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Can Pastoral Communities Offer Sustainable Ecological Management Solutions? The case of Mwanda-Marungu Pastoral Commons in Taita Hills, Kenya

Daniel Maghanjo Mwamidi: PhD candidate at Institute of Environmental Science and Technology (ICTA), Autonomous University of Barcelona, Spain.

Pablo Dominguez: Senior Researcher at Laboratory of Geography of the Environment (GEODE), Centre National de la Recherche Scientifique (CNRS), France / Linked researcher of the Institute of Environmental Science and Technology (ICTA) and Social and Cultural Anthropology Department, Autonomous University of Barcelona, Spain.

Introduction

Indigenous peoples' and Community Conserved Areas and territories (ICCAs) provide myriad of ecosystem services to millions of people worldwide and are now emerging as one of the key paradigms of 'Other Effective area-based Conservation Measures' (OECMs) promoted by policy makers like the IUCN among others.



Fig. 1 and 2: Pastoral commons of Mwanda-Marungu in Taita hills, Southern Kenya © Daniel Mwamidi

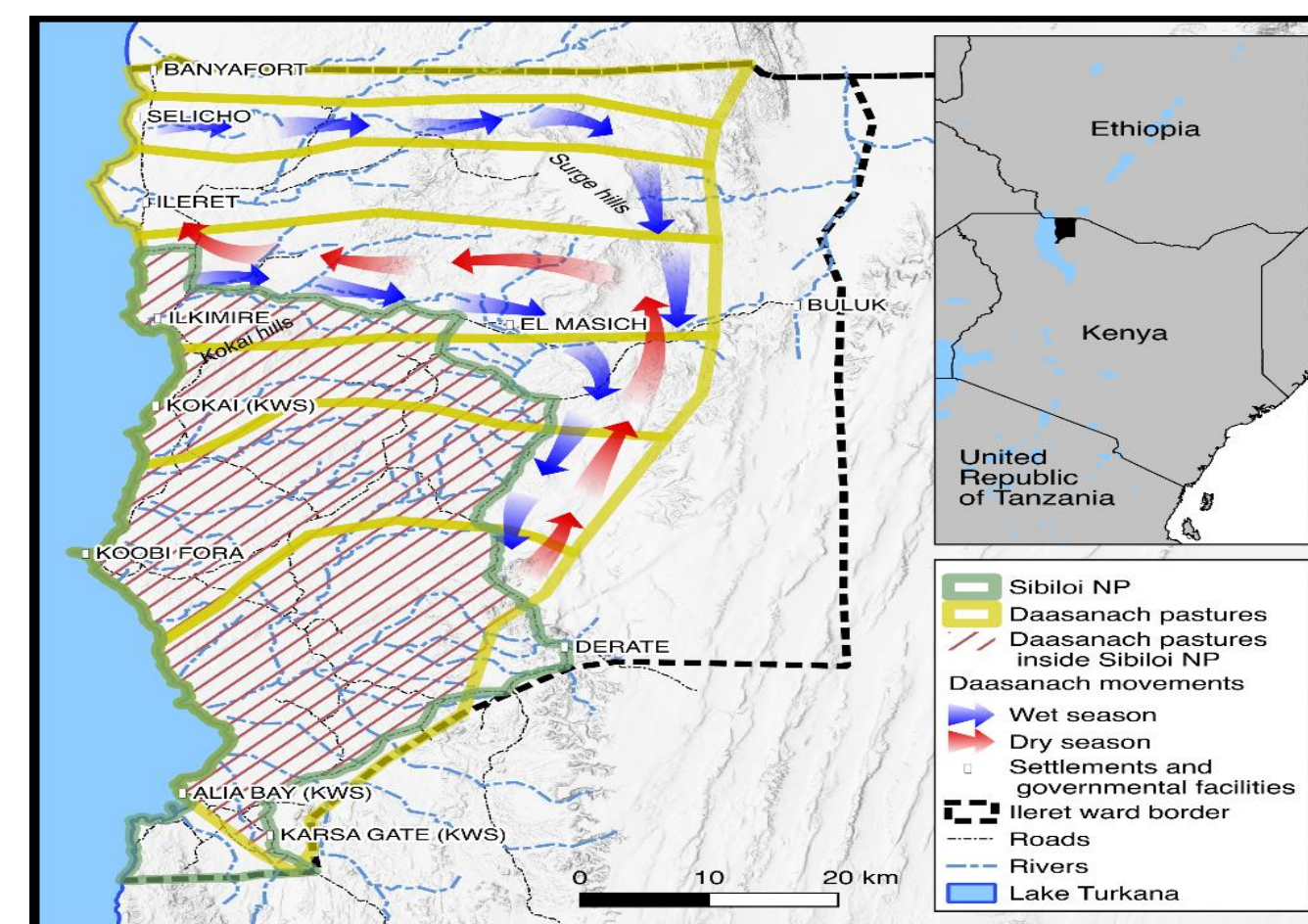
Despite emerging interests in ICCAs, few studies in the past dedicated to study pastoral commons, yet pastoralism is practiced in 70% of Kenya's landmass whilst contributing to over 13% of Kenya's economy (Fratkin, 2001), and pastoralism being a typical system for the commons.



Fig 3 and 4: Livestock on a 'common' salt lick site (Left: Taita, Southern Kenya; Right: Daasanach, Northern Kenya) © Daniel Mwamidi

Lack of recognition to pastoral commons is linked to the assumption that pastoralism harms the environment through overgrazing because local communities can't manage sustainably (eg. Hardin 1969; Stiles, 1984). Nevertheless, we have seen that pastoralism can contribute environmentally wise (e.g. forest regeneration through seed dispersal by livestock, carbon sequestration, promoting nutrient cycling across tropical savanna, etc. (McGahey et al., 2014). Consequently, we set to test two hypotheses: 1.- pastoral commons exist in an abundant manner in Kenya despite the surprisingly little scientific attention they have received up to now. 2.- inversely as the State thinks, they can support socio-ecological benefits (e.g. environmental conservation, banks of economic resources, cultural identity..).

We focused a first fieldwork among the Daasanach tribe in North-West Kenya in 2016 and proofed intense existence of pastoral commons with a myriad ecosystem services, at the same time as how State conservation policies had damaged severely these systems, for example through the creation of the Sibilo National Park, results which we published in the Journal PARKS (2017).



Map1: Map indicating our first area of study in 2016 among the Daasanach, Northern Kenya © Daniel Burgas; Fig. 5: Aerial view of Daasanach riverine ecosystem which is protected by the community © Daniel Mwamidi

In 2018, we moved to the opposite extreme of the country in South-East Kenya to explore the possible existence of new pastoral commons in the Taita tribe, demonstrating again their important presence, and confirming our first and second hypotheses. In the subsequent section, we present our methods and results in our latest field of Taita that culminated to the conclusion that "Kenya is possibly home to numerous pastoral commons even if underrepresented scientifically, and could be potentially recognized as 'Other Effective area-based Conservation Measures' OECMs).

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Materials and methods



Map 2 and 3: The map of Kenya indicating the study area (on yellow spot); and GoogleEarth map image of Taita hills indicating three ICCAs © Google

Ethnographic methods: participant observation and semi-structured interviews with validation of data conducted through fifteen-sessions of focus group discussions of between 6 to 10 respondents per session. Sample size $n = 234$, data organized in themes/domains as described by CBD's **Aichi Target 11 guidelines** and explored whether the identified pastoral commons fit the criteria of ICCAs and OECMs. This included field visits to the common territories themselves and *de visu* landscape analysis

	Men	Women	Age			Total
			< 31	31-50	> 50	
Semi-structured interviews	97	40	30	85	22	137
Focus group discussions (15)	82	27	23	58	28	109
						246

Table 1: Respondents structure in our study in Taita hills © Field work.



Results

We identified three pastoral Commons (Map 3), but in this first phase focused principally on Mwanda-Marungu commons which we found the one having most elements described by ICCA, as well as meeting the Aichi's Target 11 guidelines on OECMs. Mwanda-Marungu pastoral resources are managed by a Council of Elders (*Waghosi Wa Kireti* meaning "Elders of Wilderness"). These Elders have overall rights over three villages, and each village abides by the rules and customary norms set by them. But within villages, there are other elders with lower degree who report to *Waghosi wa Kire*. These three villages include Itinyi and Maranu gha Mka Mwasi, located on higher ecological zone, and Marungu located on the plains which borders Tsavo west National Park.

Elements that we found to go in tandem with ICCA/OECM criteria in Mwanda-Marungu Pastoral commons:
1) Environmental conservation; 2) Good community governance structure of commons and 3) The commons offer a myriad of socio-ecological benefits to local community.

At the same time, rules consist on: 1) No fire burning/charcoal/smoking cigarettes within community protected areas. 2) Grazing on the upper/hilly ecological zone (in Itinyi and Maranu gha Mka Mwasi villages) is prohibited during wet seasons and all herders are to graze in Marungu village at that time. 3) Herders have their specific days to take livestock to the determined water points and saltlicks. 4) Elders report that they have set rules that demands all herders and livestock to have vacated water/saltlick points by 3pm afternoon so as to pave way for wildlife, thus minimizing human-wildlife conflicts. 5) No non-village member is allowed to graze inside the community land. 6) The use of religious shrines called *fighis* that all together help to conserve forests and pastoral habitats. 7) No grazing in one area for over 2 days so as to minimize pasture degradation and 8) Resources (wild vegetables, fruits, insects, herbal medicine, water, trees, wildlife) found in their territory belongs to all members and none has more utility rights over the other, hence being obliged to protect them from husbandry depredation.

Discussion

Our study, contrary to what the literature seems to suggest up to present, confirms the important presence of pastoral commons in Kenya through a fine grain ethnographic verification of their existence in two very separated areas of the country, at the same time as our knowledge of their presence in many other sites of Kenya. With elaborate form of customary management strategies that are aimed at environmental protection, wildlife co-existence, governance structure that guarantee sustainable functioning of these commons and consensus on utilization of resources in their community landscape, it gives at the same time sense of identity and existence. This confirms Kenyan pastoral commons as deeply enrooted in local religion/culture being key for communities' material and immaterial reproduction. All of it reinforces the hypothesis that Taita commons could very probably be considered OECMs (currently under study).

Conclusion

We conclude that more research is necessary to find ways of strengthening customary management regimes such as these pastoral commons, which seem important to conserve the present pastoral landscapes we studied. The goal would be to promote the present sustainable provision of ecosystem services and socio-cultural identity attached to them, and which seem to guarantee a certain environmental conservation whilst assuring livelihoods and even possible future human development (social, economic, cultural, etc.). They are in fact facing real urgent challenges that I have been able to verify on the ground, such as generational shift, acculturation, climate change and even explicit land-grabbing. International organizations such as the ICCA Consortium and the WCMC through the International ICCA Registry that they promote or the IUCN through the OECM approach that it is also putting forward, could maybe contribute to reinforce these so valuable (bio-physically and socio-culturally) African systems.

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