

AGRILINKS



Not All Seed Is Declared Equal: Improving Access

Speakers: Niels Louwaars, *Plantum*;
Astrid Mastenbroek, *Integrated Seed Sector Development Project*;
Latha Nagarajan, *International Fertilizer Development Center (IFDC)*

Moderator: Louise Sperling, *Catholic Relief Services*

Facilitator: Carla Fernandez de Castro, *USAID-KDAD*

Date: Tuesday, February 28, 2017

Louise Sperling (Moderator)



Louise Sperling is a Senior Technical Advisor at Catholic Relief Services focusing on more vulnerable populations. She has managed and technically backstopped programs in 30+ countries in Africa, Asia and Latin America. In terms of seed systems, per se, Sperling's work encompasses 'normal' smallholder farmer systems as well as high stress ones: e.g. she led assessment missions after the 1994 Rwandan genocide, post-earthquake in Haiti, and pre-Referendum South Sudan. She has co-/authored over 100 articles, inter alia: Seed systems farmers use (Food Security 2016); Making seed systems more resilient (Global Environmental Change 2013, Understanding and strengthening informal seed markets (Experimental Agriculture 2010: Sperling and McGuire); and Moving towards more effective seed aid (Journal of Development Studies 2008). A new website, seedsystem.org shares practical and policy advice for those supporting smallholder farmer seed systems in crisis, chronic stress and developmental periods.

Niels Louwaars



Niels Louwaars is director of Plantum, the association of companies in the Netherlands dealing with plant reproductive materials. Trained as a plant breeder at Wageningen University, he spent about 10 years in Asia and Africa working in seed projects before returning to Wageningen University. There he worked for 20 years in different positions dealing with international cooperation and research. Based on that international experience, he developed the concept of Integrated Seed Sector Development, providing policy space for a variety of formal and informal seed systems. His PhD dealt with the interplay of policies and regulatory issues related to such seed systems, including intellectual property rights (WTO), national sovereign rights on biological diversity (CBD and ITPGRFA), Farmers' Rights (ITPGRFA), and national seed laws. During that period he assisted several countries and institutions like the World Bank and FAO in designing their policies in this area.

Astrid Mastenbroek



Astrid Mastenbroek works for Wageningen University – Centre for Development Innovation (CDI). For the last four years, she has been Chief of Party for the Integrated Seed Sector Development (ISSD) project in Uganda, funded by the Embassy of the Kingdom of the Netherlands. One of the major achievements of the team is to organize farmer groups into sustainable local seed businesses that produce and market quality declared seed, a new seed class in Uganda. She has been working in the region since 2005 initially working for ZOA in South Sudan and later in Northern Uganda. She also worked briefly in Kenya Somaliland in 2012 after which she returned to Uganda to start the ISSD Uganda project. Astrid has a masters degree in irrigation and water management from Wageningen University and a MSc in agricultural economics from School of Oriental and African Studies at London University. Her areas of expertise include seed systems, seed policy, and seed demand economics. She has a keen interest in understanding seed purchase decisions by farmers.

Latha Nagarajan



Latha Nagarajan is a senior economist at the International Fertilizer Development Center (IFDC) based in Washington, DC. Latha works primarily on issues related to agricultural input markets, technology adoption and impact assessment. Latha has extensive field experience studying seed systems and markets in South Asia and Africa. She is part of the Rutgers Policy Impact Consortium with a research focus on seed policy. Previously Latha worked at Rutgers and IFPRI, and earned her Ph.D. in applied economics at the University of Minnesota.

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Louise Sperling, Catholic Relief Services
Introductory comments

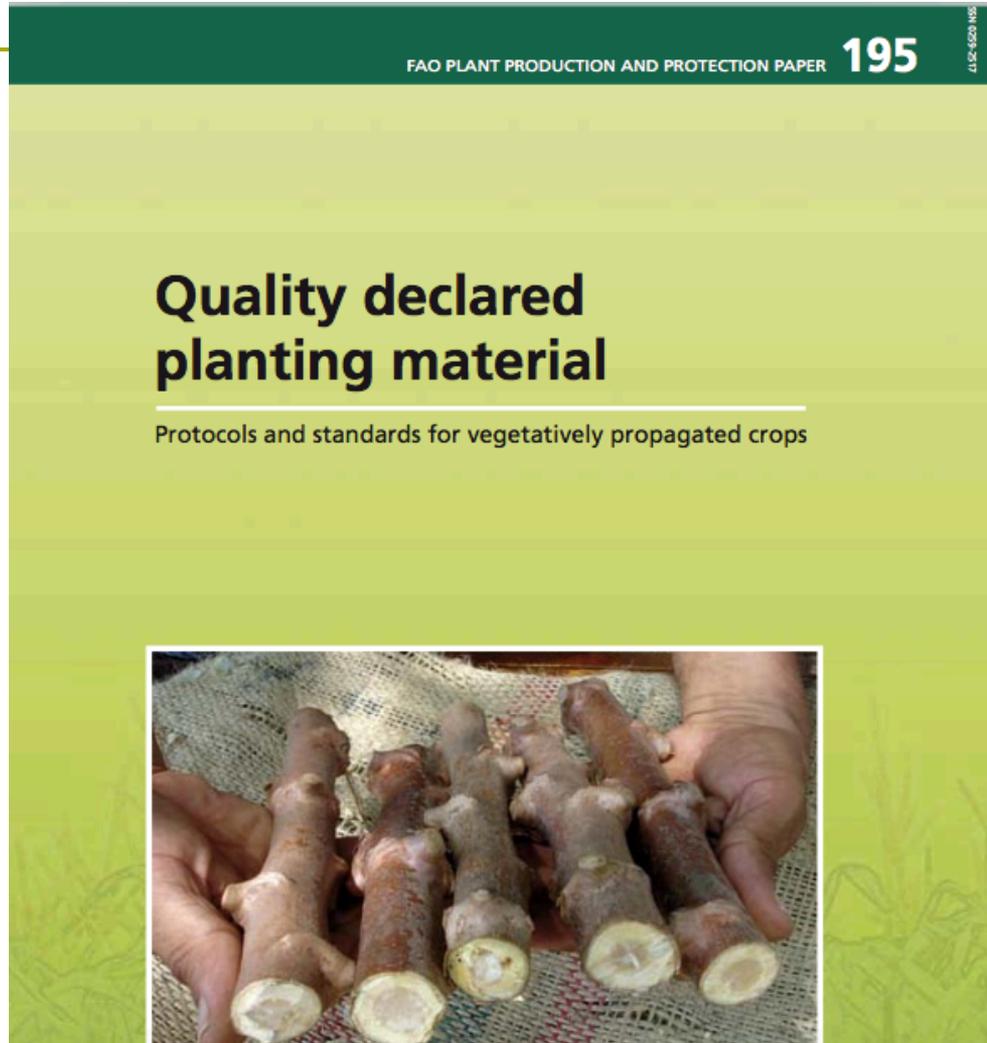


General QDS Standards: UN-FAO- 2006



<http://www.fao.org/docrep/009/a0503e/a0503e00.htm>

Vegetatively-propagated Crops (VPCs) QDS Standards: UN-FAO- 2006



<http://www.fao.org/3/a-i1195e.pdf>

Countries with QDS regulations

- Ecuador

- Peru

.....

- Ethiopia

- Uganda

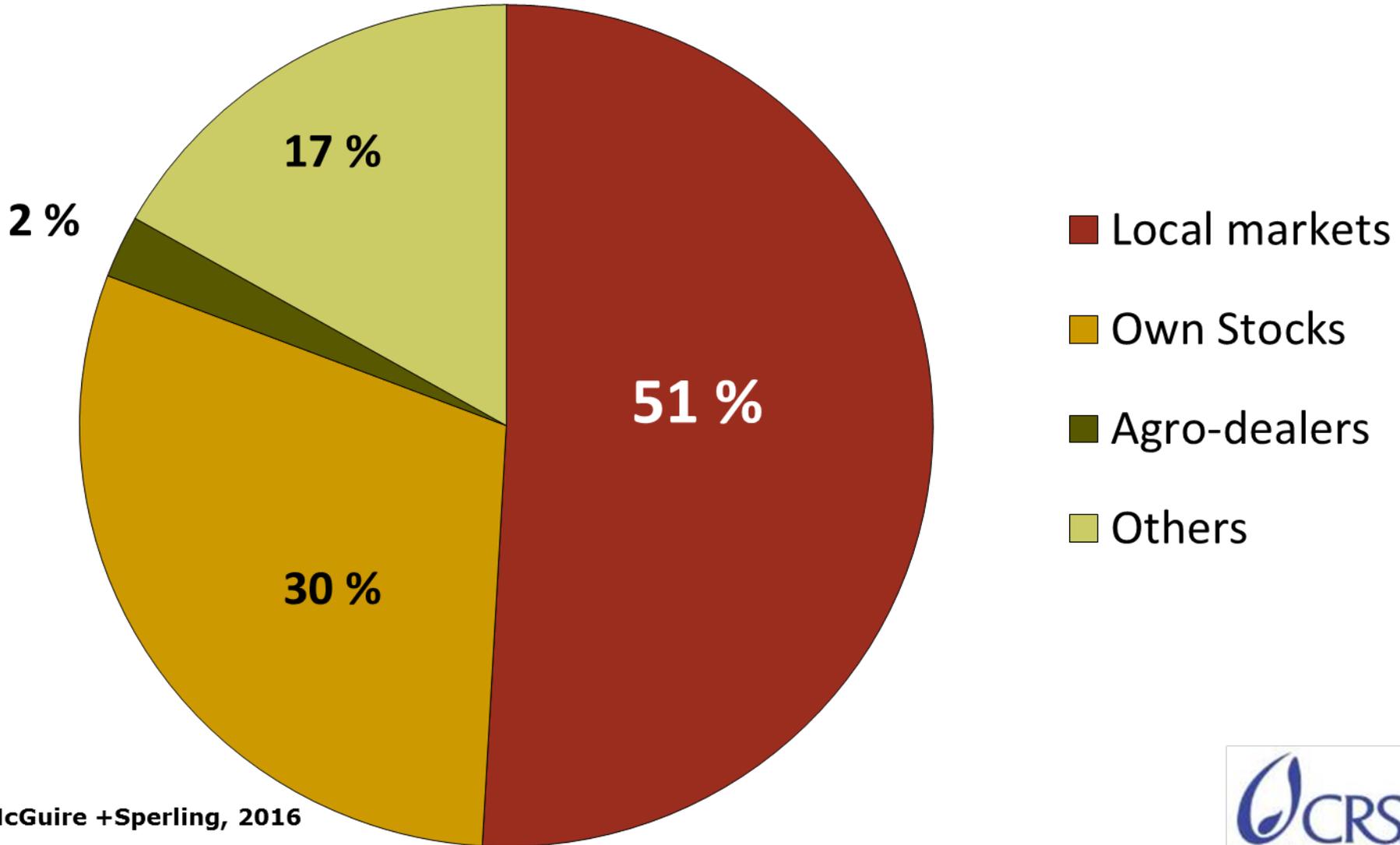
- Tanzania

- Zambia

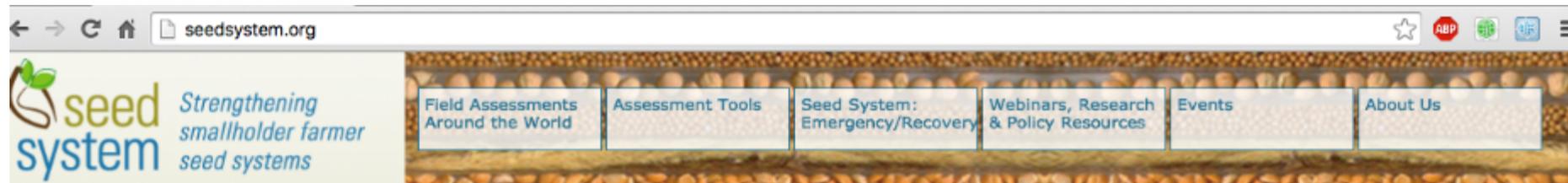
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Where smallholders farmers source seed

% of seed supplied – all crops n= 9660



<https://seedsystem.org>



SeedSystem.org provides practical ('how-to') guidance and strategic thinking to help professionals design seed-related assistance. We aim to foster productive, resilient, and market-oriented seed systems, even in times of emergency and chronic stress.



Seed System Development

Practical options for supporting the informal & formal seed systems smallholder farmers actually use, including local markets.

[See Field Assessments & Action Plans for more information](#)

photo credit: j.c. rubyogo/ciat

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Seed Quality Controls in Developing Countries Challenges and Options

Speakers: Niels Louwaars, *Wageningen University and Plantum*
Moderator Louise Sperling, *CRS*
Facilitator Carla Fernandez de Castro, *USAID-KDAD*
Date: Tuesday, February 28, 2017

Why official seed quality controls?

- **for farmers:** seed quality is a great concern – quality cannot be observed by looking at the seed. A reliable label can resolve this
- **for seed producers:** level playing field – avoid fly-by-night seed providers

The challenge is to **avoid fake seed** in the market

Seed quality controls



- **seed certification** = guarantee that the variety claimed on the label is indeed in the bag through a generation system and field inspections (prebasic – basic – certified classes)



- **seed testing** = guarantee minimum germination/viability, purity and moisture through sampling of seed lots and testing in laboratories



Developing countries

Seed laws and systems have been based on those of in the (former) colonies of European countries before - or (often through FAO and World Bank projects) after independence (Bombin-bombin, 1980)

However - implementation of seed quality controls require infrastructure and trained and trustworthy staff. Full certification = useful but expensive.



Impact 1

costs of seed certification can be an important bottleneck in stimulating seed entrepreneurship - especially in remote areas and low-margin products such as legume seeds

expensive seed certification may reduce availability of quality seed to farmers



Impact 2

worse than having no certification system is to have a poorly implemented system

farmers may plant substandard seed when traders can label fake seed as officially certified.



Solutions

- When is official control not necessary?
 - When the buyer knows the seller and has seen the crop – in local seed systems
 - When the seller has established a trusted label – e.g. in globally traded vegetable seeds
- How can – for all other cases - costs be reduced?
 - Decentralised inspections
 - Risk based inspections (don't inspect every field/seed lot)

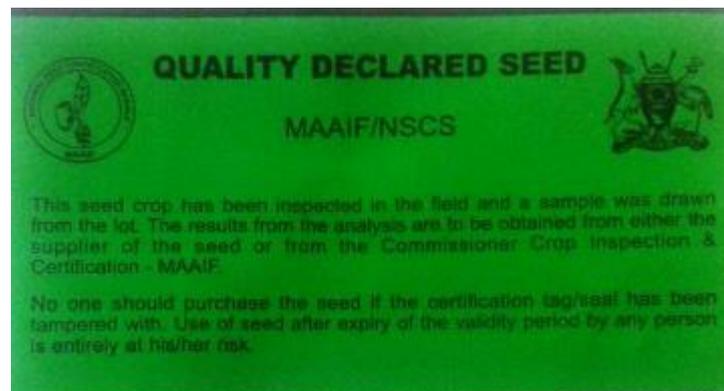
QDS - Low Cost Farmer-Protection – Silver Standard

- a risk-based seed quality control system as proposed by FAO
- Goal: provide for sufficient levels of protection of the farmer-customer, while avoiding excessive costs
- this should go hand-in-hand with market control to weed out fake seed, and needs to be backed by the law!



Quality declared seed

- aims at making more quality controlled seed available to poor farmers
- helps to reduce fake seed in the market
- focuses on local seed trade, i.e. does not compete with fully certified seed markets



TOP TAKE-AWAYS

1

Seed Quality Control aim at battling fake seed

2

Official certification is too costly for remote seed producers of low value seed

3

Quality Declared Seed classes can provide a silver standard, not challenging the 'Gold' system for commercial systems



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QDS – Filling the Gap Between Formal and Informal Seed: The Case of Uganda

Speakers: Astrid Mastenbroek, *Wageningen University and Research*
Moderator Louise Sperling, *CRS*
Facilitator Carla Fernandez de Castro, *USAID-KDAD*
Date: Tuesday, February 28, 2017

Outline

- Ugandan seed policy and certification process
- Quality Declared Seed and its quality assurance
- Comparing certified seed and QDS
- Potential of QDS in Uganda
- Take away lessons

Ugandan Seed Policy

- Vision of the (draft) seed policy: a competitive, profitable and sustainable seed sub-sector where all farmers and other seed users have access to affordable quality seed.
- Mission: to create a well-regulated seed sector that ensures availability of and access to safe and high quality seed under a pluralistic seed sector

Seed classes in Uganda

- Uganda has two recognized seed classes for marketing quality seed:
 - Certified seed produced by seed companies
 - Quality Declared seed (QDS) produced by farmers and farmer groups



Quality Declared Seed (QDS):

- produced by farmer groups and sold in their communities
- for locally demanded crops and varieties
- quality assured
- filling a gap for crops and varieties not served by the seed companies



Crops under QDS scheme



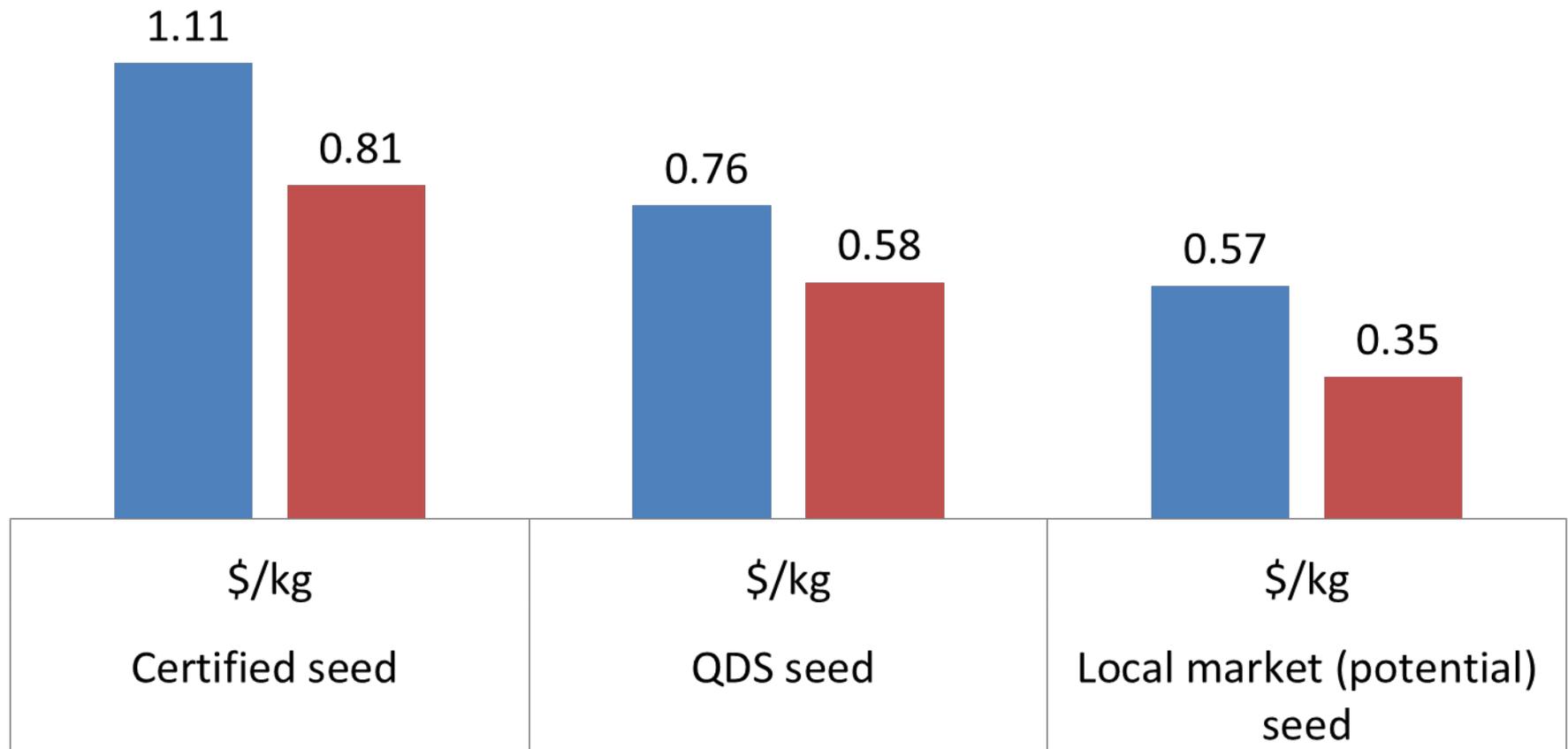
QDS quality assurance procedure

- Produced from foundation/basic seed
- Like certified seed, QDS producers submit planting return to district agricultural officers (DAO) and request for inspection
- Inspected twice in the season by DAO on 10% of the fields. QDS producers pay inspector
- DAOs are accredited by National Seed Certification Service
- After harvest, 1 seed sample is taken for testing at the national lab
- If the seed sample passes the test, green coloured government issued labels are placed in the seed packs.

Comparing QDS and certified seed

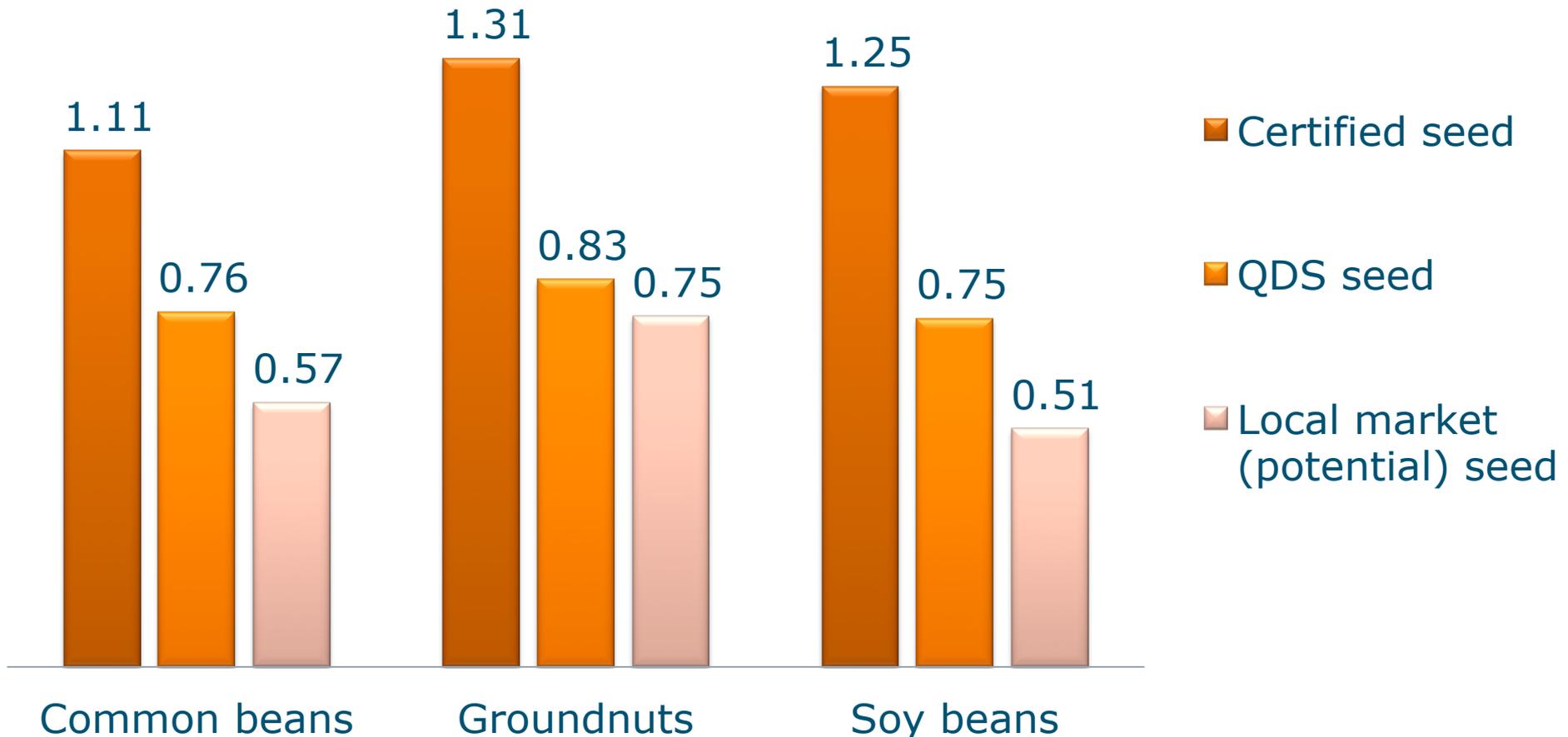
Sales price and cost price for 1 kg of beans

■ Sales price seed ■ Cost of production seed



Comparing QDS and certified seed

Certified seed, QDS and local market prices (\$/kg)



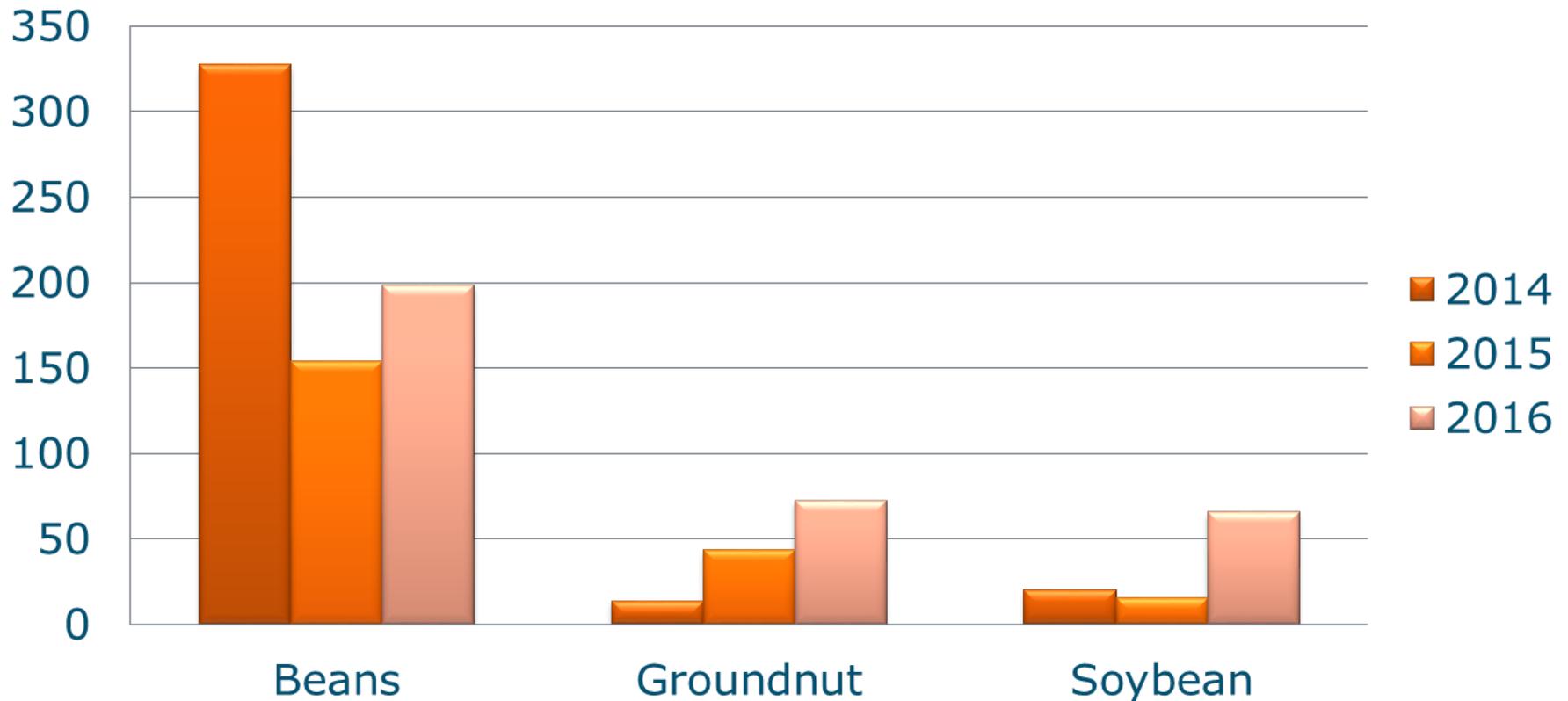
Comparing QDS and certified seed

- Seed purity, germination and moisture content standards for QDS are the same as certified seed
 - 13 bean seed samples tested in the National Lab show:
 - 99.8 – 100% physical purity
 - 90 – 99% germination (standard is 80%)
- Yield verification plots (QDS versus home-saved seed show an increase of 670 kg/ha (280 kg/acre)

- **The return to investing \$3 extra in QDS seed is \$23**

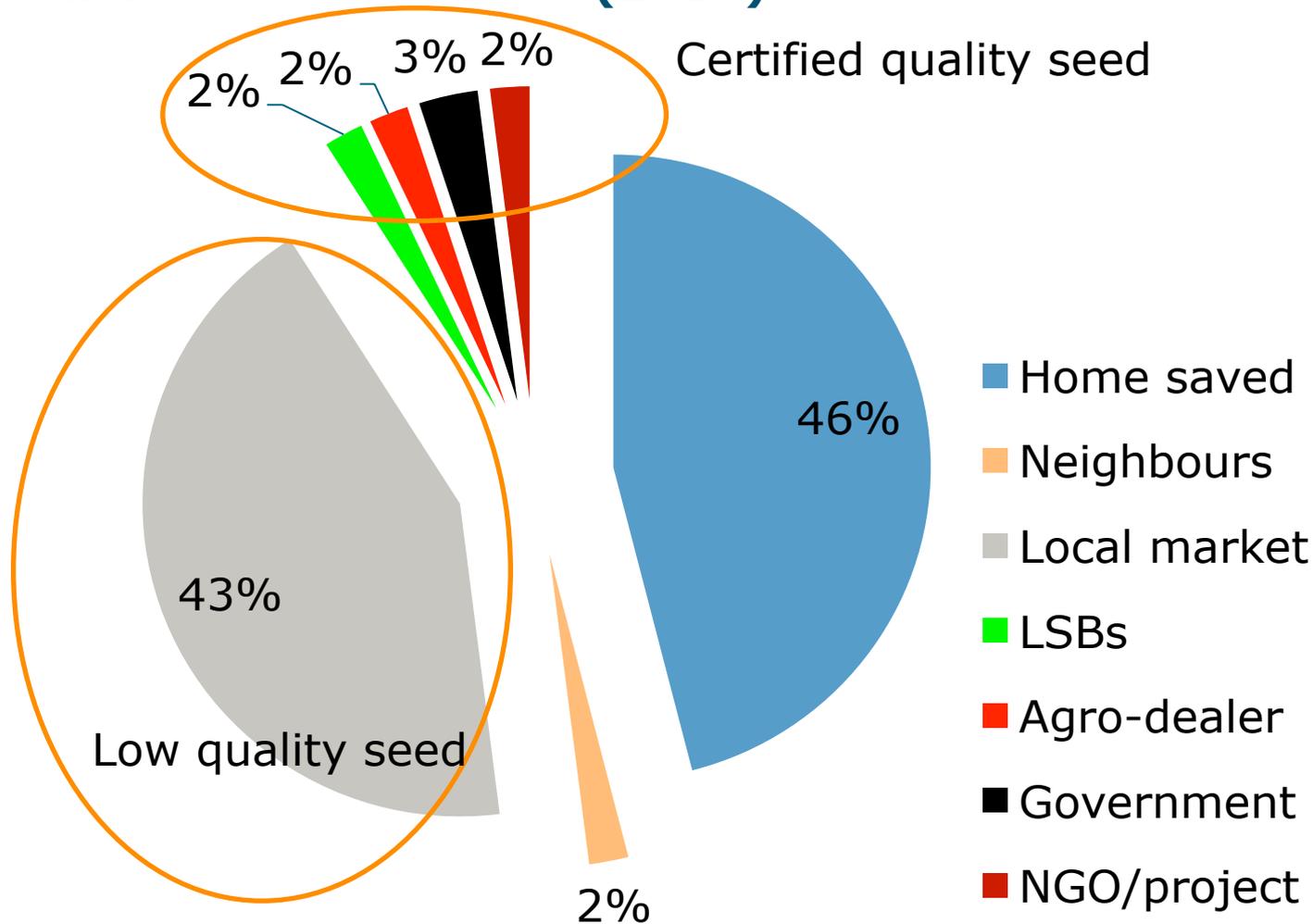
1. Potential of QDS: more quality seed available

Volume of QDS seed produced (MT)



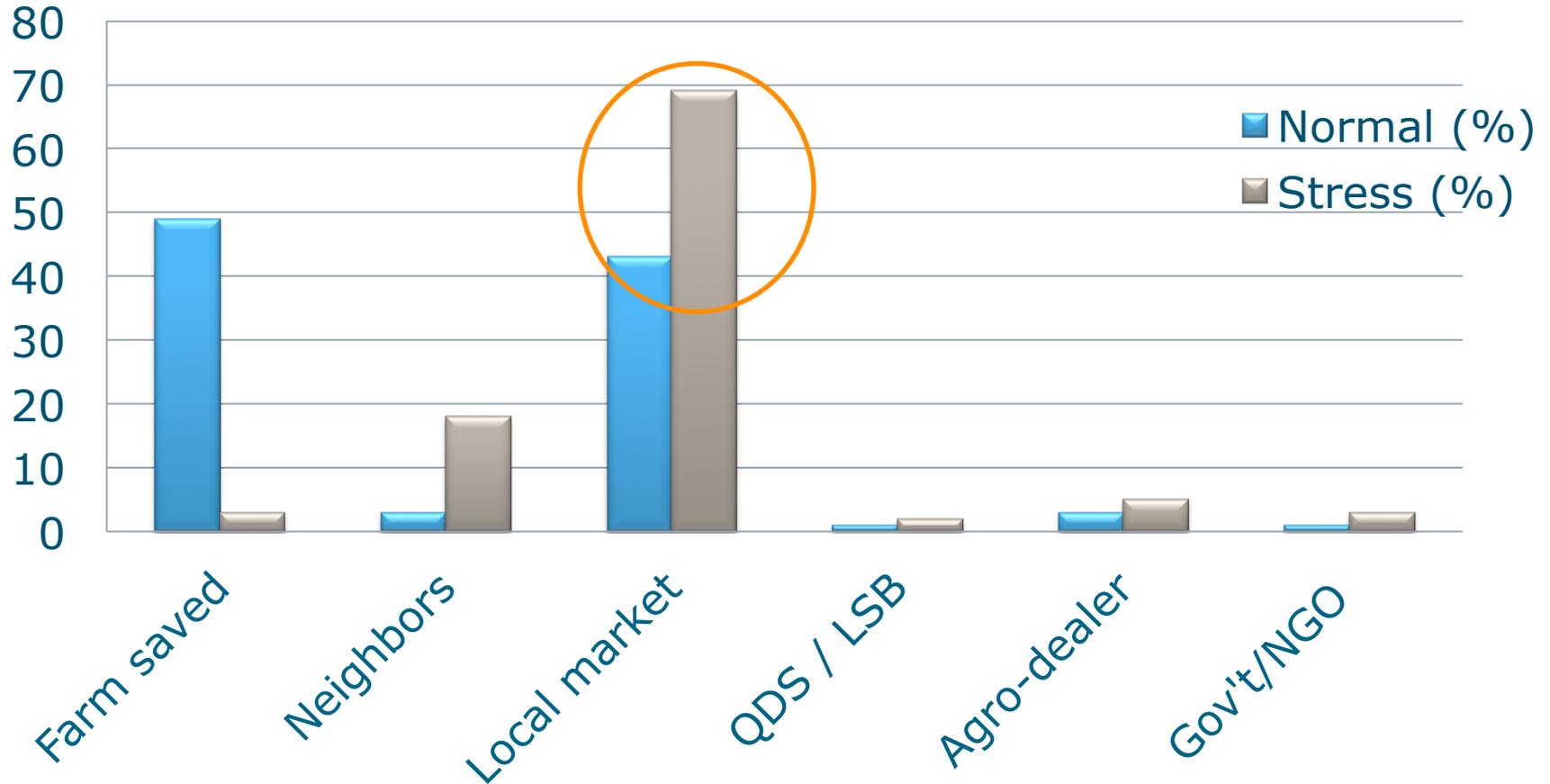
Potential of QDS: customer segment

Farmers sources of seed (2013)



Potential of QDS: climate resilience

Farmers access to bean seed during normal and stress periods



2. Potential of QDS: shift from using seed from the local market to silvers standard QDS

- Market segmentation

- targeting the local market segment so that farmers buy quality seed instead of grain.

- Those farmer are already in the habit of buying seed. Especially during stressed seasons.

Making the system sustainable

1. Challenge: QDS producers still few and not well spread in the country
→ Potential solution: working with like-minded partners
2. Challenge: Limited capacity of Ministry of Agric for field inspections
→ Potential solution: accreditation of DAO's to conduct field inspections
3. Challenge: QDS labels have to be obtained from Kampala, which is far for many groups
→ Potential solution: Decentralization to zonal level

Making the system sustainable

4. Challenge: Access to foundation seed is hampered by distance and availability

→ potential solution: production of foundation seed within the zone and by several seed producers, depending on the crop

5. Challenge: with increased number of QDS producers, coordination of seed inspection and foundation seed is becoming more important

→ formation of QDS producer associations in each zone to coordinate quality inspection, booking of foundation seed and ordering for the certification labels.

Conclusion & take away

■ QDS is filling the gap because:

- 1) It is quality assured (silver standard)
- 2) It is affordable – a) reduced cost of certification, and b) reduced transport costs
- 3) It can provide quality seed during climatic stresses and replacing farmers buying seed from the local market.

Acknowledgement & more information



Kingdom of the Netherlands

www.issduganda.org

www.issdseed.org

[Issd_uganda \(Twitter\)](#)



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Efforts to promote quality seed supply in legume crops:

Models in practice in Tanzania

Speakers: Latha Nagarajan, *IFDC/RU Consortium*
Moderator Louise Sperling, *CRS*
Facilitator Carla Fernandez de Castro, *USAID-KDAD*
Date: Tuesday, February 28, 2017

Efforts to Promote Quality Seed Supply in Legume Crops: Models in Practice in Tanzania

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Consortium

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AGRA-SSTP

Seminar on Not All Seed Is Declared Equal: Improving Access

Washington, DC

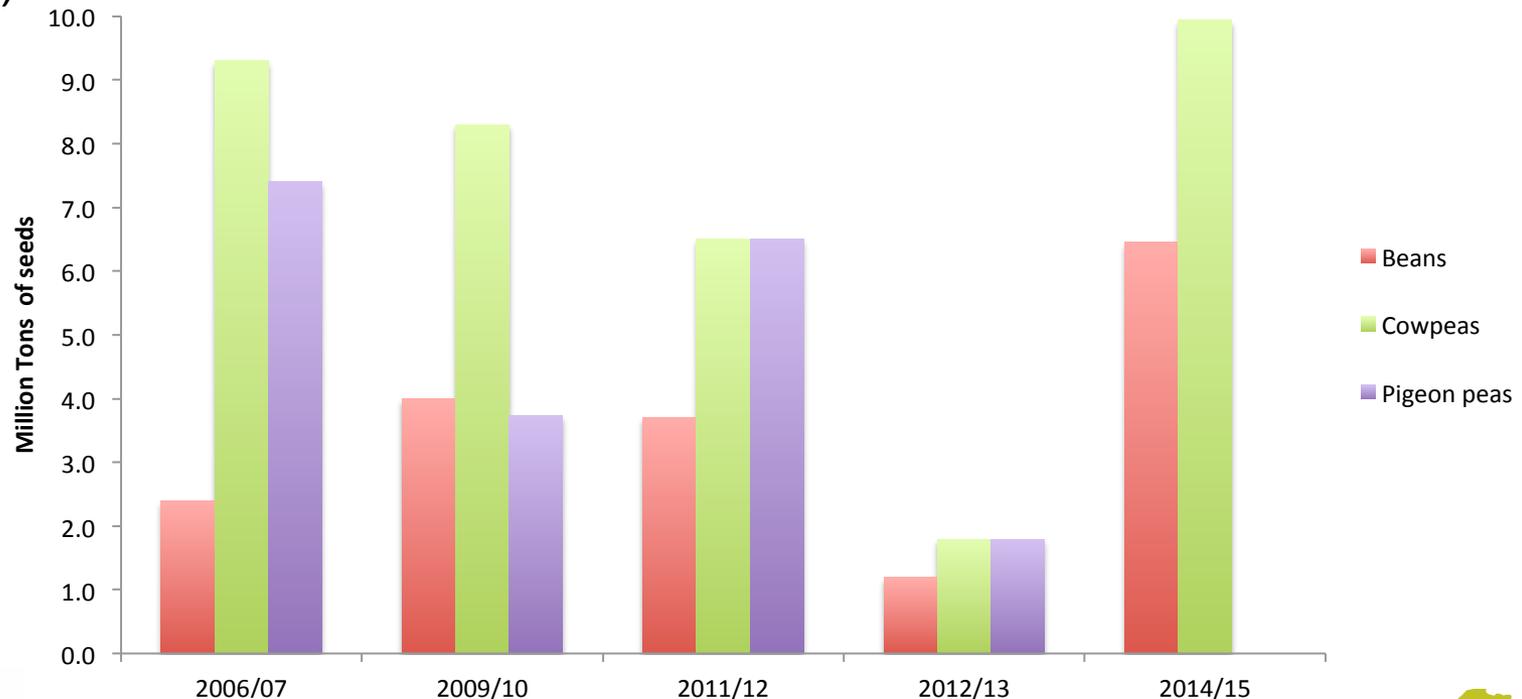
February, 28th 2017

Legume crops context: Tanzania

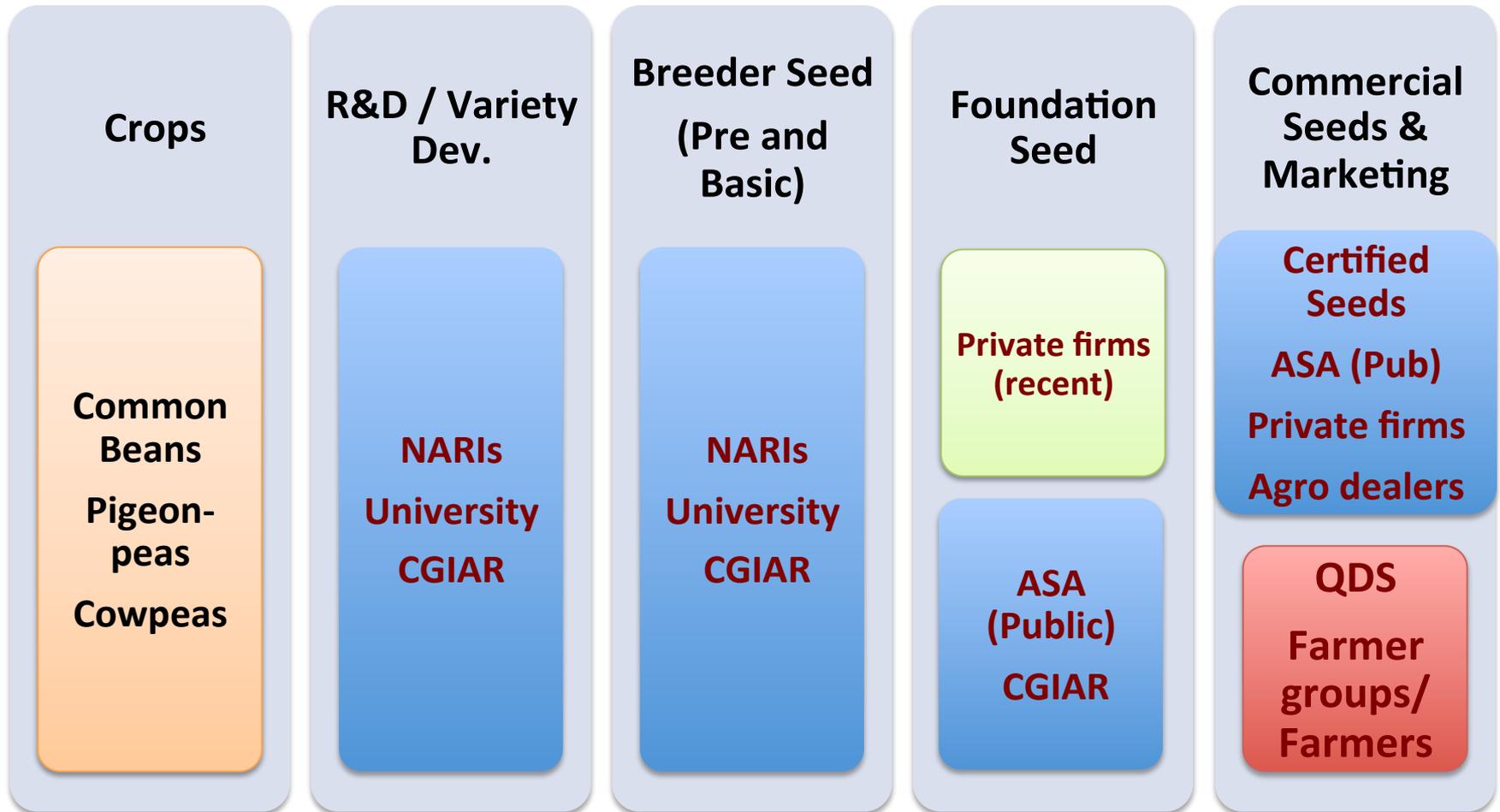
- Considered as household food, nutrition and income security crop(s) with soil fertility benefits
- Key legume crops:
 - Common Beans, Pigeon peas and Cowpeas
 - Common Beans and Pigeon peas are both consumed and marketed
 - Market prices influence planted area and varietal choice
 - Cowpeas mainly for consumption (both fresh leaves and grain)
 - Increased weather variability (short and longer term) resulted in increased adoption of short-duration and drought-tolerant legumes
- Legume area coverage: ~ 1.5 million hectares
- Growing inter- and intra regional trade in beans and pigeon peas
 - Government of India seeking to source pulses from E and S Africa

Legume Seeds Supply

- Formal, semi-formal and informal
- The adoption of improved varieties of legumes is around 5% of the total acreage
- Less than 0.5% of seeds used for legume production are certified (formal system)
- Semi-formal system (QDS) also produces very limited quantity of seeds (<20 MT)



Seed System & Actors: Legume Crops



Quality Declared Seeds (QDS)

- First country to adopt and introduce Quality Declared Seed (QDS)
- Produced by registered trained farmer/ farmer's group for own use and/ or for sale to farmers within the 'locality' where the seed is produced
 - DANIDA program introduced the concept in 1998
 - FAO QDS system was modified and adopted as part of formal system in 2000
 - Included in national seeds act of 2003
 - From 2007: >90% of the districts adopted
 - Country wide training of extension personnel in QDS
 - Allows QDS producers to access parental seeds for multiplication
- Legume QDS: designed to shed heavy and unnecessary seed certification costs associated with hybrids
 - Isolation distances
 - Acts complementary rather competitive to the formal system

SSTP interventions on quality legume seed production in Tanzania

USAID funded Scaling Seeds and Technologies Partnership (SSTP) in Africa being implemented by AGRA

- Promote sustainable partnerships for accelerating access to and adoption of new seed varieties in SSA

Project level interventions

1. CIAT-PABRA project to build sustainable common bean seed system through innovative partnerships
2. Enhanced seed production and supply of improved pigeon pea varieties through private sector firms

Policy level interventions

3. Addressing legal and regulatory challenges facing Tanzania seed industry through detailed regulatory analysis and policy advocacy

1. CIAT-PABRA project in N. Tanzania to improve access to new bean varieties

Building sustainable bean seed system (5 districts)

- Research – SARI Bean program & CIAT
- Seed production - Private seed firms (Meru-Agro) and Public (ASA)
- Extension and technology transfer: Input suppliers, FIPS/DAICO
- Distribution/marketing: agro-dealers

Approach:

- Building multi-stakeholder seed system platforms
- Demand creation/awareness
 - Small seed packs (2 -10 kg)
- Adding value to seed through seed treatment (ApronStar) and marketing of post-emergent herbicides that do not affect legumes (Amazon)

2. Scaling up legume seed production thru' private firms – Africasia seed company

- ICRISAT developed varieties evaluated and released by NARS
- Seed production - contract seed growers
 - Marketing through company led extension
- Seed supply through agro dealers and direct marketing through company extension staff
- Demand creation/awareness
 - Small seed packs (2 – 10 kg)
- 45 MT of certified seed sold; reaching > 75,000 farmers in 3 districts

3. Addressing legal and regulatory challenges in seed industry development

- Strengthen enabling environment for seeds
- Innovative stakeholder driven approach
- Developed comprehensive legal guide and stakeholder-driven recommendations
 - ✓ Accreditation of seed companies for seed certification
 - ✓ Licensing of private seed inspectors
 - ✓ Support for regional harmonization
 - ✓ Agreement on institutional arrangements for early generation seed of selected crop

Cost of bean seed production in formal, semi-formal and informal systems

- The semi-formal system returns in beans are better than formal
- The major charges are in terms of transportation/certification besides input costs vs. farmer saved
- Major advantage over of QDS/formal vs. farmer-saved is: “varietal integrity/purity and quality”
- These BCRs will change with the introduction of new cultivars with beneficial traits

Variable Cost Details (US\$)	Formal	Semi-formal	Informal
	Certified	Quality declared seeds (QDS)	Farmer Saved
Seed	100	100	0
Fertilizer	73	45	0
Pesticide	100	75	30
Planting and harvesting	120	100	25
Labor	144	90	45
Transportation	50	20	0
Certification/Inspection	58	20	0
Total variable costs	645	450	100
Estimated yield (Kg/Ha)	2500	1900	500
Total net return @ 0.9 US\$/Kg	1605	1260	350
Benefit –cost ratio	2.5	2.8	3.5

Main Take-Aways 1

1. There is effective legume seed demand from smallholder farmers
 - Increasingly driven by market demand
 - End-user demand driving variety choice and adoption (seed size and color in common beans and pigeon peas)
2. Over regulation constricts the supply of new varieties entering the market (dysfunctional/expensive variety release procedures)
 - Unnecessary and ineffective seed certification imposes costs inhibiting seed entrepreneurship at local level
3. Legume seed supply beginning to be addressed by commercial seed companies to complement existing product lines (with hybrid maize)
 - Commercial seed companies sourcing seed from trained QDS seed producers
 - Treated, packaged and marketed beyond the local area

Main Take-Aways 2

5. Seed system interventions frequently undermine each other
 - Free seed reduces incentives for commercial firms to invest in production and marketing
6. For QDS to be an effective mechanism to introduce new varieties, needs effective supply of quality Early Generation Seed (EGS)
 - Currently there are poor linkages thru' EGS production and supply
 - Limited capacity of QDS producers both in production and quality control – no experience in marketing
7. Seed regulatory agencies need to show flexibility and move away from 'certified' to 'QDS' and 'truthfully labeled' (TfL) seed where the onus is on the producer to maintain quality

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Questions and Answers

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