

MALAWI

Strategy Support Program



BUDGET ALLOCATION, MAIZE YIELD PERFORMANCE, AND FOOD SECURITY OUTCOMES UNDER MALAWI'S FARM INPUT SUBSIDY PROGRAMME

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Food security in Malawi is generally equated with adequate maize production as the country's main staple crop accounts for more than 60 percent of total food consumption. Malawi has a long history of subsidizing agricultural inputs, either as a general policy to ensure national-level food security or as a response to poor harvests. As such, agricultural input subsidies targeted specifically at maize production for food self-sufficiency are a key element in the Agricultural Sector Wide Approach (ASWAp), the agricultural development framework for the government of Malawi. Since 2005, the government has implemented the Farm Input Subsidy Programme (FISP), which has been widely credited for bringing about macro-level food security in Malawi. In recent years, however, the program has come under scrutiny amid concerns about its financial sustainability and continued food security concerns at local level. This article explores the budget allocation, maize yield response, and food security outcomes of the FISP over its implementation period.

FISP COSTS AND PUBLIC BUDGET ALLOCATION

FISP was designed to reduce poverty and ensure the country's food security by enhancing farmer productivity and income and increasing crop yields. The program targets roughly 1.5 million rural farm households (approximately 50 percent of all farmers in Malawi). Each beneficiary of the FISP receives input vouchers which are redeemable for two 50-kg bags of fertilizer. The targeted beneficiaries pay only a small redemption fee, resulting in two-thirds or more of the cost of the fertilizer being subsidized (Arndt et al. 2013). Budgets for the program have ranged between US\$ 36 million and 127 million per year between 2005/06 and 2009/10. Actual costs have ranged from US\$ 51 million to 265 million over the same period (Dorward and Chirwa 2010).

The program's main cost components are fertilizer, seed, transport, and other logistical elements. Fertilizer costs are by far the largest component. The majority of the annual program costs have been funded internally by the government. Donor partners have typically contributed to the program through support for seed acquisition, voucher printing, and logistics, amounting to 10 to 15 percent of the program's total annual costs (Dorward and Chirwa 2010). Program costs more than doubled between 2006/07 and 2008/09 due to rising global fertilizer prices, higher transport costs, and growing subsidy volumes. Per unit cost increases were at par with increases observed in international fertilizer and fuel prices (Dorward and Chirwa 2010). FISP costs were at their highest during the 2008/09 agricultural season, with program costs accounting for 74 percent of the public budget to agriculture and 16 percent of the total national budget.

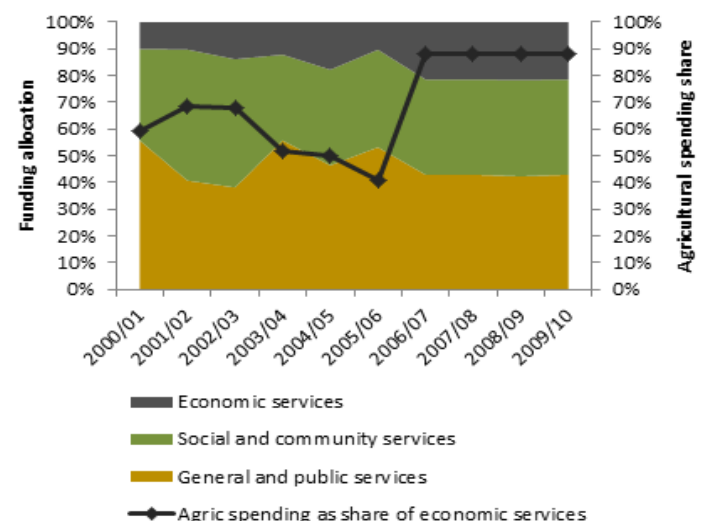
Official statistics of public finances in Malawi show the program's increasing costs as a share of the agricultural budget (Figure 1). Despite relatively constant shares across the main budget categories of economic services, social and community services, and general public services during the FISP implementation period, agricultural spending as a share of the allocation of funds to economic services grew rapidly from 41 percent in 2005/06 to 88 percent from 2006/07 onwards.

The increasing share of agriculture spending within economic services necessitated a major reallocation of public funds across

items within the economic services budget item. Large cuts either in real or relative terms have had to be made in other components of economic services, such as transport and communication services, physical planning, and development; commerce and industry; scientific and technological services; and tourism affairs and services (Douillet et al. 2012). Budget allocations for environmental affairs protection and other economic services all but disappeared, although energy and mining services continued to grow, albeit at a remarkably lower rate compared to agricultural spending. Within agriculture itself, the large allocations of funds to FISP raise concerns about inevitable declines in public spending on agriculture research, extension services and training, and rural roads and infrastructure. The high costs of FISP may be an important reason for delays in the implementation of other agricultural development programs. For example, the Green Belt Initiative, a large-scale irrigation program, remains unfunded.

While there have been numerous concerns raised over the possible decline in public expenditure on other essential

Figure 1. Budget allocation in Malawi: 2000/01–2009/10



Source: NSO (2011)

non-agriculture activities, a recent agricultural public expenditure review highlights that the introduction of FISP was not to the detriment of other components of the Ministry of Agriculture and Food Security (MoAFS) (World Bank 2013). According to the review, MoAFS budget increased by a dramatic 160 percent during the first year of the program's implementation in 2005. Allocations to other MoAFS components at the peak of fertilizer costs in 2008/09 were not affected. Actual expenditures to some non-FISP components in the agriculture budget actually increased in some cases when compared to previous years.

Much as FISP seems to have had no detrimental effect on other MoAFS activities, the program accounts for a larger share of MoAFS budget. Since its introduction, the program has mobilized 69 percent of the Ministry's budget with the rest being equally split between other recurrent and development expenditures. Considering the relatively small contributions made to other activities of the public agriculture sector, FISP monopolized the majority of the Ministry's pool of human resources for up to four months annually for the preparation and implementation of the FISP program. The strong emphasis on FISP means that the Ministry is unlikely to promote any other contributions of agriculture to economic growth and poverty mitigation in Malawi. Furthermore, such a dominant allocation of resources to FISP is likely to compromise the Ministry's ability to maintain a minimum level of activity in its traditional missions, as well as to address priority needs identified under ASWAp.

MAIZE YIELD PERFORMANCE AND FOOD SECURITY

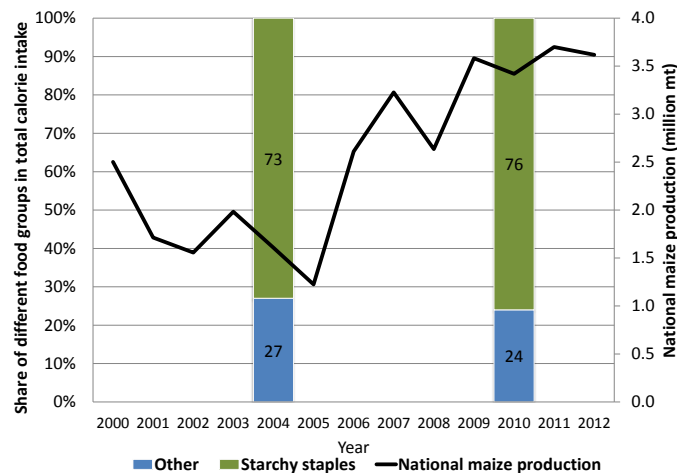
Malawi's annual maize production has fluctuated over the last 13 years, with average national production of 2.57 million metric tons. Maize production increased considerably with the start of implementation of FISP. Average maize yields almost tripled within the first two years of the program. National maize production increased from 1.06 million tons to 3.62 million metric tons between 2005/06 and 2011/12 (Figure 2).

Despite the reported increase in maize production, the reliability of Malawi's crop production statistics has been questioned (Beck et al. 2013; Mazunda & Droppelmann 2012). Official evaluations on the marginal return to fertilizer usage in Malawi are based on an assumed maize yield response to fertilizer application of 15 kilograms of maize grain for every kilogram of nitrogen fertilizer used (Dorward and Chirwa 2010).

According to Beck et al. (2013), the average nitrogen content of the FISP "benefits package" is roughly 33 percent. At the standard expected rate of maize yield response to fertilizer application, the 100,000 metric tons of fertilizer supplied for maize production during the first year of FISP implementation in 2005/06 should have resulted in a production increase in maize grain relative to 2003/04 of 495,000 metric tons. Official production statistics however, indicate an increase in production of 800,000 metric tons, nearly double the expected production gain at the official marginal rate of return.

In 2006/07, 150,000 metric tons of fertilizer for maize production was supplied, yet national maize production in that year rose by 1.5 million metric tons relative to 2003/04 production levels, rather than the expected 742,500 metric tons. Moreover, these calculations are optimistic, excluding the displacement of commercial, unsubsidized fertilizer, which could have resulted in a

Figure 2. Annual maize production and share of calories from staple crops: 2000–2012



Source: Author's calculation based on Ecker & Qaim (2012) and FAOSTAT

lower net increase in fertilizer use compared to the amount of subsidized fertilizer supplied (Beck et al. 2013). Microeconomic evidence from Malawi suggests that the official assumed standard rate of maize yield response to fertilizer application is highly optimistic (Chibwana et al. 2010; Ricker-Gilbert and Jayne 2012). Such evidence raises questions about the reliability and validity of official crop production statistics and, more importantly, the overall effectiveness of the FISP in reducing the country's food insecurity.

While the reported increase in maize production over the FISP period may have enhanced national maize self-sufficiency and the food security of many farming households, reports of localized food deficits still persist (GoM 2012). The estimated crop production of 3.6 million metric tons during 2011/12 represents a national maize surplus of 800,000 metric tons. Yet, despite this surplus, the Malawi Vulnerability Assessment Committee (MVAC) food security update analysis indicated that the size of the vulnerable population in Malawi increased from 1.6 million to 1.9 million persons that year (GoM 2012). In addition, diets in Malawi remain poorly diversified with starchy staples dominating calorie intake (Figure 2). Theoretically, by increasing maize production through intensification methods (i.e. by subsidizing inputs to increase the amount of inputs used), a household can free up resources to produce or purchase more micronutrient-rich foods, such as meat, vegetables and fruits (Arndt et al 2013). In reality, however, consumption of staples, particularly maize, accounts for more than 70 percent of total food consumption. The dominance of staples in the diets may therefore be reinforced through the FISP program's primary objective of improved maize production among poor farm households.

CONCLUSIONS

The objective of FISP is to improve welfare outcomes, reduce poverty, and ensure the country's food security by enhancing agricultural productivity, particularly for the principal staple food crop, maize. This analysis shows that maize yields and overall national production have improved tremendously over the period during which FISP has been implemented. However, the effect of the program on food security and poverty mitigation over the

implementation period remains an open question. Rising program costs have resulted in a reduction in the allocation of public funds to other economic services, including within agriculture. In some cases, budget allocations to some components of economic services have completely disappeared, particularly in non-agricultural sectors. While the program's immediate gains in maize production are clear, FISP's long-term effects require further analysis. In-depth analysis of investment allocations needs

to be carried out to better understand within the context of FISP implementation the returns to investments in extension, infrastructure, and subsidies, among others. Further analysis needs to be carried out to evaluate the program's impact on nutrition (especially dietary diversity) and its link to crop diversification, especially given the maize bias of the program.

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