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Entry points for scaling: Microfinance and rural lending, and engaging the private sector in technology supply chains

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BACKGROUND

- Smallholder farmers are investing in different water lifting (WL) technologies (de Fraiture and Giordano, 2014; Namara et al. 2014) without costly public infrastructure investments,
- Smallholder farmers face a range of constraints to adopt WL technologies, mainly access to credit (Stiglitz 1990; Godquin, 2004, Burney et al. 2013; Namara et al. 2014).,
- Strengthening and institutionalizing microfinance (FDRE, 2009),





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BACKGROUND

- ILSSI project pilot tested WL irrigation technologies: **manual/& motorized&/ solar water lifting devices** (pulley, rope and washer, motor pump & solar pump) (see figures) through revolving fund scheme in the four sites,
- Whether microfinance products are suitable to farmers' demands,



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RESEARCH AIMS

1. To identify factors that determine households' decision to adopt WL technologies?
2. To identify factors that affect households' decision to participate in credit market and households' decision on loan size, and
3. To explore the role of private sector, incentive mechanisms, access to finance, income tax holidays, etc, policy environment, regulations related to quality standards, and import tax duty of small scale technologies.



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METHODOLOGY

1. Triple hurdle model (Roodman, 2011; Bruke et al. 2015)

First hurdle: using WL technologies or not,

Second hurdle: conditional on using WL technologies decide to participate in the credit market, and

Third hurdle: once the decision is made to participate then the farmer decides the loan size i.e. going for more expensive WL technologies.

2. Key informant interview and literature review



KEY RESEARCH FINDINGS

1. First hurdle: Adoption of WL technologies

Is mainly determined by credit access, years of experience in irrigation, availability of private water source and plot distance from homestead.

Households with average older heads are less likely to apply.

2. Second hurdle: participation of credit

Households with more **land holding** are more likely to participate,

Group loan enhances participation,

The number of **likelihood of drought next year** and **good years in the past five years** have negative and positive effect on the participation in credit market



KEY RESEARCH FINDINGS

3. Third hurdle: Factors affecting loan demand

Households with higher **market-orientation** (proportion sold) increases loan demand,

Group loan enhances loan demand

Lengths of **credit duration** decreases loan demand,

Distance to microfinance office decreases loan demand while **distance to major market** increases loan demand,

Age of the household head decreases the amount of loan demanded.



KEY RESEARCH FINDINGS

- The **current tax regime** imposes import duty and VAT taxes to irrigation technologies,
- Farmers access credit through **group (collateral) lending**, however, they couldn't access loan according to their needs and requirements,
- Group collateral is being eroded with recurrence of **covariate risks**,
- Microfinance has no **product to link** suppliers with end users,
- **Standardization** for some of technologies is developing and need to developed further: effective implementation of the standard regulation is lacking,
- Private suppliers do **not mainly target smallholder farmers**,
- Importers do not benefit from **income tax** holidays
- Suppliers identified some **bottlenecks**: FOREX, enforcement of standardization, control of illegal trading, establishing plain field for competition among suppliers and joint production.



KEY MESSAGES

1. **Wealth** (e.g. land holding) and **market-orientation** are important determinants of participation and loan demand respectively,
2. **Group lending** increases the likelihood of participation and loan size compared to private lending.
3. Perception of risk factors like the **likelihood of drought** next year and **good years in the past five years** have positive influence on participation,
4. Value chains in supplying irrigation technologies are not well-developed, face many constraints/bottlenecks.



RECOMMENDATIONS

1. Current microfinance services target the **relatively better off**. Policy decisions could take could take **two directions**:
 - Devising products to **reach out the very poor and vulnerable** sections of society - revolving credit scheme for the relatively poor,
 - **Flexible credit product** targeting the emerging smallholder commercial farmers – so-called missed middle, and
2. **Linking credit with insurance** (thanks to data revolution!) important to enhance credit uptake,
3. **Value chain financing**,
4. **Policy measures** - enforcement of standards, tax reforms, solving bottlenecks, ..



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