

Agricultural input subsidies: the recent Malawi experience

An introduction and update

We briefly set out below the main lessons from our recently published book on Malawi's recent experience with agricultural input subsidies (Chirwa and Dorward, 2013). Although this was published at the end of October, we actually finished the writing about a year ago. Since then there have been a number of reports on different aspects of the Malawi programme and the completion of another season of subsidy implementation. We therefore also provide a bit of an 'update'. The book can be [purchased from the OUP](#) or [downloaded as an open access pdf](#).

The main purpose in writing this book was to

- pull together six years of intensive evaluation work that we have undertaken with others,
- document in one place programme activities from 2005/6 to 2011/12,
- review the wide range of empirical studies on different aspects of the programme's implementation and impacts, and
- set this in the wider context of changing understandings of agricultural input subsidies in poor agrarian economies.

We were also keen to draw on our separate and combined experience of Malawian agriculture to set the FISP in the context of evolving Malawian livelihoods, politics, and agricultural policies – a context that is critical for understanding the design, implementation and impacts of the programme.

These objectives explain the structure and contents of the book. The first part (chapters 2 to 4) sets out three different aspects of the background to the Malawi FISP. Examination of evolving understandings of the roles of agricultural input subsidies in Africa highlights

- the particular contributions that inputs subsidies for food crop production can make to broad based growth processes in poor agrarian economies;
- recent shifts in emphasis on their primary mode of operation (from reducing information and profitability problems to promoting affordability and market development); and
- the particular political challenges that they face.

A review of recent experience with such subsidies in other African countries then documents the spread of supposedly 'smart' input subsidy programmes, common and extensive challenges they face, and the limited information available for assessing their performance. This leads on to consideration of the particular socio-economic, political, rural livelihood and agricultural policy history and context behind the introduction and subsequent implementation of the FISP in Malawi. The examination of the Malawi context in relation to wider understandings of subsidy programmes is critical to later consideration of changing political influences on the FISP's implementation and impacts.

The second part of the book (chapters 5 to 9) examines the implementation and impacts of the FISP from 2005/6 to 2011/12. Detailed information is provided on changing programme activities and costs, from national design and input procurement through voucher and input distribution to farmer access to and input use. This leads on to examination of direct impacts on production and on beneficiaries' welfare. Data quality and availability difficulties pose problems here. While increases in production are clear cut, the scale of these increases is not: similar conclusions are drawn regarding increases in food consumption and household income.

The first part of the book identifies indirect programme impacts as a major but often largely ignored justification for subsidies. Estimation of these impacts is, however, difficult. Nevertheless, we note rapid agricultural sector growth in the FISP period and strong evidence for the positive effect of the subsidy programme on production. Apparently inconsistent high maize prices from 2007 to 2009 need to be set against evidence for rising nominal and real wages (as measured against maize prices). There is also evidence for rising incomes and falls in stunting and in the prevalence of

underweight children. However, the 2010/11 IHS3 poverty estimates do not suggest any change in poverty incidence (National Statistical Office, 2012).

The programme has had a mixed impact on the private input supply sector. The private sector has played a major role in the importation and procurement of subsidised fertilizers, and in the production and distribution of subsidized seeds, but its involvement in retailing of subsidized fertilizers has been very limited. The short run negative effects of displacement or crowding out of unsubsidized commercial sales by subsidised sales are well documented, but there is some evidence of a catalytic stimulus in raising demand for fertilizers and improved seeds in the medium to long term. However, the realisation of clear potential benefits from expanding the role of the private sector requires mutual trust among stakeholders, systems of transparency and accountability, and policy consistency and credibility.

A critical set of questions focus on the economic benefits and costs of FISP. Use of Benefit Cost Analysis requires clear understanding of its purposes and principles, of alternative methodologies, and of theoretical, methodological, and data challenges faced in its application. Precise estimation of the BCR remains difficult but it is likely to average around 1.35 after allowing for the effects of multipliers, with a fiscal efficiency (the Net Present Value per unit of government expenditure) of around 0.6. These estimates are sensitive to yield responses (and hence both programme implementation and weather), and international maize prices. Higher displacement or crowding out of commercial by subsidised sales does not affect the BCR much but does have substantial negative effects on fiscal efficiency. These estimates suggest that the FISP has provided a good return on investment but there is scope for much improved efficiency and effectiveness to make future returns much higher.

The third part of the book then examines two strategic issues facing the FISP and other agricultural input subsidy programmes: targeting and graduation.

Targeting effectiveness in FISP and other programmes has been widely studied and discussed. Over the life of the programme, changes in area targeting have resulted in more equitable distribution of input vouchers per household, but there have been limited changes in targeting criteria and processes at beneficiary level. Broad beneficiary targeting criteria have allowed wide variations in their application at community level, resulting in biases against receipt of subsidized inputs by poorer people. Widespread and increasing redistribution and 'sharing' of coupons has reduced this bias but increased the likelihood of poorer recipients receiving fewer coupons than less-poor recipients. There have also in some years been gender biases against receipt of coupons and access to subsidized fertilizers by female headed households.

Graduation from subsidies is widely promoted under the bland label of 'exits', but there has been little serious consideration of what this means in practice. We conceptualise graduation as the removal of access to transfers without leaving current beneficiaries unable to pursue sustainable independent livelihoods. This places emphasis on identifying asset and activity variables and thresholds that take account of the different opportunities, threats, and difficulties facing different people in different contexts. This allows graduation to be defined as the withdrawal of subsidy access without reductions in land, labour, and capital productivity in maize production.

Operationalising this is technically challenging and intensely political, and needs to consider the importance of wider programme impacts on individual beneficiary livelihoods.

Since we sent the book to the publisher in January 2012 we are only aware of one significant addition to the literature on the livelihood context of the FISP, a valuable and innovative study by Holden and Lunduka (2013). Using 2008/9 farm survey data this shows that farmers place a very high value on fertiliser in terms of their unwillingness to sell fertiliser that they own, but are much less willing to buy fertiliser with cash. This suggests significant cash constraints on fertiliser purchases and important evidence of the FISP assisting farmers mainly by addressing fertiliser affordability problems.

Knowledge on the implementation of the FISP is extended mainly by our 2012/13 programme evaluation ([Dorward et al., 2013](#)). There was little that was particularly new about implementation in 2012/13 apart from attempts to improve both transparency in coupon allocations (through public lists of recipients) and management of coupon redemption at input markets. The trend for increased sharing of coupons continued, as did significant discrepancies between total subsidised fertiliser receipts estimated from the household survey and recorded official subsidised fertiliser sales.

[Kilic et al. \(2013\)](#) update information on targeting with a detailed analysis of 2010/11 Integrated Household Survey. Their findings largely support previous studies, reporting “the FISP targets exclusively neither the poor nor the rich... (it) reaches all socioeconomic strata of rural Malawi, and if there is any targeting it is in the middle of the distribution” and “a key factor in receiving vouchers is having a relationship with key leaders in the community”. There is no evidence for female headed households being less likely to receive coupons. [Dorward and Chirwa \(2013\)](#) provide a complementary analysis of IHS3 data on households’ access to and receipt and use of subsidy coupons.

A number of 2013 reports and papers contain significant new information on different aspects of programme impact.

- [Arndt et al. \(2013\)](#), using a CGE model, find that allowance for indirect benefits increases total benefits by about 70% above direct benefits, together with some increases in maize drought-resilience. In another study [Beck et al. \(2013\)](#) re-estimate poverty incidence from the 2010/11 IHS3 dataset and provide some resolution of the apparent contradiction between estimates of positive FISP impacts and stagnant poverty rates, finding an 8.2 percentage point decrease in national poverty from 2004/5 to 2010/11.
- [Karamba \(2013\)](#) also uses IHS3 data, to examine the direct impacts of subsidy receipt on child nutrition. She finds some evidence of receipt of subsidised inputs leading to reduced wasting (weight for height) among under five children in beneficiary households, with participation in the subsidy program associated with greater non-food rather than food expenditures. She argues that the program increases household incomes and improves nutrition through means other than direct food consumption. This is helpful in resolving apparent inconsistencies between estimated programme impacts. She also examines the direct impacts of the FISP on crop diversification among beneficiaries, reporting that receipt of subsidised inputs ‘leads to a substantial decrease in the share of land allocated to maize’.
- Returning to our [2012/13 programme evaluation](#) ([Dorward et al., 2013](#)) we also report a wider process of crop diversification from 2004/5, with a declining proportion of all holdings under maize. We also provide new estimates of fertiliser responses, value cost ratios and incremental production from the use of maize crop simulation models, estimates which are broadly supportive of our previous estimates (further support for these is also provided by [Kamanga et al. \(2013\)](#)). We also raise two new issues: the impacts of changing regional maize markets and devaluation of the Malawi Kwacha on maize prices and maize affordability, and the impact of rapid population growth on the national food balance. The latter draws attention to the likely importance of the FISP in promoting national food security when the population is estimated to have increased by around 24% from the start of the subsidy programme – it is estimated, for example, that without the FISP Malawi would have suffered chronic maize deficits and imported maize every year.
- The final set of recent papers on the FISP appears in a special issue of *Agricultural Economics* on agricultural input subsidies in Africa. Two papers provide substantive new information on or potentially relevant to the FISP ([Jayne et al., 2013](#); [Jayne and Rashid, 2013](#)). The first of these makes the important point that substantial diversion of subsidised fertilisers in the FISP’s early years (otherwise known as theft) will have substantially affected the returns to government

investment and provides estimates of the effects of this on economic benefit cost ratios for the FISP from 2005/6 to 2009/10. These estimates are very low, largely as a result of some non-standard calculation methods (most of which lead to under-estimates of returns). The analysis also relies on limited and mixed quality data from the early years of the programme. More nuanced analysis and consideration of data quality and of the effects of subsequent changes in FISP's implementation are needed to assess the current extent of theft and its effects on investment returns. The effects of theft of subsidised fertilisers on returns to government investment in the programme are, however, very important and need more attention (as, for example, in our economic analysis of the 2012/13 programme).

Issues raised in these papers reiterate the need and potential for increasing the effectiveness and efficiency of the FISP in a number of ways:

- reducing diversion and theft of fertilisers;
- better targeting of beneficiaries (although it is difficult to know how to achieve this on the ground) or universal provision of smaller (20 or 25kg) fertiliser bags (with a national ID card system);
- earlier access to coupons and inputs;
- complementary investment in roads, research and extension;
- increased investment in extension services and other means of promoting organic fertilisers and better crop management to raise yields and fertiliser yield responses;
- the consideration of specific fertiliser formulations and for specific areas to address specific soil nutrient deficiencies; and
- lowering of fertiliser costs by seriously exploring more private sector involvement in fertiliser distribution and sales and by improving systems for efficient and faster purchasing, paying for and distributing inputs to farmers.

These recommendations (some of which are the focus of ongoing attention in programme design and implementation) lead back to themes outlined earlier – the potential for significant direct and indirect benefits from the Malawi FISP, its mixed but overall beneficial impacts, and the potential for much greater favourable impacts with improved implementation. Relating Malawi's experience to the earlier lessons from wider and recent African implementation of subsidy programmes suggests that the critical issue is how to improve governance. We suggest that one way of promoting this may be to move beyond exclusive programme responsibility within ministries of agriculture to explicitly locate such programmes within national economic growth and development strategies. This could involve, for example, promotion of shared ownership, commitment, oversight, integration and monitoring and evaluation across ministries of finance, economic growth, local government, and agriculture, together with greater public scrutiny and discussion of programme achievements and failings.

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This will be posted as a blog on the Future Agricultures Consortium website in the New Year (<http://www.future-agricultures.org/blog#.UrQLPOJRZsy>).