Context

- In the drylands of Ethiopia and elsewhere, smallholder farmers often lack access to irrigation water and they overirrigate when they have access to irrigation water.
- This can lead to environmental degradation (salinity) and low productivity of land.
- Solar irrigation replaces diesel pumps, cutting greenhouse gas emissions.
- But over-pumping can deplete water resources.

Innovative ways of working

- Targeting technologies for smallholder farmers
- Engaging small holder farmers, development partners and private sectors
- Documentation and use of evidence to build capacity of stakeholders
- Brokering knowledge and technology (linkage between the suppliers and users)
- Continual monitoring and coaching

Water scarcity solutions for smallholders:

Climate-smart water lifting and simple optimization technologies improve farm productivity

Solar pumps: attached to a drip system is highly profitable and brings seven times more net present value than solar-furrow system.

Wetting front detector: This tube is buried in the soil to measure wetness so that irrigation can be scheduled. Results reduced irrigation intervals for potato and wheat by 34 and 44%. This saves water, labor and improved yields by more than 17%.

Impacts of combined technologies: Following demonstration of 10 sets of solar pumps, training provision, and engaging partners such as ATA and the private sector (solar development), ATA has launched in 16 districts.

Future steps

Launching in 16 districts. IWMI in collaboration with ILRI and WLE is supporting baseline data establishment and impact assessment. Solar irrigation business models created to help finance and spread technology.

Solar pump (A) attached to drip system (B) and mechanical water optimization tool (Wetting Front Detector) on furrow irrigation system on farmers field in Ethiopia (C)

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