

Forest Tenure, Property Rights, and Income: An Empirical Investigation Across Diverse Tenure Settings in Ethiopia

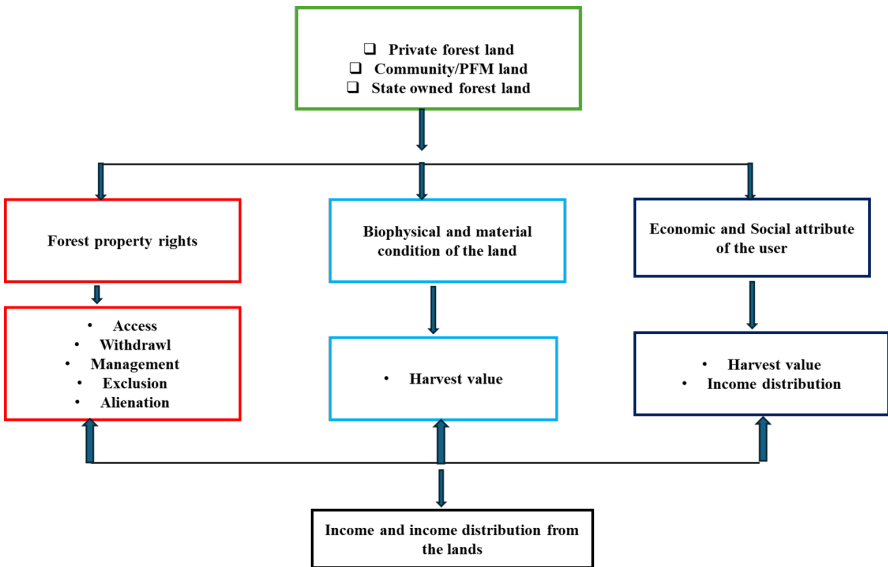
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Introduction

- **Forests and natural resources hold immense significance for the sustenance of millions of poor individuals and households globally.**
- **A considerably understudied aspect of forest-people relations is how forest property rights and benefits vary across various forest lands.**
- **Further how various socioeconomic groups benefit in each tenure is among the majors.**



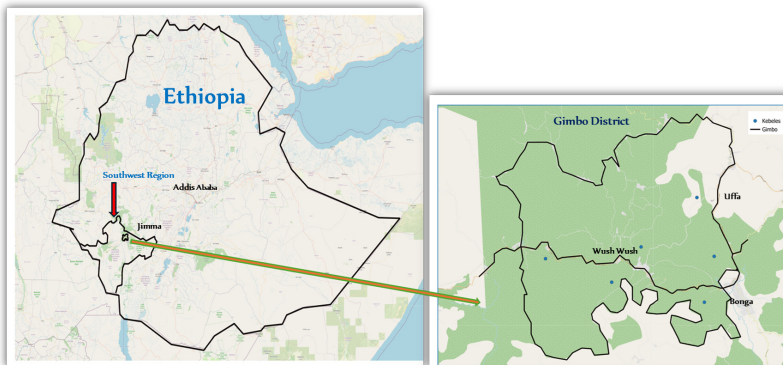
Research Questions

- **How do rights and harvest value vary across private, community, and state-owned forests?**
- **How do gender and ethnicity affect disparities in forest-related income across different forest tenure types?**
- **How do forest property rights and socioeconomic factors impact the annual harvest value from each forest lands?**

Methodology

• Data Source

- 21 villages from 7 kebeles were selected from Gimbo District, SW Ethiopia
- Villages were chosen based on the presence of forest tenure, proximity, and presence of marginalized groups.
- 514 Household heads were chosen randomly



Method...

- **Data Analysis**

- Descriptive statistics and Hypothesis testing
- General econometric model:

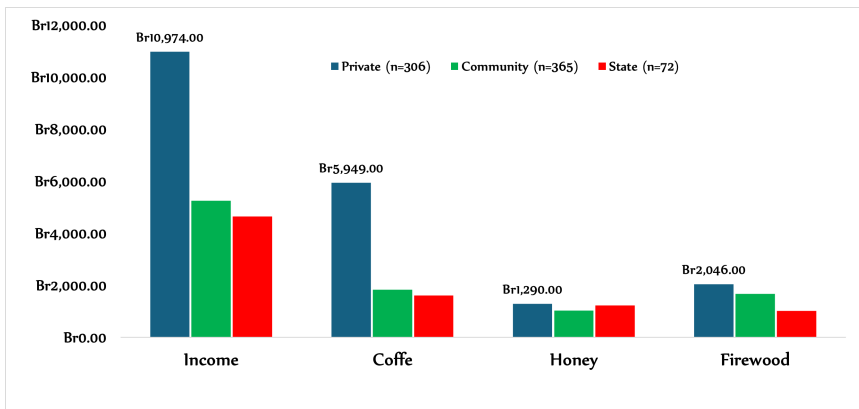
$$FY_{ij} = f(X_{ij}, P_{ij}, K_{ij})$$

$$FY_{ij} = B_0 + B_{X_i}X_{ij} + B_{P_i}P_{ij} + B_{K_i}K_{ij} + \epsilon_{ij}$$

- X_{ij} denotes Socioeconomic factors of households
 - p_{ij} denotes Property rights related to forests
 - k_{ij} denotes Kebele fixed effect (administrative unit)
- **Model estimation**
 - Linear regression: Identify factors affecting forest income
 - Quantile regression: Verify results' robustness

Key findings

- Privately owned plots yield the highest income, followed by community and state forests.
- Coffee, honey and firewood are the main contributors across each land.



Key findings

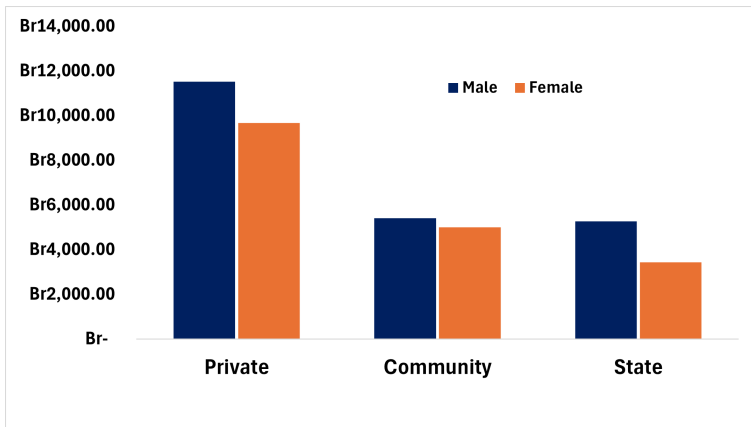
Forest products	Private		Community		State	
	No of users	Annual Income	No of users	Annual Income	No of users	Annual Income
Coffee	289	5949	254	1839	55	1613
Honey	161	1290	190	1027	54	1225
Firewood	245	2046	307	1672	46	1023
Construction Materials	159	293	137	157	22	160
Charcoal	14	156	34	214	6	317
Fodder	72	787	12	30	2	20
Cardamom	81	161	67	139	16	178
Timiz	48	94	74	156	15	110
Timber	44	205	7	20		
Total	306	10974	365	5254	72	4646

1.Forest income was measured in Ethiopian birr and adjusted for adult equivalent unit

2.During the data collection, one Ethiopian birr is equivalent to 0.0178 USD

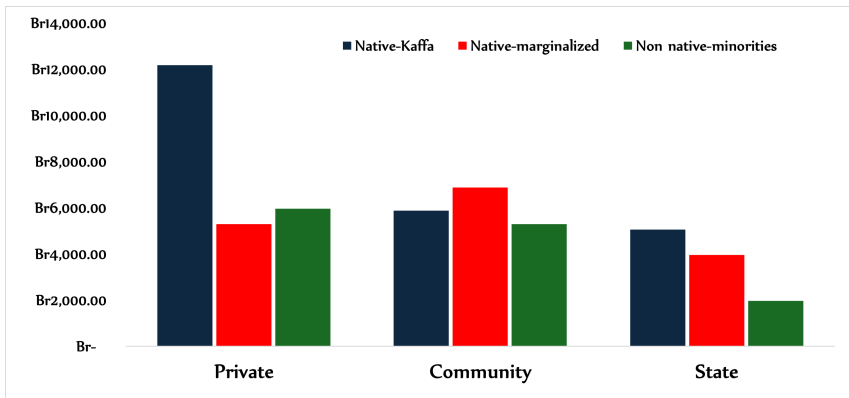
Key findings

- Income disparity across gender was found to be minimal in CBFM/pfm.



Key findings

- Income disparity across ethnic group was also found to be minimal in CBFM/pfm.



key findings....

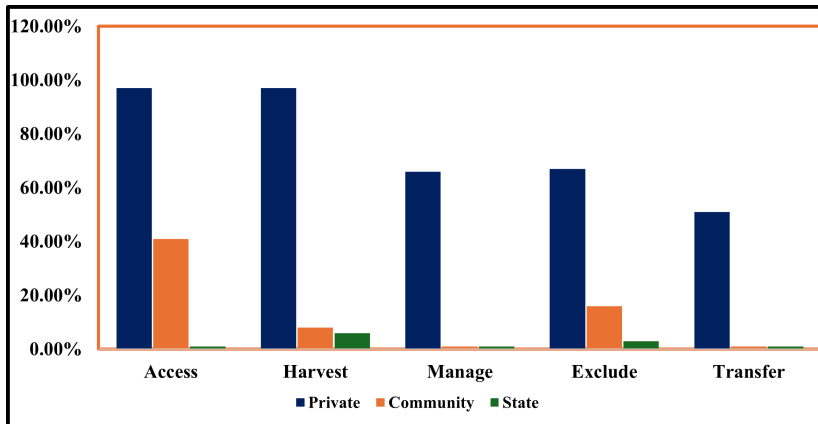
- Private plot owners enjoy the highest level of control and autonomy across all FPR bundles

		Forest Tenure			
		Private	Community	State	Range
Rights	Access	2.9(0.14)	2.1(0.8)	1.9(0.4)	0-3
	Withdrawal	2.9(0.1)	1.8(0.4)	1.9(0.3)	0-3
	management	2.5(0.14)	1.6 (0.6)	0.9 (0.4)	0-3
	Exclusion	2.4(0.8)	1.4(0.9)	0.37(0.7)	0-3
	Alienation	2.2(0.9)	0.5 (0.7)	0.01 (0.1)	0-3
N		306	365	72	

Table 5: Forest property right across tenures

key findings....

- Private plot owners enjoy the highest level of control and autonomy across all FPR bundles



key findings...(OLS and Quantile Regression)

	Private (n=306)	Community (n=365)	State (n=72)
Asset Related factors	Livestock (+) Farmland (+) Saving (+)	Forestland(-)	
Demographic factors	Gender (-)	Ethnic group (+)	Edu (+)
Right related factors		Access (+) Manage (+) Transfer (+)	
Kebele	✓		✓

Table: Variables robustly affecting annual harvest value from each forest lands

Implications

- **Diversification of forest products for Resilience across each tenures**
- **Empowerment through Rights in community and state owned forest**
- **Tailored Policies for Equity: addressing gender disparities and promoting inclusive access**
- **Implement policies that are responsive to unique contexts and needs of different tenure settings**

Thank you for your attention!