



# Mozambique

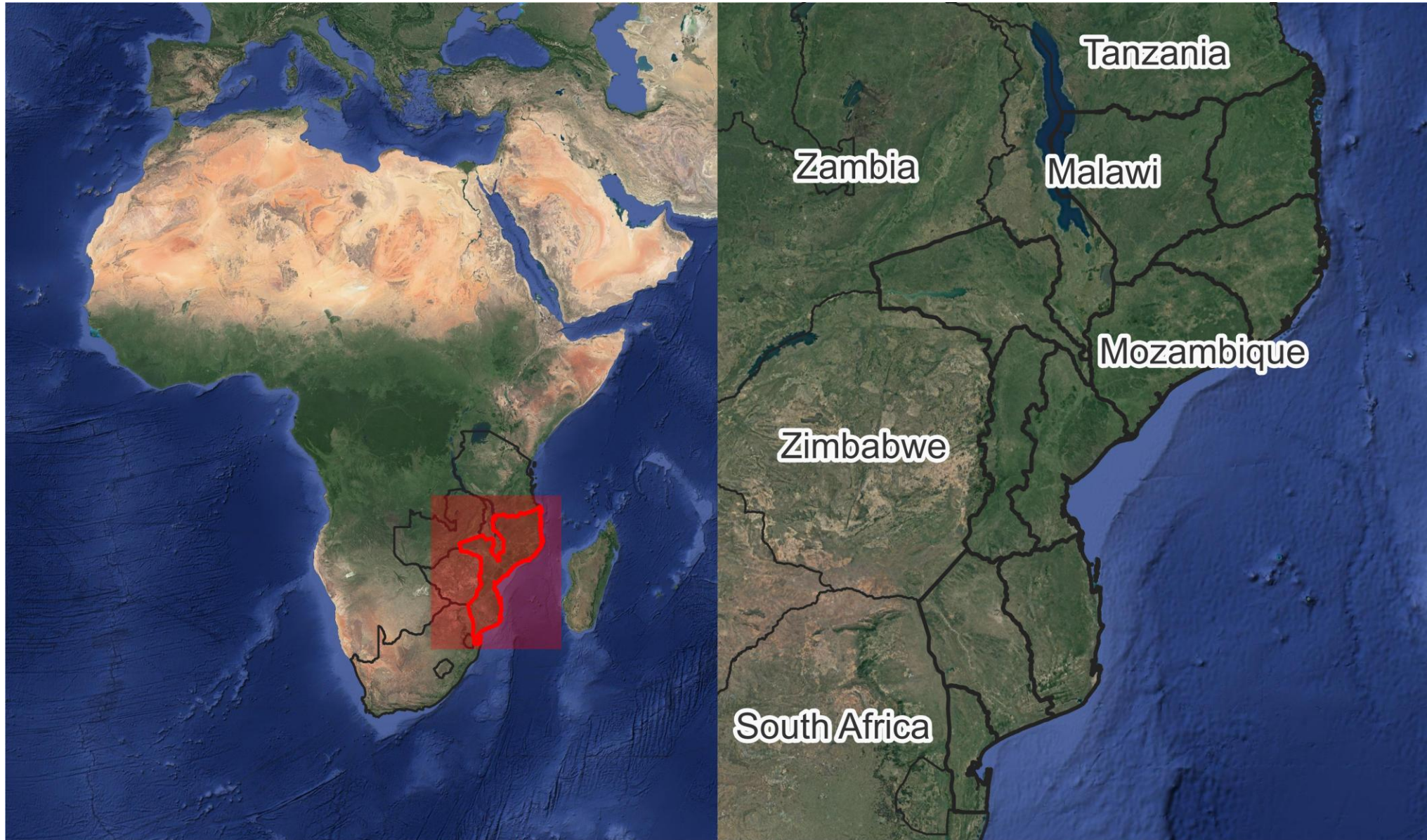
Strengthening Mozambique's NFMS  
for REDD+ and Climate Transparency

**Muri Soares, MRV Unit of FNDS**



# Introduction







# Introduction

## Institutional Context

- NFMS of Mozambique:
  - National Directorate of Forests and Wildlife
  - MRV Unit for REDD+ of the National Fund for Sustainable Development
- National Directorate of Forests: Management of forest resources
- MRV Unit: Provides technical assistance for remote sensing and monitoring systems



# NFMS Progress



# Timeline

**2016**

- National REDD+ Strategy
- Establishment of MRV Unit for REDD+

**2017**

- Historical Activity Data (2001-2016)
- 4<sup>th</sup> National Forest Inventory

**2018**

- Land use and Land Cover Map (2016)
- National FREL (2003-2013)



# 2019

- **Permanent Sampling Plots (PSP)  
Manual  
Establishment of 2 PSP**
- **Start of Annual mapping of deforestation (2017-present)**

# 2020

- **Start of Participatory MRV tool (2020-present)**
- **1<sup>st</sup> ER Monitoring Report for Zambézia ER Program (FCPF)**
- **Establishment of 1 PSP**

# 2021

- **NFMS Document v1**
- **Establishment of 12 PSP**

# 2022

- **1<sup>st</sup> Biennial Update Report with REDD+ Technical Annex  
2<sup>nd</sup> ER MR for Zambézia ER Program  
Establishment of 10 PSP**



# 2024

- Participatory MRV study on drivers of deforestation in Zambezia
- 2<sup>nd</sup> Biennial Update Report with REDD+ Technical Annex
- 3<sup>rd</sup> ER MR for Zambézia ER Program
- NFMS Document v2

# 2025

- Participatory MRV study on drivers of deforestation in Niassa and Nampula provinces
- 4<sup>th</sup> ER MR for Zambézia ER Program





# GFOI Capacity Development Impact



# Involvement with GFOI

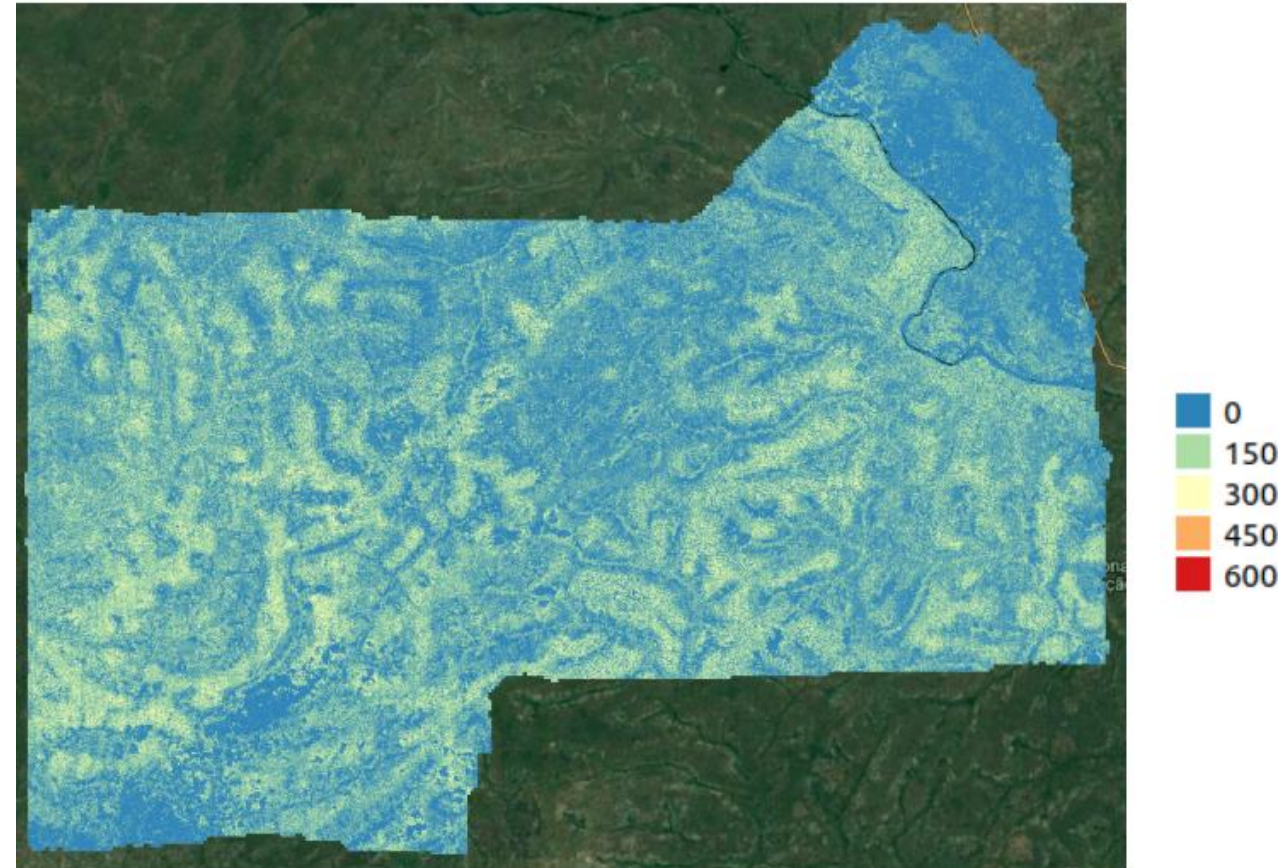
- GFOI Plenaries: 2019, 2021, 2023
- 2017: REDD+ Compass MRV Action Plan
- 2019: Country Needs Assessment for NFMS
- 2024: Biomass Rapid Response Module



# Biomass mapping

## Collaborations

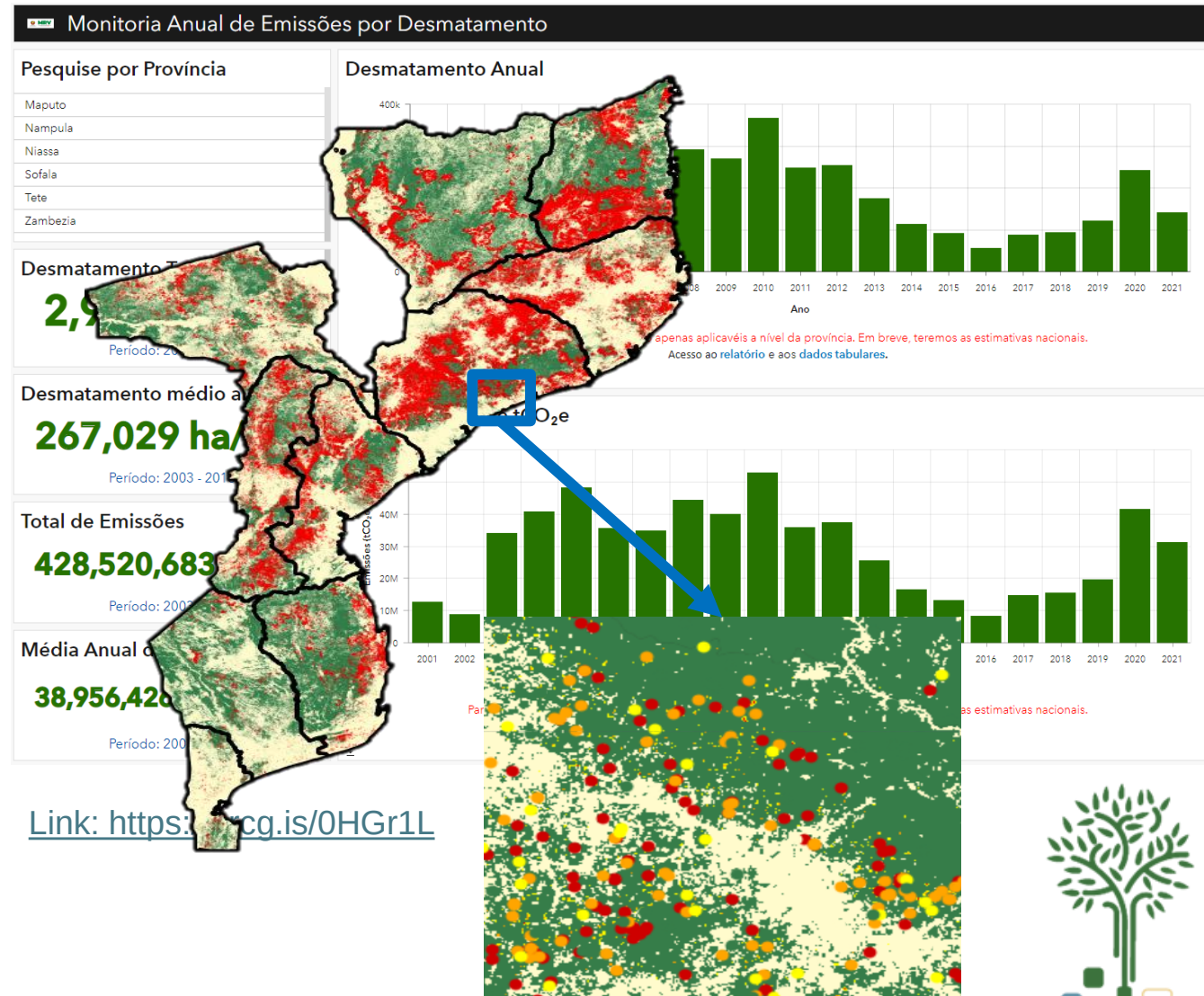
- Sylvera (WB/GoM funded)
  - Collection of in-situ and Lidar data
  - Production of locally calibrated biomass map
- GeoVille (WB funded)
  - Sentinel-2, Alos-2 Palsar-2 and Landsat Canopy Cover %
  - Mozambique NFI AGB estimates as training/validation data
- Wageningen
  - Using NFI plot data and ESA CCI Biomass maps
  - Model-assisted estimates aligned well with field-based estimates





# Annual deforestation monitoring

- 2017 – present
- Produces annual estimates of deforestation
- Used in:
  - FCPF ER Program Monitoring
  - ERs in landscape projects
  - Emission estimates at national, provincial and district level

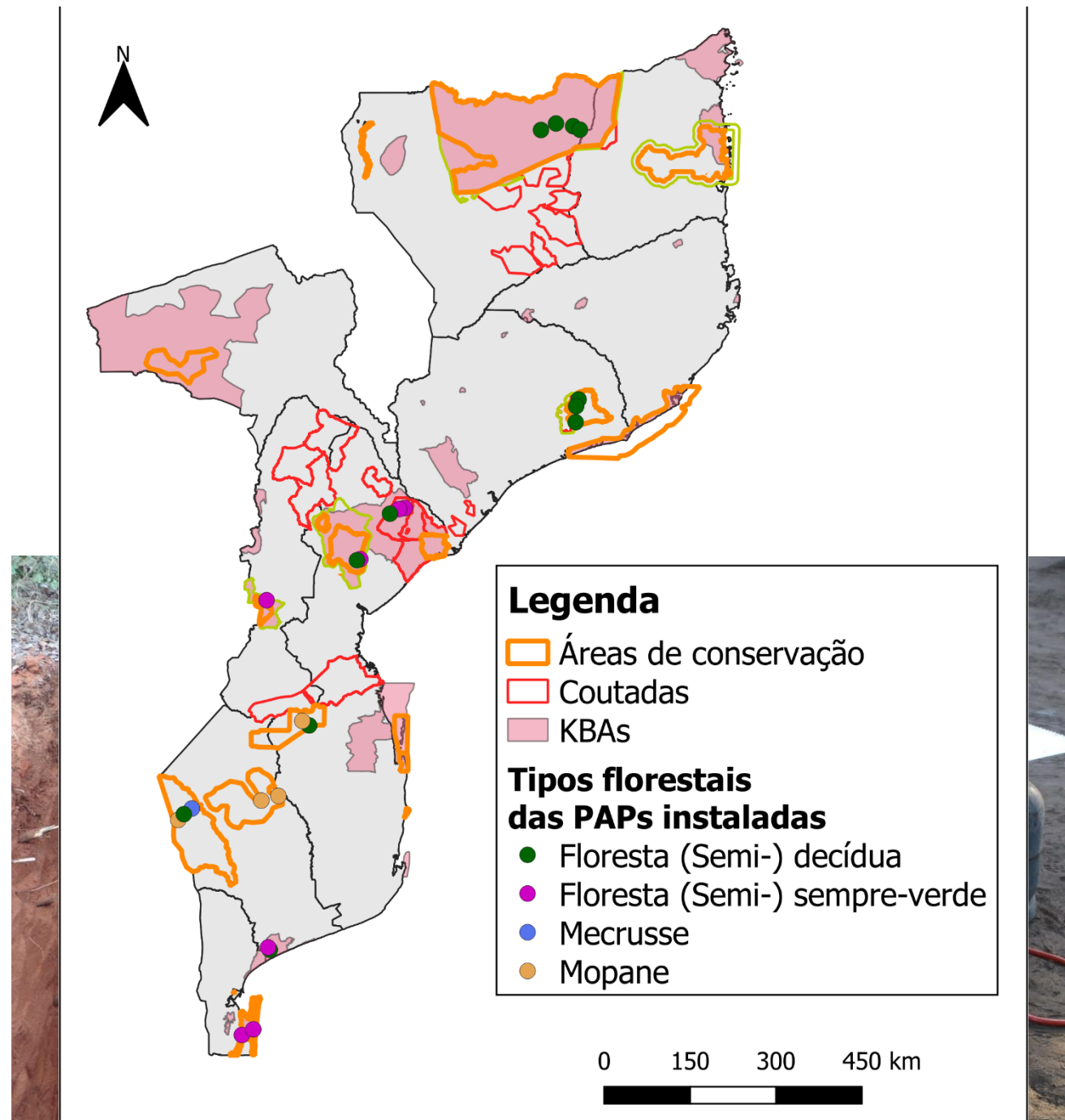




# Permanent Sampling Plots



Link: <https://bit.ly/localizacaoPAPsMOZ>

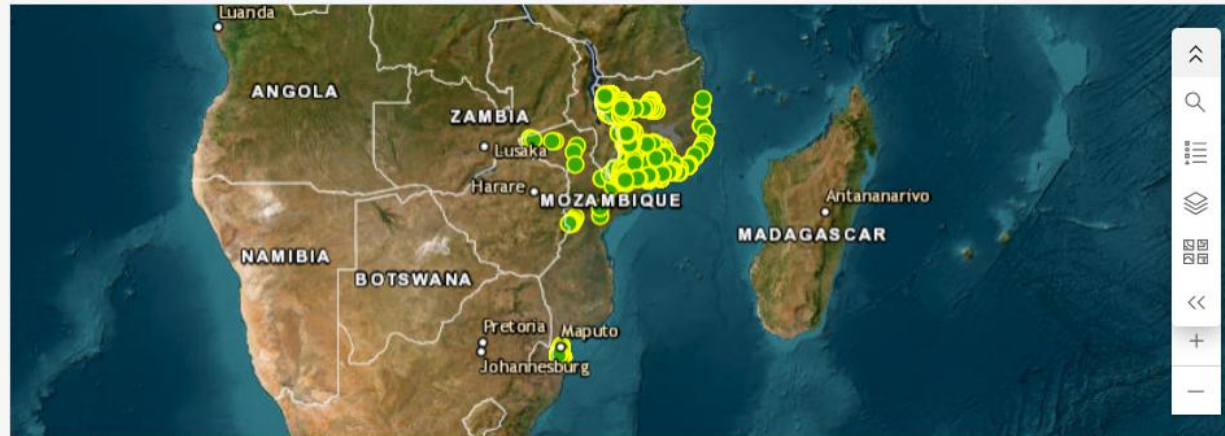


# Participatory MRV



Pontos Verificados

1,353



Earthstar Geographics | Esri, HERE, Garmin

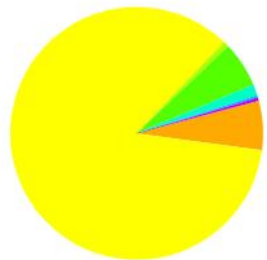
Powered by Esri

% de Confirmação de Desmatamento



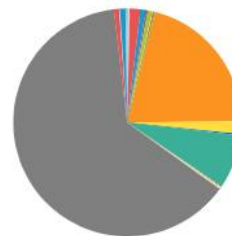
Não 2.61% Sim 97.39%

Causas de Desmatamento



|                       |       |                        |        |
|-----------------------|-------|------------------------|--------|
| Agricultura Comercial | 6.29% | Agricultura Itinerante | 85.05% |
| Assentamento Humanos  | 0.71% | Exploração Florestal   | 5.82%  |

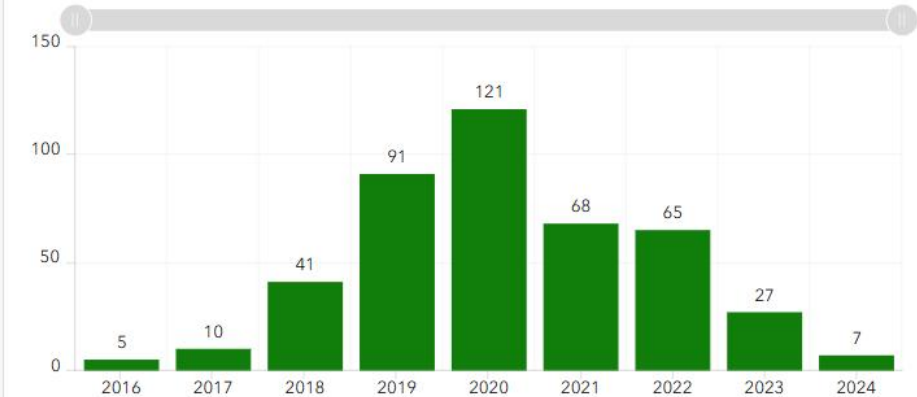
Culturas praticadas nas áreas desmatadas



|           |       |             |       |          |        |
|-----------|-------|-------------|-------|----------|--------|
| Algodão   | 0.37% | Amendoim    | 1.49% | Arroz    | 0.75%  |
| Bananeira | 0.28% | Batata Doce | 0.65% | Cajueiro | 0.09%  |
| Cebola    | 0.19% | Chá         | 0.09% | Feijão   | 20.92% |

Last update: 3 seconds ago

Pontos Verificados por Ano de Desmatamento



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Ano de desmatamento

Provincia

Distrito

Comunidade



# Challenges & Emerging Needs





# Challenges

- Rising deforestation in the country
  - Shifting agriculture
  - Population growth
  - Lack of technical assistance to farmers
- Consider long-term access when determining EO data sources
- Maintaining technical capacity and gradual improvements to NFMS





# Emerging needs

- Development of locally calibrated national biomass map
- Monitoring of emissions from burned areas
- Continuous monitoring and expansion of permanent sampling plot network



# Future Priorities & Recommendations





# Future priorities

- FREL Update
- 5<sup>th</sup> NFI
- Mangrove monitoring subsystem



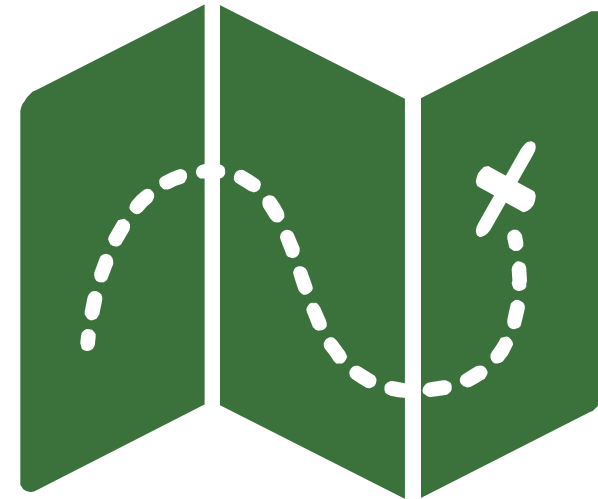
# Recommendations

## To Countries:

- Establish national MRV teams, ensure continuity

## To GFOI:

- Guidelines for estimation of emissions from fires
  - Area estimation
- How to integrate forest degradation data from different sources
  - Partial deforestation, fires, timber extraction







# Thank you

Muri Soares, MRV Unit

