



CONTEMPORARY PASTORAL COMMONS IN EAST AFRICA AS OECMS: A CASE STUDY FROM THE DAASANACH COMMUNITY

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ABSTRACT

Despite growing policy interest in the conservation values of territories and areas conserved by Indigenous peoples and local communities (abbreviated to 'ICCAs') at the global level, our understanding of the ICCAs in East Africa is meagre at best. We explore the existence of ICCAs in East Africa, focusing on the case of the Daasanach pastoralists of Ileret, Kenya. We examine their existence through ethnographic approaches, including participant observation, semi-structured interviews and focus group discussions. We explore whether these particular ICCAs fit the criteria to be recognised as 'other effective area-based conservation measures' (OECMs), with specific attention to their customary management systems. Our work evidences the existence of pastoral ICCAs amongst the Daasanach, challenging the widespread assumption in the scientific literature that traditional pastoral commons are insignificant in today's East African context. Such ICCAs have played a central role not only for local livelihoods, but also for the maintenance of biodiversity and ecosystem services, aligning with the current definition of OECMs. Yet concerns about the rapidly changing socio-ecological system may defy such categorisation. In closing, we offer some remarks on the management criteria for OECMs and propose improved guidelines for measuring the effectiveness of OECMs.

Key words: OECMs, customary law, community-based conservation, ecosystem services, pasture governance, customary norms, sustainability

INTRODUCTION

A notable shift in conservation paradigms in the last decades has been the growing recognition of the role of territories and areas conserved by Indigenous peoples and local communities (abbreviated to 'ICCAs') in maintaining cultural and biological diversity (e.g. Berkes, 2007; Kothari et al., 2013; Domínguez & Benessaiah, 2015).

It is estimated that ICCAs currently cover up to 12 per cent of the world's land surface, providing numerous ecosystem services as well as livelihoods to millions of

Indigenous peoples and local communities while contributing to the *in-situ* conservation of thousands of species and habitats (Kothari, 2008; Kothari et al., 2013). As such, many of these ICCAs – that are not state 'protected areas' – may represent a substantial share of the world's 'other effective area-based conservation measures' (OECMs) as referenced in Aichi Target 11 of the Convention on Biological Diversity (Jonas et al. 2014; Jonas et al., 2017; IUCN WCPA, 2018).

ICCAs could be counted in hundreds of thousands across the African continent providing ecosystem services such



Daasanach herder, Ileret © Daniel Bargas

as water, food, energy, medicine, shelter, fodder, income, recreation, spiritual sustenance and disaster prevention to millions of people (Kothari, 2006). Growing research shows that Indigenous peoples and local communities (IPLCs) in East Africa have designed robust institutional arrangements for successfully governing common-pool pastoral resources (Goldman & Riosmena, 2013). Yet, research attention towards East African pastoral commons remains meagre at best (Lane, 1993).

For millennia, pastoralists have been grazing sustainably in coexistence with wild mammals (Fratkin & Mearns, 2003; Notenbaert et al., 2012). Despite recurrent competition for resources or direct consumption of wild animals, local/traditional herding governance systems can also have positive implications for wildlife and landscape heterogeneity that allows for the creation of different biodiversity pools (Fynn et al., 2015). Where conventional protected areas fall short of

preserving species and unique natural phenomena, pastoral-related OECMs might have a key role in, for example, conservation of savannah ecosystems (Fynn et al., 2015). However, the conservation value of such pastoral systems is largely under-evaluated, with the discourse of modern pastoralism as a livelihood that conflicts with conservation relying on a weak empirical footing (Reid & Ellis, 1995). This may have hindered progress towards the consideration of pastoral ICCAs as OECMs.

In this context, the present study aims to examine the governance of the pastoral commons and their conservation values focusing on the case of the Daasanach Indigenous peoples of northern Kenya (Figure 1), and evaluates whether these commons could meet the criteria to be recognised as ICCAs and be considered as potential OECMs. To do so, we analyse the relevance of the Daasanach customary institutions for governing pastoral commons in Ileret Ward

(Marsabit Country) and the perceived ecological implications of their management systems. In the next sections, we briefly describe the case study and the methods used. Our results are organised under two subsections: a) a description of the identified ICCAs, and b) an overview of the management and positive conservation outputs of pastoral ICCAs, in the context of growing progress towards identification and recognition of potential OECMs as well as the imminent threats they could be submitted to. We finally discuss the policy implications of our findings, highlighting the challenges involved in measuring the effectiveness of areas in which conservation might not be the primary goal, but is nevertheless an outcome.

METHODS

The traditional territory of the Daasanach extends between a narrow strip of South Sudan, Southern Ethiopia and Northern Kenya, occupying the northern shores of lake Turkana, the lower stretch of the Omo river valley and its delta. There are about 13,000 Daasanach living in Kenya and about 48,000 living north of the border in Ethiopia (IHSN, 2007; KNBS, 2013). Their territory is under a bimodal annual rain cycle, with annual precipitation averages under 200 mm (Liebmann et al., 2014). In such arid and isolated land, livelihoods depend foremost on nomadic pastoralism.

We conducted ethnographic fieldwork between November and December 2016, having been granted free, prior and informed consent (FPIC) from each community and individual participating in this study. We conducted semi-structured and open-ended interviews as well as focus group discussions, mostly focusing on the institutions, norms and practices related to the management of pastoral resources. We aimed to identify: a) the role of the community in decision-making on natural resource management; b) the communal rules underpinning the conservation of pastoral resources; and c) perceived changes in, and threats to, the governance of pastoral commons. We

interviewed 75 respondents and conducted eight focus groups (5–10 respondents) varying in age (see Table 1).

RESULTS

Interviews and focus groups revealed that the Daasanach social structure has long been formed to support the governance of the pastoral commons. All grazing grounds are communal and may be used by all the Daasanach, no matter to which group they belong. The central defining principle of the Daasanach social organisation is the age-set (generation-set) called the *haari*. When boys become *kaabana* in their teens or early twenties, they assume with this transition the responsibility for their respective family's herds. While the *kaabana* search for pastures and lead the livestock, the elders (*karu*) play an advisory role in the management of resources, advising and blessing herders, and setting punishments when rules are disobeyed. The *karu* are responsible for teaching norms and taboos and also assign directives to the *kaabana* to reinforce natural resource utilisation values within Daasanach land. Within the system, however, decision-making takes place through group consensus. Everybody has the right to participate in communal discussions. Even though, some voices have more influence than others, and seniority plays an important role. A few figures represent leadership at the section and generation-set level, and have important roles in conflict resolution and sanctioning (punishment, fines and/or curses).

Are there ICCAs in Daasanach lands?

Three basic principles define ICCAs: a) An IPLC that has a strong and profound connection with a territory or area; b) A People or community is a major player in decision-making and implementation of decisions (governance and management) regarding that territory or area, implying that a community institution exists and has the capacity to develop and enforce regulations; c) The People's or community's governance decisions and management efforts lead to the conservation of nature in the territory, area or habitat, and to the

Table 1. Participant count from semi-structured interviews and focus group discussion sessions.

	Men	Women	Age			Total
			< 31	31–50	> 50	
Semi-structured interviews	73	2	22	38	15	75
Focus group discussions (8)	50	6	21	27	8	56
						131

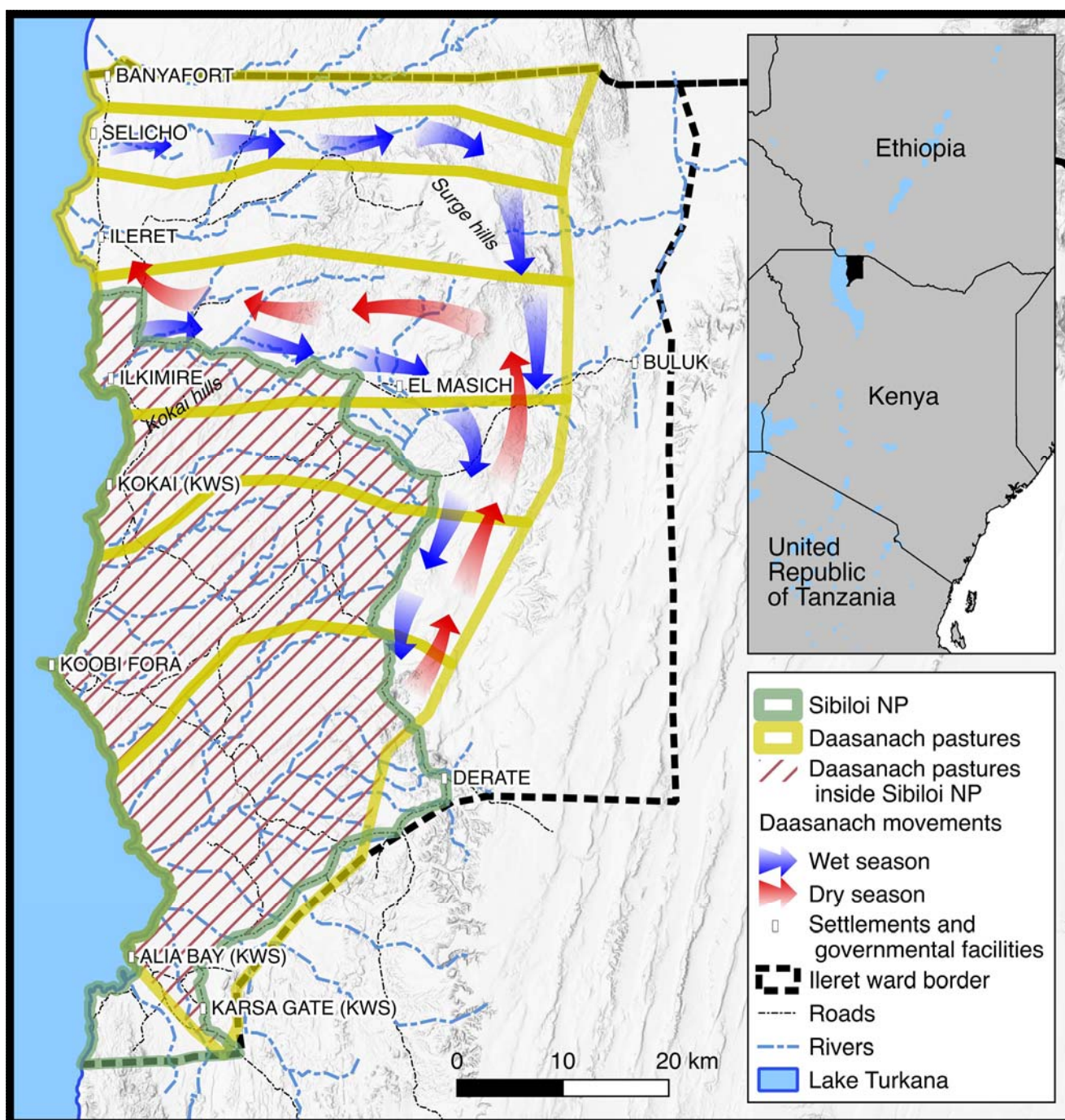


Figure 1. Approximate delimitation of the seven Daasanach community pasture areas in Kenya. Arrows illustrate typical seasonal movements between lowlands closer to lake Turkana (dry season) and highlands (wet season).

associated conservation of cultural values and community well-being (while the conscious objective of management may be different than conservation per se, and be, for instance, related to material livelihoods, water security, safeguarding of cultural and spiritual places, etc.) (Borrini-Feyerabend, 2013; Kothari et al., 2012).

The Daasanach of North Kenya organise herding in seven spatially separated pastoral commons (Figure 1). Three of these areas are no longer under full community management jurisdiction, due to the spatial overlap with Sibiloi National Park, established in 1973. In fact, elders and herders reported that they would wish to be involved in the governance of the area which is now

managed by the park authorities. During focus group discussions, a village elder said, “I wish the Government would allow us to use our norms in the management of our former land (park). I am sure good changes will occur within five years. Wild animals will be grazing alongside our livestock the way it used to happen before and there will be few conflicts.” All focus group participants approved his sentiments. The four functioning commons have descriptions that fit that of ICCAs, as described above: communally-owned resources (e.g. pasture, water and biodiversity); utilised and managed by all members through communal governance; protected and conserved through the community’s eight clans-hierarchy customary norms governed through the seniority hierarchy, ascribed by all community members; and reinforced through strict punishments and fines.

Herding is conducted jointly with all clan members and their livestock may graze in any of the designated grazing areas during different seasons. Our results also established that Daasanach community land is subject to strong seasonality with a growing number of barriers (Ethiopian border, National Park borders and neighbouring pastoralist groups). These substantially affect the regulation of grazing lands within Daasanach territory in Kenya, which is largely influenced by elevational gradients and the courses of seasonal rivers. Herders move to higher elevation areas during wet seasons, while moving closer to lake Turkana’s north-eastern shore during dry seasons (Figure 1). During focus group discussions, elders reported that it is a norm not to graze livestock in one area for more than one month, as this protects pasture from being depleted beyond the capacity to regenerate. The movements, however, vary for different livestock (sheep, goats or cattle) and between territories. Land use is systematically controlled by the elders through collective community agreements, and anyone contravening these agreements is severely punished.

Daasanach ICCAs as potential OECMs

Given the similarities between the definition of ICCAs and the principles of OECMs, we aim to examine to what extent the identified pastoral ICCAs of the Daasanach community would warrant recognition as OECMs (subject to Daasanach FPIC and a site-by-site assessment). In this section we address the elements that define OECMs and assess whether the Daasanach areas comply with such requirements. We stress that the following reflections stem solely from ethnographic work, and that ecological assessment of their effectiveness is not provided here.

Geographically defined space

The standard definition of an OECM implies a spatially-defined area with agreed and demarcated boundaries (IUCN WCPA, 2018). The Daasanach indeed govern and manage their pastoral commons in well-defined areas north-east of lake Turkana (Figure 2) and have ICCAs which are clearly demarcated by seasonal rivers recognised by the community.

Not recognised as a protected area: While some of the ICCAs in the region overlap since 1973 with a national park (Sibiloi National Park) and even their self-governance capacity has been largely diminished, they thus do not meet the definition of OECMs. Nevertheless, other large adjacent areas to the park can still be identified as OECMs (Figure 1).

Governed

An OECM should be under the authority of a specified entity, or an agreed upon combination of entities. OECMs can be governed under the same range of governance types as protected areas, namely by government agencies, private interests, Indigenous peoples and/or local communities, or in a shared arrangement (Dudley, 2008; Borrini-Feyerabend et al., 2013). Daasanach areas have been traditionally governed through their eight-clan customary institutions which are ascribed as traditions by all community members and have cultural and spiritual values attached to their land. Still today, customary institutions administered through age-sets and an 8-clan structure govern the management of the common resources. The Chief and Ward administrator figures link the customary institutions to national and county government levels, yet they do not play a role in resource management. For example, a 43-year-old herder reported that “We entirely depend on our clan elders’ directives concerning livestock migration, marriages, weather forecasting, and water and wildlife protection. We go to the Chief’s office when applying for national Identity cards, or when we are reporting cases of livestock disease outbreak and in some cases, when the Government has some programmes such as immunisation of children.”

Managed

An OECM should be managed in a way that leads to positive biodiversity conservation outcomes. According to elders, the Daasanach have managed their areas for at least several centuries to support their pastoral livelihoods. These practices have indirectly promoted the in-situ conservation of biodiversity and ecosystem services. In particular, they support the conservation of grasslands, and, most importantly, the conservation of

hardy vegetation and biodiversity in the riverine forests of the seasonal rivers of the area (Figure 2).

In this section, we highlight six regulatory mechanisms that reflect government and management of these spaces, supporting the conservation of biodiversity.

1. Livestock divided across community land so as to utilise sustainably limited available pastures. Elders reported that this strategy is essential not only for pasture protection and management, but also as a risk management practice against disease outbreak and cattle rustling from their neighbouring communities.

2. Elders and herders reported that they practise seasonal migration of livestock to facilitate pasture regeneration for successive grazing seasons. Grazing areas during the dry months (August to October, January to March) are concentrated near the shores of the lake with a grazing land area of approximately 750 km², and during wet seasons (November to December, April-July) grazing is carried out in the highlands.

3. Herders reported that they are not allowed to graze in one location for more than a month and that this is a requisite to ensure that grass height is maintained at a 'little span height' (10–15cm) so as to guarantee its regeneration for successive seasonal use by livestock and those contravening this norm are flogged by the *Kaabana* and fined depending on the magnitude of damage caused to the grasses.

4. Ninety-seven per cent of respondents reported that the riverine forests along seasonal river banks yield fallen leaves that are used to feed calves, goats and sheep. During dry spells with a scarcity of fallen leaves, locals are allowed to cut side twigs of some trees to feed young livestock rather than cutting the whole tree. It is a chargeable offence to graze mature/large cattle in the riverine ecosystems because they may degrade these areas relatively faster, thus only goats/sheep or calves are allowed to graze as they have lower ecological impacts. Mature cattle/donkeys/camels are grazed mostly in zones with no restrictions. Anyone caught grazing mature cattle/donkeys/camels in these protected areas or cutting down whole trees to feed young livestock is whipped by the *kaabana*, and required to slaughter his fully-grown bull or to buy one elsewhere and slaughter it for the elders to feast.

5. Ninety-five per cent of respondents reported that four well-functioning ICCAs are established along major seasonal rivers on Daasanach land (Figure 1) which offer numerous ecosystem services that benefit the community. These rivers support a wide array of wildlife, including numerous bird species such as ostriches and guinea fowls, as well as large mammals such as leopards, cheetah and antelopes. Locals utilise these wild animals as game meat during periods of food scarcity and also utilise ostriches' feathers and leopards' skins for the *Dimi*¹ and *Guol*² cultural rites, while some rivers yield red ochre used for decoration by girls and



Figure 2. Seasonal river in Ileret with lake Turkana in the background © Daniel Burgas

warriors during cultural rituals. All elders interviewed reported having participated in these compulsory rituals which they also believe exorcise and drive off curses and natural calamities from their land and people. Other reported benefits of these ICCAs include significant shallow water wells, pasture, firewood, wild edible plants, reeds used for thatching houses, provision of pasture to livestock during the dry seasons, as well as sacred and medicinal plants.

6. It is a taboo to destroy the fencing of temporary settlements when migrating to other areas. Reutilisation of abandoned fencing is promoted because this helps to minimise the depletion of the scarce trees and bushes. Elders and herders reported that this norm helps in conserving indigenous trees and anyone contravening this norm is cursed by the elders. A 48-year-old woman said,

We are not permitted to use manyatta sticks or poles as firewood, and perpetrators are beaten by their husbands and cursed by elders. No woman in Daasanach can do such a thing!

THREATS TO DAASANACH LANDS

Despite the ICCAs identified and their potential co-benefits for biodiversity conservation, some concerns were expressed. These concerns reflect the widespread erosion of certain customary regulations.

Seventy-eight per cent of the respondents reported the decline of water availability especially in shallow wells along seasonal rivers, reduced pasture, increased soil erosion during the rainy season and reduced wildlife within ICCAs. During focus group discussions, a 72-year-old elder said, “some wildlife species we used to see when young – such as giraffe and elephants – have become extinct in our area”, and when asked the reason for extinction, he said, “they were killed by people outside of Daasanach”. Many of the interviewees reported that many animals have gone, denoting large defaunation in the area. Hunting is rarely acknowledged as a livelihood of the Daasanach but it has certainly been important. In songs of praise, the killing of larger animals like hippo (*iye*), lion (*luoch*), rhino (*gure*), elephant (*arab*) and buffalo (*garich*) is still honoured. However, we did not encounter any reference to the regulation of hunting. Seven per cent of the respondents reported that Daasanach’s rites (e.g. *Dimi*) may be injurious to the ecosystem in the long run because these rites demand ostriches’ feathers, giraffe or oryx tails and the skins of leopard or cheetah; but 93 per cent said they re-use trophies previously used by their predecessors.

Seventy-nine per cent of the respondents associated the construction of the Gibe III dam in Ethiopia with a

reduction of water and pasture around the lake and the river Omo delta. A herder aged 34 said,

For the past few years, water in the lake has become more saline, and unfit for us and livestock to drink. Pasture and other vegetation around the lake and Lokwaria Island, which our livestock feeds on during the dry season, has dried up, and some areas have no vegetation while other areas have new alien vegetation which is not palatable to livestock. This is useless to us! Also fish, crocodiles and hippos are decreasing in the lake because of low levels of water from the river Omo, and its delta no longer supports as many livestock as before.

With the landscape beyond the ICCAs becoming increasingly inhospitable, the pastoral commons of the Daasanach become islands of conservation, threatening their long-term ecological viability.

Furthermore, elders are worried about the rapid erosion of customary institutions and traditions that impinges negatively on local adaptation to ecological change. During focus group discussions, a 55-year-old elder said,

Those who have abandoned our customs are the ones eaten by crocodiles, killed by wild animals or bitten by snakes, because a Daasanach who abides to the norms cannot be bitten by snakes, and if a snake does bite, one may not die and he/she can swim in crocodile infested waters in the lake, river Omo and across to Lokwaria Island unharmed and none of the livestock will be attacked by crocodiles or hippos.

All participants of our six focus group discussions (100 per cent) concurred with this elder. Although some 76 per cent reported that these customary norms are binding on all community members, 24 per cent of respondents reported that these norms are rapidly on the wane.

DISCUSSION

This study set out to explore the potential conservation values of East African pastoral ICCAs at the same time as contributing to demonstrate their present and historical relevance in East Africa which is largely unrecognised and poorly studied. In so doing, we also evaluated if some of these pastoral commons could eventually be recognised as OECMs. We acknowledge that this study is exploratory in nature and, as such, it does not evaluate the conservation effectiveness of ICCAs and it does not allow to infer generalisations for pastoral ICCAs in East Africa. Nonetheless, the study has highlighted several issues that deserve further attention in the context of OECMs. While the management of Daasanach ICCAs includes different ways of controlling unsustainable uses of biodiversity (e.g. through customary laws and sanctions), whether this means they can be considered as ‘effective’ remains an open question.

Progress in defining, identifying and reporting OECMs has been generally slow (Leadley et al., 2014), arguably due to uncertainty about what to report and how to measure the effectiveness of these sites (Jonas et al., 2014). In order to qualify as an OECM, an area has to 'effectively' deliver sound conservation outcomes (IUCN WCPA, 2018). However, with biodiversity conservation not necessarily being a primary goal of an OECM, these areas may actually support the conservation of certain biodiversity (e.g. grass species), while neglecting or impacting negatively on other biodiversity. In this sense, an ICCA can be failing to conserve large carnivores locally yet be one of the most effective means for improving landscape connectivity for large carnivores at a broader scale, or it may improve the presence of certain grass species that would be lacking without human intervention. This might be the case of the riverine forests of the seasonal rivers in the Daasanach ICCAs, which seem to play an important ecological role in supporting connectivity between different conservation areas in an otherwise heavily grazed landscape, thereby contributing to the long-term viability of larger ecosystems including the national park.

The Daasanach are an East African pastoralist group with potentially important pastoral ICCAs deeply embedded in a socio-ecological system (Carr, 1977). Similar socio-ecological systems are common among other East African pastoral groups, which have long contributed to shape the rich and biodiverse landscapes existing in the region. While these socio-ecological systems have throughout history promoted sustainable use of resources (e.g. Fynn et al., 2015), they are facing severe challenges that are compromising their effectiveness due to, amongst other things, rapid social transformations (see also Carr, 1977; Cabeza et al., 2016). This is the situation for thousands of similar systems throughout the African region (Cotula, 2007; Turner, 1999; Haller et al., 2013). In the case of the Daasanach pastoral commons studied here, such transformations challenge some of the defining principles of an OECM, including the 'long-term', 'effective' aspects of governance and management, thus questioning the eligibility of some of these areas as OECMs. Yet perhaps a lack of recognition of their current conservation values may incur larger biodiversity losses in future, as these systems may have protected a large share of African diversity to date and may still serve as buffer zones and migration corridors for national parks.

While shortfalls in conservation effectiveness are allowed in certain protected areas (at least temporally), with 'effectiveness' not always being a pre-requisite to

designate a particular protected area, this seems not to be possible in the context of OECMs, which must be considered as 'effective' before their designation. Based on the findings presented in this paper, we question whether areas such as those studied here, which have retained biological values for so long but are currently facing challenges, could be considered as 'potential OECMs' only if their conservation values are properly assessed. Similar concepts of conditionality and governance are being discussed at large in the context of protected areas (Eklund & Cabeza, 2016). While substantial progress has been made in operationalising clear indicators of protected area effectiveness (e.g. Chape et al., 2005; Le Saout et al., 2013), there are still no clear principles on how to define and operationalise a measure of 'effectiveness' for OECMs where conservation may or not be a primary objective, but is nevertheless a certain outcome. Greater work on this aspect is essential.

CONCLUSION

This research among the Daasanach of Ileret illustrates the potential, as well as the challenges, for recognising East African pastoral ICCAs as OECMs. Nevertheless, already from the obtained data, we can state that the Daasanach are a human group with important pastoral ICCAs, deeply embedded in their social and cultural structures, as much as in their bio-ecological context. Further research, including on the relationship between their governance of local ecosystems and natural resources and conservation effectiveness will enable an assessment of whether these areas can be considered 'potential OECMs'.

Although the Daasanach's institutions are in a delicate situation, facing important challenges and transformations, in the opinions of the local people facing such loss of territorial control, it becomes evident that these institutions still have a great local legitimacy and importance. With this case study and the reflections it has brought about, we call for practical steps for defining biodiversity values of interest, in order to better monitor and report on the categorization as OECMs.

ENDNOTES

¹The Dimi cultural ceremony is a rite of passage accorded to a first-born daughter in a family.

²The Guol is a cultural ceremony for initiating girls into adulthood.

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REFERENCES

- Berkes, F. (2007). Community-Based Conservation in a Globalized World. *Proceedings of the National Academy of Sciences* 104 (39): 15188–93. DOI: 10.1073/pnas.0702098104.
- Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B., Pathak Broome, N., Phillips, A. and Sandwith, T. (2013). *Governance of Protected Areas: From understanding to action*. Best Practice Protected Area Guidelines Series No. 20. Gland, Switzerland: IUCN.
- Cabeza, M., Fernández-Llamazares, Á., Burgas, D., Fraixedas, S. and López-Baucells, A. (2016). Breaking the Cradle of Humankind. *Biosphere* 18: 58–69.
- Carr, C. J. (1977). *Pastoralism in Crisis: The Daasanetch and Their Ethiopian Lands*. Chicago: University of Chicago Press.
- Chape, S., Harrison, J., Spaldin, M. and Lysenko, I. (2005). Measuring the Extent and Effectiveness of Protected Areas as an Indicator for Meeting Global Biodiversity Targets. *Philosophical Transactions: Biological Sciences* 360 (1454): 443–455. DOI: 10.1098/rstb.2004.1592
- Cotula, L. (ed.) (2007). *Changes in 'Customary' Land Tenure Systems in Africa*. Stevenage, UK: IIED and FAO. <http://pubs.iied.org/12537IIED.html>
- Domínguez, P. and Benessaiah, N. (2015). Multi-agentive transformations of rural livelihoods in mountain ICCAs: The case of the decline of community-based management of natural resources in the Mesioui agdals (Morocco). *Quaternary International* 18 (11): 1–11. DOI: 10.1016/j.quaint.2015.10.031
- Dudley, N. (Ed.) (2008). *Guidelines for Applying Protected Area Management Categories*. Gland, Switzerland: IUCN.
- Eklund, J. and Cabeza, M. (2016). Quality of Governance and the Effectiveness of Protected Areas – Crucial Concepts for Conservation Planning. *Annals of the New York Academy of Sciences* 1399(1): 27–41. DOI: 10.1111/nyas.13284
- Fratkin, E. and Mearns, R. (2003). Sustainability and Pastoral Livelihoods: Lessons from East African Maasai and Mongolia. *Human Organization* 62 (2): 112–122. DOI: 10.17730/humo.62.2.am1qpp36eqgxh3h1
- Fynn, R. W. S., Augustine, D. J., Peel, M. J. S. and de Garine-Wichatitsky, M. (2015). Strategic management of livestock to improve biodiversity conservation in African savannahs: A conceptual basis for wildlife-livestock coexistence. *Journal of Applied Ecology* 53: 388–397. DOI: 10.1111/1365-2664.12591
- Goldman, M. and Riosmena, F. (2013). Adaptive capacity in Tanzanian Maasailand: Changing strategies to cope with drought in fragmented landscapes. *Global Environmental Change* 23: 588–597. DOI: 10.1016/j.gloenvcha.2013.02.010
- Haller, T., Fokou, G., Mbeyale, G. and Meroka, P. (2013). How fit turns into misfit and back: Institutional transformations of pastoral commons in African floodplains. *Ecology and Society* 18(1): 34. DOI: 10.5751/ES-05510-180134
- International Household Survey Network (IHSN) (2007). Ethiopia Population and Housing Census. Available online at <http://catalog.ihsn.org/index.php/catalog/3583/download/50086>
- IUCN WCPA, (2018). *Guidelines for Recognising and Reporting Other Effective Area-based Conservation Measures (Draft)*. Version 1. Gland, Switzerland and Cambridge: IUCN.
- Jonas, H. D., Barbuto, V., Jonas, H.C., Kothari, A. and Nelson, F. (2014). New Steps of Change: Looking Beyond Protected Areas to Consider Other Effective Area-Based Conservation Measures. *PARKS* 20 (2): 111–128. DOI: 10.2305/IUCN.CH.2014.PARKS-20-2.HDJ.en
- Jonas, H. D., Lee, E., Jonas, H.C., Matallana-Tobon, C., Wright, K.S., Nelson, F. and Enns, E. (2017). Will 'Other Effective Area-Based Conservation Measures' Increase Recognition and Support for ICCAs? *PARKS* 23 (2): 63–78. DOI: 10.2305/IUCN.CH.2017.PARKS-23-2.HDJ.en
- Kenya National Bureau of Statistics (KNBS). (2013). Ethnic Affiliation. Nairobi: Government Printer. Available online at: <https://www.knbs.or.ke/ethnic-affiliation/>
- Kothari, A. (2006). Community conserved areas: Towards ecological and livelihood security. *PARKS* 16 (1): 3–13.
- Kothari, A. (2008). The 4C Factor: Community Conservation and Climate Change. *Biodiversity* 9 (3&4): 19–23. DOI:10.1080/14888386.2008.9712903
- Kothari, A., Camill, P. and Brown, J. (2013). Conservation as if people mattered: Policy and practice of community-based conservation. *Conservation and Society* 11 (1): 1–15. DOI: 10.4103/0972-4923.110937
- Kothari, A., Corrigan, C., Jonas, H., Neumann, A. and Shrumm, H. (eds.) (2012). *Recognising and Supporting Territories and Areas Conserved by Indigenous Peoples and Local Communities: Global Overview and National Case Studies*. CBD Technical Series, 64. Montreal, Canada: Secretariat of the Convention on Biological Diversity, ICCA Consortium, Kalpavriksh, and Natural Justice. www.cbd.int/doc/publications/cbd-ts-64-en.pdf
- Lane, C. (1993). Past practices, present problems, future

- possibilities: Natural resource management in pastoral areas of Tanzania [online], In: H.S. Marcussen (Ed.), *Institutional Issues in Natural Resources Management. Occasional Paper, No. 9*, Roskilde, International Development Studies, Roskilde University. Available at: <http://rossy.ruc.dk/ojs/index.php/ocpa/article/view/411>
- Le Saout, S., Hoffmann, M., Shi, Y., Hughes, A., Bernard, C., Brooks, T.M., Bertzky, B., Butchart, S.H.M., Stuart, S.N., Badman, T. and Rodrigues, A.S.L. (2013). Protected Areas and Effective Biodiversity Conservation. *Science* 342(6160): 803–805. DOI: 10.1126/science.1239268
- Leadley, P.W., Krug, C.B., Alkemade, R., Pereira, H.M., Sumaila, U.R., Walpole, M., Marques, A., Newbold, T., Teh, L.S.L., van Kolck, J., Bellard, C., Januchowski-Hartley, S.R. and Mumby, P.J. (2014). *Progress towards the Aichi Biodiversity Targets: An Assessment of Biodiversity Trends, Policy Scenarios and Key Actions*. CBD Technical Series 78. Montreal, Canada: Secretariat of the Convention on Biological Diversity. www.cbd.int/doc/publications/cbd-ts-78-en.pdf
- Liebmann, B., Hoerling, M., Funk, Ch., Blade, I., Dole, R., Xiaowei, D., Region, Ph. and Eischeid, J. (2014). Understanding Recent Eastern Horn of Africa Rainfall Variability and Change. *Journal of Climate* 27. DOI: 10.1175/JCLI-D-13-00714.1
- Notenbaert, A.M., Davies, J. De Leeuw, J., Said, M., Herrero, M., Manzano, P., Waithaka, M., Aboud, A. and Omondi, Sh. (2012). Policies in Support of Pastoralism and Biodiversity in the Heterogeneous Drylands of East Africa. *Pastoralism: Research, Policy and Practice* 2 (14): 1–17. DOI: 10.1186/2041-7136-2-14.
- Reid, R.S and Ellis, J.E (1995). Impacts of Pastoralism on woodlands in South Turkana, Kenya-livestock-mediated tree recruitment. *Ecological Applications* 5: 978–992.
- Respecting ICCAs Overlapped by Protected Areas. Report for the ICCA Consortium, available online at www.iccaconsortium.org.
- Turner, D.M. (1999). Conflict, Environmental Change, and Social Institutions in Dryland Africa: Limitations of the Community Resource Management Approach. *Society & Natural Resources* 12 (7): 643–657. DOI: 10.1080/089419299279362.

RESUMEN

A pesar del creciente interés que a escala mundial generan los valores de conservación de las áreas y territorios conservados por los pueblos indígenas y las comunidades locales (ICCA, por sus siglas en inglés), nuestro conocimiento acerca de las ICCA en África Oriental es, en el mejor de los casos, escaso. Exploramos la existencia de ICCA en África Oriental, centrándonos en el caso de los pastores daasanach de Ileret, Kenia. Examinamos su existencia a través de enfoques etnográficos, incluyendo la observación de los participantes, entrevistas semiestructuradas y debates con grupos focales. Analizamos si estas ICCA específicas se ajustan a los criterios para ser reconocidas como “otras medidas de conservación eficaces basadas en áreas” (OECM, por sus siglas en inglés), con especial atención a sus sistemas consuetudinarios de gestión. Nuestro trabajo evidencia la existencia de ICCA pastoriles entre los daasanach, desafiando la suposición generalizada en la literatura científica de que los bienes comunes tradicionales de los entornos pastoriles son insignificantes en el contexto actual de África Oriental. Dichas ICCA han desempeñado un papel central no solo para los medios de vida locales, sino también para el mantenimiento de la biodiversidad y los servicios de los ecosistemas, alineándose con la definición actual de OECM. Sin embargo, las preocupaciones sobre los rápidos cambios en el sistema socioecológico podrían desafiar tal categorización. Para finalizar, ofrecemos algunas observaciones sobre los criterios de gestión para las OECM y proponemos directrices mejoradas para medir la eficacia de las OECM.

RÉSUMÉ

Malgré un intérêt politique croissant pour les valeurs de conservation des territoires et des aires conservées par les peuples autochtones et les communautés locales (abréviation «APAC») au niveau mondial, notre compréhension des APAC en Afrique de l'Est est faible. Nous examinons l'existence des APAC en Afrique de l'Est, en nous concentrant sur le cas des communautés d'éleveurs Daasanach d'Ileret au Kenya. Nous étudions leur existence à travers plusieurs approches ethnographiques, dont les observations des participants, les entretiens semi-structurés (n=75 adultes) et huit groupes de discussion. Nous examinons si ces APAC particulières correspondent aux critères reconnus comme 'autres mesures de conservation efficaces par zone' (OECM), en accordant une attention particulière à leurs systèmes de gestion habituels. Notre travail met en évidence l'existence d'APAC pastorales parmi les tribus Daasanach, remettant en cause l'hypothèse largement répandue dans la littérature scientifique que les pâturages communs traditionnels sont insignifiants dans le contexte est-africain d'aujourd'hui. En effet, ces APAC ont joué un rôle central non seulement pour les moyens de subsistance locaux, mais aussi pour le maintien de la biodiversité et des services écosystémiques, s'alignant ainsi avec la définition actuelle des OECM. Pourtant, des préoccupations découlant de l'évolution rapide du système socio-écologique risquent d'entraver une telle catégorisation. En conclusion, nous offrons quelques remarques sur les critères de gestion des OECM et proposons des lignes directrices améliorées pour mesurer leur l'efficacité.