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LIFE AT THE CROSSROADS: HOW CLIMATE CHANGE THREATENS THE EXISTENCE OF THE MAASAI

BY PHILIP OSANO

SUMMARY

- Climate change is exacerbating poverty among the Maasai of Kenya and adversely affecting their livelihoods. Climate change induced droughts and floods have resulted in increased competition for scarce resources, loss of herds and forced migration among the Maasai.
- Boosting capacities is crucial in order to mitigate the impacts of climate change for the Maasai and sustain their livelihoods. Initiatives such as grass banks, monetary incentives and livestock insurance against drought will help to protect traditional livelihoods, but more effort is needed on the part of the Kenyan government and non-governmental actors.

From 2008 to 2009, a devastating drought hit areas inhabited by Kenya's Maasai pastoralist community, destroying three-quarters of their cattle and two-thirds of their small stock (Western, 2010:18). The drought was the worst the Maasai had experienced in decades, despite the fact that it followed in the wake of recurrent droughts brought about by climate change (Western, 2010).

The Maasai are one of several pastoralist communities that live in Kenya's arid and semi-arid land areas (ASALs). Specifically, the Maasai live in drylands in the southern part of Kenya, which are characterized by low and erratic rainfall with high evaporation rates, and limited soil moisture—conditions that render the drylands fragile and unsuitable for rain-fed agriculture. In this tenuous ecosystem, pastoralism is considered the most suitable form of land use (Homewood et al., 2009:4) and livestock (namely, cattle, sheep and goats) forms the principal source of livelihood for the Maasai.

In terms of land mass, the ASALs constitute 80 percent of Kenya and are home

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to over 10 million people out of a population of 40 million. Compared to other regions of Kenya, the ASALs have the lowest development indicators. Populations in the ASALs are typically characterized as being in abject poverty, where 60 percent of inhabitants live on less than a dollar a day. Additionally, environmental degradation, insecurity due to cattle rustling, climatic shocks and diseases are factors that compound poverty rates in these areas. However, the ASALs are rich in livestock, with an estimated 60 percent of Kenya's livestock found in these regions.

Nearly half of the total livestock herds in Kenya belongs to the Maasai (Barrow and Mogaka, 2007: 11). Being pastoralists, livestock constitutes an important aspect of Maasai life; an estimated 75 percent of the total household income in Maasai land is generated from livestock (World Resources Institute, 2007: 54), which is used in several ways. First, livestock products such as meat, milk, blood, hides and skin serve as important sources of food and cash income. Second, livestock is an important commodity in the cultural and social values of the Maasai. For instance, cattle are used as gifts in marriage or concessions when settling disputes within the community. Owning a large herd is considered a sign of prestige and wealth. Lastly, as herd loss is a major risk factor in drylands, herd accumulation is an important insurance and risk-management strategy (Morton, 2007: 19682).

The Maasai have a reputation of rigid adherence to their traditional means of living as sometimes they have little regard for the tenets of modernity. But in recent years, myriad changes in land tenure, land use intensification, sedentarization, institutional changes and climate change have forced the Maasai to abandon their old ways (Galvin, 2009). Although the Maasai live in primarily rural areas and are strongly dependent on livestock, the majority of their households are increasingly adopting agro-pastoralism, or shifting from natural resource-based livelihoods to non-farm activities, which often involve relocation to other regions (Homewood et al., 2009).

Two major factors are fuelling the transformation of the pastoral livelihoods of the Maasai: fragmentation of once contiguously intact grasslands that reduce the scale of the pastoral landscape; and climate change, which is increasing the variability and frequency of rainfall perturbations in drylands (Galvin, 2009). Climate change has been particularly devastating to the Maasai because of the negative effects manifested in recurrent drought,

leading to increased food insecurity, starvation and poverty.

This paper examines how climate change contributes to poverty among the Maasai and outlines government and non-governmental policies designed to help pastoral communities cope with the effects of climate change in Kenya.

THE IMPACTS OF CLIMATE CHANGE

Pastoral drylands in Africa are particularly prone to climate change impacts, which are predicted to have considerable negative effects on livestock production systems (Thornton et al., 2006:16). In Kenya, climate change is compounded by deforestation and soil erosion. Climate change is expected to increasingly occur at a faster rate, culminating in new weather patterns that are likely to result in increased suffering among the Maasai. It is anticipated they will be affected in several ways: climate change variability will induce droughts that will disrupt the traditional seasonal migration of herders, livestock and wildlife to critical water and nutrient resource points. The disruption of livestock and wildlife migration patterns will constrain the space for co-existence between humans and wildlife, as competition for scarce resources increases (Western, 2010a). As this competition intensifies, the possibility of violent conflicts between herders and farmers will also likely increase (CDC/IISD/Saferworld, 2009). Higher occurrence of droughts and floods will also limit capacities to diversify into crop farming because of increased risk of crop failure. Floods will also limit abilities to relocate to other areas.

Similarly, negative factors induced by climate change, such as drought, erratic rainfall, and lack of access to watering points, will result in poor nutrition for livestock because the quality and quantity of grass the animals feed on will be compromised. As well, climate change induced conditions will worsen the severity and distribution of livestock diseases and pests (McCarthy et al, 2010).

INTERVENTIONS AND RESPONSES TO CLIMATE CHANGE IN PASTORAL DRYLANDS

Long before the advent of climate change, poverty eradication in Kenya's arid lands has been a government priority. National policies were formulated

in 1979, 1992, and 2001 with a focus on eradicating poverty by changing the lifestyles of the pastoral communities in the arid and semi-arid areas. Specifically, these policies sought to settle pastoral communities in irrigation schemes, create group ranches and introduce alternative land use systems. The policies failed for various reasons, including lack of political support and insufficient input from the intended beneficiaries (Republic of Kenya, 2005: 2). Since 2003, the government has renewed its focus on improving livelihoods in the pastoral areas by taking note of the added dimension of climate change and its negative effects on poverty eradication. Key to this is the recognition of the existence of fundamental resources that could be used to develop the arid lands. For example, the government notes that the arid and semi-arid regions of the pastoralists “have hidden strengths and enormous resources that can be harnessed not only to sustain themselves but to contribute to national development.”¹ Within Maasai territory, there are national wildlife reserves such as the world famous Maasai Mara and Amboseli in southern Kenya, that attract thousands of tourists each year bringing in huge revenues. Tourist dollars could potentially be utilized in projects that improve living conditions for the Maasai. The government also recognizes that sustained economic growth in Kenya will remain elusive if the arid regions are not factored into the country’s national planning and development objectives²

The goal of sustained economic growth is complicated by the added dimension of climate change and its contribution to exacerbating poverty among Kenya’s pastoralists in general, and the Maasai in particular. To this effect, the government has initiated short-term and long-term measures to combat climate change and mitigate its effects on pastoral communities. The short-term initiatives include emergency measures to tackle drought through the provision of food relief, water supplies, and emergency livestock off-take³ (Zwaagstra et al., 2010). In contrast to the short-term strategies, the long-term initiatives are elaborate multi-year programs that include policies and the creation of institutions for implementing them. For example, the

1 Statement on the introductory section of the website of the Ministry of State for the Development of Northern Kenya and Other Arid Lands.

2 Ibid.

3 According to *Guidelines for Emergency Livestock Off-take*, a publication of the Arid Lands Resource Management Project (Government of Kenya), emergency livestock off-take is the “percentage of the current year’s herd that is removed through sales, deaths, gifts, home-slaughters or theft.”

government has created a comprehensive ten-year development strategy for drylands (Republic of Kenya, 2005). The strategy outlines the creation of a full-fledged Ministry of State for Development of Northern Kenya and Other Arid Lands (MSDNKALs), which was created in 2008. The ten-year strategy includes a pilot project, the Kenya Adaptation to Climate Change in Arid and Semi-arid Lands Project (KACCAL), which outlines measures to improve coordination of information and action for managing climate risk at the national level; integrate long-term risk perspective into planning and investment support at local levels; engage the private sector in efforts to reduce the risks of climate change; support community-driven initiatives to strengthen long-term livelihood strategies; and support various aspects of program management such as technical assistance, monitoring and evaluation and sharing knowledge on a regional basis.⁴ The government has also formulated a National Climate Change Response Strategy (Government of Kenya, 2010) which contains several measures to help pastoral communities respond to the effects of climate change, including the provision of special livestock insurance schemes; establishment of early warning systems (EWS) on droughts, floods and disease outbreaks; technological interventions, including breed improvements; promotion of livelihood diversification; investing in programs to harvest and store fodder for use during dry seasons; and awareness campaigns on balancing stocking rates with the available land resources.

Pastoralists are also building partnerships with public, private and non-profit entities to implement innovative ways of managing pastoral land in response to the effects of climate change. To date, there are three notable examples of strategies designed to help the Maasai and other pastoral communities cope with the effects of climate change.

1 Payments for Ecosystem Services

Payments for Ecosystem Services (PES) is the practice of giving incentives to pastoralists in exchange for administering their land for some ecological service that promotes conservation. Pastoralists who participate in a PES scheme voluntarily agree not to cultivate, fence or sub-divide their land in return for a fee paid directly to them. In addition, the pastoralists also agree to keep the land open for livestock and wildlife grazing. If implemented

4 For details on the KACCAL project, refer to <http://www.aridland.go.ke/inside.php?articleid=492>

properly, PES can enable a change in behavior towards sustainable management of drylands, and can achieve the synergies of increased carbon stocks, sustainable use of biodiversity, reverse land degradation and enhance livelihoods by reducing the vulnerability of pastoralists (Neely and Bunning, 2008: 29). PES is a powerful tool for private pastoral landowners to voluntarily maintain rangeland as open space and reducing fragmentation and facilitating free movement of herders, livestock and wildlife (Victurine and Curtin, 2010: 155). Unlike livestock income, which is prone to seasonal fluctuation, PES income is stable, predictable, and is directly captured at the household level, minimizing chances of elite capture (Osano et al., 2010). Income from PES can act as a critical buffer against loss of livestock income during drought periods when it may double the income of pastoral recipients (Kristjanson et al., 2002: 33).

Ongoing research provides evidence to suggest that PES is making a difference in the lives of the Maasai. In the Kitengela wildlife dispersal area to the south of Nairobi National Park, 357 Maasai households have voluntarily enrolled a total of 16,800 hectares of private land in a PES scheme, in which they are paid US\$10 per hectare per year in return for allowing wild life dispersal on their land. PES payments to the participating households constituted 15 percent and 25 percent of total gross income in 2008 and 2009 respectively. This income was a critical life-saver during the 2008-09 drought.⁵

2 Conservancy Grass Banks

A conservancy grass bank is a section of natural grassland that pastoral communities agree to reserve and not graze their animals on for the benefit of wildlife, and partly as a safety net during periods of drought. In simple terms, the pastoral communities apportion communal and private lands into respective zones for wildlife tourism, livestock herding, and community grass banks, which act as buffer zones during drought periods. This type of grassland management is an adaptation strategy that reduces the risks of prolonged drought and unreliable rain (Neely and Bunning, 2008). Grass banks have been established among pastoral communities in northern Kenya and the evidence suggests that they have helped these communities to minimize the negative effects of drought on their livestock and livelihoods

⁵ Data compiled from author's ongoing research project on the Wildlife Lease Program (WLP) in Kitengela

(Glew et al., 2010). However, it is worth noting that grass banks are still in their infancy and are yet to be introduced among the Maasai and other pastoral communities in other parts of Kenya. Progress on grass banks is currently being monitored and studied by non-governmental stakeholders. If the implementation process is successful, there is a possibility that grass banks could be introduced to the Maasai and other pastoralists.

3 Index Based Livestock Insurance (IBLI)

Most pastoral communities do not have access to insurance services despite the vulnerability posed by climate change to their livestock. Initiated by the International Livestock Research Institute (ILRI), the Index-Based Livestock Insurance (IBLI) was instituted in partnership with private industry, notably UAP Insurance and Equity Bank. IBLI covers periodic drought that dries up the natural rangeland vegetation, leading to livestock mortality. Insurance payouts are made to herders who have bought annual insurance contracts.

The IBLI initiative is a pilot project that started in early 2010 in northern Kenya. Approximately 2,500 people have subscribed to the insurance scheme so far, each paying an annual premium of US\$100 as coverage for six to eight animals. To date, no payments have been disbursed, but pastoralists who lose 15 percent of their animals may be eligible to receive US\$189 per animal (AllAfrica.com, August 2011). The success of the IBLI initiative could pave the way for wider replication among other pastoralists, including the Maasai.

NEED FOR FOCUS AND COLLABORATION BETWEEN STAKEHOLDERS

Presently, the Maasai rank among Kenya's poorest communities because of a number of factors, including inadequate infrastructure and lack of access to social services such as health and education (Okwi et al., 2007:16770). The impacts of climate change and their potential to seriously damage livelihoods allude to much more focused efforts on the Kenyan government's part to alleviate poverty amongst pastoral communities. Government and non-governmental agencies involved in efforts to mitigate the effects of climate change among these communities need to better coordinate service delivery and strategies to improve living standards and minimize the loss of livelihoods.

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