



# Knowing your (Forest) Rights: Clarity and how it relates to Harvesting Behavior

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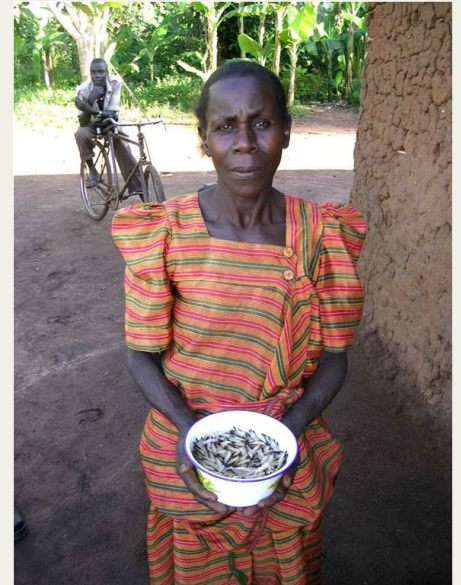
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# Motivation

- Impact of Uganda's forest sector reform
- Understand the process
- Formal rights articulated
  - Land Act (1997)
  - Forest Act (2003)
- How has that played out on the ground?



## **Why should we think about perceptions of formal rights in the context of REDD+?**

- Strengthened, clarified, and new rights are one of a number of co-benefits communities and households might receive
- Rights might be more constrained to facilitate reducing deforestation and degradation
- We don't really know much about **how, when, or if** changes in formal rights result in behavior change at the forest gate

# **RQ: Do changes in formal rights translate into actions on the ground?**

1. Do people know their rights?
  2. How do they know what they know?
  3. Does knowledge of formal rights influence decisions that impact deforestation and degradation outcomes?
- We have limited empirical evidence regarding how formal rights are understood and interpreted at the operational level (c.f. Thanh and Sikor 2006; Nguyen 2006; Sikor and Nguyen 2007)

# What rights matter for REDD+?

- Drawing on Schlager and Ostrom (1992):
- Deforestation
  - Alteration of land use
- Degradation
  - Access and unsustainable withdrawal of key products (i.e. fuel wood; timber; charcoal)
- Deforestation and degradation
  - Management
  - Exclusion
  - Alienation



Sudan

Democratic  
Republic of  
Congo

**Budongo Central Forest  
Reserve**  
**Bugoma private forest land**

**Rwenzori Mountains National  
Park**

Kampala

Kenya

Lake Victoria

Rwanda

Tanzania

# Site selection and sampling

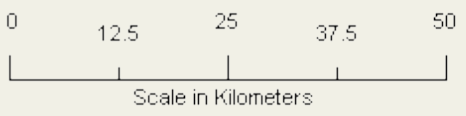
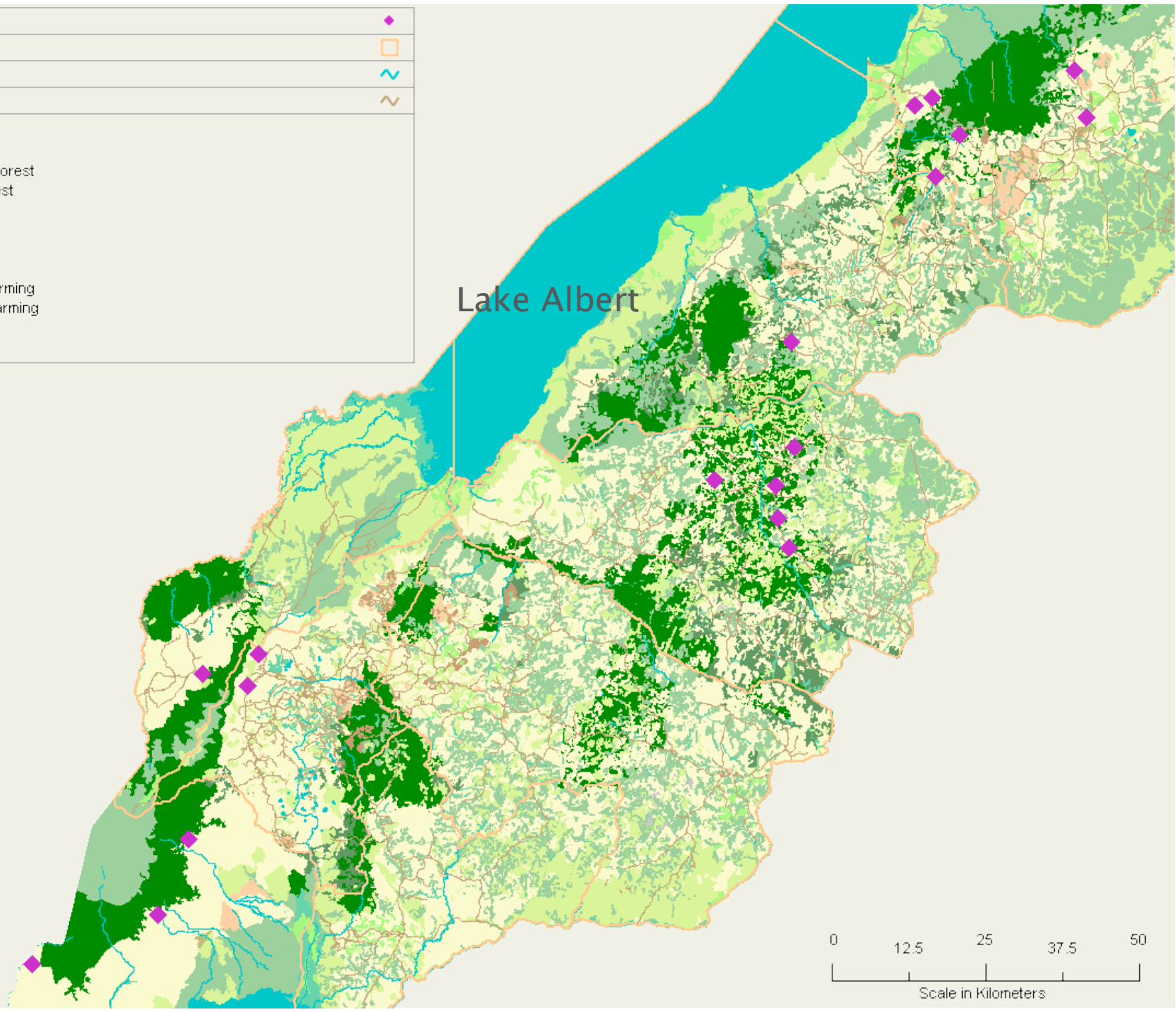


- 3 purposively selected forest areas
- 18 villages (stratified random sample)
- 540 households (30 households randomly selected from within each village)



GLASS Villages	◆
Districts	□
Rivers	~
Roads	~
Land Use	
Plantation	■
Tropical High Forest	■
Degraded Forest	■
Woodland	■
Bushland	■
Grassland	■
Wetland	■
Small Scale Farming	■
Large Scale Farming	■
Built-up Area	■
Water	■

Lake Albert





# Data collection

- Village and household socioeconomic surveys
  - Land and forest use
  - Asset and income portfolio data
  - Demographic, social capital, shocks, interactions with officials etc.
- Data on perceptions of rights
  - Nested approach (top officials to households)
  - Build trust and then ask – land/forest rights are contentious
  - At household level – depersonalize the question
    - If a new family moved into the village how would you describe their right to burn charcoal on their own land?

# Knowing your rights: alteration

- Land owners need permission from DEO or DFO to clear forest for agriculture
- Of 229 households that owned forest, 98% indicated they had the right to clear forest without permission
- 56.8% of households cleared forest land during past 12 months; average of 0.45 ha/hhd



# Knowing your rights: withdrawal

Tenure category	Product/De jure withdrawal right	Points of heterogeneity in perceptions of formal rights
<b>Own private forest</b>	Charcoal (with permission): Sawn wood (with permission):	DFO (86%); VL (71%); HHD (38%) DFO (100%); VL (82%); HHD (66%)
<b>Other's private forest</b>	Fuel wood (with permission): Charcoal (with permission): Sawn wood (with permission):	DFO (19%); VL (50%); HHD (55%) DFO (100%); VL (89%); HHD (62%) DFO (100%); VL (94%); HHD (88%)
<b>Budongo Central Forest Reserve</b>	Fuel wood (with permission): Sawn wood (with permission):	FM: (100%); FG (80%); VL (17%); HHD (12%) FM: (100%); FG (60%); VL (83%); HHD (55%)
<b>Rwenzori Mountains National Park</b>	Fuel wood (with permission): Sawn wood (with permission):	FM: (100%); FG (40%); VL (67%); HHD (13%) FM: (100%); FG (60%); VL (100%); HHD (99%)

# Household $i$ 's awareness of right to harvest product $j$ from tenure $k$

- Degree forest reliance
  - Share of total income from forests
  - Area of forest owned by household
  - Net income from the product
- Education of household head
- Social capital
  - Participation in FUGs; other associations
  - Current or past leader; close to leader; member of minority
- Enforcement/interaction
  - Direct, indirect and negative contacts with forest officials
- Village level characteristics
- District level dummy variables



# Clarity of withdrawal rights on private forests

	Own forest		Other's forest		
	Sawn wood	Charcoal	Fuel wood	Sawn wood	Charcoal
Forest reliance	(-) value of sawn wood		(-) value of fuel wood		
Education					(+) secondary or above
Social capital			(-) member of ethnic minority	(+) participation in FUG	(+) current or former village leader
Interactions	(+) direct contact with DFO	(+) direct contact with DFO			
Village characteristics			(+) population density		(-) population density
District /site characteristics	(-) centralized		(-) developed	(-) centralized	

# Clarity of withdrawal rights on gazetted forests

	Budongo CFR		Rwenzori NP
	Fuel wood	Sawn wood	Fuel wood
Forest reliance		(+) share of income from forests (-) value of sawn wood	
Education		(+) some or completed primary	
Social capital	(+) talked to village leader in past 3 months	(+) current or former village leader (+) member of ethnic minority	
Interactions		(-) indirect contacts with NFA	(+) indirect contacts with NFA
Enforcement			
Village characteristics		(-) population density (+) market access	(-) market access

# Value of household $i$ 's production of product $j$ from tenure $k$

- **Awareness of right to harvest product**
  - On own land
  - On other's ungazetted land
  - On gazetted land
- Land
  - Hectares of forest owned; Hectares of arable land owned; minutes to forest
- Labor
  - Female headed household; dependency ratio; education of head; more than 10 years in village
- Capital
  - Value of assets; value of livestock
- Social capital
  - Participation in FUGs
- Village level characteristics
  - Population density; market access; number of ethnic groups in village
- District level dummy variables

# Does clarity influence harvesting behavior?

	Private forest			Gazetted Forest	
	Fuel wood	Sawn wood	Charcoal	Fuel wood	Sawn wood
<b>Awareness own land</b>	NA	(+)*	(-)**	NA	NA
<b>Awareness other's land</b>	(-)***	NS	NS	NA	NA
<b>Awareness gazetted area</b>	NA	NA	NA	NS	NS
<b>Land</b>	(+)				
<b>Labor</b>		(+)	(-)	(+)	
<b>Capital</b>	(+)				
<b>Social capital</b>		(+)			
<b>Distance to forest</b>			(+)		



# • **Conclusions**

- Heterogeneity is real – even among forest officials!
- Better knowledge of rights:
  - On own land;
  - For higher value products
- Social capital, education, contacts with forest officials matter for knowledge
- Awareness of withdrawal rights has some influence on harvesting behavior:
  - Reduced harvesting of fuel wood on other's private land
  - Enables harvesting of sawn wood
  - Reduced harvesting of charcoal



