

Mpala Ranch: A Model for Conservation in Kenya

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Abstract

The Mpala Ranch in Kenya is a unique model for conservation efforts in developing countries as it represents the combined goals of protecting threatened mammal species while also supporting local livelihoods. This model will be crucial as rapidly growing human populations continue to get more entwined with wildlife populations, and threats towards wildlife sustainability grow stronger than ever. Instead of developing a fortress conservation site where humans are not allowed or an ecotourism model of conservation, the Mpala Ranch has developed a successful community-based land management project that provides a model for future global conservation projects. Mpala's success is attributed to the inclusion of local indigenous communities, providing developmental benefits to the region, and the creation of an internationally renowned research center. This paper argues that the Mpala Ranch conservation program is a successful and distinctive model that incorporates local communities and international efforts to promote regional economic sustainability and wildlife protection in Kenya.

Introduction

The Mpala Ranch and Wildlife Foundation is a non-profit facility that manages land use in a unique and sustainable manner by combining a cattle ranch, a research center, and a wildlife conservancy into one.¹ The lands of Mpala Ranch, located in central Kenya, are a biodiversity hotspot for large mammals and are under threat from climate change and human population growth.² In an attempt to reduce the impacts of environmental degradation, Mpala Ranch has developed a sustainable community that works towards creating a peaceful coexistence between the local people and the wildlife populations.³ In addition to these pursuits, Mpala Ranch acts as an outreach organization, providing significant employment opportunities to the local Maasai and Turkana populations.⁴ The Mpala Ranch has the potential to reform land use in Africa by combining wildlife protection and economic profit for local communities.⁵ This paper demonstrates the successes of this progressive conservation project, as well as the challenges that come along with such an innovative endeavor.

The first section of this paper discusses the biodiversity of Laikipia, Kenya and the growing need to protect this wildlife haven. The second section focuses on the basis of the project, which is the joint strategy of ranching and conserving wildlife. Section three looks at how the local communities are involved and how their participation makes the project stronger overall. The fourth section centers on the benefits that the local communities receive from Mpala Ranch. Section five discusses the work done by the Mpala Research Centre, which accounts for most of the funding for Mpala. The sixth and final section then transitions to the challenges that the unique model of Mpala Ranch faces.

The joint conservation-ranch model at Mpala presents an alternative to having people and wildlife in separate domains, such as legally-designated protected areas or ecotourism models that promote unnatural commingling of humans and animals that have become increasingly popular throughout Africa.⁶ As humans and wildlife have coexisted on shared land for centuries, Mpala's model allows human populations to sustainably live amongst wildlife.⁷ The wild species on Mpala Ranch are in need of protection and the unique structure of this conservancy allows for wildlife to freely roam without human threats.⁸ This distinctive conservation model should be expanded around the world as a sustainable and practical method of protecting local populations and threatened wildlife species.

¹ Yurco, "Pastoral Movements," 22.

² Ibid.

³ Ibid.

⁴ Ibid., 32.

⁵ Ibid., 31.

⁶ "About Mpala," 2009.

⁷ Yurco, "Pastoral Movements," 21.

⁸ Ibid., 31.

Large Mammal Hotspot

Kenya has among the highest levels of large mammal biodiversity in Africa; wildlife population densities in Laikipia are second only to the famous Serengeti-Mara ecosystem.⁹ The Laikipia region of Kenya, where the Mpala Ranch is located, contains many rare and endangered flora and fauna.¹⁰ Laikipia is currently home to 48% of the large mammal species in Kenya, making it a major biodiversity hotspot.¹¹ The Mpala Ranch region hosts around 800 savannah-adapted plant species, 85 mammal species, and 300 bird species.¹² Furthermore, large mammals in the region include Kenya's second largest elephant population, more than 2,000 eland, Grevy's Zebra, African Wild Dog, and giraffe to name a few.¹³ These large species mingle with the livestock as they pass through private and pastoralist ranches.¹⁴

Kenya has various legally-designated protected areas that make it illegal to perform certain actions against wildlife, such as poaching.¹⁵ However, there are also many species and regions of Kenya that do not fall within these protected areas.¹⁶ The Laikipia area of Kenya, where the Mpala Ranch is located, is one of these areas.¹⁷ Currently, only 2% of the Laikipia region has been set aside for wildlife conservation programs.¹⁸ Without the protection from private landowners on property, these species could rapidly decline just as they have in other parts of the country and throughout Africa.¹⁹ Conservation efforts in Kenya are crucial both within and outside these protected areas, and especially in the huge biodiversity hotspot of Mpala Ranch, to reduce the risks of declining animal species.²⁰

From Cattle to Conservation

In 1952, Sam Small purchased 200 square kilometers of land in Laikipia County, Kenya and restructured the region into a working cattle ranch that managed approximately 2,100 cattle, 300 sheep, 100 goats, and 150 camels.²¹ Naming it Mpala Ranch, after the impala antelope native to the region, the primary focus was to raise livestock and sell the cattle meat, milk, and other commodities in local markets.²² After Sam's death in 1969, the land was bequeathed to his brother George.²³

Years after inheriting the land, George shifted the mission of the land from a cattle ranch

⁹ Ibid.

¹⁰ "About Mpala," 2009.

¹¹ "Flora and Fauna," 2013.

¹² Ibid.

¹³ Ibid.

¹⁴ "About Mpala," 2009.

¹⁵ Yurco, "Pastoral Movements," 11; Ibid., 40.

¹⁶ Yurco, "Pastoral Movements," 31.

¹⁷ Ibid.

¹⁸ Sundarasan and Riginos, "Lessons Learned from Biodiversity Conservation," 18.

¹⁹ Ibid.

²⁰ Ibid., 17-18.

²¹ Yurco, "Pastoral Movements," 32.

²² Ibid.

²³ "About Mpala," 2009.

to a joint cattle ranch-wildlife conservancy as he began to see the need for wildlife protection in Laikipia.²⁴ The new goals of the ranch were to not only maintain the ranch but to conserve the wildlife in the region, as many of the large, charismatic fauna, such as the Grevy's Zebra or African Wild Dog, were becoming increasingly threatened in the surrounding areas of Kenya.²⁵

In order to start conservation efforts, the Mpala Wildlife Foundation was created in 1989.²⁶ George Small partnered with Princeton University to put initial investments into the Foundation, which helped increase the number of on-site research staff to develop new conservation programs for the animals living in Laikipia.²⁷ Due to growing recognition of how vital it is to conserve wildlife in this biodiversity hotspot, today, the Foundation has received support from international and national organizations, such as the Smithsonian Foundation and the Kenyan Wildlife Service to expand its wildlife conservation effort.²⁸ Furthermore, there is a donation platform online, which to date has received over \$15,000 from individuals concerned with conserving wildlife species to further support wildlife programs at Mpala Ranch.²⁹ As the Mpala Ranch and Wildlife Foundation has received increasing support over the years, it has become highly regarded as a unique model for conservation efforts that promotes the commingling of local ranches and threatened flora and fauna.

Inclusion of Community

A unique aspect of the Mpala Ranch conservation model revolves around its peaceful cooperation with and support for the neighboring locals, primarily of Maasai and Turkana descent, in its efforts to form new wildlife protection programs.³⁰ In the early 1900s, the British colonial power gave land to private landholders, displacing Maasai from the Laikipia area to Southern Kenya.³¹ When the territory was purchased by Sam Small in the mid-1900s, he began interacting with many local indigenous populations that chose to stay in the area.³² Recognizing the importance of indigenous knowledge of the area, local communities were encouraged to become employees at Mpala Ranch, which enabled them to utilize the land as an economic resource.³³ The Mpala Ranch made its ranching lands strictly available to employees and pastoralists who were hired from local areas to look after the cattle.³⁴ Mpala employees are given housing on the territory, along with their families, in designated areas in close proximity to the cattle to ensure that the livestock are well taken care of at all times.³⁵ *Bomas*, or cattle holds, are situated throughout the preserve and indigenous leaders are assigned to each boma by the ranching heads.³⁶ Women in the territory mostly work on building and maintaining the mud/dung

²⁴ Ibid.

²⁵ Yurco, "Pastoral Movements," 31; "Rare and Endangered Species," 2013.

²⁶ Holden, "Conservation Collaboration," 1209.

²⁷ Kahura, "The Aristocratic Class," June 28, 2016; Kelly, "Wild Science," October 20, 2016.

²⁸ Yurco, "Pastoral Movements," 31-32.

²⁹ "Mpala Wildlife Foundation," 2017.

³⁰ Yurco, "Pastoral Movements," 22.

³¹ Mburu *et al.*, "The Abandoned Lands of Laikipia," 1 and 4.

³² "About Mpala," 2009.

³³ Yurco, "Pastoral Movements," 32.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

homes, and producing acacia and chain-link fencing for the bomas.³⁷ While the local people do not have direct ownership over any of the animals on the preserve, they are compensated for their work as pastoralists and receive additional benefits as staff on the innovative Mpala Ranch.³⁸

Recognizing the benefits of local knowledge to cattle ranching, George decided to enable the local indigenous populations to improve the conservation efforts of Mpala Ranch.³⁹ Involving the local community helped shift conservation efforts towards a community-based conservation program based on knowledge sharing.⁴⁰ This new partnership allowed for the inclusion of local knowledge of the region's wildlife species, which helps contribute to scientific research.⁴¹ Mpala greatly welcomes and desires research involvement from Kenyan scientists and nationals, and recognizes the strengths that these nationals bring to their work.⁴² The research team on Mpala Ranch has vast knowledge of biological sciences and technology, but there are many local experiences that cannot be replaced by these tools.⁴³ Mpala indigenous populations have existed on these lands for decades and have seen the species decline in certain regions as well as the changing biodiversity of surrounding areas.⁴⁴ These skills cannot be bought or learned if not present in the territory, and Mpala Ranch encourages indigenous knowledge in its ongoing efforts to support conservation needs.⁴⁵ As the majority of the original staff at Mpala Ranch were not from Kenya, local employees provided crucial input and support that would enable the Mpala Ranch to better protect its surroundings, making it a unique conservation model that focuses on collaborating both bottom-up and top-down research and conservation methods.⁴⁶

There are many conservation programs in Kenya that focus on human-wildlife interactions that promote environmental sustainability.⁴⁷ The Boran Cattle and Dairy Herd at Sosian is another example of this type of conservation program in Kenya.⁴⁸ Similar to Mpala Ranch, Boran Cattle and Dairy Herd is a beef cattle ranch that allows wildlife to graze and reside on property.⁴⁹ However, unlike Mpala, the Boran Cattle and Dairy Herd is an ecotourism based conservation program.⁵⁰ Ecotourism is "responsible travel to natural areas which conserve the environment and improves the welfare of local people" and is utilized as a way to make money and cater to tourists who are interested in conservation and environmental issues.⁵¹ Although ecotourism provides a way to introduce tourists to wildlife and conservation messages, it brings in large populations that have the potential to degrade the natural environment through development and pollution.⁵² Ecotourism also has the ability to culturally alter a society's traditional practices, causing a disruption between generations of local people.⁵³ Mpala is set apart

³⁷ Ibid., 33.

³⁸ Ibid., 32.

³⁹ Yurco, "Pastoral Movements," 42.

⁴⁰ Ibid., 42-43.

⁴¹ Ibid.

⁴² "About Mpala," 2009.

⁴³ Kinnaird, "Mpala Research Centre," 1.

⁴⁴ Sundarasan and Riginos, "Lessons Learned from Biodiversity Conservation," 19-20.

⁴⁵ Ibid., 20.

⁴⁶ Hodge, "Kenya's Biodiversity Haven," 2012.

⁴⁷ Sundarasan and Riginos, "Lessons Learned from Biodiversity Conservation," 19-20.

⁴⁸ "About Sosian Lodge Laikipia," 2017.

⁴⁹ "Boran Cattle," 2016.

⁵⁰ Ibid.

⁵¹ "Bhattacharya, "Ecotourism and Livelihood," 74.

⁵² Ibid., 66.

⁵³ Ibid.

because it is one of the only conservation programs in the Laikipia region that has not utilized tourism as a means for economic activity.⁵⁴ Furthermore, conservation methods are not only inclusive, such as Mpala and Boran, but can also be completely exclusive like the many protected areas throughout Kenya.⁵⁵ In legally designated protected areas, regions of land are sectioned off from the human population, often by fencing it off, which can help eliminate future environmental degradation and threats to the wildlife.⁵⁶ These types of conservation programs provide a natural habitat and protection for endangered flora and fauna but impact the livelihoods of the local populace.⁵⁷ Often times creating a protected area includes the removal of humans that were previously residents on the property.⁵⁸ After looking at protected areas that eliminate human interaction in certain areas and the Boran Cattle Ranch, which favors tourist involvement over local inclusion, Mpala's approach is truly distinctive as it focuses on promoting local involvement in its conservation efforts.

Benefits to the Community

Mpala Ranch has separated itself from other conservation programs with its intent on giving back to local communities.⁵⁹ In the past, many local children were enrolled in primary schools but the majority did not advance to secondary education due to the high cost of schooling.⁶⁰ Staff recognized the need for a formal educational institution for the children of ranchers on property.⁶¹ This led to the creation of the Mpala School, a primary school for children of the ranch's employees.⁶² The school consists of one class per grade level (with five in total), with around 20 students per class.⁶³ Not only are children at the Mpala School taught the core classes, but Mpala places an emphasis on teaching about biodiversity.⁶⁴ For example, students have the option to participate in activities such as Kid's Twiga Tally, which brings together children from surrounding areas in a citizen science project to count reticulated giraffes.⁶⁵ English is also taught at a basic level at the Mpala School, allowing them to relate to and communicate with researchers on site.⁶⁶

For students older than primary school age, Mpala offers a subsidy to send children off-site to get a private education.⁶⁷ This subsidy is vital to ranchers that are unable to afford the high prices of local schools and became important to the Mpala Ranch after witnessing the high

⁵⁴ Gadd, "Conservation Outside of Parks," 59.

⁵⁵ "About Mpala," 2009; "About Sosian Lodge Laikipia," 2017; Brockington and Wilkie, "Protected areas and poverty," 1.

⁵⁶ Ibid.

⁵⁷ Ibid., 2.

⁵⁸ Ibid., 3.

⁵⁹ "About Mpala," 2009.

⁶⁰ Rubenstein and Thier, "Introduction to Kenya Curriculum," 2014.

⁶¹ "The Mpala Primary School," 2009.

⁶² Rubenstein and Thier, "Introduction to Kenya Curriculum," 2014.

⁶³ "The Mpala Primary School," 2009.

⁶⁴ Ibid.

⁶⁵ "Mpala: Research Centre & Mpala Wildlife Foundation," 2009.

⁶⁶ Rubenstein and Thier, "Introduction to Kenya Curriculum," 2014.

⁶⁷ Ibid.

dropout rates of students from local schools.⁶⁸ Although Mpala Ranch is unable to provide adequate staff to educate students past grade five, the staff is attempting to combat this situation through its creation of the Mpala Children's Education Fund, which raises money from abroad to support continued education for Mpala children.⁶⁹

Another rare benefit that the Mpala Ranch offers the community is a medical clinic on the property for use by employees and their families.⁷⁰ Conservationist Shanni Wreford-Smith started the mobile clinics at Mpala Ranch when she recognized the urgent humanitarian needs of the Mpala communities.⁷¹ Previously, there were no medical centers or medicine in close proximity.⁷² Therefore, this mobile clinic made medicine available to the local populations who had never formally been diagnosed for conditions such as HIV or rabies.⁷³ The mobile clinics provide vaccinations, HIV test kits, and basic modern medicine.⁷⁴ Mpala Ranch strives to provide a sustainable livelihood for all staff on site so that local populations can continue to be supported and wildlife conservation efforts continue to thrive.⁷⁵ Mpala is a distinctive model for conservation, as it not only utilizes local communities in its efforts but actively gives back and helps to advance human capital in the area in order to further sustain the Laikipia region.

It is very unique that conservation efforts, like Mpala Ranch, include benefits to the local community such as education and health care.⁷⁶ In Kenya, other conservation programs have taken the initiative to include these additional benefits as they have begun to recognize the importance of local educational support.⁷⁷ For example, the Boran Ranch at Sosian Game Ranch has recently created an education program to benefit the Laikipia region.⁷⁸ Sosian opened a school funding program where it buys books, educational items, and other supplies for the county schools, supporting nearly 330 students.⁷⁹ However, while this initiative is a great resource for local schools, Mpala's distinctive approach takes it many steps further through its creation of a school right on property for children of employees.⁸⁰ With the school on site, Mpala ensures that children are getting the proper education and benefiting from Mpala's presence, unlike Boran's purely financial support of local schools not on property.⁸¹ The hands-on programs at Mpala allow the local children to be incorporated in the conservation efforts done on site, and does not create a divide between locals and owners.⁸² Mpala Ranch's conservation model in Kenya goes beyond the traditional role of most programs and multi-dimensionally supports the local communities in health and education.⁸³

⁶⁸ Ibid.

⁶⁹ "Children in Need," 2009.

⁷⁰ "Mobile Clinic," 2009.

⁷¹ "Shanni Wreford-Smith."

⁷² Ibid.

⁷³ Kaivilu, "Saving Laikipia Residents."

⁷⁴ Ibid.

⁷⁵ Ibid.

⁷⁶ Yurco, "Pastoral Movements," 56.

⁷⁷ "Community Education and Health," 2016.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ "The Mpala Primary School," 2009.

⁸¹ "Community Education and Health," 2016.

⁸² "The Mpala Primary School," 2009.

⁸³ "Mpala Research Centre," 2015.

Mpala Research Center

The most distinctive characteristic of Mpala Ranch that sets it apart from other models of conservation is its Research Center.⁸⁴ The Mpala Wildlife Research Center, founded in 1989, is a non-governmental organization supported by international organizations such as the Kenya Wildlife Service, the Smithsonian Institution, and a variety of international universities.⁸⁵ Since its foundation, it has become an internationally renowned multidisciplinary center and field laboratory for wildlife research that looks at both biological and socioeconomic forces that affect conservation around the world.⁸⁶ The Laikipia region is a suitable site for wildlife conservation research due to the expansive natural topography, multitude of large fauna, extensive flora, and the indigenous knowledge base of the region.⁸⁷ Mpala Ranch encourages students, academics, and researchers to visit the ranch to study conservation in a natural setting where human and wildlife interact in order to evaluate and create solutions for conservation issues occurring in the real world.⁸⁸

The United States, Europe, and Africa send students to Mpala Ranch to study the arid ecosystems of the Laikipia region.⁸⁹ Student research focuses on developing management techniques for conserving wildlife with support and input from local people.⁹⁰ The Mpala Ranch has acted as a test of sustainable development in a region where local populations rely on the cattle, land, and wildlife to survive, and the abundant wildlife benefit from their protection.⁹¹ Mpala's main research partner, Princeton University, annually invites students to conduct research on topics such as human-wildlife interaction, land use, and the hydrological cycle.⁹² One student researcher, David O'Connor, is currently studying the interactions and balance between camels and giraffes, to analyze whether wildlife and cattle maintain a positive relationship in Laikipia.⁹³ Other recent studies have included an 18-month University of Michigan graduate project that attempted to develop more adequate water usage and energy consumption in the Laikipia region.⁹⁴ Regional water currently comes from an aquifer; however, climate change has caused dry seasons to become even drier and reduced water availability year-round.⁹⁵ The University of Michigan students developed a water storage system to conserve water in heavy rainfall years, as well as a filtration system to better utilize groundwater from the aquifer.⁹⁶ Mpala Ranch is a rare conservation program that hosts its own Research Center that aims to foster learning and create innovative solutions to reduce the impacts of environmental degradation on the surrounding wildlife populations and community members.

Mpala Ranch not only encourages researching new conservation solutions for the region but it also focuses on programs that benefit scientific understanding of ecology, biology, geology,

⁸⁴ Ibid.

⁸⁵ Yurco, "Pastoral Movements," 31-32.

⁸⁶ Ibid.

⁸⁷ "Mpala Research Centre," 2015.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Young, "Kenya Long-term Exclosure Experiment."

⁹¹ Ibid.

⁹² "Mpala Research Centre," 2010.

⁹³ O'Connor, "A Preliminary Investigation," 1-2.

⁹⁴ Antokal, "Just Add Water."

⁹⁵ Ibid.

⁹⁶ Ibid.

and other fields of study.⁹⁷ Much of Mpala Research Centre's work revolves around wildlife-cattle interactions and the individual biology of certain wildlife species.⁹⁸ One researcher from the Zoological Society of London is currently tracking eight packs of wild dogs (including three with radio collars) within Mpala Ranch as a demographic study to increase human understanding of their biology.⁹⁹ Woodroffe's study concluded that these wild dogs could thrive in a human-dominated environment, which has the potential to shift conservation efforts away from protected areas and towards more commingling between local communities and wildlife.¹⁰⁰ Another study done by Professor Truman P. Young, a restoration ecologist, and his graduate students focused on the effects of rainfall on wildlife-cattle competition.¹⁰¹ He proved that a herbivorous wildlife presence could adversely affect cattle growth, especially in years of low rainfall and low grass abundance, because of the competition for the same food sources.¹⁰² The results of this study are projected to clarify how climate change, both natural and human-induced dynamics, will impact arid environments and how it will affect the extensive flora and fauna species and local communities.¹⁰³ Other research based at the Mpala Research Center focuses more on global phenomena such as climate change, and looks at how soil erosion, endangered species threats, and desertification play a role on Mpala Ranch.¹⁰⁴ The Mpala Research Center at Mpala Ranch has become an international hub for educational and scientific research and large-scale experiments to see how conservation issues can be resolved and how it will impact the wildlife and local communities that depend upon the land.¹⁰⁵

Mpala Ranch and its Research Center is set apart from other conservation programs in the area, such as Sosian Game Ranch, that do not have internationally renowned research centers with links throughout the United State, Europe, and Africa.¹⁰⁶ Sosian Game Ranch, a luxury safari resort, has no research center and thrives on ecotourism as its main source of revenue as opposed to Mpala's funding from its progressive conservation research.¹⁰⁷ Furthermore, other conservation programs in the region that do not host their own research facility must rely on outside knowledge and information for new techniques, methods, and technologies from national or international research centers, with most of their reliance on the Mpala Research Center.¹⁰⁸ Mpala Ranch has changed the identity of conservation programs and conservation research in Kenya by utilizing a bottom-up and hands-on approach to solving conservation issues.¹⁰⁹

⁹⁷ "Mpala Research Centre," 2010.

⁹⁸ Ibid.

⁹⁹ Pennisi, "Kenya's Elusive Wild Dogs," July 25, 2014.

¹⁰⁰ Ibid.

¹⁰¹ Young, "Kenya Long-term Exlosure Experiment."

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ "Mpala Research Centre," 2010.

¹⁰⁶ "About Mpala," 2009; "About Sosian Lodge Laikipia," 2017.

¹⁰⁷ "About Sosian Lodge Laikipia," 2017.

¹⁰⁸ "Mpala Research Center," 2016.

¹⁰⁹ Ibid.

Structural Challenges

The Mpala Ranch has been successful in developing a model of human-wildlife cooperation that brings pastoralists and wildlife researchers together under the same goals of improving local livelihood and sustainable development.¹¹⁰ While crises such as the bushmeat crisis, increasing endangered flora and fauna species, and climate change's impacts rage on throughout Africa, the proposed set-up of the Mpala Ranch provides an alternative to a fishbowl conservation area in which poaching is the only alternative for local livelihood.¹¹¹ However, there are some notable consequences with having wildlife and cattle co-existing on the same terrain. Primarily, there is proof that widely present herbivorous wildlife, like those found on Mpala Ranch, can overgraze the territories that the cattle use.¹¹² Conversely, the cattle can take away grazing land from the wildlife inhabiting the area if the land is improperly managed and designated.¹¹³ In addition to cattle-wildlife interactions, natural occurrences such as rainfall patterns affect the success of Mpala Ranch during various times of the year.¹¹⁴ For example, the occasional severe droughts impact the grazing land at Mpala Ranch and create issues with the production and livelihood of the cattle.¹¹⁵ Nonetheless as Joanna Elliott proved in her study of wildlife-cattle interactions at Mpala Ranch, cattle and wildlife in Laikipia are organized properly so that negative interaction, overuse of resources, and disease transmission is relatively minimal.¹¹⁶

Lastly, there is some fear amongst the locals of living in such close contact with wildlife.¹¹⁷ Local concerns involve livestock damage from wildlife. Twenty-four percent of employees reported that they were fearful of wildlife disturbing their cattle or splitting the herd.¹¹⁸ These security and safety issues must be addressed in the management of joint cattle ranch/conservation properties, and have been involved in ongoing studies at the Mpala Research Centre.¹¹⁹ While Mpala Ranch does face some challenges, as long as these issues are fully understood and addressed, progressive properties such as Mpala Ranch can continue to thrive.¹²⁰

Conclusion

Moving forward, there is great potential for Mpala Ranch to become a global model for conservation. As human populations are rapidly increasing and economic development soars in Africa and around the world, humans and wildlife will face rising challenges for coexistence. Unlike legally-designated protected areas or the nearby Boran Cattle and Dairy Herd at Sosian that has no research component and funds its local efforts through unsustainable ecotourism, the Mpala Ranch provides a joint collaboration between wildlife protection, local involvement, and

¹¹⁰ Yurco, "Pastoral Movements," 22.

¹¹¹ Hodge, "Kenya's Biodiversity Haven," 2012.

¹¹² Young, "Kenya Long-term Exclosure Experiment."

¹¹³ Gadd, "Conservation Outside of Parks," 56.

¹¹⁴ *Ibid.*, 53.

¹¹⁵ Soderberg *et al.*, "Ecohydrology," 1.

¹¹⁶ Elliott and Mwangi, "Making Wildlife 'pay,'" 2.

¹¹⁷ Gadd, "Conservation Outside of Parks," 51.

¹¹⁸ *Ibid.*, 55.

¹¹⁹ *Ibid.*

¹²⁰ *Ibid.*, 60.

research.¹²¹ Overall, the Mpala Ranch has claimed success in effective wildlife protection and cattle-wildlife coexistence through its citizen science surveys.¹²² Mpala Ranch has also demonstrated its success in supporting local pastoral activity, primarily by the fact that some employees have now been living on the reserve with their families for over 30 years.¹²³ The Mpala Ranch is still in its beginning stages, but this progressive structure is a method that should be reproduced in other areas of Africa and around the world that are experiencing problems associated with the protection of wildlife and increasing local involvement in land conservation efforts. There is only a finite amount of land on the earth to be shared by all of the biodiversity present. However, models such as the Mpala Ranch in Laikipia, Kenya provide the possibility for human-wildlife persistence for many years to come.

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¹²¹ “Boran Cattle,” 2016.

¹²² “About Mpala,” 2009.

¹²³ Yurco, “Pastoral Movements,” 33.

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