

EGERTON



UNIVERSITY

**TEGEMEO INSTITUTE OF AGRICULTURAL
POLICY AND DEVELOPMENT**

PROCEEDINGS OF A BREAKFAST MEETING

ON

**ASSESSING COSTS OF PRODUCTION FOR MAIZE, IRISH POTATOES AND RICE
IN KENYA: IMPLICATIONS FOR FOOD SECURITY**

HELD AT THE INTERCONTINENTAL HOTEL, NAIROBI ON 11TH OCTOBER, 2018

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1. INTRODUCTION

Agriculture is central to many livelihoods in Kenya accounting for up to 80 percent of the rural population mainly made up of smallholder farmers. Thus, the country largely depends on the agricultural sector for economic growth and food security. The right to food is enshrined in the Kenya's 2010 Constitution. As one of the pillars under the Government's 'Big Four Agenda', the need for increased and sustainable food supply in Kenya cannot be over emphasized. Kenya's challenges with food security can be attributed to several factors such as population growth, low agricultural productivity and dependence on rain-fed agriculture. Other factors include post-harvest losses, poor storage and distribution, low uptake of new technology and effects of climate change. Due to these factors, consumption of most staples in Kenya outstrips production hence the need for imports to fill the gap.

Among the food staples in Kenya, maize, Irish potatoes and rice are very critical for food security. Despite efforts by the Government and other actors in the agriculture sector to improve food production, the country is still not self-sufficient in production of these staples and often experiences seasonal shortages. For example, in 2017, Kenya's domestic rice production was 54,000 metric tonnes against a consumption of 693,000 metric tonnes, while maize output was 3,186,000 metric tonnes against a demand of 4,150, 000 metric tonnes (KNBS, 2018). Production of Irish potatoes, one of the key alternative staples has been declining and so cannot be largely relied on to sustain these gaps. In addition, its consumption is largely dependent on local production and it is characterized by elastic prices.

Given the importance of these staples, analysis of their cost of production is essential for policy on food security and pricing. Hence, Tegemeo Institute as a key stakeholder in national food security matters carries out an assessment of cost of production annually in order to provide evidence-based analysis and recommendation on interventions necessary to reduce the cost of production. The Institute also provides information on the status of the food situation in the country with emphasis on availability and affordability of maize and implications on food security. This year, the Institute hosted a breakfast meeting to share the study findings with key stakeholders and also provide a forum for discussion on appropriate policy options and interventions.

2. METHODOLOGY

This study adopted the Agribenchmark methodology to establish the cost of production. Under this approach, a prototype farm was defined using a production system and similar features such as cultivated land size and labour organization (family or hired labor) that is commonly used by the majority of farmers in a given area (Deblitz, C. and Zimmer, Y; 2005). This was done through focus group discussion (FGDs) for small-scale maize and Irish potato farmers. The results were validated by local experts who included extension officers, input dealers and representatives from farmer organizations. In the large-scale production system, interviews were done with individual maize farmers since it is not easy to assemble adequate numbers in an FGD set up. Phone interviews were conducted among randomly selected rice producers.

Six counties were purposively selected based on their contribution to the national production of maize, rice and Irish potatoes. The selected counties were: Trans Nzoia, Uasin Gishu and Nakuru for maize; Nyandarua and Nakuru for Irish potatoes; and, Kirinyaga for rice. The County agriculture officers were instrumental in identifying specific locations where maize and Irish potatoes are produced and the predominant scale of production system. Table 1 shows the regions visited for the study.

Table 1: Study areas

County	Sub-county	Target crop	Production system
Trans Nzoia	Kiminini	Maize	Small scale
	Endebess and Saboti	Maize	Large scale
Uasin Gishu	Moiben	Maize	Large scale
	Turbo	Maize	Small scale
Nakuru	Njoro	Maize	Small scale
	Molo	Irish potatoes	Small scale
Nyandarua	Kipipiri	Irish potatoes	Small scale
Kirinyaga	Mwea	Rice	Small scale

3. FINDINGS

3.1. Cost of maize production

Key messages

- There was increased maize production for both large and small-scale farmers in 2018 compared to 2017. Yield among large-scale farmers increased by 23% from 20 to 24 bags per acre, while it increased by 6% from 17 to 18 bags among small-scale farmers.
- In 2018, the production cost of a 90 kg bag of maize among large-scale farmers was KES 1,781 compared to KES 2,179 in 2017 representing an 18% decline in costs. Similarly, small-scale farmers' costs dropped to KES 1,366 from KES 1,611 in 2017 (15 % decline).
- The higher maize yields, leading to lower costs of production reported in 2018 are attributed to favorable weather and minimal pests and disease infestation. However, some maize crop was affected by above average rainfall during the growth stage and at harvesting. These weather conditions were different from what was experienced in 2017, which was a relatively drier period.
- Availability, accessibility and increased use of subsidized fertilizers by both large and small-scale farmers reduced production costs by 16.5% and 11%, respectively.
- The main drivers of cost of maize production among large-scale producers were land rent (23%), machinery (19%) and labor (15%). Similarly, land rent (28%), labor (25%) and machinery (16%) were the drivers of cost of production among the small-scale farmers.
- Due to unrestricted maize imports in 2017, market prices are currently low though farmers expect sale prices higher than the prevailing market prices, given the historical prices that the government has been offering through NCPB. For instance, large-scale farmers in Uasin Gishu and Trans Nzoia are expecting KES 2,725 per bag, on average, yet the current market price is about KES 1,250. The low prices may cause farmers to reduce acreage under maize grain during the next season, a situation that may have long-term impacts on food security.

- Every year, the government sets purchase prices for maize in the country; which are usually higher than market prices. This effort is geared towards purchasing maize for the strategic food reserves (SFR) but it creates distortions in the market by driving prices up for farmers, traders, millers and consumers.
- Delayed payment to farmers who sold maize to NCPB in 2017, led to late planting and a reduction in acreage under maize in 2018 by some farmers. This was occasioned by liquidity constraints that prevented farmers from purchasing inputs on time and had a negative effect on yields.

Policy recommendations

- The most effective way to reduce production costs is by improving productivity and adoption of labor-saving technologies or mechanization in some activities that are labor intensive e.g. harvesting.
- The government needs to reduce its role in maize markets by restructuring NCPB to focus on SFR only.
- There is need to fast-track the warehouse receipts system bill as this will help in reducing liquidity constraints and post-harvest losses.
- There is need to adopt a model for SFR purchases that does not create distortions in the maize market. This could be attained through a combination of purchasing maize directly from warehouses or the market, keeping virtual stocks and contracting farmers to produce maize grain for the SFR.
- There is need for enhanced adoption of climate smart agricultural practices to ensure sustainable production of maize even during adverse seasonal weather conditions.

3.2. Cost of production for Irish potatoes

Key messages

- Yields were suppressed during the main season of 2018. The average yield was 12.3 and 13 bags of 110 kg for Nakuru and Nyandarua, respectively, against a normal yield of 40 bags per acre. The low yields were attributed to diseases and water logging due to above normal rainfall.

- Given the low yields, the production costs per 110kg bag were KES 3,937 and KES 4,325 in Nakuru and Nyandarua, respectively. However, in a normal year the production costs would be KES 1,206 and KES 1,406 per bag in Nakuru and Nyandarua, respectively.
- The main drivers of costs were labor (25%), seed (21%) and land rent (17%) for Nakuru whereas in Nyandarua, the cost drivers were seed (36%), labor (30%) and land rent (15%).
- The prices of Irish potatoes were particularly high during the season since excess rainfall negatively affected supply.
- Crop protection and management is an important component for farmers to safeguard against losses and maximize output. However, liquidity constraints prevented the farmers from achieving the required levels of crop protection and proper management to achieve better yields.
- The country faces a severe shortage of high quality seed varieties. There are few seed multipliers limiting access to clean seed.
- Irish potatoes are perishable and bulky yet farmers lack cool storage facilities and the road infrastructure from the farms is poor. As result, farmers face very low farm gate prices at harvest time.
- The marketing channel is largely controlled by a large number of middlemen who dictate prices received by farmers.
- There is low uptake of the proposed 50 kg bag as the standard packaging for Irish potatoes, which has resulted in losses for farmers. Traders prefer larger bags of 110, 130 and 210 kg.

Policy recommendations

- There is need to improve access to quality Irish potato seeds. This can be achieved through multiplication of seed using certified seed technologies such as tissue culture or importing seed from other countries. Farmers should also be encouraged to do positive selection and/or choose the best seeds whenever they are recycling, rather than using the leftovers after middle men have selected what they need. The later lack vigor and lead to lower yields.

- Due to the challenges of excess rainfall and frequent disease incidences, varieties that are tolerant to such constraints need to be developed. Climate smart practices and uptake of weather advisories should be promoted to increase sustainable production.
- There is need to support construction of cold room storage in production areas to reduce post-harvest losses and ensure benefits from stable prices across the season.
- Farmers need to be organized in producer associations so as to benefit from collective bargaining.
- Laws on packaging standards need to be resolved to protect producer interests.

3.3. Cost of rice production

Key messages

- In 2018, rice recorded a 12% increase in productivity to 2,520 kilograms per acre, up from 2,250 kilograms in 2017.
- The production cost increased from KES 60,364 in 2017 to KES 71,380 per acre. Although there was an 18% increase in production cost, there was no change in the cost per kilogram due to better yields in 2018.
- Key drivers of cost of rice production were land rent (41%), labor (29%) and hiring of machinery (13%). Where land rent is not hired, labor contributed the highest cost. However, there are still opportunities of saving costs by mechanizing activities such as harvesting and weeding.
- Bird scaring is an expensive activity in rice production and constituted 13% of production costs.
- Rice production is a profitable enterprise even where land is hired despite high rental rates; the cost of producing a kilogram was KES 48 while sale price was KES 78.
- Above normal rains during harvest period led to high field losses with up to 80% in some cases.

Policy recommendations

- There is need to enhance local production of rice to meet the growing demand. Ongoing efforts to increase acreage under rice in Mwea to 10,000 ha after dam construction will boost local production.

- Currently, 90% of total rice consumption is imported; the total value of imports in 2017 was KES 27 billion. Development of the sector could be facilitated through revenue from rice tariffs.
- Opportunities for upland rice production in non-rice growing areas in Kenya should be explored.
- There is need to enhance uptake of innovations such as mechanization and system of rice intensification (SRI) to reduce costs.
- Bird surveillance and control need to be enhanced to reduce losses and cost incurred in bird scaring. This can be through partnership between the Kenya Wildlife Service and County Governments.
- Rice production is capital intensive, requiring KES 121,380 per acre, when land rent is included in the production cost. Therefore, in order to engage more farmers, especially the youth, there is need to explore options for credit facilities.

3.4. Food Situation Assessment

3.4.1. Domestic stocks and maize balance sheet

According to the Ministry of Agriculture and Irrigation (MoAI) August Food Situation Report, the estimated maize stocks as at August 2018 were 20.11 million bags. Farmer stocks were estimated at 15,873,089 bags and are expected to increase as harvesting is currently underway in different maize growing regions. The anticipated imports by the government, private sector and relief agencies between September 2018 and March, 2019 are about 1.2 million bags. Due to the effects of the above-average March to May long-rains across the country, the estimated harvest is 18.44 million bags. Hence, the country is expected to have 45.76 million bags between September 2018 and July 2019. After subtracting post-harvest losses (12%), stocks used as feeds and seed (1%) each, and other products (2%), and a consumption rate of 3.39 million bags a month, the net available maize stocks by July 2019 will be 0.9 million bags.

The Ministry of Agriculture projections are based on the country's estimate of 6 million bags from the short-rains harvest. This estimate seems relatively high given a long-term average production of about 4 million bags.

Hence, simulations were done using the following scenarios for the short-rains crop:

- (i) Scenario I: 4.5 million bags, consistent with a good short-rains harvest
- (ii) Scenario II: 3 million bags, representing a pessimistic outcome if short-rains are below average
- (iii) Scenario III: 4.5 million bags of harvest and the higher import levels reported by KRA (implying a starting stock of 24.82 million bags).

The balances as at 31st July 2019 under the three scenarios will be -1.62, -0.43 and 3.53 million bags, respectively. Hence, based on the three scenarios and the Ministry's projected balance of 0.9 million bags, there will be adequate maize to meet consumption needs up to the start of the 2019 long-rains harvest season.

Key messages

- The Ministry project that this year's maize harvest will be 46 million bags, a 30% increase from 2017, and higher than the long-term average of 37 million bags. The increase in production is attributed to good rainfall and minimal disease and FAW prevalence.
- Harvesting for the long-rains crop has been completed in some regions, while in others especially North and Central Rift Valley is on-going.
- The average price of 90 kg bag of maize dropped from KES 2,806 in January to KES 2,336 in July 2018, which is attributed to high imports in 2017 and early 2018 and onset of harvesting in the major maize growing counties in Kenya. It is expected that maize prices will decline further as harvesting continues, leading to lower farm gate price.
- There was high demand for labour during peak periods of crop establishment, which resulted in late planting in some cases.
- Due to excess and continuous rains during the March-April-May (MAM) period, the low lying areas in the major maize regions were waterlogged. This resulted in nutrient leaching which in turn led to yellowing of maize and stunted growth thereby affecting yields.
- There was increased supply and availability of both planting and top dressing subsidized fertilizer. However, the fertilizers arrived two weeks late, resulting in delayed in planting by most farmers

- Most farmers have maize in their stores and harvesting for the long-rains crop has begun. Hence, lack of storage and proper post-harvest management in the face of a bumper harvest is a concern.
- Prospects for the short-rains season crop shows that most parts of the country are expected to experience enhanced rainfall during the October to December season that will be well distributed both in time and space. This is expected to improve crop production.
- In 2017, the government removed import duties for maize because of biting shortages and high flour prices. Maize imports increased during the duty-free window running from April to July 2017. This window was extended to end of September 2017, allowing more imports into the country. However, imports started declining from February this year, with lower levels in July as long-rains harvests commenced.
- It was noted that there was great variance between maize imports reported by the Ministry of Agriculture and the Kenya Revenue Authority (KRA) for the period May-December 2017. The Ministry reported 11,867,190 bags while KRA reported 16,573,989 bags, hence a difference of 4,706,799 bags.

Policy recommendations

- The high imports in 2017 and early 2018 as well as good and favorable weather experienced this year have led to abundant supply of maize. The stocks and the expected harvests will be adequate to meet the country's maize needs up to the start of the 2019 long-rains harvest. Hence, as at now, the country does not need to import maize. However, there is need to closely monitor the stocks given the dynamics in the East African region. For instance, prices are higher in some markets like South Sudan and Burundi and some of the stocks captured in the balance sheet may be sold to those markets.
- Due to maize imports as well last year's stock held by farmers and this year's good harvest, maize prices continue to be low. However, they are expected to stabilize after the long-rain harvest.
- Post-harvest losses are estimated to be high as a result of limited/lack of proper storage facilities. Hence, there is need for the government to partner with private sector in order to address post-harvest handling, storage and management through provision of driers,

storage facilities and use of warehouse receipt system and so ensure proper storage and food safety.

- To reduce over dependence on maize as a staple, there is need to promote alternative staples such as rice and potatoes.
- The government should also fast track the policy to guide blending of key staples and engage with the private sector regarding relevant issues such as consumer preferences for blended flour, availability of raw materials for blending, cost of blending and associated equipment as well as harmonization of this policy in the region.

4. PLENARY SESSION

The following issues were raised and discussed during the plenary session.

Coverage of the study: From the discussion, the importance of expanding the study to cover more maize growing counties was emphasized. This was due to the increasing need to have county-specific analysis, which would be more useful than the national averages. It was clarified that factors such as constraints in time and resources limited the study. However, the Institute underscored its willingness to collaborate with counties and other partners to collect and analyze disaggregated information that will suit national and county governments.

Maize productivity and sustainability of production: The East African region expects a good harvest for the 2018 main cropping season. The country's agricultural sector is also highly weather dependent (rainfall and temperature) which change quite often due to climate variability. Nevertheless, maize production must be analyzed critically to understand the effects on the welfare of producers and consumers in both short and long term. Currently, maize farmers in Kenya are concerned about the mismatch between the expected and the prevailing prices of maize grain, even before they harvest.

The prevailing market prices are too low to give farmers an incentive to produce more maize in the next season. This can lead to reduction in land area allocated for maize production, which could result in maize shortages in 2019.

In order to achieve consistency in food and nutrition security, mechanisms to guarantee good harvests across varying weather and climatic conditions are essential. For instance, the measures

adopted after the lessons from 2017 unfavorable weather conditions and FAW infestation ought to be revisited and strengthened.

Setting producer and consumer prices: Government has been setting maize prices mainly for the purchase of maize for SFR. Maize producers rely on the NCPB prices, which are always higher than the market prices. This creates distortion in the market, yet the amount of stock purchased for SFR is usually low to warrant such distortion. Other buyers such as traders and millers are forced to match these NCPB prices or buy at prices above the normal market prices. These higher prices translate into higher consumer prices for maize grain and flour.

While maize producers are complaining about money owed to them by NCPB, millers too have not yet received payment for maize purchased from them in 2017 through the food subsidy arrangement. There is need for less government interference in the maize value chain except for key decisions on interventions intended to incentivize and support farmers to produce at a lower cost and be profitable, while allowing the produce market to regulate itself. The private sector is totally against price fixing and control on finished products because it creates distortion in the market.

Blending maize with other cereals: Blending of cereals is intended to ensure improved nutrition. This, however, faces challenges related to costs and supply within the value chains. Adequate amounts of raw materials such as sorghum is an issue as data shows a decline in their production. Unless there is effort towards increasing production of ingredients, the proposal on blending of flour will not be attainable. In addition, blended products are expensive and hence unaffordable by low-income earners and consumers have low preference for them with regard to colour, taste and aroma. There is also high capital requirement by millers for machinery and capacity. Thus, there should be some research and discussions on case studies of similar policies in other countries as well as other issues including: shelf life of blended flour; how to address health related issues such as allergies; and, harmonization of standards across the East African countries. Though noble, the initiative should not be made mandatory to processors. Instead, they should be provided with incentives to support transition to processing of blended flours.

There is need for a policy to guide blending because it will advise on how to increase production of the key ingredients. The private sector such as the Cereal Millers Association relies on credible information presented by Tegemeo Institute on general food situation especially maize

and other cereals to make decisions. Additional information from further analysis by Tegemeo Institute is, therefore, necessary to unravel the implications of the blending proposal, which should not be hurriedly implemented.

Unrestricted maize imports: Maize imports from last year up to the beginning of this year were not restricted and exceeded the deficit. This contributed to unusually lower market prices during this year's main season harvest, resulting to a drop in revenues for the farmers. In future, quotas on imports should be well considered so that they are just enough to cover the deficit and don't lead to a glut in the market.

Technology and cost reduction: There is need to encourage and support technology adoption, such as use of improved seed and mechanization, and complement it with extension. This will increase competitiveness for all agricultural products in the country. Mechanization was recommended to address labour shortages. The cost of production for farmers who used machines during harvesting was much lower, making mechanization a viable strategy that can reduce production costs. However, it was argued that machines are generally expensive to acquire especially by small-scale farmers. Since mechanization has been found to be effective in reducing costs, more focus should be on how to avail appropriate but affordable technologies to farmers.

Warehouse receipt system: Given a general increase in maize production in 2018 and the high level of imports and stocks held by farmers from 2017, there is need to speed up the enactment of the Bill on warehouse receipt system to enable farmers mitigate the losses from low prices. The signing of the Bill into law is expected to be a relief to maize farmers.

Effects of fertilizer subsidy on productivity of maize: The study findings on the cost of production for maize in 2018 showed an increase in productivity compared to 2017. This can be attributed to several factors including favorable weather conditions, reduced pests and diseases incidences. The study specifically attributed the fertilizer subsidy to reduction on the production costs. It is therefore, important to do a specific study to further explore the impacts of fertilizer subsidy on maize productivity, accounting for other factors such as amount and distribution of rainfall.

Post-harvest handling and management: In order to sustain Kenya's food security it is important to reduce food losses and hence the need for interventions on storage. A warehouse receipt system and storage facilities such as hermetic bags will enable players in the sector to properly manage the grain for longer periods. From the presentation on the food situation, it was estimated that the amount of maize lost through post-harvest losses is equivalent to more than a month's consumption. Interventions and strategies on storage should be hastened given that the 2018 harvest was good and it is expected to last until the next harvest from the main cropping season.

Upscaling production of rice as alternative crop: Rice is an important staple crop in Kenya, whose production needs to be enhanced. This is because even though rice may not be a perfect substitute for maize, it can be an alternative staple that will contribute to food security. Its increasing demand presents an opportunity to relieve the country from over reliance on maize. Increased local production may result to affordable consumer prices for maize and its products. In addition, increased rice production in the country presents a fallback position in times of poor maize crop performance.

Uptake of rice technologies: More knowledge is needed on upland rice production, seed varieties and their availability, and the agro-ecological regions within Kenya that are best suited for their production. There are about eight varieties of upland rice in Kenya but the challenge is that these varieties were targeted in areas where irrigated rice varieties were already being produced. Uptake of upland rice is poor mainly because of lower yields compared to irrigated rice varieties.

Competitiveness of the long grain rice: Long grain rice is preferred by a large percentage of the population. Farmers in Kenya mainly produce this variety of rice but it faces stiff competition from cheap imported rice. It was recommended that Tegemeo Institute carries out a study to establish the constraints in the competitiveness of the long grain rice in Kenya.

Cost of production of Irish potatoes: Many factors that influence the costs of production for potatoes need to be considered during analysis. These include differences in climatic conditions, methods of watering the crop and seed varieties (i.e. tissue cultured, apical cuttings, recycled and certified seeds). All these have to be put into consideration when conducting simulations of the cost of production.

Positive correlation between production and consumption of Irish potatoes: Presentation showed that production and consumption of Irish potatoes have been declining and moving in tandem. It was noted that this is because consumption was almost entirely pegged on the amount available from production, since there were low potato imports to supplement consumption. This could be attributed to the fact that unlike cereals and pulses, Irish potatoes are perishable in nature requiring more sophisticated handling and storage.

Unreliable data and its effect on decision making: Data on maize stocks held by various entities and amounts of imports and exports used for planning are in most cases inaccurate. These have resulted in unpredictable projections and serious implications on the decisions made such as the amounts of commodities to import. For instance, the long-term effect of having excess imports will be that farmers will lack the incentive to produce maize, which could lead to spiraling food insecurity.

REFERENCES

KNBS. (2018). Economic Survey 2018. Available at:

Available at: <https://www.knbs.or.ke/download/economic-survey-2018/>.

Deblitz C., and Zimmer, Y. (2005). A standard operating procedure to define typical farms.

Available at: http://www.agribenchmark.org/methods_typical_farms.htm.

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