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Joint Seminar: Scaling Up Input Technology and Input Access: Clues from Zambia

March 24, 2016

Speakers

Dan White, *ACDI/VOCA*

Richard Kohl, *Center for Large Scale Social Change LLC*

Facilitators

Kristin O'Planick, *USAID/E3*

Mark Huisenga, *USAID/BFS/MPI*



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Introductions



Kristin O'Planick

Market Systems & Enterprise Development Specialist, USAID/E3 Office of Trade and Regulatory Reform

Kristin O'Planick is a Market Systems & Enterprise Development Specialist in USAID's Bureau for Economic Growth, Education and Environment. Ms. O'Planick provides assistance to market systems, enterprise development, and workforce development programming. She also manages the Leveraging Economic Opportunities project.

Introductions



Mark Huisenga

Senior Program Manager, USAID/BFS/MPI



Speakers

Richard Kohl

Center for Large Scale Social Change LLC

Richard Kohl is the Founder and Principal at the Center for Large Scale Social Change and has worked with USAID Missions in more than half of the Feed the Future countries to strengthen their scaling strategies. Currently, he leads a team that is examining the successful scaling up of agricultural innovations through commercial pathways. Kohl holds a doctorate in economics from the University of California, Berkley.



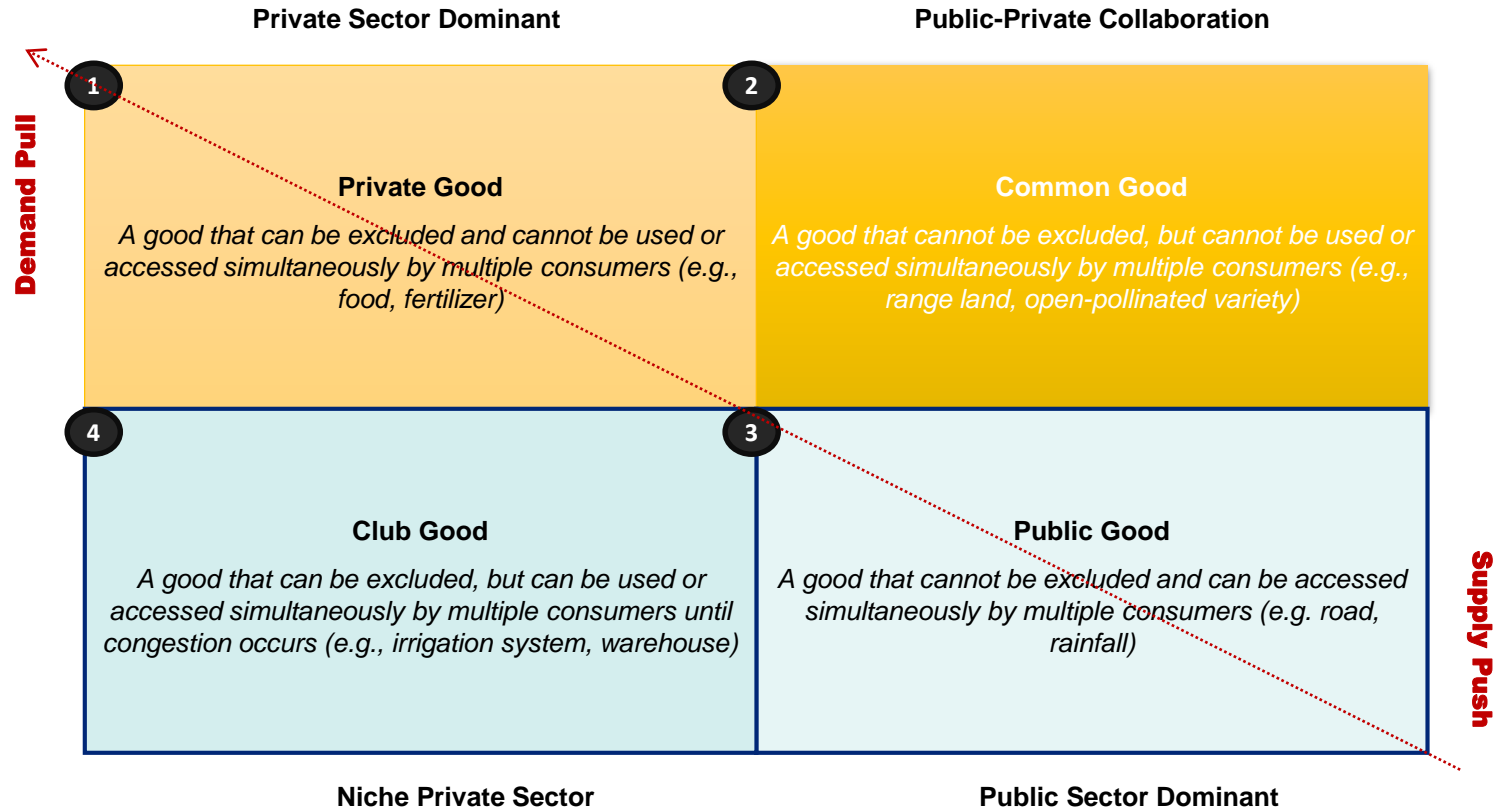
Speakers

Dan White

ACDI/VOCA

Daniel White is the Technical Director for Agriculture at ACDI/VOCA, where he contributes to the scaling research stream under the Leveraging Economic Opportunities (LEO) MOBIS task order. With more than 10 years of experience in private sector horticulture and donor-funded agricultural development projects, White has managed and designed projects on agricultural productivity, training and behavior change, and research and learning in Iraq, Lebanon, Angola, Mozambique, Zambia, Tanzania and Indonesia. He has focused particularly on the interplay between agronomic, economic, and social determinants of agricultural production and exchange practices.

Input Supply System Framework



Pathways to scale depends considerably on the level of public-sector involvement in supply and distribution. Public sector investment crowds out private sector investment. However, for predominantly public goods, there may be no pathway for reaching scale.



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Scaling Up Agricultural Innovations through Commercial Pathways: Zambia and Beyond

**Presentation to USAID Agrilinks/Microlinks
Dr. Richard Kohl, Team Leader
scalingupta@gmail.com**

March 24, 2016

This presentation was produced for review by the United States Agency for International Development. It was prepared by Management Systems International, Inc. for the E3 Analytics and Evaluation Project.



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Objectives, Expected Outcomes and Uses of this Study

1. Individual case studies and synthesis across cases to enhance BFS' understanding of scaling through commercial pathways
2. Provide guidance for BFS and Missions on how to integrate scaling through commercial pathways into Feed the Future
3. Expected to be of interest to BFS, other Bureaus, other donors



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Background

- Maize is a staple cereal crop grown by almost all smallholders
- Population around 13.5 million in 2010
- 61% agricultural, around 1.5 million agricultural households
- 1-1.5 million hectares of maize planted nationally
- 1-3 million tons (mt) annual production, growing over time,
- Harvest depends largely on weather as 100% rainfed, climate change is playing an important role
- Southern province is largest maize producer, most prone to erratic rainfall
 - Most small farmers have excess land but many lack financial resources
 - Large, dynamic private maize seed export sector



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Implications of Maize Characteristics for Scaling

- Comes in multiple varieties, farmers can match agro-ecological zone, soil types and risk/return preferences. Most farmers planting 2+ varieties
- Infinitely divisible, can be adopted at very small scale
- Did not require any change in agricultural practices
- Allowed farmers to achieve food security, many switched from subsistence first to commercial orientation, reinforced by multiple varieties
- Only marginally profitable in normal or drought years when imputed land rent and labor costs are taken into account
- Impact easily perceived through direct observation



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Scaling Up Strategy & Activities

- Introduction and dissemination of hybrid maize largely driven by private export sector, probably after FISP and FRA
- Seed companies introduction and marketing focused on demo plots and field days using lead farmers, always with GRZ
- CIMMYT, funded by USAID, Gates et al. played important role in supplying germplasm and TA, but not in introduction/marketing
 - MNCs and domestic companies have access to their own germplasm, including local land races
 - CIMMYT-bred DTMA varieties, or those using CIMMYT germplasm, not the only ones on the market
- Minimal efforts to address transportation or credit constraints



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Adoption Characteristics and Patterns

- Adoption appears to have started closer to major roads and towns, and spread out from there, still significant gradient
- Resources and market access the major determinants of adoption
- Experience of 2009/10, 2010/11 of good weather and bumper crops key for farmers to increase adoption and expand areas
- Neighbor referrals important, indirect adoption
- Hybrid adoption rates returned to or exceeded late 1980s levels



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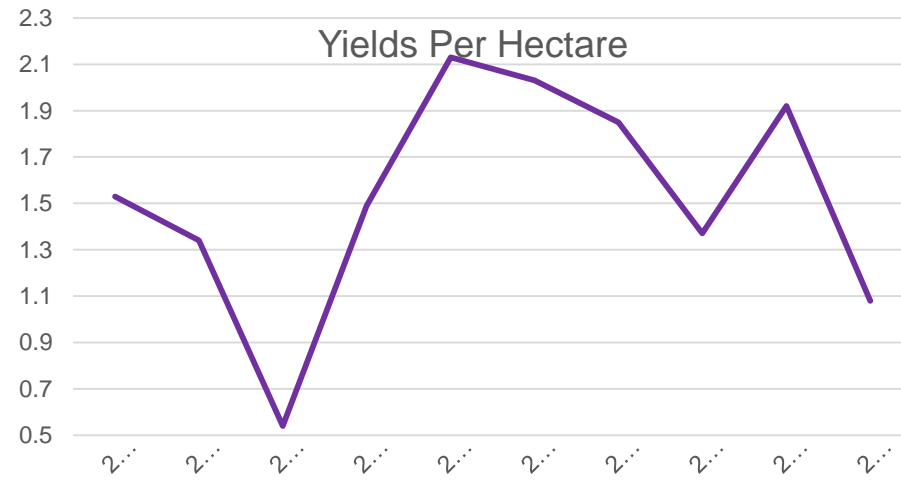
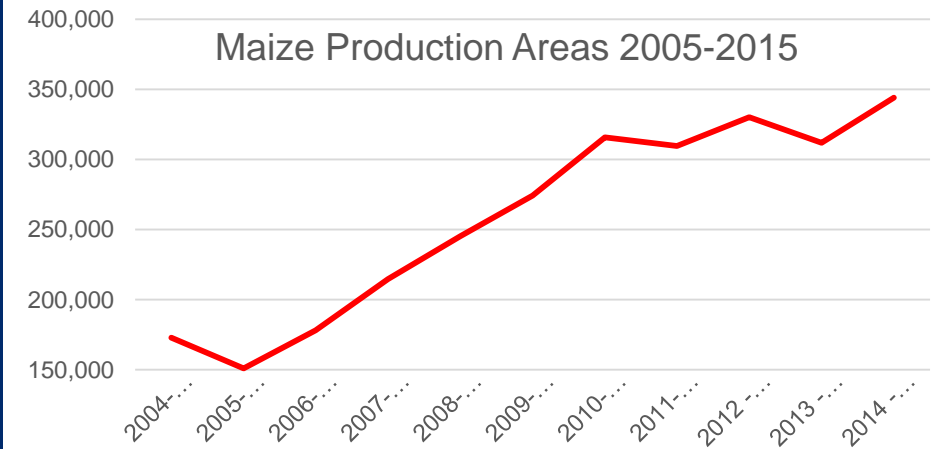
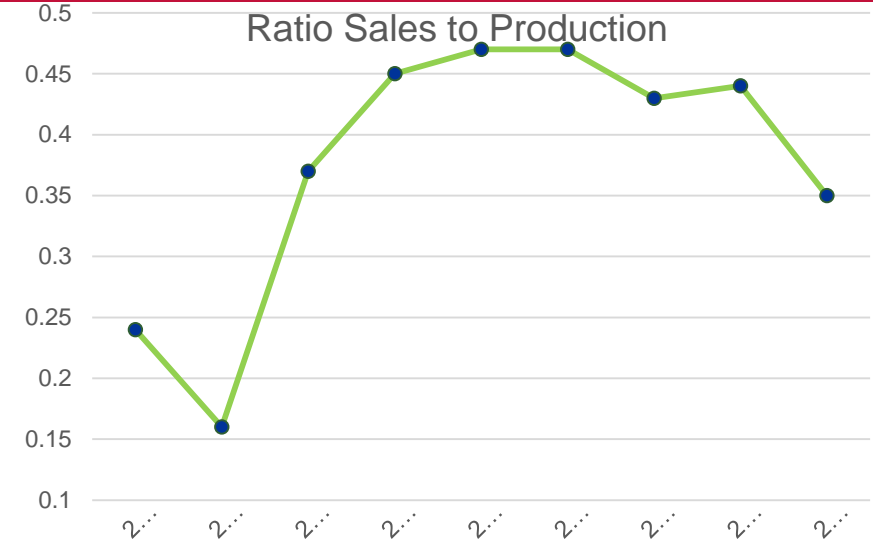
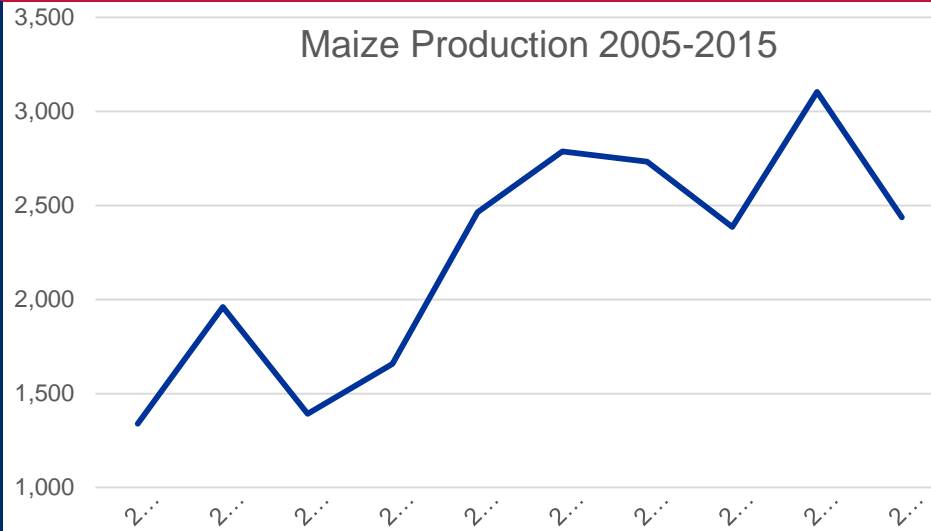
Adoption Characteristics and Patterns

- Impact on three-fold production increase, majority of scaling has been extensive vs intensive, nationally and in Southern province
 - Average yields up 25-30%, hard to measure holding weather constant (0.7 to 1.8 mt/ha versus 1.1-2.1 mt/ha)
 - Area planted more than doubled and that has been sustained
- Resulted national and provincial food security in large production surpluses →
- Soaked up and eventually exported by FRA at a loss
- Expect to see acceleration of DTM adoption in coming years



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Scaling Post 2005/6





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Conclusions

1. Commercially-led scaling of agricultural innovations viable
2. Donor supported institutions can play a key role in research, providing germplasm, introduction
3. Innovation simple, little change in farmer practice, low entry costs and scale, customizable, new version of old technology
4. A strong domestic production sector essential to drive scaling
 - Supportive enabling environment: market-oriented in production, favorable to FDI, FX repatriation, and seed certification
 - Lack of state champion
 - Presence of export markets first
 - Favorable agro-ecological zones



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Conclusions cont'd

5. May make sense to start with more generic innovation/product, e.g. hybrid maize, and then support specialized product, DTM
6. Government or donor-supported input subsidies and output market purchasing can play a key role in creating a viable market BUT Challenge to minimize cost, phase out and retain sustainability of small famers?
7. Incentives aligned for all key stakeholders:
8. Innovation can go to scale without credit, mechanization, market access



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Scaling Impact: Zambia PROFIT Input Supply System Case Study

Dan White, ACDI/VOCA

March 24, 2016

Washington, DC

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LEO

Leveraging Economic
Opportunities

Methodology

- Field Research in May/June 2015 with Paul Kalu and Kelvin Luputa
- Interviewed input suppliers (7), agents (16), and SHF customers (50)

Key Takeaways

- Apply the questions, not the answers
- Pay attention to the macro (we're surfing, not hiking)
- Today talking about input suppliers, not farmers

PROFIT Background

PROFIT focused on a specific negative feedback loop driving low uptake of improved inputs:

- Input suppliers marketing was based on personal relationships, and a small number of high volume sales to commercial growers
- Smallholders were generally distrustful of outsider companies

So, PROFIT focused on:

- Shifting input suppliers to a mass market perspective
- Getting input suppliers to leverage social networks at village level to build trust

PROFIT Background

PROFIT deployed a range of models, primarily hub/spoke agents

By 2010, this model had taken off systemically:

- New firms crowding in--\$4M sales through agents
- 180,000 farmers reached through expanded systems (Dougherty & Akcin case study)
- Growth trajectory was on path to reaching population-level scale

Research Question & Findings

- Did the increased input supplier focus on SHFs endure and/or evolve? Why or why not?
- SHFs are still a large and growing focus for the input supply sector:
 - Majority of firms have expanded rural catchment since 2005
 - Firms are providing an increasing variety of inputs tailored to SHF needs and AEZs
 - Firms have taken the model in different directions (continued geographic expansion vs. intensifying outreach in existing areas)

Findings

Secular trends have contributed:

- FRA/FISP
- Slowdown in commercial sector

BUT, a majority of the input suppliers reported that PROFIT played a key role in stimulating increased focus on the smallholder market through **putting input suppliers out front, not PROFIT.**

Findings

Learning for future projects:

- Multidisciplinary analysis upfront is key (e.g. economics, agronomics, and social analysis)
- Work stimulating input supply level markets must be 'crop agnostic'
- Be flexible piloting, adapting, and jettisoning models and partners



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Moderated Discussion Question: 1

Can the government buy its way to food security? How much has the level of government intervention mattered to the levels of adoption that you examined?

Moderated Discussion Question: 2

What do these cases tell us about the tension between commercial pathways to food security and the ability to reach the poorest?

Moderated Discussion Question: 3

What, if anything, have we learned how far donors have to go for these behavior changes and market shifts to be self-generating?

Moderated Discussion Question: 4

How much does the depth of the private sector matter?
Does this make Zambia an outlier given the depth of their markets?

Moderated Discussion Question: 5

What aspects of these studies are you inclined to think are most transferable to other countries?

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Lessons Learned with
Engaging the Private
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Apr 20, 2016

Ag Sector Council