



REPUBLIC OF KENYA

THE COUNTY GOVERNMENT OF KITUI

KITUI COUNTY SORGHUM POLICY

September, 2013

Executive Summary

The policy outlines the importance and suitability of sorghum in the county. It highlights the challenges faced by agriculture in general and/or by the sorghum industry. It offers policy interventions which includes; 1) Improving access to quality Farm Inputs, 2) Improving extension and advisory support services, 3) Mechanization of sorghum production and processing, 4) Value addition and utilization of sorghum, 5) improving and maintaining partnerships, collaboration and networking in sorghum industry development, 6) Development of new Markets through local Cereals and Produce Boards and 7) Improved market information system. It spells out policy implementation, monitoring and evaluation.

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1 Introduction

Sorghum is the world's fifth most important cereal crop in the world. It is a staple food for more than half a billion people in the world, 60 percent of whom are in Africa.

Sorghum is a unique crop in that it can grow in hot, dry environments with just little poorly distributed rainfall. Its tolerance for drought and heat makes sorghum an important food security crop for arid and semi-arid areas.

Most of sorghum production in Kenya is concentrated in Eastern, Nyanza, Western and Rift Valley provinces, which accounts for about 43, 41, 9 and 7 percent respectively, of Kenya's total sorghum production . These provinces collectively produce 99 percent of the country's sorghum (MoA, 2012).

Traditionally, sorghum has been one of the staple food crops of Kitui County. Due to its tolerance to adverse climatic conditions coupled with its limited inputs demand in face of resource-poor farmers, Sorghum is one of the promising crops to improve food security, contribute towards income generation and reduce poverty for the farmers in the county. Consequently, Sorghum Gadam one of sorghum varieties grown in Kitui county was identified as one of the three priority value chains to be promoted within the county by stakeholders in the agriculture sector. Despite its suitability to the county condition, the area under sorghum production is still low and farmers attain low yields. Most farmers still opt to grow maize which is frequented by crop failures hence becoming increasingly risky to grow.

Due to opening-up of market opportunities especially in the brewing industry, sorghum is increasingly becoming an equally important cash crop in the marginal areas where there are limitations of other traditional cash crops. The market for most of sorghum varieties is large. East Africa Breweries Limited (EABL) has an annual demand of over 40,000 MT most of which is imported from the neighboring countries.

With rigorous promotional campaigns and the necessary infrastructural support, Kitui County has a potential to significantly contribute towards this market and hence improve the incomes of the farmers in the area.

2 Sorghum production

Sorghum production in the country has shown considerable variability over the years. The production has been on a declining trend with the worse performance being in 2008 which is partly associated with the 2008/2009 drought and the post election violence. From 2010, sorghum production has shown some growth. This growth is largely attributed to demand by the brewing alcohol brewing companies. Figure 1 shows the national trend in sorghum production from 1975 to 2013.

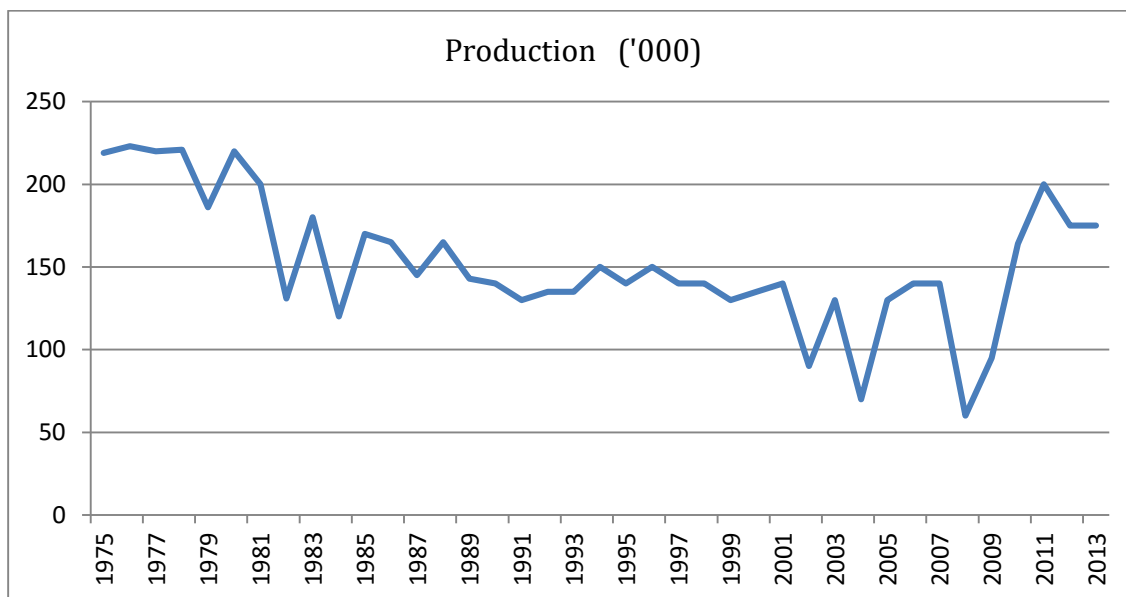


Figure: Kenya sorghum production trend from 1975 to 2013

3 Sorghum utilization

Sorghum is a highly versatile crop with many uses including human food, animal feeds, brewing and bio-fuels production. A high proportion of the world's sorghum grain is used as food, usually consumed as porridge. Sorghum flour can be used to bake cakes and biscuits as well as make the staple Ugali although the seeds can also be cooked whole. It is a nutritious food high in fiber, iron zinc and with fairly high protein levels. Some types of sorghum are also rich in antioxidants. Sorghum is gluten-free therefore a good alternative for people allergic to wheat. It is a good crop for enhancing food security.

Sorghum stalks and leaves provide dry season grazing for livestock especially in the ASAL areas. The sorghum grains are used in animal feeds formulation.

Sorghum is an alternative to barley which is grown in high altitude areas with high amount of rainfall.

Sorghum consumption

Sorghum growth in demand is expected to come from three main sources;

- Food use fuelled by population growth
- Demand by livestock feeds manufacturing industries
- Beverage industry especially alcohol industry

Key drivers of sorghum production

4 MARKETING AND TRADE

Sorghum trade in Kenya is generally limited due to low production volumes and poor marketing channels. Most farmers produce enough sorghum to meet their domestic requirements, with little surplus to sell. It's estimated that only 30 percent of domestic sorghum production is actually marketed.

Kenya is not sufficient in sorghum production. It imports considerable quantities in most years. Table 1 also shows that Kenya was a net importer of sorghum in all years, except in 2010. In this particular year, Kenya exported 49,709 tonnes of sorghum mainly to Somalia (23,852 tonnes) and Sudan (20,133 tonnes), since both countries faced severe drought conditions that necessitated food imports.

Medium term outlook

Though sorghum trade is limited in Kenya, this is likely to change in the near future. Due to increased health concerns and awareness, the use of sorghum products has seen a gradual increase, as reflected by the quantity and range of processed sorghum products sold in local supermarkets. Sorghum flour is in great demand and is likely to be the future for the

sorghum industry. With proper packaging, the sorghum flour market could be expanded to larger retail outlets and export markets.

Furthermore, East African Breweries Ltd. (EABL), one of the country's leading brewers, is promoting the use of higher quality sorghum varieties, such as gadam, to supplement barley in beer production. This recent development has spurred renewed interest in the commercial production of sorghum, as it offers farmers prospects for higher returns.

Table 1: Sorghum Trade and Production in Kenya, 2005-2011

	Unit	2005	2006	2007	2008	2009	2010	2011
Production	(Mt)	150,127	131,188	147,365	54,262	94,955	164,066	159,877
Imports	(Mt)	10,948	16,691	5,105	3,301	58,822	10,035	37,613
Exports	(Mt)	734	97	919	892	1,503	49,709	276
Trade Balance	(Mt)	-10,213	-16,594	-4,186	-2,409	-57,320	39,674	-37,337
Self-Sufficiency Ratio	%	94%	89%	97%	96%	62%	132%	81%

5 Challenges Facing Sorghum Industry

Sorghum industry is faced by a myriad of challenges which include;

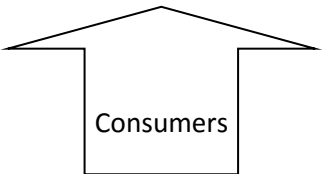
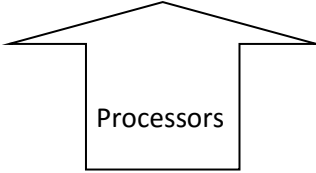
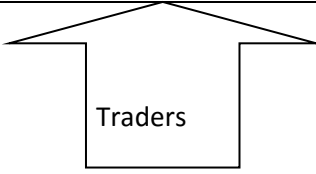
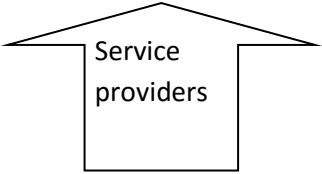
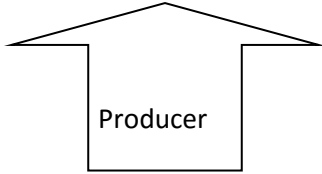
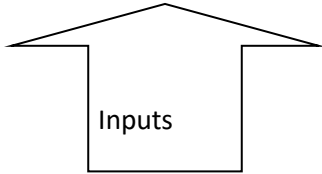
- i. Birds; birds are the main farmers' challenge. They like sorghum especially at milk stage. They prefer white-seeded varieties which incidentally have good brewing characteristics. Birds menace increase labour demand whose cost is on increase.
- ii. Land degradation and declining soil fertility due to poor land management.
- iii. Low adoption of appropriate farming technologies
- iv. Inadequate credit facilities; local financial institutions are shy of advancing loans to farmers due to the risky nature of agricultural enterprises
- v. Inadequate availability of high quality seeds. Some unscrupulous stockists are supplying farmers with fake seeds

- vi. Ineffective informal seed bulking partly due to;
 - a. Consuming and selling the bulked seeds as food grains
 - b. None certification of informally bulked seeds and hence limited marketing
 - c. Contaminations of bulked seeds
- vii. Lack of organized markets.
 - a. There is no organized sorghum production or marketing groups/ association.
 - b. Lack of product diversity due to limited agro processing and value addition
- viii. Cultural beliefs and taste preference;
 - a. Though the uptake of sorghum in recent years has been improving, people still regard sorghum as a “poor man’s crop” and some still prefer to grow maize even though they are aware that chances are high that it will fail. Sorghum is considered inferior to maize, persons consuming sorghum are assumed to be poor in the society
 - b. Sorghum is assumed to be labor intensive in production and utilization. This is due to its requirement for birds scaring and tedious traditional ways of processing compared to maize
- ix. There is no Sorghum policy that empowers local farmers to realize maximum profits from the crop. The existing cereals policy favor maize and give little attention to sorghum
- x. Inadequate storage capacity of the farmers and damage by storage pest damage

6 Sorghum Value Chain

A value chain is an array of activities that are performed on an enterprise from the input supply, production, processing and trading in order to deliver a valuable product to the market or to the consumers. When it runs smoothly, the value chain system can work to advantage of all the parties, providing the buyers with reliable supply and farmers with a secure market. A Sorghum value chain is illustrated by Table2.

Table 2: Illustration of sorghum value chain

Function	PLAYERS	Comments/ Challenges
 <p>Consumers</p>	<ul style="list-style-type: none"> -EABL -Local farmer's 	<ul style="list-style-type: none"> -Low utilization -poor altitude toward sorghum
 <p>Processors</p>	<ul style="list-style-type: none"> -East Africa Breweries Ltd (EABL) -Local posho mills/wet mill 	<ul style="list-style-type: none"> -Stringent quality requirement -Inadequate processing equipments
 <p>Traders</p>	<ul style="list-style-type: none"> - Brokers/Middlemen -Sorghum groups 	<ul style="list-style-type: none"> -Exploitation by middlemen -Weak groups -Inadequate market information
 <p>Service providers</p>	<ul style="list-style-type: none"> -Ministry of Agriculture -Africa Harvest -Garden sensitize initiative -KARI -Kenya Seed Company Ltd (Simlaws) 	<ul style="list-style-type: none"> -Inadequate extension services -Uncoordinated extension -inadequate credit facilities
 <p>Producer</p>	<ul style="list-style-type: none"> -Individual farmers - farmers Groups -Contracted farmers -NGO (DoK) 	<ul style="list-style-type: none"> -poor altitude towards sorghum -Weak producer groups -few farmers growing sorghum
 <p>Inputs</p>	<ul style="list-style-type: none"> -Agrovets – Pesticides, seeds, fertilizer -KARI Katumani – certified Seeds -Diocese of Kitui – Seeds -Equity Bank – Credit -ICRISAT- Hybrids seeds 	<ul style="list-style-type: none"> -Inappropriate seeds -low use of manure and fertilizer

6.1 Advantages of sorghum

Sorghum has many advantages over maize and other pasture grasses:

- It can grow well in both high and even in low potential areas with poor soils, where maize cannot do well.
- Sorghum can regenerate after harvesting the grain and cutting the stalks for fodder (ratoon); the ratoon crop will mature early in the following season thereby escaping drought which may come late in the growing season. This way the farmers can reduce the cost of replanting, land preparation, seeds and time.
- As a fodder crop it can be used in adequate supply when maize and other feed sources fail.
- Most varieties of sorghum produce much more forage than maize and as animal feed, it has the same energy level as maize or other cereals.
- Unlike maize, the lower leaves do not dry out as the plant matures; they remain green and therefore retain a higher crude protein content.

7 Policy Goal

The broad objective of this policy is to accelerate and sustain growth and development of the sorghum industry in order to enhance its contribution towards food and nutrition security, poverty reduction as well as employment and wealth creation.

7.1 Specific Policy Objectives

Specifically, the policy seeks to achieve the following objective;

1. Enhance provision of the industry's' support services like finances / credit, inputs, and technical advisory services
2. Increase sorghum production and productivity in the county
3. Increase farmers' incomes
4. Improve food security through production and utilization of sorghum
5. Create employment through production and value addition of sorghum
6. Improve sorghum marketing

8 Policy Interventions

To revitalize sorghum production in the county, the following policy interventions are proposed;

- 1) Improve access to quality farm inputs
- 2) Improve extension and advisory support services
- 3) Mechanization of sorghum production and processing
- 4) Value addition and utilization of sorghum
- 5) Partnership, collaboration and networking
- 6) Marketing through local cereals and produce boards
- 7) Improve market information system

8.1 Improve Access to Quality Farm Inputs

The quality of farm inputs especially seeds is a major determinant of sorghum production. Farmers have traditionally planted their own saved seeds which are of inferior quality. The county government in collaboration with other stakeholders (research institutions, NGOs, FBO, and other development partners) will ensure high quality seeds are available and accessible to the farmers. Hybrid Sorghum seeds that are high yielding and of desirable qualities based on market demand shall be made available to the farmers at the right time

8.2 Improve Extension and Advisory Support Services

Agricultural extension and advisory services, both public and private, have a major role to play in providing farmers with information, technologies, and education. The existing government extension personnel are inadequate to cover the vast areas of the county. The funding and mobility of the agricultural extension agents is also low. To enable the government extension providers carry out their work, the County Government shall improve funding of extension services, mobility and the capacity of staff.

An aggressive sorghum promotions campaigns by the extension service providers encouraging farmers to grow sorghum and especially those varieties with ready market will be mounted. Farmers will be encouraged to form production and marketing clusters and grow sorghum in mass. If many farmers planted sorghum, the birds' losses per individual farmer will be minimized as they will be spread out over many farms as opposed

to if one farmer was to struggle with the birds alone. Therefore, farmers should not view challenges posed by birds as a real threat to production of sorghum, the birds menace would be negligible if many farmers cultivated the crop.

Farmers will also be encouraged to form commodity marketing associations or cooperative societies to increase efficiency in operations. As a result of working in groups, sorghum farmers shall benefit from selling in bulk. They will be able to attract millers, alcohol brewers and manufacturers of animal feed who will collect the produce from one central point thus reducing search cost hence high prices to the farmers. A strong and lasting advocacy mechanism for sorghum production shall be created.

8.3 Mechanization of Sorghum Production and Processing

To reduce drudgery in farm operations and promote sorghum production, mechanization of farm operations and processing is necessary. This will enable the farmers open and put large tracks of land under sorghum production. Farmers will be assisted to acquire and or access machineries for farm operations. Mechanization of farm operations will also serve to attract youth who are full of energy and likely to adopt innovative ways of farming hence increasing the productive capacity.

8.4 Value Addition and Utilization of Sorghum

Most of the sorghum produced in the county is sold unprocessed. Local cottage industries shall be promoted to locally process and pack sorghum flour. Processors of maize flour and local bakers also shall be encouraged to include a certain percentage of sorghum in their products.

A vigorous sorghum utilization campaigns will be incorporated in the production and marketing promotions. The resident shall be educated on preparation of various sorghum recipes which are more appealing to the young generation.

The myth that sorghum is consumed by the less fortunate people in the society can be demystified by including sorghum meals in high ranking county functions.

8.5 Marketing through local Cereals and Produce Boards

The local Cereals and Produce Boards (NCBP) within the county will be encouraged to include sorghum and other traditional crops in their strategic food reserve. This will help to absorb the excess sorghum and other traditional food crops which will not have been absorbed by the other markets.

Emergency relief is common in the county and cost hefty amount of money. The sorghum and other traditional foods in the NCBP strategic food reserve will be purchased and distributed to the affected and targeted households to respond to food emergencies. This will be an innovative emergency response mechanism which will stimulate demand for sorghum and other traditional foods hence stimulating their production which is a more sustainable mean of livelihood.

8.6 Partnership, Collaboration and Networking

Partnership, collaboration and networking are important aspects among the extension providers and other service providers. It enhances a holistic and integrated approach to providing services to the client. Among the potential collaborators complementing extension service provision are private individuals and organizations such as input suppliers, agro-processors, marketing agents, financial institutions, farmer organizations (for instance producer and marketing groups), research and training institutions. The county government will promote partnership, collaboration and networking among the government extension providers, NGOs, CBOs and other service providers.

8.7 Increase access to financial services and credit

Access to financial services and credit facilities by farmers increases agricultural productivity through enhancing access to farm inputs and timely operations. Shortage of credit availability or capital constraint faced by the farmers is one of the major problems in the adoption of modern technologies and efficiency improvement in sorghum production. The county government will create an enabling environment for and encourage the private sector and other stakeholders to establish affordable credit facilities to support sorghum farmers.

8.8 Improve market information system

An efficient market information system is an integral element for enhancing market competitiveness. Low market prices are mainly as a result of poor market information system. In order to increase market effectiveness, the county government will strengthen market information system by facilitating dissemination to producer farmer groups and marketing groups. Information Communication Technology (ICT) through use of internet, mobile telephone and other communication technologies in market information dissemination shall be embraced.

9 Implementation

The sorghum policy will guide initiatives that are being implemented by the state department of Agriculture and other development partners. The implementation of this policy will be coordinated by the county department of Agriculture, water and irrigation in close collaboration with Agricultural Sector Development Support Programme -Kitui County coordination unit.

10 Monitoring and Evaluation

An effective monitoring and evaluation (M&E) system will be put in place to monitor the implementation of the proposed interventions. Objectively verifiable indicators will be developed to monitor the performance. The monitoring and evaluation will adopt a participatory approach involving all the stakeholders and beneficiaries.