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ICT Applications for Agricultural Input Supply

Case studies of private-sector led models in Africa

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Background



Input Supply for Smallholders a Challenge

- Resource-intensive marketing and distribution needs
- Data management of large number of dealers and distributors
- Expanding outreach of distribution networks



Growth of ICT in Africa Offers Solutions

- Efficiencies in data collection, management, useful analysis
- Alternative sales and distribution channels
- Dissemination of product use and information
- Financing and Payments



Learning from Business Experiences: FACET Research

- Highlights from firms embracing ICT solutions in input supply
- Highlights of products relevant for private sector input suppliers
- Development Perspective: Implications for Donor Programs

What is Agricultural Input Supply?

- Input suppliers offer goods and services for farmers including: seeds, fertilizers, herbicides, pesticides, soil testing and crop spraying
- Input supply companies seek to improve product quality, services and information to farmers, and expand distribution networks
- ICT-enabled applications allow agricultural input supply companies to improve operations and build capacity to expand outreach and meet farmer needs
- Input supply company objectives can align with development objectives (e.g. increase household income, food security, etc.)



Summary Case Studies

ICT-enabled Applications in Africa for:

INPUT SUPPLY



Case Studies

ICT Application	Examples
Mobile Payments	M-Pesa, Kenya
Prepaid Vouchers	MRI Seed, Zambia
Customer Information Website and SMS System	Farmchem, Kenya
SMS for Improved Farmer Communication and Extension	Crop Nutrition, Kenya
ICT-enabled Rural Agent Management & Product Promotion	Plant Agrichem, Zambia

Who? Safaricom's M-PESA (Kenya)

INNOVATIVE MONEY
TRANSFER



How?

- Input supply company customers pay for inputs from M-PESA accounts
- Registered customers use system's broad network of retailers across the country to purchase items and make cash withdrawals
- Retailers receive small commission per transaction



Benefits?

- Farmers and can buy inputs (seed, fertilizer, etc.) using cell phones
- Agro-dealers can also buy products from input supply companies using mobile technology
- Digital transactions are immediate, secure, and reliably recorded

Prepaid Vouchers

Who? MRI Seed and ZoonA in Zambia

How?

- Farmers pre-pay for seed at discount price (10% discount);
- Farmer receives pre-paid voucher from retailer and activates via SMS
- ZoonA sends confirmation to farmers with expected delivery date and location
- Retailer sends voucher info to ZoonA; cash credited to MRI Seed's ZoonA account
- ZoonA compiles reports for pre-paid orders and sends to MRI Seed for ordering
- When available, ZoonA sends farmer SMS delivery date (farmer must bring natl. ID)

Benefits?

- Farmers purchase maize seeds at discount
- Farmers are guaranteed seeds in time for planting
- Improved efficiency of seed stock planning, distribution, and delivery of seeds to farmers
- Increased seed sales during traditionally slower months (Jun-Aug)
- Customer database used by Input Supply companies for marketing and distribution of information



Customer Information Website and SMS System

Who? Farmchem in Kenya



Farmchem
Faidika na Farmchem



What is it?

- Informational website for farmers (Angaza Mkulima)
- Includes information (i.e., farming tips and strategies) to help increase yields and profits
- Allows farmers to give feedback on products, identify farmer field days near them, locate nearest authorized retailer, get updates on new products, and order products directly from nearest dealer
- Accessible by SMS with menu-system: no charge for registration



What are the benefits?

- Farmers gain easy access to up-to-date information on inputs and production
- Website registration builds database of farmers which Farmchem can use to improve services and targeted marketing
 - over 50,000 users registered to date
- Distributors can also access the system to quickly place orders

SMS for Soil Testing Services

Who? Crop Nutrition in Kenya

How?

- Farmer collects soil specimen bags from agro-dealer.
- Farmer returns specimen bag to agro-dealer and pays for testing service
- Crop Nutrition representative collects specimens from agro-dealer
- Crop Nutrition runs tests and returns results directly to farmer by SMS
- Farmers can quickly use recommendations to treat their fields

Benefits?

- Agro-dealers receive income and attract new customers
- Lower testing costs and SMS-based reporting makes service available to remote smallholder farmers
- Crop Nutrition able to expand pool of clients



Discount Coupons

Who? Plant Agrichem Services, Ltd. (PAS) in Zambia



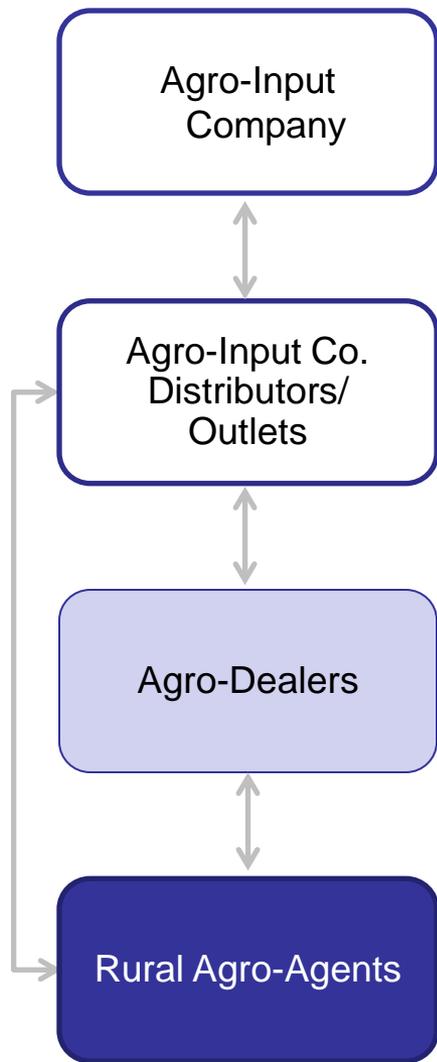
How?

- Rural agents visit farmers to provide technical training and promote input sales
- Agents distribute discount coupons to farmers for specific products
- Coupons identify issuing agent and farmer
- Farmers use coupons at local agro-retailer to purchase inputs at a 5% discount
- Company compiles data provided by coupon system in database for agent management and marketing

Benefits?

- Discount coupons are part of an ICT-based system to 1) promote product sales, and 2) better manage and monitor sales made by rural agents
- Discounted inputs and timely technical advice for farmers
- Agents receive 5% commission for coupons redeemed by farmers
- Increased transparency and trust between PAS and network of rural agents
- Agro-dealers increase sales and don't compete with rural agents or vice versa

Input Supply Company Distribution Networks



Farmchem
Faidika na Farmchem



Using ICT to Expand and Manage Rural Agent Networks

- Rural Agent Networks are composed of village-based individuals identified by an input supply company to sell its products to small-scale farmers
 - Often respected local farmers
 - Do not have a physical store, often work out of home
- Agribusiness companies such as Plant Agrichem Services, Ltd. in Zambia use ICT to expand and manage their rural agent networks.
- Example technologies include:
 - SMS-based product ordering helps agents work more effectively
 - Mobile payments makes purchases much faster and more reliable
 - Database systems assist with monitoring rural agent sales





Implications for Donor Programs and Development Practitioners

- Emerging ICT applications can help agricultural input supply companies to:
 - Improve the efficiency of their operations
 - Provide important products, services, and technical information to farmers

- Small 'resource-lite' technologies can yield big benefits to input supply companies and farmers: *opportunities for commercially-driven initiatives independent of donor support*

- Many opportunities to adopt ICT applications are on the market but not utilized or adapted for agriculture

- ICT is often an overlooked supporting service market by development practitioners



Implications for Donor Programs and Development Practitioners

- ICT is a tool - not a panacea: not all solutions fit all business models or contexts
- Development organizations/donors can reduce risk companies face in developing and pilot testing applications
- Development organizations/donors should engage private sector value chain actors in participatory dialogue
- Development organizations/donors should be careful not to push ICT solutions that companies do not need or see value in as these are less likely to succeed

Facilitating the Integration of ICT

- Development organizations should invite agricultural input supply companies ***to propose their own ideas and strategies***
 - can present different examples of opportunities for ICT integration

- Donor program can solicit proposed ideas and strategies using an **“Invitation for Application” (IFA)**:
 - describes program objectives to encourage company investments in new ICTs they might not otherwise make (due to high costs and risks)
 - presents conditions of donor program participation (cost share, etc.) and
 - describe technical and facilitation activities that can be provided

Using Question Guides to assist companies in planning ICT initiatives

- General Questions:
 - What role will the ICT play in your operations?
 - What are the set up and recurring costs of the ICT application?
 - What cost savings or new sales will the ICT generate?
 - How will you train your staff and/or customers in the use of the ICT?
 - How will the ICT be sustained after the program support ends?
 - etc.

- Additional questions developed based on specific ICT application

- Development org/donor staff guide company in strategic planning process – company answers and thinks through all relevant questions

- Puts development organization/donor staff in proper role of “facilitator”
 - allows company to develop and define their own approach for developing or integrating ICT-based solutions

Facilitating the Integration of ICT

- Development organizations provide cost-share support to company initiatives to integrate ICT solutions
- Principle of cost sharing support to companies is important:
 - ensures companies are committed and making substantial investment in their proposed initiatives
 - should support costs related to research and development, exposure visits, testing, training, etc.
 - *should not* support costs for company staff, working capital, or fixed assets
- Additional technical support by development org. can include:
 - access to ICT technical expertise
 - exposure to successful applications in other places
 - assistance to assess and analyze costs and benefits of new ICTs (e.g. question guides, business planning, etc.)
- Memorandums of Understanding (MOUs) used to structure collaboration with companies and describe all aspects of program support for company's ICT initiatives

Summary



Input Supply for Smallholders a Challenge



Growth of ICT in Africa Offers Solutions



Learning from Business Experiences:
FACET Research

- Additional information for all case studies of FACET's ICT Applications for Agricultural Input will soon be available at www.ictforag.org

- Additional Resources for the Cases Presented:
 - Crop Nutrition soil testing services - www.cropnuts.com/
 - Farmchem's Angaza Mkulima Website - www.angazamkulima.com
 - MPESA - www.safaricom.co.ke

- Watch For : *USAID's Connected Farmer Alliance*

Thank You!

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