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AFRICAN CONSERVATION CENTRE

Institutional Canopy of Conservation

Governance and Environmentality in East Africa

INSTITUTIONAL CANOPY OF CONSERVATION: GOVERNANCE AND ENVIRONMENTALITY IN EAST AFRICA

FINAL TECHNICAL REPORT

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Executive Summary

The Institutional Canopy of Conservation (I-CAN) program was a 7-year research initiative led by the African Conservation Centre (ACC) and McGill University. International Development Research Centre (IDRC) funded ACC as the lead partner in East Africa and the Social Sciences Humanities Research Council (SSHRC) had McGill University as its lead partner in Canada. The I-CAN project sought to address the challenge of combining protection of biodiversity with strengthened livelihoods. The major goal of the project is to identify the most effective designs for future community-based conservation programs by examining the impacts of ongoing conservancy experiments on community livelihoods and members' attitudes and practices towards natural resources. Researchers would achieve this goal by studying the impact of a range of conservancy experiments on local livelihoods, attitudes, and natural resource practices with intent of assessing the effectiveness of environmentally specific models and experiments in community conservation and reconciling the imperatives of sustaining biodiversity with improving life conditions of communities in the East Africa region, an area known for its rich and greatest concentration of biodiversity and where most significant repository of wildlife lies.

Overall, the original goal and the objectives of the project remained on track to meeting its objectives. However, several significant changes were made that were necessary for the project to move forward. These included investing resources to addressing land issues and supporting land policies that provide an enabling environment for community led conservation; taking into consideration the role of traditional knowledge has played in conservation efforts and enabled the co-existence of pastoral communities and wildlife in the East Africa border regions (Kenya and Tanzania) by examining these models to: a) assess their value addition in addressing ongoing biodiversity challenges and b) to advocate for adoption of successful experiments based on traditional knowledge at national levels.
The final report covers the entire project period which began August 2014 and concluded in October 2021. This report consolidates the first, second, fourth, fifth and mid-term (joint ACC and McGill IDRC/SSHRC) reports.

In the initial proposal, it was envisioned, as one of its elements of originality, the depth and breadth in the partnership approach that would pursue field study and comparative research. The partnership focus was applied given the problem theory, method and policy that had been identified that could only be addressed through pursuing new knowledge from an interdisciplinary perspective at a scale and complexity that required a team of researchers. ACC worked and collaborated with seventeen (17) partners in eight I-CAN across Kenya and Tanzania (list of partners is in the Annex section of this report) from the academia and civil society. The original partnership included thirty (30) partners in the East Africa region and more than fifteen (15) research institutions and collaborators. To have a working method for this large partnership a structure was set up that was governed by a Steering Committee made up of the two principal investigators from McGill University and ACC and included the ACC Executive Director. An I-CAN Advisory Board, and thematic working groups made up of partners mainly from East Africa and Canada. However, as will be described later and in detail in this report, changes had to be made to the structure throughout the implementation of the project to minimize delays and conflict.

The Research Problem

It has been demonstrated that human threats to wildlife increase when communities neighbouring wildlife-protected areas have marginal sense of 'ownership' over and are excluded from enjoying the economic benefits of a conservation process. To address the twin predicaments of growing insecurity of biodiversity and human poverty, McGill University, and the African Conservation Centre (ACC) formed a partnership aimed at pursing research on Community-Based Conservation (CBC) projects found along the Kenyan-Tanzanian borderlands. Two sites were also picked away from the borderlands for comparative purposes. Community-Based Conservation initiatives (Kenya) and Community Wildlife Management Areas (Tanzania) have been pursued in these regions following policies and a shift in paradigm in the approach of using heavy-handed enforcement in conserved and Protected Areas, whilst excluding or displacing communities to secure these areas. The CBC models became a paradigm shift for global conservation due to the reduced role of governments and the devolution to communities of rights and responsibilities over natural resources. However, these models (CBC and CWMAs) face the challenge of combining protection of biodiversity with strengthened livelihoods, whether through recognizing local rights over resources, livelihood diversification, or stimulation of new green, post-oil economy opportunities, including tourism.

The mission of sustaining East African forests, wildlife, water, and other natural resources faces two interconnected crises: progressive threats to biodiversity, especially forest and savanna habitats and wildlife populations and decline in human living standards and health. The exclusion from resources in Protected Areas can undermine livelihoods and nutrition unless protected resources also become assets for local communities. Through this grant, we proposed examining the experiments in community conservation pursued in the most critical yet threatened areas of biodiversity in East Africa, through which the indigenous societies of the region engage with surrounding environmental resources. The focus would be on the dynamic interactions people have with Protected Areas and dispersed wildlife, in the best of cases achieving win-win situations where sustaining biodiversity and strengthening livelihoods are mutually supportive. These interactions are increasingly mediated by a network of institutions and organizations that link grassroots communities to regional, national, and international bodies. It was necessary to also examine the motivations and practices of local actors such as the civil society organizations, national regulatory and administrative bodies, advocacy groups, funded development projects, research and advocacy organizations, tour companies, international conservation agencies, and national and international entrepreneurs and assessing the influences they exercised. It is now widely accepted that protection of global biodiversity requires collaboration across a scale of institutions from governments and communities, but since this is more easily said than done the record of success of experiments in community conservation projects is mixed.

The Institutional Canopy of Conservation (I-CAN): Governance and Environmentality in East Africa, led by the African Conservation Centre (ACC) and McGill University focused on research in the rangelands, wetlands, and forests in Kenya and Tanzania, a region that is home to Africa's richest concentration of biodiversity and wildlife with an aim for this knowledge to draw out action that conserves East Africa's rich biodiversity by strengthening local livelihoods

though improving access rights to natural resources, income diversification, and green economic development, such as ecotourism.

There were five objectives identified, from generating knowledge to policy and action as follows:

1. Tracking organizational networks - to understand how the 'institutional canopy of conservation' influences the effectiveness of local CBC programs.
2. Developing prototypes for governance institutions - focused on three major design components that are subjects of ongoing theoretical and policy controversy: organizational structures, property systems, and livelihoods and incentives.
3. Strengthening the cognitive frameworks that influence conservation attitudes and behaviours (which we call "environmentality").
4. Influencing the development of conservation policies and policymaking from the conservancy and community levels to national and international policies.
5. Training a new generation of academics and leaders via graduate degrees and community and NGO leaders acquiring project-based skills”-

Methodology

Research under the ACC-IDRC component and was mainly carried out by ACC’s community partners and student researchers. The project engaged in eight (8) research studies (non-academic) conducted by partners including one film and two case studies. A further eighteen (18) studies were conducted by graduate students partially funded by I-CAN scholarships over the project’s duration. Hence, a range of research methods and techniques were applied by graduate students and were guided and approved by their respective supervisors at the university. As the I-CAN project was only providing partial scholarships for the students, the capacity working group (that developed the criteria for selection) could not influence the research questions for the students. However, all student proposals submitted had to indicate the relevance of their research topic to the I-CAN objectives.

The original proposal suggested 8 sites: 4 in Kenya and 4 in Tanzania. As the project progressed, the team realized that it was challenging and expensive to carry out research in each of this sites and to cover/address every objective, hence working groups were set up to agree and prioritize key issues for each site, map out the different partners in each site and their organization’s expertise that could support research in those areas.

To foster inclusion and leverage on the expertise within the I-CAN network and to minimize conflict in the partnership, majority of the research was undertaken by community conservation partners in the I-CAN partnership and individuals in the partnership. This strategy reduced the conflict of resource allocation and management significantly as each partner found an opportunity to contribute to the different objectives of the project. In addition, it reduced the costs of hiring external expertise as the aspects of ownership of the project influenced the decisions and agreements reached. Nonetheless, this strategy also had some disadvantages as a notable number of research and studies were not completed or produced low quality outputs.

Three studies: the canopy of conservation in Kenya and Tanzania, the Attitudinal studies, an Economic Analysis of Opportunity Cost of Pastoralism in Kenya, and Tanzania were collaboratively designed by engaging partners and I-CAN partners in the academia with expertise on these subjects and methods of research to use for these studies. Effort was made to ensure all I-CAN partners were involved in the design of the project although this was not always possible. The process would begin at the working group level where research proposal and ideas from their sites that required investigation or had the potential for generating new knowledge relevant to the objectives of the project. Several workshops and meetings would be convened to ensure partners have consensus on research proposals and questions. Lead organizations and/individuals would then be tasked with developing the research methods to be used, budgets and expected outcomes that would then be reviewed by working groups before being submitted to ACC for ensuring alignment of research activities to objectives and budget approval.

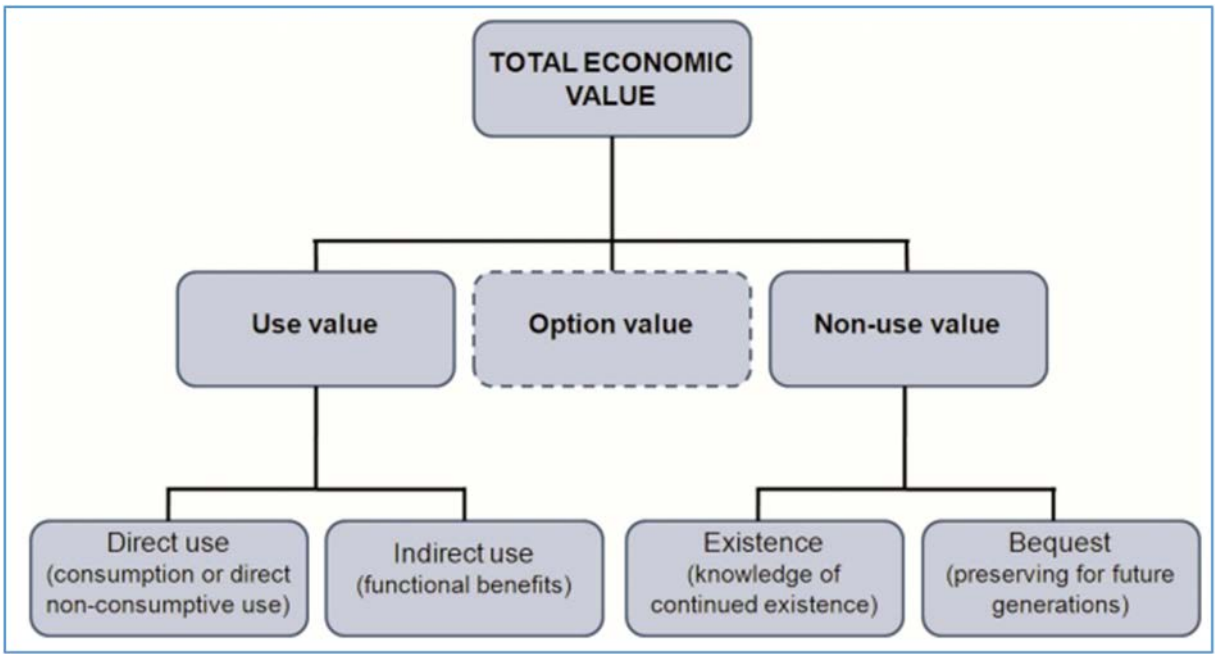
The I-CAN project emphasized hiring research personnel from the communities as research assistants and enumerators to build and develop research capacities in these regions. The partners in each of these sites were responsible for the selection of this team of research assistants. Workshops would then be organized to train the research assistants on methods that specific research would deploy for collecting data. In some of the studies, some of these research assistants went on to be hired as data entry clerks. In total 35 enumerators (citizen scientists) were trained on research methods and data entry as outlined in the attached Annex.

Studies that required the use of individual consultants (drawn from the I-CAN partnership) also used the above methodology. Research proposals would first be deliberated at the working group level and these would be used to draft the terms of reference for the consultant.

Other methods employed/used in the studies carried out by I-CAN partners such as formal and informal surveys including household questionnaires, Interviews and focus group discussions and participatory observation. Those employed by students are not included in this report and can be referred to in the specific theses submitted.

One of the studies conducted, the "Economics of Pastoralism study: Opportunity Cost of Pastoralism in Kenya and Tanzania," that sought to establish the opportunity cost of pastoralism, applied the method of computing the Total Economic Value (TEV) of pastoralism.[1] The idea is that if we define opportunity cost as the "value of the best alternative foregone", then, the TEV naturally approximates the opportunity cost. TEV captures both market and non-market values of a given resource, sector, or ecosystem. Theoretically, the TEV of a given resource, sector or ecosystem is the sum of its use, option, and non-use value as outlined in the table below.

[1] *Hatfield, Richard & Davies, Jonathan. (2006). Global Review of the Economics of Pastoralism. World Initiative for Sustainable Pastoralism*



Source: Grant et al. (2013)[2]

The study used both primary and secondary data to compute TEV. Primary data was collected from I-CAN project sites in both Kenya and Tanzania through focus group discussions (FGDs), key informant interviews (KIIs), and ecotourism, market, and household surveys. Secondary data was obtained from a desk review of the literature, the bureaux of statistics in Kenya and Tanzania as well as grey literature.

Synthesis of research results and development outcomes

This section of the report summarizes key findings from research conducted through two streams: academia and by civil society organizations. Academic research provided empirical data that in some cases provided new knowledge and used existing knowledge to generate concepts and understandings. Research carried out by civil society organizations provides experiential knowledge that sometimes lacks empirical evidence but is well known and understood in communities (traditional knowledge). The I-CAN project emphasized both approaches for conducting research whilst promoting and developing the capacities of the civil society organizations and their communities through citizen science.

Tracking organizational networks

Rationale

The concept of the institutional canopy signified the centrality of an array of organizations that impact on the conservation process both in policy and practice. The project sought to track and assess the "score-card of players," track the contours of organizational network, flows of information, personnel and funds that influence how conservancies work, analyse which organizations are associated with which conservancies and to what effect and which are linked to one another, establishing a chain of mutual influences.

[2] *Grant, S.M., Simeon, L.H., Trathan, P.N., Murphy, E.J. (2013). Ecosystem services of the Southern Ocean: trade-offs in decision-making. Antarctic Science, 25(5):603–617.*

Main activities and findings

Tracking organizational networks – studies	Results	Gaps
Masters research - Assessment of the effectiveness of CBC approach used by Pastoralist villages in Loliondo, Tanzania. (Kileli, 2017)	Master's thesis	-
PhD research - Institutions in Public-Private Partnerships for Natural Resources Conservation Management and use: A Case Study of the Northern Rangelands in Kenya. (Lugusa, 2019)	PhD thesis	-
Canopy of conservation study in Tanzania 2019 (Sirima, 2019)	Data collected and an inventory of conservation partners in I-CAN sites in Tanzania produced	Stakeholder and network mapping and analysis to understand influence and flow of information and funds was not carried out.
Canopy of conservation study in Kenya 2018	Small data set collected from active institutions of the ICAN Partnership. Results produced	Lack of a robust inventory of all the networks of conservation partners in I-CAN sites in Kenya Stakeholder and network mapping and analysis to understand influence and flow of information and funds was not carried out

Academic discourses were held with graduate student studies that wwere conducted in I-CAN study sites and these provided relevant findings to this objective. The main findings of the graduate student studies are summarised below:

"Assessment of the effectiveness of Community-Based Conservation (CBC) approach used by Pastoralist villages in Loliondo, Tanzania," **Emmanuel Kileli, master's student, University of Victoria.**

In Loliondo Division in northern Tanzania, a different Community-Based Conservation (CBC) model has evolved on village lands. It is a conservation approach where individual villages that traditionally conserved wildlife on their communal lands sign contractual agreements with tourist companies to set aside parts of their lands for wildlife conservation and tourism activities. The agreements allow for the tourist companies to use the village conserved areas for tourism activities while paying the village's annual land access fees. These designated areas in village lands are referred to in Emmauel's paper as the conservation projects and the single village CBC approach is referred as the village-based conservation approach. The tourist companies accessed the villages' conserved areas for tourism activities (photographic tourism,

walking safaris, game viewing, and cultural tourism) and, in return, the companies paid the study villages annual village land access fees. Between 1991 and the year 2000 nine photographic tourism companies, signed agreements with six villages in Loliondo Division and carried out their tourism business while ensuring the local communities conserved their village lands. Following a land-related conflict between the local communities and a hunting tourism company known as Ortello Business Corporation (OBC), the government banned the contractual agreements between the local communities and the photographic tourism companies in Loliondo Division except in one village called Ololosokwan village because it had secured its land tenure rights and has a permanent tourism lodge built on its land. Following the photographic tourism ban, the tourist companies stopped their operations and the payment of land access fees to local communities in 2010. At the time of this study in 2017, the village-based conservation approach was operational at one of the six villages in the study area.

The village-based conservation approach involves single agro-pastoralist villages with nearly homogeneous residents in terms of social and cultural backgrounds—the Maasai. Two, under the village-based conservation approach, individual villages negotiate, acquire benefits, and use all the benefits without sharing with other nearby villages or with the central government. It also allows for the integration of wildlife conservation and pastoralism using traditional ecological knowledge. In addition, the final decision on contractual agreements with tourist companies and the use of conservation benefits is done by village assemblies (communities) who are the highest authorities of the village-level governments.

The financial benefits from the village-based conservation projects in Loliondo Division come from two sources: hunting tourism and photographic tourism businesses. Between 1992 and 2016, there was a total direct financial return from these tourism activities to the area of almost US $13 million. By far most of the money went to the district government (US $9.7 million) followed by the study area villages (US $1.8 million) and finally the central government ($1.4 million). Roughly two-thirds of this money was derived from hunting rather than photographic tourism; however, the central government received more money from photographic tourism than hunting while the district government received more from hunting tourism than photographic tourism. Like the central government, the study area villages received more money from photographic tourism than hunting tourism. The amount of financial benefits reported in this paper, represent the financial benefits as was received from the study sites and from tourism and is not conclusive because of the lack of data in some study villages in different times. In most cases, the financial benefits received by local communities were used to implement community development projects such as water supply, health, and education projects.

The results of the assessment of perceptions show that the local people are involved in biodiversity conservation in various ways. The data presented show that 53% of the study respondents perceived that the local people are involved in anti-poaching activities, and 50% perceived that the local people are abiding by regulations and by-laws designed for biodiversity conservation. Further, 10.9% of the study respondents perceived that the local people are involved in providing conservation education to others while 1.9% perceived the local community to have been involved with biodiversity conservation in other ways (e.g., protecting the forest and being tolerant to wildlife consequences).

The conservation projects (CBC projects) implemented under this approach are perceived by the local people to have helped to decrease bushfires, improve wildlife habitats, and maintained wildlife abundance. They are further perceived to have helped to improve local livelihoods through the implementation of community level social service projects such as water supply, health services, and education services. However, the conservation approach is perceived to have contributed fewer benefits at the family level as the conservation projects were not able to provide more employment and business opportunities necessary to increase individual family incomes.

The study finds the main factors that influenced local perceptions towards the contributions of the conservation projects to be the village land tenure rights status, the level of financial benefits received by the study villages from the conservation projects, and the degree of collaboration between the local communities and other conservation stakeholders (i.e., the tourist companies and the central government). The village where the local people have land tenure rights received more benefits and had good collaboration with stakeholders involved in their conservation projects (e.g., Ololosokwan village), the conservation projects are perceived to have made more contributions to both biodiversity conservation and local livelihood improvement. Elsewhere, where conservation projects were banned and villages land tenure rights blocked by the central government, where there was a deteriorating relationship with a hunting tourism company (such as Ortello Business Corporation); and where conservation financial benefits had stopped, the positive local perceptions of the conservation projects contributions to biodiversity conservation and local livelihood were found to be low.

"Institutions in Public-Private Partnerships for Natural Resources Conservation Management and use: A Case Study of the Northern Rangelands in Kenya." **Klerkson Lugusa, PhD, McGill University**

The study was motivated by the lack of documented empirical research on the effects of Public-Private conservation Partnerships (PPPs) as hybridized modes of natural resource management. Specifically, this study sought to characterize the partnerships in terms of their evolution, actors' interactions, and power dynamics, as well as examine their efficiency, effectiveness, and equity implications of natural resource governance. Four conservancies under the umbrella of the Northern Rangelands Trust (NRT) in the Arid and Semi-Arid Lands of Samburu County were selected for study.

The findings show that the existence of wildlife on communal lands outside protected areas is the key condition for creating these partnerships. Furthermore, the partnerships are characterized by various kinds of exchanges between stakeholders, such as the provision of political support, physical security, legitimacy, and finances. Additionally, the rolling back of the state under neoliberalism has led to the rise to power of the NRT whose influence has been magnified by ties with international organizations such as The Nature Conservancy. The results of cost-benefit analyses of the conservancies revealed their operational inefficiency. As a result, there exists an over-reliance on donor-funding, rendering the practice of conservation unsustainable in its current form. As support for conservation initiatives strongly hinges on a local community's acceptance and collaboration, the PPPs undertake investments in communal projects, such as the provision of physical security which is critical to

conservation initiative's success. Considerable effort is also geared towards shrewd environmental stewardship. However, in working towards their objectives, conservation PPPs are characterized by inequities in access, decision-making and outcomes. This finding, the author argues, is a result of the failure to fully acknowledge and incorporate the contextual aspects of equity.

Overall, the study suggests that the implications of public-private conservation partnerships have the potential to be effective modes of natural resource governance if: (i) the devolved county system of government takes charge to empower local communities more, and, as a consequence avert tendencies to assert dominance within partnerships by other stakeholders; (ii) a re-negotiation of favourable conservancy-investor partnership agreements occurs, as a way of financially empowering conservancies, thereby reducing the donor-dependency syndrome; (iii) more effort is geared towards ensuring a fair distribution of benefits to individual households.

Canopy of conservation study – Tanzania

About 95% of the 30 organizations interviewed rely on Donor funds to implement their activities, while the rest rely on donations and membership fees. Few tourism related organizations rely on fees linked with tourists' activities. Funds provided by the donor are used to implement multiple range of activities including rangeland management, water management, anti-poaching, community development, forestry, wildlife conservation, livestock, and pastoralism.

Results indicate that the average workforce of an organization is about 28 employees that includes permanent and committed volunteers while an average of 20 individuals are on fixed term contracts. Some organizations make use of interns with an average of one intern per organization. Organizations that use other arrangements for their employees have about 6 employees either as casual labours or those working on part time basis (e.g., women selling cultural artefacts).

Each organization has about 3 active conservation projects running at the time of data collection, with average budget of over TZS 50 million (approximately US$ 21,600) per year. Majority of organizations have 1-3 donors supporting their activities, few have over 7 donors. Only three (out of 30) organizations have assurance of indefinite funds from donors. Others have fund assurance range between 1 to 10 years. This indicates that, most of the conservation organizations around I-CAN project sites implement their activities at a low scale, focusing only on the location where they are found. None of the reviewed organization have activities at a landscape level. Having multiple donors also denote lack of focus on one priority area for most of the organization, because each donor comes with desired goals and objectives.

Relationships among organizations differ. Organizations that share similar needs and priorities work together and hence have strengthened relationships compared to organizations that only collaborate for the sake of support/assistance seeking. It is interesting to note that, most of the surveyed organizations have relationship with other organizations outside their location/region. Very few forged relationships among themselves but resulted from collaboration in implementing activities for advocacy, legal support, capacity building,

and information sharing. Collaboration appears to range from local to international organizations.

Canopy of conservation study – Kenya

The three key active I-CAN partner community organisations submitted their responses on the tool developed to provide a baseline of the organizational network of partners, collaboration arrangements and capacities that influence how these community based organisations work and the effectiveness of the linkages. Though the sample size was very small to make conclusions at a regional or national level, these institutions are 80% of the I-CAN project partners and they also represent umbrella institutions across key landscapes in Kenya with several grass-root entities, conservancies and indigenous movements. The agencies in the assessment are the South Rift Association of Landowners (SORALO), Amboseli Ecosystem Trust (AET) and Northern Kenya- Indigenous Movement for Peace Advancement and Conflict Transformation (IMPACT).

Highlights from the study are as follows:

Each of the agencies partner with between 5-10 Government agencies, 11-20 national NGOs and with over 20 Community Based Organisations (CBOs). Partnerships with International NGOs varied with the older agencies having more partnerships than the younger ones. In relation to this however less than 3 of the partnership with Government are secured with MOUs, whereas on average they have six MOUs with National NGOs but less than three (3) MOU's with CBOs.

The agencies identified the following as the most important role of the partnerships:

- International NGOs for funding
- National NGOs for capacity building
- County governments for implementation partnerships

The groups that benefit most from the activities of the agencies: Women groups were ranked highest, followed by CBOs, county govts, community and youth groups.

On the question of rating how successful the partnerships are, findings were as follows:
100% scored that the collaborations **moderately** assisted them to reach *organisational goals*
66.7% scored that the collaborations **moderately** assisted them to reach *network goals* an
100% affirmed that the collaborations have helped them **grow their networks for greater impact**.

On future priorities in addressing emerging challenges on land governance, the most important were listed as: addressing policy gaps, building capacities of conservancies to effectively manage conservancies and mechanisms to enable communities to take control of their natural resources which are commonly shared.

The agencies identified that leveraging resources and an enabling environment would improve their ability to respond effectively to the land governance challenges.

Developing prototypes for governance institutions

Developing prototypes for governance institutions, focused on three major design components that are subjects of ongoing theoretical and policy controversy: organizational structures, property systems, and livelihoods and incentives.

Rationale

This component looked at answering the question of which institutions involved in community-based conservation had proved effective in environmental governance and have stimulated commitment to values of what the project termed as "environmentality."

The partners in the I-CAN network agreed that indigenous communities have long had governance structures in place for biodiversity conservation and balancing this with local communities' rights over natural resources in their territories. Many pastoral and hunter-gatherer communities and territories are at the epicentre of rich biodiversity areas and have for generations co-existed with these resources. Hence the studies commissioned under this objective focused on examining these governance structures and conservation approaches drawn from traditional knowledge and systems of land tenure that have worked best in these landscapes and draw out the best practices and effective approaches that can be adopted in biodiversity conservation and strengthening of local rights over natural resources and livelihoods.

Main activities and findings

Developing prototypes for governance institutions – studies	Implementing Organization	Outputs	Gaps and Status
Contribution of Traditional knowledge to conservation of Loliondo I and Enguserosambu Community (Loliondo II) Forests – Northern Tanzania. (Pastoral Livelihood Support & Empowerment Programme (PALISEP), 2020)	Pastoral Livelihood Support & Empowerment Programme (PALISEP)	Research Report	The research was conducted by an I-CAN partner (PALISEP) with minimal research capacity that affected the quality of the research report. ACC conducted a write-shop to support PALISEP and included other Tanzania partners to provide help PALISEP strengthen their report
The Eramatare *Film* ((SORALO), 2022)	South Rift Association of Land Owners (SORALO), Kenya	Film	Complete
Case Study: Assessing the effectiveness of village land use planning: The case of Engaresero	Ujamaa Community Resource Team (UCRT)	Case Study Report	Complete

village in Northern Tanzania (Emmanuel Sulle, 2021)			
Maasai Livelihood and Household Sources of Revenue (Tiampati, 2015)	Michael Tiampati, Consultant, Pastoralist Development Network of Kenya	Baseline Report	Complete
Economic Analysis of Opportunity Cost of Pastoralism	Dr. Patrick Irungu, University of Nairobi	Research study	Complete

***Contribution of Traditional knowledge to conservation of Loliondo I and Enguserosambu Community (Loliondo II) Forests – Northern Tanzania*.** **Pastoral Livelihood Support & Empowerment Programme (PALISEP)**

In Tanzania, the community managed forests constitute a significant proportion of the land's cover. These forests are by far and large managed through indigenous systems and practices, and little is known of these practices and their significances to the indigenous peoples or to the conservation and protection of these forests. This study attempted to underscore the role of indigenous traditional ecological knowledge and their institutions on forest conservation, management and governance, and its implications for sustainability among pastoral communities in Northern Tanzania. Although some community-based forests do not satisfy the International Union for Conservation of Nature (IUCN) definition of a protected areas, in the Tanzanian case, forest reserves are recognized as conserved areas and forests in Loliondo have for a long time been forest reserves.

The aim of this study was to examine how the Maasai traditional practices that directly support and contribute to the conservation of Enguserosambu Community Forest (ECF) and further comparing it to its immediate neighbouring forest, Loliondo I forest, that is no longer managed by the local communities but by local government as a control example in the study. More specifically, the study aimed to list and analyse these traditional practices and how in their practicing them have led to forest conservation, management, and governance. Loliondo I forest was used throughout the study to show and prove the usefulness of Traditional Ecological Knowledge (TEK) in the governance and management of ECF conservation efforts. A table in Annex III shows the comparison between the two forests, ECF and Loliondo I, using various parameters that underscore the value of incorporating TEK in the conservation and management of natural resources.

Many of the Maasai cultural practices involve the use of the forest (also seen as a sanctuary or church for the community) and the biodiversity therein including forest products, are a critical part of these cultural practices, meaning that strict rules and regulations are put in place to ensure proper use of the forest to safeguard from destruction and contributed to a thick density and undergrowth of the Enguserosambu Forest compared to the Loliondo-I forest that is managed by the local government and is highly fragmented. In addition, their dependency on the forest as a dry season grazing area, provides a great motivation for communities to not degrade the forests. Resources required by individual community members is guided by the governance mechanisms in place that ensure selective and efficient

clearing of the forest undergrowth/trees. Further, communities' exhibit positive attitudes and perceptions in the conservation of these sacred forests.

Maasai traditional philosophy of conservation "Eramatare", **South Rift Association of Land Owners – Kenya**

Maasai pastoralism, the main social-cultural and economic preoccupation of this nomadic community is a constant balancing act that requires families to increase herd sizes and thereby maximize the returns from livestock in good years to generate a surplus for the inevitable bad years that are mainly because of drought, famine, epidemic diseases, among others. These returns are not simply the accumulation of livestock, but also the relationships and social networks that are significant factors in the survival of the family and their herd during times of drought, disease or raiding. The strategy consists of an optimum use of natural resources including animals and plants without jeopardizing their longer-term sustainability. This maintenance of an optimal balance between pastures, wildlife, livestock, and people in a highly uncertain and variable environment to meet both their immediate and future livelihood needs is a critical objective of Maasai pastoralism that is defined as ERAMATARE.

The I-CAN project supported the South Rift Association of Land Owners (SORALO) to document the Eramatare concept through film. The ERAMATARE film demonstrates the interplay between people, livestock, and nature as a pillar for the canopy of conservation/the basis of conservation in the Maa community. The film entitled***, "ERAMATARE: People and nature management build around the rhythm of the African Savannah Rangelands,"*** endeavours to demonstrate the similarity in the movement between people, livestock and wildlife during both hard and good times and the reasons behind the setting aside of late dry season grazing areas, the value of reciprocity and mobile free ranging and how wildlife and livestock interact freely together among other aspects of ERAMATARE. The films' setting is Kenya's South Rift region that forms one of the areas with the highest concentration of large mammals in the world and an area that is inhabited by the Maasai pastoralists living side by side with the large herds of wild animals. The film seeks to demonstrate the way people, livestock, wildlife, and the environment respond to the vagaries of nature and the similarities between livestock and wild animals' responses, the fluctuations in numbers and ultimate linkage between them. The film also endeavours to showcase the difficulty of untangling the people, wildlife and livestock in the savannahs and therefore justifying the reality that there are more wild animals outside (within community dispersal lands) than protected areas in Kenya because of this intricate relationship. Due to the complexity of ERAMATARE concept, the film attempts to simplify its approach for ease of understanding by the audience while at the same time not to losing its intricate meaning and purpose. The film identifies characters with all the elements that constitute ERAMATARE. The human character and his/her family unit provide the lenses through which the audience can appreciate the socio-cultural, economic, and ecological system consisting of a unique interactive relationship between people, livestock, and wildlife, land, and range resources such as grass, shrubs, water, and salts. Further, through the day-to-day life of the character, the key elements of planning, decision making and use of livestock herds and wildlife, land, and range resources as well as mobility shall be brought out in a compelling way of "showing by doing" through the character's daily dilemmas and successes both as an individual and collectively with others as family and community. The film also lays emphasis on mobility in the concept of ERAMATARE to showcase the significance of this land, resource, and ecological management strategy in

the context of sustainable utilization of space and scanty rangeland resources. In addition, the film extrapolates key features of ERAMATARE that have over the centuries contributed to building Maasai pastoralists' symbiotic relationship with wildlife. The film unravels the role that ERAMATARE plays in building resilience against risks and shocks associated with droughts and diseases. At the same time, it underscores the fact that ERAMATARE forms the foundation of the dramatic sceneries, landscapes, and armies of wildlife in pastoralist rangelands as it tolerates and preserves the natural environment as a pillar of its existence. Moreover, it underpins the co-existence between people, wildlife, and livestock by clearly demonstrating the complimentary interactions between humans, wildlife and livestock that has ensured livelihoods, production as well as rangeland conservation and biodiversity. The film aims to showcase in a compelling way, the attributes of ERAMATARE as a holistic system that has ensured the pulsating rhythm of nature in Kenya's southern rangelands. The film is yet to be released to the public.

***Case Study: Assessing the effectiveness of village land use planning: The case of Engaresero village in Northern Tanzania*, Ujamaa Community Resource Team (UCRT)**

Village land use planning remains a critical policy and implementation issue in Tanzania. This is because, although the protection of customary rights is provided for in the country's land laws, there continues to be weak recognition of customary and communal land rights in practice. While there are numerous studies exploring land governance matters in Tanzania for many years, very few or none have focused on assessing the effectiveness of village land use planning, administration and management to document and draw lessons learned from such an important planning process. Using the case of Engaresero village in northern Tanzania, this study assessed the effectiveness of participatory village land use planning in practice. It examined the extent to which the implemented village land use planning has affected socio-economic, cultural, and environmental and governance aspects of the area.

As the demand for land heightens, especially for large-scale land-based investments by local and foreign companies, securing local people's rights to access, control and own land is paramount, as land is an essential asset for many rural communities in sub-Saharan Africa.
Village land use planning (VLUP) is provided for by the Tanzania Land Use Planning Act No. 6 of 2007 and the Village Land Act of 1999. Both Acts give village councils (VCs) powers to plan, manage and administer all lands within their village boundaries. Sectoral legislation such as Tanzania's Environmental Management Act of 2004 directs and obliges every village community to practice the sustainable management of the resources within its village. The process of village land use planning is guided by "Guidelines for Participatory Village Land Use Planning, Administration and Management" (NLUPC, 2013), currently under review. VLUP is, therefore, central to any social, economic, environmental/ecological, and institutional development of any village. This is because land use planning affects every livelihood and any developmental project that entails the use of village resources – land, water, forest, pasture. It is the village land use planning which guides present and future development of villages' settlements, communal grazing, and its landscape management as well as the allocation of land for other important public services.

The Case Study: Engaresero Village (Background)

Engaresero village was officially established as a village in 1995 and was registered in 2006. It is largely occupied by the Maasai People. It is located within the wider Lake Natron catchment and adjacent to 'Oldonyo-Lengai'– the Mountain of God. Lake Natron area has a unique habitat and landscape that is supported and maintained through traditional knowledge and practice such as seasonal traditional grazing calendars and resource management structures. The communities that live around Lake Natron Basin are largely Maasai and Batemi (Sonjo). Ngaresero Village has 104,549.58 hectares and is about 118 km from Ngorongoro district council's headquarters in Loliondo. The village comprises of four (4) sub-villages, namely Laparkashi, Monic, Ndalalanina, Naiborgoso (Engare-sero VLUP Report, 2016).

Land use planning in Engaresero village combined with the presence of Lake Natron meaningfully contributed towards the development of tourism initiatives in the wider area alongside the Lake area. As a result, tourism activities such as camping, birdwatching, nature – walking through the landscape, hiking the OldoinyoLengai Mountain, and visiting Maasai cultural bomas as the waterfalls are growing. Local youths were employed as the service providers in local lodges and campsites while women were engaged in making and selling of souvenirs to tourists and other Tanzanians visiting their areas for other social and economic activities including business trips. The residents of Engaresero benefit from ecotourism either directly through employment opportunities and/or indirectly through improved social services and infrastructure. Nonetheless, the opportunities in tourism remained few compared to demand from the communities as communities are only involved in low paying activities in the tourism value chain even though they create items and have cultures that are deemed of high value and inhabit regions with touristic attractions. The common opportunities for communities include jobs in local lodges, tour guiding and making and selling local handcrafts to tourists.

As a result of the VLUP, villagers in this area, in collaboration with various stakeholders, over the years have protected this crucial ecosystem. As a result, the Lake Natron catchment area remains the largest breeding site for lesser and larger flamingos in the world. The catchment remains the most reliable wetland area for the large dry landscape in Maasai savannahs. The area attracts not only flamingos and wide variety of birds, but it is also the habitat for wildlife that include giraffe, antelope, zebra, warthog, buffalo, wildebeest. Engaresero village and the entire Lake Natron catchment, forms an important ecosystem and landscape that connects not only the Ngorongoro Conservation Area (NCA) to mountains of Oldonyo-Lengai and Monduli but to the greater Serengeti ecosystem on the west. Given the importance of the Lake Natron ecosystem, the government of Tanzania established mixed categories of conservation areas that include a game control area (GCA) and the Ramsar Site – all overlapping with the village land in this area. Unlike other conservation area categories, the GCA in this area does not restrict communities to perform their livestock grazing and other human activities in the area. Despite these categories of conservation in place, the conservation and management of natural resources in the area is largely done by communities using their customary and statutory structures and legislations, and with some forms of support from relevant district and central government authorities, private sector, and civil society institutions.

One of the important observation in the village was signs of positive restoration efforts in some degraded soil, vegetation, and habitats. Existing lodges and small camps in the area were implementing various efforts to restore degraded land in their areas of operation.

VLUP has enabled women to access and own land. Women interviewed during the study mentioned that they now have freedom over land as there are rules and regulations that are favourable for both men and women on land and hence no longer oppressed by the patriarchal system that denied women access and ownership of land.

Another important benefit of the VLUP is that it is designed and implemented in ways that integrate and protect the existing pastoralist cultural values and other natural resource uses in the village. The current VULP despite the existing minor complaints among the users, seemed to have incorporated a large majority of interests for all. Pastoralists appreciated the high survival rates of cattle after the implementation VLUP. Moreover, they were able to trade cattle and take their children to school as well as paying their tuition fees and meet other school requirements and household responsibilities.

What makes the Engaresero VLUP unique and successful is largely the fact that the whole process was informed by existing customary leadership (Ilaigwanak) and statutory structures (village assembly and village council), and every villager participated fully and in a meaningful manner. This was followed by the implementation of VLUP which was governed in transparent and accountable ways by responsible customary and statutory authorities. In this manner, to date, villagers participate meaningfully in decision-making processes and able to hold leadership accountable for decisions and use of resources including revenues generated from investments in tourism.

While the overall picture was that the VLUP works, there were some voices of concern. Some key interviewees had pointed out that there were some levels of contestation between the elected village government leaders and customary leaders who are normally highly respected among the Maasai people. One of the interviewed Ilaigwanak (customary leader) claimed that the statutory authorities or elected leaders undermine their power and that they are not fully engaged in decision making processes. He further asserted that village leaders feel superior to them. This is a typical power struggle in parallel administrative paradigms between the traditional and statutory structures of that need to be regulated and mediated by different power brokers such as the Non-Governmental Organizations.

<u>Maasai Livelihood and Household Sources of Revenue,</u> Michael Tiampati (2015)
Study was conducted in Southern Kenya and Northern Tanzania - which are cross border regions.
The main drivers of Maasai pastoralist income and livelihood vulnerability are policy and legal frameworks, threats to the pillars of pastoral production system and climate variability. This study concludes that there is need for Kenya and Tanzania to domesticate continental and regional policy frameworks for pastoralism as a foundation for generation of policies and legal frameworks that appreciate, value and support pastoralism not only as a source of income and a livelihood system but also as a key pillar of economic development based on the sector's contribution to the two countries Gross Domestic Product (GDP) where the sector accounts for at least 14% of the GDP in Tanzania and about 10% in Kenya. In addition, the pastoralism

sector provides vital social, cultural, and ecological services that have ensured the survival and thriving of fauna and flora and a vibrant culture that is the selling angle for the wildlife-based tourism industry – a key contributor to the economies of the two countries.

Strengthening attitudes of "Environmentality."

Rationale: Institutions can critically influence individual motivations for and dispositions towards conservation behaviour that impacts on human-environmental relations. Following the leads of institutions such as the Wildlife Clubs of Kenya and The Greenbelt Movement, led by the late Nobel Laureate, Wangari Maathai, the project aimed to conduct research that sought to understand communities' perceptions and attitudes with various natural resources, policies governing these natural resources, livelihoods, and governance over natural resources. Understanding these attitudes would then enable the project package research outcomes to affect the outlook on environmental resources of the diverse audiences whose views and practices matter. During the life of the project, ACC was keen to disseminate research outcomes to communities, however, packaging of these outcomes did not take place but will be included in ACC's future work.

Main activity and findings:

Pastoralism, Wildlife, Land-use changes, and Institutional governance in Kenya: An assessment of attitudes, perceptions, and interactions of Maasai communities in four I-CAN sites (Amboseli, Laikipia, Magadi, Narok) – Attitudinal Study (Bhanderi, 2018)

The study focused on three areas to assess the communities' attitudes in the I-CAN sites of study:

1. Perceptions on livelihood and land use changes
2. Attitudes of communities towards wildlife and interactions between them
3. Perceptions and attitudes towards conservation organizations and their impact on conservation

The number of participants in the survey included 59 individuals in Amboseli, 77 in Laikipia, 122 in Magadi and 111 in Narok. Thus, a total of 369 individuals from the Maasai community participated in the study. Of the total 369 respondents interviewed during this study, 70.7% of the respondents were male while 29.3% were female.

Perceptions on livelihood and land use changes

The study showed, and in consensus with other I-CAN study reports, that the main source of livelihood in study sites and in most of the households include traditional livelihoods such as cattle, sheep, and goat rearing as well as keeping other domestic animals like donkeys and poultry. As a result, pastoralism (69.9%) remains as the main livelihood of the people in the study areas, followed by mixed farming (agro pastoralists) ranking second with 15.8%. Respondents within the 19-38 and 39-58 age group kept large herds of livestock in all the study sites with 47.3% and 35.8 % accounting for cattle, 52.6% and 35.2% for sheep and goats, respectively. Those in communal lands have the largest number of livestock by category, in all study sites apart from Narok. However, introduction of other livelihoods like crop cultivation, agriculturally based enterprises (poultry keeping, beekeeping and sale of honey) and leasing out land for crop cultivation were reported to constitute a substantial percentage.

Regarding this research focusing on community-based conservation, it is interesting to note that tourism is not featuring as a main occupation among the respondents of the four sites.

The reported herd dynamics in these study areas show that majority of the respondents in Amboseli (89.8%), Laikipia (97.4%), Magadi (99.2%) and Narok (98.2%) areas reported a declining trend in household herd sizes. Outflows were more than inflows in all livestock types i.e., an aggregate of 83.8% outflows compared to 16.2% inflows. Sheep and goats had the highest turnover followed by cattle, camels and then donkeys in all the study sites. For all the different livestock purchases accounted for the greater proportion of inflows followed by births. Mortalities accounted for the greater proportion of outflows, followed by sales, consumptions, predation by carnivores among other factors like diseases and rustling. Those who reported a declining trend in herd size attributed it to frequent droughts (41.6%) and high rate of diseases (36.2%). The few who reported an increase in herd size attributed it to accumulation of more livestock through purchases as well as through reproduction. Changing land use (with the decline of large communal lands due to land sub-division and sale of land among the Maasai community that also limits the movement of herds) (On average, 91.2% of all the respondents said that land subdivision has reduced the livestock herd sizes, with 4.7% reporting that it had no effect on them) was noted as one of the key reasons for reduced herd sizes. Loss of pasture and drought were also noted as important reasons for reduced herd sizes. Herd sizes decrease due to drought were highest in Amboseli, followed by Laikipia. Loss due to diseases was the major reason for Magadi for decline in herd size. Despite reported reduction in herd sizes and the challenges that contribute to this decline, the study shows that pastoralism continues to be the choice and most important livelihood practice among the Maasai.

On land tenure systems, 72.0% of the respondents preferred communally owned land tenure system compared to 28.0% respondents who prefer privatization of these lands. This was evident in all the sites except in Narok where most of the respondents opted for private land ownership. The respondents reported that a large proportion of land under collective access regimes in these sites is mainly suitable for livestock where they use extensive production systems and have historically practiced nomadic pastoralism. However, they have undergone a period of state-led interventions in land tenure reforms, provision of public goods and interventions in production and marketing systems; and currently they face different pressures to their collective land tenure regimes including the alienation of communal lands for private use. The respondents in the study sites reported that they face considerable challenges arising from shifts in land tenure policy from communal to individual landholdings. Many pastoralists have thus diversified into cultivation, wage labour, and small businesses to supplement their income.

Attitudes of communities towards wildlife and interactions between them

The elephant was reported as the most problematic species by 21.2% of the respondents followed by the hyena (16.8%). The buffalo was considered as the most problematic species in the wet season (2.43%). The respondents gave varied reasons as to why the species were deemed problematic which include: a) that some wildlife attack or kill people and livestock (60.0%), b) they destroy farms and forests/habitats (22.5%), c) they prey on livestock, d) transmit diseases to livestock; and e) competing with livestock for pasture. This usually happens during both the dry and wet seasons. The top 5 problematic species are the Elephant,

Hyena, Lion, Buffalo and Cheetah and account for 69.4% of Human-Wildlife Conflict (HWC), illustrating that a few species are considered particularly problematic while the rest are a minor threat.

The paradox exists in that the problematic wildlife species are also viewed as useful species when it comes to tourism as they generate income for communities by revenue-sharing from parks and reserves and ecotourism activities. Respondents viewed species such as the elephant, lion, giraffe, wildebeest, zebra, and rhino as the most useful species.
The perceptions of the respondents on wildlife using the same pastoral lands with livestock brought about varied views. 35.0% of respondents thought that it is a bad idea to share the pastoral areas with wildlife since as wild animals attack both people and livestock. 19.9% of the respondents said that livestock can co-exist with wildlife in the pasture lands. Most of the respondents from Laikipia (50.7%) and Narok (48.1%) had different perceptions and said that wildlife should be restricted from pastoral areas as this will lead to reduced human wildlife conflicts. Most respondents recognized that there was value in having the wild animals but benefits rarely trickled down to them as individuals. To the pastoral communities, conservation of wildlife is now being viewed as an impediment to their expansion of crop areas and increasing livestock numbers.

High levels of Human Wildlife Conflicts (HWC) were experienced post the Kenya 2009 drought according to the respondents (34.2%). This was because of encroachment of the communities in the parks has risen to high levels due to frequent droughts experienced and hence making it necessary for pastoralists to graze their livestock in the parks. The 1990 – 2009 period had lower rates of conflict (22. 8%), attributed to better climatic conditions (rain) and availability of enough pastures and water for livestock. The high human wildlife conflict post 2009 was also attributed by the respondents to an increase in human population (28.5%). Furthermore, land use changes and subdivisions contributed to the increased conflicts as wildlife corridors are encroached or blocked forcing wildlife to navigate through human habitats.

Respondents also reported that the increase in human population has seen the spread of agriculture leading into encroachment of more marginal lands which have been wildlife habitats. The settlement of people into these habitats has led to an increased demand for resources that are also a necessity for wildlife, e.g., water and pasture. Also, setting permanent residences near water resources prevents wildlife from accessing water, thus setting scenarios for conflicts. Local communities facing natural pressures like droughts and natural disasters tend to migrate into other areas where resources could be obtained, which unfortunately often happens to be occupied by wildlife, a precursor for conflicts.

Respondents reported that the traditional strategies for resolving HWCs that existed in pastoral communities have gradually eroded. The extension of the designated protected areas and forced evictions and restrictive access to resource use by local communities from the areas, coupled with incompatible land use practices have exacerbated the problem.

The respondents suggested some possible solutions for HWCs which include:

a) implement preventive measures that can avert or minimize the risk of conflicts arising between people and wildlife.

b) creating protective areas like conservancies and parks to, physically separate people and wildlife using barriers.
c) creating awareness among the local communities; and
d) changing the attitudes of affected communities towards wildlife and the conservation institutions. This can also be done by provision of adequate compensation to victims of the conflicts as well as sharing revenue generated from park entrance fees with neighbouring pastoral communities as a way of encouraging those communities to take part in wildlife conservation.

Perceptions and attitudes towards conservation organizations and their impact on conservation

The study shows that 38% of the respondents thought of government and conservation institutions as having had minimal or no impact on the communities in terms of resource governance. Magadi respondents (60.0%) felt that the government has had no impact in terms of resource distribution and sensitization on benefits of wildlife. On the other hand, some respondents reported that there are institutions that support resource governance especially in Laikipia with (94.8%) and Narok (76.4%). Some of the institutions mentioned that provided support for resource governance were Kenya Wildlife Service (KWS), African Conservation Centre (ACC), Big Life and South Rift Association of Land Owners (SORALO). Other respondents reported that some of these institutions have created awareness on the issue of poaching as well as educating and employing local people.

It was noted in the study that current government policies on the harmonious relationship between people, livestock and wildlife were not supportive according to the local pastoral communities/respondents (48.7%). 32.5% acknowledged that the policies are helpful to them (supportive) with a further 11.3% saying that they are not aware of any government policies to govern the relationships. In Narok (13.0%) and Laikipia (11.3%) were the two sites that the respondents approved support for the current (existing) government policies on harmonious co-existence. Some respondents said that the policies are there but are not being implemented at all.

Influencing conservation policy and policymaking from the conservancy and community levels to national and international policies.

Rationale

Wildlife sanctuaries and conservancies are usually lands set aside within communities for protection of biodiversity whether through local agreements, leaseholds, easements, or sale. In some cases, sanctuaries and conservancies include and benefit livestock health and production as well as wildlife conservation. The relative weakness of state-level governance over natural resources in East Africa, combined with the devolution of power to local governments and communities in the region provided an opportunity for communities to engage with policies both at the local and national levels, particularly in the case of Kenya that was undergoing land policy reforms at the start of the I-CAN project.

Main activity and findings

Overarching policy issues concern pastoral land rights, resource governance in rangeland areas, and conservation. Key questions identified by partners include:

a) the design and now implementation of the Community Land Act 2016 in Kenya, under which previously undivided Group Ranches and other conservation areas are governed.
b) the outcomes of creating Wildlife Management Areas (WMA's) in Tanzania, balancing local and national authority in the management of Tanzanian conservation areas.
c) the outcomes for conservation and livelihoods of sub-dividing Group Ranch lands in Kenya.
d) the adjudication and mitigation of armed and legal conflicts over land that impact pastoral livelihoods and conservancies.

These policy issues informed the design of activities and research, research presentations in meetings, reports, and inputs to the policy processes by I-CAN partners and organizations. ACC's grant investment under this objective focused on supporting five I-CAN Kenya partners to engage and participate in the process of the now Community Land Act. At the time of receiving the IDRC grant, this presented an opportunity to engage in policy dialogue on communal land issues in Kenya.

Five I-CAN partners under the Land Working Group in Kenya were provided small grants to participate in the formulation and review of the Community Land Bill through advocacy and lobbying efforts. The assessment made by the lead advocacy organization on behalf of Non-Governmental Organizations in Kenya and an I-CAN partner, Resource Conflict Institute (RECONCILE), estimated that 70% of issues partners advocated and lobbied for were incorporated in the Community Land Act. RECONCILE was then supported by ACC to participate in the follow up process of developing the rules and regulations of the Community Land Act (Community Land Regulations) and published a booklet to guide communities on this process. The ACC-IDRC grant did not focus on the outcomes of creating WMAs in Tanzania, however, it supported two studies that provided evidence for the use of Traditional Ecological Knowledge (TEK) in community-based conservation and land use practices that could be used for advocating the need of TEK's incorporation in conservation management practices.

Further, after the adoption of the Community Land Act, partners were tasked with awareness creation in their communities to enable them to understand the implications of the new law on their land tenure. To ease the understanding of this new Act, Resource Conflict Institute (RECONCILE), a partner in the project, synthesized the Act and shared a simplified version with partners in Kenya. In addition, RECONCILE was also supported to participate in the process of developing the Community Land Regulations.

An I-CAN partner in Kenya, the Indigenous Movement for Peace Advancement and Conflict Transformation (IMPACT), further conducted a training of Samburu County Government Members of County Assembly (MCAs) on the Community Land Act which resulted a year later for IMPACT to be the first organization in Kenya to support communities register their communal lands under the Community Land Act and receive their titles.

Further, IMPACT conducted a quick study on the land issues in Laikipia due to a sharp increase in land and natural resources related conflicts within Laikipia County in Kenya. IMPACT works with the communities in North Laikipia on land Rights, land ownership issues and user rights. They identified important variables and collected data on sustainable rangeland management and recovery, water availability and management at community level, and security. IMPACT was supported with a small grant to hold a series of 8 community meetings in Makandura, Aileya, Chongoti, Segera and other parts of Laikipia to discuss land issues that have been behind violent clashes amongst communities in Laikipia.

Training a new generation of academics and leaders.

Rationale

To support a new generation of graduate trainees studying both at Canadian and East African universities to pursue graduate degrees through the project and undergraduates to support in data collection and analysis of various studies with the goal of having these experiences inform and define future professional paths. In addition, it was to cultivate the concept of citizen science by training community activists (including youths) in research methodologies that included formulating research aims and methods, interviewing, participant observation, household surveys, participant videos, storytelling and considering how knowledge generated can be translated into action.

Main activities and findings

I-CAN supported the training of 22 students receiving their tuition and research support in East Africa universities. while those in Canadian universities were funded under the McGill SSHRC component for their tuition with ACC covering the travel expenses. ACC-IDRC funds that covered up to US$2000 for 3 PhD students and 1 master's student. This strategy enabled a significant number of students to benefit from the fund. Students that had completed their master's and PhD coursework and had limitations in securing funds for research, were prioritized.

Several studies were completed and are in the process of completion from master's and PhD students. Due to the COVID19 pandemic, several learning institutions were closed and those that quickly adopted to online learning faced enormous issues with students not having access to the internet. The priority for online learning was also given to graduating students hence many students awaiting feedback on their thesis' have had to wait, some to as late as mid-2021.

I-CAN Students' Testimonials Summary

I-CAN scholarship was of immense assistance to the beneficiary students in that it supported learners through their studies at graduate and undergraduate level. From the testimonials shared it harbored many benefits apart from the financial support provided as the students appreciated the link and strong ties to practitioners in the wildlife and conservation spaces within East Africa and other students across the globe. This was an exciting experience as there was exchange of knowledge as well as learning of lessons on biodiversity conversation that are relevant to the current global challenges.

The beneficiaries appreciated the supported accorded by African Conservation Centre and the I-CAN partners in enabling them to conduct their research as well as the target communities in East Africa landscaped who participated actively in the research process. They hope that their research findings would be a value add to communities as these findings would be shared both locally and internationally to inform policymakers and stakeholders, educate and trigger discussions on the way forward for biodiversity conversation.

Other training and learning opportunities

In addition to supporting academic degrees and research, ACC supported I-CAN partners, staff, and I-CAN scholarship recipients (students) to participate in relevant workshops related to the thematic areas/objectives of the projects as platforms to gain and share knowledge. In some of the workshops, these partners conducted trainings in communities. Additionally, ACC facilitated workshops to develop the capacities of partners and communities in acquiring advocacy, storytelling, and research skills and writing.

Trainings/conferences	Purpose and Skills	Outcomes
Pathways Kenya 2016: Human Dimensions of Wildlife Conference	This conference and training program was designed to address the myriad of issues that arise as people and wildlife struggle to coexist in a sustainable and healthy manner. ACC staff together with an I-CAN partner, SORALO trained a group of wildlife managers from all over the continent on engagement of communities in conservation, monitoring tools and research initiatives.	The 20+ attendees of this workshop were trained on field ecological monitoring tools and exposed to the Community resource assessors approach for monitoring in conservancies
Centre for Indigenous Conservation and Development Alternatives (CICADA) conference 2015	Conservation Governance: "Are communities interests protected in the context of internationally funded conservancies? Case studies from Northern Kenya."	Exchange learning between leaders of EA community organizations and those from other countries
Annual Rangelands Congress, 2015 and 2016	The Rangelands congress seeks to bring together the voices and views of land owner associations, experts, government and county governments, national and international agencies to highlight the status, threats and opportunities in the rangelands and chat the way forward. The Congress provided a knowledge	Landowners in rangelands of Kenya gathered as a coalition and a platform to articulat their common issues and recommend priority actions.

	platform for the I-CAN project to disseminate data and findings from research activities, it also provided a networking platform for partners in the project and opportunities for collaborations with other development partners.	
Advocacy and Storytelling Workshop (all I-CAN partners from Kenya and Tanzania) 2018	Using the research outcomes from the I-CAN project to advocate and lobby decision-makers and influence necessary policy changes critical in their communities.	A booklet on story telling produced. Partners such as SORALO are using the knowledge gained to train their staff on how to package research outcomes for dissemination in their communities and to lobby local governments.
Research Assistants/Enumerators (Kenya and Tanzania) 2017-2021	To assist in the collection of data, data entry and data analysis	One of the research assistant from Magadi has been hired full time by an I-CAN partner organization because of the skills gained in collecting data in this region.
Students Training workshop on Social and Economic Implications of Community-Based Conservation (Research themes, Field Methods, Problems and Approaches) 2019	Research methods training workshop. The objectives included research themes pursued by graduate students in the East African institutions, approaches to landscape analysis, livelihood studies and governance systems involved in pastoralism and conservation.	Emerging young scientists have better field research skills.
Write-shop in Tanzania 2020	To support I-CAN partners in the writing and finalizing of the study "Contribution of Traditional knowledge to conservation of Loliondo I and Enguserosambu Community (Loliondo II) Forests – Northern Tanzania."	Partners were learnt new skills for synthesizing research information for public dissemination. The finalization of this report stalled for over a year due to the lack of skills in writing.
I-CAN Scholarship beneficiaries (graduate students) Webinar: "Youth Inclusivity in Conservation Research"	To showcase I-CAN's support of the youth in Conservation Science. Provide a platform for graduate students to present research findings relevant to themes related to conservation.	The 8 students shared their research process and products with the audience and benefited from engagement with senior experts in their field.

Overall Assessment, Reflections and Recommendations

The I-CAN project's intended objectives continue to remain critical and relevant considering today's challenges in conservation, land tenure and pastoralism and the new wave of land sub division that is sweeping through the landscape. The research conducted by I-CAN partners and students provides opportunities for the global community to either further investigate findings and outcomes or implement especially community-led initiatives and proposed solutions emerging from the research.

Challenges and lessons learned

Project design and its influence on the partnership: Challenges experienced

As was mentioned earlier in this report, one of the initial elements of originality for the I-CAN project was the depth and breath in the partnership approach. At the start of the project, over forty (40) research institutions collaborators and conservation/development organizations across Kenya, Tanzania, Canada, U.S.A, Netherlands, U.K and Germany were anticipated to participate in the project. The project then set up thematic areas so that each organization/institution would decide areas of interest and importance to their mission. However, right from the onset several challenges arose in the project development process resulting mainly from a lack of clearly defined roles and responsibilities, the rift in focus of the key elements that the project should focus on (pastoralism, land tenure and community led conservation) which ultimately affects resource allocation and use. It would be important to note that the rift in project focus was not necessarily that those areas were outside the initial envisioned goal of the project but in how these critical areas were to be prioritized in terms of resource allocation and their points of synergy that ensures the project's uniqueness and brings about innovation to the myriad of challenges in conservation, pastoralism, and land tenure. The four I-CAN objectives had set out an opportunity for all the aspirations of the project to be met and fulfilled.

Critical aspects of the project design were missing. The collective envisioning was not done with all the identified institutions and collaborators but with individual partners and this caused challenges in the project when expectations that had been communicated, were seemingly not met. The inception workshop in December 2014 intended to ensure the involvement of all partners and through the methodology of setting up working groups to ensure partner engagement but these groups also faced challenges. For example, once the working groups agree on priority areas and set up a budget, who would take lead? How would the lead organization involve other partners from their working groups? Who was responsible for monitoring and reporting? How would partners in the working group from other landscapes be engaged and involved? How would the research outcomes from another landscape be relevant to other partners in different landscapes? These and many other questions were not discussed in the set-up of working groups posing a challenge at the implementation stage and this led to discussions and negotiations dragging on for close to four years into the grant about everyone's role and resources available to them. Individual institutions and collaborators in the East Africa region had imagined that the grant would support their organization's interests and programs that were related to some of the I-CAN project objectives as opposed to collectively finding out how they could each play a role in

contributing to the I-CAN project goal. Unfortunately, this led to partners seeing ACC's oversight and coordinating role as a hinderance/interference in meeting their expectations further exacerbating already existing conflict.

The logistical breakdown between the academic interests of universities and practical Community Based Conservation (CBC) approaches did not fully align with ACC's objectives to construct and advance CBC and use the emerging issues as a basis to inform the research topics that should be studied on the status, progress, and new directions of CBC. This was perceived as a challenge early in the project but, was not easy to reconcile

The objectives were also not aligned to the budget developed such that even with the significant project resources provided, there was a lack of clarity in what inputs would be required for each objective and then have the budget designed to fit into this structure. The budget had broad budget lines and in the follow-up sub budget lines, not aligned to objectives. This required that for each resource request made, to assess where costs would be charged to. A good example is that even though the working groups was the methodology adopted to implement project activities, there was no specific allocation made for working groups and this would often be a source of contention as partners assumed that resources had been budgeted based on working groups.

Governance Structure

The governance structure which included the steering committee, I-CAN Advisory Board, and the Project Management Committee (PMC) did not have Terms of Reference written out that provide guidance on decision-making, mitigating and addressing conflict, resource allocation, research focus, guidance for student research, project monitoring and auditing and collectively keeping all partners focused on the shared goal and objectives that were envisioned at the beginning of the project.

The linkage, collaboration, and synergy between the SSHRC and IDRC grants was often not clear and not agreed upon at the inception of the project. A critical question here was, "at what point were the two lead organizations supposed to integrate and merge to meet the overall project goals?" An example is for students from Canada financed by the SSHRC grant and conducting research in East Africa sites. The assumption was that the East Africa partners through ACC would receive information prior to the student's engagement in the region to better understand their research queries and how they speak to the overall I-CAN goal. Often, the communication would take place directly from the Canadian academic institution and the local partner and ACC would be left out of these conversations. The Capacity Working Group in East Africa also did not involve the Canadian institutions in the student scholarship activities, and this created a dichotomy in these processes. The structure of engaging students was also not integrated into overall objectives. These engagements would have provided an opportunity to strengthen the link between the two grants. Further, this made the collective writing of the IPASS mid-term report complex and challenging as the two lead institutions had not collaborated in most of the project activities.

Research design and methods

The agreed research interests and methods were through working groups for conservation/ development organizations in the I-CAN partnership with the emphasis of drawing from the overall I-CAN goal. These would then be submitted to the Project Management Committee (PMC) for deliberation for its relevance in meeting the project's objectives. This process was often not followed due to the challenges raised in the preceding sections but also because of the time difference with the North American partners which contributed to poor communications between the partners. A missed opportunity was in designing and developing research questions for students that were recipients of I-CAN scholarships in East Africa. As a result, students would be selected based on whether their research proposals could be retrofitted to address the I-CAN objectives. A better approach would have been for the PMC to have drawn research questions from the four I-CAN objectives as part of the project design and used this for the scholarship call for applications and would have provided for the necessary academic rigor (beyond their own academic institutions) and oversight for the students.

ACC did not have an in-house capacity (for example a Research Coordinator) to provide academic rigor, oversight and review the research work being conducted by students and this led to a lapse in following up the various studies that were being submitted. This role was played by the Capacity Working Group who had some members drawn from the I-CAN academic partners, but it was insufficient as members could not follow-up with students beyond their own academic institutions and some of the members also held significantly senior positions in their institutions and hence had little time to conduct any follow-up of students recruited under the I-CAN partial scholarships. Towards the end of the project, effort was made by both McGill University and ACC to support students in refining their research ideas, methods, and papers through the Student Methods Workshop in Nairobi. Several students had completed their papers at this time, but it was an important learning and dissemination workshop.

Further, the partial I-CAN scholarship meant that the project could only have minimal influence on the student's research topics and methodologies. 90% of the students funded with the partial research scholarships had already began working on research topics with their academic institution's supervisors and so their first obligation was to their institutions. This sometimes led to a disengagement of the students and the project as student's mainly focused on fulfilling requirements to complete their papers to meet required standards for graduation and the final synthesis of finding relevant to the project, were few and scattered. The student webinar that ACC organized in January 2021 sought to address these gaps. Tools and templates with clear and specific questions on the students' theses contribution to the project's research problem. This helped the students begin aligning their research findings with how they might contribute new knowledge or key actions to the I-CAN project.

Communication

The other critical aspect not intentionally addressed by the two lead organizations, was how communication would happen within the project on the different levels and/layers. Communication guidelines and Grievance Mechanism would have been useful to mitigate the issues and challenges raised in this report and provided a platform for grievances to be logged and addressed.

The partnership worked in silos and even though working groups were set up to facilitate and improve communication, collaboration, and learning, this did not take place effectively. However, one of the working groups (Economics), even though had the same challenges, remained the only collaborative group in the partnership with the Kenya, Tanzania and Canadian partners involved.

Non-compliance of grant agreements

As working groups prioritized activities for each of their thematic areas, ACC provided grant agreements to organizations that were assigned various elements of implementation. These agreements were also drawn for students awarded scholarships from the IDRC grant and consultants hired from within the I-CAN partnership. These agreements had clear deliverables, budget, and timelines. However, more than 40% of these agreements were non-compliant in financial and narrative reporting or delivering project deliverables. Several grant agreements had to be terminated, and the work assigned to other partners. All the students funded for research received 80% of the research grant but some of the students are yet to complete their research especially those who received their funding a few months before the COVID19 global outbreak hampering their ability to access field sites. However, outputs of their research are still expected and will be submitted to IDRC even post project implementation.

The other observation that contributed to non-compliance is because the focal point persons in organizations under the I-CAN partnership, were either Directors or senior managers in their organizations. These were high level individuals with other priorities within their institutions and because the I-CAN was not providing significant resources that are moving their institutions forward or compensating for their time and expertise, there was a neglect and relegation of I-CAN priorities and activities, acting on them only when there was push from ACC to account for resources disbursed to them. This was also the observation picked by ACC for consultants who were hired from the partnership, and some failed to deliver fully on their terms of reference.

Recommendations

As the two lead partners (ACC and McGill University) had obligations to each of their respective donors but were still required to collaborate under the IPASS umbrella, it would have been useful to have an overall Program/Partnership Coordinating Officer who works across the institutions (and at the SSHRC and IDRC - IPASS level) whose responsibility was to facilitate and ensure cohesiveness and a pathway of some common goals in the two funding streams. In addition, they would be constantly monitoring the project for any deviations, opportunities for collaboration and synergy, communication at the global and regional levels, pointing out opportunities for developing relevant knowledge products for the project, ensuring alignment, and keeping the two lead partners focused on the overall goal of the I-CAN goal and partnership. This position could have perhaps on an annual basis calling for meetings of the IPASS partners (the two Co- Principal Investigators) to listen to project progress and to help keep streamlining the project to its intended goal. Further, this position would have been the convener of the Steering Committee members (two Co-Principal Investigators and the Executive Director of ACC) and facilitated collaboration at this level.

A thorough process of the selection and endorsement of partners was required. At the start of the I-CAN project, most of the partners had been pre-selected and at a later stage additional partners brought in to fill identified gaps. Partners were selected based on previous engagements with the lead partners and on trust that had been built. This should have been an advantageous position for the project as trust was already established but it quickly led to division for reasons stated earlier. It also meant some partners came in with a false sense of entitlement based on their pre-conceived expectations of the roles and resources that would be assigned to them. It would have been useful for the two lead institutions to have partners re-apply to be in the partnership, then co-create different research agendas and thereafter get into formal agreements even with partners with whom they have had long-term relationship, clearly stating the expectations for each. Further, the project could have also made call of applications for studies needed in the I-CAN project and opened it up to only I-CAN partners and consultants. The expectation would be that the partners and those hoping to win consultancy opportunities would put forward their best proposals. A selection committee would be put in place to select proposals that speak clearly to I-CAN objectives and support those that may have the idea but were not able to clearly articulate those ideas, providing an opportunity for capacity development. This would have also ensured that there were specific tasks and objectives were met, partners implementing are held accountability by the broader partnership and non-compliance clauses included to mitigate risks to the project.

There was need to have robust discussions and agreement of what research agenda and interests would be undertaken and for the two lead partners to ensure a co-creation process that takes partners interests, aligned to project objectives, are adopted. One way this co-creation would have taken place is at each working group (as this is where most partners would engage with the project), include academic institutions as had been earlier envisaged to support community leaders/partner organizations in deliberating on broad research questions under each thematic area/I-CAN objective as guidelines. This would have formed the basis for how the working groups prioritize what studies to conduct based on the needs of each site/community, develop a work plan and budget aligned to this priority and ensure proper monitoring of the activity. The analysis of these studies would also be based on whether the research questions have been answered and to what extent, gaps identified and knowledge that would be critical for use in policy engagements or that can be implemented by partners. These questions could have also guided the student's scholarship call for applications, indicating the type of student researchers the project was looking to engage instead of retrofitting students research to align with I-CAN objectives. While some of these discussions did take place, they were siloed and had no way to influence the students selected for I-CAN scholarships especially in East Africa. The project also lost the opportunity to engage students who had already graduated either at a masters or at PhD levels but were interested in engaging in ongoing research. This would provide an occasion to have high level expertise conduct research at fairer costs than when using an expert/consultant.

It would have been useful for the I-CAN project to consider either working with one academic institution and perhaps 2-3 departments and the professors are renumerated to play the role of Research Coordinator or hiring a Postdoctoral candidate to coordinate students applying from various universities. The Postdoctoral candidate would liaise with different universities (including the professors) to ensure best-fit of students that could contribute significantly to

the project while meeting their own academic aspirations and ensure follow-up in the field, connecting students with partner organizations in I-CAN field sites. The partners in Canada (McGill University) had initially been anticipated to take up these roles but it would have been challenging for them to supervise students on the East Africa region or override the professors of institutions where I-CAN graduate beneficiaries were studying. It would have been essential to have a local candidate. This candidate would then be also the link to our partners at McGill University in ensuring research aspects from the East Africa region are communicated and where possible linked to ongoing research by the Canadian institutions. Further, emerging key issues from communities and research by students in East Africa could be shared with the Canadian academic institutions and perhaps influence the topics students from these institutions can conduct when carrying out their research in this region.

For a multi-donor grant and multi-partnership, we needed to have had longer deliberations and discussions at the project design stage of how the different parts play together. In assessing the various challenges that the project underwent; a majority can be linked back to gaps at the project design and structure stage. The two lead partners, ACC, and McGill University, and an overall IPASS Coordinator would have needed to refine the project's theory of how change would result, key roles and responsibilities, research thematic areas under each objectives and draw up broad research questions, engagement of graduate students both from North American and East Africa academic institutions, how conflict would be addressed and assess how the different parts would work together to mitigate silos in the project and to evaluate how the research interests of each partner would be addressed within the scope of the I-CAN project.

As mentioned in this report, the I-CAN strategy employed to get buy-in and support of the project and to ensure equity of resources among partners whilst also reducing project expenses, without compromising quality of outputs, was to leverage on expertise within the partnership and build cohesive ownership of the project. However, these were also the bulk of the non-compliant agreements. The lessons learned were the need for formalizing opportunities even within partnerships. For example, doing formal calls of applications or adverts for opportunities within the network, opening these applications to external applicants to increase competition and call for written expression of interests that assess the consultant's or project partners' ability to deliver on the research proposal and intended outcomes. In addition, due diligence is critical after formal interviews have been conducted. Further, regular progress reports from consultants should form part of the requirements for the award and clear steps of addressing a consultant's failure to meet their terms of reference.

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Annex I

No.	Research Assistant's Name	Study/Research Engaged In	Country
1.	DAN SEPIS	1.ATTITUDINAL SURVEY IN KENYA	KENYA
2.	JONATHAN RANA	1.ATTITUDINAL SURVEY IN KENYA	KENYA
3.	SARAH KURONOI	1.ATTITUDINAL SURVEY IN KENYA	KENYA
4.	NANCY SEENOI	1. ATTITUDINAL SURVEY IN KENYA 2. ECONOMICS OF PASTORALISM/OPPORTUNITY COST STUDY	KENYA
5.	PETER PIRANTO	1.ATTITUDINAL SURVEY IN KENYA 2.ECONOMICS OF PASTORALISM/OPPORTUNITY COST	KENYA
6.	PETER SOLONKA	1.ATTITUDINAL SURVEY IN KENYA	KENYA
7.	JEREMIAH KATAPA	1.ATTITUDINAL SURVEY IN KENYA 2.ECONOMICS OF PASTORALISM/OPPORTUNITY COST	KENYA
8.	SOLOMON LERINTO	1.ATTITUDINAL SURVEY IN KENYA 2.ECONOMICS OF PASTORALISM/OPPORTUNITY COST	KENYA
9.	MARK OL TEPESI	1.ATTITUDINAL SURVEY IN KENYA 2. ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST	KENYA
10.	PETER MILLANGA	1.BASELINE ON THE CANOPY OF CONSERVATION	TANZANIA
11.	CLAMIAN THADDEUS	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
12.	STEPHEN MOLLEL	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
13.	EVALINE RICHARD	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
14.	LOSERIAN MAOI	1.BASELINE ON THE CANOPY OF CONSERVATION IN TANZANIA	TANZANIA
15.	FELISTA TERTA	1.BASELINE ON THE CANOPY OF CONSERVATION IN TANZANIA	TANZANIA
16.	STEPHEN SANKENI	1.BASELINE ON THE CANOPY OF CONSERVATION IN TANZANIA	TANZANIA

17	RESIATO SALYAN	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
18.	GLORY GODSON	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
19.	KASOSI LEITURA	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
20.	LUCA JULIUS LAISER	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
21.	OSCAR LAIZER	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
22.	SALUMU MAYOMBO	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
23.	GLORY GADIEL	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
24.	NEEMA THADEUS	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
25.	ELKA ONESMO	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
26.	DAVID KAYIAN	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
27.	SAKIMBA KIMITI	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
28.	VINCENT SABORE	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
29.	ANDREW NGANUMA	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
30.	ANDREW NGONGONI	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
31.	SIMON TONGOYO	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
32	JONATHAN NAGIYO	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
33.	FAITH WANJA (MSc. Student)	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA
34.	DAVID SIRIMA (MSc. Student)	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN TANZANIA	TANZANIA
35.	NANCY MORAA (MSc. Student)	1.ECONOMICS OF PASTORALISM STUDY/OPPORTUNITY COST IN KENYA	KENYA

Annex II

Student's Name	Partial Scholarship Award	Title of Study	Status
Lino Gilya	Tuition and master's research	Study completed: Fuel wood Efficient Stoves (FWES) as Strategies to Adapt to the Effects of Climate Change in Muhenza District, Tanzania,	Completed
John Lampat Parashina	Master's research	Study completed: An Assessment of Climate Resilience for Livestock-Based Livelihood at Satao Elerai Community Wildlife Conservancy, Kajiado County, Kenya	Completed
Kitipa Naikumi	Master's research	Study completed: Examining the legal framework and mechanisms for benefit sharing from wildlife: The case study of Maasai Mara National Reserve, Kenya	Completed
Emmanuel Kileli	Master's research	Study completed: Assessment of the effectiveness of CBC approach used by Pastoralist villages in Loliondo, Tanzania	Completed
Suzana Magita	Master's research	Study completed: Effects of climate change to pastoral communities in Mvomero District, Tanzania	Completed
Stanley Odhiambo	Master's research	Study completed: Effect of watering points on vegetation and soil physio-chemical properties and community-based water resource conservation in Kajiado County, Kenya	Completed
Klerkson Lugusa	PhD research	Study completed: Institutions in Public-Private Partnerships for Natural Resources Conservation Management and use: A Case Study of the Northern Rangelands in Kenya.	Completed
Karuki Kirigia	PhD research	Privatization and Conservation in the Post colony: Dismantling while Preserving the Olderkesi Commons	Completed
Daniel Salau	PhD research	Mediating Maendeleo: Examining the nexus between geothermal extraction, wildlife conservation and community well-being in Olkaria-Suswa, Southern Kenya.	Completed
Harrisson Simotwo**	Master's research	Land cover change and the influence of varying land use systems along Ewaso Ng'iro River Basin in Laikipia County	Completed

Amos Pandael**	Master's research	Impact of rainfall variability on pastoralism and wildlife conservation in Ngorongoro conservation	Completed
Lucas Sakau**	Master's research	The Role of Village Landuse Planning in Mitigating Landuse Conflicts between Farmers and Pastoralists in Naberera Ward in Simanjiro District	To be completed by April 2022.
Paine Eulalia	Master's research	Study completed: Payment for Ecosystem Services: An Assessment of its Effect on Community Adaptation to Climate Change in Tanzania	To be completed by March 2022, is at the report writing stage
William Siloma**	Master's research	An Assessment of the Impacts of Community-Based- Conservation on Maasai Community livelihoods Using Community Capital Framework (CCF), A Case Study of Loliondo, Ngorongoro, Tanzania	To be completed by Feb 2022, is at the report writing stage
Vivian Kaunga**	Master's research	Analysis of gender roles dynamics under changing natural resource governance and climate: a case of Westgate community conservancy, Samburu county, Kenya	To be completed by September 2022, is at the Proposal Development stage
Caroline Kimani**	Master's research	Assessment of Factors Influencing Human Elephant Conflict in Southern Kenya	To be completed by March 2022. Is at the report reviewing stage
Sammy R. Oleku	Master's research	Assessing the impacts of climate variability and change on water resources and pastoral livelihoods in Kajiado west sub-county	Already completed awaiting Letter of Approval from Department
Mannasseh Massek	Master's research	Benefits of Use of Non-woven polypropylene bags to cattle health and environment: A resident's perspective in Kajiado County	To be completed by September 2022. Is at

			the proposal development stage
Vivian Monik	Masters' tuition	N/A	
Lawrence Mbelati	Masters' tuition	N/A	
Philipo Jacob*	Master's tuition	Study topic: Rural women accessibility to water resources and their resilience	Completed
Thomas Supeyo*	Master's tuition	Effects of Frontline Civil Service on Security Management in Kajiado County	Completed
Elizabeth Mdidi	Undergraduate tuition	Continuing student	
Jennifer Simpano	Undergraduate tuition	Continuing student	
Jonathan Nagiyo	Undergraduate tuition	Continuing student	
Ayoub Mussa	Undergraduate tuition	Continuing student	

*Although these two students received tuition scholarships, they also submitted their theses as an appreciation for the funding received from the project.
** Students who received their research funds just before COVID19 outbreak and so they were delayed and are in the process of working on their research

Annex III

Parameters	Enguserosambu Community Forest (ECF)	Loliondo I Forest
Governance	Community Trust Council of Elders	Local government Authority (Ngorongoro District Council)
Cost of management	Very low because the local community share responsibility	Very high because of use of rangers, patrols, etc.
Equitable benefit to Communities	All the benefits accrue to the community for various uses such as building material, pasture, herbs, rituals, tourism, etc.	Not equitable share of benefits except for fuelwood and grazing (but only surrounding communities) All the benefits go to the government
Process of extraction of resources	Community-wide approval process (Trust, Council of elders)	Access for fuelwood and pasture – free Timber and lumbering – approved by NDC Payments and permits must be done
Conservation health status	Forest intact Vegetation cover (herbaceous) Community-based Management Plan Traditional Land Use Plan Boundaries known and respected Rare occurrence of conflicts as the forest is managed by one community who have clear rules of use of forest resources.	Forest degradation exists No management plan or land use plan Encroachment very intensive High occurrence of conflicts due to different communities demands for forest resources.
Community and livelihood practices	Homogenous livelihood and cultural practices Practices conform to similar cultural norms	Heterogeneous livelihood and cultural practices Surrounding communities do not have common TEK practices. Patches of forests conserved according to neighboring communities using TEK

Conflict management	All conflicts are resolved by the Council of Elders through the use by-laws and customary laws All the breaches of the forest rules/regulations are referred to the Forest Trust (this is governing mechanism articulated in the community by-laws for the Forest) Any appeals are transferred to the Council of Elders (incl traditional leaders, councilor) Punishments are based on the Forest by-laws and traditional practices When all these do not work, they resort to legal courts	All conflicts are resolved through the Court of Law
Gender mainstreaming	There are 7 women in the management committee and 8 men (Forest Trust).	The forest is governed by local government with no structures for gender mainstreaming