ADVANCED TOPICS IN AGRICULTURE: AGRICULTURE POLICY COURSE

May 11-15, 2015

The Feed the Future Knowledge-Driven Agricultural Development project, implemented by Insight Systems Corp., cultivates engaged learning communities that generate knowledge, information and innovations to support improved development outcomes at scale. It also builds capacity of USAID staff and implementing partners to achieve Feed the Future goals.
DAY 4 - May 14th

8:30 am  Opening and Overview of the Day

8:45 am  4.1 Concurrent Sessions:

a.  Agricultural Inputs Policy

   David Atwood, Session Coordinator
   Pradeep Prabhala, Monitor Deloitte
   Mark Huisenga, BFS/USAID
   Latha Nagarajan, IFDC
   John Peters, BFS/USAID
   Vern Long, BFS/USAID
   Joe Huesing, BFS/USAID

b. Agricultural Trade Policy

   Peter Ewell, Session Coordinator
   Joan Hurst, USTR
   Paul Fekete, E3/USAID
   Jason Hafemeister, Foreign Agricultural Service (FAS), USDA
   David Laborde, IFPRI

   *Crystal City Marriott Hotel*
   *1999 Jefferson Davis Highway*
   *Reagan Room, 2nd Floor*

11:45 am  Lunch

12:15 pm  Depart for Capitol Hill

1:30 pm  Introduction to LPA and Working with Congress

   Jennifer Chow, USAID
   Dannie Diego, USAID

2:00 pm  Meeting with Representative McGovern and Staff

3:00 pm  Meeting with the National Council of Farmer Cooperatives
Kevin Natz, NCFC
Chuck Connor, NCFC

4:15 pm  Meeting with Bread for the World
          Faustine Wabwire, Bread for the World
          Asma Lataaf, Bread for the World

5:30 pm  Session adjourns on Capitol Hill
Objectives of Session

- Highlight issues and key components of trade policy for Feed the Future
- Panel on trade facilitation and standards
- Case study on implementation of a Common External Tariff in West Africa – how evidence was used, key stakeholders, the regional organization, the member states
- Discussion of what needs to be done to improve focus and speed implementation of ongoing trade policy reform activities

Trade Policy Activities in the Feed the Future Policy Matrices

<table>
<thead>
<tr>
<th>Topic Areas</th>
<th>Missions reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation/&quot;domestication&quot; of regional trade agreements</td>
<td>East, Southern, and West Africa regions, Kenya, Uganda, Tanzania, Malawi</td>
</tr>
<tr>
<td>Reduce NTBs end export bans</td>
<td>Same as above plus Zambia</td>
</tr>
<tr>
<td>Trade facilitation and border management</td>
<td>Regional missions/trade hubs, Malawi, Zambia, Mozambique, Uganda</td>
</tr>
<tr>
<td>Science-based SPS, grades &amp; standards</td>
<td>Regional missions, Kenya, Mozambique, Tanzania</td>
</tr>
<tr>
<td>Improved capacity and efficiency of market institutions and procedures</td>
<td>Kenya, Mozambique, Tanzania, Zambia, E Africa</td>
</tr>
</tbody>
</table>
### Specific Activities at the Mission Level:
**Trade Facilitation and Border Management**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Missions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish one-stop borders and joint border committees</td>
<td>Regional missions/trade hubs</td>
</tr>
<tr>
<td>Improve use of ICT, single window, and scanning systems at borders</td>
<td>EA, SA regional, Malawi, Mozambique, Zambia</td>
</tr>
<tr>
<td>Standardize grades and procedures</td>
<td>Uganda, EA regional</td>
</tr>
<tr>
<td>Reduce checkpoints on regional corridors</td>
<td>West Africa regional</td>
</tr>
<tr>
<td>Harmonize transit and transport rules</td>
<td>Regional missions/trade hubs</td>
</tr>
<tr>
<td>Reduce pre-shipment inspections</td>
<td>Mozambique</td>
</tr>
<tr>
<td>Share best practices</td>
<td>Regional missions/ trade hubs</td>
</tr>
</tbody>
</table>
Overview of Trade Policy for Agriculture and Development

Joan Hurst
Office of the U.S. Trade Representative
Washington, DC

USTR’s Mission:

• To negotiate directly with foreign governments to create trade agreements, to resolve disputes, and to participate in global trade policy organizations.
• USG lead on trade issues
Brief Highlights of the Global Trading System

- Global trading system began in the 1940’s through the Bretton Woods process
- The General Agreement on Tariffs and Trade signed in 1947
- In the 1960’s, the Kennedy Administration recognized that engaging other countries through trade was a powerful form of economic diplomacy to encourage peace and prosperity
- USTR was created in 1962
- The “Uruguay Round” Agreement established the WTO in 1995
- Included provisions in Agriculture designed to build capacity, allowing countries to benefit from the global trading system
- Most USAID Countries are WTO Members or are joining the WTO

Current Agricultural Trade Issues:

- Agricultural trade negotiations
- Policy development and coordination of agriculture/trade issues – USTR is lead in international coordination and within the USG.
- Implementation of trade agreements: bilateral/regional free trade agreements (FTAs), and WTO agreements covering agriculture:
  - WTO Sanitary and Phytosanitary (SPS) Measures for agricultural regulatory issues e.g., biotechnology, cloning, BSE, nanotechnology, food safety, animal and plant health issues,
  - WTO Agriculture Agreement includes market access (tariffs and taxes), domestic support (farmer support programs and insurance), export competition (export subsidies), and
  - Other WTO Agreements cover customs issues affecting trade in agriculture (trade facilitation, import licensing, variable duties, tariff rate quotas, etc.)
The three and half rules of the GATT and the World Trade Organization Agreements

- **Article I**: Most Favored Nation
  - You can't discriminate across suppliers
- **Article III**: Non-discrimination
  - You can't discriminate against imported products
- **Article XI**: Prohibition on quantitative restrictions, Article II: Tariff bindings
  - You can only use tariffs as import protection, and those have limits
- **Article XVI**: Subsidy remedies
  - You can protect yourself from injury due to subsidized products
- **Article XX**: Exceptions
  - Don't believe what Public Citizen, Greenpeace, et. al. say

Problems in Agriculture Trade

Some High Profile Trade Issues of the Uruguay Round era

- EU hormone ban
- EU oilseed subsidies
- Japan “GATT-12” restrictions
- EU export subsidies
- EU domestic subsidies
- EU variable levy
- EU banana policy
- U.S. wheat export subsidies
- U.S. row crop domestic subsidies
- U.S. sugar, dairy and meat access
- Korea market access restrictions
- Canadian supply management
- Latin America differential export tax
The Doha Problem
Simple Average Ag Tariff

Source: WTO Tariff Profiles. 2012

Trade Distorting Domestic Support Rising by Developing Countries
Total Trade Distorting Domestic Support

Source: Cairns Group & WTO Notifications
**Policy Development: Move Down and to the Right**

Relationship between Trade Distortions and the Transfer Efficiency of Farm Support

- **Input subsidies**
- **Output Subsidies**
- **Market Price Support**
- **Area payments**

Source: Dewbre, Anton, and Thompson (2001)

**Production Process Methods and Labeling Requirements Become Trade Issues**

- New technology
- Hormones
- Halal slaughter
- Sustainability
- Beta-Agonists
- Antibiotics
- Animal welfare
- Geographic Indications
- Health/nutrition standards
- Organic
- Antimicrobial treatments

6/9/2015
**WTO Rules**

**Agreement on Sanitary and Phytosanitary Measures**

- Balance of Rights and Obligations
  - Right to take measures (Article 2.1)
  - Obligation to discipline measures
    - Scientific basis (Article 2.2 and Article 5)
    - International standards (Article 3)
    - Non-discrimination (Article 2.3 and 5.5)
    - Practical ideas (equivalence, free areas, no more restrictive than necessary (4, 6 & 5.6))

- Establish basic principles, not exhaustive set of technical rules
- Establish the primary role of science and scientific process

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**Key Institutions**

**Agreement on Sanitary and Phytosanitary Measures**

- Codex Alimentarius
  - Codex Alimentarius sets food safety standards recognized by the World Trade Organization’s Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures.

- International Organization of Epizootics
  - The World Organization for Animal Health (OIE) is the intergovernmental organization responsible for improving animal health worldwide, and like Codex, is recognized by the WTO as the relevant international standard setting body, for animal health

- International Plant Protection Convention
  - The International Plant Protection Convention (IPPC) is an international treaty that aims to prevent the introduction and spread of plant pests and promote appropriate measures for their control. The WTO identifies the IPPC as the organization providing International Standards for Phytosanitary Measures (ISPM)
Benefits for USAID Partner Countries

Use of the standards designed in trade agreements provide benefit in the country and helps connect countries with the world
Example – using international, science-based regulatory standards can help farmers produce safe food that they can eat or sell domestically or overseas
Example - Use of non-trading distorting subsidy programs allows farmers to benefit from the government expenditures to support them

Support for USAID Programs or Policy Recommendations Overseas

• Feed the Future Policy Guide (2013)
• Washington Agencies provide help and answers regarding trade linkages and solutions

Contacts:
USAID Trade Office
USDA resources in Washington and overseas
USTR Agriculture and Development Offices in Washington
Got Ag/Trade Policy Questions?

Joan Hurst
Director of Agricultural Affairs
Office of the U.S. Trade Representative
jhurst@ustr.eop.gov
Phone 202-395-6117
Trade Policy and Implementation of SPS Measures

14 May 2015

jason.hafemeister@fas.usda.gov
The three and half rules of the GATT

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U.S. Initiatives on SPS Measures

• Capacity Building
  • Integrated Pest Management (IPM), Good Pesticide Spraying Practices, and other Good Agricultural Practices (GAP) enabled Guatemalan smallholder farmers to better control pests in high value export crops such as snow peas; thus increasing exports to the U.S.

• Institutional Strengthening
  • Government of Georgia develops a National Strategy for addressing animal health
  • East Africa technical working group drafts policies for five transboundary animal diseases

• International Standards Setting Bodies
  • Global Pesticide MRL program

• Trade Agreements
  • TPP
  • WTO

• USDA Exchanges
  • Cochran Fellowship Program
  • Borlaug Fellows Program
Policy in Practice

Food Safety Act *enabling*

Food Safety Regulations *governing*

- **Standards for Mycotoxin Limits**
  - by mycotoxin type, and commodity end use

- **Monitoring for Contaminants**
  - Border controls
  - Risk Management
  - Inspection and quarantine
  - Commodity sampling
  - Laboratory Infrastructure

- **Good Agricultural Practices (GAPs)**
  - water use
  - pest control
  - chemical use (e.g. fertilizer, pesticide)
  - harvesting, drying, and storage guidance

- **Agricultural Inputs**
  - Chemical labeling and registration (e.g. for bio-pesticides)
SPS Capacity Building in Action

Animal Health Assistance Builds Institutional Capacity

- May 2013 the OIE declared Peru free of Foot and Mouth Disease (FMD)
- Peruvian MoA implements new SOPs
- Georgian MoA establishes regional vet associations
SPS Capacity Building in Action

Fruit Fly Control Technical Assistance results in Exports

- Senegal mango exports to all destinations reach an unprecedented 7,726 tons in the 2011 growing season
- Mozambique continues banana exports to South Africa valued at approximately US$20 million annually (regional trade)
**SPS Capacity Building in Action:**

In Guatemala, IPM and GAPs training result in:

- Pesticide applications drop from 11 to 8
- Production costs drop $100 per “Cuerda’ (25x40 meters) per growing cycle.
- Farmers meet international MRLs
- Detained containers to the US in 2013 drops 22% over 2012 detentions.
- Net small farmer income - per cuerda - increases 36%.
- Safer food for domestic consumers.
Key Seed Sector Constraints

- AgBEE Framework
- Early generation seed supply scarcity
- Low capacity of NARS and private MSME seed companies
- Financing the seed value chain
- Raising farmers’ awareness
Policy and AgBEE framework in developed countries

### Comparing Seed Regulatory Models: United States vs. European Union

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>European Union</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration of seed</td>
<td>Not required, although individual states may have</td>
<td>Required, but based on minimum criteria</td>
</tr>
<tr>
<td>companies, contract</td>
<td>states may have requirements</td>
<td></td>
</tr>
<tr>
<td>farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variety Registration:</td>
<td>Voluntary</td>
<td>Mandatory: 2 years of VCU and DUS tests for field</td>
</tr>
<tr>
<td></td>
<td></td>
<td>crops; 1 year of DUS for vegetables</td>
</tr>
<tr>
<td>Seed Certification:</td>
<td>Voluntary, although the owner of the variety can</td>
<td>Mandatory for field crops; voluntary for vegetable</td>
</tr>
<tr>
<td></td>
<td>make certification required</td>
<td>seed</td>
</tr>
<tr>
<td>Developing economies</td>
<td>South Africa, India, Bangladesh, Pakistan, the</td>
<td>Turkey, Ukraine, much of Sub-Saharan Africa</td>
</tr>
<tr>
<td>adopting this model:</td>
<td>Philippines, Guatemala, Nepal(^1)</td>
<td></td>
</tr>
</tbody>
</table>

## Capacity of NARS and private MSME seed companies: Current FtF portfolio of activities

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Countries</th>
<th>Category</th>
<th>Partner organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed Scaling: Climate Resilient Maize</td>
<td>Ethiopia, Kenya, Uganda, Tanzania, Malawi, Mozambique, Zambia</td>
<td>Cereals</td>
<td>CIMMYT</td>
</tr>
<tr>
<td>Seed Scaling: Stress tolerant rice for Africa</td>
<td>Senegal, Liberia, Ghana, Nigeria</td>
<td>Cereals</td>
<td>Africa Rice</td>
</tr>
<tr>
<td>Seed Scaling: Stress tolerant rice for Asia</td>
<td>Cambodia, Nepal</td>
<td>Cereals</td>
<td>IRRI</td>
</tr>
<tr>
<td>Seed Scaling: Household Vegetable Seed kits</td>
<td>Liberia, Cambodia, Kenya, Tanzania, Uganda</td>
<td>Horticulture</td>
<td>AVRDC</td>
</tr>
<tr>
<td>Seed Scaling: Cowpea for West Africa</td>
<td>Senegal, Mali, Ghana, Nigeria</td>
<td>Legume</td>
<td>IITA</td>
</tr>
<tr>
<td>Seed Scaling: Groundnut in West Africa</td>
<td>Mali, Ghana, Nigeria</td>
<td>Legume</td>
<td>ICRISAT</td>
</tr>
<tr>
<td>Seed Scaling: Barley and Faba in Ethiopia</td>
<td>Ethiopia</td>
<td>Specialty Market</td>
<td>ICARDA</td>
</tr>
<tr>
<td>Seed Scaling: CSISA Wheat and Lentil in Nepal</td>
<td>Nepal</td>
<td>Cereal/Legume</td>
<td>CIMMYT</td>
</tr>
<tr>
<td>MasAgro Guatemala</td>
<td>Guatemala</td>
<td>Cereal</td>
<td>CIMMYT</td>
</tr>
<tr>
<td>Scaling Seeds &amp; Technologies Partnership</td>
<td>Ethiopia, Ghana, Malawi, Mozambique, Senegal, Tanzania</td>
<td>Field crops</td>
<td>AGRA</td>
</tr>
<tr>
<td>Partnering for Innovation</td>
<td>Various</td>
<td>Various</td>
<td>Fintrac</td>
</tr>
<tr>
<td>Mission Scaling Plans and Projects</td>
<td>FtF Focus Countries</td>
<td>Various</td>
<td>Various</td>
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</tbody>
</table>
## Financing the seed value chain

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Opportunity</th>
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</thead>
<tbody>
<tr>
<td>Farm infrastructure finance</td>
<td>Line of credit, DCA, TA</td>
</tr>
<tr>
<td>Fixed asset finance</td>
<td>Line of credit, DCA, TA</td>
</tr>
<tr>
<td>Working capital finance</td>
<td>Line of credit, DCA, TA</td>
</tr>
<tr>
<td>Capital equipment finance</td>
<td>Line of credit, leasing</td>
</tr>
<tr>
<td>Smallholder input finance</td>
<td>Mobile, clubs</td>
</tr>
</tbody>
</table>

**Environment for finance:** high cost of capital, land tenure, collateral registry, credit rating agency, deposit restrictions  

**Seed companies:** under-capitalized, bookkeeping skills are inadequate  

**Smallholders:** limited credit option, savings (mobile, other commitment mechanisms)
Farmer awareness raising through assurance building

- Agro-dealer certification
- Seed company supervision: “fake seed” and truth-in-labeling versus certification
- “Free seed”: effect of giveaways
- Mobile and social networks
Efforts to improve seed trade

• Introduction of harmonized rules intended to make seed trade easier, faster, cheaper.
  – Regional catalogs of registered varieties.
  – Mutual recognition of certification tests.
  – Common pest lists.

• Regional systems include...
  – SADC, COMESA, ECOWAS each aiming for comprehensive seed trade systems.
  – ASARECA (with EAC) working for individual improvements.
  – EAC introducing own mandatory standards.

• Ongoing for many years. Good progress on the rules, but now the systems must be “domesticated” both legally and operationally.
Current status of regional harmonization

• **SADC and COMESA systems are “ready to go”**
  – SADC rules now endorsed by two-thirds of member countries.
  – COMESA rules approved by Council of Ministers.

• **Nevertheless, much remains to be done…**
  – SADC rules must be legally domesticated (Zambia and Malawi both have draft bills but still under review and must go to Parliament).
  – COMESA rules “automatically binding”, but still require domestic legal reform.
  – SADC and COMESA countries both require new systems, new capacity, and willingness to accept.

• **A lot of energy going to make harmonization work when other simple and complementary approaches are available.**
Scaling the Production and Delivery of Early Generation Seed

Pradeep Prabhala, Senior Manager
Jessica Weddle, Manager
Monitor Deloitte

May 14th, 2015
For the purposes of this study, we leveraged a common economic framework to define public and private goods.

**EXCLUDABILITY**

The degree to which a consumer can be prevented from using or accessing a good

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
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</tbody>
</table>

**Private Goods**

A good that can be excluded and cannot be used or accessed simultaneously by multiple consumers (e.g., cars, clothing)

**Common Goods**

A good that cannot be excluded, but cannot be used or accessed simultaneously by multiple consumers (e.g., fish stocks, timber)

**Club Goods**

A good that can be excluded, but can be used or accessed simultaneously by multiple consumers until congestion occurs (e.g., movies, private parks)

**Public Goods**

A good that cannot be excluded and can be accessed simultaneously by multiple consumers (e.g., air, national defense)

**RIVALRY**

The degree to which consumption of a good by one consumer prevents the simultaneous consumption of the good by another consumer

<table>
<thead>
<tr>
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</table>
To analyze the economics of EGS, we applied a common economic framework, which we adapted to highlight the economic characteristics of seed that have implications for ideal state value chains.

**Marginal economic value of quality seed of improved varieties**

<table>
<thead>
<tr>
<th>Level of demand for crops grown with quality seed of improved varieties</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Sector Dominant Archetype</strong></td>
<td>Quality seed of improved varieties that is both attractive for private sector actors to produce and that produces crops the market demands, resulting in robust private sector investment with minimal public sector involvement</td>
<td></td>
</tr>
<tr>
<td><strong>Example seed sectors:</strong></td>
<td>Maize (hybrid)</td>
<td>Vegetables (tomatoes, cabbage, etc.)</td>
</tr>
<tr>
<td><strong>Public-Private Collaboration Archetype</strong></td>
<td>Quality seed of improved varieties for crops with strong market demand but for which the cost of production or demand risk create barriers to private-sector investment and innovation resulting in public sector involvement</td>
<td></td>
</tr>
<tr>
<td><strong>Example seed sectors:</strong></td>
<td>Maize (OPV)</td>
<td>Rice</td>
</tr>
<tr>
<td>Cowpea</td>
<td>Cassava</td>
<td>Sweet Potato</td>
</tr>
<tr>
<td>Common Bean</td>
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<tr>
<td><strong>Niche Private Sector Archetype</strong></td>
<td>Quality seed of improved varieties for crops with niche market demand but which are profitable to produce in certain quantities, which are produced by a vertically integrated private sector with minimal public sector involvement</td>
<td></td>
</tr>
<tr>
<td><strong>Example seed sectors:</strong></td>
<td>Sweet potato (temporary demand due to disease)</td>
<td>Sorghum or Cassava (niche demand for beer brewing)</td>
</tr>
<tr>
<td>Cotton</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public Sector Dominant Archetype</strong></td>
<td>Quality seed of improved varieties for crops that are not highly desirable or profitable to produce, but which are promoted by the public sector to advance a public goal such as food security or seed security</td>
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<td>Sorghum (OPV)</td>
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<tr>
<td>Teff</td>
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<td></td>
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</tbody>
</table>

Notes:
1. Examples are relevant for quality seed of improved varieties in formal seed sectors
2. In the context of this slide, “quality seed of improved varieties” refers to commercial quality seed, not EGS
3. Examples given are illustrative and may not be applicable across all countries and crop varieties, which accounts for the same crop appearing in more than one box
4. Examples in italics indicate crops that were outside the scope of this study’s target crops
Within the public-private collaboration category we identified two archetypes based on the certainty of demand, cost, and complexity of supply

<table>
<thead>
<tr>
<th>Private</th>
<th>Public-Private</th>
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<tbody>
<tr>
<td>Niche</td>
<td>Public</td>
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### Uncertain market demand

#### Public-Private Archetype I: Public Sector Mitigates Demand Risk

*Seed that is attractive for private sector companies to produce, but for which they cannot reliably forecast demand and so are exposed to high demand risk and high cost of capital as a result*

**Example seed sectors:**

- Rice
- Sweet Potato
- Cassava

### Costly / complex production

#### Public-Private Archetype II: Public Sector Supports Breeder and Foundation Seed Production

*Seed that is reliably demanded by consumers, but which are unattractive to produce EGS for due to high effort or technology intensity, risk of post-production loss, or generally low margins*

**Example seed sectors:**

- Cowpea
- Maize (OPV)
- Common bean

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Within each archetype, the ideal state of who invests at each value chain stage is determined by who derives value from the activity, though the work may be contracted to other actors.

<table>
<thead>
<tr>
<th>Value Chain Stage</th>
<th>Description</th>
<th>Ideal State Business Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety Research &amp; Development</td>
<td>Research and development of germplasm with particular characteristics or traits, conducted by trained plant breeders</td>
<td>1 Private</td>
</tr>
<tr>
<td>Variety Selection &amp; Breeding</td>
<td>Selection of varieties and localization for a given agro-ecological context or market demand, which produces new varieties</td>
<td>2a P/P I</td>
</tr>
<tr>
<td>Breeder Seed Production &amp; Maintenance</td>
<td>Production of breeder seed and maintenance of parent lines which are used to produce breeder seed throughout a variety’s lifecycle</td>
<td>2b P/P II</td>
</tr>
<tr>
<td>Foundation Seed Production</td>
<td>Multiplication of foundation seed from genetically pure breeder seed</td>
<td>3 Public</td>
</tr>
<tr>
<td>Quality Seed Production</td>
<td>Production of quality seed from foundation seed, may be conducted on the producer’s plot of through a contracted network of outgrowers</td>
<td></td>
</tr>
<tr>
<td>Marketing &amp; Distribution</td>
<td>Promotion of seed to farmers, followed by sales and distribution, often through existing networks of agro-dealers and farmers’ groups</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:** Type of actor investing in each value chain stage

- **Private Sector**
- **Public Sector**
- **Public-Private**
- **IARCs w/ private sector & NARS**
Recommendations to overcome specific Market Archetype economic constraints to scale

1. **Remove Market Distortions and Decrease Public Role**
   Support and advocate for policies that enable the private sector to grow sustainably

   **Potential Role of Government:**
   - Transition out of playing a direct role supporting the value chain (e.g., stop producing foundation seed)
   - Remove distortionary subsidies and restrictions where possible

   **Potential Role of Donors:**
   - Demonstrate profit potential of the market through business cases
   - Alleviate high fixed cost of breeders through capacity building
   - Build capacity in banking sector to increase financing availability

2a. **Mitigate Demand Risk**
   Support stable and predictable demand and linkages between producers and markets

   **Potential Role of Government:**
   - Share demand risk with the private sector by backing financing and entering into surplus purchase arrangements
   - Invest in extension services to increase demand in rural markets

   **Potential Role of Donors:**
   - Improve availability and accessibility of data to enable more accurate demand forecasting and planning of production
   - Demonstrate private sector potential with business cases

2b. **Subsidize Production Costs**
   Support breeder and foundation seed production by mitigating high fixed costs

   **Potential Role of Government:**
   - Directly subsidize fixed costs (e.g., breeders, certification) or back financing for capital investments, e.g., in technology
   - Partly or fully fund production of breeder and foundation seed on an ongoing and stable basis (e.g., CGIAR, NARS)

   **Potential Role of Donors:**
   - Alleviate fixed costs by funding R&D and breeder training
   - Ensure ROI on research by advocating for IP protections and linking breeding more closely to farmers’ and market demand

3. **Drive Public Sector Efficiency**
   Support efficiency of public entities through capacity building and organizational linkages

   **Potential Role of Government:**
   - Increase responsiveness of public breeding and production efforts by increasing farmer participation
   - Implement more efficient QA processes to ensure more effective resource use, including through building private sector capacity

   **Potential Role of Donors:**
   - Build decentralized capacity throughout a country to better leverage public resources and reduce dependence on
   - Implement monitoring and evaluation for public programs to understand impact and effectiveness of public investments
Recommendations to overcome specific Market Archetype economic constraints to scale

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Across all archetypes, the recommendations require actors to make **strategic trade-offs** in a way that results in a more efficient allocation of resources for all stakeholders.
Agricultural Input Policy & Competitive Markets: Lessons and Way Forward

USAID Advanced Topics in Agriculture: Agriculture Policy
May 11-15, 2015 Training Workshop, Virginia

Dr. Joshua Ariga / Dr. Latha Nagarajan
Senior Scientists – Economics, IFDC

Outline of Presentation

❖ Sources of Information (Incl. Recent Policy Activities)
  ▪ IFDC work & experience on markets and policy over the years
  ▪ IFDC FIF Fertilizer Market Assessments, 2011-2014; USAID-commissioned
  ▪ Technical Convening of Policy Experts, Addis, 2013; organized by USAID & Others
  ▪ African Union 2014 Year of Agriculture, Malabo Declaration by Heads of State and Government to double ag. productivity by 2025
  ▪ Policy work by IFPRI, MSU, AFAP
  ▪ Recent joint policy mission in Ghana by IFPRI, MSU, IFDC, AFAP, IITA

❖ Challenges in Fertilizer Value Chains

❖ The Role of Fertilizers in agricultural Productivity

❖ Sustainable Fertilizer Markets: Lessons Learned & Policy Recommendations
FtF Fertilizer Assessments: Objective

Assessing Fertilizer Requirements to Meet the Goals of AU’s the Comprehensive Africa Agriculture Development Programme (CAADP) & Country Development Plans

- How much fertilizer will be needed to achieve crop production targets in the Country Investment Plans (CIPs)?

- What are the necessary investments and policy changes to ensure delivery of these increased quantities of fertilizer through the value chain to farm households?

### FtF Fertilizer Assessment: Countries (12)

<table>
<thead>
<tr>
<th>REGION</th>
<th>COUNTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Africa</td>
<td>Senegal, Liberia, Ghana, Mali*</td>
</tr>
<tr>
<td>East Africa</td>
<td>Tanzania, Kenya, Uganda, Rwanda, Ethiopia</td>
</tr>
<tr>
<td>Southern Africa</td>
<td>Mozambique, Zambia, Malawi</td>
</tr>
</tbody>
</table>
FtF Fertilizer Assessment: Methodology

• **Nutrient removal approach**
  - Established yield gap (target less current yield by crop)
  - Estimated quantities of fertilizer required to supply sufficient N,P,K nutrients to meet yield gap

• **Assumptions made:**
  - Improved planting material / seed used
  - Cultivated crop area remains constant
  - Other complementary inputs at their optimal levels
  - No moisture or water stress

FtF Fertilizer Assessment: Estimated Fertilizer Quantities ('000 mt)

<table>
<thead>
<tr>
<th>'000 mt product</th>
<th>Tanzania</th>
<th>Zambia</th>
<th>Kenya</th>
<th>Ethiopia</th>
<th>Ghana</th>
<th>Mozambique</th>
<th>Uganda</th>
<th>Rwanda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current use</td>
<td>263</td>
<td>250</td>
<td>489</td>
<td>500</td>
<td>200</td>
<td>50</td>
<td>45</td>
<td>35</td>
</tr>
<tr>
<td>Additional needed to meet production targets</td>
<td>265</td>
<td>250</td>
<td>421</td>
<td>700</td>
<td>370</td>
<td>250</td>
<td>261</td>
<td>109</td>
</tr>
<tr>
<td>Total fertilizer required</td>
<td>528</td>
<td>500</td>
<td>910</td>
<td>1,200</td>
<td>570</td>
<td>300</td>
<td>306</td>
<td>144</td>
</tr>
<tr>
<td>Increase over current</td>
<td>2.0x</td>
<td>2.0x</td>
<td>1.9x</td>
<td>2.0x</td>
<td>2.7x</td>
<td>6.0x</td>
<td>6.5x</td>
<td>4.1X</td>
</tr>
</tbody>
</table>
How to Deliver these Quantities to Farmers?

Ensuring these significant amounts of fertilizers get to smallholders:

1. Need to tackle challenges in input value chains

2. However, momentum is building to transform ag sector in Africa:
   - 2014 Declared Year of Agriculture by AU; 10th anniversary of CAADP, Durban, Year of the Soil (2015).
   - Ambitious goals of Malabo Declaration by AU Heads of State in 2014: Doubling ag productivity by 2025.
   - Fertilizer use identified as essential to achieving growth.

Challenges Identified in Fertilizer Value Chains

Fertilizer use in SSA is limited by a number of factors that result in significant policy challenges (including the need for subsidy).

- Poor port infrastructure – high freight and port costs
- Limited importer competition
- Financing
- Poor inland transport infrastructure (road & rail) – high transport costs
- Limited distributor competition
- Limited and expensive credit
- Inadequate storage
- Limited credit
- Poor info & extension services
- Outdated recommendations
- Cut-off regional markets
- High import costs – limited scale economies
- Limited dealer network and reach – limits access and supply
- Low retailer margins vs. other inputs – limits supply and access
- Limited and expensive credit; high collateral requirements – constrains supply
- Limited access to reliable competitive output markets
Subsidies: Advantages and Challenges

- **Advantages:**
  - Reduce farm-gate price of fertilizer (~50%)  
  - Often combined with complementary inputs-seed  
  - Can be a source of new, efficient products e.g., UDP and micronutrients

- **Challenges:**
  - Disrupt priv. Market Dev.  
  - Late delivery affects yields  
  - Budget allocation, costs  
  - Lack of exit strategy

Some subsidies targeted; others not

Impact on fertilizer availability, yields, production:  
- Introduces fertilizer to first-time users.  
- Increase fertilizer availability nationally.  
- More info needed on impact on yields and production, some cases of positive impact cited.

40% of fertilizer in SSA is subsidized

Account for 30% of agricultural budgets

7 governments spend total of $2 billion on subsidy programs

The Role of Fertilizers in Ag Productivity (why input policy is critical)
Challenges Facing Agricultural Sectors

- Low Fertilizer Use (and complementary inputs)
- Declining Productivity and Production
- Declining Soil Nutrient Balance
- Declining Land and Water Per Capita and Increasing Population
- A Growing Middle Income Class Influencing Dietary Choices / Demand

Yield Potential with Fertilizer Use in Africa

<table>
<thead>
<tr>
<th>Region</th>
<th>Crop</th>
<th>Yields (mt/ha)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Farm (Without Fertilizer)</td>
<td>Farm (With Fertilizer)</td>
<td>Experimental Station (With Fertilizer)</td>
</tr>
<tr>
<td>West Africa</td>
<td>Irrigated rice</td>
<td>3.0</td>
<td>6.0</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Upland rice</td>
<td>1.0</td>
<td>2.5</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Lowland rice</td>
<td>1.5</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Cassava</td>
<td>8.0</td>
<td>35.0</td>
<td>47.0</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>0.8</td>
<td>3.5</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>Sorghum</td>
<td>0.6</td>
<td>1.8</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Cowpea</td>
<td>0.3</td>
<td>1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>South Africa</td>
<td>Maize</td>
<td>1.5</td>
<td>4.0</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Soybean</td>
<td>0.5</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>East Africa</td>
<td>Maize</td>
<td>1.5</td>
<td>7.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Source: Bationo and Egulu (2010).
### Why Fertilizer Response is Low

(Depends on other inputs, facilities and services)

- **Outdated:**
  - soil maps and lack of soil testing services
  - blanket fertilizer recommendations
- Limited number of fertilizer products due to small markets
- Inadequate information, limited extension services (AMITSA, AfricaFertilizer.org, etc.)
- Lack of information and promotion of BMSP
  - Organic inputs + inorganic fertilizers critical for fertilizer use efficiency, water infiltration, soil structure
  - Improved planting materials
  - Increased water use efficiency (harvesting, efficient irrigation)

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**Findings and Recommendations**
Key Priority Areas to Guide Input Policy

• More budget support for research and extension programs
• Update and/or harmonize policy and regulatory frameworks
• Establish a fund to support innovative fertilizer financing mechanisms
• Inclusive public-private dialogue and joint action on fertilizer policy

Stimulate demand for fertilizer by improving crop response to fertilizer use

Suggested Actions to Establish Robust & Sustainable Research and Extension Systems

<table>
<thead>
<tr>
<th>Issue</th>
<th>Suggested Action Through Country or Regional Efforts</th>
</tr>
</thead>
</table>
| Robust and sustainable agronomic research and extension programs | • Develop national soil maps (recommendations by location, soil and crop).  
• Establish soil testing facilities.  
• Allow for introduction of more fertilizer products into country.  
• Increase number of agro-dealers trained in business knowledge, technical knowledge of fertilizer products.  
• Increase number of trained extension officers (ISFM, UDP, etc)  
• Increase number of fertilizer demonstrations, trials. |
| Promote use of efficient, environmentally friendly fertilizers | Introduce efficient fertilizer products. |
| Information | Establish system providing information to farmers on input and output market conditions. This will reduce price volatility and encourage bargaining. |
### Develop and harmonize fertilizer policy and regulatory frameworks
(including trade policy to enhance regional markets)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Suggested Action Through Country or Regional Efforts</th>
</tr>
</thead>
</table>
| Policy and Regulatory Framework (Predictable & develop private sector) | • Countries develop/modernize fertilizer policy and regulations and enact them into law (expand fertilizer product set)  
• RECs design regional regulatory architecture to which all members adhere. e.g., ECOWAS 2012 & IFDC WAFP  
**Strengthen regulatory enforcement capacity:**  
• Human resources and laboratories to stop adulteration, etc  
• Approve ingredients not product (or blend)  
• "Rules of the Game" |
| Trade Policy (Establish and promote national and regional markets) | **Reduce delays at border & increase regional trade:**  
• One-stop border posts (24 hour)  
• Single electronic windows (24 hour)  
**Eliminate NTBs:**  
• Reduce number of road checks and weigh bridges  
• Ease licensing procedures for businesses, tenders, etc.  
**Eliminate Tariffs and Taxes:**  
• Zero taxes and tariffs on fertilizers (e.g., ECOWAS)  
• Remove other taxes (withholding, VAT, etc.) |

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### Establish a Fund to Support Innovative Finance Activities for the Fertilizer Value Chain

<table>
<thead>
<tr>
<th>Issue</th>
<th>Suggested Action Through Country or Regional Efforts</th>
</tr>
</thead>
</table>
| National Fertilizer Financing Facilities for Input Suppliers | • Establish a national fertilizer financing facility  
• Increase warehousing and distribution capacity  
• Learn from other models, partnerships: e.g. One Acre Fund (Rwanda), AGRA & partners-Standard Bank "loan Guarantee fund" (Tanzania, Mozambique) AFAP (Mozambique) |
| Operationalize the Africa Fertilizer Financing Mechanism (AFFM) at AfDB | • Annual contribution by countries to the AFFM (a number of countries have made contributions toward the $10 million target |
### Actions to Establish Public-Private Dialogue and Joint Action on Fertilizer Policy

<table>
<thead>
<tr>
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</table>
| Conducive policy and institutional environment to stimulate and increase private investment | • Regular fertilizer policy meeting between government and private sector to review and clarify current policy and appraise impact on fertilizer market and provide a mutual platform for sharing.  
  • Private sector to replace government in procurement and marketing of imports.  
  • Remove restrictions on imports, marketing and pricing; government provide regulatory oversight. |
| Subsidy design and implementation                                      | • Subsidy program is designed and managed as a public-private partnership.  
  • Allow for Private Sector development—as part of EXIT strategy.  
  • Subsidy programs are targeted, inclusive, include complementary inputs and subjected to periodic CBA.                                    |

### Fertilizer Market Archetypes: Some Thoughts

<table>
<thead>
<tr>
<th>Private Sector Capacity</th>
<th>Policy &amp; Business Environment</th>
<th>Good</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Market/ Low Demand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mostly Public</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**High**
- **Private**
  - Relatively good policy / fair business environments.
  - Private sector has capacity to deliver; procure, distribute fertilizers.
  - Yet for political economy reasons, the state intervenes in markets (input subsidies, output price supports), causing distortions.
  - **Recommendations:** Requires continuous dialogue/advocacy & continued reforms, less government.
  - Kenya, Tanzania

**Low**
- **Small Market/ Low Demand**
  - Policy environment relatively good.
  - Business environment fair.
  - Low private sector capacity.
  - Low fertilizer use / adoption (small markets or invisible demand).
  - Relatively low state intervention in markets;
  - No subsidies or subsidies confined to NGO-driven efforts.
  - Government willing to develop fertilizer market.
  - **Recommendations:** Information / awareness; research and extension (demos, soil tests), Low technology trap; policy supports private sector.
  - Mozambique, Uganda.

**Mostly Public**
- Dominance of government activities
- Low private sector capacity.
- Lots of state intervention.
- Less incentives for private sector to invest
- State intervenes with decrees on macro issues, who enters market and distribution process.

**Recommendation:**
Support public investments for food security reasons. Private sector prospects very poor (depends on connection to government?).
Other enabling environment issues

- Biosafety regulatory systems
- Genetic resources policy landscape
- Patents and Plant Variety Protection
Biosafety Regulatory Systems

- GMO’s are regulated articles and require regulatory systems in place to facilitate use
- Highly politicized topic, influenced by US and EU viewpoints
- USAID provides (at request) technical support in implementing science based regulations
- Compliance with Cartagena Protocol (for parties) as well as WTO and IP agreements
Plant Genetic Resources Policy Landscape

• Convention on Biological Diversity (UNEP)
  – Entered into force 1993, now has 194 parties
  – US is *NOT* a Party to the CBD,

• International Treaty for Plant Genetic Resources 2004, (FAO)
  – US has signed the Treaty
  – Pending Senate advice and consent to ratification

• Patent Cooperation Treaty

• UPOV
Plant Variety Protection

http://www.upov.int/about/en/faq.html

• Can a farmer replant seed of a protected variety without the authorization of the breeder?

• Can a farmer sell seed of a protected variety without the authorization of the breeder?

• Is it possible for subsistence farmers to exchange propagating material of protected varieties against other vital goods within the local community?

• Under the UPOV system, breeders decide the conditions and limitations under which they authorize the exploitation of their protected varieties. Can farmers, for instance, be allowed to exchange seeds of protected varieties freely within the local community?