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High Seed Maize Prices in Kenya

Maize is the primary staple food crop in Kenya. It is the most frequently produced and marketed crop, grown by 90 percent of households and sold by more than 30 percent of the households in areas where the crop is grown. Maize dominates all national food security considerations. Maize production has, however, been on the decline, reducing from 2.7 million tonnes in 1995 to 2.1 million tonnes in 2004. Similarly, maize yields have declined by over 30 percent over the same period.

The decline in yields is largely attributed to reduced use of certified seed maize and low and inefficient usage of fertilizers. Adoption rates for certified seed maize have been on the decline in all the major maize growing zones (Table 1).

The declining adoption rates of hybrid seed is of great concern because the country has limited potential for further expansion of area under maize cultivation (currently estimated at 1.5 million hectares) due to diminishing availability of arable land. This means that future growth in maize production would have to depend mainly on yield gains made possible by widespread use of productivity-enhancing technologies such as use of certified seed maize, fertilizers and agro-chemicals. Indeed, germplasm (seed) is known to hold a huge potential of increasing on-farm productivity and enhancing food security. It largely influences the upper limit of productivity of all other agricultural inputs applied into the farming system. This notwithstanding, Kenya has been experiencing declining use of certified seed maize mainly due to non-availability of high quality seed of suitable varieties at affordable prices. Majority of maize farmers (about 83%) perceive certified seed maize as being generally very expensive.

Pricing of Seed Maize in Kenya

Currently, certified seed maize in Kenya costs about Ksh 125 per kilogram (price for Kenya Seed Company). At this price, seed accounts for about 17 percent of the total cost of production for medium intensive farmers (average maize producers), which is much higher than global conventional levels of less than 10 percent. Seed maize is also more expensive than seed of other commodities grown in Kenya such as wheat, rice, sugarcane and cotton, whose seed accounts for about 7.5, 4.0, 9.0 and 1.0 percent, respectively. The major factors determining seed maize retail price include overhead costs of the seed companies, cost of raw seed purchased from growers, company's profit margins, and margins going to seed agents, sub-agents and stockists (Figure 1).

Raw seed purchased from growers

Seed companies set the prices that growers receive. Currently, the Kenya Seed Company and private seed companies offer an average price of Ksh 34 per kilogram of clean seed of hybrid seed maize. Kenya Seed Company, which is a public seed agency, sets its price using a simple factor, which is 2.5 times the commercial price of maize grain. The largest cost components of the seed growers' price are the production costs (including all inputs) and harvesting (including loading and shelling), which account for about 50 and 40 percent respectively, of the seed growers' price.

Overheads for seed companies

These comprise of administration, finance and legal costs. For the public seed agency and private companies specializing in open pollinated varieties (OPVs), the overhead costs are above 30 percent with a large proportion of this component being financial costs related to servicing of expensive bank overdrafts. Private seed companies dealing with hybrids and OPVs have lower overheads of about 25 percent.

Margins for agents, sub-agents and stockists

The public seed distribution system in the country is characterised by a chain of agents, sub-agents and stockists while the private sector distribution system mainly relies on own outlets and a few seed stockists. Seed companies set seed maize prices and associated sales margins for merchants. On average, these margins are Ksh 4 per kilogram for agents and sub-agents, and Ksh

This policy brief is based on a study conducted by KIPPRA in 2005, in collaboration with the Ministry of Agriculture, Kenya Agricultural Research Institute (KARI), and Tegemeo Institute of Egerton University. The study uses value-chain analysis to establish the costs of seed maize at various stages of seed maize production, processing and marketing, in order to determine the major factors contributing to the high prices of seed maize in Kenya and thus propose policy recommendations to reverse the trend.

Table 1: Adoption rates for hybrid seed maize

Zone	Adoption rate (%)	
	1997	2004
High Potential Maize zone	93	88
Western Transitional	85	57
Western Highlands	74	59
Central Highlands	91	57

Source: Report on seed maize pricing, Ministry of Agriculture (2006)

9 per kilogram for stockists. Overall, these margins account for about 10 percent of the seed retail price.

Seed companies profit margins

The profit margins account for about 10-20 percent of the seed retail price. The public seed agency profit margin accounts for about 20 percent of the seed retail price.

Market for Seed Maize

There are 55 registered seed companies, 13 of which are actively engaged in seed maize business. The Kenya Seed Company, a public company, controls over 86 percent of the seed maize market share. As a market leader, the Company generally acts as a price setter in the industry, particularly for local companies. In total, the local companies, including Kenya Seed Company, account for about 96 percent of Kenya's seed maize market. The

overhead costs of the Kenya Seed Company are above 30 percent, with a large proportion of this being financial costs related to servicing of expensive debts. Reduction of these costs may have a strong positive effect on lowering the cost of seed maize in Kenya. Cost of seed maize can also be reduced by shortening the seed distribution chain. Currently, the largest market player, Kenya Seed Company, distributes its seed through a chain of agents, sub-agents and stockists each with a margin of at least Ksh 4 per kilogram. Prices can also be reduced through reduction of the company's profit mark-ups.

Non-Price Constraints

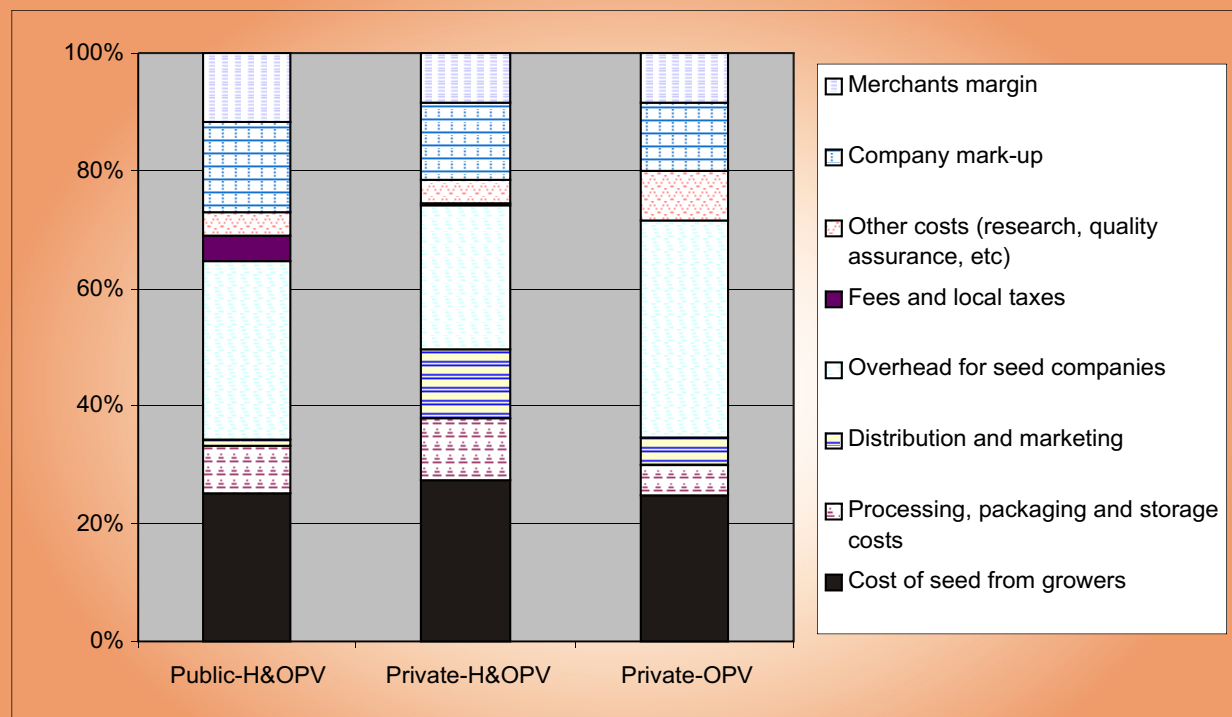
The major non-price constraints that influence the pricing of seed maize in Kenya include:

Inactive regulatory and arbitration organs and non-competitive market

The Seed Regulation Committee (SRC), established under the Seeds and Plant Varieties Act (1972), was largely inactive upto 2004. Similarly, the Seeds and Plants Tribunal has never been operationalized, although the Act placed very important mandates both on the Committee and the Tribunal. The mandate of the Seed Regulation Committee includes: Development of seed policy; Modification and/or alteration of certification standards; Making recommendations for the registration or deregistration of seed merchants; and Moderating cases of appeal by aggrieved persons. Any persons aggrieved by a decision of the Committee are supposed to appeal to the Seeds and Plants Tribunal.

Within the period that the Committee was inactive, the regulatory authority (Kenya Plant and Health Inspection

Figure 1: Decomposition of seed retail price in Kenya



Source: KIPPRA survey, 2004

Key: Public H & OPV = Public company dealing in hybrids and Open pollinated varieties (OPVs); Private H & OPV = private company dealing in hybrids & OPVs

The declining adoption rates of hybrid seed is of great concern because the country has limited potential for further expansion of area under maize cultivation (currently estimated at 1.5 million hectares) due to diminishing availability of arable land. This means that future growth in maize production would have to depend mainly on yield gains made possible by wide-spread use of productivity-enhancing technologies such as use of certified seed maize, fertilizers and agro-chemicals.

Services, KEPHIS) barred some seed maize companies from dealing in some specific maize varieties. This led to reduced competition in the industry, besides narrowing the choice of varieties available to maize farmers. The Seed Regulation Committee has, however, now been activated and this, coupled with finalization and implementation of the National Seed Policy, will encourage development of a vibrant seed market.

Access to publicly-bred maize varieties

Since the early 1960s until 1996, the Kenya Agricultural Research Institute (KARI) has developed improved maize varieties and passed them, at no costs, to the Kenya Seed Company for multiplication and production. This gave the Kenya Seed Company an exclusive right of access to KARI materials. After liberalization, KARI introduced a system of paying royalties to access its varieties. However, access to some seed varieties released by KARI is still unequal. This is particularly the case with the highly preferred H614, which is exclusively available to Kenya Seed Company whereas public resources were used in its development. Unequal access to publicly developed materials, like H614, restricts the seed selection choices that farmers can make in the market. Since this stifles competition, it thus partially influences seed prices.

Technical trade barriers

Seed maize importers in Kenya face a number of restrictions, some of which amount to non-tariff barriers to trade. The seed regulations provide that: (a) only registered companies may import seed for sale in the country; (b) the seed must comply with the minimum standards contained in the regulations; and (c) that they must have been tested for adaptability in Kenya.

The sale of any imported seed is not permitted unless its quality has been assessed, tested and post-controlled. In addition to vital requirements such as phytosanitary certificate, companies must also issue a notice of intention to import, against which an import permit must be issued. Some of these and other requirements add substantially to costs and act as barriers to market entry. Some seed industry players also report that trade barriers exist in form of international regulations such as the OECD (Organization for Economic Cooperation and Development) seed field certification scheme. Kenya is a member of this certification scheme, but its trading partners (except South Africa and Egypt) do not adhere to it. Seed produced in the non-member countries, including East African countries, is ineligible in the Kenyan market. This has generally had the resultant effect of reducing competition and encouraging oligopolistic behaviour, leading to high seed maize prices. There are, however, ongoing efforts, spearheaded by the Association for Strengthening Agricultural

Research in Eastern and Central Africa (ASARECA), being made towards harmonizing seed laws and regulations to enhance cross-border trade.

National performance trials and release of new varieties

Seed regulations provide that all new varieties, including imported ones, must go through a National Performance Trial (NPT). The purpose of the NPT is to test and ensure that only the best performing varieties of seed are released to farmers. The NPT lasts for at least two seasons and has been costly to the industry in terms of actual costs of executing the trials, which stand at US\$ 500 per entry. There are also delays in releasing the results of the tests, as well as limitations in the range of varieties available to maize farmers. One major cause of the delays is the requirement for variety Distinctiveness, Uniformity and Stability (DUS) data before release. Upon release of a variety, seed companies are expected to hand in DUS data and pay US\$ 600 to KEPHIS for every entry for verification of the data.

Even though remarkable improvement has been made in the recent past, seed companies argue that the process of variety evaluation, release and registration is still too lengthy, especially due to requirement for DUS tests before variety release. They are of the opinion that the varieties can be registered on the strength of a specific descriptor (at least one distinguishing characteristic for any new variety) even as KEPHIS undertakes DUS tests after the NPT. It is also important that bureaucratic functions such as official release of new varieties, currently conducted by the Minister for Agriculture, be delegated to committees such as the National Variety Release Committee (NVRC). Shortening variety release process and making the process more efficient would ensure that new and improved varieties get into the market on a timely basis, and this may assist in lowering seed maize prices.

Poor quality of seed in the market

Maize farmers have often complained that some of the seed they purchase is of poor quality. The complaint has been that some of the purchased seeds do not germinate and even those that germinated have sometimes been prone to pest and disease attacks or result in low yields even when the level of management is good. In some cases, the varieties planted turn out to be counterfeit. Inadequate isolation distances due to high population pressure could also be a source of contamination for the breeders and seed growers' crop. Generally, poor quality seed discourages farmers from using certified seed. Consequently, low volumes of seed is sold making it

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inevitable for seed companies to increase their seed maize prices further. To stem these negative effects, it is critical that KEPHIS ensures poor quality seed does not get into the market. The law should also be reviewed to allow for penalties on errant seed companies, and compensation of farmers who may have been sold counterfeit seeds.

Policy Recommendations

From the foregoing discussions, it seems clear that any reduction in seed maize prices should target cost reductions by lowering overhead costs, company's mark-ups or shortening the market chain. Seed maize prices can also be reduced by addressing non-price constraints influencing pricing of the seed. It is, therefore, recommended that:

(a) Public seed companies be restructured to lower overhead costs, shorten distribution chains and lower profit margins.

Reducing dependence on expensive bank overdrafts could substantially reduce overhead costs by at least 30 percent while the seed distribution chain could be shortened by elimination of sub-agents level. Public seed companies should also lower their profit mark-up margins from current levels to about 15 percent. It is estimated that implementation of these measures could help reduce seed maize prices by about 20 percent.

(b) Laws and regulations governing the seed sub-sector be reviewed.

Specifically, the Seeds and Plant Varieties Act, Cap 326, should be reviewed and harmonized to accommodate accreditation of private seed inspectors and facilitate self-regulation. This should complement the process of seed inspection and certification by KEPHIS. The Government should also hasten rationalization and harmonization of seed regulations within the region to ensure free flow of seed maize, without compromising quality. This could provide an alternative source of cheaper seed, especially if both local and imported seed continues being expensive.

(c) Revitalize the Seed Regulation Committee (SRC) and operationalize the Seeds and Plants Tribunal.

The SRC should be fully revitalized to provide arbitration mechanisms for any aggrieved parties and for development of policies for catalyzing growth of the seed sub-sector. In addition, seed merchants and breeders should be represented in the Committee. The Seeds and Plants Appeals Tribunal should also be operationalized to serve as an appeals organ for aggrieved parties. Smooth operations of the seed maize sector are expected to lead to a fall in prices.

(d) Seed maize varieties developed by public research institutions such as KARI should be made available to all interested parties through simple and transparent bidding systems.

Successful bidders should preferably be granted non-exclusive rights over the varieties but must ensure that the varieties maintain their distinct attributes and quality. The law should also be reviewed to entrench payment of royalties for publicly-funded breeding programmes.

(e) Unnecessary bureaucratic procedures in variety release should be removed.

Presently, it takes too long to have the varieties officially released even after the National Variety Release Committee has given its recommendations for official /formal release. The National Variety Release Committee should be empowered to be officially releasing new varieties.

(f) Irrigated seed production should be promoted.

Seed companies and maize research institutions should promote irrigated seed maize production, both in the research sites and seed growing areas, to allow for both distance and time isolation, and for production of seed in less populated and isolated regions.

About KIPPRA Policy Briefs

KIPPRA Policy Briefs are aimed at a wide dissemination of the Institute's policy research findings. The findings are expected to stimulate discussion and also build capacity in the public policy making process in Kenya.

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