



# Conserving the Forest Coffee Resources through an improved Forest Protection and Monitoring in Nono Sale and Didu Woredas of the Ilubabor Zone, Oromia Region, Ethiopia





# Overview of the Monitoring System: Methods and Tools used & Achievements

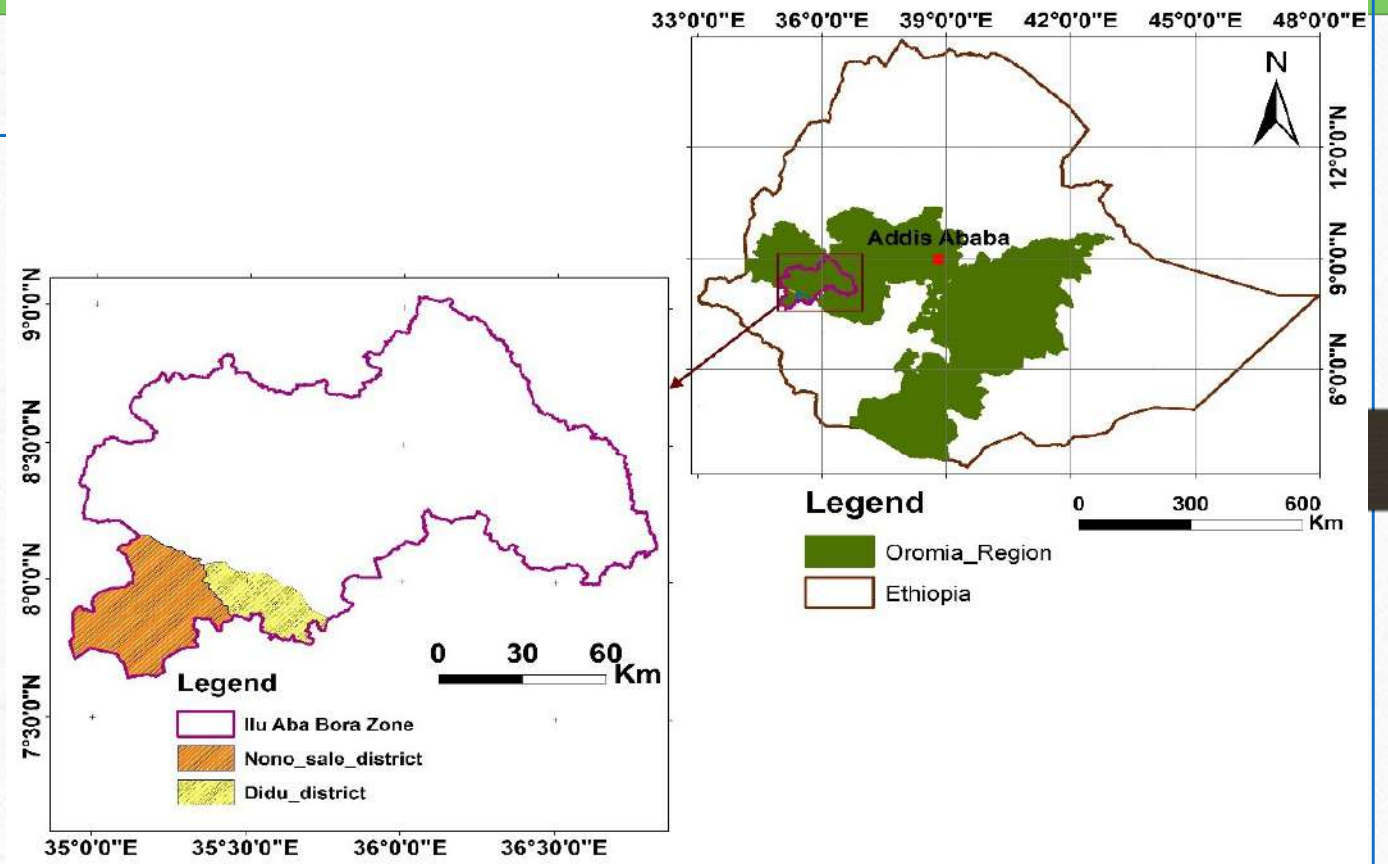


## Objectives of the project

- To establish a clear definition of the **coffee production systems**
- To **map and demarcate** all wild coffee forest areas in Nono Sele and Didu Woredas with the involvement of the forest user groups
- To **design and implement a forest monitoring system, (Establishing monitoring and sample plots in combination with remote sensing)**
- To implement an **awareness raising campaign** related to forest **protection** and the **value of conservation, including topics like certification** and **demand by buyers for deforestation-free coffee**



# Site



# Approaches

## ➤ Interview and preliminary survey

- ✓ Stakeholder identification
- ✓ Existing data identification
- ✓ Key informant interview
- ✓ Focus group discussion (FGD)

## ➤ Field Observation and surveying

- Field observation and transect walks



# Approaches

## ➤ Application of geo-spatial technology

- ✓ Participatory GIS (PGIS)
- ✓ To map the resources
- ✓ To conduct suitability analysis for Coffee distribution



## Approach progress.... (Preliminary findings)

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- ✓ Identify their **Kebeles** and **PFMs' location**
- ✓ Propose missing features (e.g. rivers, roads etc.)
- ✓ Comments on features to be modified
- ✓ Group the forest areas according to the coffee potentials.
- ✓ Forest areas with limited/ no forest coffee
- ✓ Show the position of coffee **processing units**
- ✓ Areas with **high deforestation rate** in recent years.



# Approach progress.... (Preliminary findings)

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## Existing Forest Related Management Systems

- ✓ In both districts, there are **different stakeholders** dealing with the conservation and protection of the natural forests.
- ✓ These includes the government bodies at different levels (**Kebele, districts, zone, and region**), **PFM, OFWE, NGOs** etc.
- ✓ **The community**, has been protecting the forest through their system, which is known as ***Kobo***.



# Approach progress.... (Preliminary findings)

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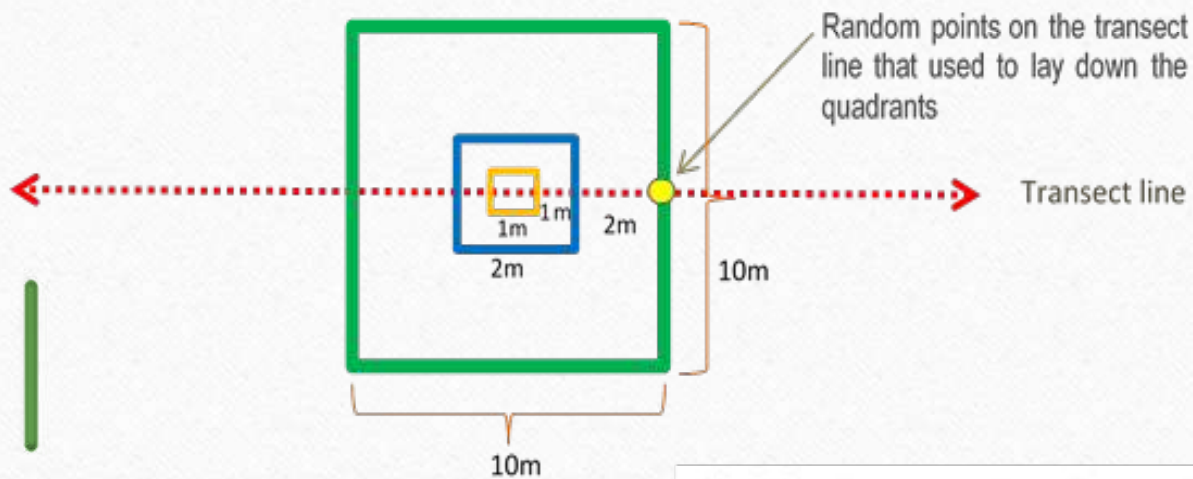
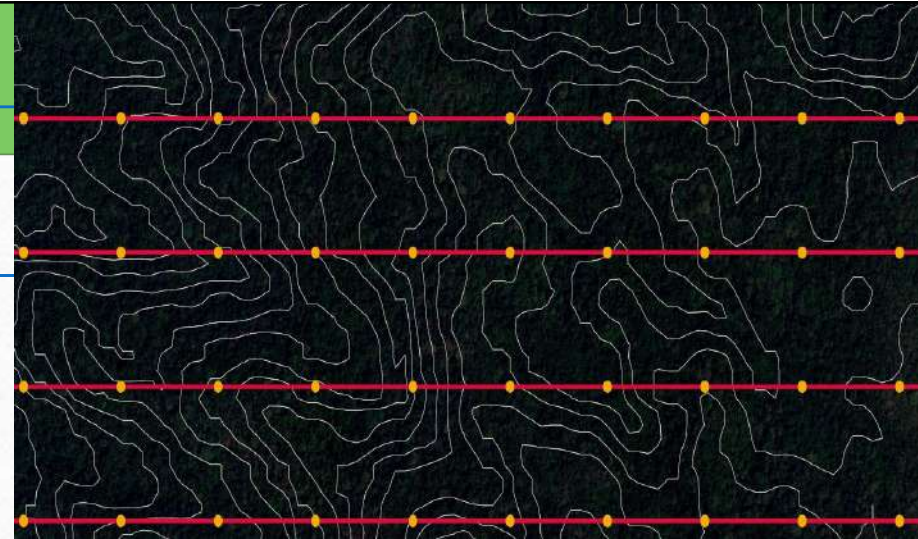
## Forest and

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- ✓ These includes the government bodies at different levels (**Kebele, districts, zone, and region**), **PFM**s, **OFWE**, **NGOs** etc.
- ✓ **The community**, has been protecting the forest through their system, which is known as ***Kobo***.



# Approaches

- Permanent sampling plots (PSP) establishment and vegetation survey



10mX10m plots were used to collect tree data  
2mX2m plots were used to collect sapling data and,  
1mX1m plots were used to collect seedling data

# Approaches

## Why PSPs?

- ✓ **Long-term monitoring** -> Revisiting the same plots over time, changes in forest structure, composition, and dynamics
- ✓ **Baseline data:** against which future changes
- ✓ **Quantitative assessment:** tree density, species composition, basal area, biomass, and regeneration dynamics.
- ✓ **Comparative analysis:** management practices, and disturbance regimes.
- ✓ **Validation of remote sensing data:** serve as ground-truth data for validating satellite imagery, LiDAR, and aerial photography.
- ✓ **Scientific research:** ecological processes etc.
- ✓ **Decision-making support:** Governments, land managers, and conservation organizations rely on this information

# Approach progress

- Field Surveying
- Forest cover analysis
- Bio-physical factors analysis



# Achievements

## Stakeholders of the coffee forest

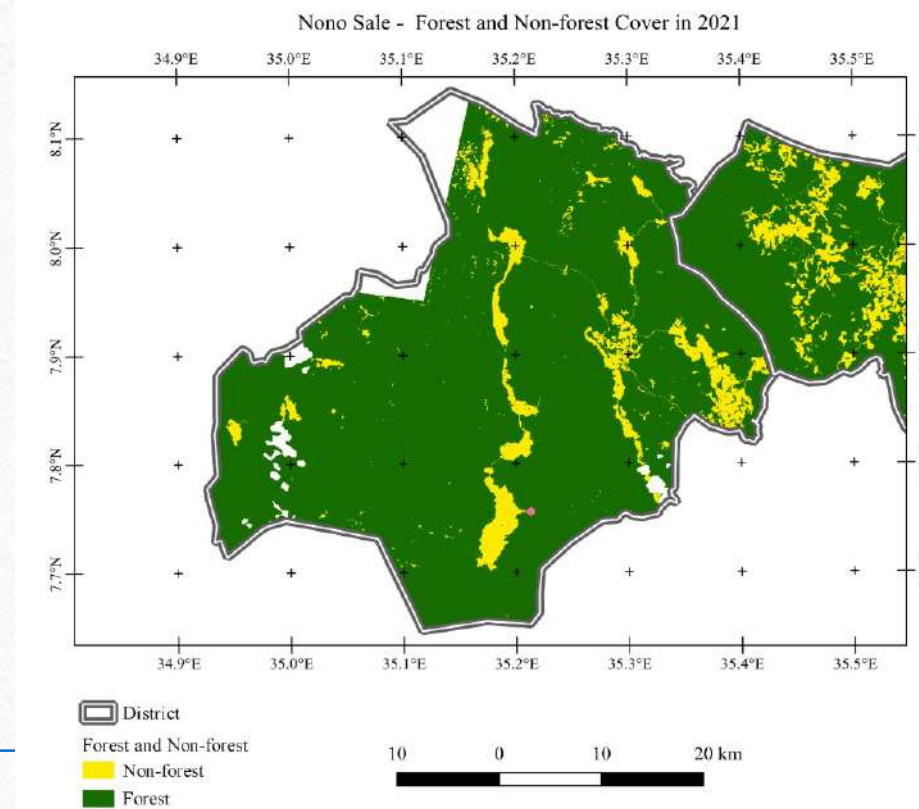
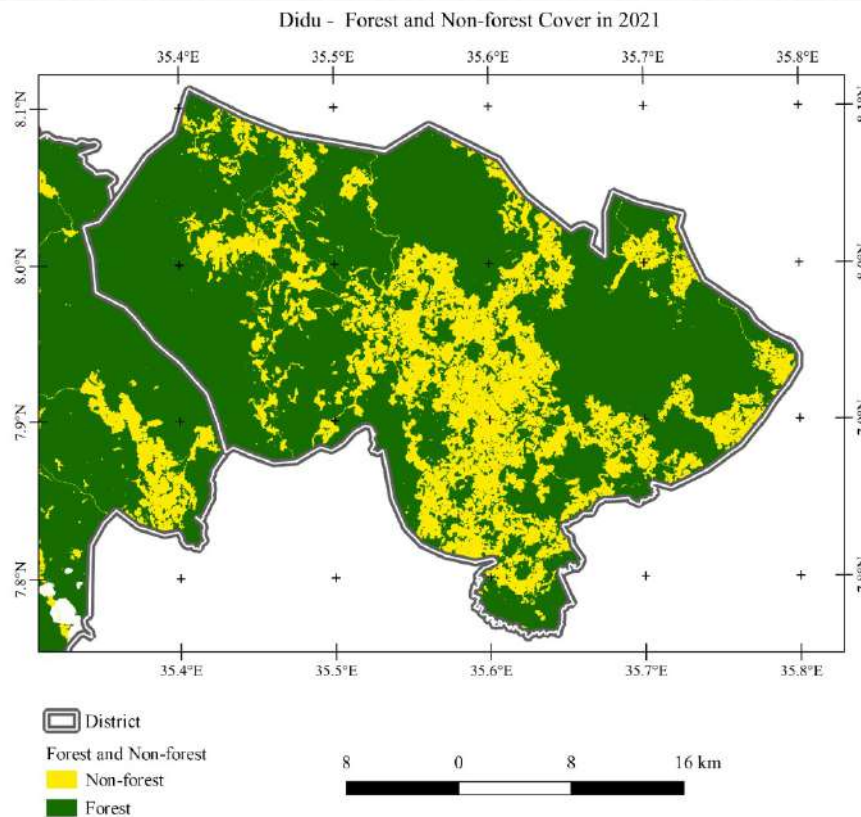
- ✓ Local communities,
- ✓ Forest Coffee Producers
- ✓ PFM groups
- ✓ Private Sector [e.g., coffee buyers]
- ✓ Oromia Forest and Wildlife Enterprise (OFWE)
- ✓ Administration (e.g., Zone, woreda and kebele)
- ✓ NGOs mainly EWNRA, Farm Africa and GIZ
- ✓ Bureau of Cooperatives
- ✓ Bureau of Agriculture and NR
- ✓ Banks and Microfinances
- ✓ Ethiopian Commodity Exchange (ECX) etc

# Achievements

**The coffee for the current coffee supply chain comes from**

- ✓ Natural forest (Forest coffee), Very common in Nono Sele
- ✓ Coffee grown in their home gardens
- ✓ Coffee from citu forest (Semi-forest coffee), somehow common in Didu District

# Achievements... **Current forest cover situation**



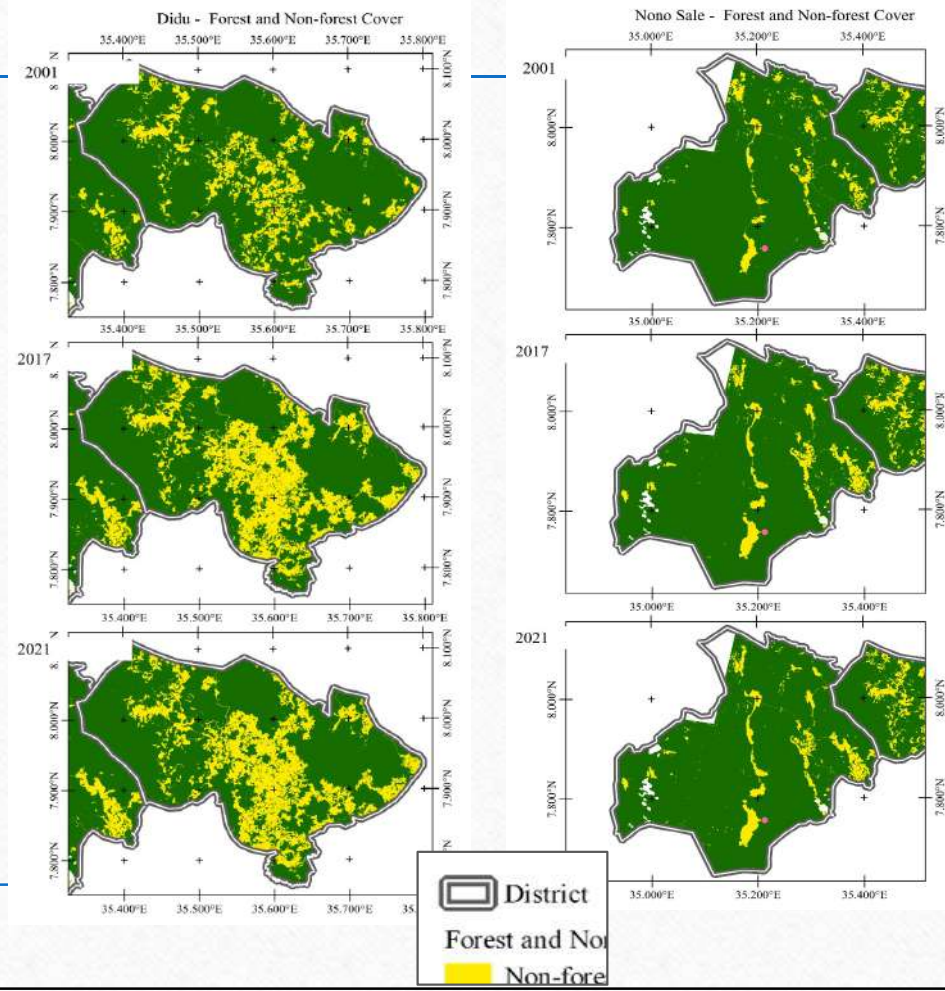
# Achievements... Spatiotemporal situation of the forest cover


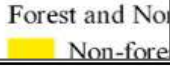

**Didu**

year	Forest	Non-forest
2001	84462	171538
2017	71587	301413

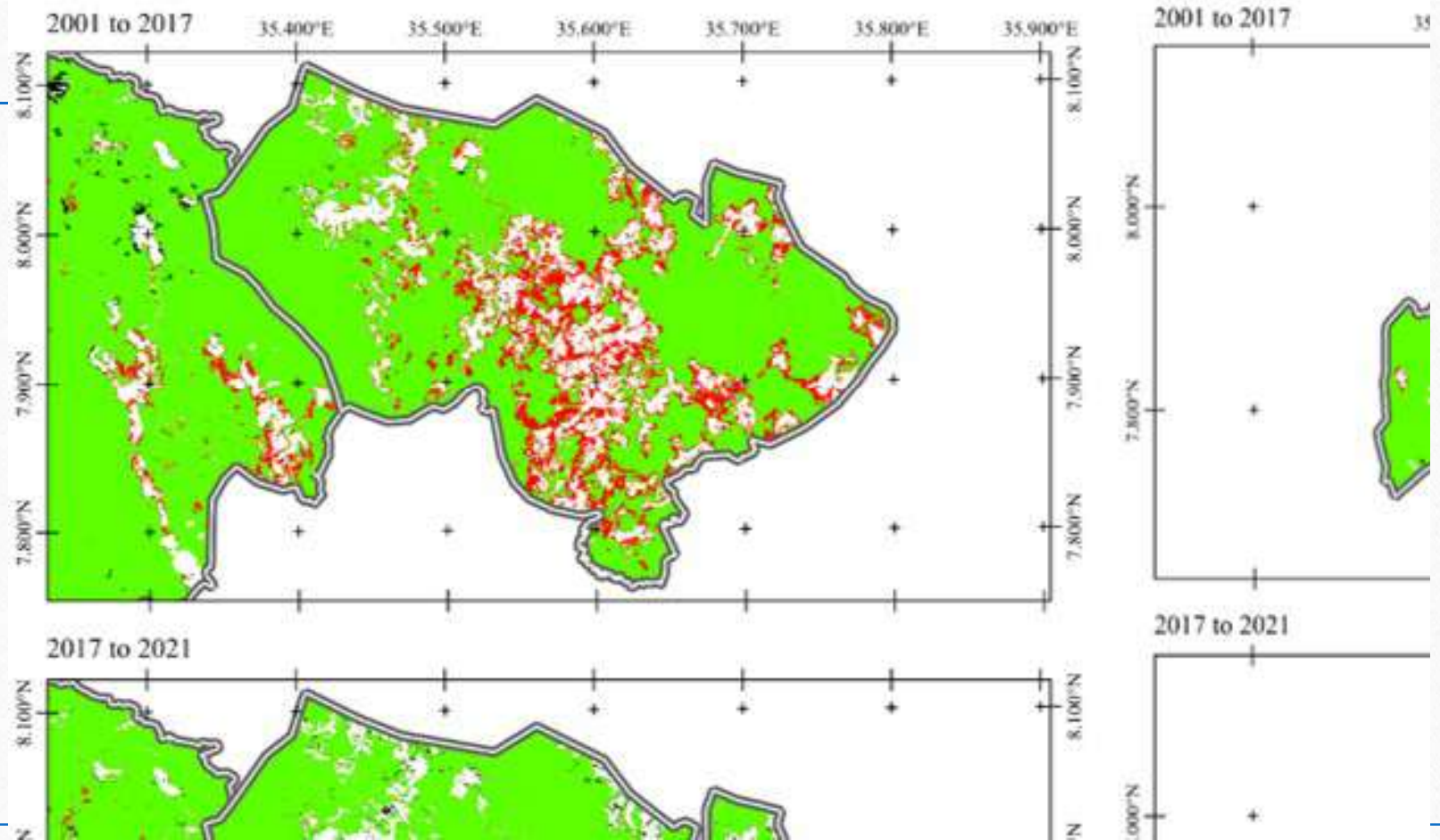
**N. Sele**

year	Forest
2001	154177
2017	151912

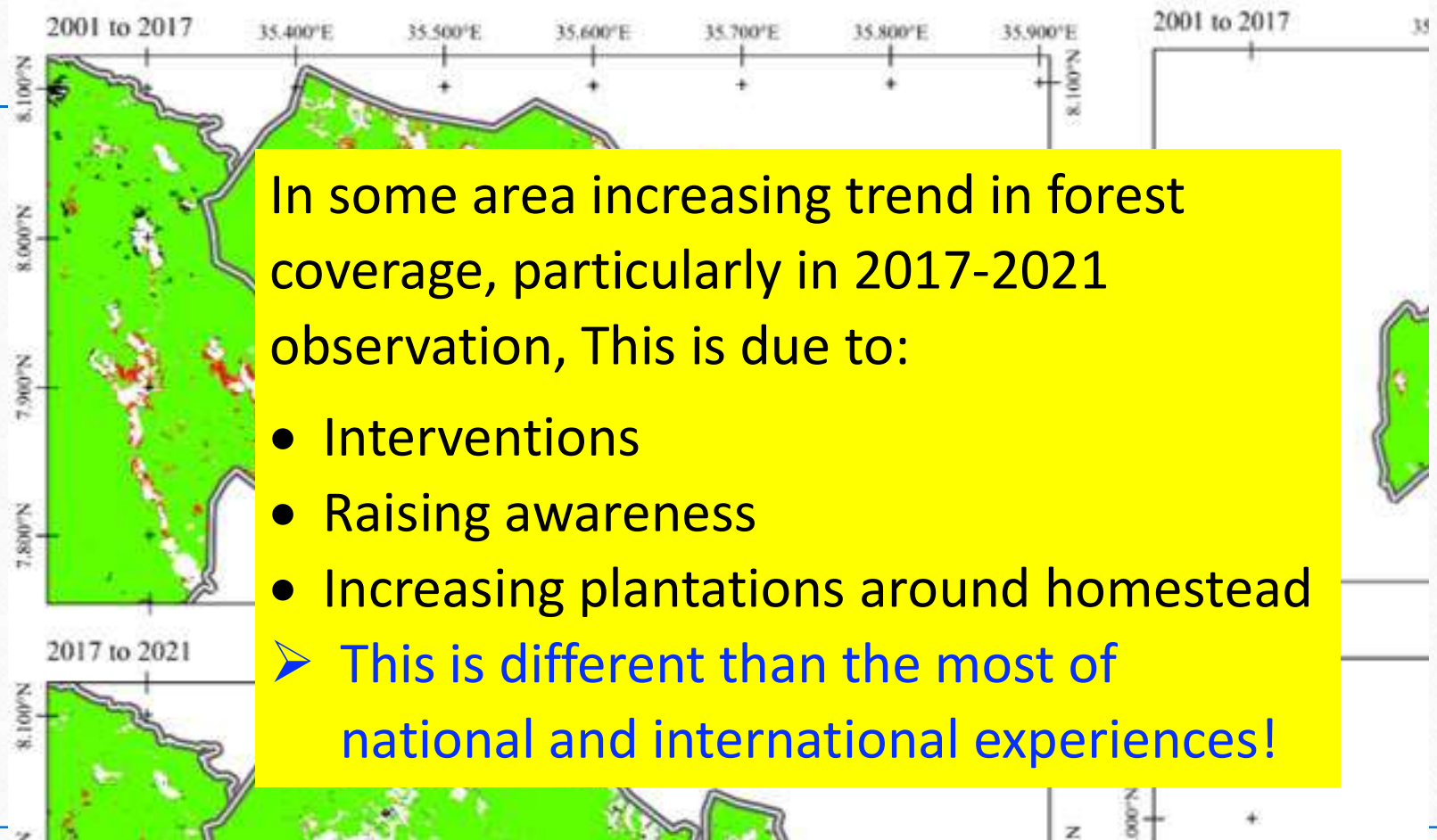


 District  
 Forest and Non-forest cover  
 Non-forest

# Achievements... Forest cover change 2001-2021 period

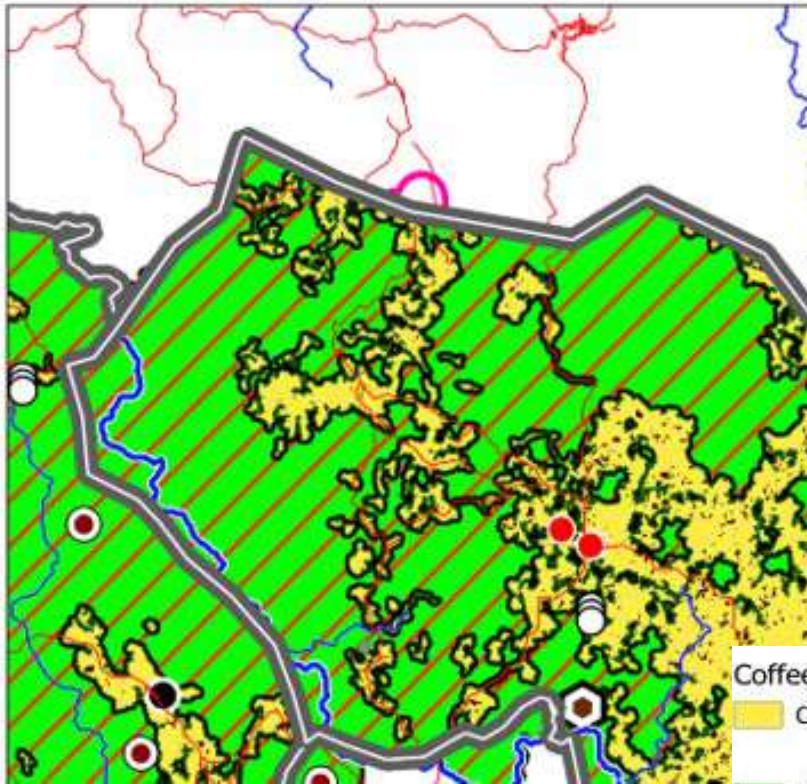


## Achievements... Forest cover change 2001-2021 period

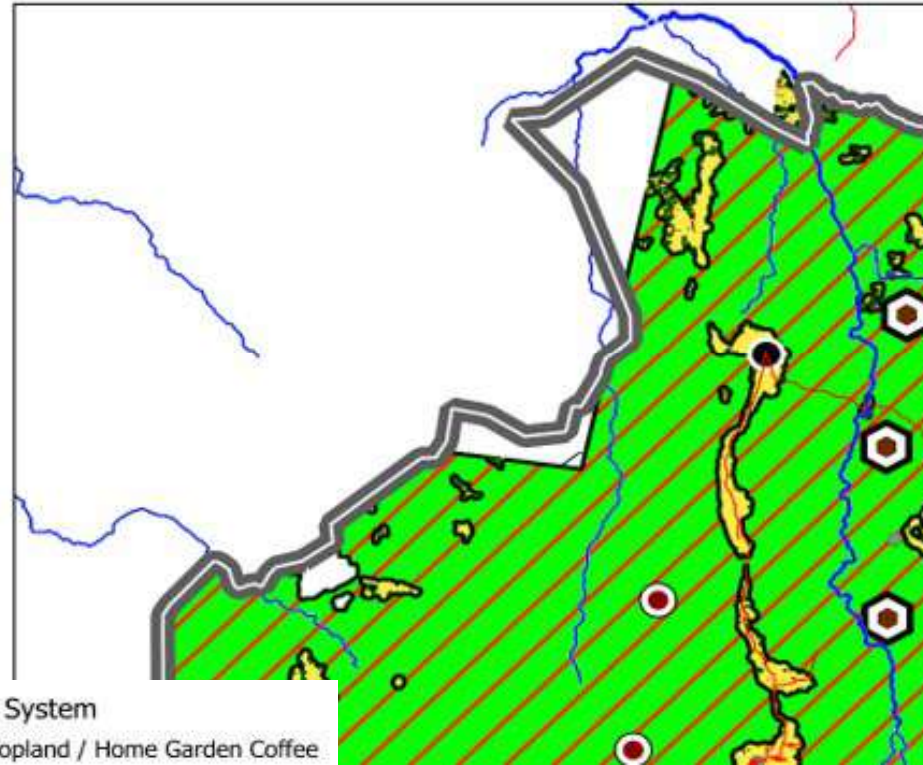


# Achievements... Spatial relationship between the Coffee forest and the Agricultural land use

Coffee System in Didu, 2



Coffee System in Nono Sale, 2



- Coffee System
- Cropland / Home Garden Coffee
  - Semi-forest coffee
  - Forest Coffee

# Achievements...Proposed Sites for Forest Coffee Inventory and Interventions

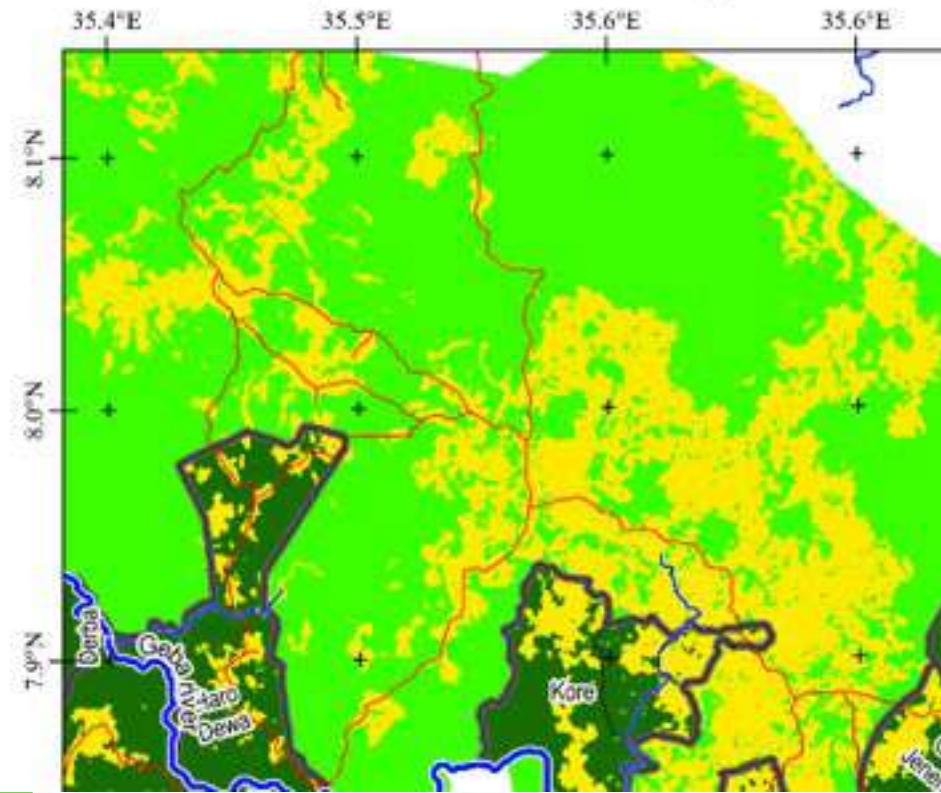
What has to be improved to coffee production system?

- ❖ Improving the market
- ❖ Supply tools and equipment required for collecting and storing/drying of coffee beans
- ❖ Appropriate personal equipment required when collecting coffee from remote areas
- ❖ Establishment of Coffee processing units/plants
- ❖ Financial support
- ❖ Road infrastructure improvements in

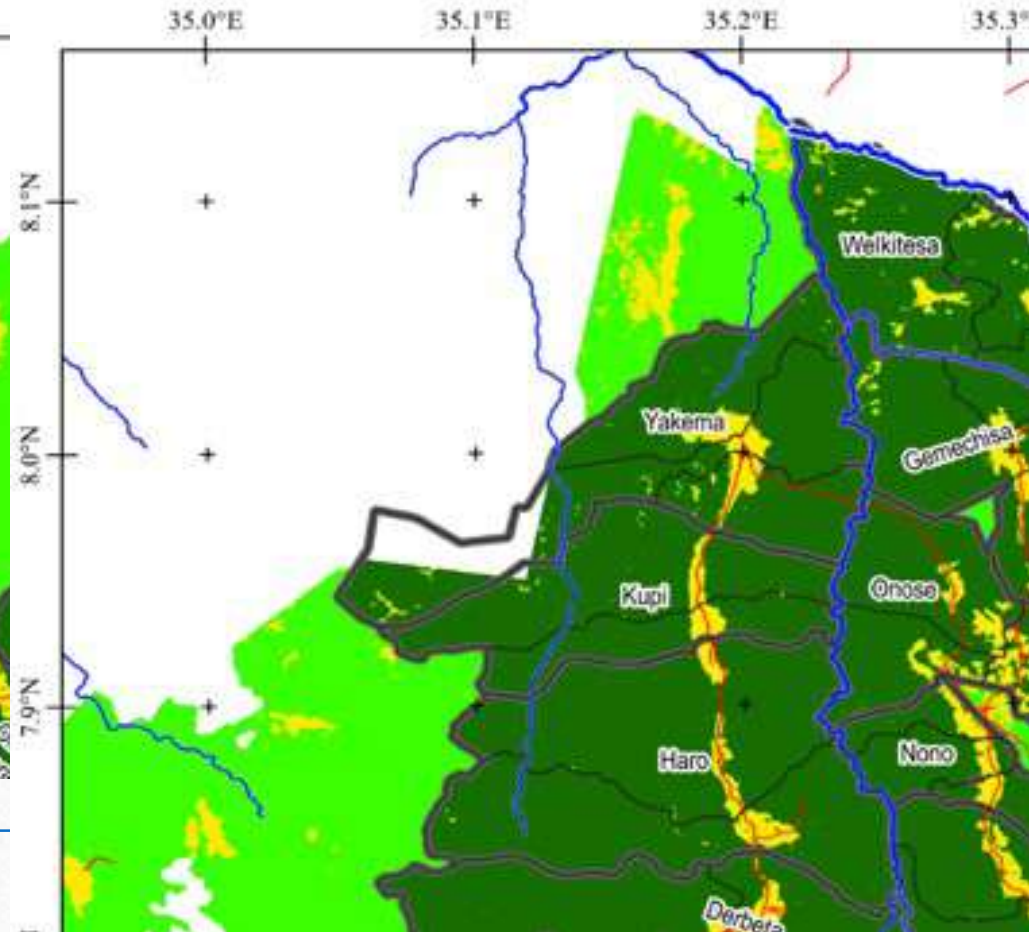


# Achievements... Proposed sites for Forest Coffee intervention

Proposed Sites for the Inventory - Didu- Coffee

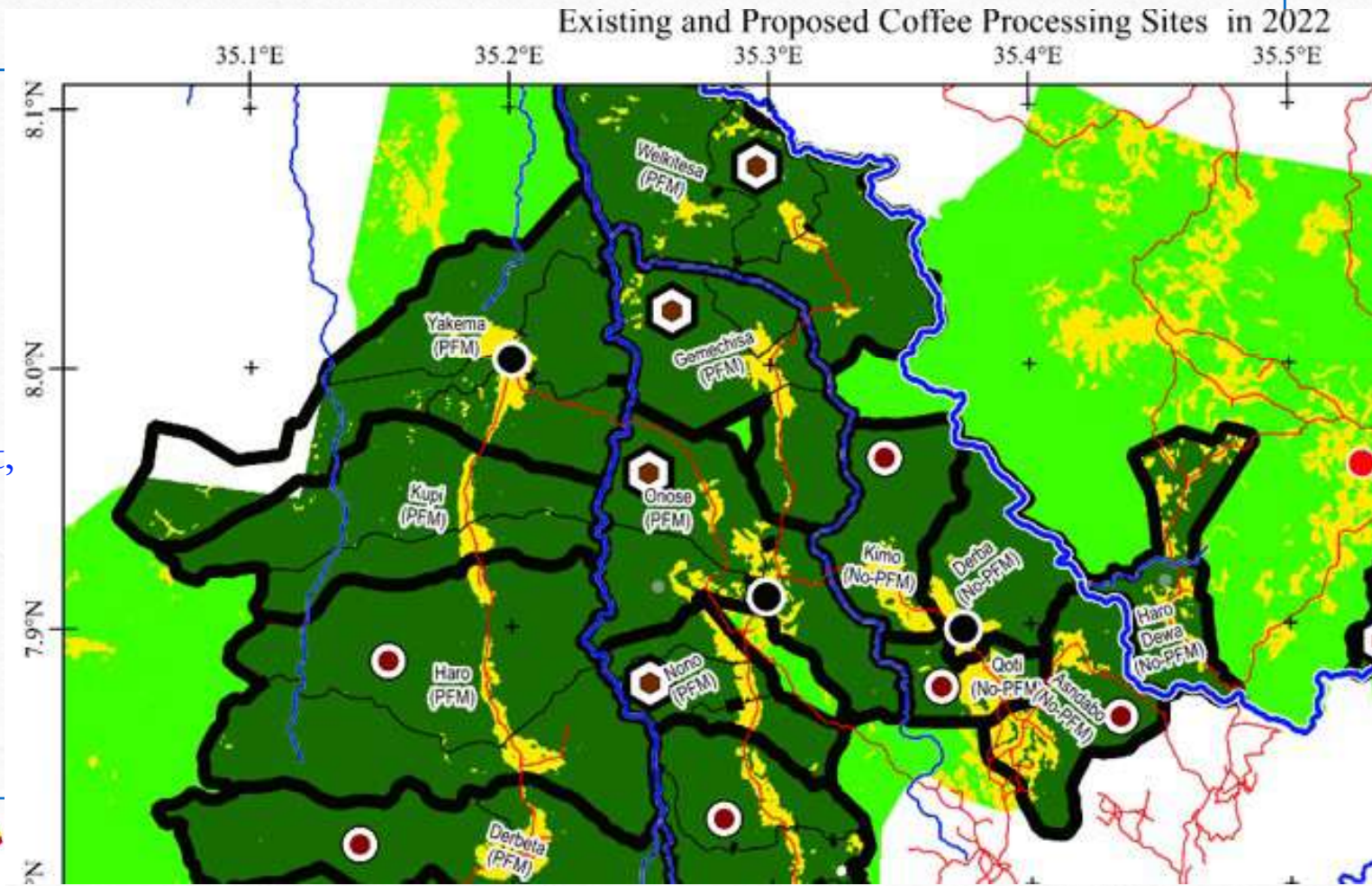


Proposed Sites for the Inventory - Nono Sele- Coffe

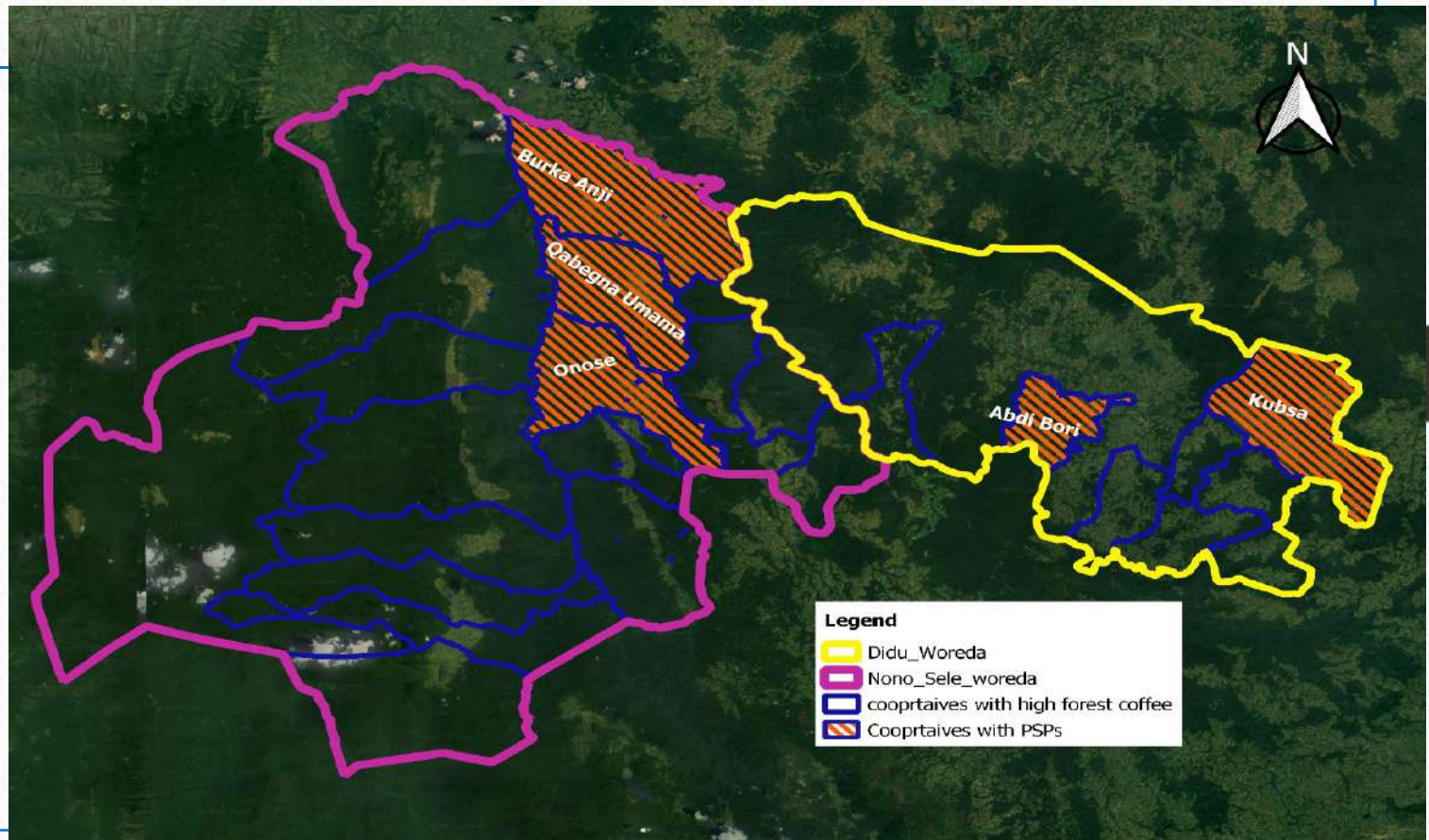


# Achievements... Proposed sites for Forest Coffee intervention

Based on the assessment,  
Five coffee processing  
units (four in Nono Sale  
and one in Didu)  
suggested.



# Achievements...Permanent Sampling Plots (PSP)

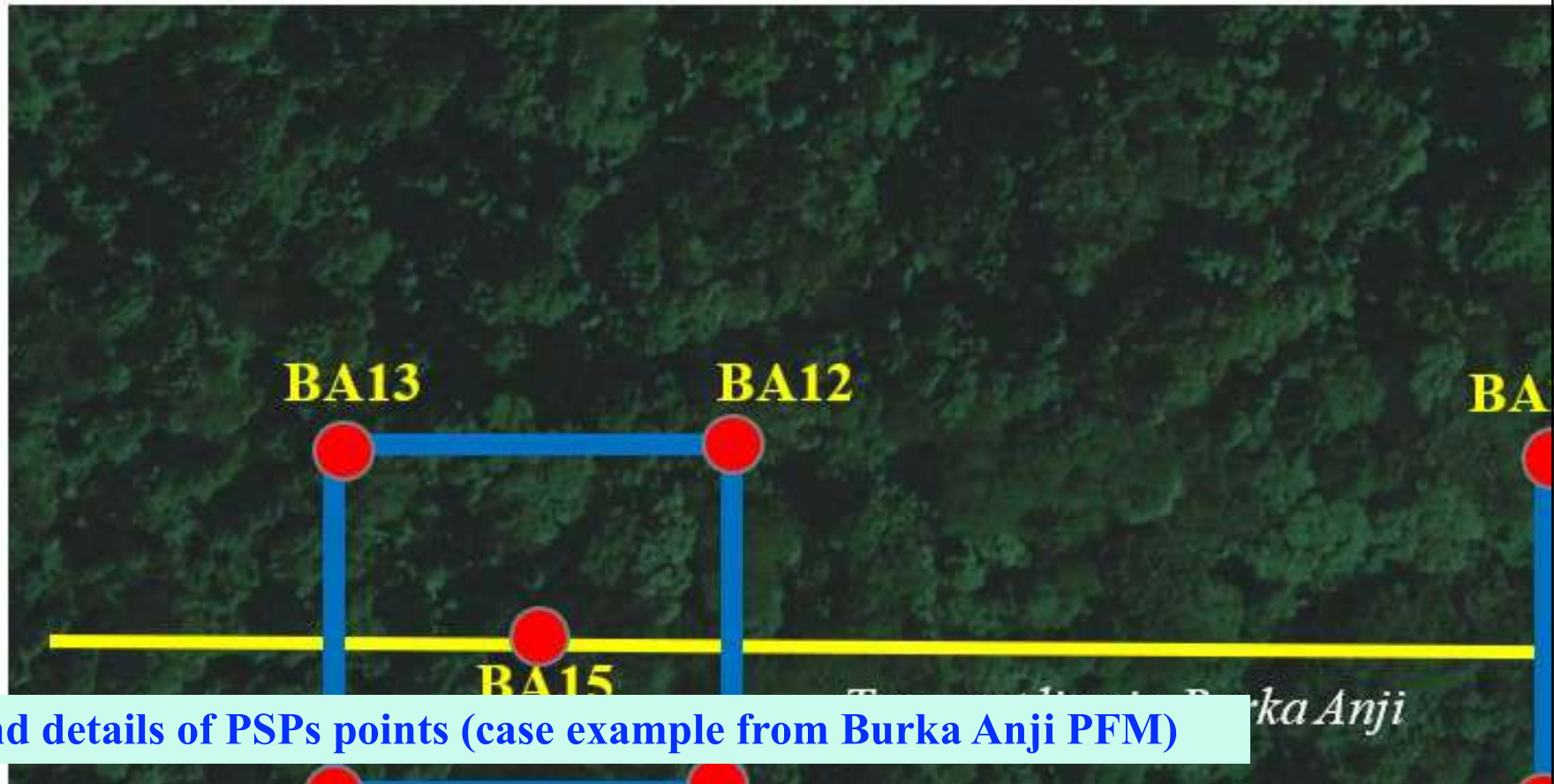


## Achievements...Permanent Sampling Plots (PSP)

*Table 5: Detail information of permanent sampling plots (PSPs)*

No	Name of PSPs	Cooperation / P
1	PSP- <u>Abdibori 1 (AB1)</u>	<u>Abdibori</u>
2	PSP- <u>Abdibori 2 (AB2)</u>	
3	PSP- <u>Abdibori 3 (AB3)</u>	
4	PSP- Kubsa1 (Ku1)	<u>Kubsa</u>
5	PSP- Kubsa2 (Ku2)	
6	PSP- Kubsa3 (Ku3)	
7	PSP- <u>Onose 1 (On1)</u>	<u>Onose</u>
8	PSP- <u>Onose 2 (On2)</u>	
9	PSP- <u>Onose 3 (On3)</u>	
10	PSP- <u>Qabegna Umama 1 (QU1)</u>	

## Achievements...Permanent Sampling Plots (PSP)

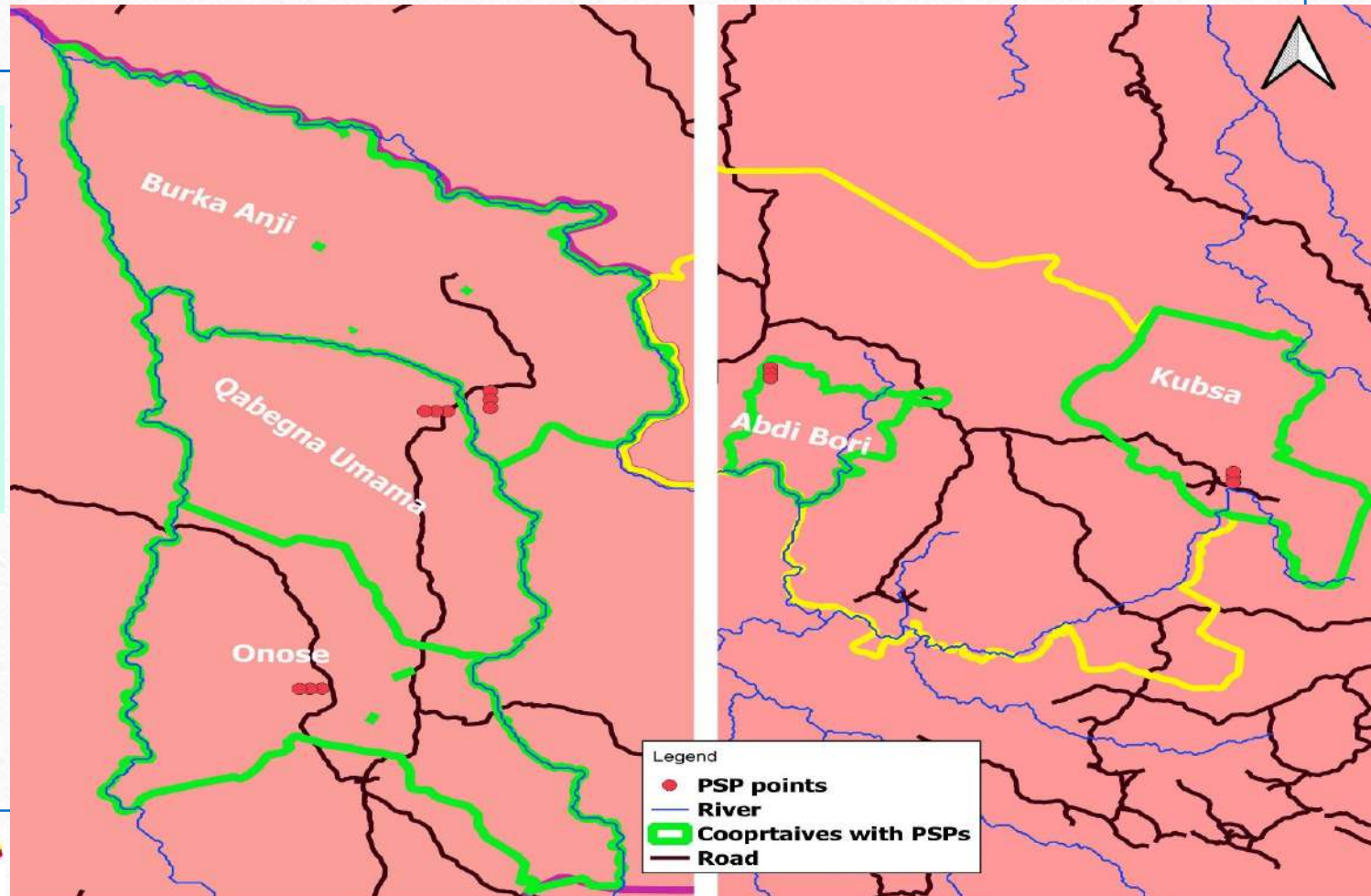


Design and details of PSPs points (case example from Burka Anji PFM)

## Achievements...Permanent Sampling Plots (PSP)

**What information collected from each PSP?**

- ✓ Vegetation baseline data
- ✓ GPS coordinate
- ✓ Pictures (from four corners and canopy)



## Achievements... Permanent Sampling Plots (PSP)

### What information collected from each PSP?

- ✓ Vegetation baseline data
- ✓ GPS coordinate
- ✓ Pictures (from four corner and canopy)

- About 15 PSPs established (6 in Didu and 9 In N. Sele)

No	Woreda	Kebele	Cooperatives / PFM	Name of PSP (permanent sampling plots)	Points & remarks
1	Didu	Korebodi	Abdibori	PSP -AB1 (PSP- Abdibori 1)	AB11
2					AB12

## Other benefits of coffee

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- Cultural values,
- For eating during ripen time
- Drinking of its yellowish leaf
- Using of its husk as a drinking in some places
- Using of its husk as a source of energy
- Using its husk as a copost
- Coffe plants can serve as a carbon sinks

# Challenges...



# Special Thanks and our appreciation...

To

- GIZ Office
- Members & Leaders of Cooperatives,
- Ethio Wetlands
- OFWE
- Agriculture and NR offices
- Environmental Protection Authority
- Metu University
- Etc.



*Thank you for your attention!*



*Lalatooma!*

