

Recent innovations to Zambia's Farmer Input Support Program & insights on short-run effects



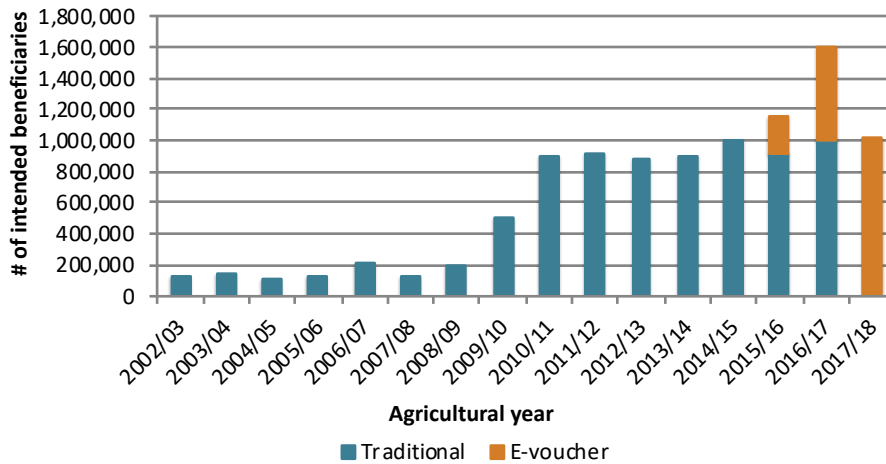
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Zambia has had a targeted ISP since 2002/03

Number of intended beneficiaries



Sources: 2016/17 FISP implementation manual (for 2002/03-2016/17); Ministerial statement on the implementation of the Farmer Input Support Programme, 2017/18 agricultural season (for 2017/18)



Evolution of Zambia's ISPs over time

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

- Implemented through selected farmer cooperatives
- Private sector retailers NOT involved
- Selected beneficiaries got **400 kg fertilizer, 20 kg hybrid maize seed**
- **Subsidy rate:** 50-75% for fertilizer, and 50-60% for seed

2009/10-2016/17: (Traditional) Farmer Input Support Program (FISP)

- Similar to FSP but **pack halved** to 200 kg fertilizer and 10 kg hybrid maize seed
- **Very small qty of seed for other crops** (e.g., rice, sorghum, and groundnuts) included beginning in 2012/13. Farmers could only get inputs for one crop.

Overall objectives:

“**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**”

Source: Ministry of Agriculture 2016. 2016/17 FISP implementation manual (p. 3)

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FSP & (Traditional) FISP plagued by many problems

- Failure to build private sector networks
- Late delivery
- Crowding out
- Diversion
- Elite capture, leakage
- Maize-centric
- Expensive
- Others

→ **Push by diverse stakeholders for many years to shift to an (electronic) voucher approach to try address some of these challenges**

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Shift to the FISP flexible e-voucher

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

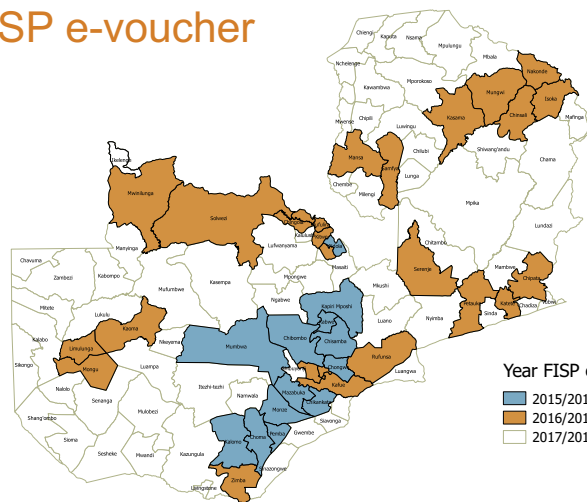
- 13 districts in 2015/16, 39 districts in 2016/17 (of 106+ districts)
- Pre-paid Visa card redeemable at participating registered agro-dealers
- E-voucher worth K2100 (US\$210) = K400 farmer + K1700 gov't
- Flexible: redeemable for crop, livestock, or fisheries inputs or equipment



2017/18: FISP e-voucher program implemented nationwide

2018/19: Possible, partial return to traditional FISP (40% of ben.)

Rollout of the FISP e-voucher



Year FISP e-voucher introduced

- 2015/2016
- 2016/2017
- 2017/2018

Objectives of the FISP e-voucher

Same as the traditional FISP plus:

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)

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Official targeting criteria (not very well enforced)

Traditional FISP	FISP e-voucher
Be a member of a selected, registered farmer organization	
Be registered with the Ministry of Agriculture	
Have the capacity to pay the farmer contribution (K400)	
Cultivate 5 ha of land or less	Cultivate 0.5 to 2 ha of land AND/OR Raise a certain amount of livestock/fish (2-10 cattle, 5-30 pigs or goats, 20-100 chickens, or 1-2 fish ponds)

Source: Ministry of Agriculture 2015 and 2016. 2015/16 and 2016/17 FISP implementation manuals (traditional and e-voucher).

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To what extent has the FISP e-voucher achieved its objectives & improved FISP?

- Use Zambia **Crop Forecast Survey (CFS)** data
 - **Nationally- and district-representative pooled cross-sectional** data for smallholder farm HHs (cultivate < 20 ha)
 - **2013/14, 2014/15, & 2015/16** ag seasons (2016/17 to be added)
 - Approx. 13,200 HHs per year; **39,678 total obs.**
 - Data on **access to/use of inputs, crop production, and FISP timeliness, *inter alia***. Also **HH and basic plot characteristics** (size, soil fertility).
- Have CFS data for years before and during FISP e-voucher pilot
→ **Difference-in-difference (DD) analysis**

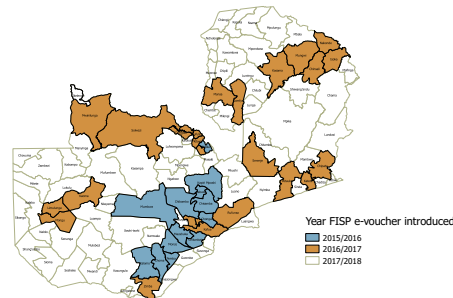
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Empirical model

Multi-district regression DD

(Angrit and Pischke, 2015)



$$y_{idt} = \alpha + \delta_{DD} Evoucher_{dt} + \lambda Evoucher_{dt+1} + District_d \beta + Year_t \gamma + X_{idt} \theta + \varepsilon_{idt}$$

- **Key assumption:** parallel trends in the absence of the policy change
 - If no differential pre-treatment trends, then $\lambda=0$
 - Fail to reject $H_0: \lambda=0$ in vast majority of cases (19 of 21 outcome variables)

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Prelim. results: Access to & use of modern inputs

- Evidence of e-voucher spurring **improved access or demand for unsubsidized fertilizer** than traditional FISP? → No / not yet (?)
 - No stat. sig. difference in **distance to nearest fertilizer seller**
 - **Probability of purchasing unsubsidized fertilizer 11-12 pp lower** among HHs in e-voucher pilot districts → b/c can potentially redeem for 7x50-kg bags (K300/bag) vs. only 4 bags w/ traditional FISP?
- But overall **probability of using fertilizer 7 pp higher** among HHs in e-voucher pilot districts → b/c of more effective targeting under e-voucher of HHs o.w. less likely to use fertilizer (and elimination of “ghost farmers”)?
- No stat. sig. differences in distance to FISP fertilizer collection point or timeliness of FISP fertilizer receipt
- No stat. sig. differences in use of hybrid maize seed or herbicide

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Prelim. results: Crop production, productivity, & diversification

- **No stat. sig. effects on:**
 - Maize area, yields, output
 - Total cropped area, production, probability of growing at least one non-maize crop, or # of crops
- **Positive effects on:**
 - Gross value of crop production/hectare (↑ 31%)
 - Area planted to non-maize crops (↑ 18%)
 - Simpson index of crop diversity (↑ 11%)
($SI = 1 - \sum_{c=1}^C s_c$)

- ↓ maize
- ↑ legumes & oilseeds
- ↑ cash crops
- ↑ roots & tubers
- No Δ other cereals

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Concluding remarks

- Preliminary results suggest that the 2015/16 FISP e-voucher pilot may have spurred **greater crop diversification** than the traditional FISP
- But effects on **access to and use of modern inputs modest/non-existent, and no change in distance to FISP fertilizer collection point or timely availability** under the e-voucher. **Why?**
 - These are **short-run (1st year of pilot) effects**. May take multiple years to build private sector confidence and catalyze major investment.
 - **Late activation of e-vouchers is a major problem**
→ whether it's inputs (traditional FISP) or e-vouchers, early mobilization of funds and early start to activities are critical

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Improved e-voucher system will benefit farmers – Katambo

By Abraham Kalito on 18 Jul 2018

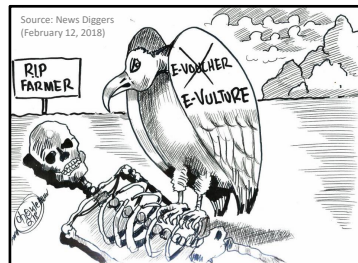


Michael Katambo

Agriculture Minister Michael Katambo says farmers will benefit from the continued implementation of the e-voucher system in the next farming season as some of its teething challenges have been resolved.

Source: News Diggers

Which situation will prevail in 2018/19?



Source: News Diggers
(February 12, 2018)

400,000 FARMERS TO LEAVE E-VOUCHER – MINISTER

June 2, 2018 admin2 0 Comments

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By NATION REPORTER

ABOUT 400,000 farmers who were on the Farmer Input Support Programme (FISP) will be reverted to the conventional system after 8 months of challenges with the E-voucher programme, Agriculture Minister, Michael Katambo has announced.

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Thank you for your attention!

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