

Participatory Resource Management, Elite Capture and Local Livelihoods: Experimental Evidence from Rural Ethiopia

Goytom Abraha Kahsay
(University of Copenhagen)

&

Erwin Bulte
(Wageningen University)

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Introduction

More and more efforts to **engage local communities** in low-income countries in all sorts of development interventions and policy reform:

- Community-driven development (priority-setting, design, etc.)
- Devolving responsibilities for NRM
- Monitoring front-line service providers (health, education)
- ...

Expected benefits of working with local beneficiaries:

- Overcome information and incentive constraints
- Create sense of ownership
- Empowerment of the poor

Many billions of USD, complemented with training interventions, capacity building, local institutional reform... **but mixed evidence of impact** ...

Introduction 2

This paper combines **two approaches** to engaging communities:

- Participatory forest management
- Bottom-up monitoring of group leaders

Introduction 3

Participatory forest management

One-third of all forests in low-income countries are under PFM

- Communities can extract timber and non-timber products for own use or sale, if they respect certain rules.
- Local elites typically assume leadership positions in groups

Some positive impact on sustainability of resource management...

... but little evidence of sustained improvements in livelihoods, or successful reform of institutions. (RCTs)

What goes wrong?

- Free riding
- Regressive taxation (opportunity cost of time)
- Capacity constraints (among leaders)
- **Elite capture**

Introduction 4

Bottom-up monitoring (of leaders or service providers)

Evidence is **mixed**, even for the same sector in the same country (Bjorkman and Svensson 2009, Bjorkman Nyqvist et al 2017 vs Raffler et al. 2019). How many children's lives were saved?

When can communities hold their leaders (or service providers) accountable?

What are the "**boundary conditions**"?

- Overcome collective action problems
- Access to information about performance (benchmarking)
- Empowered, no fear of retaliation
- The issue at stake should be sufficiently important

Introduction 5

Objective of this study: *To explore the effectiveness of bottom-up monitoring to curb elite capture, improve livelihoods, and reduce inequality, relative to alternative governance modalities, in the context of PFM.*

- Top-down monitoring by officials (experts)
- Incentives for 'good leadership'

The case we consider: decentralisation of forest user rights in Ethiopia

- Establishment of Forest User Groups (FUGs)
 - Forest benefits are important to our beneficiaries (20-25% income)
 - Similar to PFM or JFM schemes in many other countries
-
- Main methodological approach: **RCT with 132 FUGs**

Outline of remainder of the talk

- Context: FUGs in Ethiopia
- Experimental design: three governance modalities...
- Data and identification
- Regression results
- Heterogeneity analysis
- Conclusions



Context: PFM in Ethiopia

Until mid 1990s: forest extraction under *de facto* open access conditions

- Study region (Adaba-Dodola forest): forest stock shrunk from 140,000 ha to 53,000 ha (between 1980 and 1997)

GIZ+Gov: introduce PFM by creating FUGs in mid 1990s

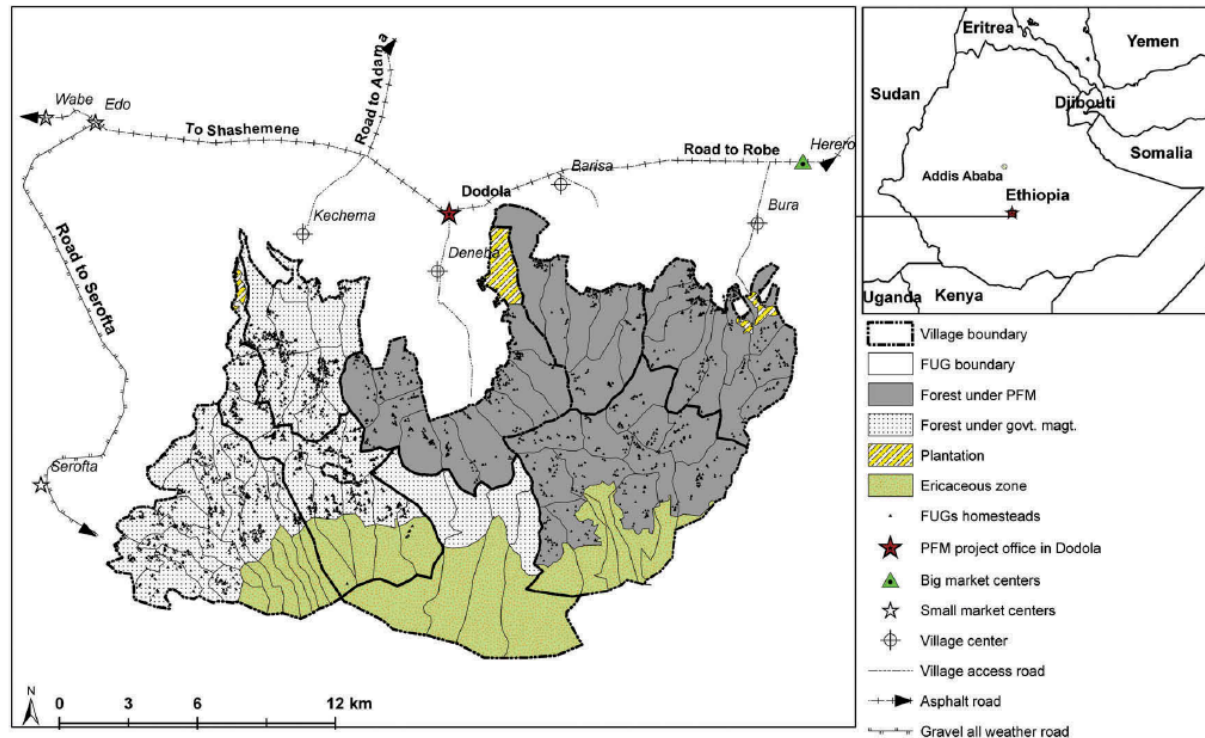
- Max 30 members
- 12 ha per member (=block of 360 ha)
- Propose (sample) bylaw
- Create organizational structure, committees, etc.
- Harvest timber and non-timber, pay annual rent...
- 50,000 ha managed by 132 FUGs (13 kebeles, 3600 members).

Deforestation stopped, but livelihoods impacts unclear (at best)

Study Site

The Adaba-Dodola PFM program is located in Adaba and Dodola districts of West Arsi zone (Oromia regional state, Ethiopia).

About 320 km SE from Addis Ababa



Source: Ameha et al. (2016)

Experimental design 1

Sample frame: All 132 FUGs in Adaba-Dodola PFM program

Randomly assigned to one experimental arm:

- External (top-down) monitoring by OFWE officials
- Internal (bottom-up) monitoring by *elected* group members
- Reward for 3 best leaders (assessed by OFWE officials)
- Control

13 kebeles

Informed consent.



Experimental design 2

External monitoring: OFWE officials visit FUGs, collect data, speak to group members, inspect forest and books. After 6 months: General Assembly (G.A.) meeting, collect local feedback, and report back to OFWE management. Three possible outcomes: appreciation for leader, warning or replacement.

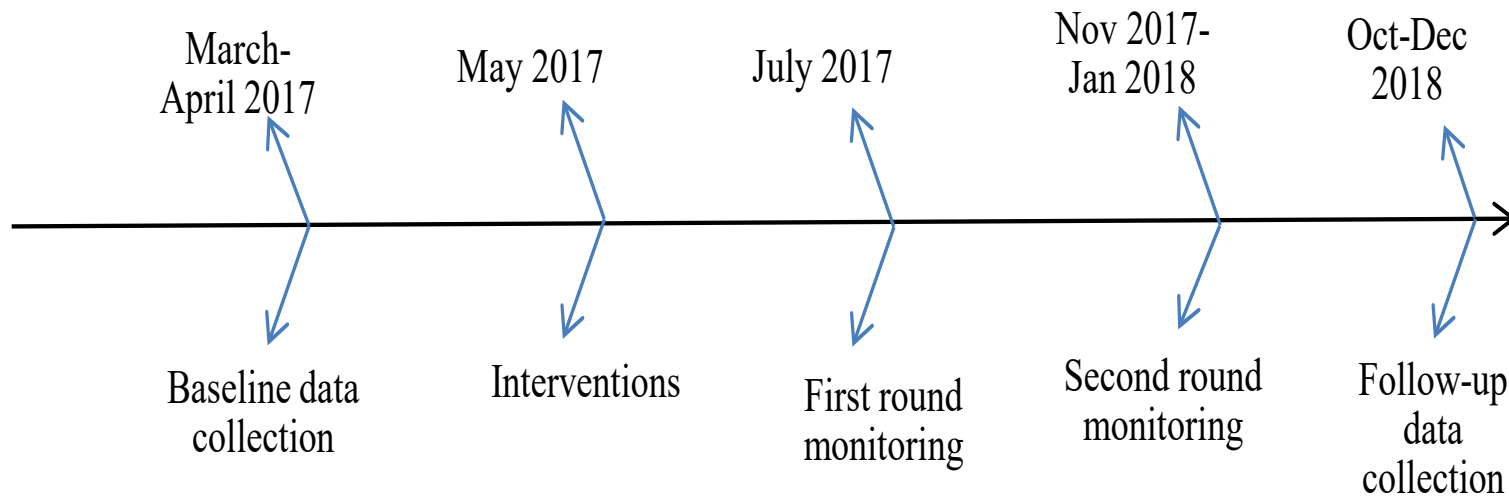
Internal monitoring: OFWE officials oversee process of creation of monitoring committee, training for committee members, guidelines on monitoring, material support (score cards, stationary), key indicators, information sharing and benchmarking during G.A. meeting after 6 months: appreciation, warning or replacement (based on anonymous voting).

Reward: scrutiny by OFWE officials, as in external, but a solar panel (\$60) for the 3 best leaders, rather than punishment.

Experimental design 3

Treatments	Number of forest user groups	Total members	Members sampled
Control group	34	933	320
External monitoring	33	897	297
Incentives	32	866	296
Internal monitoring	33	902	302
TOTAL	132	3598	1215

Timing



Data on forest stocks: collected in summer 2019 (transects and satellite imagery). To be analysed later.

Data and identification 1

Attrition < 1%

Perfect balance across treatment arms, based on baseline co-variates of members and FUG characteristics.

- Elites dominate the leadership of FUGs (education, income, assets, consumption)

Follow Ethiopian Rural Household Survey to measure income, consumption and forest-based benefits

Survey: Appreciation for FUG leadership, forest condition, own participation in PG provision, other member participation, etc.

Diff-in-diff model:

$$Y_{it} = \beta_0 + \sum_{j=1}^3 \beta_{1j} \mathbf{T}_j + \beta_2 \mathbf{Post} + \sum_{j=1}^3 \beta_{3j} \mathbf{T}_j * \mathbf{Post} + \beta_4 \mathbf{X}_{it} + \alpha_v + \varepsilon_{it}$$

Results 1

	Level outcomes			Inequality outcomes		
	Consume	Income	Forest benefit	Consume	Income	Forest benefit
Treatment arms	yes	yes	yes	yes	yes	yes
period	3405**	7133***	609	-0.08***	-0.13***	-0.10***
Ext × period	6721**	9677**	5320***	-0.15***	-0.13***	-0.14***
Int × period	24	-3600	375	-0.04	0.03	0.03
Rew × period	-12.13	-6018	605	-0.01	0.01	-0.03
Controls	yes	yes	yes	yes	yes	Yes
Village FE	yes	yes	yes	yes	yes	yes
N	264	264	264	264	264	264

External monitoring increased (forest) income and consumption (0.2-0.35 s.d.), and reduced inequality (0.2 s.d.). Other interventions have no significant effect.

Results 2

	Leader responsiveness		Member participation		Forest condition
	Chairperson	Executive committee	Participation & influence	Member behaviour	
External	0.24*	0.32**	0.29***	0.30***	0.42***
Internal	0.01	0.04	0.10	0.12	0.12
Reward	0.01	0.08	0.11	0.07	0.13
Controls	yes	yes	yes	yes	yes
Village FE	yes	yes	yes	yes	yes
N	132	132	132	132	132

Member satisfaction with leadership and behaviour of peers increased after introduction of top-down membership.

Consistent with the story that monitoring reduces elite capture.

Results 3

Why does top-down monitoring increase appreciation of leaders and economic outcomes?

Discipline existing leaders or select better ones?

- Leader turn-over rate increased from 2.9% (control) to 27.3% (external m.).
- Or: from 1 leader to 9 leaders...

Additional analysis (non-experimental):

- Existing leaders are valued higher than new ones (Grossman & Hanlon)
- Propensity score matching: existing leaders are valued more than peers from control group.

“External monitoring disciplines incumbent leaders”: **ability-effort** trade-off?

Results 4

Why does bottom-up monitoring fail to increase appreciation of leaders, or improve economic outcomes? 4 boundary conditions...

Project attenuates collective action (CA) problems and provides relevant information. Anonymous voting and elevated leader turnover (18.1%, or 6 leaders). **CA, information** and **Empowerment** do not seem to be the main issue.

On average, monitoring committee members do not spend more time “monitoring” than members from control group. **Lack of interest?**

What happens if we focus on the subsample of forest-dependent FUGs (median split, or forest-based income > 30% of total income)?

Results 5

	Median cut-off		30% cut-off	
	Forest dependent groups	Non-forest dependent groups	Forest dependent groups	Non-forest dependent groups
External × period	2477	10767**	3155	6797**
Internal × period	5441*	-4919	8716**	-3943
Reward × period	1592	-4791	5886	-4565
Treatment and period dummies	yes	yes	yes	yes
Controls	yes	yes	yes	yes
Village FE	yes	yes	yes	yes
N	132	132	70	194

Interesting asymmetry: top-down monitoring works in groups that “do not depend” on forest, bottom-up monitoring works in forest-dependent groups. (Economic theory would predict that bottom-up monitoring works when the MVP of monitoring effort is high, which may be in badly-functioning groups...)

Conclusions

- How should we engage local communities in development initiatives, decision-making and monitoring? Important and debated issue...
 - Elite capture as a key concern
- Case study: devolution of forest use right to local communities in Ethiopia
 - RCT with three treatment arms, aiming to align mixed evidence that exists
- Top-down monitoring has, on average, large positive impacts on key welfare indicators. *Consistent with Olken (2007).*
- Bottom-up monitoring has, on average, no impact. But works among forest-dependent FUGs. *Consistent with Bjorkman & Svensson (2009)*
- Aligns literature: Bjorkman & Svensson vs Raffler et al.: child mortality fell from 117 to 59 per 1000 live births, between 2004/5 and 2014/5...

Conclusions 2

- Our reward treatment did not work (perhaps our fault—flawed design)
- Robust approach: combine top-down and bottom-up monitoring. Complementary roles for communities and government appears the most robust way forward. Consistent with Gupta & Koontz (2019).