

Making Motor Pumps Affordable for Smallholder Farmers

Based on a report by Gebrehaweria Gebregziabher

Farm households can increase their incomes and improve their food security by using motor pumps to grow irrigated high-value crops in addition to current rain-fed crops.

Background

Agriculture in Ethiopia is dominated by smallholder rain-fed systems. However, low and erratic rainfall limits productivity and food security. Ethiopia's five-year Growth and Transformation Plan encourages the use of the country's abundant water resources by individual smallholder farmers, but little is known about factors that affect adoption of water-lifting technologies. A study of 800 farm households identified the following constraints and possible solutions.

Constraints to Adoption of Motor Pumps

High costs – Motor pumps are expensive (ETB 6,600-9,200) and are subject to 37% tax. In addition, there are costs for constructing wells and water storage (ETB 365-4,000), and for energy (ETB 950-1,800 per year).

Limited access to credit – Most farmers use savings to buy pumps. Creditors are reluctant to lend without credit histories. This particularly affects poor farmers, often women.

Materials and services – Farmers report frequent breakdowns, poor maintenance services, and limited input and spare-part supply.

Weak extension services – Farmers are more likely to adopt when they have information about a technology.

Limited access to output markets – Traders control market prices which makes investment risky.



Vegetable production.



Motor pump.

Actions to Address Constraints

- Build capacity of extension services and farmers to grow and market irrigated high-value crops.
- Review import and sales tax provisions.
- Explore and pilot financial instruments specifically designed for the purchase of pumping equipment.
- Explore and pilot pump rental arrangements.
- Train dealers and farmers on technical aspects, brands and price ranges of pumps.
- Train dealers in marketing and after-sales service.
- Support dealers in setting up demonstration plots.
- Develop illustrated manuals on pump maintenance and repair in local languages.
- Develop a registry of pump dealers to help farmers locate them, compare services and for after-sales services.
- Implement a market information system.

Solutions for Ethiopia

Support the establishment of more holistic businesses that sell a variety of pumps and provide after-sales services and parts. Businesses that cover the entire chain, including the sale of farm produce, may overcome the problems that farmers face with market traders. This will increase profit and make the whole business more sustainable.