Policy Brief

Catalysing Private Sector Investment in Kenya's Cassava Value Chain

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Introduction

This Policy Brief presents a brief overview of the cassava value chain in Kenya and aims to suggest some programmatic actions necessary for catalysing private sector investment in the value chain. Such opportunities have been identified along the cassava value chain in terms of modernizing the varieties of cassava grown, adding value at farmer group levels, more prominent role of catalytic aggregators who can comprehensively supply input and related services to farmers, and the role of processors to work in a mutually-beneficial manner to support farmers to increase production. It is pointed out that these recommendations are in line with the differentiated roles of government, private sector and non-state actors to catalyse food production as detailed in current government policies and strategies on food security. The Brief suggests that if the recommendations are incrementally implemented, then there would be a marked increase in cassava production arising from catalysis of private investment in agribusiness in the cassava value chain. The role of evidence-based public interest organisations like CUTS ARC is noted in establishing dialogue between private and public sectors at national and county level on issues around policy reform and catalyzing investments in the cassava agribusiness.

Importance of Value Chain Analysis and Role of

Key Recommendations

- Demand-driven county extension services
- Processors to work with other value chain actors e.g. farmers, traders, aggregators, etc.
- Counties to work with private sector
- Evidence-based regulatory advocacy for cassava blending

Investment

A value chain may be defined as a specific type of supply chain – one where the actors know each other well and form stable, long-term relationships (World Bank, 2013). They support each other so they can together increase their efficiency and competitiveness. They invest time, effort and money to reach a common goal of satisfying consumer needs so as to grow their profits. The desired attention focusing on agriculture will not achieve its developmental goals in isolation from

agribusinesses, ranging from small and medium enterprises to multinational companies. Whereas "investment" is generally accepted to mean the use of different resources for productive gain, there is increasing recognition that what matters particularly in the issue of agricultural development is "transformative investment". This can be seen as use of resources that reduces the costs of subsequent investments as well as an investment that increases the returns of other investments, whether by reducing costs or increasing demand (World Bank, 2018).

Cassava and Kenya's Food Policy

It is envisioned globally that cassava will spur rural development and raise incomes for producers, processors and traders, and will contribute to the food security status of its producing, consuming and industrial households (FAO, 2003). In Kenya, the western Kenya counties of Busia, Homa Bay, Siaya, Migori, Coastal counties of Kwale and Kilifi and Eastern, Kitui, account for almost 95percent of the cassava production. As early as 1961, according to FAO (FAO, 2019), Kenya produced about 280,000 tons of cassava, and the figure grew very gradually to 650,000 tons by 1975. With peaks and lows over the 1980s, 1990s and early 2000s, it was not until 2017 when an all-time peak production of 1,112,000 tons was produced. As is shown in the table below, Busia, Migori and Homabay counties have the highest 2018 acreage under cassava. Busia farmers generated about Ksh. 2.5 billion from sale of cassava in 2018.

Selected County Contribution by Cassava to the County economies, 2018

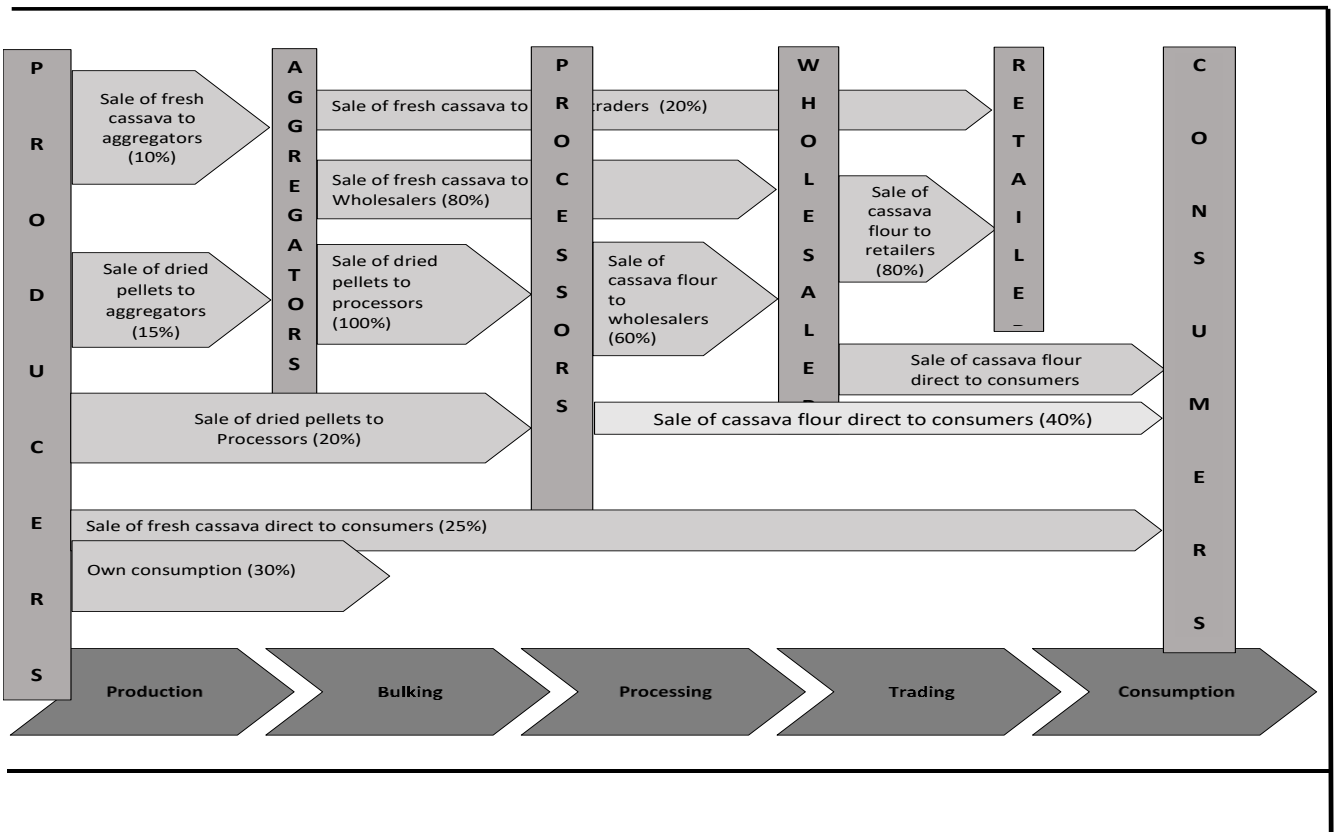
Busia	**2,519**	**50,020**	**91,048**	**5.0**	**2.8**
Kwale	586	41,591	90,592	1.4	0.6
Kilifi	95	40,235	91,048	0.2	0.1
Kitui	453	43,889	106,638	1.0	0.4
Homabay	827	71,659	101,154	1.2	0.8
Siaya	584	53,219	100,028	1.1	0.6
Lamu	784	19,634	34,005	4.0	2.3
Machako	206	58,918	244,503	0.4	0.1
Bungom	274	40,235	192,684	0.7	0.1
Makue	**56**	**49,986**	**105,970**	**0.1**	**0.1**

Source: Calculated from KNBS, 2019

Using KNBS 2017 figures on county Gross Domestic Products (GDPs) adjusted to 2018, we note that cassava does play a notable role in the economy of some counties, of which it contributes to 5% of the value of marketed agricultural production and 2.8% of the whole economy of Busia County. Similarly, in Lamu cassava contributes a notable share to both marketed agricultural output and county economy. When values attributed to home consumption, transport, processing and related parts of the value chain are added, then arguably the sectoral and county economy contributions would increase.

Actors and Facilitators in the National Cassava Value Chain

Cassava farmers tend to be small holders who mostly intercrop the cassava with other crops e.g. beans in farms that range from 1-2 acres. Research and development of cassava is done by the national Kenya Agricultural and Livestock Research Organisation (KALRO). Farmers often get their plantings from neighbors and in a few cases from KALRO. As shown in the chart below, farmers generally consume their cassava at home (30%) and sell surplus raw cassava directly in local markets (25%) or to aggregators. There is often supply gaps caused by low harvested volumes, and in some cases poor road network which hinders access to production areas by traders. Aggregators sell to millers who make cassava flour which is often bought by customers who blend it on their own with maize or millet. There is hardly any formal large-scale milling of cassava flour. Cassava is also eaten as a snack when it is fried in oil and increasingly being made into cassava crisps and packaged for super markets.



Source: Adopted from Osumba, 2019

Catalysing Private Sector Investment in Cassava Growing

In Kenya, there are huge yield gaps for almost all the crops grown by small scale farmers due to nonuse of irrigation supplementation and recommended good agricultural practices to increase yields. As a farm enterprise, small scale cassava growing was found to have the highest yield gap of 21,000kg/acre compared to the potential of 25,000Kg/acre. However, growing cassava commercially is actually more profitable than most crops and is third

only to growing tomatoes and pineapples with gross revenues per acre of Ksh. 130,000 per acre (compared to Ksh. 180,000/acre for tomatoes and Ksh. 47,500/acre for maize (Farm Concern International, 2019). Enhancing inputs would earn farmers high profits. There are opportunities for deepening farm level production of cassava. In terms of investment opportunities to support farm-level operations, it is noted that farmers need to plant newer varieties of cassava that are both more disease resistant and have higher yields per acre, there are opportunities for propagation of seed and plantings as a business all over the cassava growing counties in Kenya. This can be done by linking with KALRO stations and providing propagation services and reselling to farmers as a dedicated enterprise particularly for the youth. This model is proving to be very useful and profitable for the banana value chain in Kenya and can be adopted for cassava and other crops. This can be part of comprehensive input supply services for farmers.

There is a need to move cassava from being grown mainly as a food security crop where only the surplus is sold to generate income. Whereas various counties in Kenya are encouraging production of crops by assisting farmer groups to set up processing units for the crops, there is need to ensure that the management of these processing units is well done. A model where these county-supported processing units are owned by farmer groups but professionally managed by recruiting competent staff or contracting out management to private sector appears to be working in different value chains, e.g. dairy, and fruit processing. This should be encouraged for the cassava value chain as well.

Catalysing Private Sector Investment in Cassava Distribution

Aggregation of smallholder farmers into groups has the benefit of linking producers with off-takers and helps achieve economies of scale along the cassava value chain. In addition, it also helps smallholders to meet the standards and requirements of modern markets and address other barriers to access and supports farmers to improve their productivity through increased access to services and markets and enhances their competitiveness by reducing the transaction costs of companies choosing to work with them. Aggregators in collaboration with financial institutions can seriously take on the role of aggregation along the value chan. There are different models of aggregation including supply of basic cassava drying and pelleting equipment, warehousing and comprehensive provision of high quality inputs, advisory and training services etc. that can be tried.

Catalysing Cassava Consumption

Blending of e.g. cassava with other grains like maize has been seen as a way to increase the scope of cassava consumption. In Kenya, the Ministry of Agriculture has drafted guidelines and standards governing the blending of maize and wheat flour with other flour by millers to strengthen the nutritional components of the products. The rules suggest that each flour sold will have 10% minimum content of the underutilized but high nutrient crops like sorghum, cassava and sweet potatoes. Still to be officially gazette, this is based on the Big 4 agenda, of which the flour Blending Initiative aims to contribute towards food security, improve nutrition and increase employment opportunities in Kenya through flour blending based on under-utilized high value foods by 2022. There is a general

feeling amongst grain millers for more consultations in light of possible extra investments costs in upgrading milling systems e.g. grinders to blend the elements to the required standards. It would appear that a successful blending policy requires extensive consultations with all stakeholders and needs to be combined with a raft of grain switching incentives to work.

In Kenya's urban areas, there is an emerging shift from eating (white) bread at breakfast to the more traditional foods like cassava, potatoes, and bananas. In addition, from cassava flour one can make flour-based foods like cookies, cassava ugali and brownies. More importantly, cassava flour is being promoted as being gluten-free, and unlike wheat or barley, it is claimed to have less abnormal body reactions, some which damage the small intestines. In Western Africa, cassava leaves are eaten as well and are available when other leafy vegetables are scarce and they provide excellent nutrition. They are rich in proteins, Vitamin K and are low in calories. These are developments that can further catalyse the consumption of cassava. Hence at consumption, there is still a lot of unutilized market due to reduced or little awareness on cassava flour and related products. In Ghana, studies found that consumers who are aware of cassava-blended flour bread and who like its taste and texture are willing to pay more than consumers who are unaware. In the short-term an opportunity exists in demand from institutions such as schools. Boarding schools can use blended maize with cassava (5) and this is a consumer sector that should be more aggressively pursued. As always quality and consistency of supply are the key traits any customer expects and demands. This suggests the need for increased advertising of the economic and nutritional benefits of cassava-wheat blended composite flour bread and maize. Hence exploring the opportunities for improvements in cassava production, processing and marketing needs multi stakeholder approaches involving production incentives and consumer awareness.

Catalysing Private Sector

(Bad) Cassava Blending Policy: Nigerian Experience

The Government of Nigeria (GON) announced in 2012 a policy to encourage the substitution of High-Quality Cassava Flour (HQCF) in bread baking starting with 10 % cassava flour inclusion in wheat flour which was expected to increase steadily to 40% by 2015. In addition, the GON introduced fiscal measures that would encourage local production of cassava flour. However, production of HQCF became a problem and the blending policy was not sustained because of inadequate domestic capacity to process industry grade cassava flour. The Government was persuaded to reduce the cassava flour inclusion rate down

Investment in Cassava Processing

Source: Oluwale et al (2018)

Processing of cassava into floor or chips generally rely on relatively small-scale equipment that has been used by the households. Specialization is still to emerge within processing households or at village level. A larger-scale processor interviewed had installed modern processing equipment in Nairobi. Firstly, for milled maize for direct consumption if it is assumed that only 4 million tonnes are formally milled and have a possibility of being substituted at the rate of 5% with cassava flour, that alone would create demand for 200,000 tonnes of cassava.

Item	Local demand	% Substitution by Cassava Product	Tons of Cassava Flour/Products Required
Maize substitution (Blending)	4,000,000	5	200,000 (Flour)
Wheat Substitution (Blending)	1,600,000 (I)	10	160,000 (Flour)
Animal Feed (Maize replacement with cassava)	300,000 (I)	50	150,000 (Flour)
Production of Glucose	30,000 (I)	50	15,000 (Flour/ Starch)
Sugar Use Replacement	879,000	10	>87,900 (Flour for Sugar Equiv)
Potable Alcohol Sub	26,000 (I)	10	2,600 (starch)
Starch for Biofuel	250,000	10	25,000 (starch/flour)
Polythene replacement (with Bio-plastics Starch	144,000 (I)	30	43,200 (starch)
Export Market (starch/ Chips flour)	220,000,000	1	2,200,000 (starch)
Total potential "extra demand" for locally grown cassava			**3 million tonnes**

Similarly, 10% wheat substitute would create an additional demand for 160,000 tonnes of cassava. Higher up the value chain there is a good potential for using cassava for glucose, sugar replacement, potable alcohol and related industrial uses. Potentially if all these potential uses were to be exploited and catalytic policy and measures are put in place to marshal private sector investment in the cassava value chain, then some 3 million tonnes of cassava can be needed to realize all these uses. Obviously not all measures can be put in place at **the same time** but the **point must be made** that there is a potential in Kenya for value added services that **can sustain** the growing of cassava from the **current just under 1 million tonnes to more than 3 million tonnes annually.** Notably, there is a growing trend in urban areas where consumers are choosing to mill their own maize blended with other traditional grains like millet and root crops like cassava. This is increasingly being promoted by nutrition experts as providing better and richer diet on account of the fact that commercially milled maize tends to remove the nutritious elements in the maize. In addition, recent reports of aflatoxins in commercially milled maize is a worrying development.

Priority Policy Measures

Both at the national level and in the various County Integrated Development Plans (CIDPs) countrywide, the role of the counties in the development of various agricultural value chains is well recognized. There are various ways in which policy at the county and national level can be used to catalyse increased investment for cassava production.

(a) Work space for small and medium processors is very expensive in the urban areas. While not advocating for moribund Kenya Industrial Estate (KIE)-type workshops, there is a need for counties to provide favorable work spaces for serious manufacturers that they can build up by themselves to their individual specifications.

(b) There is need to de-risk innovations that target processing the neglected but important crops like cassava. This can be done through part grant funding of plant-scale pilot plants that endeavours to perfect processing of such crops.

(c) The sage old suggestion to have a firm and operational policy to effect mandatory mixing of maize with other staples e.g. cassava should be affected. This would create a firm market for processed cassava flour.

(d) In general, despite the advent of single license regime for business, there is still a host of licenses and permits that manufacturers must pay for. It has been suggested that the national government and the counties should seriously consider a national review of these multiple licenses and fees.

(e) Other key areas of importance include capacity building for farmers to appreciate better growing methods, countries' direct funding to farmers, introduction of new and better varieties to farmers and support private sector to install drying and processing facilities for cassava.

(f) The creation of dialogue platforms around catalysing various specific value chains needs to be encouraged at the county and national level.

Both at the counties and at the national level policy makers are increasingly aware of the catalytic role of policy and programmatic measures that can catalyse farmers' and other stakeholders' increased investment in the cassava value chan. Much work still needs to be done at the County level to catalyse cassava as both a food crop but also as a crop that can be further processed into other products. Hence there is need to start with a focus on improving farming practices and quality of plantings. It would appear that for the small-holder mentality of farmers to be broken and increase response to growing for the market, some hard promotional and catalytical work is necessary at both the county and national level.

Recommendations

There is need to increase cassava growing to more than 3 million tonnes annually for different uses by catalyzing the cassava value chain in the study counties and countrywide. The following recommendations are made in the backdrop of current policy documents that appreciate the differentiated roles of government[1], private sector and non-state actors in catalysis food security:

1. Starting with extension services, KALRO has endeavored to propagate modern varieties of cassava that needs to reach the farmers. Farmers will invest in better varieties of cassava when professionally advised. Extension services as a devolved county service that is supposed to be "demand driven" must be revamped. County departments of Agriculture have their jobs cut out for them.

2. Processors complain about irregular supply and low availability of cassava for processing and wish that supply of cassava to processors is reliable with regard to quality and not "sell it off anyhow" mentality. However, a process of working with aggregators and large traders seems to be working in other value chains e.g. sorghum for brewing. Here the manufacturers have taken a proactive stance to work with aggregators for an orderly upscaling of operations right throughout the value chain. Processors

[1] For example, in the National Food and Nutrition Security Policy, the government undertakes to catalyse private sector by promoting "… safe, small-scale rural and home processing and preservation of various foods, including livestock and fishery products, grains and produce" (Republic of Kenya, 2011:14)

need to be more involved in promotion of cassava through working with different stakeholders who can focus on strengthening the capacity of farmer groups, traders, transporters, and aggregators to plan, implement and manage value-addition for improved yields, marketing and hence incomes for the primary producers. This is already happening in various agricultural value chains e.g. horticulture, sorghum, and dairy and of course it has to be worthwhile and cost-effective to cassava processors **but a start needs** to be made.

3. Countries are endeavoring to implementation their County Integrated Plans for 2018-2022. In some counties with visionary leaders agro business is increasingly being taken seriously both in terms of budgetary allocations and related infrastructural support. In Busia there are even plans for the country to establish its own publicly owned cassava processing plants. Whereas this may be a good idea, it may be better to work with private investors in the management of such facilities.

There is a need to better understand through a comprehensive study the consumer awareness of cassava-blended flour bread, maize and related food products and willingness to pay for various tastes and textures. This when well established can then lead to a well discussed regulatory regime for blending based on well understood appreciation of the economic and nutritional benefits of cassava-wheat blended composite products. Evidence-based policy organisations like CUTS ARC are well placed and have the experience to undertake such exercises.

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POLICY REFORMS FOR PRIVATE SECTOR INVESTMENT MOBILIZATION (PR4I)

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