

# An Overview of the Malawi and Zambia Input Subsidy Programs

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Lessons Learned and Emerging Perspectives on Subsidy Programs”

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## Context

- ▶ Adoption of SAPs in the 1980s led to phasing out of ISPs and increased participation of private sector in the agro-input markets in most countries of SSA (Kelly et al., 2003; Gregory and Bumb, 2006).
  - ▶ 1970s ISPs: universal and benefits spread beyond target groups
- ▶ ISPs were re-introduced because input markets in most countries of SSA remain underdeveloped, despite the greater involvement of the private sector in 2000s (Gregory and Bumb, 2006, Kaiyatsa et al., 2017).
  - ▶ 2000s ISPs embrace new institutions and improved implementation strategies that can promote private sector development and target intended beneficiaries.

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## Context (cont'd)

- ▶ Malawi's national scale Farm Input Subsidy Program (FISP) has been heralded as an "African green revolution" success story.
  - ▶ This program was developed in response to long-term recurring food shortages, following the 2005 poor harvest.
- ▶ It was widely accepted that maize production and yields significantly improved in 2006 relative to 2005
- ▶ This success story certainly influenced global development agencies to increase support for agricultural input subsidies.
  - ▶ Tanzania, Kenya and Rwanda followed suit and implemented some forms of ISP.
- ▶ By 2010, at least 10 African countries accounting for more than half of the region's population had adopted ISPs to raise agricultural productivity.
- ▶ However, Malawi's production miracle appears, in part, to be a myth.
  - ▶ 2007 maize yield was overestimated by at least 25-30% due to a simple data error in area harvested promulgated by FAOSTAT.

See Messina et al. (2017) for further details.

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## Evolution of Malawi's ISPs since the late 1990s

1. **1998/99 – 1999/00: Starter Pack Scheme (SPS) implemented through the Ministry of Agriculture and Irrigation**
  - ▶ Free distribution of inputs to plant 0.1 hectares of land:- cereals and legumes seeds, and fertilizers
  - ▶ Fertilizers were sourced from SFFRFM, ADMARC and private firms. Maize and legume seed were sourced from private firms.
  - ▶ Farmers were registered by field assistants in each Extension Planning Areas
  - ▶ Farmers accessed the SPS inputs through ADMARC depots
  - ▶ 1999 SPS had a pilot scheme to distribute 50,000 packs through existing private sector outlets by means of "Flexi-Voucher" redemption at a value of MK450.
  - ▶ Selected beneficiary farmers get 10 -15 kg of fertilizer, 2kg of hybrid maize seed, and 1kg of legume seed
2. **2000/01-2004/05: Targeted Input Program (TIP)**
  - ▶ Free distribution of inputs to plant 0.1 hectares of land:- cereals and legumes seeds, and fertilizers
  - ▶ Universal use of a voucher system and Farmers were targeted.
  - ▶ Supply of fertilizer through competitive tender while seed through open tender
  - ▶ Selected beneficiary farmers get 10 kg of fertilizer, 2kg of hybrid maize seed, and 1kg of legume seed
  - ▶ 2002 and 2003 TIP distributed free inputs during the winter.
  - ▶ 2004 pack in 2004 was increased. Each beneficiary received 25kg of fertilizer, 5kg of seed and 1kg of legume seed

Source: Logistic Unit Reports (1998 – 2004/05).

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## Evolution of Malawi's ISPs since the late 1990s

### 3. 2005/06:- Farm Input Subsidy Program (FISP)

- ▶ A voucher system was used.
- ▶ Selected beneficiary get 100 kg of fertilizer, 5kg of hybrid maize seed, and 2/3kg of legume seed
- ▶ Voucher redeemed at MK950/50kg of maize fertilizer and MK1,450/50kg of tobacco fertilizer at ADMARC and SFFRFM unit markets.
- ▶ Some vouchers were issued for fertilizer to be used in growing cash crops (cotton, tobacco, tea, coffee)

### 4. 2006/07-2007/08: FISP

- ▶ Major distributors and cooperatives were allowed to accept fertilizer vouchers from smallholder farmers whereas small-scale agro-dealers were excluded.
- ▶ 2007/08 FISP, the farmer's contribution to the cost of the fertilizer was reduced from MK950 per 50kg bag to MK900 per 50kg bag of maize fertilizer
- ▶ The government introduced flexi-vouchers for maize seed to develop the seed supply of alternative crops.

Source: Dorward et al., 2008; Logistic Unit Reports (2006/07-2007/08).

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## Evolution of Malawi's ISPs since the late 1990s

### 5. 2008/09-2014/15: FISP

- ▶ Government withdraw the private sector from participating the retail sale of subsidized fertilizers.
- ▶ 2008/09, farmer's contribution to the cost of the fertilizer was reduced from MK900 per 50kg bag to MK800 per 50kg bag of maize fertilizer
- ▶ 2009/10 farmer's contribution to the cost of the fertilizer was reduced from MK800 per 50kg bag to MK500 per 50kg bag of maize fertilizer
- ▶ No vouchers were issued for fertilizer to be used in growing cash crops (cotton, tobacco, tea, coffee)
- ▶ E-Voucher pilot scheme was implemented in 2013/14 for seed only in one EPA in each of six districts.

### 6. 2015/16-2016/17: FISP

- ▶ Private sector was re-introduced in the distribution and retail of subsidized fertilizer in 9 districts on a pilot basis.
- ▶ Farmers' contribution to the FISP fertiliser was increased to MK 3,500/50kg bag of maize fertilizer.
- ▶ Central selection of beneficiaries to address biasedness at village level
- ▶ Rolling out of non-repetitive selection of beneficiaries

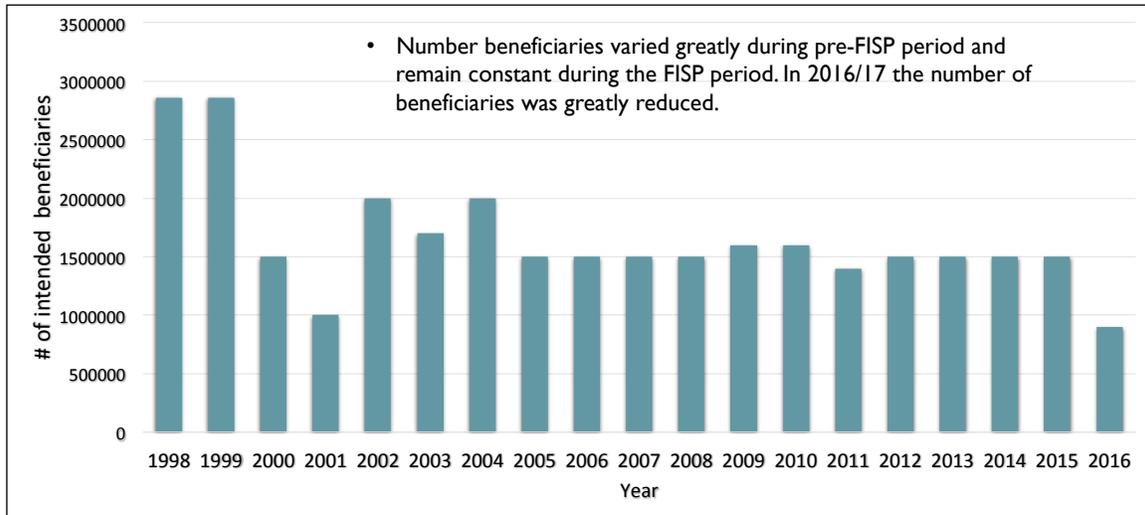
### 7. 2016/17: FISP

- ▶ Government extended involvement of distributors to all districts whereas ADMARC/SFFRFM served hard-to-reach markets.
- ▶ Government's fixed its contribution to MK15000/50kg bag of maize fertilizer and allowed farmers' contribution to vary.
- ▶ Government piloted targeting of productive farmers in Rumphi and Dowa Districts

Source: Logistic Unit Reports (2008/09-2016/17).

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## SPS, TIP & FISP number of beneficiaries



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## Objectives of the Malawi FISP

- ▶ To achieve food self-sufficiency and increased income of resource poor households through
  - ▶ increased access to improved farm inputs and
  - ▶ adoption of improved technologies in maize and legume production systems

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## Selection criteria for 2005/06 vs 2016/17 FISP beneficiaries

2005/06 FISP	2016/17 FISP
Target resource-poor farmers who are resident in the village	
Have own land/has ability to access 0.4ha land	
Ability to utilize the inputs	
Not employed	
Be registered with Ministry of Agriculture	
<p><b>Special considerations:</b></p> <ul style="list-style-type: none"> <li>? To guardians looking after physically challenged persons and vulnerable groups</li> <li>? Female-headed or orphan-headed households; and</li> <li>? Households affected by HIV and AIDS.</li> </ul>	<p><b>Special considerations:</b></p> <ul style="list-style-type: none"> <li>? Yield levels, and</li> <li>? past history               <ul style="list-style-type: none"> <li>a) not selling coupons/inputs, and</li> <li>b) ability to take care of the fields)</li> </ul> </li> </ul>
<p><b>Distribution of coupons:</b></p> <ul style="list-style-type: none"> <li>? MoA distributed coupons to districts and then T/As</li> <li>? T/As were supposed to allocate coupons between villages, delivering them to VDCs</li> <li>? Village Development Committees (VDCs) identified recipients to receive coupons which could be redeemed for fertilizer.</li> </ul>	<p><b>Distribution of coupons:</b></p> <ul style="list-style-type: none"> <li>? MoA distribute coupons to districts and then (TAs).</li> <li>? TAs deliver coupons to VDCs</li> <li>? VDCs distribute vouchers to identified coupons by MoA which could be redeemed for fertilizers.</li> </ul>

## What drove FISP reforms?

- ▶ Programme has faced number of challenges since 2005.
  - ▶ Range from coordination, technical, effectiveness and sustainability.
    - ▶ effectiveness of the programme tends to be affected by ineffective targeting, dilution of the package through sharing and inefficiencies in the application of fertilisers
    - ▶ lacks sustainability considering that smallholders farmers receiving the subsidy have not graduated and most do not achieve the desired increased production in maize and legumes
  - ▶ Inefficient administration, ineffective targeting, delayed registration and coupon distribution and high overall cost of the programme.
  - ▶ Smallholder farmers have not acquired resilience as evidenced by persistent food shortages in some parts of the country.
  - ▶ Only those farm households that are commercial and able to top up the package are able to benefit.

## Changes in Malawi's ISP implementation and impact on private sector development and maize output

Tendering process for FSP inputs	Fertilizer supply to FISP	Private sector networks	Targeting	Engagement of private sector in ISPs	Commercial Fertilizer retail	Maize production
Poor and lack transparency-late orders increase the costs of importing fertilizer.	Increased involvement of the private sector in importation of fertilizer.	Average number of smaller-scale agro-dealers increased by 15% between 2005/06 and 2008/09.  Average number of larger-scale distributors increased by 3% between 2005/06 and 2008/09.	Poor: - Less poor farmers access subsidized inputs.	Inclusion of the private sector ease the problems of accessibility, lengthy queues, and tipping.  It increases the total fertilizer sales, due to an increase in subsidized fertilizer sales.	Involvement of the private sector in the distribution and retail sale of subsidized fertilizer does not affect their quantity of commercial fertilizer sales.	The 2005/06 FISP raised maize production by 0.25 million Mt greater than the previous highest estimated harvest of 1999/2000 (2.5 million), "Malawi Miracle"  There was lower maize prices in the 2006/07 season and higher wage rates.
increased number of private sector bidders interested in procuring fertilizers and the number of awards to supply the fertilizers to FISP	Delays in reimbursing the private sector.	Private sector expanded its participation in subsidized fertilizer sales and developed innovative partnerships with agro-dealers in 2007/08 season	Crowd-out commercial fertilizer purchase from private input suppliers.  Magnitude of crowding out is 18kg for every 100kg of ISP fertilizer.	Fertilizer coupons were being exchanged for different inputs and non-farm items in some of the private sector outlets.	Exclusion of smaller-scale agro-dealers from participating in the FISP program reduce their commercial fertilizer sales.	Modest impact at household level. 165 kg of maize from a 100 kg of ISP fertilizer
	Withdraw of the private sector in 2008/09 from participating in retailing of subsidized fertilizer in 2008/09 reduced fertilizer importation by 21%	Limited penetration of the private sector to the rural areas,		The private sector was withdrawn without being consulted by government through their association, Fertilizer Association of Malawi. Available commercial fertilizer for sale reduced by 25% in 2009/10 season.		

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## Evolution of Zambia's ISPs

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## Evolution of Zambia's ISPs since the late 1990s (1)

### 1. 1997/98-2001/02:

#### Fertilizer credit program implemented through the Food Reserve Agency

- ▶ Farmers pay roughly **10% cash down payment** at planting; 90% balance due at harvest
- ▶ Not a subsidy program per se but **very high default rate** (e.g. 65% in 1999/2000)
- ▶ Defaulting beneficiaries got fertilizer at a 90% subsidy (only paid 10% down payment)

### 2. 2002/03-2008/09: Fertilizer Support Program (FSP)

- ▶ **Cash-based** program (no more credit)
- ▶ **Implemented through selected farmer cooperatives**; private sector retailers NOT involved; private importers and NCZ import/produce fertilizer and deliver it to the district level (tender); contracted private transporters deliver it to cooperatives (tender)
- ▶ Selected beneficiary farmers get **400 kg of fertilizer** and **20 kg of hybrid maize seed**
- ▶ **Subsidy rate** ranged from 50-75% for fertilizer, and 50-60% for seed

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## Evolution of Zambia's ISPs since the late 1990s (2)

### 3. 2009/10-2014/15: (Traditional) Farmer Input Support Program (FISP)

- ▶ Similar to FSP but **pack halved** to 200 kg of fertilizer and 10 kg of hybrid maize seed
- ▶ **Very small quantities of seed for other crops** (rice, sorghum, and groundnuts) included beginning in 2012/13. Farmers can only get inputs for one crop.
- ▶ Involvement **extended to include farmer organizations in general** (not just farmer cooperatives); still had to be selected

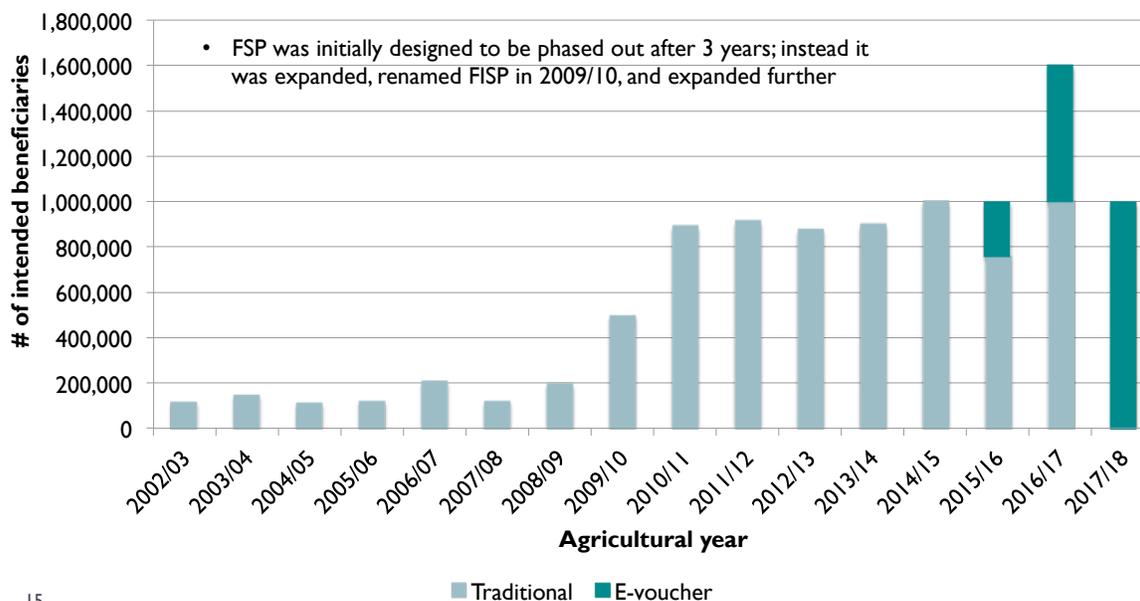
### 4. 2015/16-2016/17: Piloting of the FISP (flexible) e-voucher

- ▶ **13** districts in **2015/16**, **39** districts in **2016/17**
- ▶ **Pre-paid Visa card** redeemable at participating registered agro-dealers/input suppliers
- ▶ **E-voucher worth K2100 (US\$210)** = K400 farmer contribution + K1700 gov't contribution
- ▶ **Flexible**: redeemable for crop, livestock, and fisheries inputs or equipment (not just maize seed & fertilizer)

### 5. 2017/18: FISP e-voucher program implemented nationwide

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## Zambia FSP & FISP # of intended beneficiaries, 2002/03-2017/18



## Objectives of the Zambia traditional FISP

### ► **Overall objective:**

- “**Improve the supply and delivery of agricultural inputs to small-scale farmers** through sustainable private sector participation at affordable cost, in order to **increase household food security and incomes**”

### ► **Specific objectives:**

1. “**Expand markets for private sector input suppliers/dealers** and increase their involvement in the distribution of agricultural inputs in rural areas, which will reduce the direct involvement of Government”
2. “**Ensure timely, effective and adequate supply** of agricultural inputs to targeted small-scale farmers”
3. “**Improve access of small-scale farmers to agricultural inputs**”
4. “**Ensure competitiveness and transparency** in the supply and distribution of inputs”
5. “Serve as a **risk-sharing mechanism** for small-scale farmers to cover part of the cost of **improving agricultural productivity**”

Source: Ministry of Agriculture 2016, 2016/17 FISP implementation manual (p. 3). Note: Wording is very similar in previous years of FISP (2009/10-2015/16).

## Objectives of the Zambia FISP e-voucher

▶ Same as the objectives of the traditional FISP, plus the FISP e-voucher was intended to:



1. **“Further increase private sector participation** and hence reduce government participation in agricultural input marketing”
2. **“Ensure timely access to inputs** by smallholder farmers”
3. **“Further improve beneficiary targeting”**
4. **“Promote agricultural diversification”**

Source: Ministry of Agriculture 2016. 2016/17 FISP e-voucher implementation manual (p. 1). Note: Wording is identical for 2015/16 FISP e-voucher.

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## Selection criteria for farmer beneficiaries (2016/17)

Traditional FISP	FISP e-voucher
Be a member of a selected, registered farmer organization	
Be registered with the Ministry of Agriculture	
Cultivate 5 ha of land or less	Cultivate 0.5 to 2 ha of land
Have the capacity to pay the farmer contribution (K400 in both cases)	
Not be a Food Security Pack beneficiary	Raise a certain number of livestock (2-10 cattle, 5-30 pigs or goats, 20-100 chickens, or 1-2 fish ponds)
Not be a defaulter from pre-FISP fertilizer credit program	

- ▶ Farmer organizations tentatively select which of their members should receive FISP based on the above criteria → share list with Camp Agricultural Committee (CAC)
- ▶ CAC then reviews and approves the list

Source: Ministry of Agriculture 2016. 2016/17 FISP implementation manuals (traditional and e-voucher)

Note: For traditional FISP, minimum area requirement of 0.5 ha of maize 2009/10-2011/12; cultivate 1 ha of land minimum in 2012/13; no minimum from 2014/15 onward.

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## What drove the shift to the FISP e-voucher in Zambia?

1. **Challenges with traditional FISP (anecdotal & empirical evidence)**
  - ▶ Diversion and resale of inputs
  - ▶ Poor targeting and leakage to farmers that don't meet selection criteria
  - ▶ Late delivery of inputs
  - ▶ Failure to build private sector networks
  - ▶ Expensive
  - ▶ Maize-centric
2. **Perception that e-voucher could help address some of these challenges**
3. **Mounting evidence that e-voucher approach was feasible in Zambia**
  - ▶ E.g., Zoona w/ Conservation Farming Unit and Expanded Food Security Pack Program
  - ▶ Zambia National Farmers Union pre-paid Visa card platform for its Lima Credit Scheme

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Source: Resnick &amp; Mason (2016)

## What drove the shift to the FISP e-voucher in Zambia?

4. **Powerful advocacy coalition pushing for e-voucher**
  - ▶ Indaba Agricultural Policy Research Institute (research), Ag. Consultative Forum (advocacy)
  - ▶ Zambia National Farmers' Union, Conservation Farmer Unit
  - ▶ Donor community / Cooperating Partners
  - ▶ Civil society organizations
5. **MAL technocrats opposed to e-voucher leave in 2014**
6. **Diversifying input subsidies away from maize part of PF platform**
7. **New Minister of Ag. in 2015 (appointed after Pres. Lungu elected)**
  - ▶ Background in agricultural economics; perceived to be more open to research and other orgs
  - ▶ Call for Indabas in March & May 2015 with diverse stakeholders to work out details of pilot
8. **Needed budget resources available:** Min. of Finance and donor funding

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Source: Resnick &amp; Mason (2016)

## Changes in Zambia's ISP & Impact on private sector development and maize output

Tendering process for FSP inputs	Fertilizer supply to FISP	Private sector networks	Targeting	Maize production
Late announcement of the size and scope of the FSP program each year: private companies limit their own distribution plans to avoid the risk of being displaced by the FSP	Limited number of private sector involved in importation of fertilizer.	2002 FSP led to establishment of many and stronger private sector networks across the country.	Poor: Less poor farmers access subsidized inputs.	Increase in the production of maize at the national level.
Limited number of private sector firms involved in procuring fertilizers to supply to the program.	Late payments to FSP suppliers which make private companies to suspend the release of subsidized fertilizers.	Development of the private sector networks was dependent upon local conditions leading to increased involvement of the private sector in areas with high agricultural potential	Crowd-out commercial fertilizer purchase from private input suppliers. Magnitude of crowding out is 13 kg for every 100kg of ISP fertilizer.	Modest impact at household level. 188 kg of maize from a 100 kg of ISP fertilizer
		Many rural areas have no access to private sector outlets to purchase fertilizers.	Crowding-in in areas with low private sector commercial retailing activity.	

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## Implications for policy reform for an effective private sector development

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## Implications for policy reform for an effective private sector development

- ▶ Government's ad hoc decisions in the input markets is one of the challenges undermining private sector investment in agro-input markets in the region. These decisions are made with little or no consultation with the private sector; but the impacts on the input supply system are quite devastating.
  - ▶ E.g. Private sector was not consulted during the 2008/09 withdraw despite existence of Fertilizer Association of Malawi (FAM) in Malawi,
- ▶ In order to promote growth of the private sector in agro-input markets, there is need for government to consult the private sector on any changes that may affect their farm inputs businesses before onset of each agricultural season.
  - ▶ Consultations can be done through in-country associations such as FAM.

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## Implications for policy reform for an effective private sector development

- ▶ Further, there is need to establish a private-public sector Fertilizer Forum in the region that brings together manufacturers, importers, distributors, agro-dealers, associations, bankers, representatives of farmers' organisations, policy makers, development partners, and other public entities to act as a consultative, technical and business development platform for both private and public sector stakeholders (USAID, 2012).
- ▶ This Forum can take a leading role to ensure harmonization of fertilizer policies among member states that allow for free entry of fertilizer between countries and acceptance of fertilizer compounds and shipments that have been approved or inspected by a member country as is the case with seed policy harmonization in the region (Rindler, 2012).
  - ▶ This will reduce transaction costs and increase investment in local manufacturing of fertilizers. At a later stage, this Fertilizer Forum may lead to formation of the SADC Fertilizer Trade Association to oversee issues affecting agro-inputs markets in the region.

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## Implications for policy reform for an effective private sector development

- ▶ Fertilizer is expensive and is traded in small volumes on low margins. Late payments by the government to participating private input suppliers is another challenge that discourage agro-input dealers from continuing to participate in ISPs. Payments can be delayed by six months or longer which constrain firms' ability to manage working capital.
- ▶ It is widely accepted that when subsidy inputs are distributed through the private sector, beneficiaries may get the inputs on time. Therefore, program design should support private sector participation in sourcing, supply and distribution of ISPs inputs.
  - ▶ For instance, the government can collaborate with local commercial banks to create credit guarantee funds which the private sector can access to import fertilizers as it is working in Ghana and Kenya (Rindler, 2012).

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## Implications for policy reform for an effective private sector development

- ▶ In addition, smaller-scale agro-dealers who get crowded out when they are excluded in the distribution of ISP inputs to farmers should be protected to keep them in business.
- ▶ This can be done by linking potential agro-dealers to distributors with clear roles.
  - ▶ The larger-scale distributors would take a leading role in training agro-dealers who may act as agents for distributors in the distribution of ISP inputs to remote rural areas as it is working in Tanzania.

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## Thank you!!!

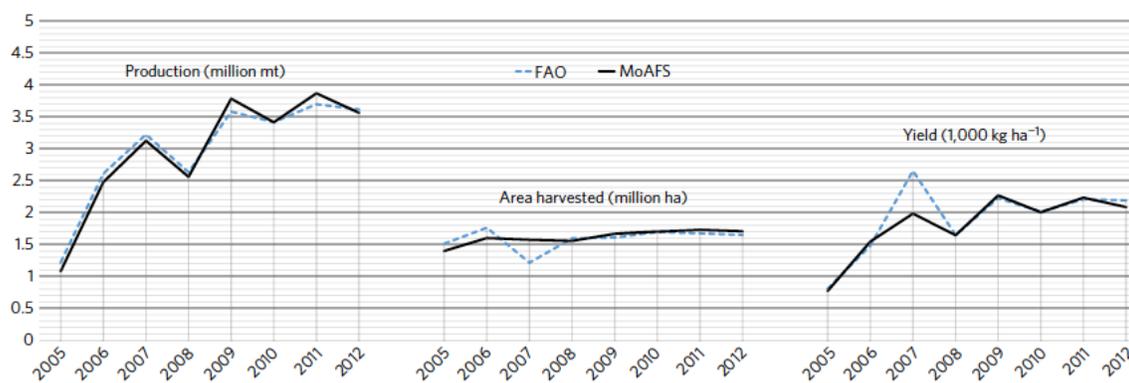
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## Extra slide (area error & the “Malawi miracle”)



**Figure 3 | Comparison between MoAFS maize estimates and FAO distributed data.** Left, production; centre, area harvested; right, yield. Data sources: FAOSTAT<sup>28</sup> and MoAFS<sup>29</sup>. Refer to Table 1.

Source: Messina et al. (2017)

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