

The Impacts of the Farm Input Subsidy Programme, 2005/6 – 2012/13

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This brief addresses two main questions:

- What have been the impacts of FISP? and
- Is FISP worth the investment?

We first set out the potential benefits that the programme may generate and factors that affect the achievement of these benefits. We then summarise available evidence on FISP impacts and its cost-effectiveness in achieving these. Questions about ways of implementing FISP to improve its impacts are addressed in a separate brief.

The potential impacts of the FISP

The FISP medium term plans sets out the objectives of the FISP as being to ‘increase food security at household level through agricultural output growth’ by increasing agricultural productivity and input market development. However economic theory and experience from other countries suggests that if implemented consistently, effectively and efficiently at a manageable cost the programme has the potential to drive broad based national economic growth.

Figure 1 summarises the potential beneficial impacts of the programme. The potential immediate impacts of the programme are incremental maize production (and increased land and labour productivity), improved cash flow for beneficiaries, and stimulus for the development of input supply systems. These in turn should lead to increased national maize production, reduced domestic maize prices, and improved household food security, income growth, and welfare (including nutrition, health, asset ownership and education). These benefits should accrue to both beneficiaries and non-beneficiaries, and lead to broad based (pro-poor and diverse) economic growth. This, however, depends upon good design and implementation of the programme supported by other policies and investment complementing investments in the FISP (shown at the top of figure 1).

Beneficial impacts are also impeded by four important factors (shown on the right of the figure), all of which have in different years played an important role in reducing some of the benefits: maize exports, population growth, economic crises, and poor rainfall. Not shown in the figure are the costs of the FISP, against which benefits have to be compared.

Evidence on FISP impacts

FISP impacts on maize production depend upon the productivity of extra inputs used as a result of FISP (taking account that some FISP inputs are diverted or stolen before they reach farmers and some that farmers receive may ‘displace’ unsubsidised purchases that they would have made anyway without FISP). ‘Diversion’ of inputs is very difficult to estimate, but is likely to have been between 15 and 30% over different years of subsidy implementation, and in 2012/13 was probably around 15 to 20% for fertilisers. Displacement rates also vary. For fertilisers, estimates have ranged from 3 to 22% but most recently are probably around 15%. Estimates for seeds are much higher, at around 50%. The productivity of subsidised inputs received by farmers then depends upon the timing of input receipt, on rainfall, and on the overall management of the crop they are applied to.

Agronomic yield data, crop simulation models and survey information on farmers’ maize crop management suggest a nitrogen yield response a little over 18kg grain per kg N for hybrid maize and a little over 14kg grain per kg N for local maize. These yield responses mean that in 2012/13 the programme should have led to increased profitability of maize production by beneficiary households, with increased rural incomes of between MK50,000 and MK70,000per household receiving and using a full pack of fertiliser and maize seed (ignoring spillover effects and benefits from receipt of fertiliser that does not contribute to incremental production). For many poorer beneficiaries, who receive only one coupon for 50 kg of fertiliser, it seems that benefits are only sufficient to reduce their food insecurity, and are not enough to enable them to advance their livelihoods – to ‘step out’ or ‘step up’ rather than just ‘hang in’. Addressing this in the context of both limited fiscal resources and rapidly growing population pressure is a major challenge facing the programme and the Government and country as a whole. There is, however, some evidence that the FISP is encouraging some diversification out of maize into increased legume production – presumably associated with higher maize yields from greater cultivation of fertilised hybrid maize. These observations must be considered in the context of Malawi’s rapid population growth, discussed overleaf.

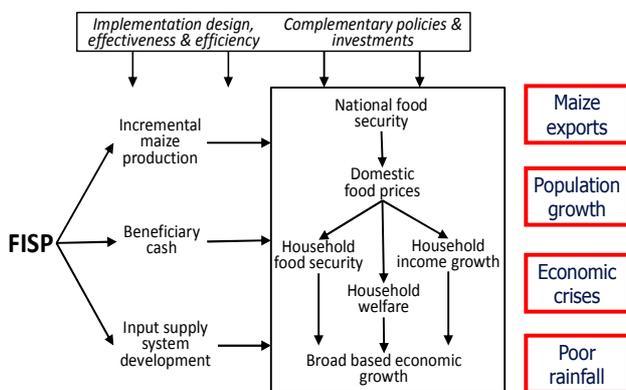


Figure 1 FISP’s main impacts and their determinants

Incremental production in 2012/13 was likely to be a little over 700,000 MT maize (a little below the average estimated over the life of the programme), allowing for diversion and displacement of subsidised seed and fertilisers. The effects of poor rainfall are difficult to judge, with local variation in rainfall and possible greater resilience of hybrid maize to shorter rainy seasons, but figure 2 uses similar estimates for previous years to show the likely overall effects of the FISP on national food security since its inception.

The top of Figure 2 shows estimated maize consumption requirements and adjusted MoAFS estimates of total production with the FISP by market season from 2001/2. The bars at the bottom of the chart show the difference between production and consumption, first from 2001/2 to 2005/6 (market seasons before the FISP) and then from 2006/7 to 2013/14 with and without the FISP. The critical message from this figure is that from the 2001/2 to 2013/14 market seasons Malawi's population and hence consumption requirements have grown by approximately 45%, with an approximately 24% increase since the start of the FISP. There has, however, been a general maintenance of national food surplus (before imports and exports), although this appears to be declining and in some years has been very small or even absent. Without the FISP, therefore, there are likely to have been substantial deficits. Analysis of national food security scenarios with and without the FISP suggests that in the last 6 years it may have led to average annual savings of maize imports of some 385,000MT, directly offsetting up to between 85 and 110% of programme costs.

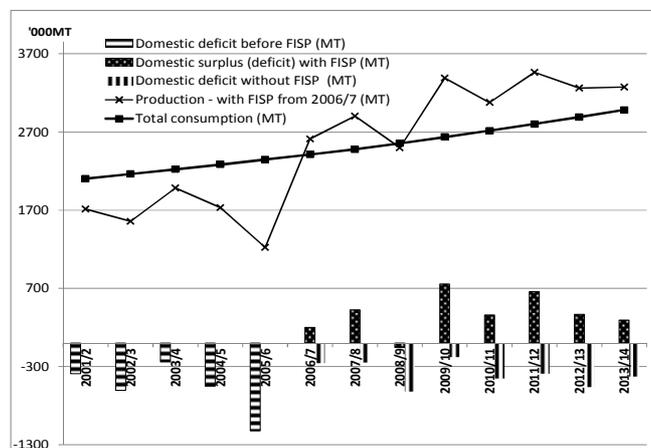


Figure 2 Maize surpluses & deficits with & without FISP

National food availability also depends upon exports and imports, and the general pattern in figure 2 of deficits turning to apparent surpluses is supported by changes in formal and informal maize exports and imports, with imports declining and exports increasing in recent years. This, with local patterns of poor rains, may partly explain some of the maize shortages in recent years, as low prices

have led to exports at harvest time, with later shortages and high prices. These patterns suggest that without policies encouraging increased maize storage within Malawi, increased maize production as a result of FISP may not lead to improved household food security. This may then undermine the wider economic benefits of the programme.

General programme benefits have also been undermined by the economic crises affecting Malawi from 2011. Devaluation and inflation have led to rising nominal prices of maize, and falling real wages. Prior to 2011, however, there is some evidence that the FISP led to rising real wages (relative to maize prices), to improved incomes and wellbeing and to improved child nutrition and school enrolment for beneficiaries and in some cases non-beneficiaries.

The FISP appears to have both positive and negative impacts on private sector input supply development. Lack of private sector participation in retailing of subsidised fertiliser has a negative impact on retail network development, but there is some evidence that with time the programme stimulates commercial demand. Impacts of private sector involvement in retailing of subsidised seed sales is much more positive, although there appear to be substantial numbers of agro-dealers who have little business other than subsidised seed sales.

FISP Benefit cost analysis

There are significant methodological and data challenges in estimating the economic returns to investments in the FISP. Estimates are particularly sensitive to assumptions and estimates made about incremental maize production (as discussed above) and about maize prices used in analysis. For 2012/13 we estimate a social benefit cost ratio of 1.8 and fiscal efficiency or net return on FISP investments of just over 100%. Previous years' evaluation estimates were a little lower (the higher 2012/13 estimates are due to higher maize prices and higher estimated yield responses) but even allowing for possible overestimates of yield responses and therefore possible lower returns than estimated, returns are still likely to be significantly positive in most years. This ignores potential social disruption and costs with possible persistent national maize deficits in the absence of the FISP (as discussed above), and substantial possibilities for improving returns to FISP from improved design and implementation. However, there will be some years when very poor rainfall or very high fertiliser prices lead to low returns. Returns are also sensitive to poor implementation and high costs, and the very large costs of the programme (around MK55 billion) mean that it is essential that attention is given to effective implementation and cost reduction and control.



Recommendations drawing on this information are provided in Policy Brief 2014/2, *Implementation of the 2012/13 Farm Input Subsidy Programme*

Source: *Evaluation of the 2012/3 Farm Input Subsidy Program*
<http://eprints.soas.ac.uk/17822/>

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