

User Manual

Myanmar Land and Agriculture Monitoring Project (LAMP)

(Version - v1.0)

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1. Introduction

1.1 Overview

The Myanmar Land and Agriculture Monitoring Project (LAMP) is an open-access, web-based tool designed to monitor the landscape and biophysical conditions in Myanmar. The core features of this tool include maps, charts, and descriptive information to track various environmental parameters critical to environmental protection and safeguarding. This user manual provides guidance on how to navigate and effectively utilize the dashboard's features.

1.2 Purpose

This tool allows users to visualize, explore, and export maps and charts for informed decision-making. It is intended for use by decision-makers, environmental activists, policymakers, NGOs, donors, government officials, and other stakeholders.

2. Getting Started

2.1 Accessing the Dashboard

URL - <https://myanmar-me-servir.adpc.net/>

2.2 System Requirements

Browser - Compatible with Chrome, Firefox, and Edge.

Internet Connection - A stable connection is required for optimal performance.

2.3 Navigation

The Myanmar Land and Agriculture Monitoring Project (LAMP) has four main navigation options: Home, Map Viewer, Technical Description, and User Manual. Clicking on each of these options will take you to the respective page.



Fig. 01: Navigation menu

2.4 Page Descriptions

Here's a brief overview of each page accessible via the navigation:

A. Home

The default landing page that provides a brief description of the tool, its purpose, and use cases. This page helps users understand the overall scope and utility of the dashboard.

B. Map Viewer

This page allows users to visualize data products as maps and charts. It includes various tools for exploring and analyzing spatial data, along with descriptive information to aid interpretation. The details of the MapViewer page is described in section 3 - LAMP Dashboard.

C. Technical Description

This page contains detailed information about the methods, techniques, and tools used to generate the data products. It includes details on spatial resolution, coverage, accuracy, and other technical specifications.

D. User Manual

This page provides guidelines on how to use the dashboard's features and functionalities. It serves as a comprehensive resource for users seeking to navigate the tool effectively.

3. The LAMP Dashboard

3.1 Overview

The MapViewer is the core component of the Myanmar Land and Agriculture Monitoring Project (LAMP) dashboard. It offers a range of features and functionalities for visualizing and analyzing various spatial datasets related to land cover, biophysical conditions, and other environmental factors in Myanmar.

To access the MapViewer, users need to click on the MapViewer option in the navigation menu. Upon entering the page, a quick guide panel will appear, providing step-by-step instructions to help users interact with the MapViewer efficiently. This guide covers the following steps:

1. **Select the Baseline and Evaluation Periods:** Choose the time periods before and during the project intervention to compare changes in the landscape.
2. **Define the Area of Interest (AOI):** Select a specific state or township either from the layer selection menu or by clicking directly on the map.
3. **Update the Map:** Click the "Update Map" button to generate insights based on the selected data and AOI.
4. **View Information and Statistics:** The left-side panel will display charts and descriptive information related to the selected area, which can be explored further by switching between different sidebar menus.

Additionally, a demo video is available to assist users in understanding how to interact with the tool and make the most of its features.

The screenshot shows a dashboard titled "Welcome to the Myanmar Land and Agriculture Monitoring Project (LAMP) Dashboard". Below the title, it says "GET STARTED WITH FOUR EASY STEPS". The steps are:

- Step 1** Select Baseline and Evaluation period (Baseline period: period before project intervention / Evaluation period: period of project intervention)
- Step 2** Define area of interest (administrative boundaries, protected area(s) or customized)
- Step 3** Update map
- Step 4** Select information of interest

At the bottom, there is a blue button that says "WATCH A DEMO VIDEO" and a link that says "READ OUR TOOL GUIDELINES TO DISCOVER MORE...".

Fig. 2: Quick user guide

3.2 Map Viewer Layout

This section describes the layout of the Map Viewer, highlighting key components such as the map, sidebar, legend, zoom controls, dashboard control and tools for data exploration.

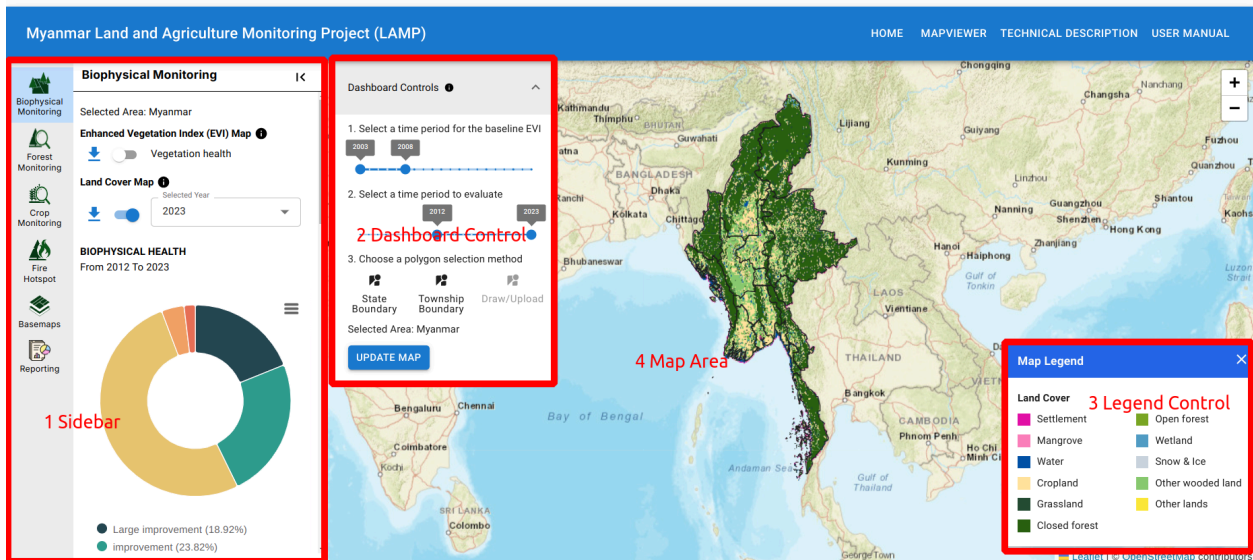


Fig. 3: Dashboard Layout

3.2.1 Sidebar

The sidebar on the left side of the interface consists of six main menus, each providing specific tools and datasets for analyzing various aspects of Myanmar’s landscape and biophysical conditions. Below is a detailed description of each menu and its functionalities.

A. Biophysical Monitoring

- **Description:** The default selected menu in the sidebar, focusing on monitoring vegetation and land cover changes.
- **Datasets:**
 - **Enhanced Vegetation Index (EVI):** Displays vegetation health and density across the landscape.
 - **Land Cover Map:** Shows the latest available land cover classifications for Myanmar.

- **Features:**



Fig. 4: Landcover features

- **Layer Toggle:** Use the toggle switch to turn layers on or off.
- **Year Selection:** For the Land Cover Map, users can select the desired year from a dropdown menu to view changes over time.
- **Download Icon:** Users can download the dataset in GeoTIF formats by clicking on the download icon next to each layer.

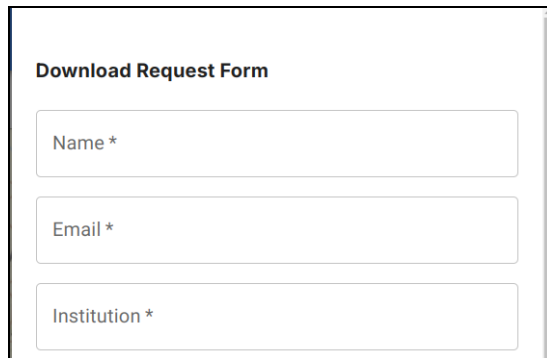
The image shows a 'Download Request Form' with three input fields. The first field is labeled 'Name *', the second is 'Email *', and the third is 'Institution *'. Each field has a light gray border and a small downward arrow on the right side, indicating they are text input boxes.

Fig 5: Download request form

User require to fillup a form to download the dataset.

- **Tooltips:** Hover over any option to see a brief description of what the layer represents and how it can be used.
- **Layer Info:** Click on the info icon shows the details about the landcover layers in a popup modal.

Land Cover Layer	
Overview	The Myanmar National Land Cover time series (2000 - 2023) was developed through a collaborative effort led by SERVIR SEA using the Regional Land Cover Monitoring System approach (Saah et al. 2020). An uncertainty assessment was integrated into the assemblage process. These maps were developed using Landsat annual composites and training data collected by multiple stakeholders.
Resolution	30m
Geographic Coverage	Myanmar
Data Source	N/A
Frequency updates	Annually
URL link to tool	https://landcovermapping.org/
The findings, interpretations, and conclusions expressed in this document, data do not necessarily reflect the views of ADPC, USAID or partners, and the US governments, and are based on satellite imagery and artificial intelligence data processed to estimate the best scenario without full	

Fig. 6: Landcover layer info

- **Charts:**
 - **EVI:** Includes a pie chart and a line chart to visualize vegetation health over time and distribution across different areas.
 - **Land Cover:** Two bar charts display land cover data for both the baseline and evaluation periods, providing a comparison of land cover changes over time.

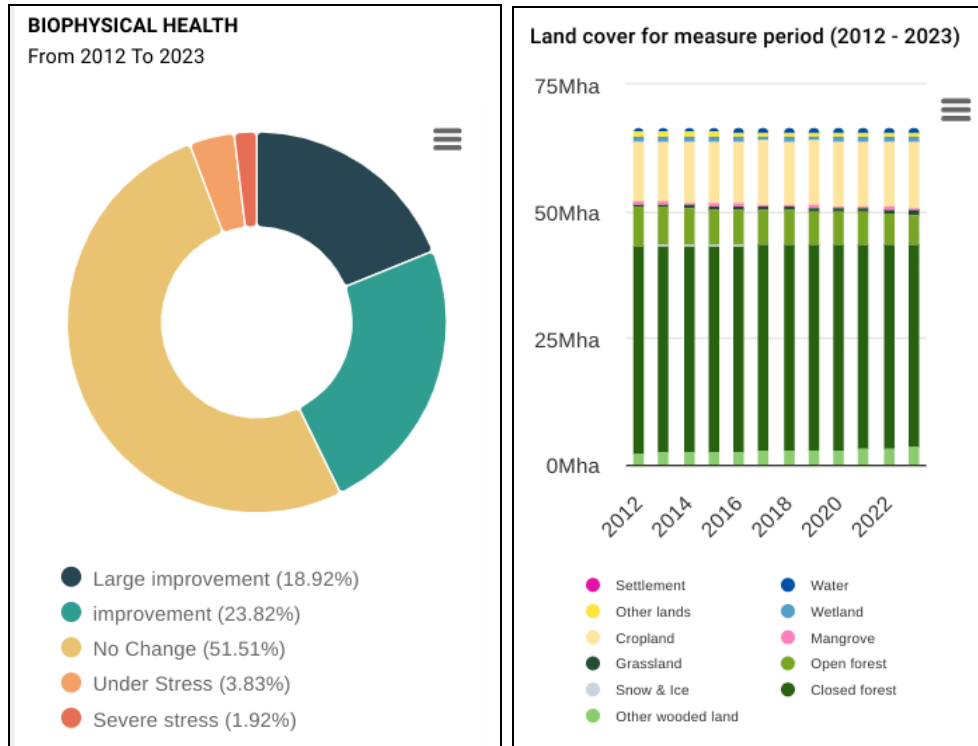


Fig. 7: Displaying biophysical and landcover charts

B. Forest Monitoring

- **Description:** Focused on tracking forest changes over time, including gains, losses, and current coverage.
- **Datasets:**
 - **Forest Gain:** Areas where forest cover has increased.
 - **Forest Loss:** Areas where forest cover has decreased.
 - **Forest Cover:** A comprehensive map showing current forest coverage.
- **Features:**
 - **Default Layers:** Forest Gain and Loss layers are active by default, providing an immediate view of changes.
 - **Layer Toggle:** Turn layers on/off to focus on specific aspects of forest change.

- **Year Selection:** Choose different years to see forest cover changes over time.
- **Download Icon:** Download forest datasets for offline analysis or reporting.

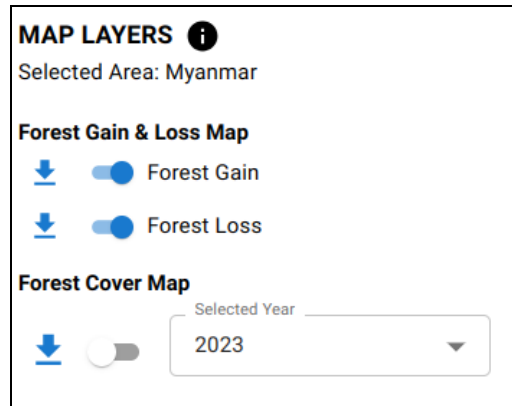


Fig. 8: Forest monitoring features

- **Tooltips:** Hover over each dataset name to get more information about its contents and how to interpret the data.
- **Layer Info:** Click on the info icon shows the details about the layers information in a popup modal.
- **Charts:** This panel includes forest cover charts as well as forest loss and gain chart.

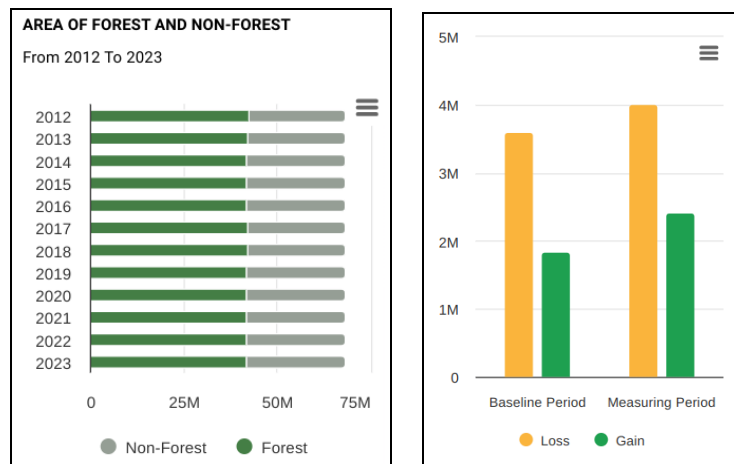


Fig. 9: Charts in forest monitoring panel

C. Crop Monitoring

- **Description:** Designed to track seasonal rice production, helping monitor agricultural changes.
- **Datasets:**
 - **Summer Rice:** Displays the areas under rice cultivation during the summer season.
 - **Monsoon Rice:** Displays the areas under rice cultivation during the monsoon season.
- **Features:**
 - **Layer Toggle:** Users can switch layers on/off to compare rice cultivation patterns across seasons.
 - **Download Icon:** Export crop data for further analysis.
 - **Tooltips:** Provides information on how rice cultivation is mapped and how to interpret the layers.
 - **Layer Info:** Click on the info icon shows the details about the layers information in a popup modal.
 - **Charts:** Displays the timeseries chart of rice based on pixel based and sample

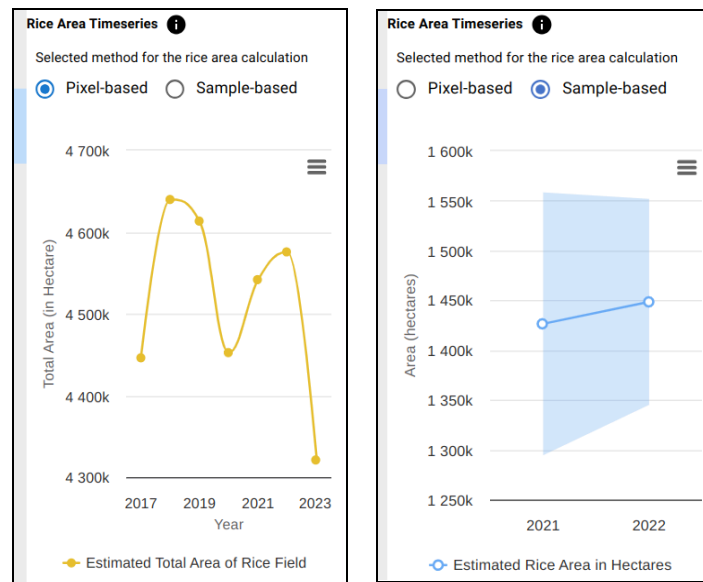


Fig. 10: Charts in crop monitoring panel

D. Fire Hotspot

- **Description:** Monitors fire activity in the region, providing real-time data on fire occurrences.
- **Datasets:**
 - **Fire Layer:** Shows the locations of fire hotspots for a particular year.
- **Features:**
 - **Layer Toggle:** Enable or disable the fire layer to focus on specific data.
 - **Download Icon:** Allows users to download fire hotspot data for further reporting or analysis.
 - **Tooltips:** Explains the fire data, including how recent the data is and what thresholds are used for identifying hotspots.
 - **Layer Info:** Click on the info icon shows the details about the layers information in a popup modal.
 - **Charts:** Displays yearly number of fire hotspots in bar chart.

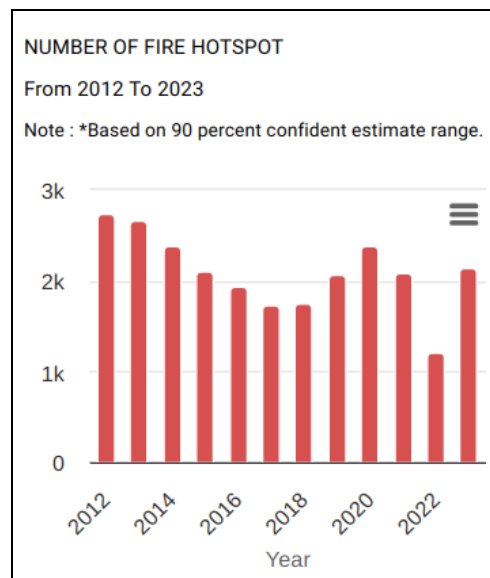


Fig. 11: Fire hotspots timeseries chart

E. Basemaps

- **Description:** Provides different basemap options that users can activate to change the underlying map background.
- **Basemap Types:**
 - **Satellite:** High-resolution as well as open sources satellite imagery.
 - **Streets:** Detailed street maps for urban and rural areas.
 - **Terrain:** A map showing elevation and landscape features.
- **Features:**
 - **Layer Toggle:** Switch between basemaps by clicking on the desired option. Only one basemap can be active at a time.

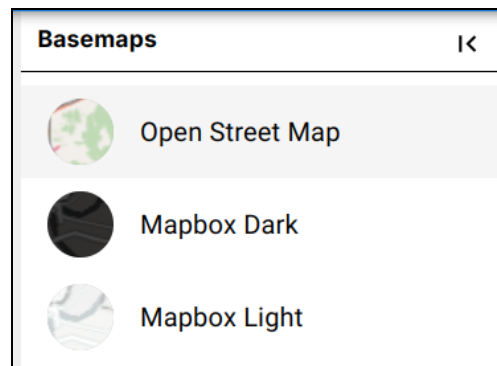


Fig. 12: Basemap selector

F. Reporting

- **Description:** Provides a summary of the data visualized on the map, including key statistics and insights from each selected layer.
- **Features:**
 - **Report:** Displays selective charts with texts for each of the selected menus -Biophysicals, Forest, Crops, and Fire.

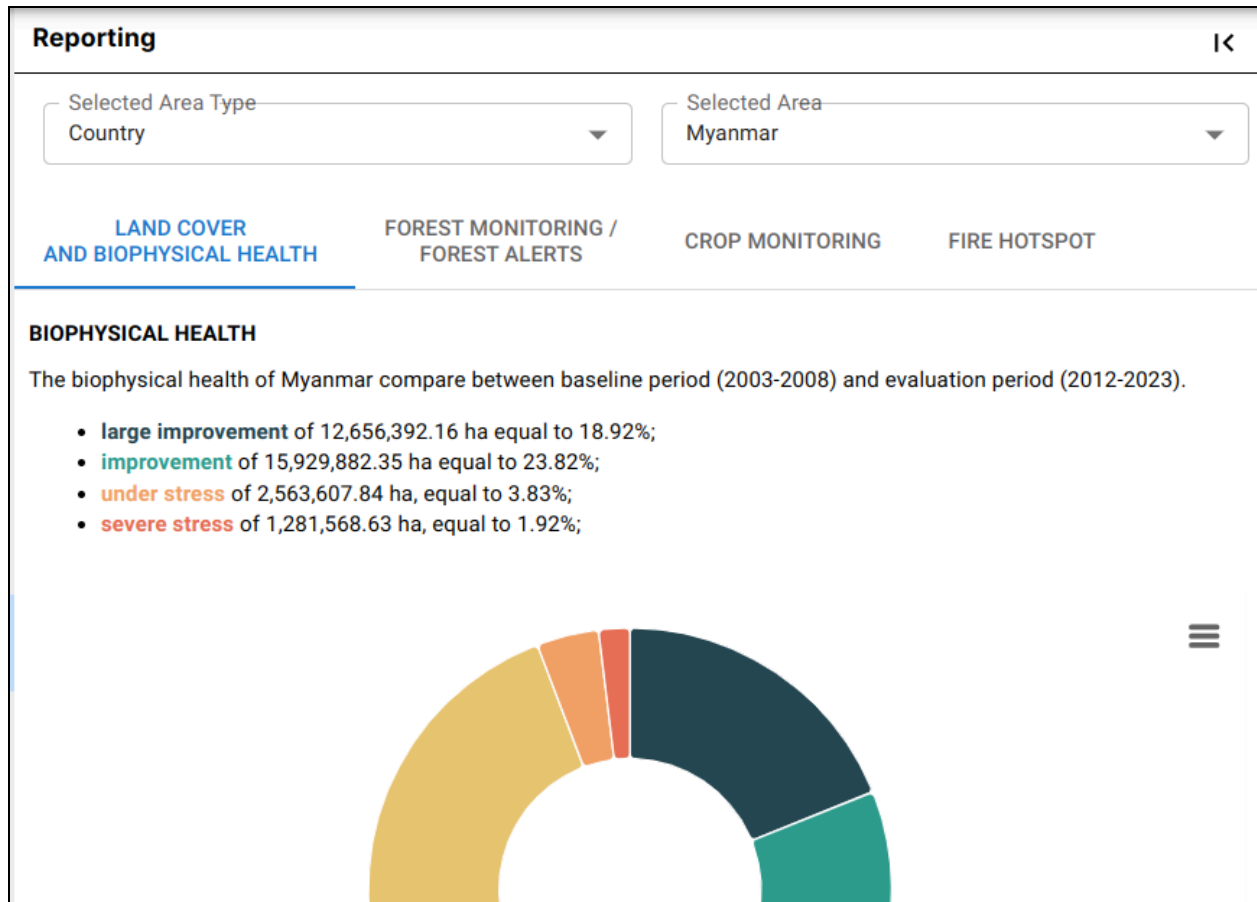


Fig. 13: Reporting panel view

3.2.2 Dashboard Control

This section will provide more detailed instructions on how to effectively use the MapViewer.

3.2.2.1 Step 1: Selecting the Baseline and Evaluation Periods

The first step in using the MapViewer is selecting the Baseline and Evaluation periods. These timeframes are crucial for comparing the landscape and biophysical conditions before and during the project intervention.

- **Baseline Period:** Select the period that represents the state of the area before any interventions or changes were made.

- **Evaluation Period:** Select the period that corresponds with the time when interventions or changes occurred.

How to Select Periods:

1. Click on the **Baseline Period** range selector.
2. Choose a specific year range that represents the pre-intervention period.
3. Click on the **Evaluation Period** range selector.
4. Choose a year range that corresponds to the post-intervention period.

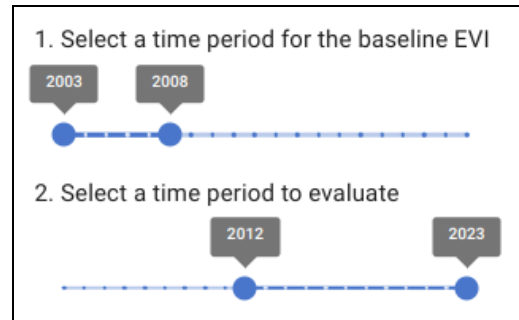


Fig. 14: Baseline/Evaluation period selector

Tip: Ensure that the Baseline and Evaluation periods are sufficiently spaced apart to observe meaningful changes in the data.

3.2.2.2 Step 2: Defining the Area of Interest

Next, you need to define your area of interest (AOI) by selecting a specific state or township in Myanmar. You can do this by clicking on the map directly.

- **Map Click:** Zoom into the map and click on the desired area to automatically define it as your AOI.

How to Define AOI:

1. From **Polygon Selection** click administrative layer (e.g., state or township).
2. By default state layer added into the map. When click on township, it will be added in to the map.

3. Click on the map, the selected state/township name will be appear in the selected area above update map button .

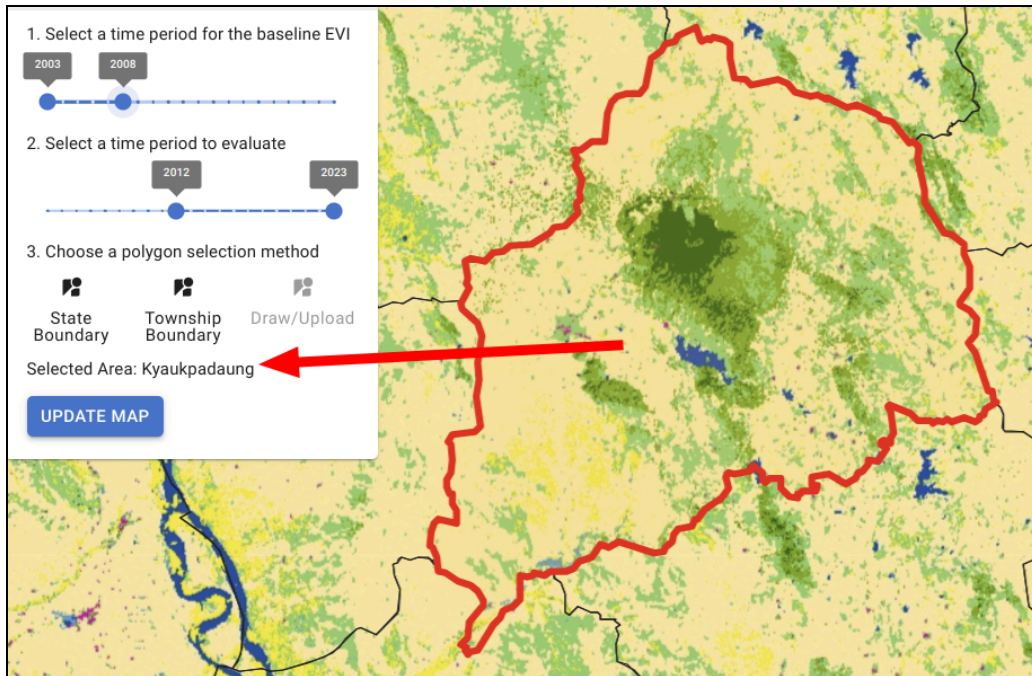


Fig. 15: Displaying area namee for selected township on map

Tip: You can use the zoom controls to get a closer look at the area before making your selection.

3.2.2.3 Step 3: Updating the Map

After selecting the Baseline and Evaluation periods and defining your AOI, you need to update the map to visualize the data as well as generate the insights.

- **Click on the "Update Map" Button:** This will trigger the system to process the selected data layers and display the insights on the map.

How to Update the Map:

1. Once your selections are complete, click on the **Update Map** button.
2. Wait for the map to refresh and display the updated data for your AOI.

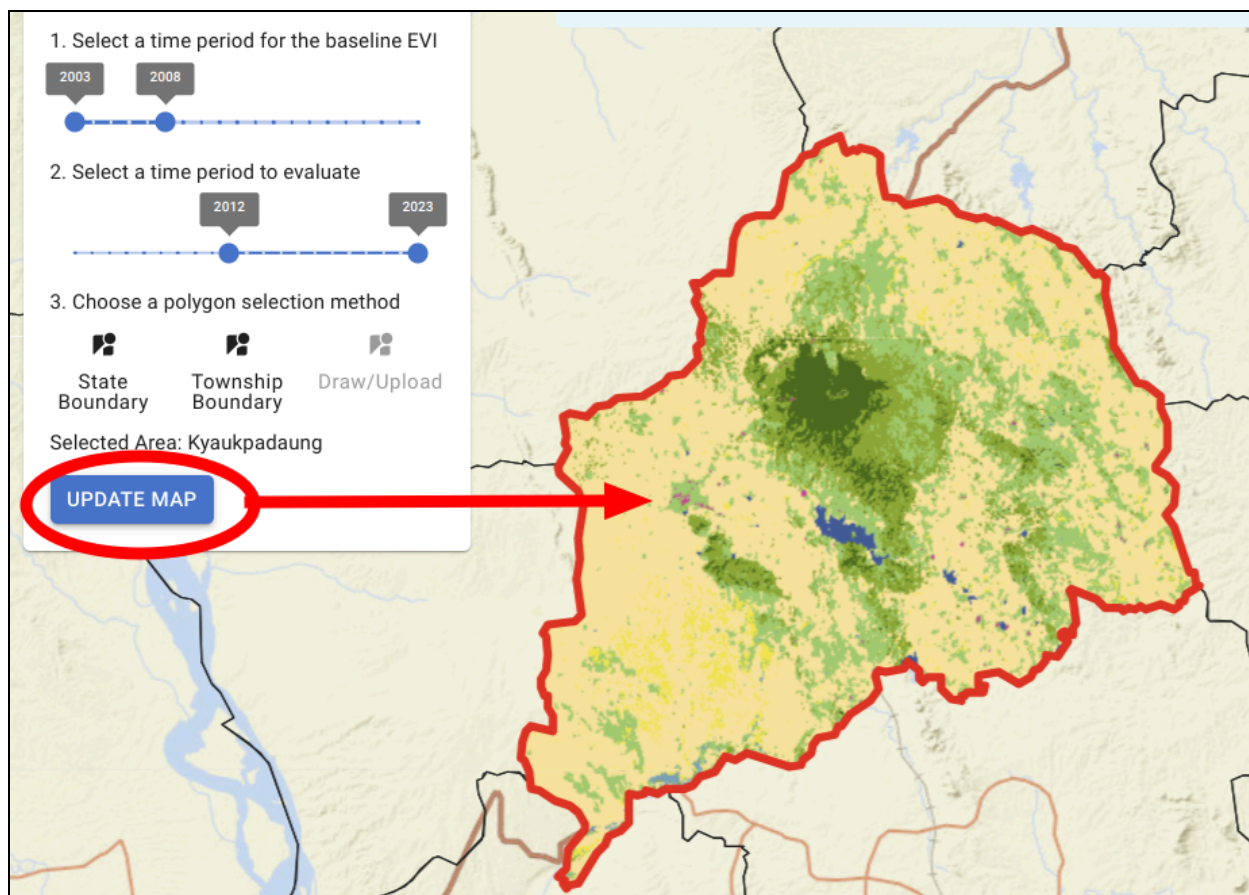


Fig. 16: Displaying updated map for selected area

Tip: Ensure all your selections are correct before updating the map to avoid reloading unnecessary data.

3.2.3 Map Display Area

The central area of the layout is the map area displays various data layers on top of the basemap. This section also includes controls for zooming, panning, legend control, dashboard control and interacting with the map.

3.2.3.1 Zoom Controls

Allows users to zoom in and out of the map for a closer or broader view of the data.

3.2.4. Legend Control

The legend control panel displays the legend for the active layer. This panel is collapsible, allowing users to hide and expand it as needed.

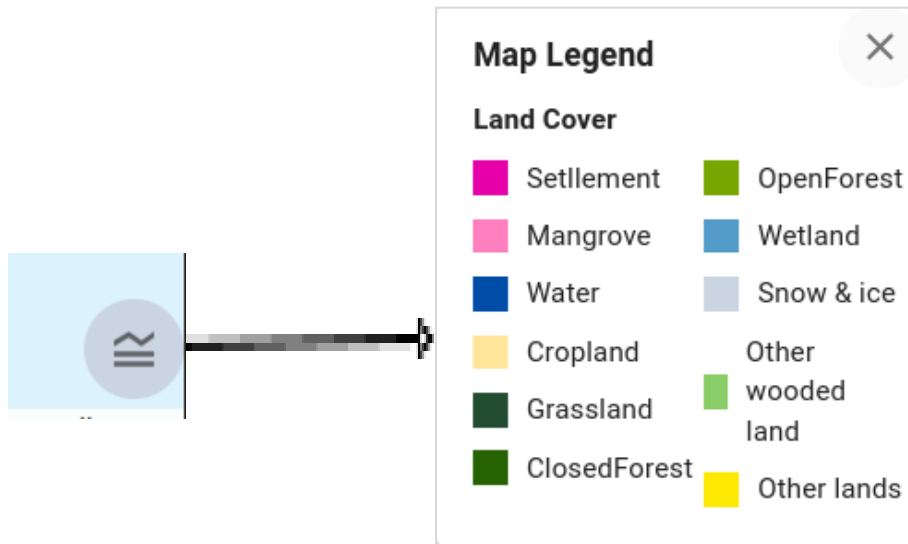


Fig. 17: Legend control panel

4. Conclusion

This user manual provides a comprehensive guide to navigating and utilizing the Myanmar Landscape Monitoring Dashboard. For further assistance, please refer to the technical documentation or contact support.