Consilience: The Journal of Sustainable Development
Vol. 4, Iss. 1 (2010), Pp. 167–180

Understanding Sustainability through Traditional Maasai Pastoral Systems in Southern Kenya

Emma Impink
Africana Studies, Biological Science
Barnard College, New York City*

Kaitlyn M. Gaynor
Environmental Biology, Evolutionary Biology of the Human Species
Barnard College, New York City†

Abstract

In the developed world, we tend to think of sustainability as a newly articulated solution to challenges of environmental resource degradation and issues of social and economic injustice. However, pastoralism as traditionally practiced by the Maasai of southern Kenya is tied closely to the land and responds to climatic variation within the region. In the early 20th century, colonial policies began to alter traditional land use systems, compromising inherently sustainable arrangements and isolating populations from the land. This trend has continued somewhat in contemporary development practice. As a result of a shift toward privatization of land tenure, traditional pastoral systems are no longer viable. While studying abroad with The School for Field Studies, we became aware of the struggle many Maasai face as they attempt to continue pastoralism in an increasingly hostile environment. Ultimately, development efforts in the region should focus not on implementing exogenous concepts of 'sustainability' but rather on supporting and adapting systems that are already in place.

Author's Note

Kaitlyn received an email from *Consilience* while we were in Kenya. That night, we started talking about sustainability in the context of the Maasai. While we come from different disciplinary backgrounds—Emma is focused on Africana Studies while Kaitlyn's background is in Environmental Biology—in Kenya we had both come to understand the inextricable relationship between people and conservation in the developing world. We wanted to share our thoughts on issues of sustainable development, as well as some of the more formative experiences that contributed to our understanding of the complex nature of social and environmental issues in southern Kenya.

We've both developed a strong connection to the area. Emma plans to return to southern Kenya and research sustainable agriculture, ultimately working toward a graduate degree in the field. After spending a year in western Kenya studying the behavioral ecology of blue monkeys, Kaitlyn plans to pursue graduate education in the field of conservation biology. She will continue to engage in projects that integrate conservation and development efforts.

Keywords: Kenya, pastoralism, sustainability, land use change, land tenure

* email: ei2126@barnard.edu

† email: kmg2116@columbia.edu

Figure 1: The authors, Emma and Kaitlyn, at Tsavo West National Park

In the developed world, sustainability tends to be thought of as a newly articulated solution to challenges of environmental resource degradation and issues of social and economic injustice. Out of the concept of sustainability, which emphasizes meeting "the needs of the present without compromising the ability of future generations to meet their own needs,"[i] a discourse of sustainable development has emerged among scholars and practitioners. Often, the principles of sustainable development are applied from outside as a means to promote social and economic change in the developing world. This implies that notions of sustainability are new, when in reality many traditional systems are founded on similar principles and have been operating as such for hundreds, if not thousands, of years. One such system exists among the pastoral Maasai, who sustainably practiced multi-faceted land use systems and resource management strategies in southern Kenya up until the colonial period. While studying abroad in southern Kenya with the School for Field Studies in 2009, we learned in the classroom about the history of pastoralism in the area while witnessing firsthand the struggle of local people to sustain and shift traditional pastoral systems to increasingly privatized land tenure regimes and scarce resources due to both shifting land use and climate change.

Figure 2: Beneath Mount Kilimanjaro, Maasai women carry water to their homes. photo courtesy of Connor Jandreau.

We became interested in the question of how external notions of development have compromised the ability of the Maasai to retain their traditionally sustainable land use practices and how local communities can play a role in future sustainable development efforts. During our time in Kenya, we realized that development efforts should focus not on implementing exogenous concepts of 'sustainability,' but rather on supporting systems that are already in place. Further, local actors must drive these efforts to ensure long-term viability. Since the colonial period, land access and use in Kenya have largely been out of the control of local populations. People have been alienated from their land in the name of colonial development and, following independence, environmental protection. In the last fifty years, development projects have largely continued this trend, further isolating local people from involvement in decisions about land use.

Maasai pastoral systems were oriented around Kenya's typically bimodal rains. During the rainy season, pasture was readily available and livestock could graze freely. However, in the dry season, livestock depended on permanently watered areas, such as swamps or streams. Elders regulated seasonal access to natural resources in an effort to prevent overgrazing and pasture depletion. Individuals were fined if they accessed pasture out of turn. This system, in which land was held in common, allowed pastoralists, their livestock and wildlife to share the same landscape.

The arrival of British colonists at the turn of the 20th century changed the way that the Maasai and other ethnic groups accessed land. For the first time, Maasai

land use was confined to relatively arid areas in the southern part of the country. The fertile grasslands of the Rift Valley were granted to British settler farmers who, the British government claimed, would use the land more efficiently. Individual ownership was considered more productive and less destructive than communal land use. A discourse of environmentalism emerged somewhat concurrently, justifying the alienation of native land for white settler cultivation as promoting responsible use.

In the 1960s, the newly independent Kenyan government established group ranches, a system of land tenure that attempted to combine aspects of traditional communal land access with individualized ownership. Group ranches are areas of land that registered members hold in common; a committee of elected officials manages them. They were initially established in an effort to encourage sedentarization of Maasai grazing practices and to promote a transition to the commercial beef industry. However, ineffective management has led to the breakdown of group ranches, with members advocating for individual ownership of smaller parcels, resulting in the subdivision of group ranch land.

Individualized land tenure compromises the viability of pastoral systems based on common land access. Further, the influx of non-Maasai migrants from nearby agricultural areas has led to an increase in irrigated cultivation, a land use that competes for space and resources with pastoralism and one for which the rangelands are inherently ill-suited.

These relatively recent changes in land tenure and subsequent changes in land use have compromised the ability of traditional systems to adapt to drought and other disturbances. While working on directed research projects as part of our semester, we both spent time in remote rural areas, where through personal interaction and observation we came to understand the effects of changing land use on pastoral systems. We have included journal entries that recount specific instances through which we began to understand the complexities of these issues, with our different academic backgrounds shaping our perspectives of the situation in Kenya. As a student of environmental biology, Kaitlyn focused on how the natural world has shaped human lifestyle and the challenges that humans and wildlife face in sharing an ecosystem, while Emma, an African Studies major, took an interest in modern changes to traditional practices and the role that the Maasai people will play in deciding the future of the region.

Figure 3: Kaitlyn and a fellow student walk across the drought-stricken lands of Olgulului-Olalarashi group ranch.

Olgulului-Olalarashi Group Ranch, April 18 Kaitlyn: Kenya is currently facing its most severe drought in decades, and as a result, livestock are dying, crops are failing, and people are suffering. The dust is incredible. We can't take a car ride into town without being covered in it, and soccer games become engulfed in a thick cloud within minutes. When it does rain, it is only for fifteen minutes at a time, and it ends as suddenly as it begins. The rain is always followed by a still calm, and all around our camp the streams come to life, as the soil here doesn't have the capacity to hold much water. Within an hour, though, the ground is dry and dusty again and the air has lost of its humidity. In the past few days, walking around the rangelands as part of a mapping project has made the impact of the drought startlingly real. Scanning the flat landscape, there are no people, animals, or plants as far as I can see—only Mount Kilimanjaro looming over a completely barren landscape. I have seen too many dead cattle and wild animals to count, and the smell of their rotting carcasses in the sun is overwhelming. The traditional Maasai homesteads that I have encountered are like ghost towns. People have fled abruptly, leaving behind single shoes and plastic bottles. When I have encountered homesteads with residents, they are packing up their belongings and rounding up what surviving livestock they still own, but most have no destination in mind.

Figure 4: A dead bull, left behind when its owners abandoned their homestead (visible in background) in response to worsening drought conditions. Photo courtesy of Connor Jandreau.

Under traditional land use systems, the families Kaitlyn encountered would rarely have remained in barren rangelands through such extreme conditions. It is also highly unlikely that the area would have been overgrazed beyond the point of regeneration, as pastoral systems operated on rotational pasture use. However, as land subdivision continues to occur in the Maasai group ranches, land available for grazing continues to disappear and water resources become scarcer ultimately marginalizing families who rely on pastoralism as their primary livelihood strategy.

Increased subdivision will likely result in an expansion of irrigated agriculture. While viable on relatively small parcels of land, irrigated agriculture's high water requirements compromise an already water-scarce region. Diversion of rivers takes away critical resources from people, livestock and wildlife. Further, irrigated agriculture leads to salinization, nutrient depletion and erosion of the already-nutrient poor, thin layer of topsoil. The use of agro-chemicals and fertilizers also pollutes waterways.

Confined to smaller grazing areas, pastoralists may face increased livestock depredation, disease transmission, and competition for water and forage. Also, at high densities, livestock can strongly influence vegetation species composition and soil characteristics, most notably compacting soil and disrupting its water absorption capacity.

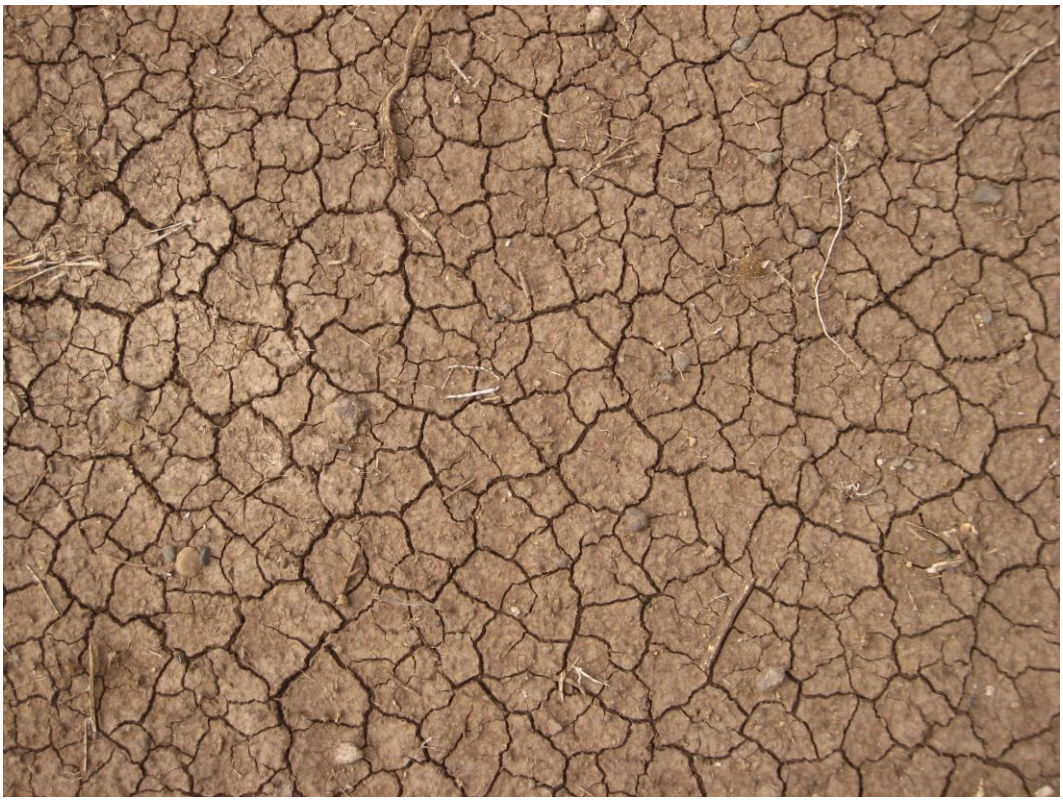

Figure 5: The ability of soil to support vegetation is severely compromised by drought.

Those who continue to practice pastoralism clearly understand and appreciate the need for maintaining open areas for pasture as they watch their cattle die of starvation and their food and income sources run dry. Even in the increasingly subdivided group ranches, the concepts behind 'traditional' grazing systems persist in new contexts. In Kuku group ranch, near our field school, recently introduced irrigated agriculture has presented the Maasai with new challenges for resource and land management, and we realized that in times of sufficient rainfall pastoral communities maintain aspects of traditional systems usually practiced on a much broader scale.

Kimana Group Ranch, February 20, Emma: While visiting a friend's house, I was able to see how much aspects of the 'traditional' systems continue to shape contemporary life. While many people in Kuku practice small-scale irrigated agriculture, the mechanisms that support pastoralism remain in place. As my friend showed me his house and we walked around to meet his neighbors, I noticed that all of the bomas (Maasai homesteads) *were concentrated in one area. My friend's boma and his neighbors' bomas formed a line beyond which no one else had seemed to build anything. "Do you see the line," he said, "formed by the houses? No one is allowed to build past these bomas. That is pasture for the ng'ombe* (Swahili for cows)*." Everyone in the community had agreed to leave the area open for grazing.*

The land use agreement that Emma's friend described is one example of how the community has adjusted traditional systems of land and resource management to accommodate the continued practice of pastoralism in the new subdivided context

Figure 6: A herd settles in for the evening.

of land privatization. Emma also met several Maasai who farm small plots of land and bring their herds to graze on remaining vegetation after the harvests are complete. In some instances, individuals will sell grass to others or rent space on a neighbor's plot of land in an attempt to provide for livestock herds.

The expansion of irrigated agriculture in the group ranches is one of many threats to traditional pastoralism. The Maasai have been further alienated from their land through the creation of protected wildlife areas by the central Kenyan government, largely from the mid-1940s through the 1970s. When land was traditionally kept open for grazing, humans, livestock, and wildlife were able to share the same landscape with minimal conflict. However, the British colonial government applied a Western preservationist national park model to Kenyan wildlife, excluding pastoralists from protected areas. The swamps of Amboseli National Park, for example, were crucial dry season grazing areas that facilitated the continued practice of an extensive transhumant grazing system. While an abundance of space had previously limited human-wildlife interactions, the creation of national parks and the universal ban on poaching intensified human-wildlife conflict and negative attitudes toward wildlife. The Maasai continued to bear the burden of wildlife costs without reaping any benefits from wildlife tourism. The emphasis of our study abroad program was on wildlife management, but the more we learned about the history of conservation in southern Kenya, the more we realized it was less about managing animals than about engaging local people.

Figure 7: In the absence of other water sources during the dry season, many Maasai herders illegally bring their cattle to graze and drink in the swamps of Amboseli National Park.

Kimana Group Ranch, March 13, Kaitlyn: During our program, we have been speaking a lot about human-wildlife conflict, and the growing interface between humans and other animals that has accompanied the shift toward agriculture and sedentarization in the Kenyan rangelands. For an assignment for our Environmental Policy course, we split up into groups and walked through agricultural areas talking to farmers about wildlife. One man had his entire crop of tomatoes eaten by 15 elephants the previous night and had no other source of income for the season. A pastoralist had lost several goats to a clan of hyenas last week. Another man was near tears as he told us how gazelle had raided his crops recently and his children had gone to bed hungry every night since. He lamented the injustice of the system; the Kenya Wildlife Service does not compensate farmers for wildlife damages to crops, but they could have put him in jail for years if he had killed an animal in defense of his property.

Of the people that I spoke to, not a single one could think of any benefit that wildlife brought them. They all expressed the idea that wildlife should be confined in fenced reserves for the sole purpose of tourism. For some of the people who live in Kenya, wildlife is a threat to meeting basic needs; they won't support conservation efforts until they reap tangible benefits from wildlife. It's easy for us to tell them that wildlife is worth conserving, but the people here have a hard time hearing it when they see development and conservation as mutually exclusive.

Figure 8: A lion stalks a bull, too weak to stand, after being left behind in Amboseli National Park by its owner. Photo courtesy of Connor Jandreau.

As students of wildlife management, we supported the establishment of national parks and the conservation of wildlife, but many of us had not thought about the impacts conservation has on local communities. After speaking to community members, we all came away with a sense that projects established without the consultation of communities have no potential for long-term success. For example, in 1997, a grant from the European Union financed the construction of two electric fences within the Kimana group ranch to enclose an area of highly concentrated irrigated agriculture near our field school.[ii] The fences were intended to reduce human-wildlife conflict by preventing wildlife access to crops. However, built without the consultation or involvement of the local community, the fences rapidly fell into disrepair after their construction in 2000. Administration of the fences was handed over to the community without adequate training and without establishment of localized management structures. Because fence construction had been completely overseen by the government, maintenance and repairs were assumed to also be governmental responsibilities and were thus neglected. Community members further damaged fences as they attempted to access critical water sources for their confined livestock. The lack of community involvement compromised the success of the Kimana fences. Frustration with being disconnected from development projects remains prevalent among local populations, as Emma observed while researching rangeland degradation in the group ranches.

Kuku Group Ranch April 12, Emma: The directed research project I am working on looks at rangeland degradation, both as measured by several standard vegetation sampling techniques and as perceived by local community members. We are conducting interviews with people who were sitting outside their homes, working in the fields, or tending their cows, in an attempt to understand their perception of the connection between changing land use and altered land conditions. In the context of the rapidly worsening drought, some of our questions seem almost disrespectful; "Have you noticed a change in the range condition in the group ranch?" "Has the amount of rainfall increased or decreased?" Just look around, our interviewees have said. Look at my cows. You can see the

answer to these questions. As our translators, often young men from the community who had been to or were just beginning university repeat these answers back to us, I feel the questions are pointless. One conversation in particular remains seared in my mind, the last interview of a long morning. Most of our interviewees are older, so when Daniel Kahenja (my local translator) spotted a person who looked about my age, I was hesitant to speak to him. The questions Daniel translated into Maa had become familiar, as had the answers. Most people noticed a decrease in the amount of rainfall, as well as an increase in the amount of conflict over water, and saw these as causes of rangeland degradation. Most people suggested limiting the cutting of trees as a way to mitigate soil erosion; most people were hesitant to reduce their herd size. And while this young man gave answers that fit in with the other interviewees, he seemed distracted. I read the last question out loud to Daniel, as I had done for all the others, and he translated into Maa; "Thank you so much for answering our questions and taking time out of your day. Do you have any questions for me? Anything you would like to ask?" Most interviewees had asked questions like 'Where are you from?' 'What will this research accomplish?' I was familiar with those. I had answers for those. But the question the young man asked me was a total surprise. "What are you doing here?" he asked, in English. "Why are you here? Do people from other countries come and ask these questions in your country? Do you do this kind of work in your own country? Or do you just come here to Kenya and do it? Why am I not doing this? Shouldn't I be the one asking these questions?"

I was stunned. Not only had he articulated all of the quandaries I had recently been having about the role of foreign researchers, but he had stood there, answering my questions, presumably thinking these thoughts during the entire questionnaire. I fumbled through an answer, saying something like 'Yes...I think you should be doing this work. I'm here to learn about these issues so I can work on them in the future. And yes, I do think about how to get involved in my community. One of our teachers on this program grew up right around here and he felt like you did and he studied here and is a teacher now. You can do that too. You should do that...I want to figure out someway to work on these issues with people like you..." It was totally unsettling.

This experience highlights the importance of local involvement, a key issue in development work, one that we repeatedly encountered as we spoke to community members about conservation and development projects. After Emma's conversation with the young man, we were directly confronted with challenging issues and began to critically ask ourselves about the role of foreign researchers and development projects in Kenya. Though the directed research project produced informative results about the state of rangeland degradation, it was designed from an outsider's view of local issues and the results were presented to the Maasai from a Western perspective in a manner that may not have been most useful for designing responsive action. Emma's directed research experience, and particularly her conversation with the young man, reinforced our belief in the importance of local involvement in development projects. For example, the simple questions that Emma was asking in her interviews would likely have yielded more substantive responses had they been formulated and asked by people who had been living in the area for their whole lives. Ultimately, any lasting changes must come from within, rather than be applied externally according to Western notions of development. Although not articulated as such, sustainability has existed in the Maasai rangelands for thousands of years. Only recently, as a product of changes in land tenure and land use, have the pastoral Maasai been unable to bounce back from drought and resource depletion. As college students from the United States, we knew little about the inner workings of the pastoral system and were thinking about ways to 'introduce' sustainable practices

based on our own broad academic understanding of sustainable development. It became clear that local people must define any 'new' concept of sustainability, which must be implemented in the context of existing practices and views.

Figure 9: On a nature walk with SFS students, Daniel Kaaka discusses the negative environmental consequences of deforestation in the Maasai group ranches.

Daniel Kaaka, one of the staff members on our program, provides an example of how the desire among young people to better their communities has the potential to drive development efforts. As a high school student living in the group ranches, Daniel received a scholarship that enabled him to participate in the School for Field Studies program alongside the American students like ourselves. He was able to integrate the programs' concepts of ecology, wildlife and rangeland management, and environmental policy with his own knowledge of the region where he had grown up, formulating unique solutions to the socioeconomic, political, and environmental threats to pastoralism. Daniel's continued involvement with SFS has allowed him to conduct meaningful research and continue an academic exchange

with American students; he recently completed a degree in Wildlife Management from Moi University. One of our local interpreters, John Mwato is studying Veterinary Medicine in Nairobi in an effort to help members of his community maintain healthier and more productive cattle, with the ultimate aim of supporting herd size reduction in an effort to reduce rangeland degradation. While this is an unpopular concept, given the importance herd size has in society, Mwato hopes his position as a Vet will encourage individuals to consider it.

Ultimately, it will be up to committed local people like Daniel and Mwato to help adapt the existing pastoral system and move forward in the context of relatively new political and economic institutions at both the local and national levels, which have drastically altered land tenure and resource use. The involvement of informed local community members is crucial to making development projects truly sustainable. The Maasai's knowledge of the traditional resource management system, as well as their awareness of local environmental conditions, will allow them to reorient their lifestyles to address new challenges, building off of what is already in place. However, transitioning to more sustainable land use systems is not a simple process. Lower-impact agricultural practices are complicated by issues of land ownership and larger market forces. Small-scale farmers who do not own the land they cultivate are often financially unable to change their growing practices to methods that may promote sustainability in the long term but require initial investment. Further, farmers that lease their land for short periods of time are hesitant to invest in long-term improvements. Agricultural reform thus depends as much on land ownership and varied marketing opportunities as it does on local awareness and availability of technology.

Local involvement in future development projects is crucial, as local knowledge of the complex environmental, social, cultural and economic issues will be essential in formulating and implementing lasting solutions, and local support of new initiatives is necessary to drive their long-term success. The School for Field Studies is in a unique position to enable committed and passionate youth, like the young man who confronted Emma, to become involved in the development of their communities. Through locally-implemented changes to traditional pastoral practices, the Maasai of southern Kenya will be able to adapt to the challenges posed by land use changes and environmental conditions in the region and to ultimately reinvigorate the truly sustainable foundations of their pastoral lifestyle.

Endnotes

[i] WCED.

[ii] Okello and D'Amour, 2008.

Works Cited

Okello, M. M. and D'Amour, D. E. "Agricultural expansion within Kimana electric fences and implications for natural resource conservation around Amboseli National Park, Kenya." 2008. Journal of Arid Environments 72. 2179-2192

World Commission on Environment and Development (WCED). "Report of the WCED." 1987. United Nations Documents. Accessed 21 Feb. 2010. < http://www.un-documents.net/a42r187.htm>.