



DRUSSA
Development Research Uptake
in Sub-Saharan Africa



POLICY BRIEF

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**Status And Impact of Ghana's
Fertilizer Subsidy Programme**

- Establish a comprehensive farmer data base for effective tracking system. Introduce software (ICT) to facilitate tracking and documentation of sales returns to improve efficiency in the system;
- The inefficiencies in the fertilizer distribution mechanism such as delays at the port, high handling charges and smuggling should be corrected using e-tracking system;
- Clear guidelines regarding who to distribute, the level of private sector involvement and extension services provision should be laid out;
- MOFA should publish delivery dates and time well in advance of the planting season and explore innovative financing mechanism for the distributors;
- Other complementary options are needed including the promotion of soil management practices, review of best practices that include improved planting material, water management, soil fertility management to improve fertilizer efficiency; and
- Conduct a nationwide benefit-cost or cost-effectiveness analysis on key staple commodities to assess the impact levels. An in-depth economic analysis of the impact of fertilizer subsidy is needed from academia and researchers.

Key References

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Abstract

There have been varied perceptions about the role of fertilizer subsidies in improving agricultural productivity in developing economies. While some experts believe that fertilizer subsidies positively influence long-term food security in sub-Saharan Africa providing some form of indirect support to small-scale farmers, others perceive otherwise. Those against fertilizer subsidies believe that subsidies just create market distortions, political patronage and corruption among others and therefore limit impact and can never lead to a sustainable agricultural system. On the other hand, those for fertilizer subsidies argue from equity perspective and just like any other social support in sectors such as health and education, fertilizer subsidies represent a redistribution of public resources within the society. Targeting subsistence farmers, fertilizer subsidies can effectively improve incomes and alleviate poverty.

Introduction

This policy brief presents the summary of proceedings of the third policy symposium organized by CSIR-Science and Technology Policy Research Institute in collaboration with the Ministry of Food and Agriculture (MOFA) in Ghana under the Development of Research Uptake in the sub-Saharan Africa (DRUSSA) Project. The DRUSSA Project, funded by DFID and technically supported by Association of Commonwealth Universities (ACU), seeks to strengthen research uptake by the key stakeholders in 24 sub-Saharan universities across 12 countries including Ghana and Uganda. The theme for the policy symposium was "Status and Impact of Ghana's Fertilizer Subsidy Programme". Generally, there are arguments for and against any subsidy programme in any given country and the fertilizer subsidy is no exception. This theme was therefore chosen by MOFA to solicit for ideas among stakeholders and to discuss research evidence on the impact of the Ghana's fertilizer subsidy programme which has been in implementation since 2008. The policy symposium on the fertilizer subsidy programme in Ghana created a platform for dialogue among all stakeholders in the fertilizer supply and demand chain to debate on the prospects and challenges of Ghana's fertilizer subsidy programme as well as its economic implications and impact on agricultural productivity.

Participants were drawn from Farmer-Based Organisations (FBOs), individual farmers, academia, research institutions, fertilizer supplying companies, Development Partners (DPs) and donors (e.g. USAID, IFPRI and IFDC), Ghana Irrigation Development Authority (GIDA), Directors of MoFA, Ministry of Finance (MOF) and Ministry of Trade and Industry (MOTI) as well as the Media.

Status, Impact and Some Emerging Issues on the Fertilizer Subsidy Programme

The fertilizer subsidy programme, among other things is aimed at increasing farmers accessibility to inputs, increasing rate of application from 10kg/ha to at least 50kg/ha. This is in consonance with Abuja declaration of fertilizer use for an African Green Revolution and finally improving crop productivity and farmer incomes.

The fertilizer subsidy programme which commenced in 2008 with a quantity of 43,176MT subsidized and valued at GHS 20,654m had increased to 166,807MT valued at GHS64, 005m in 2013. In the period 2012 to 2013, seeds were also subsidized to boost certified seeds utilization. The Ghana's fertilizer subsidy programme had been driven by the private sector. The fertilizer companies were given regional quotas to supply to farmers and this was meant to ensure equity in distribution. Private companies imported and supplied fertilizers to the farmers and government in turn paid part of the cost as subsidies to the companies. The selling prices of subsidized fertilizer were the same in all the regions. As an exit strategy, the quantum of subsidy was reduced over the years. For example, the subsidy level of 45.3% in 2008 was reduced to 20% in 2015.

Table 1: FERTILIZER SUBSIDY PROGRAMME (2008-2013)

Year	Total Fertilizer Subsidized (Metric Tons)	Total Subsidy Paid by Government (GHC Million)
2008	43,176	20,654
2009	72,795	34,400
2010	91,244	30,002
2011	176,278	78,746
2012	173,755	117,437
2013	166,807	64,005
Total	724,055	345,244

Table 1 illustrates the quantities of subsidized fertilizer distributed and the total cost to government for the respective years.

The Fertilizer Subsidy Programme achieved some successes including:

- increased in average yields of some major crops such as maize, rice and soybean
- decreased expenditure on food imports;
- increased sales and turn over to the fertilizer companies; and
- increased employment along the fertilizer supply chain - porters, transporters, sales agents.

In 2014 there was no fertilizer subsidy and that resulted into low production. Table 2 highlights the impact of the lack of fertilizer subsidy in the country. The 2012-2013 stock at the National Food Stock Company (NAFCO) warehouses was released to offset the low supply in 2014. By January 2015, the stock from 2014 was almost empty and hence in 2015, the country could only rely on the stock from 2014 minor season. It was explained that Ghana needed approximately \$95.1million to offset food deficit through imports owing to the low production level in 2014. Generally, research evidence from Africa shows that fertilizer subsidy plays a critical role in increasing crop yield given the necessary conditions. Dorward et al. (2007) in their evaluation of the 2006/07 input subsidy policy in Malawi observed that subsidy on fertilizer and hybrid maize seed yielded an increment of between 300,000 and

400,000 tonnes of maize in 2005/2006 and 600,000 to 700,000 tonnes in 2006/07 production seasons. Again a study conducted in Zambia by Xu et al. (2009) using panel data from three surveys also pointed to the fact that maize yield relates positively with quantity of fertilizer applied. Ricker-Gilbert and Jayne (2011) revealed that each kilogram of subsidized fertilizer led to increases in maize yield by 2.8 kg/ha in Malawi.

Focusing on Ghana, Gerner et al. (1995) using a Value Cost Ratio, revealed that Value-Cost Ratios (VCRs)¹ in 1990 declined from 2.4 to 1.2 in 1994 as a result of the removal of fertilizer subsidy. A study conducted by Abdulai (2011) in Ghana showed that many more farmers were in a position to make profit in the presence of fertilizer subsidy policy. A comparative analysis of 'with and without' fertilizer subsidy scenarios estimated that the cost-benefit ratios for 2008, 2009 and 2010 were 0.859, 0.808 and 0.768, respectively. However, at the subsidized prices for fertilizer, the estimated cost-benefit ratios for 2008, 2009 and 2010 were 1.27, 1.37 and 1.30, respectively. These suggested that the application of fertilizer in the first scenario was not beneficial to maize producers at the competitive market prices for fertilizers. However, the estimates from the second scenario suggested that the intervention of the government in the fertilizer market through the fertilizer price support (subsidy) was beneficial to the producers.

The Ghana's fertilizer subsidy programme in spite of its achievements and prospects is bedevilled with the following challenges:

- Absence of comprehensive farmer data base;
- Smuggling of fertilizers to neighbouring countries;
- Late payment of subsidies to the supplying companies;
- Weak monitoring at all levels due to unavailability of funds; and
- Delays in getting fertilizer forms from regional offices.

Conclusion

Fertilizer use under subsidized conditions was more profitable than unsubsidized conditions. All things being equal, fertilizer subsidies were unlikely to alleviate market failures completely and the long term sustainability of fertilizer subsidy programme impacts largely depended on farmers' ability to accumulate financial assets from production surpluses generated by the subsidy. It was evident from the presentations and discussions that fertilizer subsidy increased fertilizer use and application rate by farmers in Ghana and this contributed to crop yields. Therefore, the general conclusion was that fertilizer subsidy was crucial for enhancing agricultural productivity.

Recommendations

Major concerns that need further research from the questions, comments and suggestions made by participants are as follows:

¹VCR is the value of additional production that is attributable to the use of fertilizer