

Fertilizer Subsidies in Eastern and Southern Africa

Policy Synthesis #2

Thom Jayne, Nick Minot and Shahidur Rashid

Common Market for Eastern and Southern Africa (COMESA)
African Agricultural Markets Programme*

Introduction: The existence of acute poverty and hunger, exacerbated by unstable and sometimes very high food and fertilizer prices, cries out for an immediate response. “Smart” fertilizer subsidy programs in Africa are potentially attractive because they can raise food production and thus reduce hunger in the short run. Income gains transferred to farmers through the subsidy are expected to result in greater savings and investment in productive assets, contributing to longer-run growth. In addition, income transfers to farmers address the social and political objectives of poverty alleviation and improved equity.

However, achieving these benefits depends greatly on how the programs are implemented. In Malawi, for example, the design and implementation of the Agricultural Input Support Programme has changed somewhat each year since 2005/06. Detailed analysis of Malawi’s subsidy program, often heralded as a major success story, shows benefit-cost ratios that fluctuate greatly from year to year, reaching an average high of 1.54 in 2007/08 to an average low of 0.94 in 2008/09 (Dorward and Chirwa, 2009).

Lessons from past experience: Several caveats should be considered before implementing fertilizer subsidies:

1. As a tool for increasing overall agricultural productivity, especially for small, poor farmers, fertilizer subsidies have a questionable record. Long experience with input subsidy programs in Africa is not encouraging on several points:¹ (a) there is very little evidence from Africa that fertilizer subsidies have been a sustainable or cost-effective way to achieve agricultural productivity gains compared to other investments, (b) there are no examples of subsidy programs where the benefits were not disproportionately captured by larger and relatively better-off farmers, even when efforts were made to target subsidies to the poor,² and (c) there is little evidence that subsidies or other intensive fertilizer promotion programs have “kick-started” productivity growth among poor farmers in Africa enough to sustain high levels of input use once the programs end.³

¹ Morris et al. (2007, 103) summarize by saying: “the weight of empirical evidence now show(s) that fertilizer subsidies are likely to be inefficient, costly, and fiscally unsustainable.”

² The logical response is to call for better targeting of future input subsidy programs. However, Dorward et al. (2008, section 7.2.3) includes an illuminating discussion of the practical difficulties involved in targeting subsidized fertilizers to poor households, including lack of information on who the poor households are, and unwillingness of some communities to exclude any households from receiving subsidized fertilizer.

³ For example, Malawi and Zambia have had almost continuous fertilizer subsidy programs each year for the past several decades even during the so-called liberalization process (e.g., see Dorward et al., 2008; Jayne et al., 2002).

2. In the high potential areas of Kenya, Zambia, and Malawi, many if not most households use fertilizer regularly. In less stable production zones, low or no fertilizer use by many smallholders is explained not just by credit constraints that limit acquisition, but also by the risk of crop failure, with resulting financial losses. Moreover, some crops that are important in the farming systems of semi-arid areas, like millets and sorghums, are generally not very fertilizer responsive. Hence, low levels of fertilizer use in semi-arid areas do not necessarily imply sub-optimal usage of fertilizer.
3. Hence, a balance is needed between interventions to address short-term supply shortages and avoid widespread hunger vs. investments and policies to drive growth and lift poor households out of the poverty trap in which they are caught. Currently, the governments of Malawi and Zambia devote at least 60% of their agricultural budgets to input and crop marketing subsidies, leaving relatively little for the long-term investments required for sustainable reductions in poverty and hunger.

Guidelines for the implementation of fertilizer subsidies:

If the decision is made to implement input subsidies, the experiences of Zambia and Malawi provide several practical guidelines (guidelines 1 through 3) for how to maximize their effectiveness in meeting important national objectives. Guidelines 4 through 7 follow from more general evidence in the region.

1. ***Use input vouchers that can be redeemed at local retail stores rather than direct distribution*** in order to maintain or improve the capacity of the private sector input delivery system.
2. ***Involve a wide range of fertilizer importers, wholesalers, and retailers in the input voucher scheme***, even if it entails additional logistical costs. Providing tenders to only 2-3 firms to import fertilizer can entrench their position in the market, cause other firms to cease making investments in the system or drop out altogether, leading to a more concentrated input marketing system and restricted competition when the input subsidy program comes to an end. A system that allows farmers to redeem coupons at the full range of existing independent agro-dealer retail stores will promote additional investment in remote rural areas where it is most needed. By contrast, failure to involve the small rural retailers may lead many of them to stop carrying fertilizer, as was the case in Malawi after the 2005/06 season, leading to erosion rather than development of a private retailing system.
3. ***Before deciding to target the input vouchers***, carefully consider the objectives of the targeting and the practical feasibility and costs of implementing a targeted program, including personnel costs, time requirements and potential delays, leakage, and displacement of commercial sales by subsidized inputs.
 - a. If the objective is to increase total output, then the inputs need to reach farmers who can use them efficiently and on a large enough area to generate significant gains in total output. Evidence indicates that a high proportion of non-poor farmers are able to acquire fertilizer through markets so spending scarce government resources to provide them with discounted fertilizer will largely substitute subsidized fertilizer for commercial fertilizer, adding relatively little to

overall fertilizer use or crop output. In some cases, small farmers may also use fertilizer more efficiently than larger farmers.

- b. If the objective is to alleviate poverty, or to overcome liquidity constraints for poor farmers who would otherwise be unable to purchase fertilizer, then it must be possible to identify poor farmers, and socially acceptable to channel vouchers to them, at a reasonable cost including leakage. Assisting low-income households to acquire fertilizer especially in a high food price environment may make the difference between their ability to eat and going hungry. Providing crop production support to relatively asset-poor households also contributes importantly to equity and social protection objectives,
 - c. If effective targeting does not seem feasible or achievable at an acceptable cost, then a small universal voucher program would be worth considering. For example, a program designed to provide all farmers with inputs for 0.2 ha would primarily benefit small farmers while at the same time limiting the displacement of commercial purchases by larger higher-income farmers, some degree of which might occur anyway under a program that fails to target small farmers successfully.⁴
4. ***Address infrastructure and input supply constraints as well as improving procurement efficiency*** (joint procurement arrangements and regional procurement hubs). This will help achieve the goal of enhancing farm-level fertilizer supplies at a lower price. Facilitating the movement of fertilizers across borders (removing customs duties and export taxes) will also contribute to overall improvements in supply efficiency.
 5. ***Facilitate private sector partnerships with farmers***, such as through contract farming where conditions are suitable, would go a long way toward reducing the financial burden on government.
 6. ***Strengthen farmers' effective demand for fertilizer*** by making fertilizer use profitable and by building durable input markets and output markets that can absorb the increased output without gluts that depress producer prices. This involves two major commitments from government:
 - a. To increase farmers' demand for fertilizer, governments should invest in rural infrastructure, efficient port facilities and standards of commerce to reduce the costs of distribution; fund agricultural research to produce seeds that respond to fertilizer; determine and disseminate fertilizer use recommendations that are appropriate for different areas (as opposed to one blanket recommendation for an entire country); and nurture the development of rural financial systems, market information systems, institutions for contract enforcement, and telecommunications to attract new investments by commodity marketing firms. These "public goods" investments, often considered outside the scope of fertilizer marketing policy, nevertheless strongly affect the demand for fertilizer and hence whether sustainable markets for fertilizer can arise.

⁴ The option of a small universal subsidy program is discussed by Dorward et al. (2007). See also Chinsinga (2005) for a discussion of earlier experience in Malawi with universal and targeted input subsidy programs.

- b. To build durable input and output markets, governments should establish a supportive policy environment that attracts local and foreign direct investment. The case of Kenya shows how a stable policy environment from the early 1990s to 2007 induced an impressive private sector response that has helped to make fertilizer accessible to most small farmers. Importantly, this has involved reforms to the financial market (elimination of foreign exchange controls) as well as to fertilizer and crop markets. In other countries, the implementation of large subsidy programs has inhibited the type of private investment response seen in Kenya, due to the risk of huge losses that subsidy programs inflict on commercial input dealers.
7. ***Increase fertilizer use efficiency*** by promoting farmers' use of improved crop management practices such as crop rotation with legumes, changes in density and spacing patterns of seeds and placement of fertilizer and seeds at planting, improved soil organic matter, early planting, timely weeding, applying fertilizer in response to rainfall (Snapp, Blackie, and Donovan, 2003), water harvesting, and other conservation farming methods (Hagblade and Tembo, 2003).

References:

- Dorward, A. R. and E. Chirwa (2009). *The Agricultural Input Subsidy Programme 2005 to 2008: Achievements and Challenges*. London, School of Oriental and African Studies.
- Chinsinga, Blessings. 2005. Practical and Policy Dilemmas of Targeting Free Inputs. In Sarah Levy (Ed.), *Starter Packs: A Strategy to Fight Hunger in Developing Countries?* Wallingford, UK: CABI Publishing.
- Dorward, A., E. Chirwa, V. Kelly, T. Jayne, 2008. Evaluation of the 2006/7 Agricultural Input Supply Programme, Malawi. Final report, School of Oriental and African Studies (SOAS), Wadonda Consult, Michigan State University, and Overseas Development Institute (ODI), undertaken for the Ministry of Agriculture and Food Security, Government of Malawi. March.
- Hagblade, Steven, and Gelson Tembo. 2003. Development, Diffusion and Impact of Conservation Farming in Zambia. Food Security Research Project Working Paper No. 8. Lusaka, Zambia, November.
- Jayne, T.S., J. Govereh, A. Mwanambo, J. Nyoro, and A. Chapoto. 2002. False Promise or False Premise: The Experience of Food and Input Market Reform in Eastern and Southern Africa. *World Development*, Vol 30 (11): 1967-1986.
- Minde, I., T. Jayne, E. Crawford, J. Ariga, and J. Govereh. 2008. Promoting Fertilizer Use in Africa: Current Issues and Empirical Evidence from Malawi, Zambia, and Kenya. Working Paper for Re-SAKSS/Southern Africa, Pretoria, South Africa.
- Morris, M., L. Ronchi, and D. Rohrbach. 2009. Building Sustainable Fertilizer Markets in Africa. Paper prepared for the Alliance for a Green Revolution conference "Toward Priority Actions for Market Development for African Farmers, May 13-15, 2009, Nairobi, Kenya.
- Morris, M., V. A. Kelly, R. Kopicki, and D. Byerlee. 2007. *Promoting increased fertilizer use in Africa: Lessons learned and good practice guidelines*. Washington, D.C.: World Bank.
- Snapp, S. S., M. J. Blackie, and C. Donovan. 2003. Realigning research and extension to focus on farmers' constraints and opportunities. *Food Policy* 28(4):277-419.

* The African Agricultural Markets Programme (AAMP) is managed by the Common Market for Eastern and Southern Africa, with technical support from Michigan State University and the International Food Policy Research Institute. AAMP is funded by the World Bank.