



Understanding the Enabling Environment: How Laws, Regulations, and Government Programs Support Trade and Agricultural Development

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on behalf of the PEMEFA team

Hosted by the Law and International Development Society (LIDS),
American University Washington College of Law (AU WCL)
Tuesday, April 17, 2018

Room NT08, AU WCL, Washington, DC



About PEMEFA (Partnership for Enabling Market Environments for Fertilizer in Africa)

Consortium of five partner organizations:

1. African Fertilizer and Agribusiness Partnership (AFAP)
2. International Fertilizer Development Center (IFDC)
3. Michigan State University (MSU)
4. New Markets Lab (NML)
5. Regional Network of Agricultural Policy Research Institutes (ReNAPRI)





ABOUT PEMEFA CONT'D

PEMEFA's initial activities (including today's seminar) are supported by a planning grant from the Alliance for African Partnership (AAP).

The AAP is a new, innovative initiative at Michigan State University that seeks to develop a collaborative and cross-disciplinary platform for addressing today's global challenges.



PEMEFA'S GOAL

To transform African agriculture and livelihoods by improving smallholder farmers' access to and use of fertilizers by establishing comprehensive, relevant, and robust national and regional fertilizer policies and regulatory frameworks that facilitate increased private sector investment and participation in fertilizer value chains.





PEMEFA's OBJECTIVES

1. **Generate evidence** to mobilize support for policy and regulatory reforms that will encourage private sector-led fertilizer markets and improve smallholder farmers' access to and profitable use of fertilizers.
2. **Build the capacity** of stakeholders along fertilizer value chains to establish a conducive enabling environment for private sector-led fertilizer markets.
3. **Drive ongoing efforts** to reform policy, legal, and regulatory regimes for fertilizer through outreach and engagement.



Focus on the Enabling Environment

The **enabling environment** consists of the **policies, laws, and regulations** including the institutional infrastructure that guide the conduct of stakeholders (e.g., farmers, traders, etc.) in pursuit of their goals. An effective enabling environment is one that creates the **conditions for private sector participation and investment in value chains**, thereby increasing competition, putting downward pressure on prices, improving the quality of available goods and services in the market, and improving access.





Today's seminar

Understanding the Enabling Environment

- What kinds of laws, regulations, and policies best support trade and agricultural development?
- How can we use the lessons learned from the fertilizer sector and apply these to development, trade, and investment efforts more broadly?

Outline

1. Understanding the Enabling Environment in Context [K. Kuhlmann]
2. Value Chains in sub-Saharan Africa and the Fertilizer Markets [J. Ariga]
3. Example: Fertilizer market development in Kenya [J. Ariga]
4. The Enabling Environment in Practice: Legal, Regulatory, & Policy Reform [K. Kuhlmann]
5. Example: Fertilizer subsidy programs & private sector investment in SSA [N. Mason]
6. Concluding remarks [K. Kuhlmann]
7. Q&A



Understanding the Enabling Environment in Context

Katrin Kuhlmann (NML)



About The New Markets Lab

- Non-profit law and development center focused on the intersection between **law, economic development, entrepreneurship, and social impact**
- Engage with partners to build markets in areas that hold great potential but are heavily regulated
 - Comparative law approach – markets increasingly span borders and legal systems
 - Many countries considering large-scale legal reform, often in alignment with international rules and standards, but reform needs to be customized and staged to be effective
- Apply innovative set of **interventions and tools** to improve rules on paper and their implementation in practice (legal guides, regulatory systems maps)
- Build market capacity through **hands-on training for lawyers** from around the world



Examples of NML's Work

- **Methodology on the impact** of regulatory implementation
- **Legal capacity building and training**
- **Legal Guides and Regulatory Systems Maps** to simplify law and regulation on paper and in practice
 - Seed Regulation Example - Tanzania SAGCOT (AGRA/USAID)
- Systemic partnerships and initiatives to address regulatory priorities, tradeoffs, and sequencing
- Set of programs focused on sectors critical to development and heavily regulated
 - Agriculture (standards, seeds, fertilizer)
 - Services (ICT, financial, and transport)
 - Technology (IP)
 - E-Commerce
 - Emerging Industries



The Enabling Environment in Practice

- National frameworks often span a range of instruments, including:
 - Macroeconomic policies (interest rates, foreign exchange controls, exchange rate distortions, inflation, currency devaluation, etc.) and investment policies
 - Subsidies [Nicky will speak about this]
 - Trade measures (tariffs, taxes, import and export measures, border charges, and other non-tariff trade measures)
 - Regulatory requirements for registration of companies and products
 - Quality control and consumer safety rules and standards
 - Laws affecting property and contracts
 - Numerous legal, regulatory, and policy measures that shape the market overall and specific sectors in particular



Law, Regulation, and Policy

- **Laws** (or acts) are frequently established through a parliamentary process and create a framework for governing the market.
- **Regulations** are developed to implement laws, usually through administration action.
 - **Ex-ante** regulation – forward looking and preventative
 - Examples: Consumer protection laws (bans on false advertising); environmental protections
 - **Ex-post** regulation – backward looking and reactive
 - Examples: competition enforcement; contract violations
- **Policy** creates goals and objectives that laws and regulations should aim to accomplish in order to guide stakeholders and government officials. (Not legally binding.)





Link Between the Enabling Environment & Economic Development

- Well functioning national policy, legal, and regulatory frameworks can be a tool for economic development
- **BUT legal and regulatory systems are often incredibly complex**
 - Governments are balancing a number of tradeoffs, including health and safety considerations, environmental considerations, industrial policy and job creation, and consumer protection
 - International trade law and policy impacts how most sectors develop but can be out of touch with market innovation (e.g. new technologies, global value chains)
 - Enabling environment has to balance market and social considerations – the agricultural sector is a good example . . .



Value Chains in SSA & the Fertilizer Market

Joshua Ariga (IFDC)

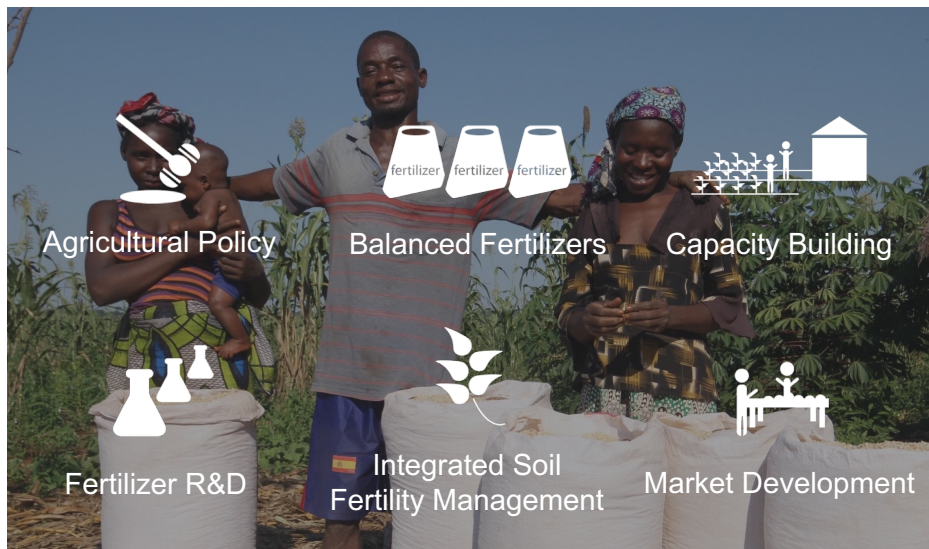


IFDC Capabilities at Headquarters

- International, multi-disciplinary staff and unique facilities suited for conducting a broad range of research activities.
- HQ in Muscle Shoals houses:
 - Research laboratories.
 - Greenhouses.
 - Growth chambers.
 - Bench-scale and pilot-plant units.
 - Training facilities.
 - Technical library.



IFDC Areas of Expertise



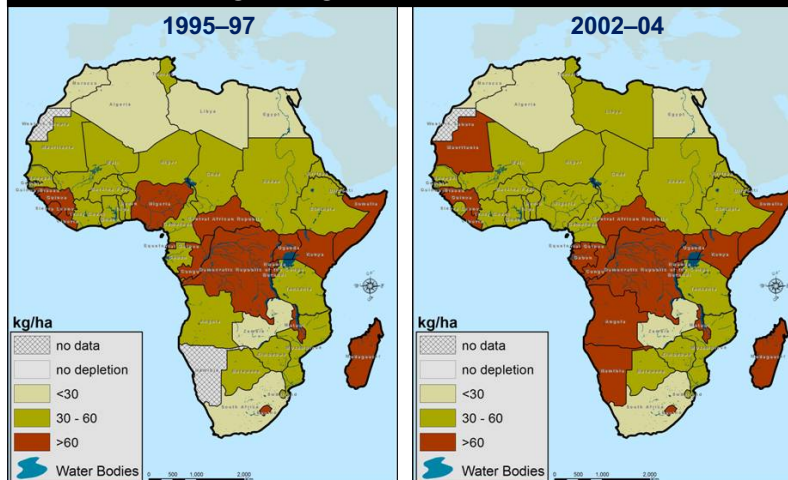


Importance of Agriculture in Africa

- **Agriculture** is a **key economic sector** in Africa: 15% of the GDP (5% to >50%) and 55% of total employment (WB, 2016; FAO, 2015; ILO, 2017)
- **Smallholder farmers** constitute 80% of all farms in Africa (AGRA, 2014), and they are mainly **women** (FAO, 2015)
- Globally, **fertilizer is a key ingredient** for increasing agricultural production:
 - Norman Borlaug: "If the high-yielding [seed] varieties are the catalysts that have ignited the green revolution, then **chemical fertilizer** is the fuel that has powered its forward thrust."
 - Evidence suggests that **no region worldwide has been able to achieve food security without significantly increasing the use of fertilizer** (Africa Fertilizer Summit, 2006).



Nutrient Mining in Agricultural Lands of Africa



Source: Henao, J., and C. Baanante. 2006. Agricultural Production and Soil Nutrient Mining in Africa: Implications for Resource Conservation and Policy Development. IFDC Report.
Note: No recent updates of these maps





Improvement in Crop Yield through Integrated Soil Fertility Management (ISFM) in East Africa

	Farmer's Practice	After 4 Years of ISFM
	Cereal yield (kg/ha)	
Maize	750	2,750
Sorghum	1,000	1,800
Cotton	1,150	2,000
Irrigated rice	3,000	5,500

Source: Henk Breman, IFDC Rwanda Field Office
Note: No profitability analysis conducted



Source: Henk Breman, IFDC Rwanda Field Office



Africa: Other Fertilizer Facts

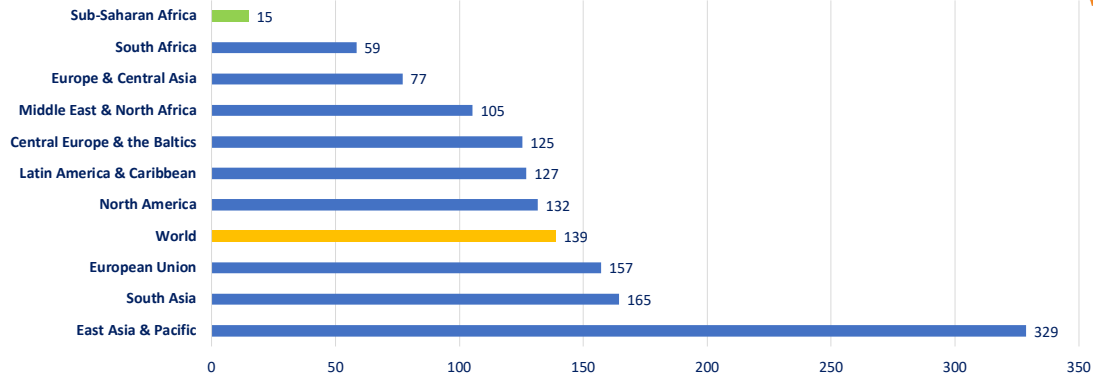
- SSA accounts for >10% of the world's population but < 3% of global fertilizer consumption
 - Fertilizer demand in SSA: **3.7 million metric tons nutrients, or 2% of world demand** (2017)
 - Top 4 (South Africa, Ethiopia, Kenya, and Nigeria) account for 50% of total fertilizer consumption in SSA
- SSA imports >90% of its fertilizer requirements

Source: IFA and FAO





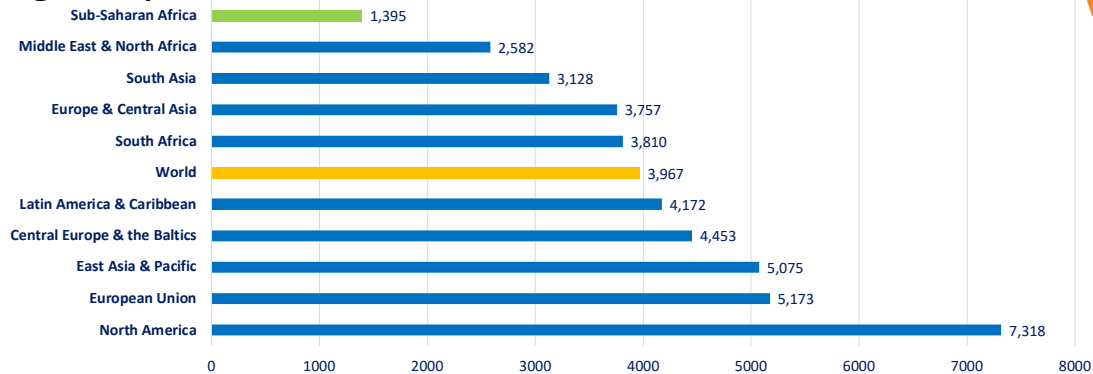
Fertilizer use: SSA vs. other regions - 2015 (kg nutrients/ha arable land)



Source: FAOSTAT via the World Bank <https://data.worldbank.org/indicator/ag.con.fert.zs>



Cereal yields: SSA vs. other regions - 2016 (kg/ha)

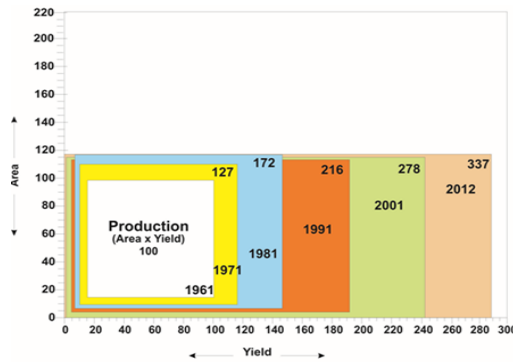


Source: FAOSTAT via the World Bank <https://data.worldbank.org/indicator/AG.YLD.CREL.KG>



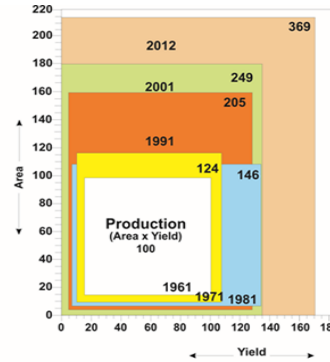


SSA has chiefly relied on area expansion to achieve gains in production



Source: Derived from FAO data

Cereal Production in South Asia, 1961-2012



Source: Derived from FAO data.

Cereal Production in Sub-Saharan Africa, 1961-2012



Flow of Fertilizer from Supplier to Farm-Gate

Physical Flow of Fertilizer

Procurement from overseas fertilizer manufacturers



International shipping



Seaport in coastal country in Africa



Warehousing in port vicinities



Conduct (Coordination)

Functions

Procurement (by tender or negotiation) and financing

Ocean freight

Handling, bagging, inspection, customs clearance

Local transport, unloading, stacking, inventory finance

Performance (Profitability)

Transaction Costs

FOB cost

Freight costs

Port charges

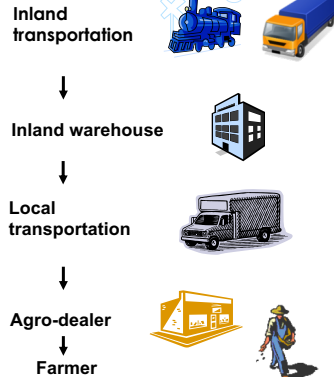
Warehousing costs





Flow of Fertilizer (cont'd)

Physical Flow of Fertilizer



Conduct (Coordination)

Functions

Inland transportation by road or rail

Inland storage

Local transportation by truck or public vehicles

Agro-dealer retails to farmer (sales, rebagging, finance, distribution, information)

Performance (Profitability)

Transaction Costs

Transport costs

Warehousing costs

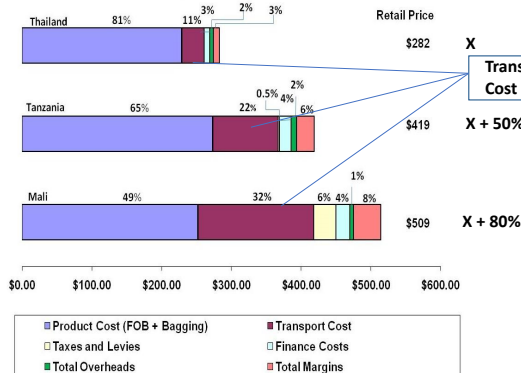
Transport costs

Operating costs

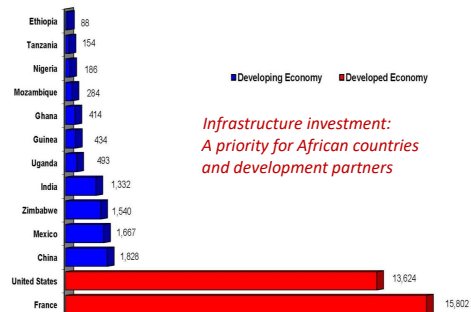


Farm-Gate Fertilizer Price and Road Density

Fertilizer Price Formation



Km of Paved Roads/Million Capita



Infrastructure investment: A priority for African countries and development partners

Source: Chemonics and IFDC (2007)





Policy Reforms & Market Development: The Kenyan Experience

Joshua Ariga (IFDC)



Summary of Kenya policies since 1960

- **1960-2000:**
- **National Food Policy Strategy**
- Mostly geared toward self-sufficiency in cereals, biased toward farmers compared to consumers
- Sessional Papers: 1981, 1994 (reactive)





Kenya Policy Timeline

Time	Reforms	Comments
1960-1980: Immediate post-independence	Government is Solution: <ul style="list-style-type: none"> Market and price control State agencies to implement controls and market 	<ul style="list-style-type: none"> Poor management of state agencies, co-ops, KFA, AFC Rent-seeking
1980-1990: Incipient liberalization	Government under Pressure: <ul style="list-style-type: none"> SAPs urging state divestiture Removal of price controls and trade restrictions Private trade encouraged Piecemeal liberalization: private sector not able to fill the gap 	<ul style="list-style-type: none"> Pressure from donors Famous Washington consensus



Kenya Policy Timeline (cont'd)

Time	Policy	Comments
1990-2000: Rapid liberalization	Government Allows Private Entry: <ul style="list-style-type: none"> Liberalization of maize market, fertilizer trade, exchange rates, private sector participation Multiparty democracy (1992) 	<ul style="list-style-type: none"> State intervention in markets (buying and selling)
2000-2006: Participatory approach	Private + Reactive State Intervention: <ul style="list-style-type: none"> Integrated rural development: roads, extension, poverty, food security issues External partners: encouraged consultation between state, private sector, and civil society. Civil society network grows 	<ul style="list-style-type: none"> Concerted donor pressure Moral strength to local civil societies





Synergies in Promoting Increased Fertilizer Use and Yield: Public Policy and Private Response

Public investments:
1. Rural feeder roads.
2. New maize varieties: Kenya Agricultural Research Institute and private seed firms.

Policy reforms – fertilizer marketing:
1. Price de-controls.
2. Full legalization of private fertilizer trade.
3. Import quotas eliminated. No subsidies (1990-2007).

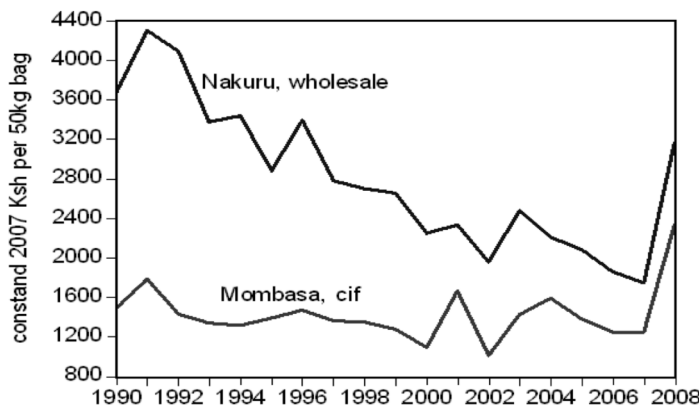
Policy reforms – maize marketing:
1. Price de-controls eliminated in 1993.
2. Barriers to trade eliminated by 1995.
3. NCPB buying centers reduced.

Private sector responses:
1. Expansion in private fertilizer wholesaling and retailing.
2. Reduction in fertilizer marketing costs observed between Mombasa port and farm-gate.
3. Reduction in distance from farms to point of maize sale by private trader.
4. Increase over time in maize/fertilizer price ratios.

Smallholder farmer responses:
1. Rise in the percentage of farmers using fertilizer and hybrid maize seed.
2. Increase in maize yield and maize production.
3. Increase in percentage of farmers selling maize.



Price of Diammonium Phosphate (DAP) in Mombasa and Nakuru



Source: Ariga and Jayne (2009) & Ministry of Agriculture, Kenya

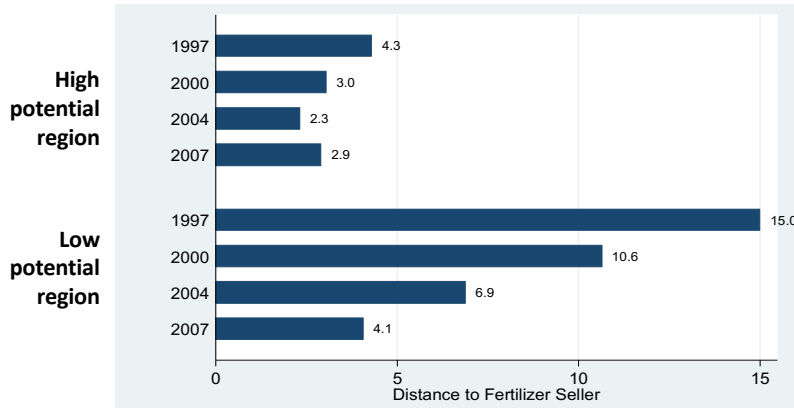


400 miles: 8hrs @ 50mph
Paved road





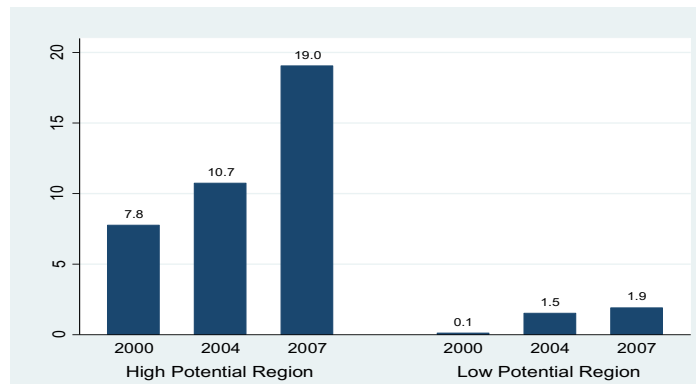
Distance from Farm to Fertilizer Seller (km)



Source: Ariga and Jayne (2009), Using Tegemeo Household Survey Data



Difference in Mean Household Fertilizer Application Rates from 1997 Level

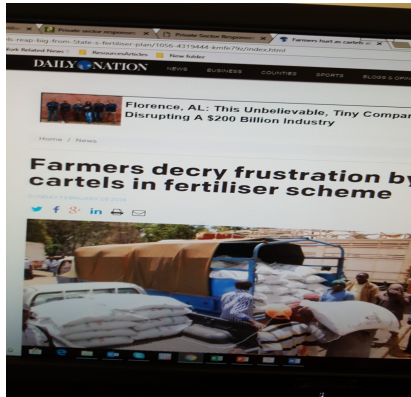


Source: Ariga and Jayne (2009), Using Tegemeo Household Survey Data





NCPB Officials Sacked in Kenya



<https://citizentv.co.ke/news/ncpb-interdicts-22-senior-staff-over-fertiliser-theft-127127/> [Citizen Newspaper]
<https://www.nation.co.ke/news/Cartels-reap-big-from-State-s-fertiliser-plan/1056-4319444-kmf679z/index.html> [Nation Newspaper]



Challenges and Lessons in Policy Process

- Policy process can take a long time (need patience)
- Political nature of the process (be very careful)
- Harmonize views from interest groups
- Get the right publicity
- Make message simple ("help the poor")
- Include the less-advantaged in the process





The Enabling Environment in Practice: Legal, Regulatory, & Policy Reform

Katrin Kuhlmann (NML)



Gaps in the Legal & Regulatory Environment

Information	<ul style="list-style-type: none"> • Enterprise level (many enterprises lack legal resources) • Legal Sector (market rules span jurisdictions and legal systems; areas of law central to development not a focus) • Public Sector (not always aware of market needs)
Market Failures	<ul style="list-style-type: none"> • Markets not always capable of broadly delivering the inputs, goods, and services needed – law and regulation play a central role in addressing gap
Rule of Law	<ul style="list-style-type: none"> • Significant differences exist between laws on the books and laws in practice – this implementation gap not a focus in literature or methodology • Customized approach more conducive to change • Good practices not always widely representative
Scale	<ul style="list-style-type: none"> • Challenges addressed on case-by-case basis without impacting system as a whole

Source: New Markets Lab, 2018



Addressing Information Gap

- **Awareness Building of Legal and Regulatory Systems**
 - Share information on laws and regulations (example: NML Legal Guides, including Fertilizer Legal Guides with AFAP)
 - Provide legal assistance
 - Preparing or interpreting legal documents like contracts
 - Providing transactional legal services to individuals working with and within the agricultural sector
 - Expand training opportunities
 - Farmers need to know their rights and obligations
 - Lawyers need capacity in technical areas of law like agricultural law



Addressing Market Failures Gap

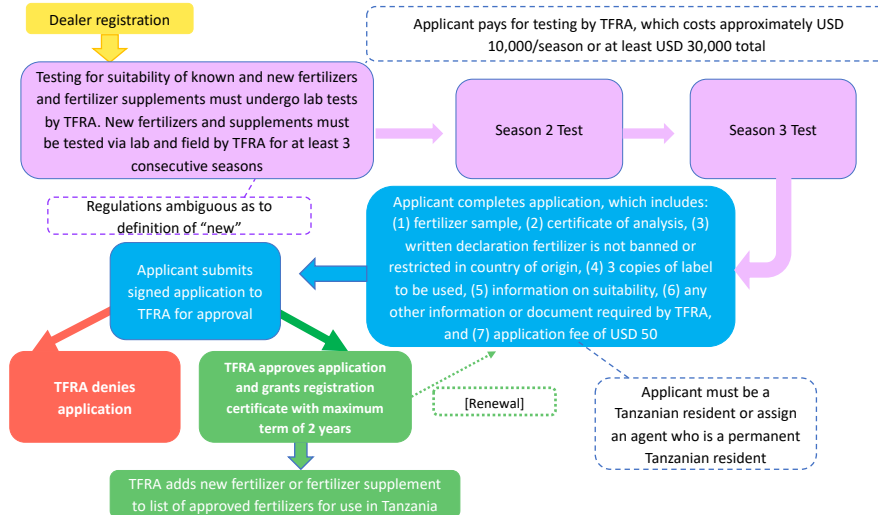
- **Establish an Independent Regulatory Authority** through regulations with the necessary legal authority, skilled staff, and well-equipped laboratories
- Autonomous body that can facilitate stable and predictable regulatory environment and promote alignment with regional and international measures
 - **Example:** The Tanzania Fertilizer Regulatory Authority (TFRA)





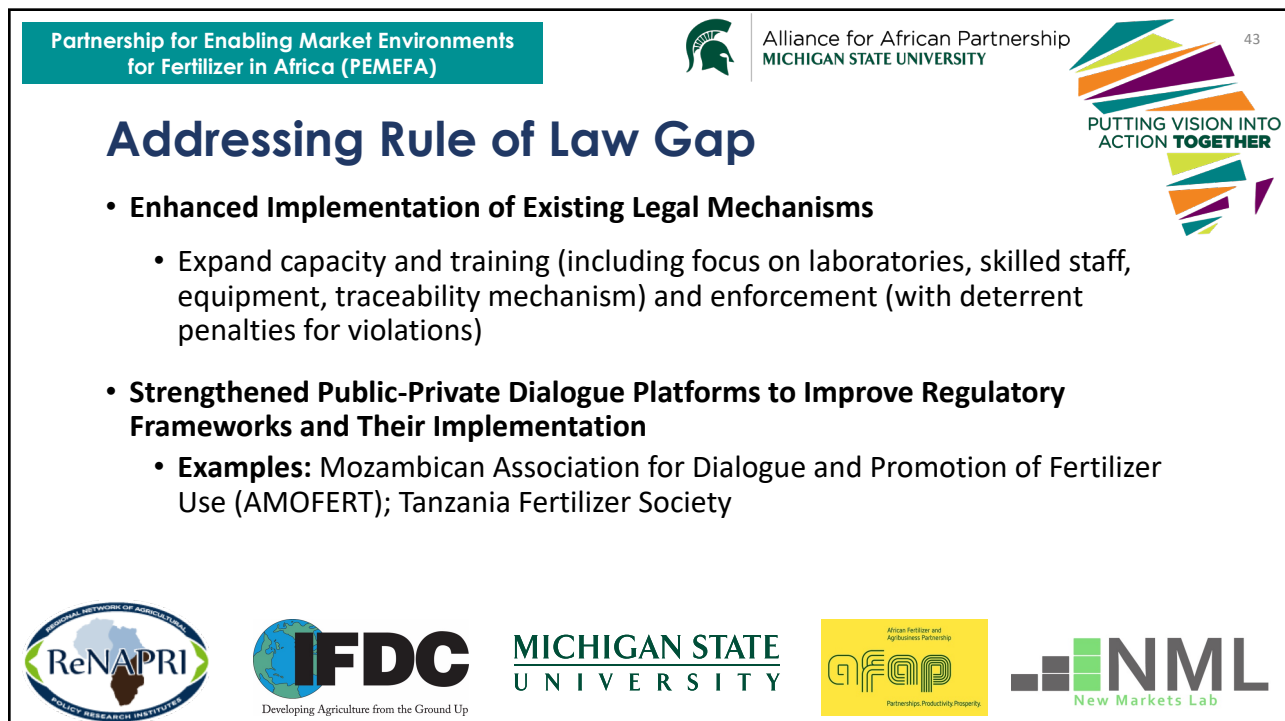
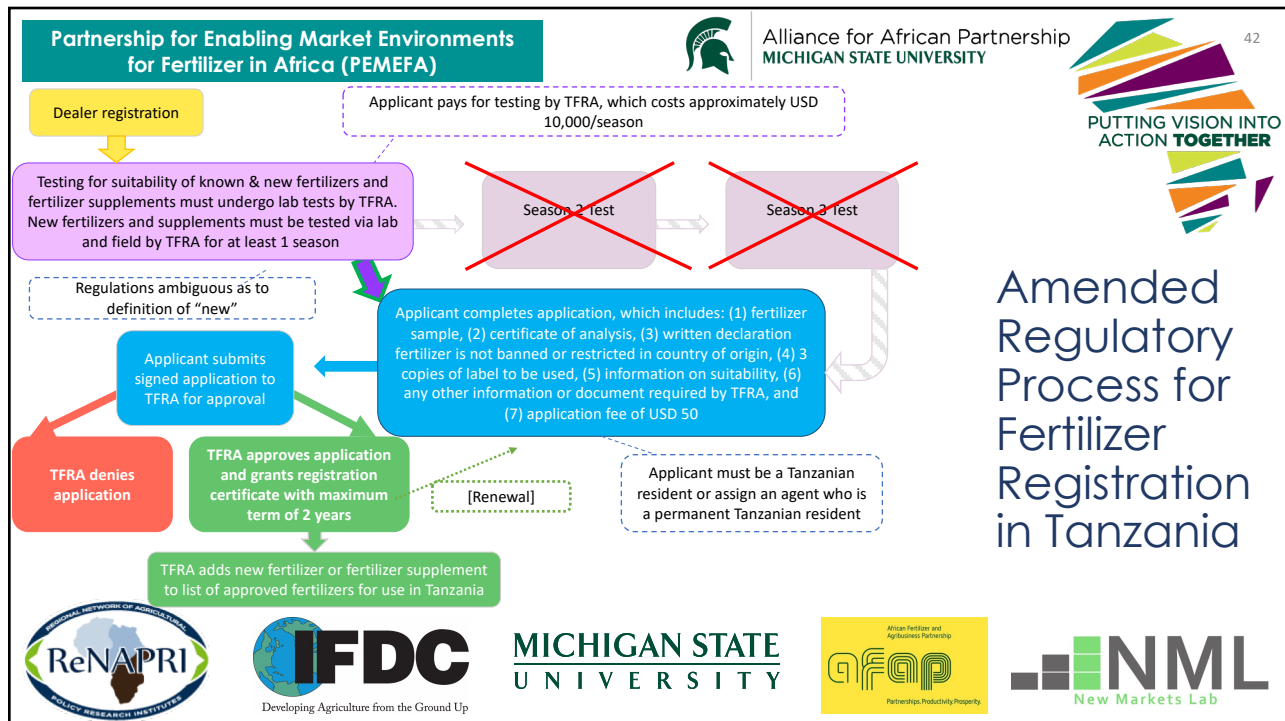
Addressing Market Failures Gap

- **Ex Ante or Ex Post Regulation?**
- **Ex Ante Example: Product Registration**
 - If required, streamline and simplified registration processes by reducing the number of seasons of testing and lowering fees
 - **Example:** Tanzania amended regulations in 2017 (shift from 3 seasons to 1 – see diagrams)
- **Ex Post Example: Truth in Labeling**
 - Companies are required to follow standards and label products appropriately; government focused on enforcement rather than market entry



Prior Regulatory Process for Fertilizer Registration in Tanzania







Addressing the Scale Gap: Regional Harmonization

- **Harmonized Standards and Trade Procedures at Regional Level** – facilitates movement of goods across borders; harmonizes regulatory and enforcement capacities
- Abuja Declaration Calls for Regional Harmonization of Fertilizer
 - AU Member States and Regional Economic Communities (RECs) should take appropriate measures to harmonize across multiple sectors
 - Focus on ensuring duty and tax-free movement across regions
- Continental Free Trade Area (CFTA) and Tripartite Free Trade Area (TFTA)
 - CFTA launched this March
 - TFTA includes three RECs: the East African Community (EAC), the Southern African Development Community (SADC), and the Common Market for Eastern and Southern Africa (COMESA)



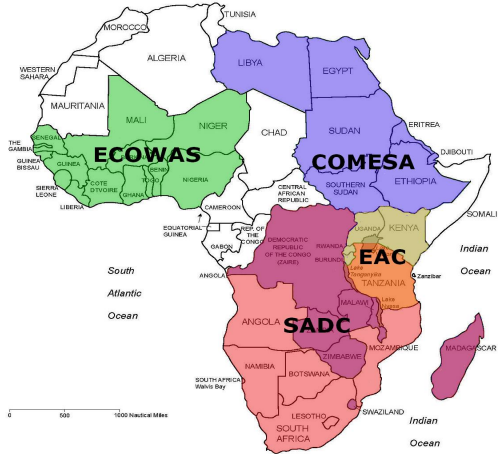
Good Practices for Regional Harmonization

- National level action is critical – domestication processes may vary (civil v. common law systems)
- Consider sequencing of regulatory interventions
- Promote “Low Hanging Fruit” reforms
- Establish common methodology and indicators to measure progress
- Tailor capacity building to needs of individual member countries
- Listen to private sector and civil society voices





Composition of ECOWAS, COMESA, EAC, and SADC



Regional Harmonization of Fertilizer

- COMESA Developing Harmonized Frameworks
- EAC Harmonized Regulatory Instruments and Procedures for Fertilizer Market Under Development
- SADC Regional Agricultural Policy (RAP)
 - Policy not specific to fertilizer
 - No separate framework for fertilizer exists
- Economic Community of West African States (ECOWAS) Regulation Relating to Fertilizer Quality Control in the ECOWAS Region





Example: ECOWAS Harmonized Regulations

- Streamlined Product Registration (ECOWAS – Product Registration Not Required; Truth-in-Labeling)
- Institutional Cooperation
- Free Movement (including blends; way to meet market needs)
- Standard Quality Definitions and Labeling Requirements
 - IFDC contributed to work on sampling and testing
- Harmonized Inspection and Analysis
- Common Licenses for Fertilizer Producers and Traders
- Shared Laboratory Resources
- Quality control measures and penalties



Sequencing: Short-Term v. Long-Term Regional Harmonization Interventions

Short term	Long term
<ul style="list-style-type: none"> • Establishment of National Entities responsible for sector regulation • Clarity on Product and Business Registration and Licensing Rules • Tariff and Customs Duties • List of Approved Vendors & Products • Packaging and Labeling • Harmonized Regional Quality Control (Including Inspection) • Uniform Standards • Raising Awareness of Laws and Regulations 	<ul style="list-style-type: none"> • Shift to ex-post system • Free movement across borders • Regional Inspection, Analysis, Sampling, and Tolerance • Oversight and administration • Right to Appeal and Confidentiality

Source: New Markets Lab, 2018





Fertilizer subsidy programs and private sector investment in fertilizer value chains: Evidence from SSA

Nicole Mason (Michigan State University)



Fertilizer subsidy programs in SSA

- *What is a fertilizer subsidy program (FSP)?*
- Popular policy tool for decades
- Up through 1970s/1980s: typically **universal**; distributed at **gov't depots**
- Scaled back/abolished in 1980s/1990s due to **high costs** and **inefficiencies**
- **Resurgence in popularity** since the early 2000s
- *Some* attempts to make FSPs **"smarter"/more private sector-friendly**
 - **Targeted** subsidies instead of universal
 - **Greater involvement of private sector** fertilizer importers and retailers



Still popular today. Heavy gov't expenditure, major press coverage, mixed results.

Ending Famine, Simply by Ignoring the Experts
 By CELIA W. DUGGER DEC. 2, 2007
The New York Times



The secret of Malawi's success: heavy subsidies for fertilizer, farmers say. The World Bank had pressed for their elimination. Evelyn Hockstain for The New York Times

Lost in the maize Jul 1st 2017 | LUSAKA
Why fertiliser subsidies in Africa have not worked
 Good intentions, poor results
The Economist



Alamy

Partnership for Enabling Market Environments for Fertilizer in Africa (PEMEFA)

Alliance for African Partnership MICHIGAN STATE UNIVERSITY



How have FSPs affected private investment in fertilizer value chains?

- If FSPs generate a **sustained ↑ in demand** for fertilizer at commercial (unsubsidized) prices, **could ↑ incentives for private investment**
- **Empirical evidence?**
 - **Most studies** (8 of 10) suggest **FSPs ↓ commercial demand ("crowding out")**
 - EX) Zambia, Malawi, Kenya, Nigeria (main gov't program in 2000s)
 - But **2 cases of FSPs ↑ commercial demand ("crowding in")**
 - EX) Tanzania, Nigeria (pilot program in Kano State 2009-2011)
 - Caveat: current period effects (above studies) vs. longer-term effects





What explains **crowding out** of commercial fertilizer demand by FSPs?

- Significant share of FSP fertilizer targeted to farm HHs that **would have purchased fertilizer at market prices even without the subsidy**
- These tend to be:
 - HHs with **more land** or other **assets**
 - **Male-headed** HHs
- With one exception, all FSPs with crowding out only **minimally involved the private sector**



Sources: See crowding in/out references



What explains **crowding in** of commercial fertilizer demand by FSPs?

- **Both Tanzania (National Agricultural Input Voucher Scheme – NAIVS) & Nigeria (Kano State Voucher Program – KSVP):**
 - Utilized **vouchers redeemable at private sector** retailers' shops
- **Tanzania/NAIVS:**
 - Did good job of **targeting HHs that hadn't used fertilizer** on maize or rice in the last 5 years (75% of beneficiaries)
- **Nigeria/KSVP:**
 - Subsidy for 3 X 50-kg bags. **Not enough to meet full demand** → farmers purchase the rest at market price at agrodealer?
 - Input suppliers required to be **physically present** in local gov't areas
 - Pilot program **closely monitored** by IFDC



Sources:
Mather & Minde (2016),
Liverpool-Tasie (2014)



Implications for FSP design

- It may be possible to **reduce crowding out** of commercial fertilizer demand by targeting:
 - HHs that **cannot afford or have not used fertilizer** at the market price
 - HHs with **less land or other assets** (but enough to use the inputs)
 - **Female-headed** HHs
- **Crowding-in** of commercial fertilizer demand appears more likely when:
 - The FSP **uses vouchers redeemable at private retailers' shops**
 - **Incentives are provided to retailers** to locate closer to farmers
 - Subsidized fertilizer **quantities are less than full amount needed** by farmers



Supply-side effects of FSPs

- **Far less rigorous empirical evidence** than demand-side effects
- Mostly **anecdotal** evidence and **descriptive** studies
- Exception: Study on how the **Malawi Farm Input Subsidy Program** (FISP) affects private sector fertilizer sales (Kaiyatsa et al. 2017)





How did allowing select large-scale distributors and affiliated retailers in select districts (9 of 28) to accept FISP fertilizer vouchers in 2015/16 affect fertilizer sales?

- No effect on **commercial** sales of large-scale distributors/retailers in pilot districts (participants & non-participants)
- **↑ Subsidized** fertilizer sales of participating firms by 299 MT/retailer
- **↓ Commercial** fertilizer sales of independent agro-dealers in pilot districts (excluded from program) by 28 MT/agro-dealer

→ Overall: 1 MT of sub. fert. sold → 0.14 MT ↓ in commercial fert. sales

Source: Kaiyatsa et al. (2017)



3 insights from descriptive studies on FSPs and private sector involvement and investment

1. *FSPs that have the private sector (and not gov't) handle importation/procurement, distribution, and retailing of fertilizer for FSPs have the potential to stimulate private sector investment in fertilizer value chains*

EX) **Tanzania/NAIVS** → sustained, predictable ↑ in fertilizer demand

→ Importers/distributors invest in new storage/distribution warehouses

→ Agro-dealers shift from renting to purchasing shops

→ More agro-dealers in operation and more delivery of inputs to villages

(Mather et al. 2016)





3 insights from descriptive studies on FSPs and private sector involvement and investment

2. *Involving the private sector in the handling of fertilizer for FSPs can also reduce program costs*

Profit motive of private firms often leads to greater efficiency, less waste, and reduced bureaucracy relative to more government-centric programs

(SOAS et al. 2008; Chirwa & Dorward 2013; Kuteya et al. 2016; Kuteya & Chapoto 2017)



3 insights from descriptive studies on FSPs and private sector involvement and investment

3. *Trust between gov't and private sector actors is paramount for sustained involvement of the private sector in FSPs, and to the development of private sector fertilizer markets more broadly.*

Trust is easily eroded and difficult to rebuild.

EX) Delayed payments (Ghana, Malawi, Tanzania, Zambia) and last minute decisions to exclude private sector retailers (Malawi in 2008)

(SOAS et al. 2008; Kelly et al. 2010; Chirwa & Dorward 2013; Mather 2016; Musonda 2008)

EX) Opaque tendering processes for FSP fertilizer, and allegations of corruption and politically-motivated awarding of tenders (Zambia, Nigeria)

(Wanzala-Mlobela et al. 2013; Resnick & Mason 2016)





Concluding Remarks

Katrin Kuhlmann (NML)



What Works?

- Our PEMEFA team has been scouring the literature for **empirical evidence on what works/doesn't re: enabling environments** for private sector investment in fertilizer value chains
- Most literature is on **subsidy programs** (but gaps on **supply-side effects**)
- There are some **generally accepted broad principles on best practices for fertilizer policies, laws, and regulations, but very little empirical evidence** that moving toward these best practices actually improves smallholder farmers' access to affordable, good quality fertilizers
- **Next phase** of our project will aim to **fill some of these knowledge gaps**
- ***We are seeking more collaborators, so if this interests you, please let us know!***





Thank you! Questions?

Acknowledgements

- MSU Alliance for African Partnership
- AU WCL Law and International Development Society

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This presentation was funded by a grant from the Alliance for African Partnership, a new, innovative initiative at MSU that seeks to develop a collaborative and cross-disciplinary platform for addressing today's global challenges.



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