

**India
Observatory**

Integrated Forest Management Toolbox (IFMT) User Manual



Integrated Forest Management Toolbox (IFMT)

IFMT is a forest management planning tool, developed with the objective to assist forest officials in preparing working plans in accordance with the National Working Plan Code, 2014 (NWPC) that calls for management of forests for a range of ecosystem services.

IFMT consists of a suite of tools which enable forest officials to collect and collate geo-spatial and ground level data, identify potential forest management activities based on flow of ecosystem services and assist in finalising working plan prescriptions. The individual tools that constitute the toolbox were developed to meet the requirements of NWPC-2014. Following is the list of the tools:

- **Forest Resources Observatory (FRO)** - A repository of data from publicly available open data sources that provides certain mandatory and optional spatial layers as required by NWPC-2014.
- **Forest Data Kit (FDK)** - A mobile device based android application that provides a digital platform for collection of field data. The data is further analysed and processed to create geo-spatial layers for visualisation.
- **Composite Land Assessment and Restoration Tool (CLART)** - Tool for classifying areas based on water recharge potential and identifying areas for soil moisture conservation working circle activities that can improve yield of water.
- **Species Distribution Model (SDM)** – Tool for planning of plantation working circle and non-timber forest produce working circle as per the local agro-climatic and edaphic factors. It will assist in finding areas suitable for specified tree species. It can also assist in locating biodiversity hotspots for conservation working circles.

1.0 Getting Started

1.1 System Requirements

Use Google Chrome Version 70 or above for best performance.

1.2 Home Page

Open Google Chrome and enter IFMT URL (<http://http://ifmt.fes.org.in/>)

in the Address bar. The Home Page will be displayed as shown below, wherein Login option is displayed.

IFMT Integrated Forest Management Toolbox

About IFMT
The Integrated Forest Management Toolbox is a forest management planning model, developed with an objective to assist senior and mid-level officers in India's state forest departments to develop working plans in accordance to the National Working Plan Code, 2014 (NWPC) that calls for management of forests for a range of ecosystem services.

Purpose of IFMT
Over the years, Indian forestry has witnessed a paradigm shift in the approach to forest management, which has moved away from sustainable utilization of timber to environmental stability, biodiversity monitoring and management, protecting ecosystem services rendered by forests and sustained delivery of socio-economic benefits. These goals are enshrined in the National Working Plan Code 2014. The NWPC also promotes major technological as well as analytical advances in forest data collection and analysis, including in the field of GIS and remote sensing. IFMT aims to address these requirements of NWPC by supporting forest officials in sustainable management of forest and its resources by providing data and tools for informed planning and preparation of Working Plans. The Integrated Forest Management Toolbox consists of a suite of tools that together collect and collate geo-spatial and ground level data, identify potential forest management activities based on flow of ecosystem services and assist in finalizing working plan prescriptions. The individual tools that constitute the toolbox were developed to meet the requirements of NWPC.

Tools of IFMT
Forest Resources Observatory (FRO) - A repository of data from publicly available open data sources that can provide certain mandatory spatial layers as required by NWPC.

- Forest Data Kit (FDK) - A mobile android application that provides a digital platform for collection of field data. The data is further analysed and processed to create geo-spatial layers for visualization.
- Composite Land Assessment and Restoration Tool (CLART) - Tool for classifying areas based on water recharge potential and identify areas for soil moisture conservation working circle activities that can improve yield of water.
- Species Distribution Model (SDM) - Tool for planning of plantation working circle and NTFP working circle as per the local agro-climatic and edaphic factors. It will assist in finding areas suitable for specified tree species. It can also assist in locating biodiversity hot-spots for conservation working circles.

How does IFMT work?
The Forest Data Kit is customised for each division by adding lists of local floral species and administrative units. Primary ecological data from plots and socio-economic data from forest fringe villages is collected through this customised tool and analysed along with the secondary data form Data Platform. Following this, reports and maps are generated as per the recommendations of the National Working Plan Code 2014. These reports and maps form the basis of the prescriptions of working plans. CLART and SDM will further provide support for planning re-vegetation and soil-water conservation measures.

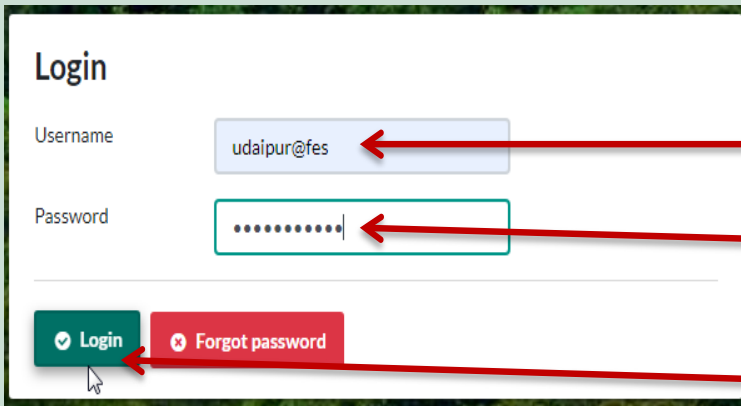
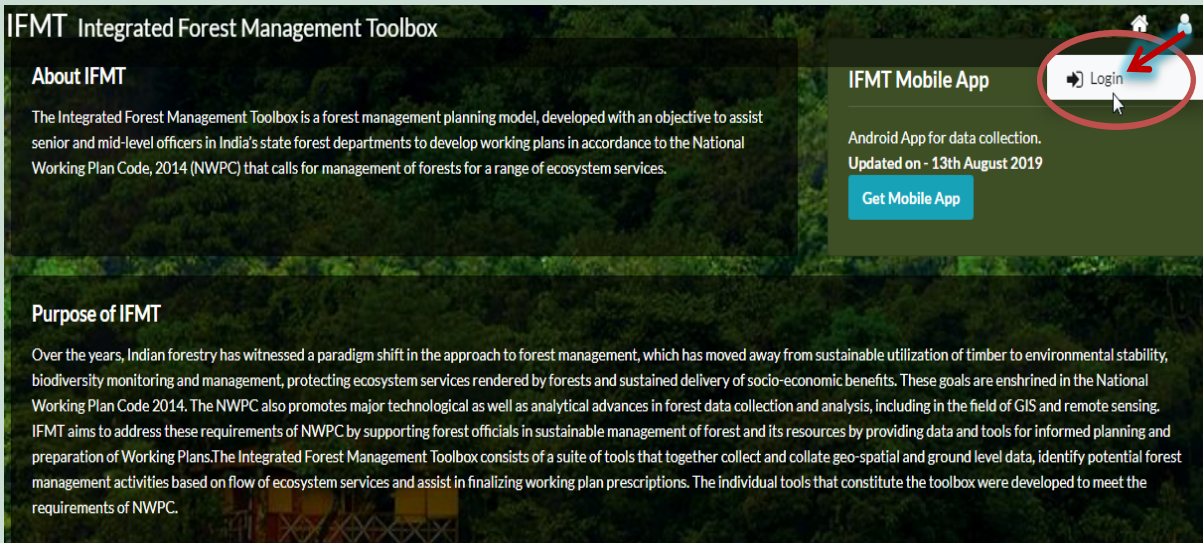
IFMT Mobile App
Android App for data collection.
Updated on 13th August 2019
[Get Mobile App](#)

Download Mobile App

Click on this icon to Login

1.3 Login

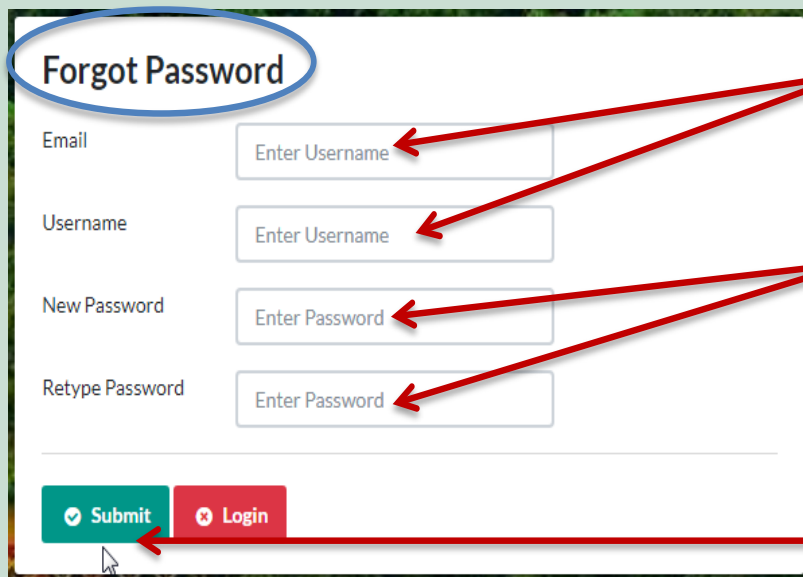
- How to login?



Enter *Username* or e-mail address as per the account created.

Enter *Password*.

Click on *Login* Button.



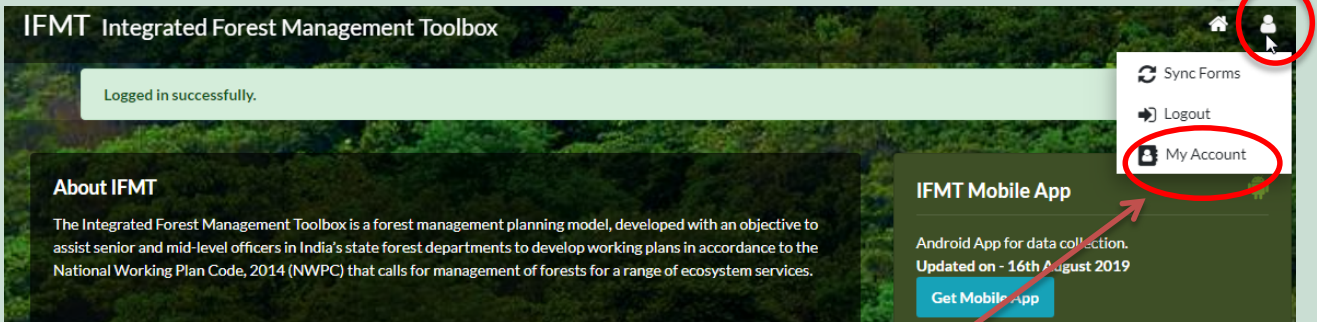
Enter *E-mail address or Username* as per the account created.

Enter *New Password* and *Retype new password* for confirmation.

Click *Submit* button to create new password and then click on *Login* button to verify.

1.3.1 View / Edit User Account

Access the details of your account by clicking on user in the upper right corner. Dropdown menu options will be displayed as shown in the image below.



Click on 'My Account' to Edit user details or to change password.

Update System User (Udaipur)

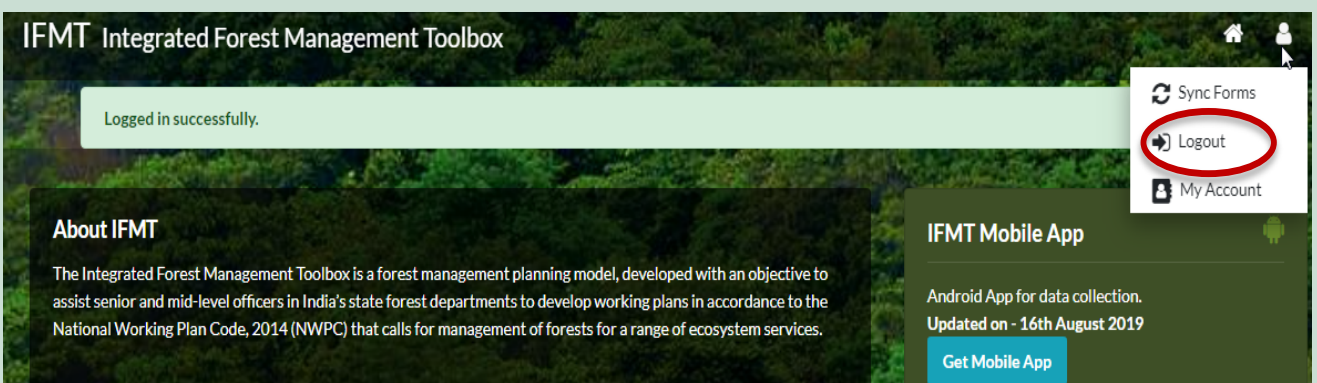
Name *	<input type="text" value="Udaipur"/>
Mobile number *	<input type="text" value="Enter Mobile Number"/>
Email	<input type="text" value="[NULL]"/>
User ID *	<input type="text" value="udaipur@fes"/>
Password	<input type="password" value="Enter password"/>
Retype Password	<input type="password" value="Enter password again"/>

User can add **Mobile number** and **email address**.

User can change password by entering **New password** and then **Retype new password**. **Email address** can also be changed, if needed.

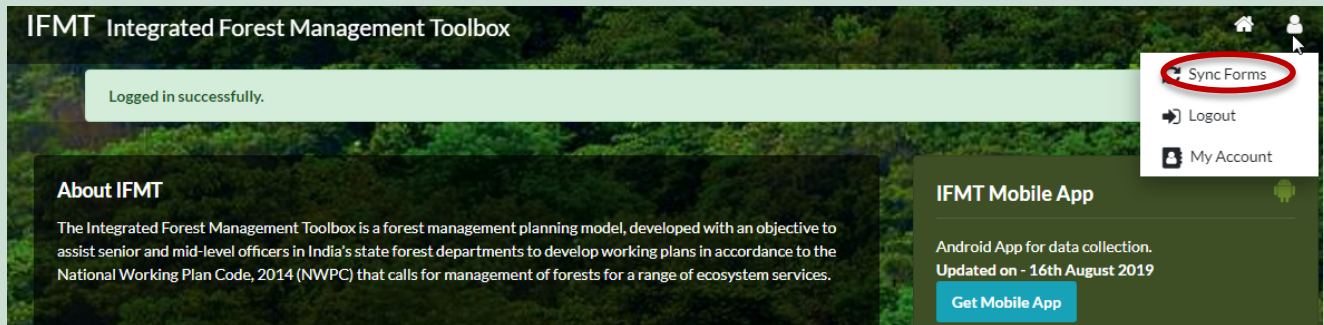
1.3.2 Logout

Click on Logout to exit from the portal as shown in the image below.




1.3.3 Sync Forms

Click on 'Sync Forms' to sync the field data with the central server and save the entered data for future access.



2.0 Using IFMT

After successful User login, Dashboard will be displayed and Menu Options can be viewed by clicking on , as shown in the image below.

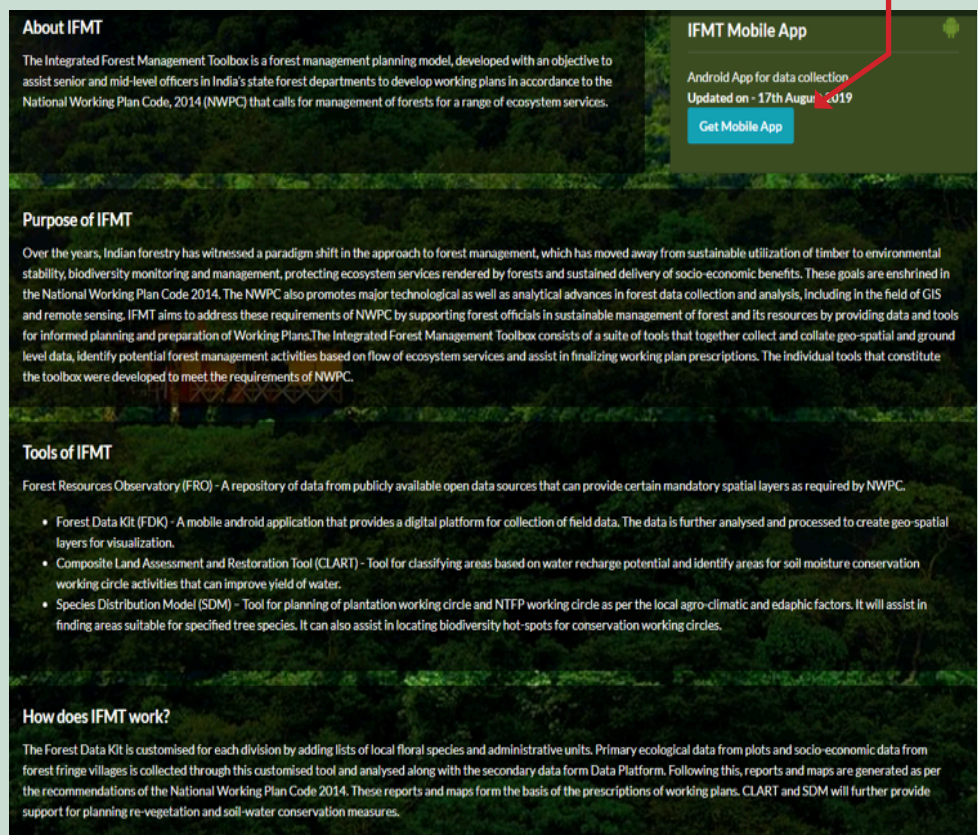
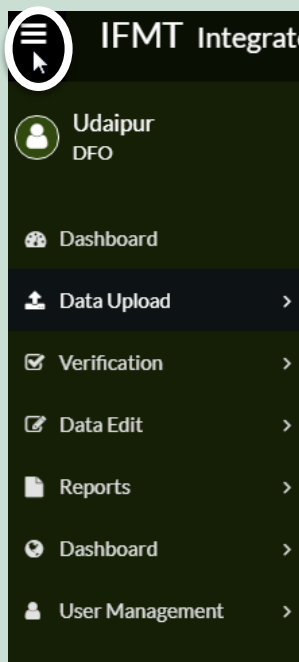


2.1 Menu Options

The functionalities of the above menu options are described below.

2.1.1 Dashboard

Dashboard is displayed along with Mobile app download option.

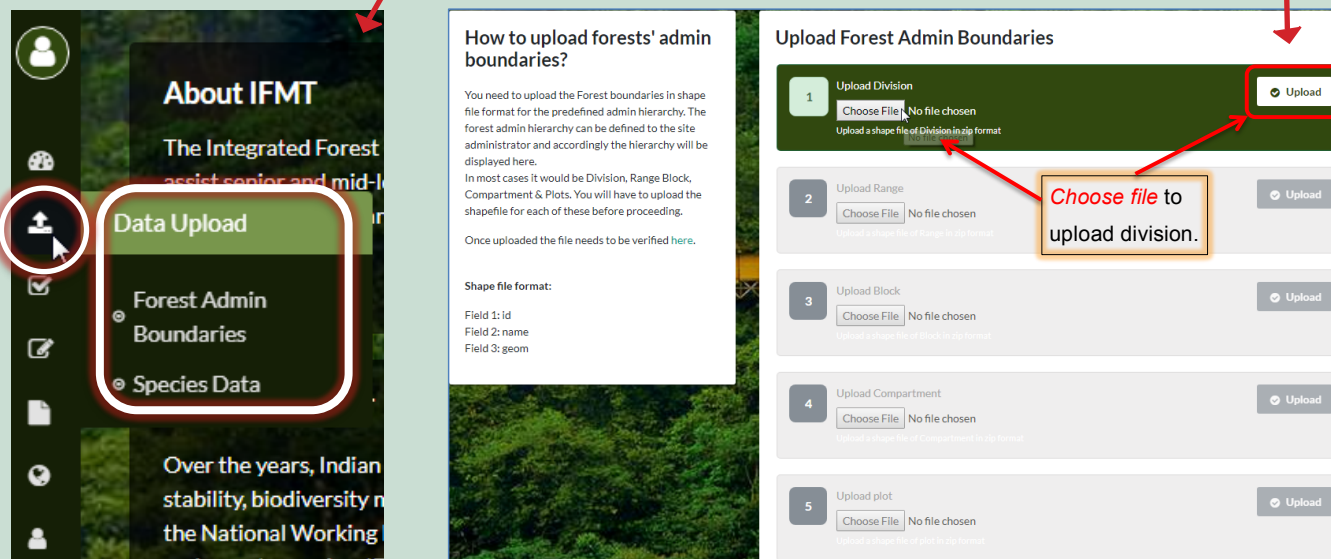


2.1.2 Data Upload

Data upload menu option will open the sub-menu options named Forest Admin Boundaries and Species Data.

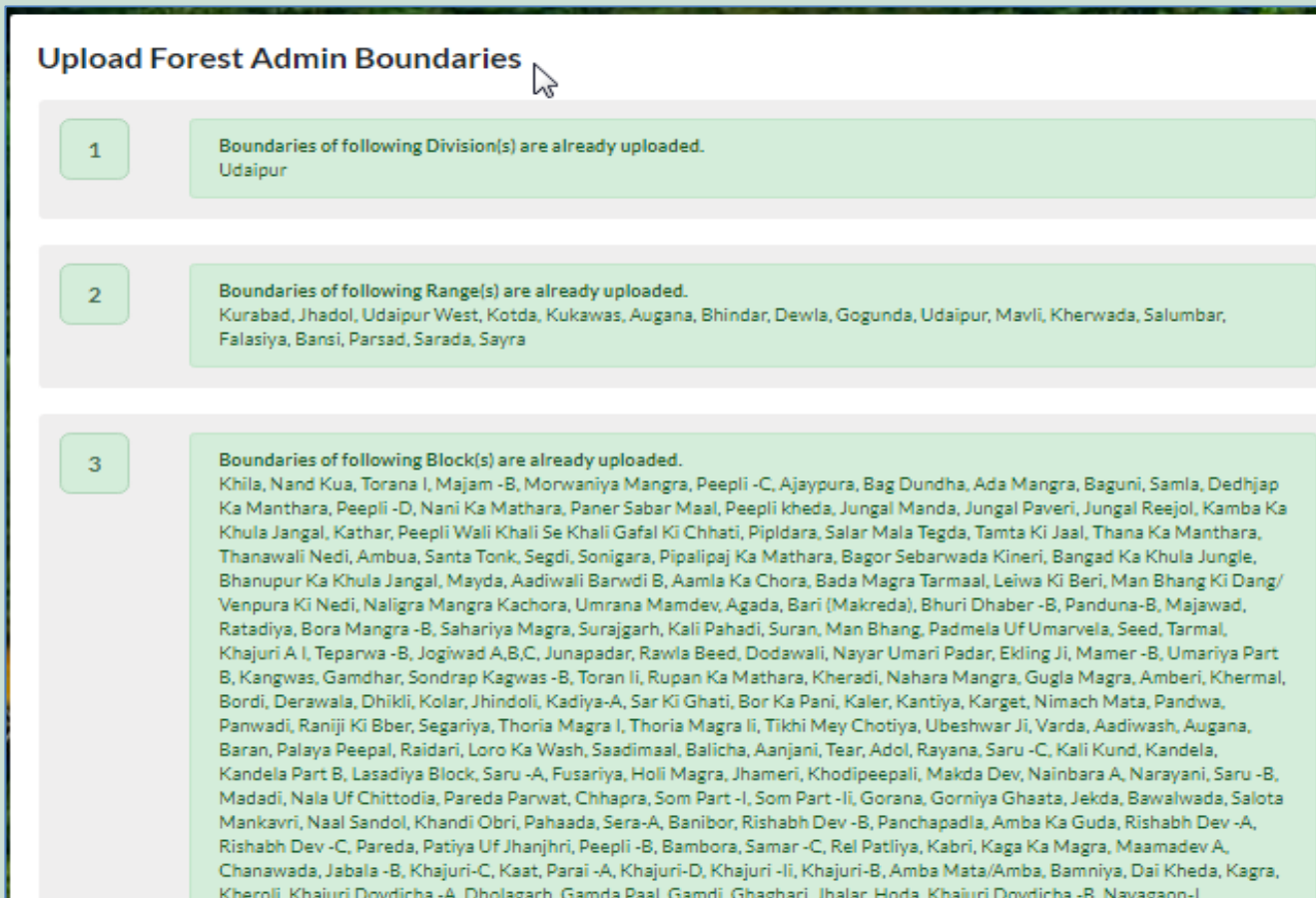
2.1.2.1 Forest Admin Boundaries

Click on Forest Admin Boundaries menu option to upload Forests' boundaries in shape file format. The Following window will appear.



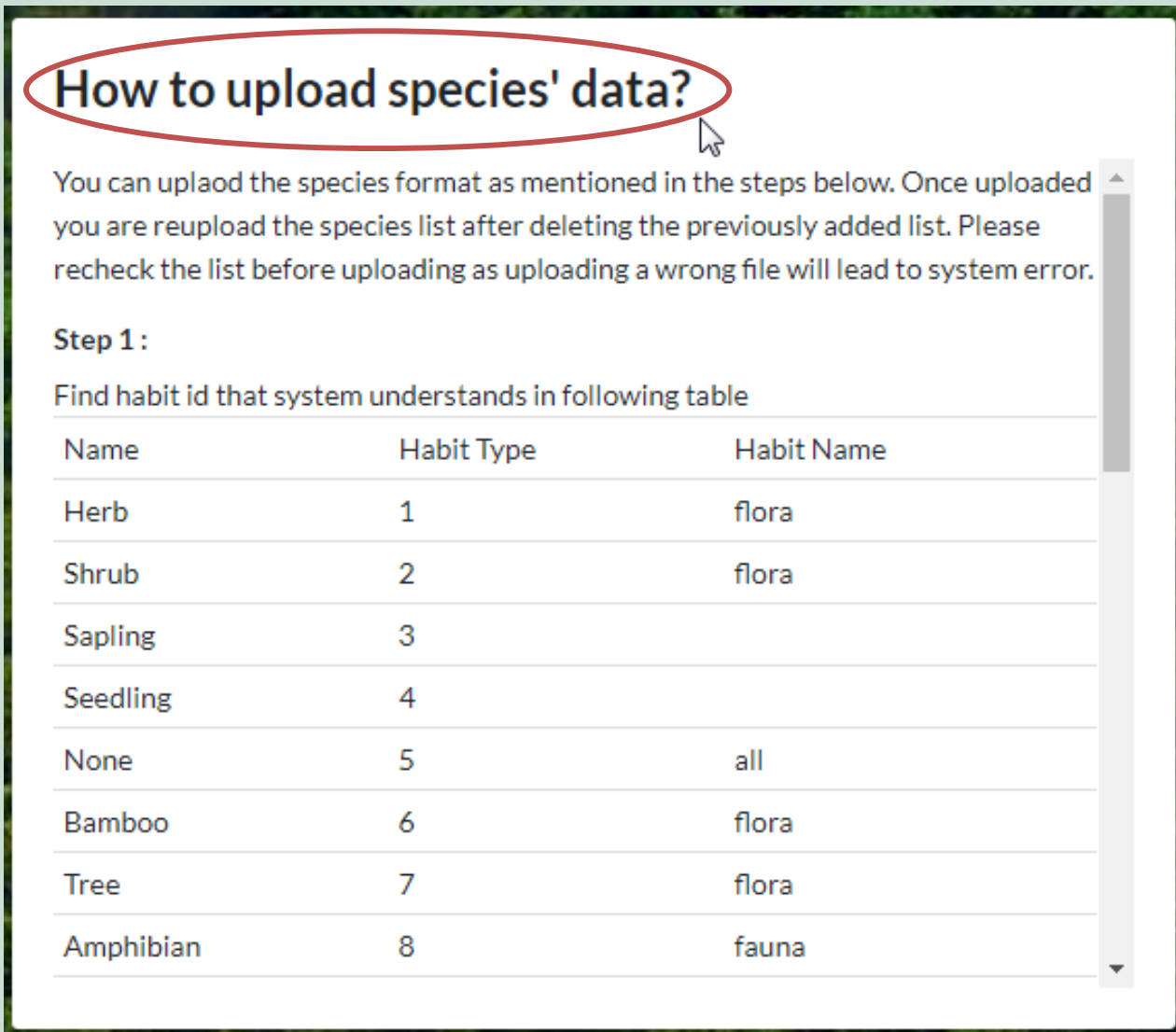
In Addition to the help window, one can upload a list of Forest admin boundaries.

Uploaded boundaries of division, range, blocks, compartments, plots can be later viewed, as shown below.



2.1.2.2 Species Data

Click on Species Data option to upload species data. Following Help window will appear.



How to upload species' data?

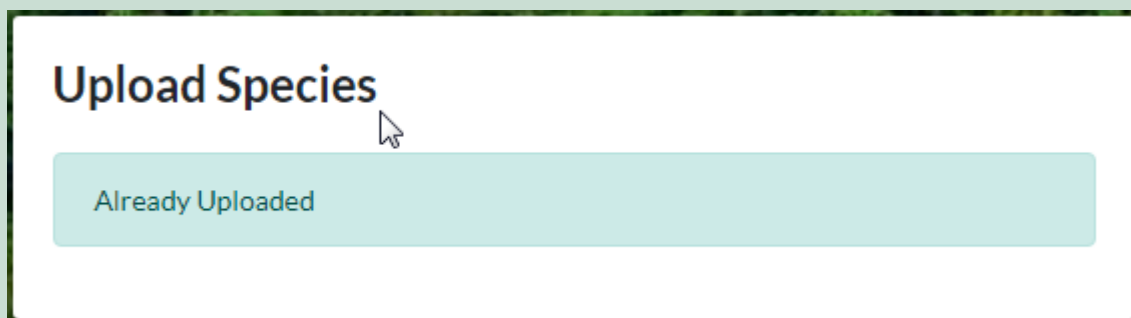
You can upload the species format as mentioned in the steps below. Once uploaded you are reupload the species list after deleting the previously added list. Please recheck the list before uploading as uploading a wrong file will lead to system error.

Step 1 :

Find habit id that system understands in following table

Name	Habit Type	Habit Name
Herb	1	flora
Shrub	2	flora
Sapling	3	
Seedling	4	
None	5	all
Bamboo	6	flora
Tree	7	flora
Amphibian	8	fauna

Next to the Help window, the following window will appear if Species data has already been uploaded.

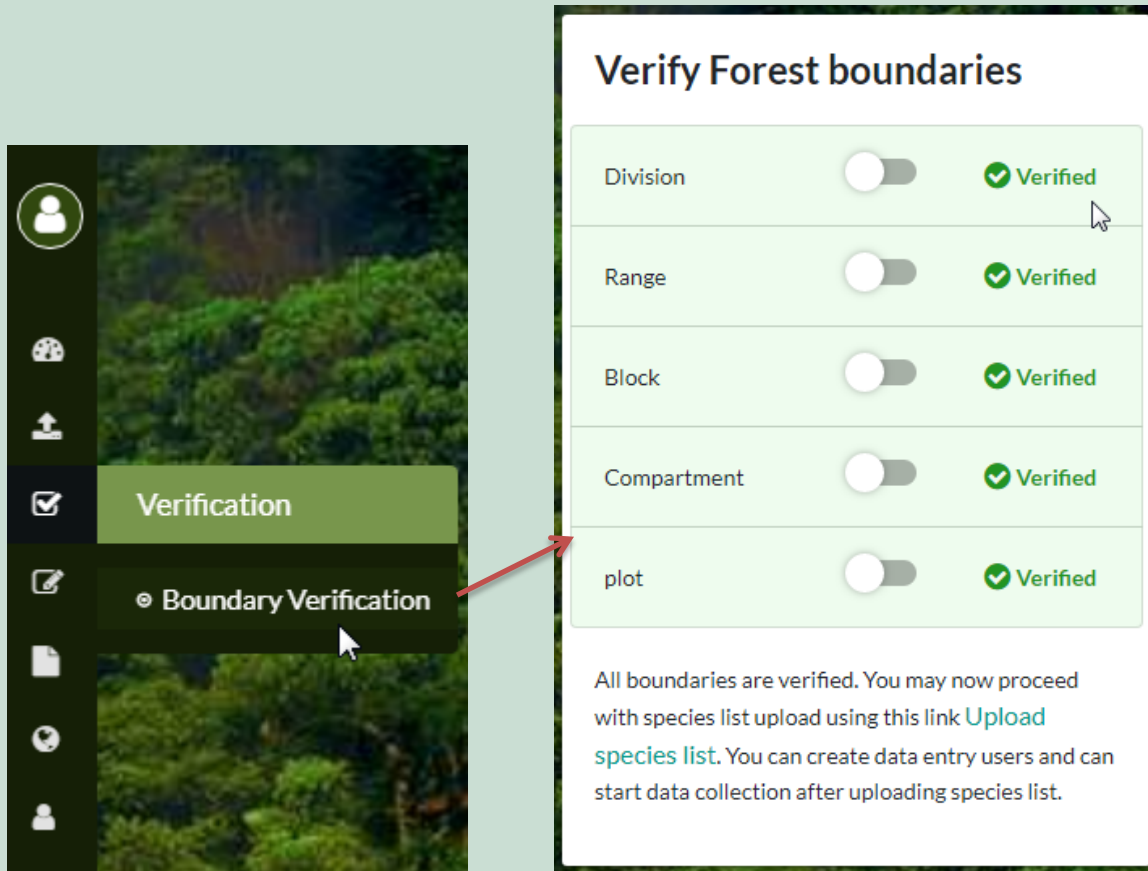


Upload Species

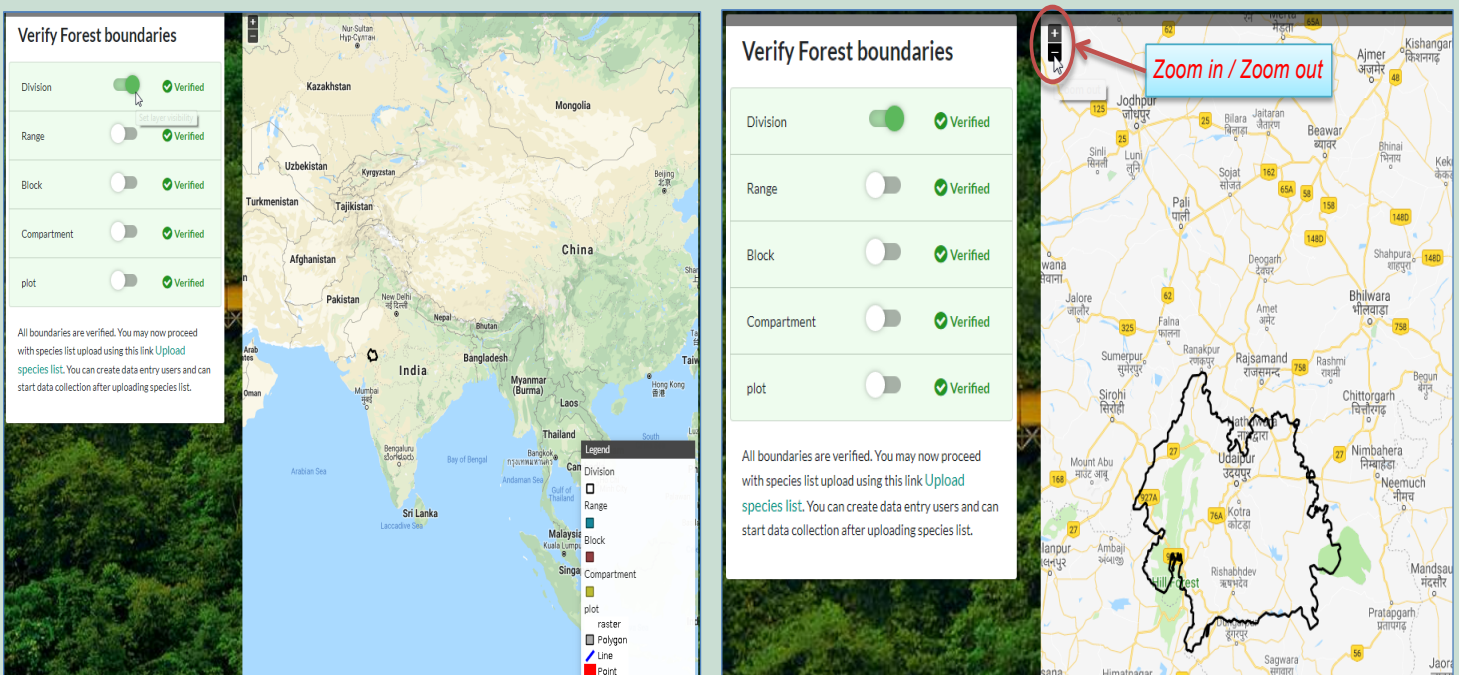
Already Uploaded

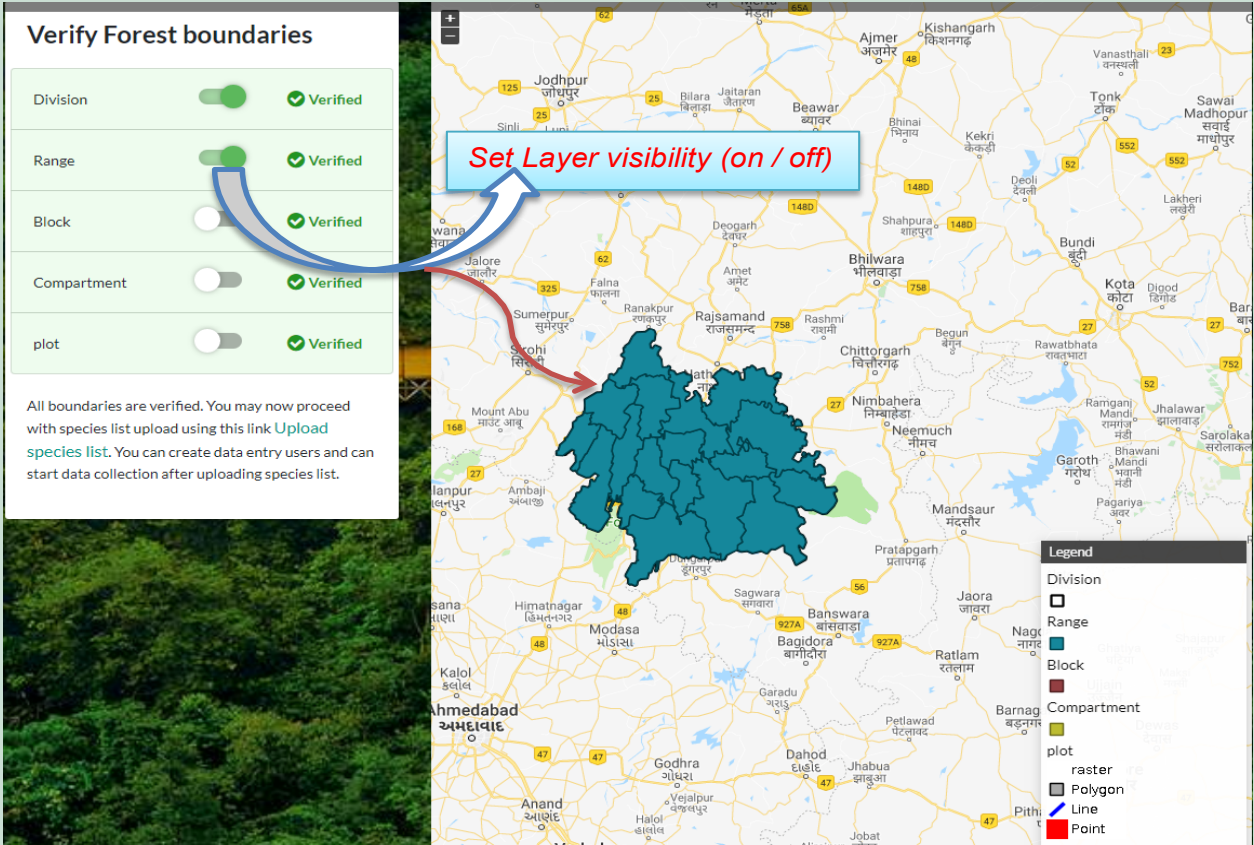
2.1.3 Verification

Click on Verification menu option to verify uploaded forest boundaries.

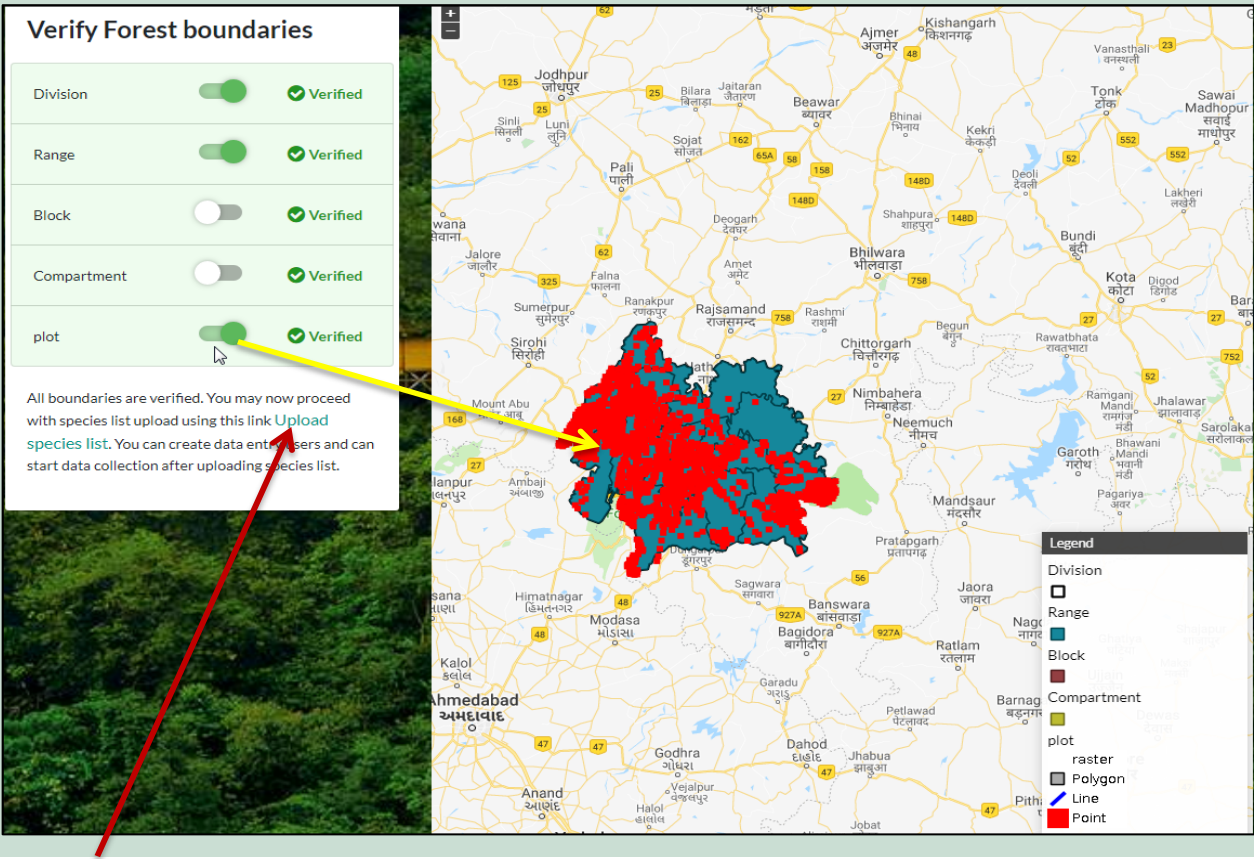


Already verified boundaries will be displayed on the map. Use Zoom in and Zoom out functions for display purposes, as shown in the image below.





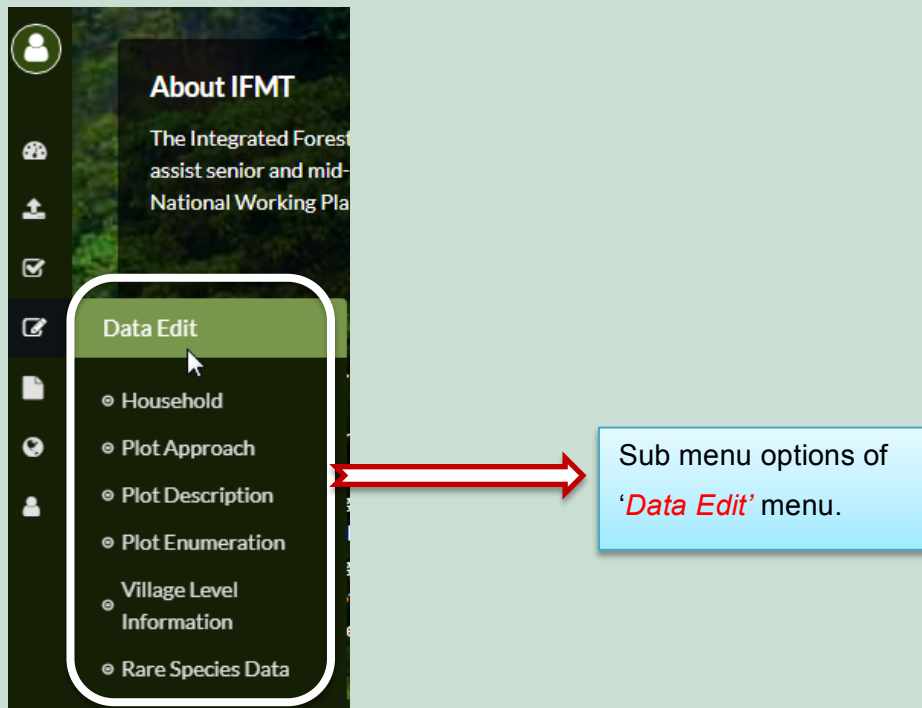
Division, range and plot layers are visible in the map below:



Species can be uploaded by clicking on 'Upload species list' as well. Functionality is same as mentioned in 2.1.2.2

2.1.4 Data Edit

Click on Data Edit menu to display sub-menu options.



2.1.4.1 Household

Click on the Household sub-menu option to view details of each Household interviewed and field data collected about their dependency on forest resources. Category wise household details can be viewed and downloaded in Excel format as shown below:

The screenshot displays the 'Household' data table. At the top, there is a 'Categories' dropdown and a 'Select Categories...' input. Below this, a 'Show 10 entries' dropdown and a 'Search:' input are visible. A 'Download Excel' button is located in the top right corner. The table has columns for Sr No., Survey ID, Status, Surveyor Designation, Survey Date, Latitude, Longitude, Altitude, and Accuracy. The first 11 rows of data are shown, all with a status of 'Included'. A yellow arrow points from the 'Search:' input to a callout box labeled 'Search option'. A red arrow points from the 'Download Excel' button to a callout box labeled 'Download in Excel format'. A blue arrow points from the vertical scroll bar on the right to a callout box labeled 'Scroll bar'. At the bottom, there is a pagination bar showing 'Showing 1 to 10 of 51 entries' and navigation buttons for 'First', 'Previous', '1', '2', '3', '4', '5', '6', 'Next', and 'Last'.

Household

Categories: Select Categories...

Show 10 entries

Search:

Download Excel

Download in Excel format

Search option

Scroll bar

Sr No.	Survey ID	Status	Surveyor Designation	Survey Date	Latitude	Longitude	Altitude	Accu
4	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
4	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
5	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
6	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
7	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
8	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
9	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
10	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8
11	560	Included	Data collector	2018-09-24 14:45:02	23.00721333333333	72.60906166666668	48.1	1.8

Showing 1 to 10 of 51 entries

First Previous 1 2 3 4 5 6 Next Last

Household

Show 10 entries

LIVESTOCK INFO

Sr No.	Survey ID	Status	Type of Livestock	Breed	Number of selected livestock
4	560	Included	cow	sgdgebd	5
4	560	Included	buffalo	svnfb scefe	5
5	560	Included	cow		5
6	560	Included	buffalo		2
7	560	Included	cow		5
8	560	Included	buffalo		2
9	560	Included	cow	sgdgebd	5
10	560	Included	buffalo	svnfb scefe	5
11	560	Included	cow	sgdgebd	5
12	560	Included	buffalo	svnfb scefe	5
13	560	Included	cow	sgdgebd	5
14	560	Included	buffalo	svnfb	5

Showing 1 to 10 of 51 entries

First Previous 1 2 3 4 5 6 Next Last

Categories

- Livestock info
- All
- Surveyor details
- Location details
- Family Details
- Household Information
- Livestock Owned by Family
- Livestock info
- Primary Occupation
- Secondary Occupation
- Any seasonal migration from the household?

Survey can be included or excluded in reports by clicking on this button.

Select category from the list to view category wise household details.

2.1.4.2 Plot Approach

This option displays the information gathered on the way to the sample plot like details of surveyor, location, topography, floral info, forest biomass collection, factors of degradation etc.

Plot Approach

Show 10 entries

Sr No.	Survey ID	Status	Surveyor Design	Date	Time	Latitude	Longitude
1	542	Included	Data collector	2018-09-20	12:52:34	22.5339578	72.986965
2	549	Included	Data collector	2018-09-22	12:02:37	22.5339559	72.986965
3	550	Included	Data collector	2018-09-19	15:26:17	22.5339631	72.986953
4	544	Included	Data collector	1970-01-01	05:30:00	22.85530775	72.811018
5	551	Included	Data collector	2018-09-24	14:26:23	22.93870666666667	72.717158
6	552	Included	Data collector	2018-09-24	14:36:43	22.533956	72.986964
7	553	Included	Data collector	2018-09-25	12:08:46	22.5339564	72.986965
8	554	Included	Data collector				

Showing 1 to 10 of 53 entries

First Previous 1 2 3 4 5 6 Next Last

Select number of entries you may like to display.

Select category from the list to display category wise plot details.

Categories

- All
- Surveyor details
- Location details
- Topography
- Factors of Degradation
- Faunal Sighting
- Floral info
- Forest Biomass collection
- Remarks

2.1.4.3 Plot Description

This option displays detailed information of the sample plot like location detail, topography, crop composition, bamboo info, grasses and weed, factors of degradation, water body, etc.

Plot Description Categories

Show **10** entries Search: [Download Excel](#)

LOCATION DETAILS											
Sr No.	Survey ID	Status	Latitude	Longitude	Altitude	Accuracy	State	Division	Range		
1	571	Included	22.5340933	72.9868987	0.0	24.77	-	Udaipur	Jhadol		
2	573	Included	22.5339571	72.986967	0.0	22.764	-	Udaipur	Jhadol		
3	547	Included	22.5339554	72.9869649	0.0	22.722	-	Udaipur	Jhadol		
3	547	Included	22.5339554	72.9869649	0.0	22.722	-	Udaipur	Jhadol		
4	546	Included	22.5339562	72.9869641	0.0	22.956	-	Udaipur	Jhadol		
5	569	Included	22.5339561	72.9869651	0.0	23.734	-	-	-		
6	572	Included	22.912168333333337	72.76371833333333	49.6	1.5	-	Udaipur	Jhadol		

Showing 1 to 10 of 12 entries First Previous **1** 2 Next Last

Plot details can be **downloaded in Excel**. This option is available in all Plot related information web pages.

2.1.4.4 Plot Enumeration

This option will display surveyor details, location details and flora and fauna data collected under the Plot enumeration form prescribed as per NWPC-2014.

Plot Enumeration Categories

Show **10** entries Search: [Download Excel](#)

FLORAL DATA									
Sr No.	Survey ID	Status	Plot Number	Habit Type	Select corner plot	Local Name	Specify other	GBH	Height (in meters)
1	588	Included	372	Tree	x	कैगर खेर - Acacia ferruginea	-	31	1
1	588	Included	372	Bamboo	x	बांस - Dendrocalamus strictus	-	1	1
2	597	Included	308	Tree	x	सागवान - Tectona grandis	-	31	7
2	597	Included	308	Shrub	दक्षिण-पूर्व	कड़वा, दुधि - Holarrhena pubescens	-	x	x
3	597	Included	308	Shrub	उत्तर-पश्चिम	कड़वा, दुधि - Holarrhena pubescens	-	x	x
4	597	Included	308	Sapling	उत्तर-पश्चिम	पलास, साखरा, छीला, दाक, पीला - Butea monosperma	-	x	x
5	597	Included	308	Sapling	दक्षिण-पश्चिम	पलास, साखरा, छीला, दाक, पीला - Butea monosperma	-	x	x

Showing 1 to 10 of 325 entries First Previous **1** 2 3 4 5 ... 33 Next Last

2.1.4.5 Village Level Information

This option shows information about forest fringe villages and their dependency on nearby forest areas or forest blocks, like location details, fuel wood info, fodder requirement, NTFP information, etc.

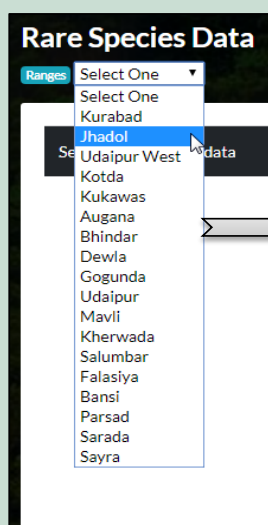
The screenshot shows a web interface titled "Village Level Information". At the top right, there is a "Categories" dropdown menu and a "Select Categories..." button. Below the title, there is a "Show: 10 entries" dropdown and a "Search:" input field with a "Download Excel" button to its right. The main content is a table with the following columns: Sr No., Survey ID, Status, Surveyor Designation, Survey Date, Latitude, Longitude, Altitude, and Accuracy. The table contains 8 rows of data, all with a status of "Included".

Sr No.	Survey ID	Status	Surveyor Designation	Survey Date	Latitude	Longitude	Altitude	Accuracy
1	589	Included	Data collector	2018-09-20 16:58:18	22.5339564	72.9869647	0.0	23.24
2	590	Included	Data collector	2018-09-22 12:07:39	22.5339561	72.9869642	0.0	23.54
3	591	Included	Data collector	2018-09-24 14:38:29	23.002306666666662	72.61852666666667	53.4	1.8
4	592	Included	Data collector	2018-09-24 14:43:44	22.5339571	72.9869654	0.0	22.94
5	593	Included	Data collector	1970-01-01 05:30:00	23.229648333333333	72.73211500000001	77.6	1.8
6	903	Included	Data collector	2018-10-04 21:37:47	22.5449993	72.9624573	0.0	24.9
7	910	Included	Data collector	2018-10-08 12:15:30	22.5340948	72.98716941	-8.002838134765625	11.79
8	920	Included	Data collector	2018-10-08	22.5340948	72.98716941	-8.002838134765625	11.79

At the bottom of the table, it says "Showing 1 to 8 of 8 entries". There are navigation buttons: "First", "Previous", "1" (current page), "Next", and "Last".

2.1.4.6 Rare Species Data

Click on this option to load Rare species data for the region as shown below:



Select **Range** from the list to display rare species data. Data will be displayed as shown below.

Provision to **Export all** rare species data in Excel is given to authorised users.

Rare Species Data

Ranges: Jhadol

Export All

id	height	girth	altitude	longitude	latitude	accuracy	rare_species_name	rare_species_other_name	image
VI-	5 - 10	80	493.0	73.4117635153234	24.38135223928839	16.0	Wrightia tinctoria- खेन्नी, खैरनी (100)		
VI-	5 - 10	130	481.0	73.41179746203125	24.38134151045233	15.0	Sterculia urens- कडाया, कडा (100)		
VI-	5 - 10	130	481.0	73.41179746203125	24.38134151045233	15.0	Sterculia urens- कडाया, कडा (100)		
VI-	5 - 10	90	462.0	73.40799886733294	24.379450511187315	15.0	Acacia leucophloea- अरुजिया, अजमेरिया, रौंझ (100)		
VI-	5 - 10	90	462.0	73.40799886733294	24.379450511187315	15.0	Acacia leucophloea- अरुजिया, अजमेरिया, रौंझ (100)		

Click on the image to enlarge as shown below.

Integrated Forest Management Toolbox

Rare Species Data

Ranges: Jhadol

Export All

Close

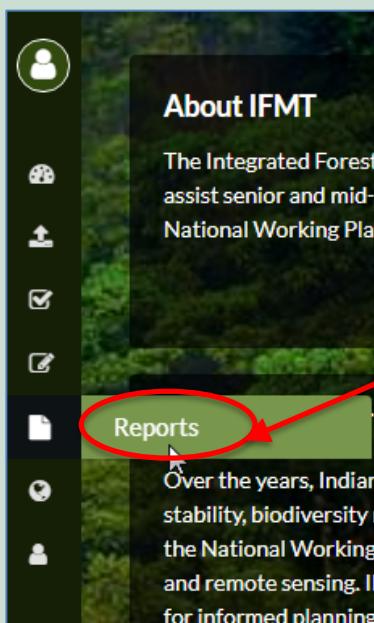
Click to **close** the image

Click to **Rotate** the image.

rotate

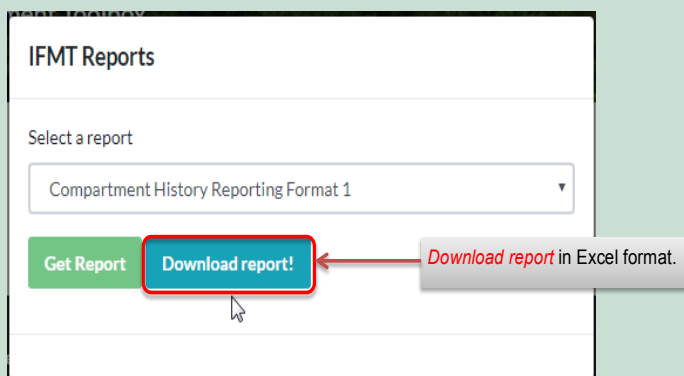
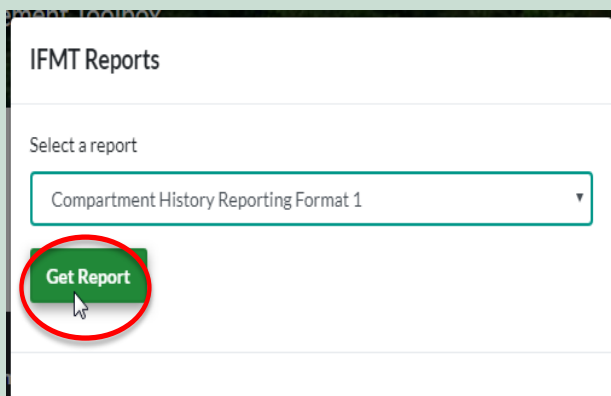
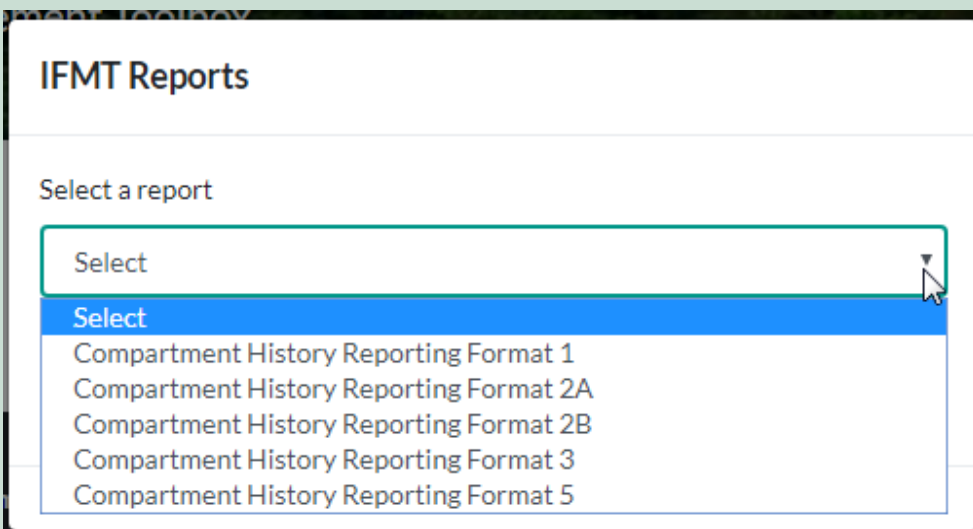
2.1.5 Reports

This menu option will display a list of reports and the user can select the report he/she intends to view and download from the dropdown list as shown below.



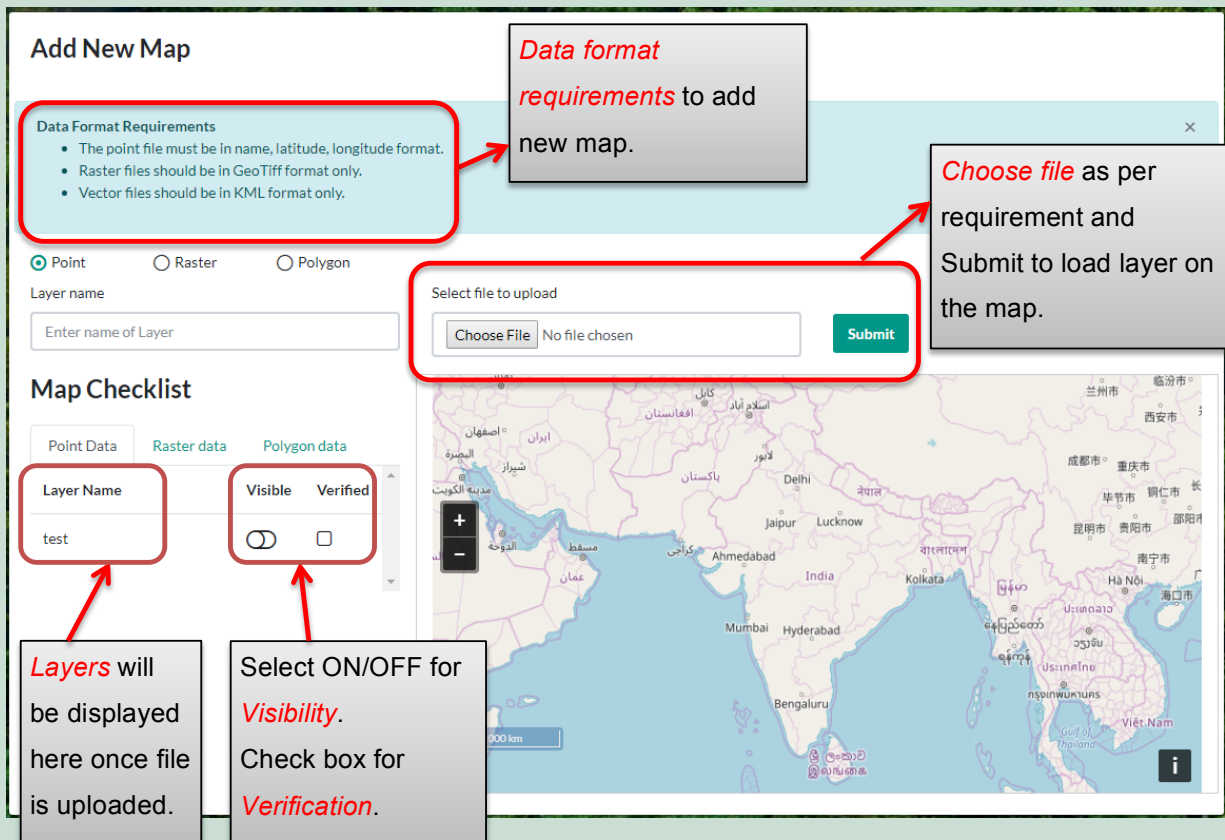
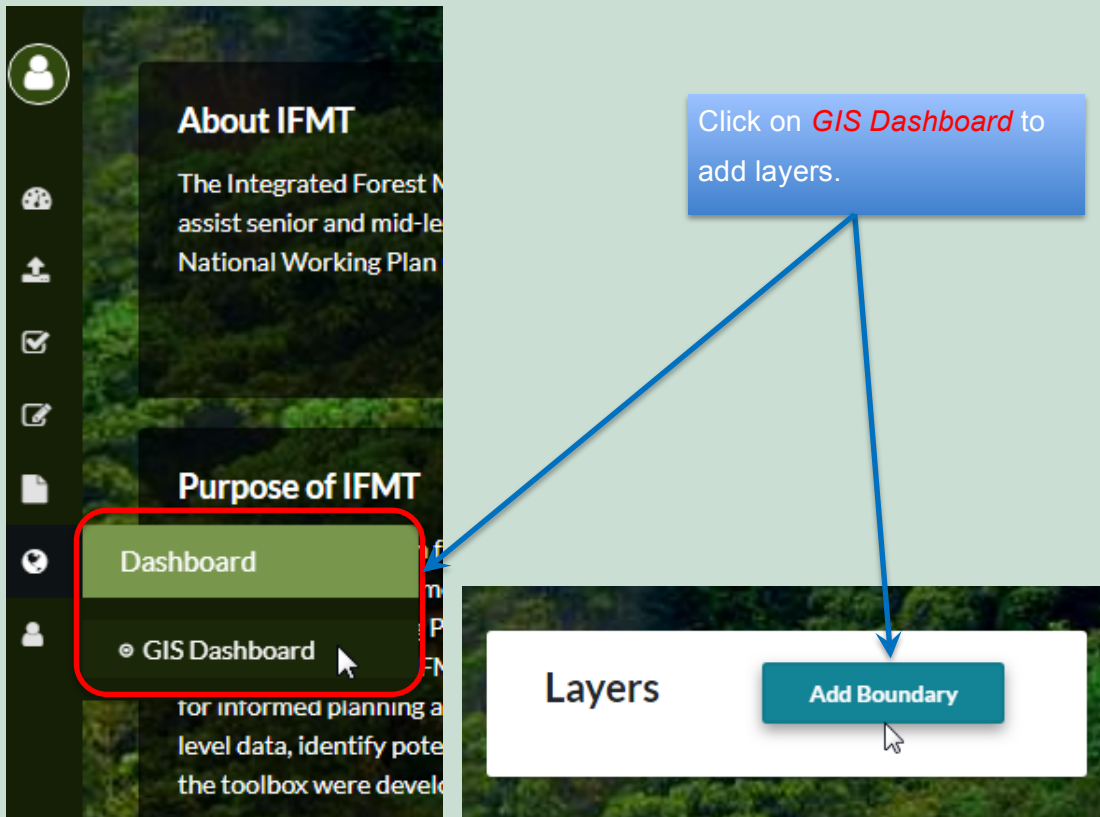
Currently, *Reports* are available in Excel formats and can be downloaded. Additional features of Reports are under development for Version 2.

Select Report from the *list* and download the report as shown in the following image.



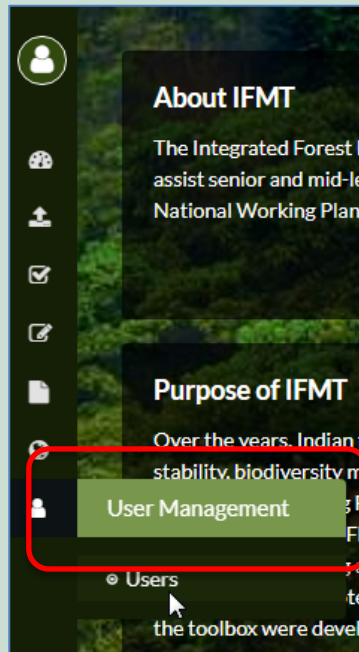
2.1.6 Dashboard

GIS Dashboard enables the user to add layers and boundaries to prepare an on-screen map composition and visually interpret GIS thematic layers.



2.1.7 User Management

User management helps to create a new user and view existing user details.





























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