



TEGEMEO INSTITUTE

Policy Brief

Strengthening Staple Food Markets in Eastern and Southern Africa: Toward an Integrated Approach for CAADP Investment Plans

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*Policy Brief No. 9
February 2013*

SUMMARY: *A large proportion of small-scale farmers in Eastern and Southern Africa are resource-constrained in terms of productive assets. Their agricultural productive capacity is low and they remain staple food buyers. As a result, rural poverty rates have remained virtually unchanged if not gone up. A major challenge for CAADP Investment Plans, therefore, is how to effectively reach the least productive of the smallholder population. Doing so will require a combination of strategies: first, investing in agricultural research and farmer skills to transfer technologies that are appropriate for one-hectare farms; second, reducing the costs of putting food on consumers' tables so as to raise the disposable incomes of urban and net grain-buying rural households; third, encourage the adoption of more predictable, rules-based forms of state operations in food markets to promote more rapid private investment in the food systems; and finally, support the development of alternative commodity value chains to provide incentives for smallholders to raise their incomes through the diversification of cropping patterns from low-value staples to higher-return crops.*

BACKGROUND

A large proportion of small-scale farmers in Eastern and Southern Africa are resource-constrained in terms of productive assets. Their agricultural productive capacity is low and they remain staple food buyers. As a result, rural poverty rates have remained virtually unchanged if not gone up. A major challenge for CAADP Investment Plans, therefore, is how to effectively reach the least productive of the smallholder population. Doing so will require a combination of strategies: first, investing in agricultural research and farmer skills to transfer technologies that are appropriate for one-hectare farms; second, reducing the costs of putting food on consumers' tables so as to raise the disposable incomes of urban and net grain-buying rural households; third, encourage the adoption of more predictable, rules-based forms of state operations in food markets to promote more rapid private investment in the food systems; and finally, support the development of alternative commodity value chains to provide incentives for

smallholders to raise their incomes through the diversification of cropping patterns from low-value staples to higher-return crops.

OBJECTIVES

This note highlights the major challenges facing governments and international agencies in their efforts to strengthen the performance of staple food markets in Eastern and Southern Africa, and suggests potential strategies for CAADP Investment Plan to overcome the challenges.

CHALLENGES

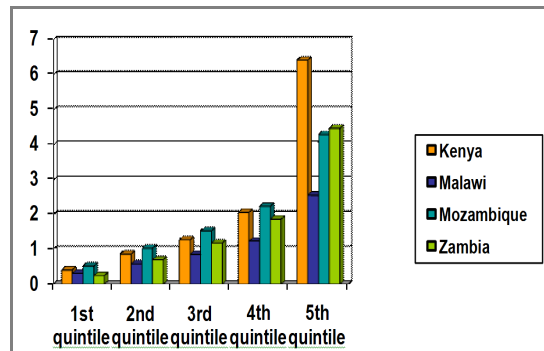
1. *African farmers' ability to respond to market incentives is constrained by farm structure.* Recent events in Malawi and Zambia have confirmed a longstanding empirical fact -- it is possible to achieve impressive food production growth without having any meaningful impact on poverty reduction. Farm sizes are declining over time as rural populations grow and families sub-divide their land to the next generation (Table 1).

Table 1: Ratio of Cultivated Land to Agricultural Population

| | 1960-69 | 1970-79 | 1980-89 | 1990-99 | 2000-09 |
|-------------------|---|---------|---------|---------|---------|
| | Cultivated hectares per agricultural person | | | | |
| Ethiopia | 0.501 | 0.444 | 0.333 | 0.224 | 0.218 |
| Kenya | 0.462 | 0.364 | 0.305 | 0.264 | 0.219 |
| Malawi | 0.580 | 0.466 | 0.357 | 0.304 | 0.307 |
| Mozambique | 0.356 | 0.337 | 0.320 | 0.314 | 0.294 |
| Rwanda | 0.212 | 0.213 | 0.195 | 0.186 | 0.174 |
| Uganda | 0.655 | 0.569 | 0.509 | 0.416 | 0.349 |
| Zambia | 0.643 | 0.607 | 0.398 | 0.342 | 0.297 |

Note: Land to person ratio = (land cultivated to annual and permanent crops) / (population in agriculture).

Source: FAOStat website: www.faostat.fao.org/

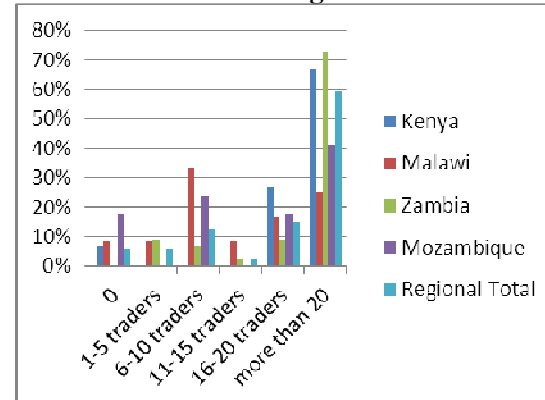
Figure 1: Landholding Size of Smallholder Farms, Hectares per Household

Source: Jayne et al 2010

In the four countries examined in Figure 1, over 50% of the farms are below one hectare in size. As average farm size falls below one hectare, a staple food-based agricultural system under a primarily rain-fed system with one growing season using low-input technology is in most areas not going to provide a viable pathway out of poverty. Even with major improvements in the performance of rural grain markets, inadequate access to land in many areas will prevent at least 30-40% of smallholder farmers from producing a grain surplus. These farms are not likely to escape from poverty through a maize commercialization strategy unless there is tremendous growth in maize productivity, which will require sustained and dedicated investment in crop science and extension.

2. *Smallholder farmers are less isolated from markets than commonly thought:* According to recent national farm surveys,

smallholders report improvements in their access to crop buyers and services. The number of private traders coming into the village to buy maize from farmers after the harvest is usually more than 10 and in many cases more than 20 (Figure 2).

Figure 2: Farmer Responses to the Question: How Many Traders Came into this Village to Buy Maize from Farmers in the 2008/09 Marketing Season?

Source: Jayne et al. 2010.

The median distance travelled by farmers to sell their maize in Malawi, Zambia, and Kenya is zero, indicating that most farmers sell their maize to traders who come right into their villages, even in inaccessible and remote areas. Interestingly, no statistical relationship was found between the “degree of remoteness” as defined by the distance from the farm to the nearest district town and the distance traveled to sell maize, indicating that private traders are penetrating deeply into remote areas to buy grain from farmers. The evidence from nationwide

household surveys in these countries point to major improvements in farmers' access to grain buyers over the 20 years since private grain trade was legalized. For most smallholder farmers, their inability to participate in markets is driven more by insufficient productive assets and knowledge than by isolation from markets. This highlights the role of improved farm technology, management practices, and access to land and other productive resources, in rural poverty reduction strategies, to enable more rural households to produce a surplus and meaningfully relate to markets as sellers.

3. *Farmers receive about 60% to 90% of the price of maize grain observed in district retail markets:* By matching farm-gate prices received by interviewed farmers with prices observed in the nearest retail markets during the same period, it is found that farm prices are roughly 60% to 90% of retail prices in Zambia, Kenya, and Malawi. Yet farmers in the same villages obtained widely varying prices for their maize in the same month, indicating major differences among farmers in negotiation ability and understanding of their marketing options. These findings indicate potentially high returns to farmer marketing training, such as those conducted by the Kenya Market Development Programme, to raise their incomes from surplus grain production.

4. *There is very limited grain storage in rural areas.* Traders frequently indicate constraints on availability of storage facilities and disincentives to engage in intra-seasonal storage. There are six main causes of disincentives to store grain and invest in storage facilities:

i) *Staggered harvest seasons in some areas:* In regions with multiple harvests per year, such as Kenya, Uganda, and northern Tanzania, there is relatively small intra-seasonal price rise. Maize production is hitting the market at various times throughout the year. This shifts the emphasis of marketing from intra-seasonal storage to spatial arbitrage, shifting grain from places

where the harvest is hitting the market to areas experiencing demand at that time.

ii) *Unpredictable government operations in grain markets:* Highly discretionary government policies create major risks for grain storage. Export bans, sudden modifications or removal of import tariffs, and stock releases from government silos at concessionary prices are all examples of government activity that can undermine the returns to intra-seasonal storage.

iii) *The resulting grain price uncertainty inhibits commercial bank investment in grain storage and makes investing in government instruments relatively attractive:* Most governments in the region are running deficits, which they finance by offering high-interest bills and bonds. Local banks naturally are content to earn a safe return investing in these government bonds rather than making loans to finance highly risky investments in grain arbitrage. Reducing the policy risk in markets will encourage greater bank investment in African agriculture.

iv) *Uncertainty over disposition of current marketing board storage facilities:* Most of the silo capacity in countries such as Kenya, Malawi, and Zambia remains in public sector hands. The potential for selling parastatal storage facilities at concessionary prices as part of some future privatization plan acts as a deterrent to new commercial investment in storage. This pattern of bank investment also shifts major investible liquidity in a country into government operations and programs rather than private sector investment.

v) *Threat of grain confiscation:* Recent events in Malawi, Ethiopia, and Kenya demonstrate that there is some risk of stored commodities being confiscated or destroyed.

vi) *Lack of quality standards with respect to moisture content:* Assembly traders and wholesalers make little effort to discourage the buying of wet maize or to separate it from higher quality dry maize. If anything,

the tendency is to combine wet and dry maize in order to mask the ability to detect wet maize by the next buyer. The storage of high-moisture content maize results in rotting and high storage losses and contributes to human health problems such as aflatoxin.

6. *Disincentives to store grain also exacerbate the flow of grain out of informal markets and contribute to a circuitous flow of grain* from surplus-producing farmers in grain deficit areas to urban areas, only to be milled by large-scale processors and then re-distributed back to the grain-deficit rural areas in the form of expensive commercially milled meal. This problem contributes to redundant transport costs and higher food costs for consumers, many of whom are poor grain-deficit rural households.

7. *Unpredictable state interventions undermine investment and coordination among the players in the staple food value chains:* In a six-country study, Chapoto and Jayne (2009) found that the two countries most aggressively pursuing price stabilization through marketing board and trade controls over the 1994-2009 period (Zambia and Malawi) experienced by far the highest degree of maize price instability. Such findings indicate that many governments' well-meaning attempts to stabilize prices may actually destabilize them. Future food prices are more difficult to predict in an environment in which the extent and composition of marketing board operations are frequently changing and where cross-border trade policies also change in ways that are difficult to anticipate. There is increasing evidence that private trade and investment develops more slowly and more tentatively in countries where government policy is particularly unpredictable.

Moreover, The South African Futures Exchange (SAFEX) price discovery process, which could be so useful to governments and marketing firms and contribute to the development of more structured markets throughout the region, is frequently

disrupted due to highly discretionary state operations in markets.

While private trading systems will always result in price variation – potentially very wide price swings in landlocked countries with poor transport infrastructure – they tend not to cause the frequent food crises due to policy mistakes and inaction that are commonly seen in the region. However, these findings do not suggest that governments have no role to play in maize markets. The findings rather indicate that the price instability and unpredictability could be mitigated more effectively by limiting the state's role to adopting a rules-based and transparent approach to state operations in markets so that the private sector understands the specific market conditions that will trigger government interventions.

8. *Many "market failures" commonly observed in the region reflect chronic underinvestment in productivity-enhancing public goods.* The costs of participation in markets are unusually high in most of Africa due to limited investment in transport infrastructure, ports, rail, road, and electricity. The rail system and ports in eastern Africa are in a state of decay and the high costs involved in importing fertilizer and other goods act as a tax on farmers as well as the entire economy. Farmer participation in staple food markets is also constrained by weak investment in crop science, especially relevant for semi-arid conditions, and effective extension services for farmers. Ironically, while reviews of the Asian green revolution experience underscore the very high payoffs to public investment in R&D and physical infrastructure in terms of agricultural growth and poverty reduction (Fan, Gulati, and Thorat 2007; Economist Intelligence Unit 2008), these public goods investments account for a very low percentage of national budgets among most African nations and in some cases are crowded out by large-scale input promotion programs with uncertain long-term effects.

IMPLICATIONS FOR CAADP INVESTMENT PLANS

Well-conceived CAADP investment plans will focus on raising on-farm productivity as well as improving markets and in a way that effectively reaches the rural poor by focusing on technologies and delivery systems appropriate to one-hectare farms. In this way, agricultural growth can more meaningfully contribute to poverty reduction, something that has been elusive in countries focusing on farm price supports and input subsidies that are received largely by better-off farmers.

A well-conceived CAADP investment plan will also recognize the importance of policy in determining the impacts of agricultural investment. Appropriate policies and public investments can leverage much greater investments by the private sector in support of smallholder-led development. By the same token, policies that are unpredictable and/or crowd out private investment can cause an otherwise good CAADP Investment Plan to create little enduring benefit.

Smallholders' ability to progressively diversify into higher-valued activities will rest on the performance of staple food markets. If food is reliably available in markets at tolerable prices, smallholder farmers are likely to shift more of their land and labor into crops that provide higher returns and then use the proceeds to buy food from the market. Shifts toward higher-return activities can be a source of major productivity and income growth for smallholder farmers, but such a strategy depends on reliable availability of staple food to buy at tolerable prices. For these reasons, programs to reduce the costs of food production and marketing will be at the heart of effective CAADP investment plans. By reducing the costs of delivering staple foods to consumers' tables, CAADP

strategies can achieve the twin goals of improving consumers' access to food and promote income growth on smallholder farms through productivity growth and progressive diversification to higher valued crops. Such investments would represent a shift from the strategy of price stabilization and price support for a dominant staple grain to a portfolio approach that puts greater emphasis on a range of higher-valued commodities while attempting to make the socio-political economy less vulnerable to the effects of food price instability.

The potential remains for broad-based smallholder-led agricultural development, and this is indeed necessary to achieve meaningful reductions in rural poverty. In many areas, however, this will require overcoming the land-related constraints on a successful smallholder-led agricultural development strategy. In countries where a large proportion of the smallholder population reside in densely populated rural areas, such as Malawi, Kenya, and Uganda, well-conceived CAADP investment plans will call for governments to invest in infrastructure and services to open up currently underutilized areas to encourage smallholder-led settlement and agricultural commercialization. There remains ample scope for such a strategy in many, but not all countries in the region. But the recent transfer of massive amounts of land for large-scale commercial investment and the massive amounts of public resources that have sometimes accompanied these large-scale land investments may impede needed access to land for future generations of smallholder farmers (Jayne et al. 2010).

Achieving on-farm productivity will acquire a holistic approach that transfers knowledge, management skills, and improved technologies, and provides a hospitable environment for private investment in input delivery systems to improve smallholder farmers' access to

these technologies and services. Likewise, the improvement of smallholder farmers' access to markets will primarily entail providing the public goods investments in physical infrastructure and a predictable policy environment, which will then provide the private sector with strong incentives to aggressively promote surplus production and domestic supply chains because, in a food import environment, domestic production will be the least costly source of supply to meet the rapidly rising demand for food in rapidly urbanizing areas of Africa.

The apparent structural shift to higher global food prices provides an opportunity for well-conceived CAADP investment plans and agricultural policies to have far-reaching benefits for African agriculture. As long as these investment plans and policies are inclusive of the poor, through focusing on technologies and services that make a difference on one-hectare farms, then rapid reduction of rural poverty can be achieved. The potential is there and, by and large, there is broad agreement of the kinds of investments and policies needed to achieve this potential. So, a great deal hinges on the design of CAADP investment plans and how they are translated into implementation.

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Tegemeo Institute acknowledges the resources support for its research programmes from key partners including the United States Agency for International Development (USAID), Michigan State University (MSU), and Egerton University, Njoro Kenya.

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