

Payment for wildlife conservation in the Maasai Mara Ecosystem

Global and national development and environmental policies emphasize that biodiversity conservation and poverty eradication should be pursued jointly, with payment for ecosystem services (PES) as a policy instrument to encourage conservation-compatible land use to benefit poor environmental service providers through direct revenue. In the drylands of East Africa there is scope for PES for wildlife conservation because these drylands combine high endemic poverty rates with abundant wildlife populations offering potential of attracting tourism. This policy brief describes the development of community based conservancies in the rangelands surrounding the Maasai Mara in Kenya. Here pastoral land owners lease their land to tourism operators who pay a regular fee for the right to use the land for tourism. The 92,248 ha (227 949 acres) of land currently under community based conservancy management generate significant social benefits and positive biodiversity outcomes such as increase in carnivore populations. Yet, those involved consider the prevailing policy environment inadequate to promote this private-private partnership. While those participating in the community based conservancies enjoy positive impacts, significant knock on effects are felt by those outside them. The brief calls for policy development to address these issues.

The Maasai Mara Ecosystem

The Maasai Mara Ecosystem (MME), an area renowned for its abundant and diverse assemblage of wild ungulates, is part of the 25,000 km² Serengeti-Mara Ecosystem (SME) which comprises of protected areas such as the Serengeti National Park (SNP) and Maasai Mara National Reserve (MMNR). The ecosystem is reputed for the spectacular annual migration of 1.3 million wildebeest, 0.6 million zebra, and Grant's gazelle (Sinclair 1995).

Land use change threatens the persistence of this abundant wildlife, through loss of wildlife grazing and dispersal areas to agriculture, and increased disturbance of wildlife around human settlements. In this brief we describe the change in land tenure in the Maasai Mara

Ecosystem and analyze the impacts of land use change and settlement. We describe the development of community based conservancies where revenue generated from tourism is distributed among pastoral land owners.



Photo courtesy: Susanne Sermeels

At first sight these payments for wildlife conservation appear a win-win situation as they reduce poverty, and restore the environment. It is true that positive effects prevail inside the conservancies. However this private-private partnership between tourism operators and land owners also has negative impacts, particularly on lands outside and for the people not participating. The brief calls for policy to address this.

History of Land Tenure

The Maasai lost about 60% of their best pastures when in 1911 they were evicted from their northern territory to create space for the settlement of European immigrants (Mwangi 2007; Galaty 1999).

Moved to the southern Maasai reserve, consisting of today's Narok and Kajiado counties they were confronted in 1945 with a second wave of land alienation to create parks and game reserves. The Maasai reserve land was held in Trust and communally used until the late 1960's when the Land Adjudication Act of 1968 triggered the designation of these lands as group ranches. Insecurity of land tenure made many Maasai to decide to subdivide their communal group ranches to acquire an individual title rather than lose out altogether.



Photo ILRI Library: Maasai and their livestock

Privatization and land use change

The privatization of previously communal lands opened the way for land use change (Homewood et al. 2001). Large-scale mechanized cultivation, intensification of agriculture and intensified more market oriented livestock production entered the lands that had been under pastoral management since times unknown. Gradually however, it

was realized that these land use changes constrained the mobility of livestock which forms the basis of the pastoral way of life. It also led to contraction of the previously abundant wildlife to increasingly smaller and isolated areas, constraining wildlife mobility.

Community based conservancies

Many pastoral communities observed these developments with mixed feelings. They started to realize that the communal management of land had allowed a number of benefits that were lost with sub-division and land use change. In 2005 a number of landowners in the areas north of the Maasai Mara Reserve began to consolidate privately owned lands and form conservancies, with the aim to generate income from tourism. Partnerships were established with tourism operators, which operate tented camps and generate revenue used in part to compensate the land owners for availing their land to tourism and wildlife. This private-private partnership has been very successful and the area under conservancies has rapidly expanded since 2005.

Figure 1, a time line of the changes in the Maasai Mara Ecosystem, reveals the land tenure change from group ranches to private ownership; this was associated with a significant rise of the human population in the Mara with a 5 fold increase of the number around the park since the 1940s (Lamprey and Reid 2004; Norton-Griffiths and Said 2008). Nowadays the landscape is dotted with dispersed homesteads, while these were few and isolated 60 years ago.

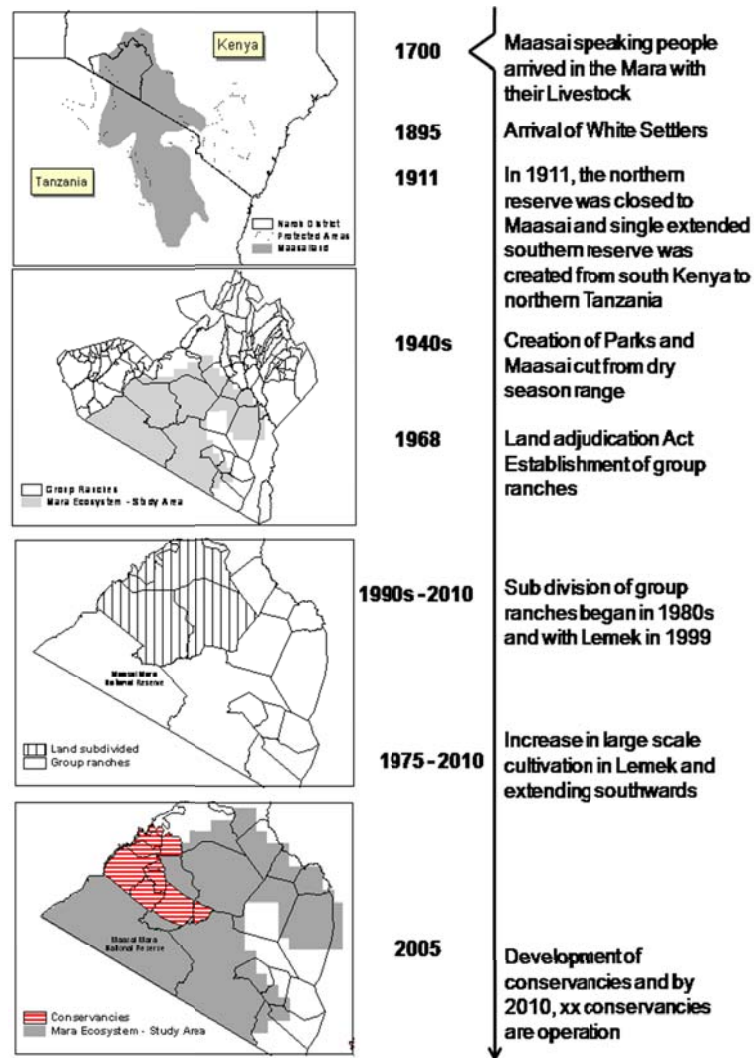


Figure 1: Time line of land use and tenure, policies and other drivers of change in the Mara Ecosystem

Impacts of land tenure and land use change

This land tenure change and population increase has brought large changes in land use. Over the last 40 years agriculture has overtaken 8% of the rangelands (Serneels et al. 2001, Norton-Griffiths et al. 2008). Wheat farms now occupy 40,000 acres of the previous wet season range of the migratory wildlife, while subsistence farms have increased significantly in other areas.

The population of the resident wildebeest that uses the wet season range has declined from 150,000 to about 40,000 between 1977 and 2010 (Fig. 2).

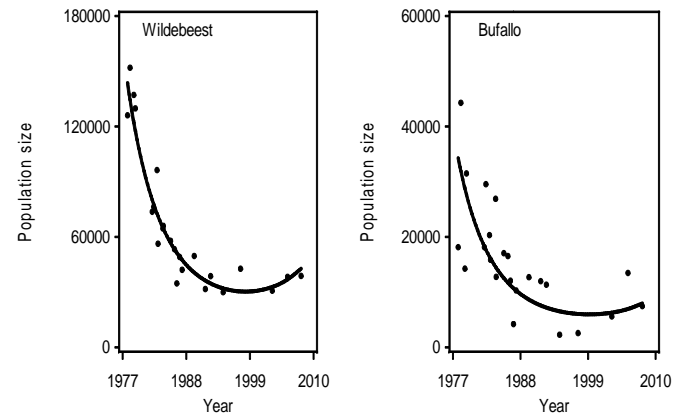


Figure 2. Wildebeest and buffalo population trends in the Mara ecosystem.

Other wildlife also responded to this land use change with an overall 65% decline in density over the last 30 years (Ogotu et al. 2011). The pressure on remaining wildlife would further aggravate when human populations grow and land-use intensifies. At the same time the density of livestock increased with shoats (sheep and goat) increasing at a faster rate than cattle (Fig. 3). However, the per capita availability of livestock and land continues to reduce, a process which will render more economic hardship for the pastoralists (Lamprey and Reid

2004). This per capita impoverishment forced pastoralists to increase their livestock numbers, with competition for resources with wildlife as a result. For example the park is increasingly used by pastoralists during drought years (Butt 2009; Ogutu et al. 2009).

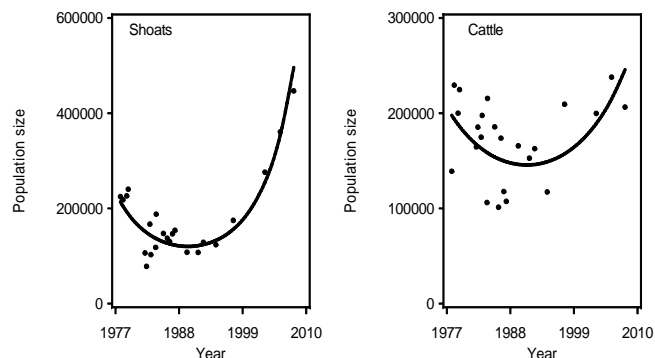


Figure 3. Sheep and goat (shoats) and cattle population trends.

Community Based Conservancies - An Innovative Response

Since 2005, several conservancies have been established on private lands in Southern Kenya. Here direct payments are made to pastoral landowners for availing their land to tourist operators who accommodate tourists to appreciate the wildlife. The highest revenue is generated around Maasai Mara National Reserve, where partnerships between private tour operators and pastoral landowners have developed payment for wildlife conservation (PWC) a PES like scheme. Direct payments to land owners developed following dissatisfaction with earlier, less transparent arrangements distributing tourism revenue through communal wildlife associations, with significant leakages to the elite within communities. Privatisation of land with individual titles enabled household participation in PWC as they now have full control and ownership of land parcels allocated to them. Now, the conservancy negotiates terms and conditions with tour operators and offers land owners voluntary contracts. PWC revenue proportional to the area of land set aside for conservation is paid di-

rectly to landowners. Today there are 8 conservancies representing an area of 92,000 ha (227 949 acres), which is more than half (61%) of the area of Maasai Mara National Reserve (150,000 ha).

The conservancies are a successful innovation as they combine positive social outcomes with positive effects on the environment. More than 800 families benefitting from PWC earn more than US\$ 3.6 million annually, now paid directly to households on a flat rate based on land holdings. The conservancies are also considered to restore ecological services, such as vegetation and wildlife populations, and they are also thought to sequester carbon. A proper impact assessment of the positive biodiversity impacts and exploration of further co-benefits such as carbon sequestration is still to be made.

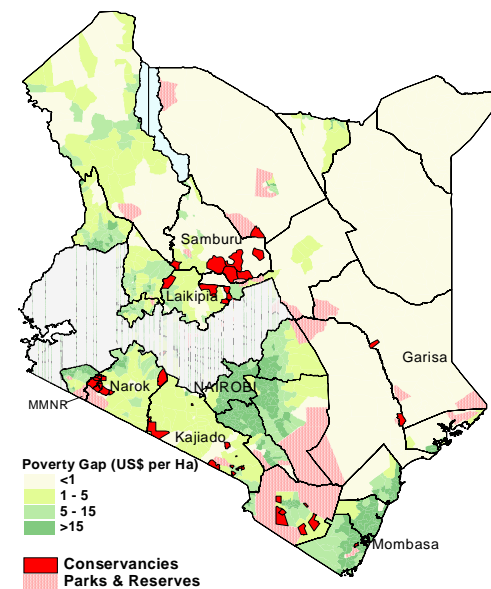


Figure 2: Distribution of rural poverty, parks and conservancies in Kenya.

At first sight these conservancies thus appear an example of a classical win-win situation, combining improved environmental management with positive social outcomes. This is certainly true for the area inside, where those owning land benefit from the payments and where the environment has seen a positive change with increased numbers of wildlife and a noticeable recovery of the vegetation. The establishment of the conservancies has however also led to a number of negative effects. While conservancies improve the income of those who own land, in most cases these landowners are restricted from settling inside the conservancy or from any other use of the land. These restrictions are also felt by neighbouring non-participants who receive no income in return. The contractual condition to move out livestock except during certain specified periods (usually during the tourism low season) has resulted in significant increases in livestock stocking densities in the areas outside, with knock-on effects on the environment and the livelihoods of those holding land outside.

Livestock could potentially contribute to manage the vegetation inside conservancies; there is evidence that at low stocking densities livestock has positive impacts on wildlife numbers and diversity. Also given the importance of livestock as the basis of Maasai culture it would be highly desirable to include livestock in conservancy management and develop arrangements to formalize this in ways amenable for tourism operators and land owners alike.

Potential for upscaling

The private-private partnerships developed in the Mara region are a model to be considered for other areas in Kenya and other Eastern Africa countries. The PES scheme maximizes benefits to households as it pays directly to the household and avoids elite capture. Providers receive payment for supplying services. However, it is felt as a limitation that there is no policy framework to support such upscaling. Secondly, modification of the scheme might be required to accommodate for variation in land tenure and customary law. Lastly,

there is need to build capacity of local communities to initiate and manage such partnerships effectively.

Policies and Incentives

Policies, legislation and institutional frameworks are the core pillars of any conservation, natural resource management as well as development work at all societal levels. Kenya is signatory to many international treaties in the area of biodiversity conservation and has ample policy on natural resource management. Yet none of these appears specifically tailored to address the needs of the emerging community based conservancies.

The development of these conservancies has been a relatively autonomous process. It developed as a private-private partnership between tourist operators and land owners, without any policy support. Yet the institutional arrangements bringing these partners together operate in an existing policy environment, which is not tailored to nurture this private-private partnership. Indeed during discussions in 2011 it was suggested that there may be a need for policies specific for community based conservancies. Besides, policy also would need to address the above reported negative side effects of the emergence of conservancies in lands outside protected areas.

Conclusions and recommendations

1. Community based conservancies on lands around the Maasai Mara have positive social and biodiversity impacts;
2. The private-private partnerships developed in the Mara region are a model to consider for other areas in Kenya and abroad, as it avoids elite capture and maximizes benefits to households;

3. There is a need for policy to foster the development of community based conservancies in both private and communally held lands, the proposed Wildlife Bill might be a good platform;
4. Also there is need for a more balanced insight into the positive and the negative aspects of conservancies to allow policy makers and regulating bodies to make better informed decisions where to allow for the development of conservancies;
5. Finally, there is need to promote the use of livestock in the management of conservancies

References

- Galaty, J. 1999 Grounding pastoralists: laws, politics and dispossession in East Africa. *Nomadic Peoples* 3: 56-73.
- Homewood, K.E., Lambin, E. F., Coast, E., Kariuki, A., Kikula, J., Kivelia, J., Said, M., Serneels, S., Thompson, D.M. 2001 Long-term changes in Serengeti-Mara wildebeest and land cover: Pastoralism, population, or policies? *Proceeding of the National Academy of Sciences* 98:12544-49.
- Lamprey, R. H., and Reid, R. S. 2004 Expansion of human settlement in Kenya's Maasai Mara: What future for pastoralism and wildlife? *Journal of Biogeography* 31:997-1032.
- Mwangi, E. N. 2007 The puzzle of group ranch subdivision in Kenya's Maasailand. *Development and Change* 38, 889-910.

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- Norton-Griffiths, M., Said, M.Y., Serneels, S., 2008 Land use economics in the Mara area of the Serengeti ecosystem. In: Sinclair, A.R.E., Packer, C., Mduma, S.A.R. & Fryxell, J.M. (eds) Serengeti III: Human Impacts on Ecosystem Dynamics, University of Chicago Press, Chicago, 379-416.
- Ogutu, J.O., Owen-Smith, N., Piepho, H.-P., Said, M.Y. 2011 Continuing wildlife population declines and range contraction in the Mara region Kenya during 1977-2009. *Journal of Zoology*.
- Serneels, S., Said, M.Y. and Lambin, E.F. 2001 Land cover changes around a major east African wildlife reserve: The Mara ecosystem, Kenya. *International Journal of Remote Sensing* 22(17):3397-3420.
- Sinclair, A.R.E. 1995 Serengeti past and present. In Serengeti II, dynamics, management and conservation of an ecosystem, edited by A.R.E. Sinclair and P. Arcese (Chicago, University of Chicago Press), 3-30.

Profile of the Project

This research was supported by Association for the Strengthening of Agricultural Research in Eastern and Central Africa (ASARECA) and conducted the International Union for Conservation of Nature (IUCN), International Livestock Research Institute (ILRI), the Resource Conflict Institute (RECONCILE), and Egerton University as the lead institution.

The research goal was to make a significant contribution to understanding high priority regional policy issues and potential reforms that will favor improved and sustainable biodiversity conservation, while enhancing livelihoods in pastoral areas of the Eastern and Central African region. Specifically, the research endeavoured to: i) inform policy harmonization in sustainable management of dryland and pastoral areas biodiversity, ii) develop tools that will guide sustainable investment options in dryland and pastoral areas; and iii) promote a regional approach to drylands and pastoral areas conservation and use.

This brief is one of a series of policy and information briefs that explores issues related to the sustainable development of drylands.

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