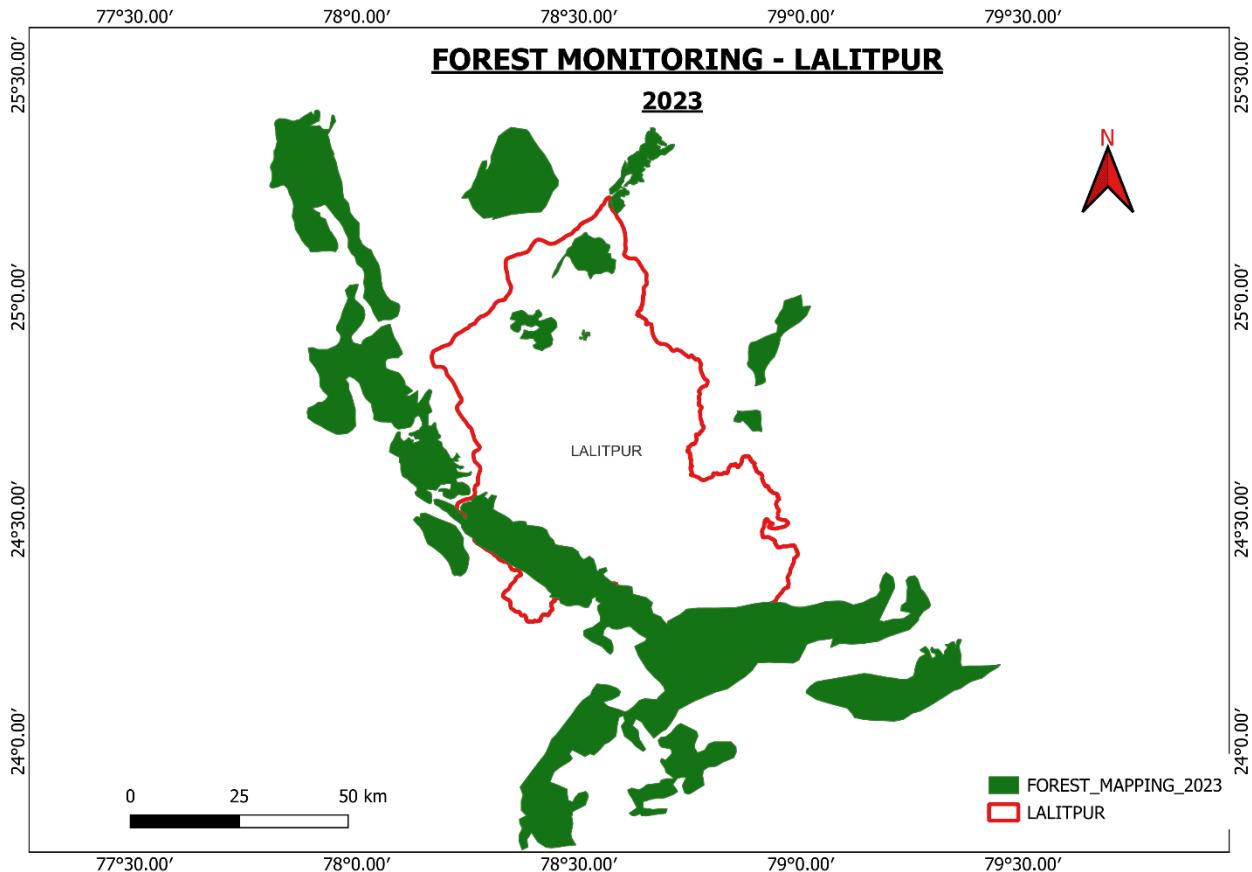
5. THEN MAKE A MAP LAYOUT AND SELECT THE APPROPRIATE SETTING LIKE COORDINATE SYSTEM(CRS), COORDINATES, NORTH DIRECTION AND MANY OTHER.

6. AT LAST, SAVE THE MAP OF FOREST AREA/COVER OF 1983.

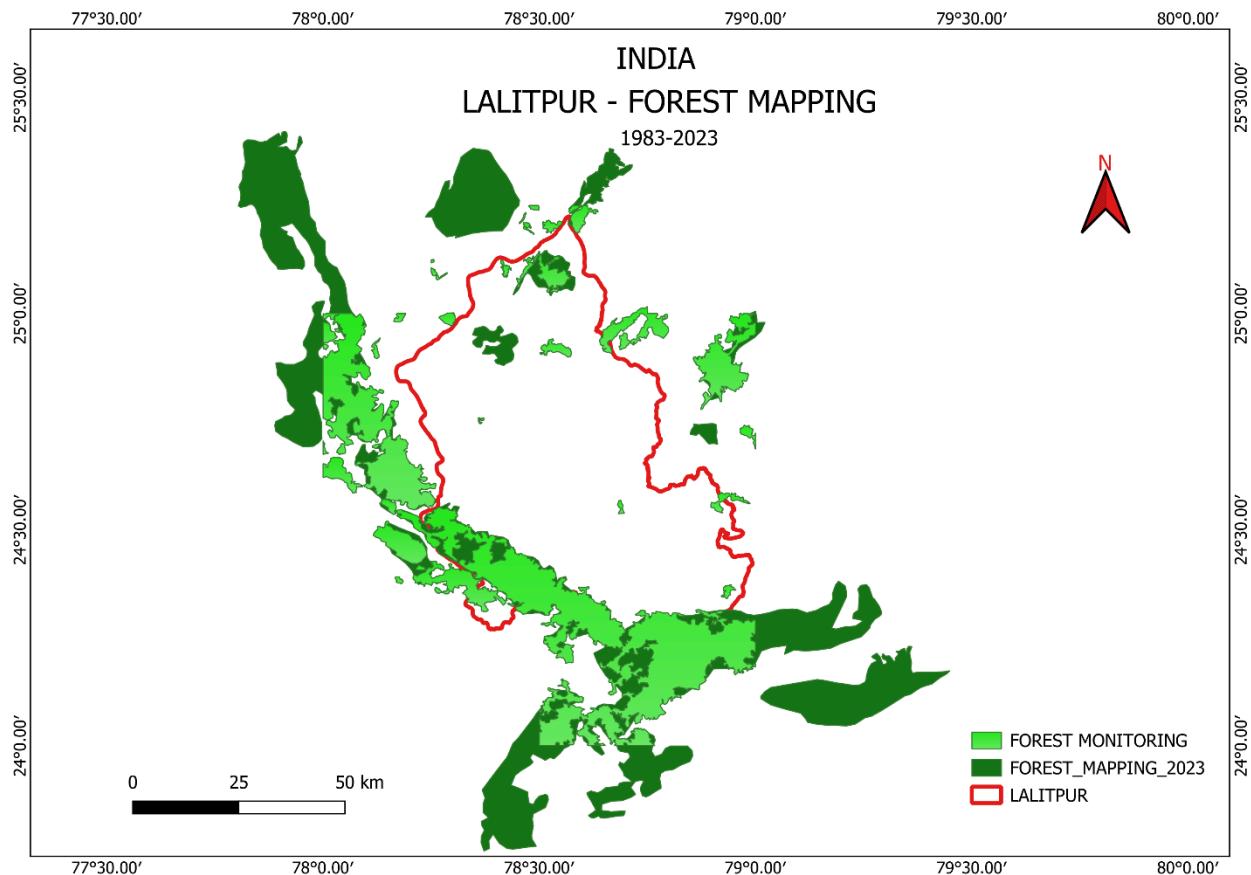


7. IN THE SAME WAY DIGITIZE THE FOREST AREA/FOREST COVER BY CREATING ANOTHER LAYER TO OBSERVE CURRENT FOREST AREA OF 2023 EXPANSION IN LALITPUR BY DIGITIZING THE AREA ON OPEN STREET MAP.

8. SAME WAY MAKE THE MAP OF FOREST MONITORING OF LALITPUR DISTRICT IN UTTAR PRADESH OF CURRENT TIME OR 2023 AND SAVE IT.



9. AND MAKE ANOTHER MAP LAYOUT BY COMBINING THESE TWO MAPS OF 1983 AND 2023 TO COMPARE AND ANALYZE THE FOREST COVER EXPANSION HAPPENED BETWEEN THESE TWO DIFFERENT TIME PERIODS (1983-2023).



INTERPRETATION

AS WE CAN ANALYZE FROM THE ABOVE MAP AND THE COMPUTED DATA ON FOREST AREA OF TIME PERIODS (1983-2023), THERE CAN BE NOTICED A SMALL EXPANSION IN FOREST COVER MAINLY IN THE SOUTH, SOUTH-WEST, NORTH-EAST, NORTH AND ALSO SOME SMALL PATCHES CAN BE SEEN IN THE CENTRAL REGION OF THE LALITPUR DISTRICT.

THIS FOREST AREA EXPANSION IS A RESULT OF GOVERNMENT TAKING INITIATIVE STEPS TO INCREASE FOREST COVER IN THE STATE. MANY AFFORESTATION PROGRAMMES HAVE BEEN INTRODUCED AND IMPLEMENTED BY THE GOVERNMENT IN THE UTTAR PRADESH STATE.

IF WE SEE IN CONTEXT OF LALITPUR DISTRICT WE CAN SEE THE WORK DONE BY THE GOVERNMENT UNDER SOCIAL FORESTRY DIVISION AND THE AMOUNT OF FUNDS ALLOCATED FOR EACH SCHEME.

| Division : | Social Forestry Division Lalitpur | Range : | --Select-- | | | | | | | | | | | | | |
|-----------------|-----------------------------------|-----------------------------------|------------|---------------------------------------------------------|-------------------------|-------------|---------------|---------------------------|----------|---------------|-------------------------|---------------------|-----------|---------------|--------------------------|------------------|
| Estimate Year : | --Select-- | Show the list of Estimates | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| S.No. | State | Division | Range | Work Name | Work Duration(in Years) | Scheme Head | Estimate Year | Operation Year | Ref. No. | Estimate Date | Funds Allocated(in Rs.) | Expenditure(in Rs.) | View Work | View Estimate | View Monthly Expenditure | Site Scanned Map |
| 1 | Uttar Pradesh | Social Forestry Division Lalitpur | Lalitpur | Dawani Plantation 2020 Area-07Ha.-'Dawani Forest Block' | 2 | OTHER | 2019 | Pre-Plantation Operations | 393 | 01/10/2029 | 188300.00 | 0.00 | | | | |
| 2 | Uttar Pradesh | Social Forestry Division Lalitpur | Lalitpur | Bandarguda-'Bandarguda' | 4 | OTH | 2022 | First Year Operation | 228 | 15/06/2022 | 274500.00 | 0.00 | | | | |
| 3 | Uttar Pradesh | Social Forestry Division Lalitpur | Lalitpur | Dudhai Purvi Bhag-2-'Dudhai Purvi Bhag-2' | 4 | OTH | 2022 | First Year Operation | 229 | 15/06/2022 | 366000.00 | 0.00 | | | | |
| 4 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Girar Bhag-1-'Girar Bhag-1' | 4 | OTH | 2022 | First Year Operation | 380 | 15/06/2022 | 274500.00 | 0.00 | | | | |
| 5 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Uldana-'Uldana' | 4 | OTH | 2022 | First Year Operation | 374 | 15/06/2022 | 366000.00 | 0.00 | | | | |
| 6 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Madawara-'Madawara' | 4 | OTH | 2022 | First Year Operation | 376 | 15/06/2022 | 183000.00 | 0.00 | | | | |
| 7 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Jalandhar-'Jalandhar' | 4 | OTH | 2022 | First Year Operation | 375 | 15/06/2022 | 183000.00 | 0.00 | | | | |
| 8 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Hansra-'Hansra' | 4 | OTH | 2022 | First Year Operation | 377 | 15/06/2022 | 183000.00 | 0.00 | | | | |
| 9 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Khutguvan Bhag-2-'Khutguvan Bhag-2' | 4 | OTH | 2022 | First Year Operation | 379 | 15/06/2022 | 183000.00 | 0.00 | | | | |
| 10 | Uttar Pradesh | Social Forestry Division Lalitpur | Madawara | Khutguvan Bhag-1-'Khutguvan Bhag-1' | 4 | OTH | 2022 | First Year Operation | 378 | 15/06/2022 | 183000.00 | 0.00 | | | | |

1 2 3 4 5 6 7 8 9 10 ...

SOURCE:

https://EGREENWATCH.NIC.IN/WORKSANDESTIMATE/PUBLIC/REPORTS/ESTIMATE_PROGRESS_DETAILS.ASPX?M=A&STID=33&CIRID=381&DIVID=1077&FYID=0

SO, IN THESE PROGRAMMES WE CAN SEE HUGE PARTICIPATION OF PEOPLE, PLANTATION WORKERS, FARMERS, WOMEN, STUDENTS ETC.

ALSO, THE DEPARTMENT OF ENVIRONMENT, FOREST AND CLIMATE CHANGE UTTAR PRADESH, CONDUCTS DEPARTMENTAL TREE PLANTATION WORK DURING RAINY SEASON, TO INCREASE THE FOREST AND TREE COVER IN THE STATE VARIOUS SCHEMES HAVE BEEN IMPLEMENTED BY THE GOVERNMENT, LARGE SCALE TREE PLANTATION PROGRAM IS BEING CONDUCTED IN THE STATE THROUGH SOCIAL FORESTRY, GREEN BELT DEVELOPMENT SCHEME, TOTAL FOREST COVER SCHEME.

THE VARIOUS VARIETIES OF ROSEWOOD, NEEM, CASSIA, GUL MOHAR, JAKRANDA, CIRRUS, KANJI, MANGO, CHITWAN, BANYAN, PIPAL, FICUS, MULSRI, BAUHINIA, KADAMB, TAMARIND, BEL AND MAHUA ARE BEING PLANTED IN THE STATE AS PER SOIL AND CLIMATIC CONDITIONS.

THE STATE GOVERNMENT IS EMPHASIZING ON MORE AND MORE ON PLANTATION OF LARGE AND CONVENTIONAL TREES. THE STATE

GOVERNMENT IS MAKING SUSTAINED EFFORTS TOWARDS THE ESTABLISHMENTS ON GREEN BELT, DEVELOPMENT OF ECO-TOURISM AND SUCCESS OF PLANTATIONS TO INCREASE THE FORESTS AND TREE COVER IN THE STATE.

RECORDED FOREST AREA (RFA) IN THE STATE IS 16,582 SQ KM OF WHICH 12,070 SQ KM IS RESERVED FOREST, 1,157 SQ KM IS PROTECTED FOREST AND 3,355 SQ KM IS UNCLASSED FORESTS. IN UTTAR PRADESH, DURING THE PERIOD 1ST JANUARY 2015 TO 5TH FEBRUARY 2019, A TOTAL OF 163.76 HECTARES OF FOREST LAND WAS DIVERTED FOR NON-FORESTRY PURPOSES UNDER THE FOREST CONSERVATION ACT, 1980 (MOEF & CC, 2019).

AT LAST, THE MAJOR REASON FOR THE EXPANSION OF FOREST AREA/FOREST COVER CAN BE SEEN DUE TO INCREASING AWARENESS AMONG THE PEOPLE ABOUT THE AFFORESTATION AND REFORESTATION, INTRODUCTION AND IMPLEMENTATION OF MANY GOVERNMENT POLICIES REGARDING PLANTATION OF TREES AND INCREASING FOREST COVER IN THE STATE.

SUMMARY

FROM THIS STUDY WE HAVE LEARNT ABOUT THE EXPANSION OF FOREST AREA/ FOREST COVER IN THE LALITPUR DISTRICT OF UTTAR PRADESH WHICH HAS BEEN TOOK PLACE BETWEEN TIME PERIODS OF 1983 TO 2023. AS PEOPLE UNDERSTOOD THE IMPORTANCE OF FOREST WHEN THEY WERE

AFFECTED WITH THE NATURAL DISASTERS LIKE FLOODS, LANDSLIDES, VARIABILITY IN RAINFALL AND MANY MORE.

SO, PEOPLE ARE SPREADING AWARENESS AND TAKING ACTION ON THIS MAJOR ISSUE AS WELL AS THE UTTAR PRADESH GOVERNMENT HAVE INTRODUCED AND ALSO IMPLEMENTED MANY PROGRAMMES REGARDING THE PLANTATION OF VARIETIES OF SPECIES OF TREES AND INCREASE THE FOREST COVER OF THE STATE, ALSO THE GOVERNMENT IS SPREADING AWARENESS AND INTRODUCED MANY PROHIBITIONS AND LAWS UNDER (UP PROTECTION OF TREES ACT 1976) FOR ILLEGAL CUTTING OF FOREST.

THAT IS WHY IT IS IMPORTANT TO STUDY ABOUT THIS ISSUE. WE ARE ABLE TO ANALYZE THE PROBLEMS ALTHOUGH WE CAN SEE A SMALL INCREASE IN THE FOREST AREA BETWEEN 1983-2023 BUT IT SHOULD BE INCREASED AND TO BE KEPT PROTECTED.

THROUGH THIS STUDY WE BECAME FAMILIAR WITH MANY TOOLS SUCH AS QGIS SOFTWARE, MICROSOFT EXCEL AND ONLINE RESOURCES (DATA ON FOREST RESOURCES THROUGH GOVERNMENT SOURCES) ETC.