

Chapter 47

Making Agricultural Input Subsidies More Effective and Profitable in Africa: The Role of Complementary Interventions

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ABSTRACT

The combined effects of declining soil fertility, continuous mono-cropping, poor crop residues management, and limited resources are considered the major constraints to increased crop productivity in Sub-Saharan Africa. It is for this reason that most African governments in Sub-Saharan Africa have been implementing farm input support programmes to boost smallholder production. While substantial amounts of resources are committed to support such programmes, evidence suggests that the increased use of modern inputs such as inorganic fertilizers on the main staple food crops appear to be only marginally profitable or even unprofitable. There is a renewed realization that the use of fertilizer input alone to raise farm productivity is likely to be impeded, if sufficient attention is not given to complementary interventions such as integrated soil fertility management technologies and extension services. This chapter provides evidence from several African countries on the role of complementary interventions in enhancing profitability, effectiveness, and efficiency with which farm inputs such as inorganic fertilizer and improved seed are applied.

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INTRODUCTION

The combined effects of declining soil fertility due to low and inappropriate fertilizer use and inappropriate crop residues management, coupled with limited resources are considered major constraints to increased crop productivity in Sub-Saharan Africa (SSA) (Ngwira et al., 2012 Mhango et al., 2012 and Vanlauwe, 2015). This has been exacerbated by soil nutrient mining through continuous cultivation of crops (mono-cropping), especially maize thereby leading to subsequent reduction in the productivity of soils. To address the declining soil fertility, most African governments (such as Malawi, Kenya, Tanzania, Zambia Mali, Nigeria, Ghana, Senegal, Ethiopia and others) have embarked on farm input support programs to provide farmers with subsidized inorganic fertilizers and improved seed with the goal of helping the farmers break out of a low input/low output trap (Denning et al. 2009; Sachs 2012 & Ricker-Gilbrt & Jayne, 2014).

However, one of the major ironies emanating from applied research is that the greater use of modern inputs such as inorganic fertilizer appears to be only marginally profitable or even unprofitable to use on the main staple food crops (such as maize) in the region. There is an increasing realization that fertilizer input intensification alone to raise farm productivity growth is likely to be impeded if adequate attention is not paid to complementary interventions (e.g. Liverpool-Tasie et al., 2016). In this regard, Dorward and Chirwa (2013) noted that increased production is crucial to the achievement of programme objectives that results from incremental use of inputs (which mainly comprises inorganic fertilizer and improved seeds) that leads to increased yields due to high yield responses to the inputs which is dependent upon weather and the efficiency of input use and of crop production.

Malawi has been a leader in pioneering agricultural input subsidy programmes (ISPs) after well-publicized initial reports about the success of the first targeted input voucher program in 2004/05 that saw at least nine other African governments following suit. Kenya joined the ranks of sub-Saharan African (SSA) countries implementing targeted input subsidy programmes for inorganic fertiliser and improved seed in 2007/08 through the establishment of the National Accelerated Agricultural Inputs Access Programme (NAAIAP).

While agricultural input subsidy programmes have been implemented to enable farmers access chemical fertilizers and improved seeds needed to boost crop production and enhance household and national food security (Holden and Lunduka, 2010, Mason, et al., 2017), such programmes are largely implemented using government resources that take up largest share of total agricultural national budgets. Jayne and Rashid (2013) observes that ten African governments spend roughly US\$1 billion every on input subsidy programs (ISPs), amounting to 28.6% of their public expenditures on agriculture. For instance, the Malawi Farm Input Subsidy Programme (FISP) dominated the overall agricultural budget, absorbing approximately 75 percent of the total value of the Ministry of Agriculture, Irrigation and Water Development (MoAIWD)'s financial resources in 2014/15 (World Bank, 2017). In 2011, the Government of the Republic of Zambia (GRZ) spent approximately US\$184 million, equivalent to 0.8% of gross domestic product, to provide nearly 182,500 MT of fertilizer and 9,000 MT of hybrid maize seed to participating farmers through its FISP and between 2004 and 2011, Zambia's FISP accounted for an average of 30% of total GRZ agricultural sector spending (Mason et al. 2013).

This poses serious challenges regarding the sustainability of such agricultural input subsidy programmes in terms of cost of maintaining the programme every year (Dorward & Chirwa, 2011). Besides, reliance on chemical fertilizers alone, without paying attention to complementary interventions that are necessary to improve crop response to applied nutrients has adverse implications for achieving sustainable agricul-

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