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Scaling Agricultural Technologies Through Public-Private Partnerships

Speakers
Margaret Spears, USAID Bureau for Food Security
Bob Rabatsky, FTF Partnering for Innovation
Mike Gavin, PortaScience, Inc.
Sara Boettiger, Syngenta Foundation, UC Berkeley

Facilitator
Julie MacCartee, USAID Bureau for Food Security

October 30, 2013
Margaret Enis Spears is the Director of the Office of Market and Partnership Innovations in USAID/BFS. Her office leads private sector engagement for Feed the Future. A Foreign Service Officer with over 15 years of experience, she managed the economic and agriculture offices in Colombia and Bolivia before returning to Washington to help establish the Bureau for Food Security. Prior to USAID, she worked for the State Department, the World Bank, Catholic Relief Services, and the Federal Reserve Bank of Boston. Ms. Spears did her graduate studies at Georgetown University and undergraduate at Boston College, focusing on economics and international development.
Bob Rabatsky
Feed the Future Partnering for Innovation

Bob Rabatsky is Program Director of the Feed the Future Partnering for Innovation Program. For more than a decade, Bob has served as Fintrac’s senior vice president. Prior to working on Partnering for Innovation, Bob supported Fintrac’s corporate relations and business development initiatives worldwide. He has more than 25 years of experience designing, managing, and evaluating USAID and multilateral economic development programs in Africa, Asia, Eastern Europe, and Latin America.
Mike Gavin
PortaScience, Inc

Mike Gavin is CEO of PortaScience, Inc., the leader in on-farm diagnostic testing products for the dairy industry. Mike has 30 years of experience, commercializing more than 30 products which have generated more than $500 million in revenue in both business development and product development capacity at Bayer Diagnostics, ITC, and Somerset Consulting. As VP of R&D at ITC he was responsible for development of the first FDA approved Prothrombin Time monitor for home use.
Sara Boettiger
Syngenta Foundation, UC Berkeley

Sara Boettiger is Senior Advisor at Syngenta Foundation for Sustainable Agriculture and an Adjunct Assistant Professor at UC Berkeley in the Department of Agricultural and Resource Economics. Her work focuses on innovation, deployment and adoption of technologies impacting the lives of the poor, including demand-driven innovation (www.demand-driven.org), public-private partnerships, commercialization strategies, intellectual property rights, and new product development principles applied to technologies for the poor.
Models for Technology Commercialization

Ag Sector Council

October 30, 2013
Fintrac

More than 20 years working directly with smallholder farmers, promoting agricultural technology and good agricultural practices

Since 2000, Fintrac has:

• Increased incomes for 700,000 smallholders
• Generated $830 million in agricultural sales
• Contributed to the food security of 4.5 million people

Photo: Fintrac Inc.
Feed the Future Partnering for Innovation

Performance-based grants process that supports:

- Identification and first-market entry for technologies
- Growing businesses in new base of pyramid markets
- Business planning, partner identification, and market information/access
- Scaling-up commercial practices that work

Photo: Fintrac Inc.
Key Questions

• What are effective models for commercializing technology?

• How can technology be scaled-up commercially?

• What can we learn from you?
What is the challenge?

- How large is the market?
- How can business make money supplying smallholders?
What is the challenge?

How can smallholders be convinced of technology’s value?
Commercialization Models

- Distributor
- Aggregator
- Acquisition
- Accelerator
Distributor

Direct Distributors: establishing or buying into a commercial chain
Third-Party Distributors: working through an established commercial network
## Distributor

<table>
<thead>
<tr>
<th>Direct</th>
<th>Third-Party</th>
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<tr>
<td>Product control &amp; monitoring</td>
<td>Lower up-front investment</td>
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<tr>
<td>Strong customer feedback loops</td>
<td>Pre-existing distribution chain</td>
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<tr>
<td>Higher margins with reduced middlemen</td>
<td>Strong local knowledge</td>
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<td>Customer service and support</td>
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Acquisition: purchasing equity in a local operation
Acquisition: Advantages and Challenges

+ Speeds product introduction
+ Improves adaptation to local market
+ Better IP protection

- Merging different cultures and practices
Aggregator: nucleus farm or consolidator exporter directing producers to meet specifications
Aggregator: Advantages and Challenges

+ Direct TA, finance markets for small farmers
+ Quick scale-up of technology

- Management intense
- Market risk
- Side-selling
Accelerator: builds connections between technologies, farmers, and investors

Photo: Kenya Climate Innovation Center
Accelerator: Advantages and Challenges

+ Jump starts partnerships
+ Provides cross-cutting business and legal support

- Vulnerable to public funding trends
- Connection to smallholders can vary
Examples

Driptech - Global Green
Examples

World Cocoa Foundation - Hershey’s
Grameen Foundation - Orange

*CocoaLink+ promotes proper drying and handling procedures.*
Join our Online Community

- **Request for Expressions of Interest** coming early 2014.

- Check us out on LinkedIn, Facebook, and Twitter @FTF_PI

- Visit our web site for models, case studies, blogs, and other resources.

- Email us at: innovation@fintrac.com

Visit at www.partneringforinnovation.org
Scaling Agricultural Technologies Through Public-Private Partnerships

Local Distribution Partnerships
PortaScience

- Develop Diagnostics Tests for Human and Animal Health
- Research and Production Located in Moorestown, NJ
- 14 employees
- 5 patents granted, others pending
- 14 SBIR grants to date
- 11 products licensed/commercialized/custom developed
- New Jersey Member Company of the Year
  World Trade Center of Greater Philadelphia
- National Tibbett’s Awards
  Small Business Technology Council
PortaScience specializes in the development of portable, easy-to-use diagnostic tests for the healthcare and animal testing markets.
PortaScience
- Established in 1999
- Diagnostics R & D
- Healthcare, Consumer, Veterinarian Markets

PortaCheck
- Established 2007
- Sales to Dairy Sector

PortaCheck
- Distribution in 60 Countries
- Currently 3 Products
Global Market Opportunity $200B Worldwide Sales

250 Million cows need routine testing
Leading Milk Production Issues

- **Udder infections** (Mastitis) cost farmers more than $20B/year
  - Bulk milk is discarded due to quality
  - Incentive payments are lost
  - Reduced milk production

- **Ketosis** A metabolic disorder cost farmers another $6B/year
  - Lower milk production
  - Conditions often go undetected for long time
  - Permanent damage due to delayed treatment
Our Solution

Inexpensive, Easy to use, On-Farm testing devices.

Used for rapid detection of disease and early intervention.

- **Somatic Cell Count (SCC) Test**
  - (Mastitis Detection)

- **Udder Infection Test - LDH**

- **Ketone Test**

*Formulations are protected by patents and a variety of trade secrets and proprietary synthesized chromogenic agents.*
Market Segmentation

Large Dairies
>500 cows

10,000 dairies; 15 mill cows

Average dairies
11-500 cows

750,000 dairies; 112 mill cows

Micro “dairies”
<10 cows

65 mill dairies; 130 mill cows
Fast, Simple, Easy to Use
Rwanda
Rwanda Dairy Background

- 70 percent of the population drinks milk… per-capita is low
- 50 percent of children suffer from chronic malnutrition
- Production levels average 1-3 liters/cow/day. (low)
- Small-holder farmers have poor access to veterinary service, poor feed, poor animal management practices and limited market access.
- Government of Rwanda has adopted a national policy of one cow per family. This has had unintended consequences.
“We have a particular interest in improving the quality of life in rural and peri-urban areas especially for women. Thus we distribute proven genetics, breeding supplies, mastitis prevention products, agricultural equipment, mobile slaughterhouses and agriculture technology that can substantially increase productivity and grow family incomes.”

Nathaniel Makoni - Founder
ABS TCM Ltd

• Head quartered in Nairobi, Kenya

• Business services in bovine genetics & AI supplies, animal feeds and milk quality

• 33 Staff members

• ABS implemented 7 Dairy development projects in East Africa funded by USAID, BMGF, DANIDA and DFID
ABS TCM Provides Training Services

Offices in:
- Kenya
- Rwanda
- Uganda
- Zimbabwe
Thank You
PLANNING FOR SCALE

SCALING SEED SYSTEMS TO IMPACT SMALLHOLDER FARMERS

Photo World Bank

syngenta foundation for sustainable agriculture

USDAID FROM THE AMERICAN PEOPLE
How do we get better at catalyzing scale?
PLANNING FOR SCALE

• Crowd-Sourced Lessons
• Annotated Bibliography
• Stories About Scaling
• 9 Briefs, including:
  – Demand-driven scaling
  – Integrated seed systems
  – Access to finance
  – Foundation seed
  – Metrics
  – Enabling environment
• Available at www.apxc.org
Drive scale by understanding the farmer’s decision-making
Drive scale by understanding the FARMER’S DECISION-MAKING Plan for scale that is SUSTAINABLE OVER TIME
We need the private sector if we want to achieve scale.
Better technologies to enable scale
Leverage technologies that will enable scale.
Sustainable supply channels
Access to R & D capacity, IP, know-how
Connecting farmers to markets
Get better at brokering public-private partnerships

• We need institutions to perform the following functions:
  – Landscaping
  – Mapping incentives and constraints of partners
  – Evaluating potential partners & due diligence
  – Deal structuring
  – Capturing learnings about PPPs
Our metrics need work

• Private partners collect and manage data differently; partnership deals need to account for this
• We can learn from the private sector in more real-time measurement to improve operations
• PPPs demand a cost-effectiveness standard for metrics that will benefit international development
Understand private capital’s role in scaling

- In many PPPs, companies contribute in-kind, but we also need to understand sources of private capital.
- Private equity, impact investing and even changes in corporate social responsibility are key to our ability to scale.
- Scaling strategies can be informed by thinking through specific risks and returns in agriculture that determine the ability to attract private capital.
Recognize the limitations of the private sector

- As systems scale, the roles of the public and private sectors change over time.
- There is no assumption that we will somehow “hand off” to the private sector.
- There will always be crops, varieties, populations that are not served by the private sector.
- The public sector’s role in scaling changes, but its responsibility for stewardship of the underserved does not.
Thank you.
Thank you for joining us!

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You can also visit the event page to post comments & questions.

Stay In Touch
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OR
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jmaccartee@usaid.gov

Upcoming Events
Ag Sector Council | November 20 | MEAS Scaling

Agrilinks and the Agriculture Sector Council Seminar Series are products of the USAID Bureau for Food Security under the Knowledge-Driven Microenterprise Development (KDMD) project.