



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



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October 30, 2013

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*



Margaret Enis Spears

USAID Bureau for Food Security

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.

Partnering for Innovation

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



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



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
- Acquisitor
- Aggregator
- Accelerator



Photo: Fintrac Inc.

Distributor



Distributor

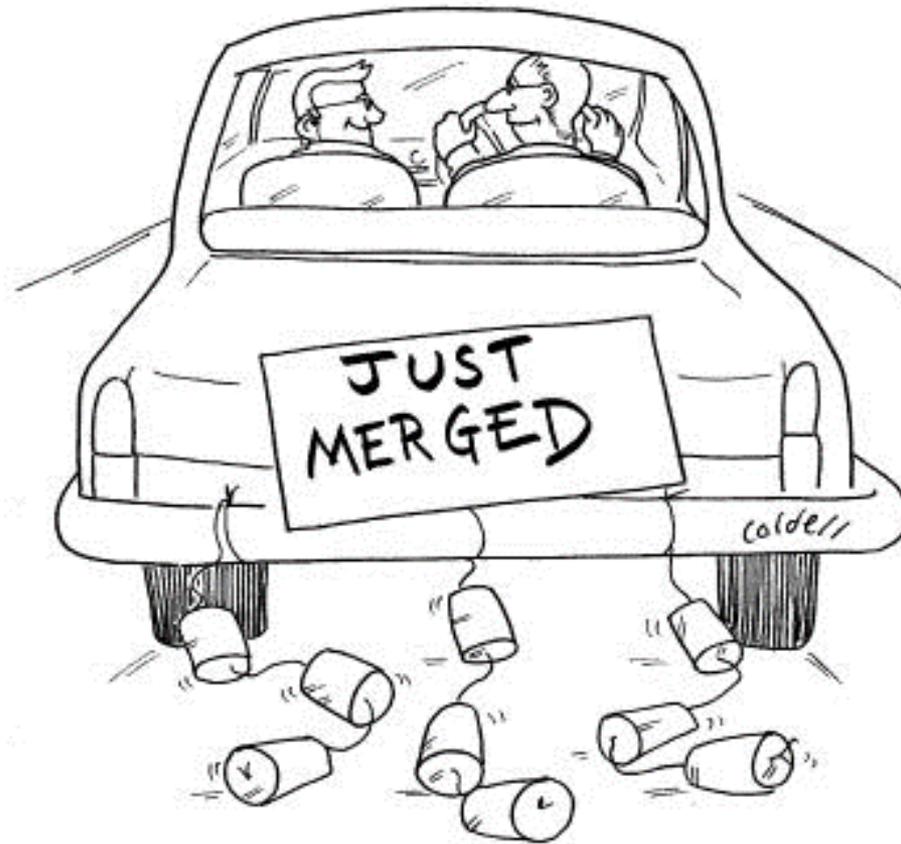


Third-Party Distributors: working through an established commercial network

Distributor

Direct	Third-Party
Product control & monitoring	Lower up-front investment
Strong customer feedback loops	Pre-existing distribution chain
Higher margins with reduced middlemen	Strong local knowledge
Customer service and support	

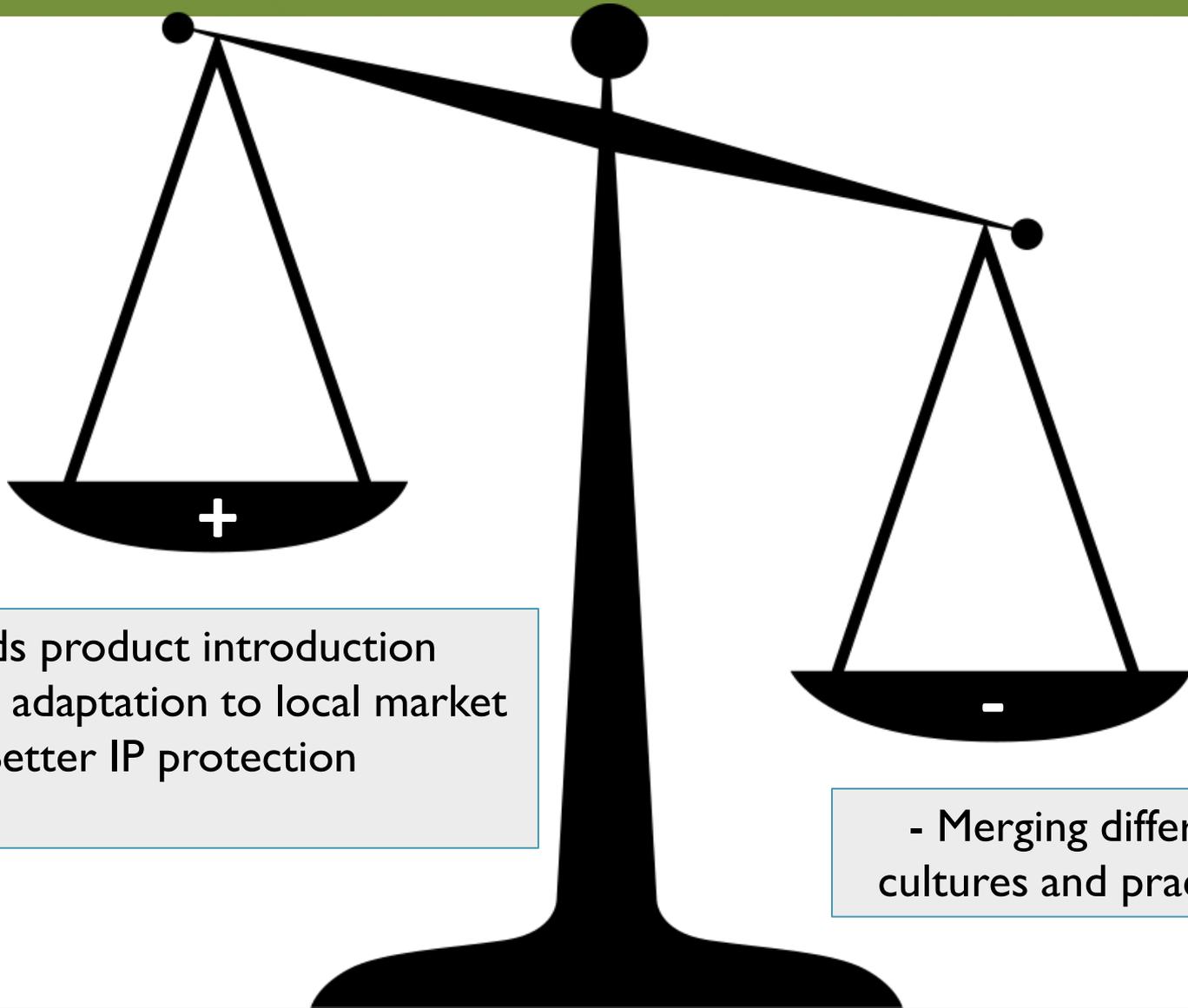
Acquisition



Drawing: Cardell

Acquisition: purchasing equity in a local operation

Acquisition: Advantages and Challenges



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

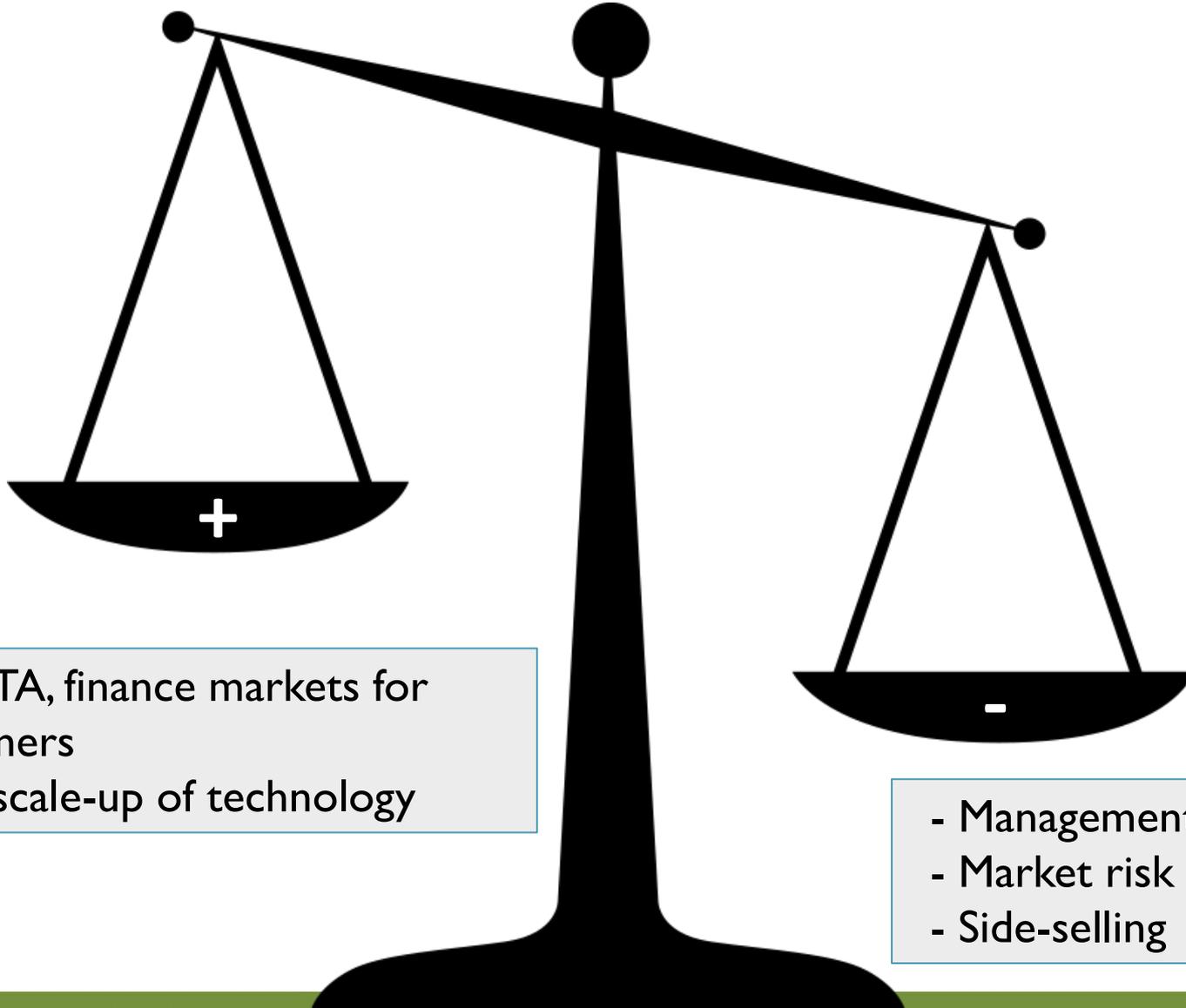
- Merging different cultures and practices

Aggregator



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

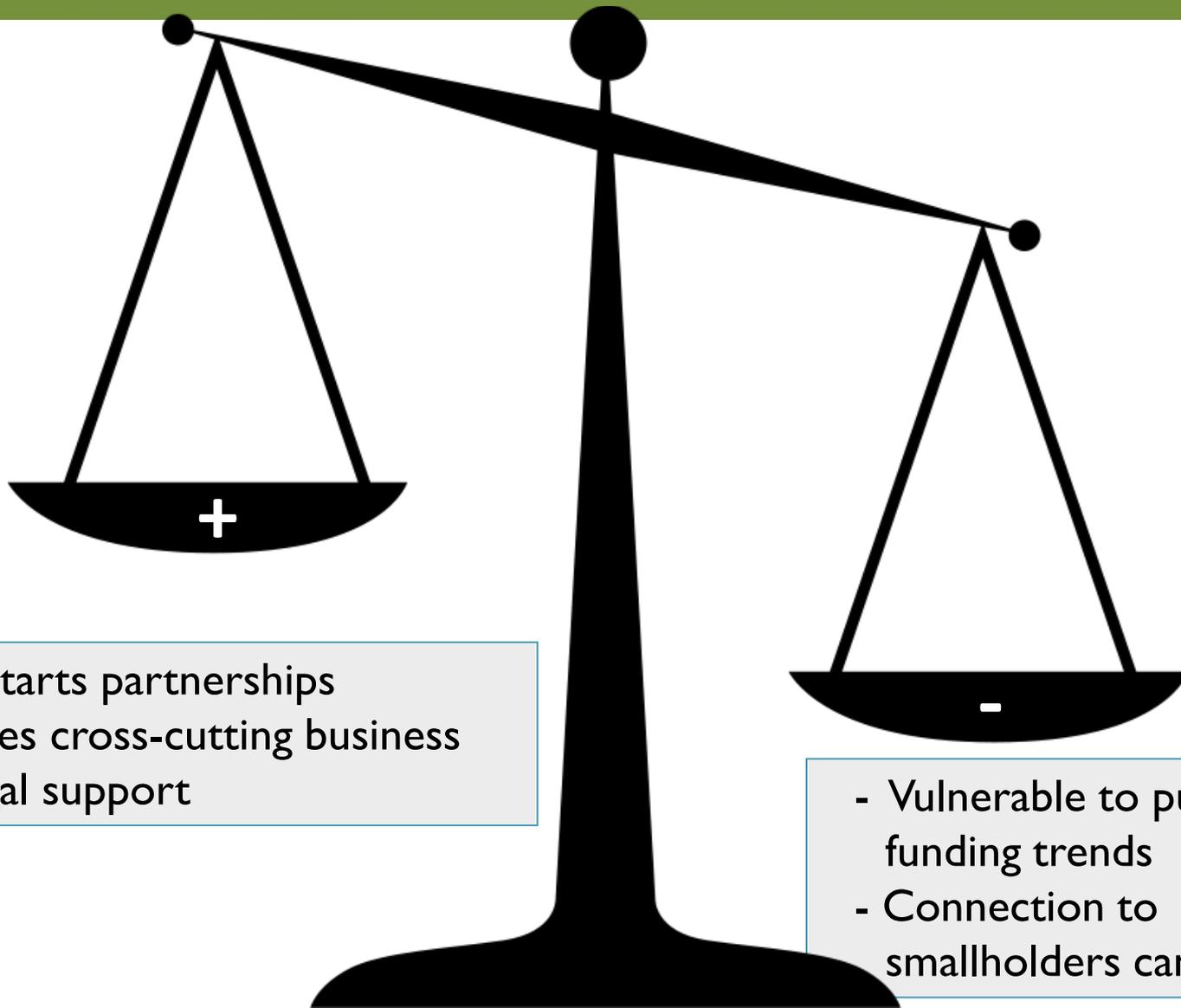
- Management intense
- Market risk
- Side-selling

Accelerator



Accelerator: builds connections between technologies, farmers, and investors

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



Photo: Fintrac Inc.

Examples

World Cocoa Foundation - Hershey's
Grameen Foundation - Orange

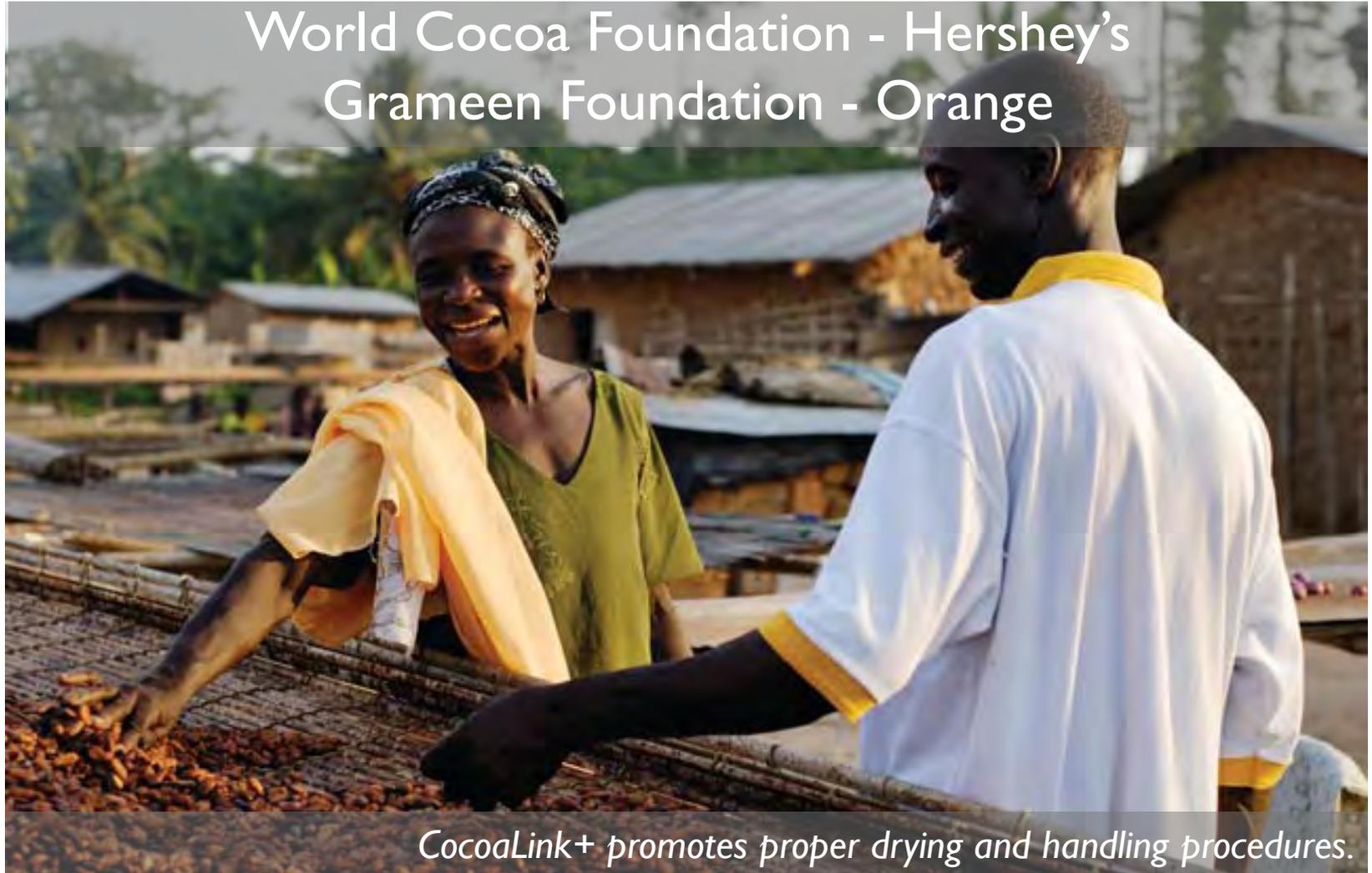


Photo: WCF

CocoaLink+ promotes proper drying and handling procedures.

Join our Online Community



Photo: Fintrac Inc.

- **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



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

Partnering for Innovation

Scaling Agricultural Technologies
Through Public-Private Partnerships

Local Distribution Partnerships



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fintrac

PS PortaScience Inc.

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

Corporate Overview

PortaScience

- Established in 1999
- Diagnostics R & D
- Healthcare, Consumer, Veterinarian Markets

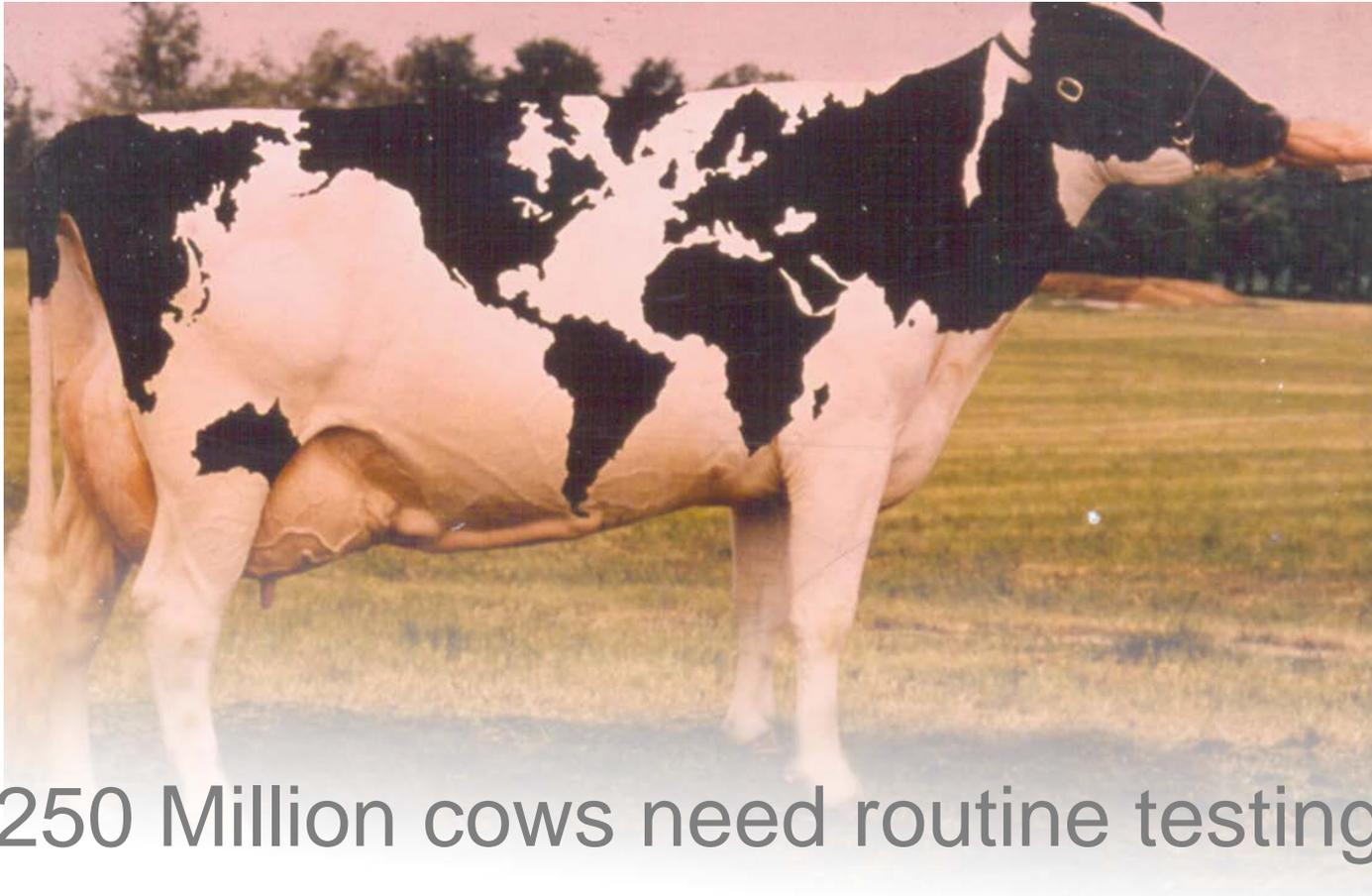
PortaCheck

- 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

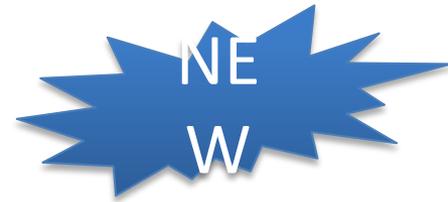
Inexpensive, Easy to use, On-Farm testing devices.

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

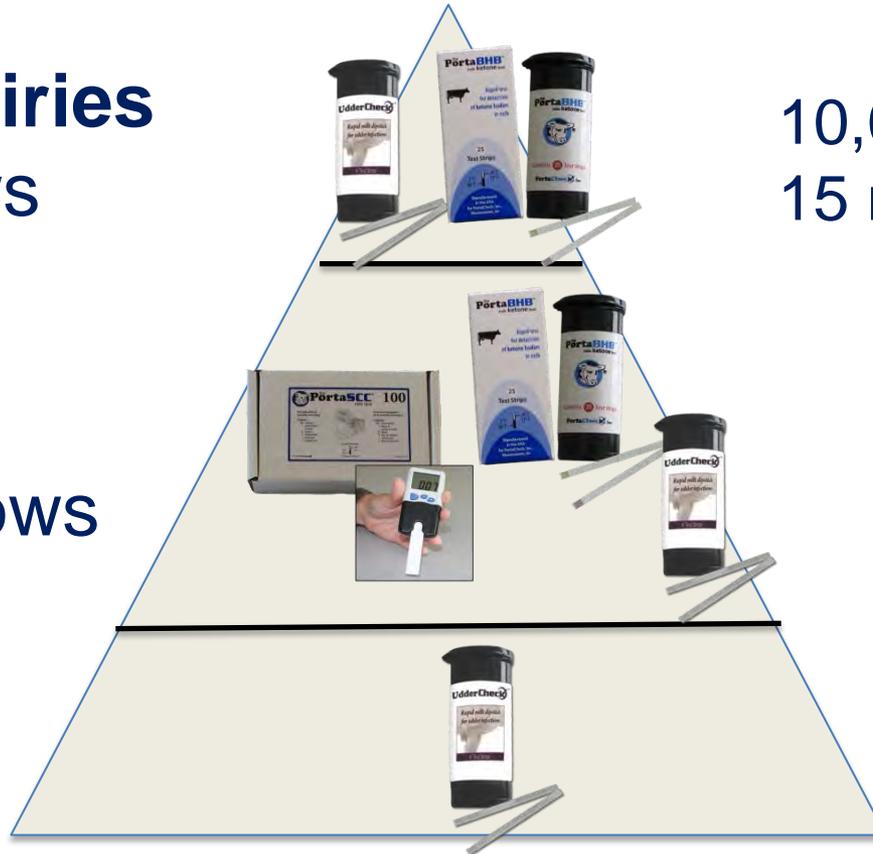
10,000 dairies;
15 mill cows

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 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.

African Breeders Services Total Cattle Management Limited (ABS TCM LTD)

“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

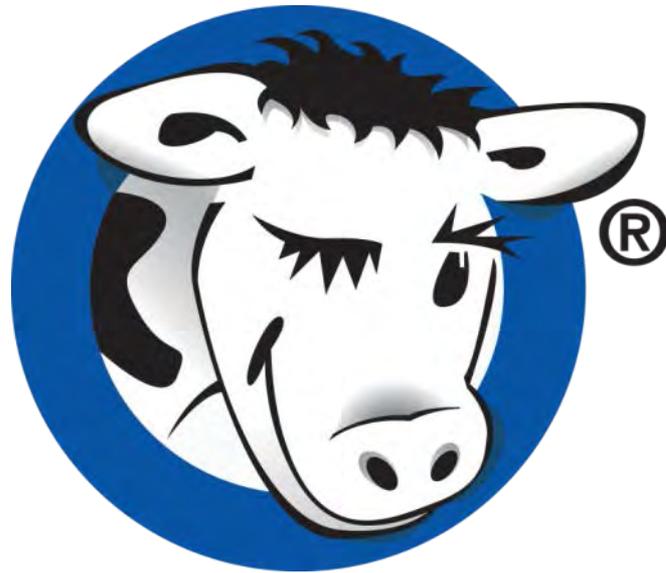
ABS TCM Provides Training Services



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



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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



Make it DEMAND-DRIVEN



**We need the private sector
if we want to achieve scale.**





Photo One Acre Fund

**Better technologies to
enable scale**





Photo IFDC

**Sustainable
supply
channels**



Access to R & D capacity, IP, know-how

Photo Ryan Kilpatrick

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!



Share Feedback

Please take our 3
minute survey:

http://bit.ly/ASC_Oct30

You can also visit
the [event page](#) to
post comments &
questions.



Stay In Touch

Contact Us:
agrilinks@agrilinks.org

OR

Julie MacCartee,
USAID/BFS
jmaccartee@usaid.gov



Upcoming Events

Ag Sector Council |
November 20 |
MEAS Scaling