

Does land demarcation affect improved seed uptake? Evidence from farmers' mental models in eastern Uganda

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1) Motivation

Secure land tenure increases agricultural investment, because farmers know they will be safe from eviction.

But there is little empirical evidence – and what about short-term investments?

E.g.: De Soto
(2002)

E.g.: Peters (2009),
Simibizi et al.
(2014)

Research gaps:

- The role of tenure security in the investment decision-making process has not been studied
- The relative role of tenure security compared to other factors influencing investment is unknown

Research question: What is the role of tenure security and its formalized version – land certificates – within the decision-making process of using improved seeds?

2) Study context and methods



- We collected mental models from farmers in Eastern Uganda, asking them the following question: "Which factors influence your decision to use improved seeds? Do you use improved seeds? If yes, why? If no, why not?"
- 253 households in Soroti district completed mental models and a short survey
- Farmers in two sub-counties were interviewed:
 - In Katine, GIZ implemented a land registration project, supporting households to obtain land certificates
 - In Gweri, no land registration project was implemented
 → Katine serves as "treatment" group and Gweri as "control" group, we compare the differences in mental models and the improved seeds decision-making process between households in both sub-counties

Mental models...

... are an explanation of someone's thought process about how something works in the real world and is based on an individual's perceptions and experiences (Jones et al, 2011; van den Broek et al., 2021)
... can underlie individual decision-making and behavior

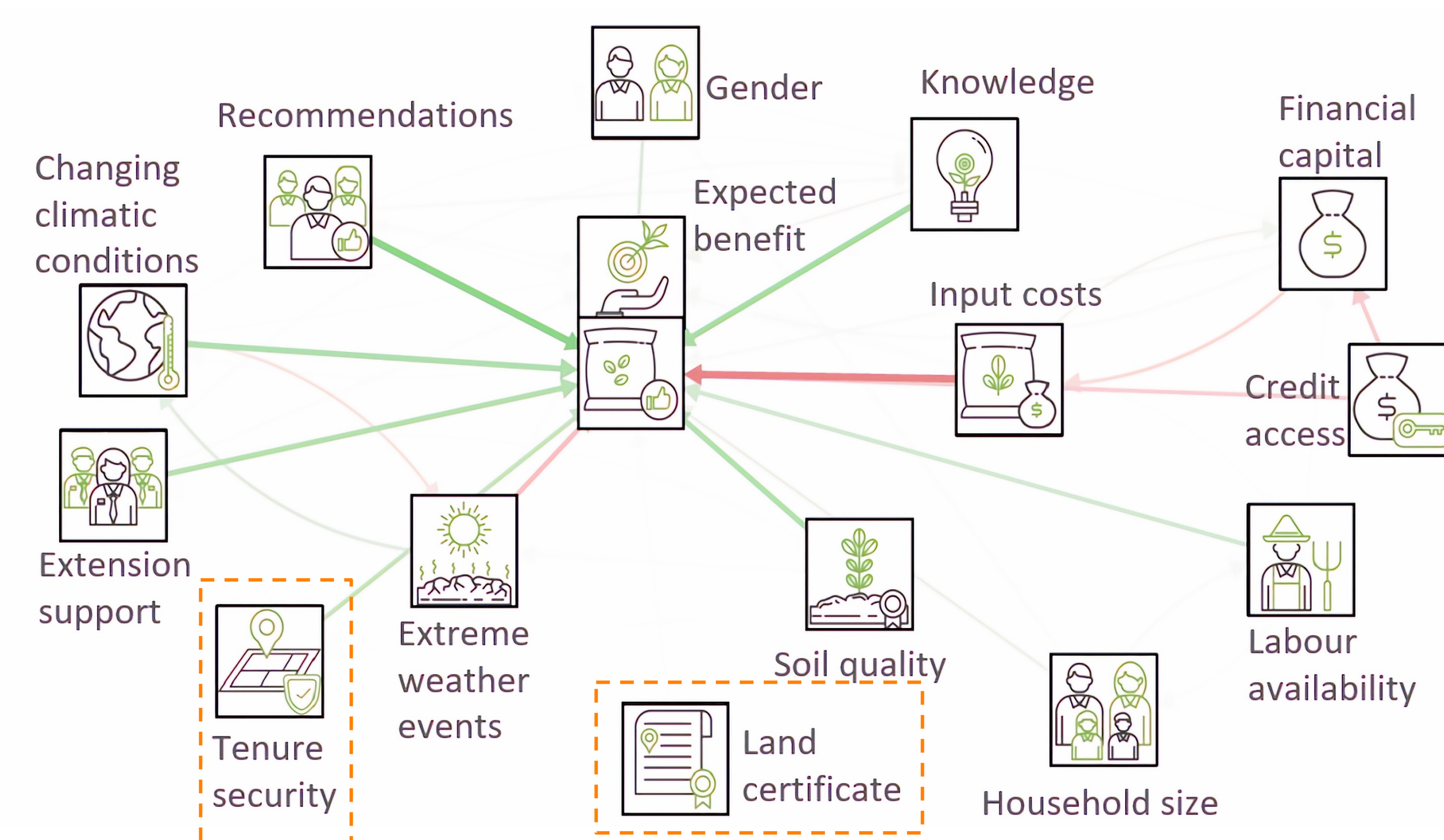
Network analysis of key indicators:

Analysis level	Variable name	Variable description
Driver (icon)	Frequency (in %)	The number of times the driver was chosen, divided by the number of participants.
	Rank	The position of the driver in the list of 15 available drivers, based on the number of times it was chosen.
Connection (arrow)	Frequency (in %)	The number of times the connection was chosen, divided by the number of participants.
	Average strength	The mean strength of all arrows forming the respective connection.

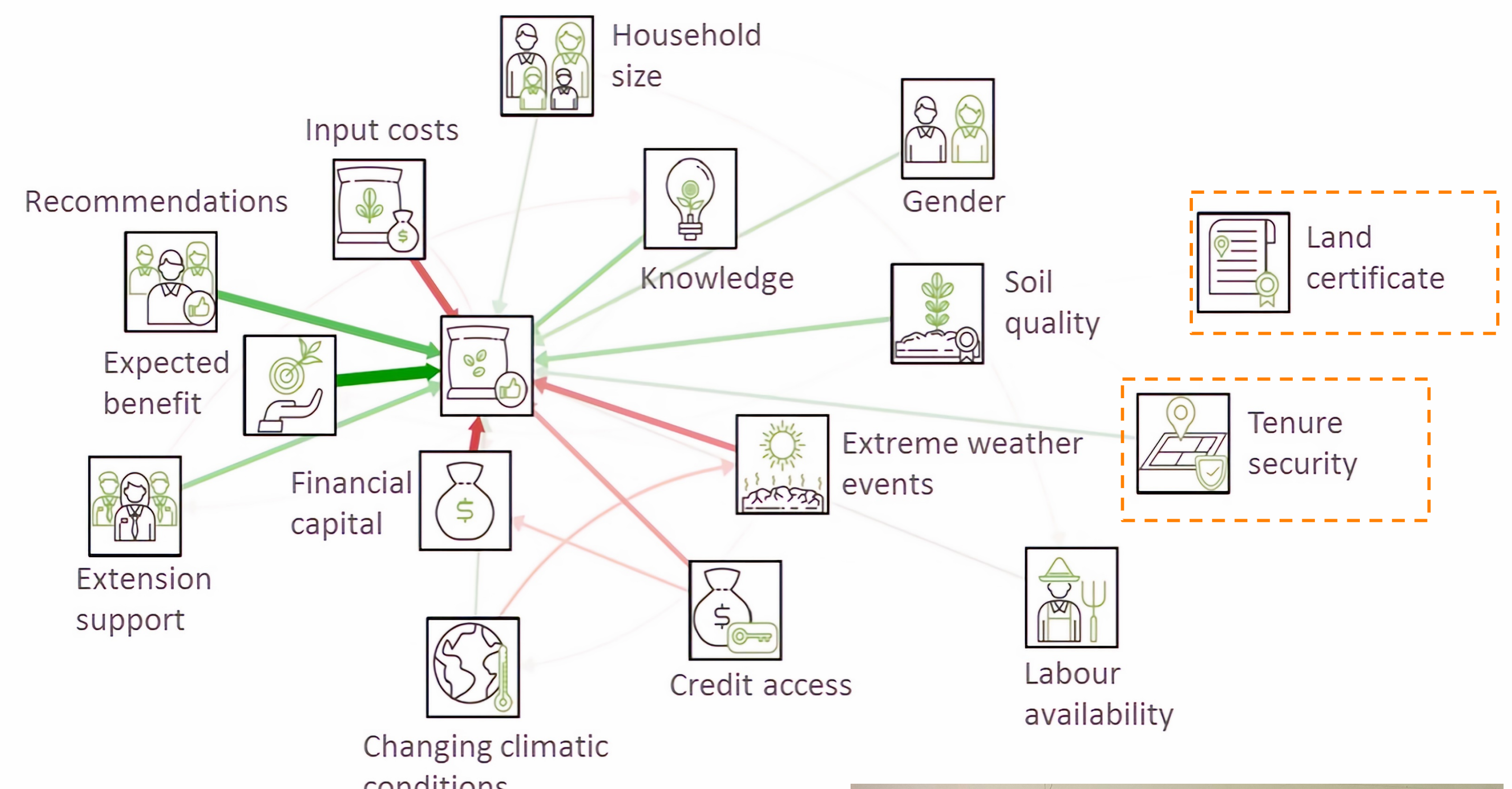
Blue = positive influence,
Red = negative influence
Thickness of arrow indicates strength of influence

3) Results

a) Treatment group



b) Control group



- Only few differences between the aggregate mental models of treatment and control group
- Approximately 30 % of households include **tenure security** as a driver in both groups
- 19 % of households in the treatment group include **land certificates** as driver and 11 % of households in the control group
- Both drivers are among the least chosen drivers (rank 12 and 15 out of 15)
- Women are much more likely to include land certificates in their mental model compared to men



Land certificates in Soroti district

4) Discussion

- The results **do not indicate that tenure security and land certificates are important** for the decision to use improved seeds
- This could be due to improved seeds' nature as a rather **short-term investment**
- Similar studies could be conducted on more long-term investment, to investigate if the **investment time horizon** is important
- The higher share of land certificate inclusions in the treatment group (19% vs. 11%) may be an **information effect**
- Women attach higher importance to land certificates than men, which calls for **better inclusion of women in land registration projects**