Leibniz Centre for **Agricultural Landscape Research** (ZALF)

Land Use & Governance

Prioritizing FLR adoption drivers in Irodo Watershed (DIANA, Madagascar)

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UNIVERSITE D'ANTANANARIVO

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Introduction

- Forest Landscape Restoration (FLR) is a globally recognized approach aimed at restoring ecosystems, enhancing biodiversity, and supporting sustainable livelihoods (Chazdon et al., 2017)
- FLR in Madagascar encompasses a range of approaches similar to those documented in other sub-Saharan African contexts : Tree-planting-based techniques (TPB); Agroforestry practices (AF); measures such as soil and water conservation (SWC) and conservation agriculture (CA) that various actors choose and implement (Djenontin et al., 2022)
- Although FLR implementation has focused on community-led reforestation since 2016, they have not been adequate to accomplish national restoration targets (1,8 out of 4 million ha until 2013).
- At the individual level, particularly among farmers, the adoption of FLR remains an underused opportunity

Aims

- Identify the factors of adoption for each FLR practice group (Tree-planting-based techniques (TPB); Agroforestry practices (AF); measures such as soil and water conservation (SWC) and conservation agriculture (CA))
- Prioritize these factors using Analytical Hierarchy Process per group of factors

Methodology

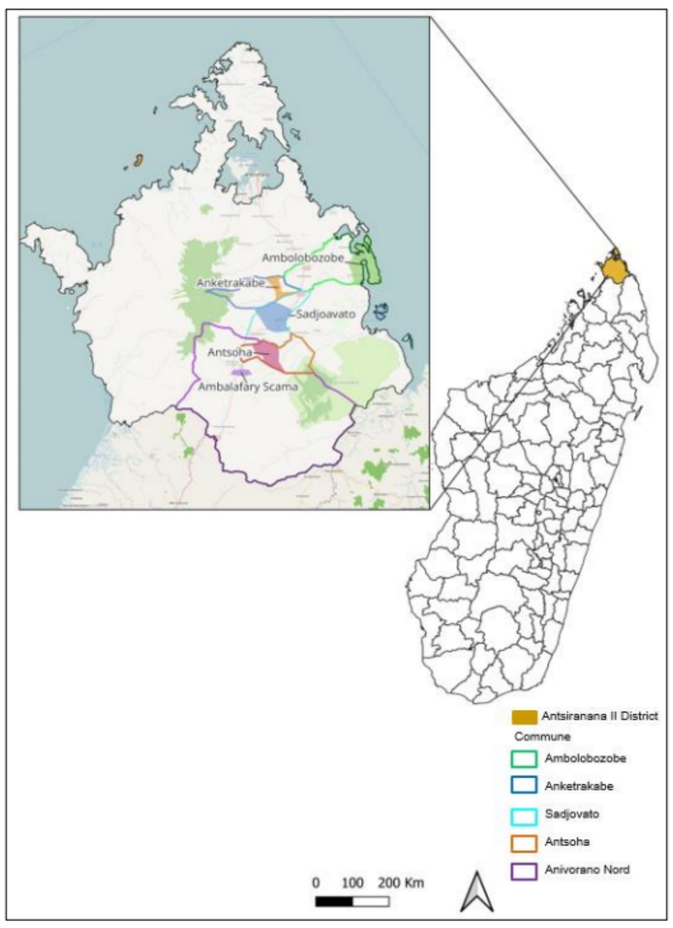


Figure 1: Study area. Source: Raharinaivo, 2023

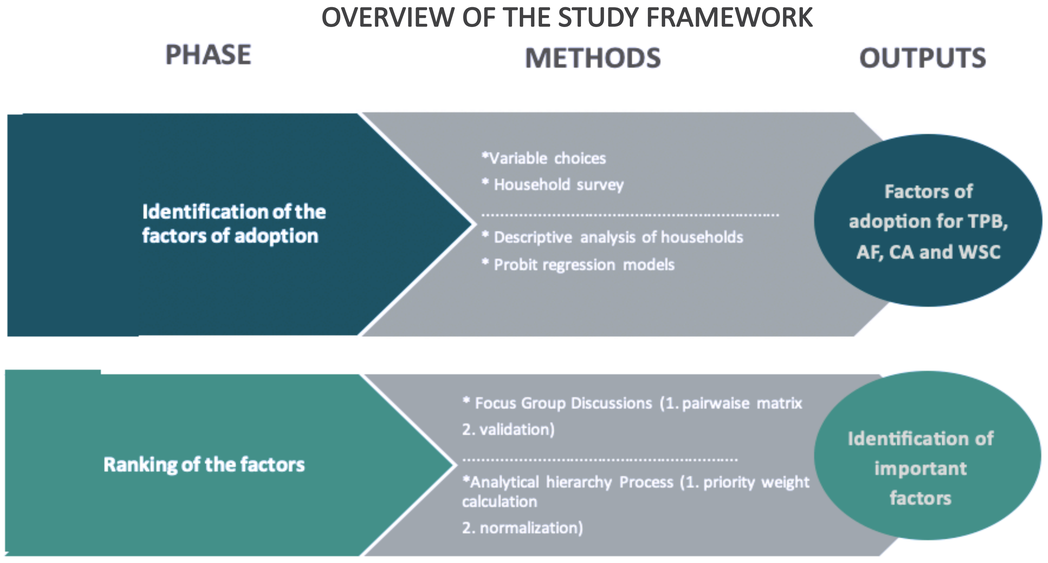
STUDY AREA

Northern part of Madagascar, DIANA region

Irodo Watershed: composed of 9 communes

5 Communes: Ambolobozobe, Anketrakabe, Sadjoavato, Anivorano, Antsoha

OVERVIEW OF THE STUDY FRAMEWORK



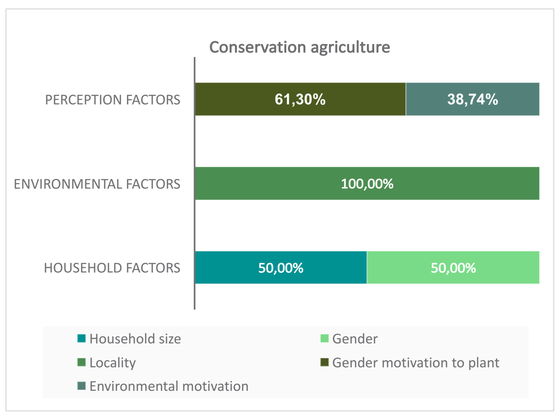
Results

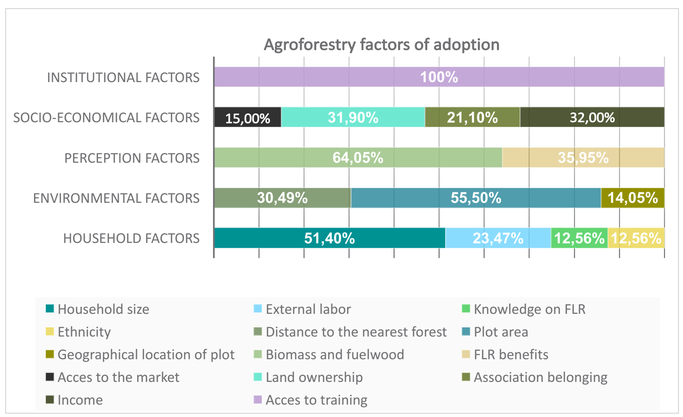
- **FLR adoption drivers identified**

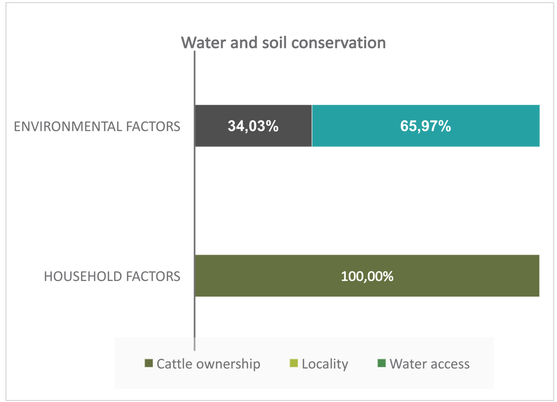
Variables	Tree Planting Based	Agroforestry	Conservation agriculture	Water and soil conservation
Gender of household head			✓	
Migrant status		✓		
Household size	✓	✓	✓	
Familiarity with FLR practices	✓	✓		
Cattle ownership				✓
External labour	✓	✓		
Access to the market	✓			
Land ownership	✓	✓		
Income		✓		
Association belonging	✓	✓		
Water supply				✓
Geographical location of the plot 3	✓	✓		
Geographical location of the plot 4		✓		
Distance to the nearest forest	✓			
Locality			✓	✓
Land size	✓	✓		
Gender motivation in FLR practices			✓	
Perceived benefits of FLR	✓	✓		
Perceived benefits of biomass production		✓		
Environmental motivation*			✓	
Access to training	✓	✓		

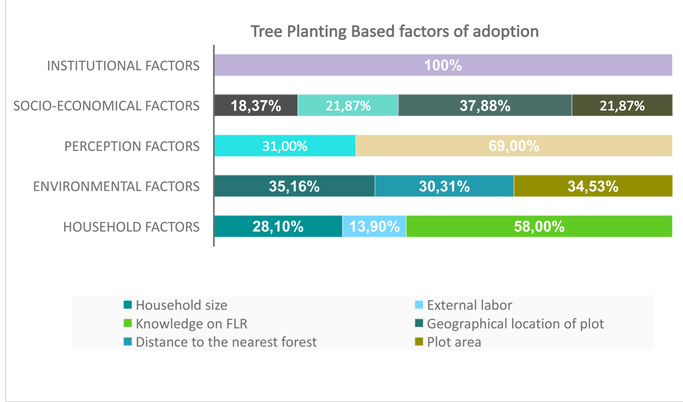
*** Climate change attenuation, biodiversity enhancement, medicinal plant benefits**

- **Ranking of these factors per group of factors and practice**









Conclusion

- Adoption of TPB and AF are similar
- They are linked to 5 groups of factors, unlike CA and WSC
- Practitionners need to take these specific factors of adoption to adjust their intervention. E.g: promoting CA in a women's association rather than in anothr group, highlit the multiple benefits of agroforestry

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