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The Drought and Food Crisis in the Horn of Africa: Impacts and Proposed Policy Responses for Kenya

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As the world begins to feel the effects of climate change, the frequency of droughts is increasing in the Horn of Africa. In Kenya, the drought and food crisis affect welfare through two main channels. The first channel is the increased mortality of livestock in drought-affected areas, which are home to 10 percent of the country's population. The second channel is by exacerbating increases in food prices, which are largely driven by worldwide price trends. Considering these two channels, this note identifies four broad policy changes that can reduce Kenya's future vulnerability to such shocks: (i) investment in people in the arid and semiarid lands; (ii) reform of Kenya's maize policy; (iii) review of the East African Community grain trade policy; and (iv) formulation of a unified social protection system.

Impact of the Drought and the Rise in Food Prices

The drought

In Kenya, more than 3.7 million people have been affected by the drought. The counties bordering Somalia in the north and east of the country have been the hardest hit. Drought-affected areas are also coping with the influx of refugees travelling from neighboring Somalia to the Dadaab refugee camp, creating an additional burden in the region that is now home to the largest refugee camp in the world.

The drought-stricken region holds about 31 percent of Kenya's livestock, which is at risk from the debilitating effects of the drought. Livestock is the main source of livelihood in arid lands and accounts for about 5 percent of total GDP. Estimated livestock mortality as a result of the current drought is about 10–15 percent above normal in the affected areas, equivalent to 5 percent of Kenya's livestock population.

Beyond the direct impact in the drought-stricken areas, the drought has contributed to food inflation across the country. Food inflation is driven by both a shortfall in production and the increase in global prices. While prices have dropped from their July 2011 peak, as of October, the price for a 90 kilogram bag of maize stood at US\$43, which is 55 percent above world market prices and double the price of a year earlier.

Agriculture policy and trade policy distortions are compounding the drought's impacts. Kenya is a food deficit country even in a bumper harvest year, yet the country levies import duty on food grains that are only suspended on an ad hoc basis in times of crisis. The East African Community customs union partners also impose export bans on cereals when Kenya experiences a food crisis, and the country pursues a high food producer price policy.

The combined economic impact of the drought and related shocks is estimated to cost the economy approximately 0.7–1.0 percent of GDP. However, the direct impact of the drought

on output is estimated to be mild—a decline of 0.2 percent—due to the loss of livestock. The economy will slow down by an additional 0.5–0.8 percent as the result of lower than normal rainfall in the first half of the year in Kenya’s agricultural heartland and a number of external shocks.

Food security is expected to improve to a crisis status (down from the humanitarian disaster phase) in pastoral areas of Kenya by the end of 2011. This more favorable outlook is due to the forecast for near normal to above normal rains, ongoing relief interventions, and expected declines in staple food prices.

Poverty impacts

The seven counties most affected by the drought have an average poverty rate of 73 percent, with Turkana registering a poverty rate of 90 percent, the highest in Kenya. The main impacts of the drought come through two channels. First, there is a direct effect on the lives of those living in drought-stricken areas, mainly through the increased mortality of livestock. The second channel is the rise in food prices, which is partially a consequence of the drought in Kenya’s arid areas and partially due to below normal rainfalls in the crop-producing regions, which are elsewhere in the country.

Livestock is the principle source of livelihood in the arid areas. Fifty-eight percent of households in the seven drought-affected counties own livestock, with goats and sheep the most common assets. Other livestock included in the statistics presented here include cattle, camels, and donkeys. On average, families own 42 animals. Even in nondrought years, households in the arid lands are highly vulnerable to shocks, and livestock mortality is high. In a 2005–6 national survey, the average livestock-owning household in the region reported that nearly half of their livestock died in the previous year, a mortality rate twice the national average.

Droughts overwhelm traditional coping mechanisms employed by pastoralists. Households with livestock manage mortality risk by moving their herds in response to rainfall variation. They also have social insurance arrangements that provide for the transfer of a breeding cow when they suffer severe losses. However, these schemes are in decline, do not cover everyone, and fail in the face of a drought that affects all households over a wide area simultaneously.

Impacts of changes in maize production and prices differ across socioeconomic groups. The impact of increases in maize prices varies depending on whether a given household is a net buyer or seller of maize. The greatest effects of maize price shocks are felt by Kenyans who are net buyers and make up the majority of the Kenyan poor, including the urban poor, who are entirely net buyers. Households that are net sellers of maize, a small but politically influential group of less than 2 percent of Kenya’s farmers, are the major beneficiaries of Kenya’s high producer prices.

To estimate the overall effects of the rise in maize prices and the decline in maize production, this analysis employed a simulation approach using the Kenya Integrated Household Budget Survey and current data on price and production changes. Overall, areas most negatively affected by maize price shocks are those where poverty rates were already high. Marginally, the greatest increase in the poverty headcount is in the eastern province. Net producers of maize in the western Rift Valley have benefited from higher prices.

Proposed Policy Responses

Given the two main effects of the drought—livestock mortality in the arid and semiarid lands and rising maize prices nationally—there are four broad policy changes that can reduce Kenya’s vulnerability to drought: i) investment in people in the arid and semiarid lands; ii) reform of Kenya’s maize policy; iii) review of grain trade policy; and vi) strengthening of the social protection system.

Investment in people in the arid and semiarid lands

Over the last decade, Kenya as a whole has achieved strong growth, driven by its diversified and urbanizing economy. The areas afflicted by the drought are Kenya’s arid lands, which have the highest poverty rates and the lowest population density in the country. The gap between the more prosperous parts of Kenya and the poorer arid lands presents a case of lagging and leading regions similar to the situation faced in many countries across the globe. A crucial question facing policy makers is what type of public investment should be made in the lagging areas. The World Bank’s 2009 *World Development Report (WDR): Reshaping Economic Geography* provides a framework to address this question.

Underlying the framework is the observation that across the world, the overwhelming historical pattern has been for devel-

Table 1. Household Livestock Ownership in Drought-Affected Counties

County	% of households that own				
	Livestock	Cattle	Sheep and goats	Camels	Donkeys
Garissa	44	28	41	5	
Isiolo	60	45	49	4	27
Mandera	49	27	40	11	15
Marsabit	70	37	54	20	6
Tana River	49	29	45	2	1
Turkana	51	2	50	2	7
Wajir	87	51	77	27	3
Drought-affected counties	58	28	52	10	6
All Kenya	50	38	32	1	3

Source: World Bank projections using Kenya Integrated Household Budget Survey 2005/6 data.

opment to take place as people move from poor, sparsely populated areas to leading areas. This is the pattern in rapidly developing countries today, such as China, which has seen massive migration from the poor, sparsely populated west to the coastal region. The same pattern is seen in Brazil, with migration from the poor, less densely populated regions to the southeast.

The forces pulling people away from areas such as arid lands are reinforced by climate change. The literature on climate change recognizes that migration is a principal tool people use to adapt. As global temperatures rise and droughts become more frequent, migration from arid areas will increasingly appeal to communities.

In light of the insights from historical patterns and theory on economic geography, the WDR framework recommends a set of policy approaches addressing the “3 Is”—*institutions, infrastructure, and incentives*:

- **Institutions** include both those that ensure *equality of opportunity* in areas like education, health care, food security and basic services, and those that provide a regulatory framework such as property rights, land tenure regimes, transport, and urban development regulations. Ensuring that institutions are *spatially blind* should be the primary approach for most countries.
- **Infrastructure** refers to *spatially connective policies* aimed at connecting places and markets. Prime examples are inter-regional highways and railroads to promote trade and improving information and communication technologies to stimulate the flow of ideas. This approach should supplement the focus on institutions in countries where lagging areas have large numbers of poor people and impediments to mobility.
- **Incentives** refer to *spatially focused policies* to stimulate economic growth in lagging areas, such as investment subsidies, tax rebates, location regulations, local infrastructure development and targeted investment climate reforms, such as special regulations for export processing zones. This approach can complement the focus on institutions and infrastructure in areas fragmented by linguistic, political, religious or ethnic divisions, which cause these areas to be particularly likely to suffer from coordination failures and poverty traps.

The fact that many now living in arid lands—particularly the children—will migrate to other areas strongly recommends a primary focus on *institutions*, especially those that help people migrate to places with economic opportunities. High priority should be given to guaranteeing access to quality basic services—particularly education and health care—regardless of one’s location. Given the low population density in the arid lands and their remoteness, the cost of delivering these services will be high. This cost is justified for two reasons: to ensure equal opportunities for children from arid areas and to promote economic growth.

Given the low population density in the arid lands in the region, a focus on spatially connective infrastructure and targeted incentives is less advisable. Substantial development of roads—the chief form of spatially connective infrastructure—is likely to be prohibitively expensive in the arid lands, and the track record of incentive-type programs is generally weak. Nonetheless, the mobile phone revolution and the rise of mobile money have introduced a new form of spatially connective infrastructure and have helped some cope with the drought by providing a lifeline through remittances. To the extent that incentive-type programs can be successful, historical experience suggests they need to build upon policies that foster institutions and ensure *equality of opportunity*. Without laying the foundations through a principal focus on institutions, targeted incentives are unlikely to succeed.

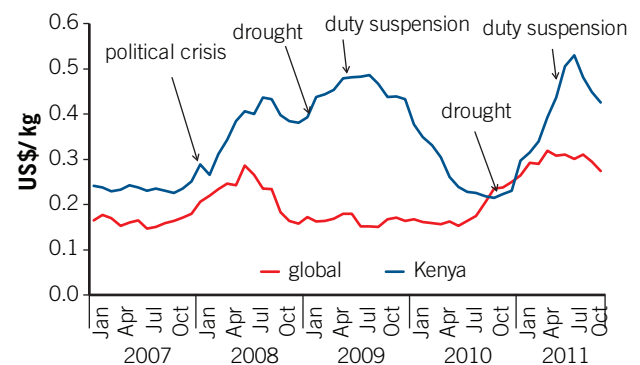
Overall, the WDR framework suggests recalibrating priorities for the arid lands. The future welfare for people in these communities is likely to be driven largely by migration to areas of economic concentration. The top priority for government investment and migrant remittances should be ensuring basic education and health care for children in arid areas.

Agriculture policy

Because maize is Kenya’s major food staple, efficient maize marketing is critical to food security, poverty reduction, and producer incentives. The operations of the National Cereals Production Board (NCPB) have raised the price of maize by fixing a price floor well above market levels, with the result that Kenya’s maize prices are among the highest in Africa, yet without generating the expected supply response. It is important to understand why.

The government has intervened in maize markets in ways that keep maize prices high and have little impact on price stability (figure 1). Liberalization opened maize markets to the private sector and reduced marketing margins and prices. However, the NCPB remains a major player in the market among medium- and large-scale farmers in the high potential maize zone of the

Figure 1. Kenya Maize Prices are Higher Than Global Prices



Source: Kenya National Bureau of Statistics; World Bank estimates.

Rift Valley, where it sets prices and provides some degree of stabilization. Smallholders have little interaction with NCPB. Presently, only 2 percent of smallholders sell to the cereals board. NCPB's maize market interventions are generally antipoor in the sense that high prices paid to large-scale farmers negatively impact consumers—especially poor urban households and the majority of poor rural households, which are net buyers of maize.

Despite the harmonization of formal maize import tariff rates, both tariff and nontariff barriers to regional trade continue to cause domestic maize prices to rise. Given that Kenya is consistently a net importer of maize, a policy of restricting imports necessarily harms Kenyan consumers, who bear the additional tax burden.

Relatively high global maize prices due to structural change in the energy markets provide an opportunity for NCPB to reduce its role in the market and move to a more transparent, coordinated system with minimal dislocation to surplus maize farmers in western Kenya. As a first step, NCPB could use transparent rules for setting buying and selling prices for maize. This step would require NCPB to move away from pan-seasonal buying and selling prices (prices that are constant throughout the marketing year), which eliminate incentives for grain storage. Price stability could also be enhanced through the intraregional grain trade, which could be furthered by investing in market infrastructure; reducing trade restrictions and interventions; reducing nontariff barriers to trade; streamlining customs procedures; and harmonizing quality, safety, and phytosanitary standards with neighboring countries.

Private storage could be encouraged by turning some NCPB grain silos and go-downs into storage-leasing operations. Additional storage facilities, coupled with better financing arrangements, could help the commercialized grain marketing system to weather downside price risk. These efforts could be combined with a warehouse receipt system to help farmers and traders get access to formal credit markets and would improve the efficiency of the food marketing system in general.

Implementing these reforms would open space for market-based risk management instruments through a commodity exchange with forward and futures markets. Most importantly, the government could provide a predictable policy environment that does not destroy the incentives for private individuals and firms to trade market-based risk management instruments.

Scale-up and integrate social protection programs

The global food, fuel, and financial crises have demonstrated the vital role that safety nets play in mitigating the impact of

shocks on households. Across Africa, countries with well-designed, operational safety nets have been able to respond more effectively to crises, protecting human capital investments and preventing people from falling into poverty, while jumpstarting economic recovery. The response to the current drought in East Africa has again validated this approach.

The government of Kenya recognizes the potential of safety nets to effectively mitigate the impacts of the drought. The government has harnessed its existing safety nets to provide additional support to people most affected by the drought and food price inflation. However, these and the government's other safety net programs are comparatively new and operate mostly as pilots. They are limited in coverage and their systems and structures are not yet sufficiently robust to enable a rapid scale-up to new beneficiaries.

The government of Kenya's draft social protection policy addresses these shortcomings and aims to strengthen the ability of safety net programs to respond to crises. Policy implementation will require increased financing for social protection. There is potential to increase safety net coverage through efficiency gains within the current budget. Most notably, spending on emergency food aid, which is relatively costly and not always very effective, could be reallocated to longer-term and more efficient programs. Currently, about 86 percent of safety net spending is allocated to emergency relief. At the same time, overall spending for long-term safety nets is at relatively low levels (around 0.25 percent of GDP); government will need to increase the financing for these programs over time.

These investments will not only improve crisis response, but will also build more resilient livelihoods. A growing body of evidence shows that safety nets are an important complement to efforts to improve the livelihoods of the poor, particularly in areas that remain vulnerable to shocks such as drought. Reliable access to safety net support allows households to take on more investment risk and thus produce higher returns.

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