POLICY BRIEF

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DO FARMERS REALLY BENEFIT FROM HIGH FOOD PRICES? BALANCING RURAL INTERESTS IN KENYA'S MAIZE PRICING AND MARKETING POLICY

by

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BACKGROUND: Kenya, like many countries in the Eastern and Southern Africa region, is undergoing rapid transition and adjustment in its agricultural sector. Between 1994 and 1999, the marketing and pricing of strategically important crops such as maize had become increasingly governed by market forces as the private sector has been allowed a greater role in crop transport, storage, and processing.

However, the reform process has been controversial, and its effects on farmer and consumer welfare have been the subject of speculation due to the limited availability of ground-level information on how farmers and consumers are responding to the reforms.[1] Because of these uncertainties, the Kenyan government has several times reversed its course in the liberalization process, most recently in 1999 by bringing the state-run marketing board back into grain purchase at fixed support prices, coupled with tariffs on maize imports. Both of these measures are intended to protect Kenyan farmers from "cheap imports" from neighboring countries and from the world market.[2] There remains the strong perception among many government officials and local analysts that supporting maize prices (at levels higher than would prevail under market conditions) would raise the net incomes of small Kenyan farmers and promote household food security.

OBJECTIVES AND METHODS: This paper uses information from rural household surveys in 24 districts in Kenya to inform current debate on maize pricing policy. Specifically, we shed light on how rural farm households are being affected by governmental efforts to support maize price levels. Using information on landed import costs of white maize from South Africa with and without the import tariff, we simulate the effects of eliminating the tariff on rural smallholder farmers, large-scale farmers, and urban consumers. We then examine the implications of these findings for the design of strategies to promote agricultural productivity and rural income growth.

[1] The national statistical office (Central Bureau of Statistics) has not published statistics from an agricultural survey since 1992, several years before comprehensive market reforms were implemented.

[2] For example, after the bountiful 1999 harvest when maize prices were relatively low, there were many reports in the local press stating that Kenya's food policy was a failure, and that agriculture should be exempted from liberalization to prevent the sector from collapse (Daily Nation, 1999).

SOURCES OF PRODUCTIVITY GROWTH IN AGRICULTURE: There are two sources of potential growth in rural productivity. One comes from raising the productivity of existing activities using more efficient technologies. The other source of growth comes from reallocating land and labor into higher-valued activities. Indeed, much of the productivity growth in the developed world has been associated with a shift from semi-subsistence agriculture to more commercialized systems of production and exchange and an increase in the production of crops that maximize financial returns per unit of land. There is some evidence that such a shift to higher-return crops has been occurring in Kenya in association with declining farm size. Since 1980, the greatest sustained growth in area expansion has been in crops with relatively high value per unit of land, such as horticultural crops, sugarcane, and until recently, tea. Maize, the main staple crop, has actually experienced a 6% decline in crop area between the 1990-1994 and 1995-1998 periods.

MAIN FINDINGS:

1. Importance of cash crops and non-farm income in rural livelihoods: The household survey data reveals that the incomes of rural farm households are quite diversified. Maize accounts for only 14% of total household income (including consumption) and does not exceed 25% even in the maize breadbasket zones of the North Rift. In only two of the 22 districts covered was maize the leading or even second most important cash crop. Other crops, such as tea, vegetables, fruits, sugarcane, coffee, and root crops account for more than 20% of household income. Another observation is that small-scale farm households derive between 25% and 70% of their income (depending on location) from non-farm sources. Clearly, the idea of small rural farms relying mostly on grain crops for their incomes is an outdated perception.

But why are these shifts in cropping patterns occurring and what do they mean? Several factors are at work. First, as farm sizes decline with increased population pressure,[3] it becomes increasingly unviable to adopt a food self-sufficiency strategy based on low-value per hectare grain crops, except in the selected areas where grain has a comparative advantage. Over half of the households in the sample have land holdings less than 0.28 hectares per capita. Over 25% of the sample own less than 0.1 hectares per capita.

With farms of this size, and given current technology and productivity levels, it is generally unviable to adopt a food self-sufficiency strategy, because this constrains household income compared to a strategy based on growing some portion of household food needs but using some part of the household's scarce land to maximize net cash revenues. Farm budget information in Kenya indicates that the crops providing the highest net returns to land and labor vary widely across the country, but generally are the crops typically viewed as "cash crops" – horticulture, sugar, tea, coffee. In a few areas such as Trans Zoia and Uasin Gishu in the North Rift, maize appears to be the most lucrative cash crop.

Second, maize has become cheaper and more readily available in retail markets since liberalization. Households find it relatively easy to devote part of their land to other crops and buy maize in the market. Over 60% of the households surveyed in 1997 (outside the High-Potential maize zone) indicated that the availability of grain to buy in local markets has improved since the market reforms, compared to 26% who indicated that it had deteriorated. While still considerably higher than world market levels, real maize price levels in Kenya have declined by 25% in the 1995-99 period compared to the 1985-93 period of maize market control. Formerly, with controls on inter-district movement of maize, farmers had

[3] Between 1960 and 2000, according to FAO data, the land under cultivation has declined steadily from 0.53 to 0.20 hectares per agricultural person.

greater incentives to achieve cereal self-sufficiency because of localized grain shortages, which made households dependent on relatively expensive sifted meal.

2. Kenya's marketed maize output comes from a relatively small portion of the farm population. Ten percent of the small-scale farmers accounted for 74% of the total maize sold by the small-scale farm sector. These farmers are located primarily in the maize-surplus districts such as Trans Nzoia, Uasin Gishu, upper Kakamega, and Nakuru. When we consider available data on large-scale farmers, we conclude that the top 10% of farms in the country account for 83% of the domestically marketed maize in Kenya.

Accurate information on the costs of maize production is very important in understanding the need for support prices and tariffs. Available information indicates that in the maize-surplus regions of the North Rift, small-scale and large-scale production costs were in the range of 660 and 630 Ksh per 90 kg bag, respectively, for mono-cropped maize in an average season.[4] Outside of the North Rift, maize production costs are higher than this, making maize unviable as a cash crop in most districts of Kenya. While a goal of current government policy is to protect farmers from facing prices below production costs, the actual 1999/00 NCPB support price of Ksh 1,188 (US$176 per ton) in the 1999/00 season was probably higher than necessary to protect the incomes of farmers in areas where maize is the main source of crop income.

3. Most rural smallholders, even in the major agricultural areas of the country, are net buyers of maize throughout the year, and are directly hurt by higher maize prices. In the 22 agricultural districts examined, 52% of farmers were net maize buyers. About 16% of the farm households neither purchased nor sold maize, and the other 32% were net sellers of maize (Table 1). While almost all rural households grow maize for consumption, it is generally insufficient for household requirements and they use the income derived from their non-farm and cash crop activities to buy much of their maize needs.

4. The maize import tariff is acting as a tax on the rural poor. Over 80% of the households in the lowest income quintile were net maize buyers, compared with 26% in the highest income quintile. The strategy of growing other crops to buy maize is, as indicated earlier, partially due to efforts to maximize the incomes that can be derived from increasingly small farms and also because of more reliable access to maize in local markets after maize market liberalization in the early 1990s.

But these land-constrained net maize-buying farmers, especially those in the drier parts of the country, tend to have lower incomes than those farmers in the high-potential maize zones. Hence, the maize import tariff is acting as a tax on the rural poor, most of whom buy maize and spend a relatively large share of their income budget on grain purchases.

5. The elimination of the maize import tariff would save urban and rural consumers Ksh 2,744 million (US$36.6 million). Based on available data on annual maize purchases by rural and urban households, and the effect of the tariff on local price levels, we estimate that the elimination of the import tariff would save urban consumers roughly Ksh 1,400 million (US$18.6 million) and rural consumers about Ksh 1,344 million (US$17.9 million) on their expenditures on maize. To put these savings in perspective, the estimated US$36.6 million cost savings to consumers is about twice the value of the relief maize being imported by donors to alleviate food insecurity in Kenya in 1999.

[4] This converts to US$96 and $92 per metric ton.

Table 1. Survey Zones Enumerated in both 1997 and 1998

Zone	Districts Covered	Number of Sampled Households	Per Capita Income (Ksh)	Cropped Land size (acres)	Maize Marketing Position (% of households)			Net Maize Sales (kgs)		
					Net Seller	Autarky	Net Buyer	Net Seller	Autarky	Net Buyer
Western Lowlands	Kisumu, Siaya	170	10,920	2.95	5	13	82	315	0	-540
Eastern Lowlands	Kitui, Mwingi, Machakos, Makueni	150	19,355	5.36	23	11	66	564	0	-290
High-Potential Maize Zone	Trans-Nzoia, Uasin Gishu, Bomet, Nakuru, highland areas of Kakamega	232	29,922	7.73	68	10	22	3,022	0	-595
Western Highlands	Kisii, Vihiga	180	14,055	2.96	23	19	58	580	0	-399
Western Transitional	Bungoma, lower elevation divisions of Kakamega	150	16,578	5.31	23	15	62	1,166	0	-694
Central Highlands	Muranga, Nyeri, Meru, Laikipia	242	28,010	2.8	16	21	53	413	0	-316
Total		1,224	21,647	4.81	32	16	52	2,028	0	-462

Source: Tegemeo Institute/Egerton University/KARI//MSU Rural Household Survey, 1997 and 1998.

6. The policies adopted by the Kenyan government to raise domestic maize prices in 1999/2000 have transferred at least Ksh 1,152 million (US$15.4 million) to the large-scale farm sector. Using farm budgets for large-scale maize production, we simulated the effects of alternative producer prices on net revenue per acre (gross margins). Compared to mean price levels in the North Rift, the NCPB support price of Ksh 1,188 per bag in the 1999/2000 season (US$176 per ton) is estimated to have increased gross margins of large-scale maize producers by roughly Ksh 7,200 per acre (US$ 96).

Large-scale farms vary in size from 50 acres up to many thousands of acres. Taking a smallish large-scale farm of about 200 acres of maize, we conclude the support price policy transferred about Ksh 1.4 million (US$19,200) in additional maize revenue to a farmer of this size. By contrast, the total annual gross household income (including crops, livestock, and non-farm income) for small-scale farm households in 1997 and 1998 ranged from Ksh 54,600 (US$ 728) in the Western Lowland areas of Kisumu and Siaya, to Ksh 149,610 (US$ 1,995) in the High-Potential Maize Zone.

Overall, there are about 160,000 acres of maize under production by the large-scale sector. Therefore, policies that are effective in increasing the producer price of maize received by large-scale farmers from, say, 900 to 1,188 Ksh per bag (a net change of 288 Ksh per bag) would confer an income transfer to these farmers worth Ksh 1,152 million (US$15.4 million).

The net effect of the maize tariff and price supports has been to transfer income from 3 million urban consumers and almost 4 million small-scale farm households (who buy maize) to about 0.3 million small scale farmers in the high potential maize areas (who account for 75% of the marketed maize output from the smallholder sector) and a few thousand large-scale maize farmers.

7. What do Kenyan farm households say? But are these conclusions consistent with what Kenyan farmers themselves are saying? To examine this, we directly asked the surveyed farmers the question "is your household better off with high or low maize prices?" Maize prices for the previous season (1996) were used as a reference point; 1996 was a year of relatively low maize prices throughout the country.

The results show that about 67% of all households surveyed preferred maize prices lower than those prevailing in their location in 1996, and these figures mirror very closely the proportion of households in each zone that are net maize buyers. Only in the high-potential maize areas did the majority of households state a preference for higher maize prices than in 1996.

These findings contradict the conventional wisdom that most farmers want and benefit from high grain prices. Dealing with the agricultural sector as if farmers are a homogeneous group with similar characteristics may give misleading impressions and can have consequences that go contrary to overall sectoral policy objectives. And while reports in the local media would lead one to believe that Kenyan maize prices are artificially depressed due to "cheap imports", in fact Kenyan producers receive relatively high prices for maize compared to most other countries in Eastern and Southern Africa (Table 2).

Obviously, Kenya needs adequate maize supplies. And it is important to make Kenyan maize production as efficient and competitive as possible, through development of improved cultivars, improving the efficiency of fertilizer delivery channels, and extension programs. These investments are likely to make maize production in Kenya a more profitable venture over the long run than intervening through price policy or protecting farmers from competition.

Table 2. Prices for Maize Grain, January 1996 - July 2000.

	Ethiopia	Kenya	Zambia	Zimbabwe	South Africa	Mozambique
	---------- US$ per metric ton ----------					
Wholesale price in maize surplus production regions[1]	117	169	115	110	114	99
Wholesale price, capital city[2]	152	232	165	131	132	194

Sources: [1] Ethiopia: average of Shashemene and Nekempt markets, Grain Market Research Project Information System, Ministry of Economic Development and Cooperation, Addis Ababa. Zimbabwe: Grain Marketing Board pan-territorial producer price; Zambia: Choma and Chipata market (AMIC database); Kenya: average of Kitale, Kakamega, and Eldoret markets (Market Information Bureau, Ministry of Agriculture); South Africa: producer price, Randfonteine (South Arica Futures Exchange). Mozambique: average of Manica and Mocuba markets.
[2] Ethiopia: Addis Ababa markets, Grain Market Research Project Information System, Ministry of Economic Development and Cooperation, Addis Ababa. Zimbabwe: Zimbabwe Agricultural Commodity Exchange price quotes (ZIMACE), Harare; Mozambique: Market Information System (SIMA), Ministry of Agriculture and Fisheries. Zambia: Wholesale Lusaka public markets (FEWS database); Kenya: Nairobi public markets (Market Information Bureau, Ministry of Agriculture); South Africa; (South Africa Futures Exchange).

Sound investments to make Kenyan agriculture more competitive will lead to lower production costs, and maize production will be profitable even at 'seemingly' lower prices which are preferred by majority of Kenyans.

Economic growth in most other parts of the world has come from agricultural productivity growth that reduces the real cost of living for consumers. The savings created from reducing the cost of food, when aggregated across millions of consumers, releases purchasing power that fuels the demand for other sectors of the local economy, including other crops produced by large farms. Efforts to reduce the costs of food production can bring broad-based benefits to the entire economy, and this appears to be one of the highest priorities of Kenyan agriculture today.

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