

# Briefing Paper

## The Kenya Maize Development Programme: Lessons for Food Security and Sustainability

### Summary

Maize is not only the staple food for many people in Africa, but also a main source of household income for smallholder farmers. With the right kind of policies in place, the sector could therefore substantially contribute to improved food security. This briefing paper explores possible policy interventions by drawing lessons from the successful implementation of the Kenya Maize Development Programme (KMDP). In eight years, KMDP managed to triple smallholder farmer maize yields, resulting in increased earnings of \$208 million for 370,000 smallholder farmers.

### Introduction

Maize is a very important crop for Kenya. It is produced by 98% of the 3.5 million small-scale farmers, and accounts for about 56% of cultivated land in Kenya.<sup>1</sup> Therefore, it is not exaggerating to state that maize is key to Kenya's agricultural sector and food security. A successful development of the maize industry will also boost food security and the national economic growth, enhance the level of knowledge and technologies used in agriculture, and thus reduce poverty as well as improve the living standards of the population. Like many other crops, maize is mainly produced under rain-fed conditions, which results in the dependence of farming activities and production on weather. In recent years, the production of Kenyan maize is becoming more vulnerable to increasing weather variability brought about by climate change. Extreme weather events such as droughts lead to

greater variability in production and in the income of farmers. Under such circumstances, it is a challenge for the government of Kenya to guarantee the country's food security, and a competitive place in the international trade of maize.

The human dimension has also great implications on the Kenyan maize production. With the country's population projected to be 43.1 million by the year 2020, the demand for maize is then likely to be 5 million metric tonnes. This means that based on the prevailing maize production rates, the maize deficit will be around of 1.2 million metric tonnes in 2020.<sup>2</sup> There has been insufficient support to the various stakeholders in the maize supply chain, such as farmers, agro-business companies, research associations, etc. The lack of connection and communication among these stakeholders, and the underdevelopment of infrastructures necessary for the maize production activities also pose barrier for

a successful maize industry in Kenya. The insufficient participation of private sector in the maize market holds the transaction cost in the marketing system high while the level of competition remains low. The inefficient maize production-marketing system has contributed to economic stagnation and worsening levels of poverty in Kenya.<sup>3</sup> Without prospective profits that people could gain from the maize production activities, the ones used to be in the industry would just leave and shift away to other more profitable enterprises. Especially with regard to young people, it is crucial to think about how to incentive them to contribute their innovative thinking and energy to maize enterprise. In sum, increased productivity, more efficient markets, and appropriate government policies could dramatically alter the economic contribution of the maize sub-sector – from being a drag on the economy to becoming a key element in accelerated growth and poverty reduction.<sup>4</sup>

## The Kenya Maize Development Programme (KMDP)

In 2002, USAID/Kenya awarded ACIDI/VOCA a cooperative agreement to manage the Kenya Maize Development Programme (KMDP). Originally a \$11.2 million program for four years, KMDP was progressively extended to a final end date of June 30, 2010. The NGO ACIDI/VOCA that implemented the programme has a food security focus. It is a US-based NGO that promotes broad-based economic growth and higher living standards in low-income countries. It promotes value chain-oriented poverty alleviation and enterprise development. KMDP activities focused mainly in the high- and mid-potential maize producing districts of Kenya's Western and Rift Valley provinces. KMDP's goal was to increase rural household incomes through improved production and marketing efficiency in the maize subsector, specified under USAID-Kenya's Strategic Objective 7 (SO7), —'sustained economic growth through increased rural

household incomes,' and the Presidential Initiative to End Hunger in Africa (IEHA). SO7 emphasised that benefits must accrue to the smallholders; hence, KMDP focused on smallholder farmers. Its approach emphasised all elements of the maize value chain from input commodities and services, to production, processing, marketing and distribution, as well as environmental and socio-cultural impacts of the program's activities.<sup>5</sup> KMDP was designed to increase household incomes for value chain actors by promoting increased awareness and involvement in every step of the maize value chain. Smallholder farmers are learning to adhere to international quality and linking directly with private sector business development services. And it worked closely with private sector service providers and government of Kenya agencies throughout the life of the project. The programme achieved various positive outcomes. From 2002–2010, KMDP tripled smallholder farmer maize yields from a baseline output of eight bags.<sup>6</sup> The increase in marketable surplus resulted in increased earnings of \$208 million for 370,000 smallholder farmers. And there was a high level of impact of the training on farmers, who learnt more about markets, trade, seeds, production and storage methods, and adopted more new technologies. The total number of individual farmers who benefited from business development services was 11,096.

## Main Actors Involved in the KMDP

Led by ACIDI/VOCA, the programme of KMDP involved a diverse consortium of partners within the maize value chain, including the Cereal Growers Association of Kenya (CGA), Farm Input Promotions Africa Ltd. (FIPS), and the Kenya Agricultural Commodity Exchange (KACE).<sup>7</sup> The partnerships in which different institutions and researchers participate serve the common goal of benefiting the farmers in maize production.

### ACIDI/VOCA

ACIDI/VOCA is the main organiser and

implementer of the KMDP Programme. It provided overall project leadership and management to increase the effectiveness of smallholder organizations through training and market linkage, and to facilitate the expansion of both the supply and demand sides of Kenya's maize subsector. ACIDI/VOCA encouraged farmers' participation in farmer organizations to take advantage of collective efforts, better leadership and effective planning. Keeping the focus on farmers, it facilitated linkages between farmer organizations and private sector players and stimulated incentives for better-organised smallholder organizations and improved services to farmers. ACIDI/VOCA led and organised the research on business models and project development approach to be used. It played the leader and coordinator role in the development and facilitation of specific action plans, of partnerships, etc. It was also in charge of having a bigger picture by bringing in gender and youth considerations, sustainable development, peace-building and so on. More importantly, ACIDI/VOCA's monitoring and evaluation (M&E) program was a key to ensuring accountability.

## Key Collaborators

One of the highlights of the KMDP Programme is its research-based nature. Fully aware that only with serious and comprehensive study and research could a programme get effective implementation and lead to satisfactory and sustainable outcomes, KMDP paid enough attention to the support of comprehensive studies and scientific research. Egerton University's Tegemeo Institute of Agricultural Policy Research and Development is a collaborator of ACIDI/VOCA in KMDP, and a key actor in the development of pre-programme research work. Working with the MOA (Ministry of Agriculture), Tegemeo added the public sector perspective to ongoing dialogues, with special contributions to policy discussions. The Cereal Growers Association of Kenya (CGA) is a member based farmer organization registered in 1996 in response to the liberalization of the grain market in

Kenya. Its mandate is to organize cereal farmers into fully functioning business structures and offer business support services.

Farm Input Promotions Africa Ltd. (FIPS-Africa) is a "not-for-profit" company committed to improving the crop productivity of small-scale farmers in sub-Saharan Africa. It does this through the dissemination of the appropriate farm inputs, and information on their most effective utilization. FIPS-Africa has a strong monitoring and evaluation component to measure the impact of its work. Data is used to fine-tune its methodology. Since its inception in 2003, FIPS-Africa has assisted over 300,000 farmers to improve their crop productivity. FIPS' main role in the programme is to undertake the increased productivity element through field days, laying demonstration plots and generally providing agronomical elements of productivity. The Cereal Growers Association of Kenya (CGA) would then undertake processing by mobilization of farmer groups, capacity building, and training on harvesting and post-harvest handling. The Kenya Agricultural Commodity Exchange (KACE) was another key collaborator in KMDP. KACE dealt with the marketing element by providing farmers with market information, market linkages and capacity training and support. All partners kept the principle of targeting farmers through producer groups thus giving them the benefits of the value chain activities in a uniform manner.<sup>8</sup>

## Private Sector Engagement

KMDP worked with suppliers to initiate programs aimed at the smallholder farmers on packaging seeds or fertiliser (e.g., seeds or fertiliser in small packets that are more affordable for small farmers). Some seed companies sold to farmer groups at a bulk rate and delivered the seed. Farmers supported under KMDP reduced their costs associated with the acquisition of maize seeds and fertiliser through joint input procurement. Kenya Seed Company is a government parastatal. To facilitate delivery of inputs, farmer groups registered with KMDP

promoters and contributed money to their account at the Kenya Seed Company, which delivered the inputs. The relationship with the seed companies resulted in reduced costs for individual farmers who purchased inputs together for economy of scale. For example, in Bomet non-members bought maize seed at Ksh 256 per 2kg packet, while KMDP beneficiaries purchased a similar quantity at Ksh. 226. KMDP farmers also enjoyed a higher yield and uniform crop compared to non-KMDP beneficiaries.<sup>9</sup>

KMDP also worked with Kencall, a business process outsourcing company that operates call centers to provide technical content to create the Farmer Helpline17, and farmers call and quickly obtain updated information on maize production practices, marketing and other services. At the same time, financial institutions participated as well in the KMDP to add new dynamics to the Kenyan maize subsector. Recognizing that reliable access to affordable credit for inputs was essential to increase productivity, KMDP worked with financial service providers to gain a better understanding of the risks associated with maize production and marketing and explore tactics and strategies to manage these risks. KMDP worked thus closely with Equity Bank, Family Bank and other financial institutions. As a result, in 2010, approximately 35 percent of KMDP-supported farmer groups have access to commercial credit. Access to credit increased the use of inputs and the ability of farmers to hedge on market prices; thus, there is an increase in productivity and higher prices of produce in the market.<sup>10</sup>

The engagement of private sector not only benefited farmers, but also companies themselves involved in the program. Growth in farmers' incomes was influenced by the private sector's business development services. Contact with private sector was a useful tool in rebuilding disrupted value chain of the maize subsector. In the process of interacting with farmers and other stakeholders, private sector also obtained feedback from farmers, monitored product performance and created the basis for

research and development of smallholder oriented solutions.

## Farmers

The chief objective of KMDP was to improve the livelihoods of the farmers in the maize sub-sector, especially smallholder famers. Farmers were at the centre of the programme. They were given the priority and became active members in the value chain, to be better able to address issues faced across the whole value chain and to learn how they can address challenges without external support. ACDI/VOCA targeted the goal of sustainability and paid attention to the continuation of the project outcomes. It developed community self-help groups and supported local farmers' groups to encourage collaborative efforts and best practice sharing. At the end of the programme, it implemented capacity-building trainings on organization management to 120 farmer organizations with approximately 370,000 farmer beneficiaries. Assuming the role of catalyst instead of donor, KMDP recognised and valued the power of farmers themselves and put emphasis on the ownership aspect of the project. It made sure that when the NGO left, methods were passed and innovative thinking was sparked. From 2002–2010, KMDP's interventions demonstrated that smallholder farmers add substantial value to the maize value chain as well as improved knowledge flow and transparency in the maize subsector. Overall the project benefits were largely felt in the farmers' households with increased income and investment in new economic activities, improved livelihoods where farmers reported that they were able to clear their debts, enroll their children in good schools and supplement their diet by incorporating new foods introduced.

## Enabling Factors in KMDP

The success or failure of one project does not depend on a single factor. In KMDP, there are several enabling factors that led to the positive



effects of the project. First of all, it enjoyed adequate time, funding, and flexibility from USAID. Flexible programme design and the extended timeframe allowed ACDI/VOCA to work with farmers and local partners to minimize risks and, as feasible, develop opportunities out of challenges. KMDP's long view and flexibility further allowed ACDI/VOCA to develop community self-help groups, local farmers' groups, and industry associations critical to levelling the playing field between rural communities and outside markets. Secondly, the programme development was based on fully-informed and vigorous research, accompanied by analysis on the basis of local evidence. Thirdly, as mentioned previously, KMDP built close relationship with local people. It motivated and depended on the strength of communities, and played a catalyst role rather than a direct service deliverer role. By tapping the courage of local people willing to embrace change, and by sparking innovation, the project kept an eye toward sustainability. KMDP also integrated gender dimension to use more balanced dynamics of households. This allowed youth and women to better participate in decision-making processes at the household and farm level. The programme provided opportunities for young people and women to engage in the market economy and become viable entrepreneurs. Youth were involved through recruitment as village based advisors/promoters and during training. The programme took on a deliberate approach to integrate the youth thereby empowering them with knowledge and skills. The youth were thus able to take advantage of the various opportunities within the value chain by becoming extension agents, middle men and also secured employment in agricultural sector organizations. The percentage of women involved in farmer groups grew by 30 percent with women occupying leadership roles in many farmer organizations. Similar to gender, KMDP addressed at the same time critical cross-cutting issues such as natural resource management and HIV/AIDS. Last but not least, the programme

put at the centre agricultural business services offered by the private sector. Recognizing the importance of the private sector, the programme taught producers to adopt a commercial approach to their farming activities. It offered business start-up training program targeting entrepreneurs in the agricultural and business sector.

## Challenges and Lessons

One of the predominant challenges of the KMDP project was that farmers had different interests and needs, and men and women farmers tended to grow different crops. It was not easy to follow up on every individual. Not all farmers were reached as envisioned through all value chain activities (production, processing and marketing). Also not all value chain crops benefited from the value chain activities (production, processing and marketing) as intended in the programme design. In addition, individual farmers were not able to enjoy the benefits of being in a group for accessibility of cheaper farm inputs, access to markets etc. As a highlight of the program, the learning and utilization of technologies by farmers in the maize subsector was not without challenges. KMDP mobilised technologies to deliver better services to farmers, such as the latest storage technologies, the use of SMS for weather broadcast and price information. Farmers were positive about the technologies introduced (mainly those in crop production) and intended to use them in future as they believed these technologies had increased their yields. But the barrier to continued use was availability and price whose control was outside their reach. Further, these technologies required access to the necessary infrastructure that may not be available in the rural areas.

Furthermore, communication between partners was also cited as a challenge where information flowed horizontally (between partners) and failed to be properly disseminated vertically (i.e. to staff on the ground). The implementation process also

failed at times to meet the needs of the farmers with some failing to attend meetings or trainings organised by the programme actors where the communication to the farmers was done late and the time was not convenient for the farmers.<sup>11</sup> Despite the KMDP program's harmonised and sustainable methodologies, and its positive lessons and results, the above points could be some of the aspects to be improved in other projects taking place in similar areas.

## Conclusion

Maize is not only the staple food for many people in Africa, but also a main source of household income, especially for the smallholder farmers. As the KMPD case showed in this paper, the maize subsector is as important to the livelihood of the population as to the economy of the countries such as Kenya. The government has a key role in improving the quantity and quality of the maize production.

It should assume the responsibility throughout the whole maize supply chain of facilitating the activities of stakeholders including farmers, the private sector, and research agencies. Public policies should focus on increasing investments in maize research and extension, in providing maize farmers with better and more equitable access to inputs and output markets, and in improving the scope of knowledge-based innovation. Maize farmers need more market information on prices, opportunities, etc. Supportive policies of the government on this provision is very important to a successful maize subsector development in the country. Encouraging and organizing collaborative initiatives, coalitions, and information or research platforms also mobilizes the necessary technical, human and financial resources for this development. To join efforts for the same goal of development the maize subsector, the government should strengthen its engagement with actors from across public, private and civil society stakeholders.

## Endnotes

<sup>1</sup> Lilian Kirimi, History of Kenyan Maize Production, Marketing and Policies, 2012.

<sup>2</sup> Erastus Kang'ethe, Situation analysis: improving food safety in the maize value chain in Kenya, 2011.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> ACDI/VOCA Kenya, Kenya Maize Development Programme Final Report, 25th September 2002 – 30th June 2010, 2010.

<sup>6</sup> The 90 kg bag is the unit of measure in Kenya with an average yield of 26 bags per acre.

<sup>7</sup> ACDI/VOCA, KMDP Project Profile, 2009.

<sup>8</sup> Pan African Research (PARS), Kenya Maize Development Programme II: Performance evaluation, 2012.

<sup>9</sup> ACDI/VOCA Kenya, Kenya Maize Development Programme Final Report, 25th September 2002 – 30th June 2010, 2010.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

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