



Soysambu Conservancy

Social Assessment of Protected Area

Sustain East Africa



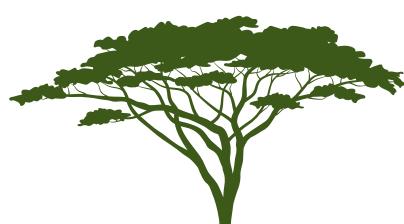
March 2024

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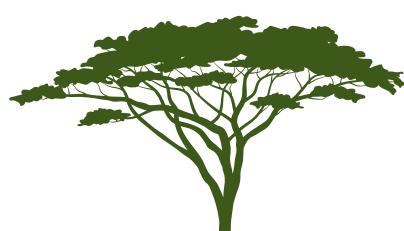
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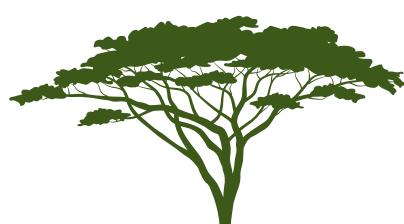
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Summary

Context

The Social Assessment for Protected and Conserved Areas (SAPA) is a standardised, low-cost and relatively simple approach to assessing social impacts of protected or conserved areas. SAPA can help identify positive and negative social impacts of protected or conserved areas, understand the underlying causes of problems related to governance and identify actions that could improve the situation. The methodology can also be used to establish a baseline for social impacts and their overall contribution to human wellbeing against which changes can be tracked over time. It is a multi-stakeholder assessment methodology for use by site-level stakeholders.

Key Findings

Positive social impacts

Based on the findings of the SAPA process, the main positive social impacts that contributed to household well-being in communities neighbouring or within Soysambu Conservancy were: 1) Improving access to water 2) Building or maintaining infrastructure 3) Support for education 4) Support for health projects 5) Outreach services and training

Soysambu conservancy provides water to the community either through trucks or by building water tanks, ensuring access to clean and safe water for local residents. Furthermore, support in building or maintaining infrastructure including police posts, schools, and roads, were reported to enhance the overall quality of life for community members.

Soysambu conservancy's initiative to offer sponsorship opportunities for students, enabling access to education and fostering academic achievement, was seen as a positive social impact. Additionally, Soysambu's contributions to local schools, such as providing school meals for students, school uniforms, desks, and sports equipment, positively impact educational outcomes and student well-being. The Conservancy also provides free guided educational trips to community members, offering valuable learning experiences.

“

We appreciate Soysambu for providing land to construct Lady Anne Secondary School

Soysambu conservancy's support for health projects, including the provision of equipment to clinics and cancer screening for women, contributed to improved healthcare access and outcomes within the community. Additionally, Soysambu Conservancy also provided anti-rabies vaccinations for dogs and donkeys, demonstrating a commitment to community health.

Soysambu conservancy also offered outreach services in the form of training in improved livestock production, health, and waste management, empowering residents with valuable knowledge and skills.

Soysambu actively participates in environmental conservation initiatives, such as tree planting, contributing to the preservation of natural resources and biodiversity. Furthermore, some households also felt that providing access to firewood also demonstrated a commitment to community support.

Negative social impacts

Despite efforts to improve potential negative impacts, some persist. Most negative social impacts across the six case studies fall under these main categories: 1) restricted access to services; 2) unequal distribution of benefits; 3) lack of appreciation during emergencies; 4) human-wildlife conflict; 5) transmission of disease.

Limited access to certain public utilities, such as roads, creates barriers to mobility and community well-being. Some residents claim that the challenges they face affect their daily lives and overall quality of life.

There was also a perceived unfairness in the distribution of benefits, including employment opportunities and community involvement in development projects, perpetuates feelings of exclusion. Some community members feel marginalized and overlooked in resource allocation and decision-making processes, leading to social tensions and disparities.

Furthermore, some respondents expressed that they felt unappreciated by Soysambu Conservancy, particularly when they provided voluntary assistance during emergencies, such as bush fires. This lack of acknowledgment could result in strained relations between the community and the conservancy.

Some respondents also mentioned that they felt disease transmission from wildlife to livestock poses a significant concern to them. A number also mentioned that



conflict with wildlife originating from Soysambu resulted in property damage and some injuries, with a lack of compensation (from KWS). In particular, conflict with baboons, velvet monkeys, porcupines, buffalo, and hyenas was mentioned > My son needs compensation, as he was injured by a buffalo while working in the conservancy

Overall contribution to wellbeing

The survey results indicated that the majority of respondents perceived Soysambu's overall contribution to well-being as neutral, taking into account both positive and negative impacts. There were exceptions, particularly in Oljorai and Mbaruk locations, where a few respondents felt that Soysambu had increased their well-being.

75%

of households residing in Soysambu felt the conservancy increased their wellbeing

On the other hand,

12%

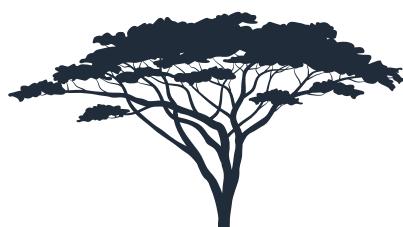
of respondents living in Oljorai felt Soysambu had reduced their well-being

Governance

SAPA encompasses four key principles of effective governance: participation in decision-making, transparency and accessibility to information, mitigation of negative impacts, and equitable benefit-sharing process.

Participation

In Mbaruk and Oljorai locations, the majority of people disagree that there is participation in Soysambu's decision-making that impacts the community. However, in Soysambu itself, a large percentage of people feel that there is some level of participation, particularly in knowing their community representative for meetings with Soysambu and communicating with them. In Kiptangwanyi, there is a mix in opinions with most people feeling that there is no participation, some agreeing that there is participation, and quite a number do not know whether there is any participation.



Transparency and access to information

There was overall dissatisfaction with transparency and access to information about decisions that were perceived to affect the communities, notably in Kiptangwanyi, Oljorai, and Mbaruk. Soysambu residents show mixed views.

Mitigation of Negative Impacts

Residents in Kiptangwanyi, Oljorai, and Mbaruk expressed skepticism about how effective measures to mitigate negative impacts like wildlife damage were, while opinions in Soysambu are more divided.

Benefit Sharing Process

There was widespread disagreement across Kiptangwanyi, Mbaruk, and Oljorai regarding perceived fairness in benefit distribution. A few Soysambu residents did feel like there was some benefit sharing.

Rights

Views on respect for rights varied, with differing perceptions across all locations, about whether there was recognition and respect for rights of local women and men.

Recommendations going forward

Based on the results of the surveys and the stakeholder workshops there are mixed perceptions about Soysambu conservancy. On the one hand there were a number of positive impacts, and some positive aspects to governance. On the other hand, there was also widespread dissatisfaction, particularly in the communities neighbouring Soysambu, about the perceived negative impacts of the conservancy, the lack of positive improvements in governance, and the fact that many people felt that Soysambu was having no effect, or a negative effect on the well-being of their household.

Nevertheless, the stakeholder workshops demonstrated that there was good will, and that both community representatives and Soysambu conservancy want to engage positively going forward. The survey respondents and workshop participants provided a number of suggestions about the ways in which Soysambu conservancy could take action.

These insights and requests aimed at enhancing social impacts within and around Soysambu Conservancy, promoting sustainable practices, improving community engagement, and ensuring equitable outcomes for all stakeholders.



Although the specific key requests from the community are shown in Table 3 below in the “Recommendations” section, here we provide a summary of those.

There were requests to support schools and education generally. These included land allocation for new schools, construction of primary schools, installation of facilities like ablution blocks and libraries, and implementation of school feeding programs. Suggestions also encompassed scholarships and ensuring fairness in scholarship provisions. Tied to this, and requests about livestock and agriculture, were also requests to educate farmers on improved methods. We have provided a number of suggestions on this in the “Recommendations” section.

There were also a number of requests for health and hospital facilities, namely to improve healthcare infrastructure, including hospitals, medical equipment, and upgraded dispensaries. Other requests included supporting new maternity wings, staff housing, and outpatient wings.

There was a lot of concern expressed over access and provision of water. Therefore there were requests for infrastructure like dams, boreholes, and water towers. Specific locations highlighted for improvement included Kiungururia and Echareria.

A number of communities rely on livestock as their primary or secondary livelihood. Therefore, there were also a number of livestock focused requests, including access to grazing fields, provision of fodder and compensation for losses due to wildlife encounters. Stakeholders also emphasized the need for capacity building such as courses on improved livestock management.

There were also requests to support the community to plant trees in a number of areas (e.g. Chamuka springs), to install sanitation points, and overall to continue raising awareness about environmental conservation.

Although communities living in Soysambu conservancy expressed a strong sense of security, most communities outside did not, and therefore there were requests for additional security measures, including the construction of police posts and administrative offices for chiefs.

Furthermore, there were requests for land, either to purchase from Soysambu, or to be provided land to cultivate, or to learn about vegetable farming. There were also some requests for electric fences to improve security.

Finally, in seeking to improve transparency, communication between Soysambu and neighbouring communities, and involvement of communities, there were suggestions to establish regular meetings, to elect representatives specifically for relations with Soysambu, and to work together to foster a positive relationship into the future.



Introduction

Soysambu Conservancy

Soysambu Conservancy is located within the Rift Valley System. It covers 48,000 acres, encompassing the northern and western shores of Lake Elementaita.

Soysambu Conservancy is renowned for its remarkable biodiversity, including a population of 170 endangered Nubian Giraffes and over 450 bird species, notably hosting 28% of the world's Lesser Flamingo population. Indeed Lake Elementaita is one of Kenya's Key Biodiversity Areas and RAMSAR sites (a wetland that is of international importance under the Ramsar Convention). Its rich wildlife habitat is home to buffalo, leopard, hippo, hyena, jackal, eland, zebra, impala, Thompson's and Grant's Gazelle, waterbuck, reedbuck, klipspringer, warthog, steinbok, colobus monkey, vervet monkey, and baboons.

Soysambu Conservancy was established as a Not-for-Profit Company in 2007 and works to conserve the Soysambu Estate as a traditional wildlife area, which supports the integrity of the greater Rift Valley ecosystem, while promoting sustainable coexistence of wildlife with livestock and at the same time being relevant to and part of modern-day Kenya.

Soysambu Conservancy wanted to understand more about the social impact of the conservancy on communities living within and surround the conservancy. Furthermore, they wanted to use the opportunity of assessing the social impacts of the Conservancy to listen to what communities within and surrounding the conservancy had to say about the positive and negative impacts of the Conservancy. This could also serve as an opportunity to establish a baseline for Soysambu Conservancy's contribution to the well-being of communities, over time.

Social Assessment of Protected Areas (SAPA) approach

The Social Assessment for Protected and Conserved Areas (SAPA), launched in 2014, responded to a need for a standardised, low-cost and relatively simple approach to assessing social impacts of protected or conserved areas (Franks, Small, and Booker 2018).

SAPA is a multi-stakeholder assessment methodology for use by site-level stakeholders. The methodology is based on a standardised process that can be replicated across protected or conserved areas while remaining flexible enough for tailoring to local needs and contexts.

SAPA uses a set of standard assessment questions directly related to social impacts and governance quality. It also includes a process of developing site-specific questions that respond to specific needs of actors.

SAPA can help identify positive and negative social impacts of protected or conserved areas, understand the underlying causes of problems related to governance and identify actions that could improve the situation. The inclusion of a governance and equity assessment in the second edition of SAPA strengthens the results and action planning processes. Governance is distinct from management and pays attention to who defines objectives and how. It also looks at allocation of responsibility and accountability for delivering on these objectives.

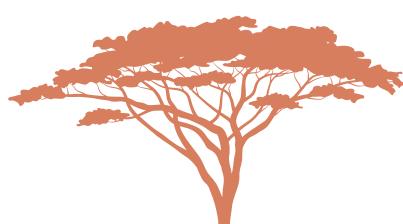
The methodology can also be used to establish a baseline for social impacts and their overall contribution to human well-being against which changes can be tracked over time. Therefore, the SAPA approach meets the requirements of Soysambu Conservancy as they seek to understand social impacts over time, and to listen to feed back from communities living within and surrounding the conservancy.

Objectives of the Social Assessment

Soysambu Conservancy aims to ensure that they provide value to Kenya, its people and the wider international community through sustainable conservation and enjoyment as a national treasure and heritage.

The conservancy is currently expanding its engagement with communities living within and surrounding the conservancy. Conducting a SAPA will therefore help them better understand the views, needs, and opportunities of the surrounding communities.

The primary objective of this assessment therefore was to integrate conservation initiatives with community development and foster a positive relationship between Soysambu and their neighbouring communities, principally by increasing positive impacts and reducing negative impacts to communities.



Approach and Methods

SAPA overview, process and outputs

The SAPA Assessment uses a mixed methods approach that combines qualitative data and quantitative data to gather information, assess results and generate ideas for action in response to the findings.

Throughout the SAPA process, there is an emphasis on linking the steps to stakeholder engagement, either through discussions, or feedback, or actions to improve the situation. This ensures that stakeholders, including communities through their representatives, are effectively engaged throughout the assessment.

This multi-stakeholder approach increases the accuracy and credibility of the findings, enhances transparency and ownership of the assessment process, builds support for action and accountability for implementation. For those interested, much greater detail can be found in the SAPA manual Franks, Small, and Booker (2018).

Preparation

Feasibility and planning

Following discussing with Soysambu Conservancy management, it was agreed that Soysambu met the feasibility requirements for a SAPA process. Soysambu began operating in 2007. It was Protected or Conserved Area that was established and operating with management and governance systems for at least two years. Furthermore, Soysambu Conservancy satisfies the second feasibility criterion as its managers and other key stakeholders can convene for face-to-face meetings at least once during the assessment process. Additionally, there is a clearly defined zone covering Soysambu and its neighboring communities. Finally, the managers of Soysambu were willing to implement specific action plans aimed at improving social impacts and governance within the conservancy.

In order to plan the SAPA process, together with the Soysambu management, the Sustain East Africa team put together a work plan with dates for key steps in the SAPA process, and those responsible for organising the step, and where relevant, inviting stakeholders, such as community representatives to participate.

Community Mapping

The aim of community mapping is to ensure that all stakeholders within or neighbouring the conservancy are considered during the SAPA process.

Soysambu Conservancy provided a detailed map delineating its boundaries and essential physical features such as roads, rivers, and Lake Elementeita. This map also included the locations and boundaries of communities within and surrounding the conservancy.

Following a meeting and exploratory visit with Soysambu management and representatives from neighbouring communities in September 2023 it was decided that this SAPA would focus on key neighbouring villages within the Oljorai, Kiptangwanyi, and Mbaruk locations, as well as those living within Soysambu.

Furthermore, at this stage of the process, some of the questions that would be specifically tailored to the Soysambu context were formulated.

While many of these raised issues that were already aligned with standard assessment questions, some were articulated as additional queries in the household questionnaire.

Review existing information

At this stage, Soysambu Conservancy provided reports and meeting minutes from previous community engagements and projects. These were carefully reviewed to gain a comprehensive understanding of pertinent background details that a site profile could be formed. In turn, this allowed us to ensure that we were able to ensure that the most appropriate positive and negative social impacts and measures of well-being were being covered in the assessments; that a sufficient number of households would be sampled; that the assessment would be suitable to the cultural context.

Stakeholder Engagement

Finally, each location was visited, and the assessment was discussed with the Administrative Chief from the location. This in turn led to introductions to the heads of village. At this stage, the survey were able to understand the local context, ensure that community representatives were willing to participate in group discussions, and to secure permission to carry out the household surveys.



Scoping

The scoping phase of SAPA is dedicated to defining the assessment's boundaries concerning space, time, and issues, prior to delving into detailed information gathering.

In terms of space, the villages and locations that had been visited and consulted were already set.

In terms of time, the SAPA primarily addresses social impacts that have occurred in the past, rather than those anticipated in the future. For this assessment, a recall period of five years was selected.

SAPA covers various social impact and governance issues. The standard aspects of assessment include:

- The impact of Soysambu and its development activities on people's well-being.
- Identification of significant negative and positive impacts resulting from Soysambu and associated conservation and development initiatives.
- Evaluation of the recognition and respect of local women's and men's rights by Soysambu.
- Assessment of timely access to pertinent information by local women and men.
- Examination of the effectiveness of measures to mitigate negative impacts on local women and men.
- Evaluation of the equitable distribution of benefits related to Soysambu within and between local communities.

However, even these aspects of the assessment might overlook important issues. To address this, as part of the scoping step, a community meeting and stakeholder workshop is conducted. Furthermore, the household survey and the second community meeting are also designed to identify other potential gaps that may exist.

First community meeting and stakeholder workshop

In November 2023, the Sustain team conducted a half-day workshop with community stakeholders, including 19 participants representing location chiefs, village representatives, and enumerators recruited from the communities.

The workshop aimed to familiarize participants with the SAPA methodology and upcoming household survey questions. It also gave representatives a chance to raise any outstanding issues that were not being asked about.

This workshop plays a vital role in ensuring the SAPA's relevance to local needs, active participation of the key stakeholders, and fostering ownership of the process among key stakeholders.



Information Gathering

The next step in the process is to gather information through a household survey. This is then followed once more by a discussion and feedback in a stakeholder workshop and community meeting. This balanced approach combines quantitative data from surveys with qualitative insights from community meetings and stakeholder workshops.

Planning the household survey

The household survey will be the key step to collecting quantitative data from across the key locations in a statistically representative manner. Based on timelines, budgets, and the number of villages to cover, we agreed to interview 180 households, randomly selected from the target area's villages.

Therefore, out of 44 villages identified as important, across the 3 selected locations, 18 villages were randomly chosen for the survey. Within each of these 18 villages, a minimum of 10 households were to be randomly selected.

The sampling plan was devised based on information from the most recent national census, information from Administrative Chiefs, accessibility of locations, estimated survey duration and enumerator requirements.

Table 1: Table of sample size by location

Location	No. of Respondents	% of total
Mbaruk	81	45%
Oljorai	70	39%
Soysambu	20	11%
Kiptangwani	10	5%

Developing household questionnaire

The SAPA facilitation team crafted a series of questions to be piloted, then tested with enumerators, before being deployed in the household survey.

The survey incorporated Soysambu-specific social impacts, governance issues, informed by concerns raised during reconnaissance visits and reports from the Soysambu Conservancy team. Furthermore, custom governance statements were developed to address rights, participation, transparency, and impact mitigation or benefit sharing.



The survey was initially drafted in English, it was then translated into Swahili. A back-translation process to English ensured accuracy and that the intended meaning was correct. Adjustments based on feedback from the pilot survey, training process, and Soysambu Conservancy management were incorporated, and the final questionnaire was uploaded to the Open Data Kit (ODK) and Kobo Toolbox for enumerator use during the survey.

Enumerator Training

In order to ensure that data collection is of the highest standards, the SAPA process relies on proficiently trained enumerators, capable of conducting efficient and accurate surveys.

Therefore, 3 enumerators were recruited from within the survey locations, based on their proficiency in English and Swahili, their good standing in the community, and the fact that they had at least completed high school.

In November 2023, the SAPA facilitation team conducted a two day training sessions which included a detailed run through of all the questions, the information the survey was to capture, and why this was important. The enumerators were trained in the use of ODK and Kobo Toolbox. The training also included a review of survey and research ethics, and appropriate behaviour before and after the survey.

The enumerators conducted practice interviews, focused on comprehension and questionnaire adjustments.

Following successful completion of the training, the enumerators were equipped with smartphones, battery banks, notebooks, and backpacks. They were clearly instructed on the sampling approach with each enumerator allocated six villages and instructed to randomly sample 10 households from each village.

As a final step in the training, the enumerators conducted pilot interviews with acquaintances. The data from these were reviewed and analysed and the enumerators were given feedback on their performance.

Conduct Household Survey

As discussed above, the sample size include 18 randomly selected villages, where a total of 10 households were surveyed. In total, 181 households were sampled, over three weeks from November 20th to December 6th, 2023.

Sampling locations included Data collection locations included Kiwanja Ndege Mkulima, Leleshwa, Pema, Kapkures, Mbaruk, Muranga, Kiambogo, Ngatta, Mololine, Kelelwa, Soysambu Area, Oldubey, Kapedo, Jogoo, Echareria, Central Utut, Jolai 1,2, Sleeping Warrior Gate, Jolai Gate, and Kampi Turkana.

Each survey began with an explanation of the purpose of the survey, how data would be used, confidentiality measures, the participant's rights, and sought their consent before proceeding.



Following each survey, the respondent was given a small token of appreciation in the form of sugar.

As the survey was being conducted, the facilitation team made random calls to 11% of all respondents to verify that the survey had taken place, to ask for any comments or feedback, and to ensure that the information provided was correct.

No negative feedback or concerns regarding the data collection process were received.

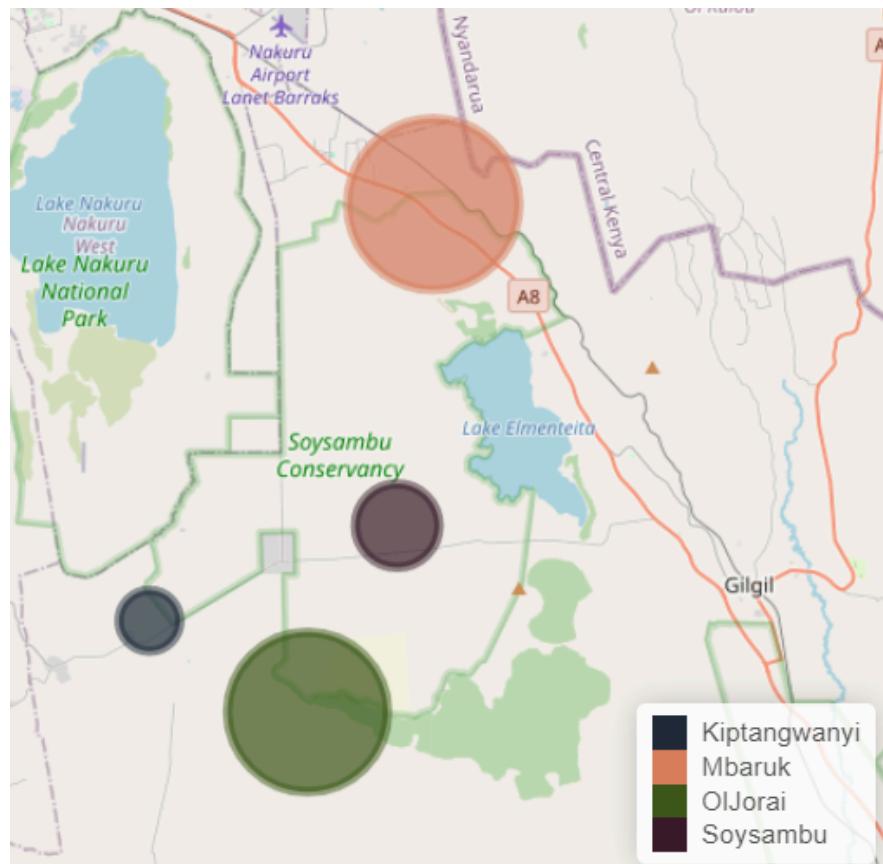


Figure 1: Map of Soysambu with sample sizes from each locations



Analyse Household Survey

The first step in data analysis was to ensure that there was anonymity. Therefore, in adherence to the Data Protection Act, 2019, identities and numbers collected from respondents was removed. This ensured that all data collected from respondents was handled anonymously, and that no individually identifiable information pertaining to race, health status, ethnic social origin, conscience, belief, genetic data, bio-metric data, property details, marital status, family details, sex, or sexual orientation were shared.

The next steps were to use design based inference in *R*, with the *survey* and *srvyr* packages to calculate population proportions, standard errors and 95% confidence intervals based on the sample data collected.

The results from these are presented as tables, graphs, maps, and percentages in the following section.

Assessing

Second community meeting and stakeholder workshop

The final stages of the SAPA process involve conducting a second stakeholder workshop, where key findings from the household survey are shared with representatives of key stakeholders. Any questions raised during the workshop are addressed, and actionable ideas are presented.

This workshop serves firstly as a review and validation that the data collected are likely to reflect the realities on the ground, and secondly as a further information-gathering opportunity. The insights gathered as part of this discussion can help assist in mitigating negative social impacts, promoting equitable distribution of positive impacts, and enhancing governance within the protected area.

At the second workshop in Soysambu, the focus was on discussing additional ideas for ways in which Soysambu could provide positive social benefits to the community, that were not sufficiently captured in the survey responses.

These ideas, detailed below, encompassed community activities, initiatives by Soysambu Conservancy management, and greater collaboration with local, regional, or national government entities.

Taking Action

Communicate results

Following the conclusion of Soysambu Conservancy's SAPA, it is crucial that the findings are effectively communicated to all relevant stakeholders. This includes not only the conservancy management team but also local communities, government authorities, NGOs, and other interested parties. This has been partly achieved through the second workshop discussed above.



However, beyond this, clear and transparent communication of the assessment results will help foster understanding, build trust, and encourage collective action towards addressing identified issues.

In communicating the results, it is essential to use accessible language and diverse communication channels to reach different stakeholders effectively. This may include community meetings, workshops, newsletters, social media platforms, and formal reports. As was the case for the second workshop discussed above, engaging in further dialogue sessions where stakeholders can ask questions and provide feedback on the assessment findings will improve understanding and ownership of the process.

Plan actions and monitor progress

Looking ahead, it is important that an action plan to address the identified issues is put in place. This should outline specific strategies, activities, timelines, responsibilities, and resources required to implement interventions.

As was brought up in the second stakeholder workshop, community representatives called for greater collaboration with local, regional, or national government entities.

Therefore, it will be important to ensure that the conservancy management, local communities, government agencies, and potentially other relevant NGOs, are involved in the action planning process. This will ensure some ownership, prioritising, and commitment to the proposed interventions.

Once an action plan is in place, it will be essential to establish mechanisms for monitoring and evaluating progress. By continuously monitoring progress, Soysambu Conservancy can adapt its strategies and interventions to meet evolving social needs and ensure the sustainable management of the protected area.



Findings

Characteristics of the respondents

Household head's gender, age, and average number of children

Generally, the SAPA household survey resulted in a sample of 181 households, with 113 men and 68 women participating. As the Figure 2 below shows, across all surveyed locations, the number of male respondents exceeded the number of women, with the greatest gender disparity in respondents found in the communities living within Oljorai (see Figure 2 below). Mbaruk on the other hand, had a more balanced gender balance compared to other locations, with 54% male and 46% female participants.

Other household characteristics, including the mean age of the household head, and the average number of children per household, also varied across the surveyed locations, as shown in the table 2 below. Oljorai stood out with the highest mean number of children per household, while Mbaruk had the lowest. Mbaruk also had the highest mean age of the household head, contrasting with Kiptangwanyi, which had the lowest. Soysambu and Kiptangwanyi showed similar mean ages of the household head, but Soysambu had a slightly higher mean number of children.

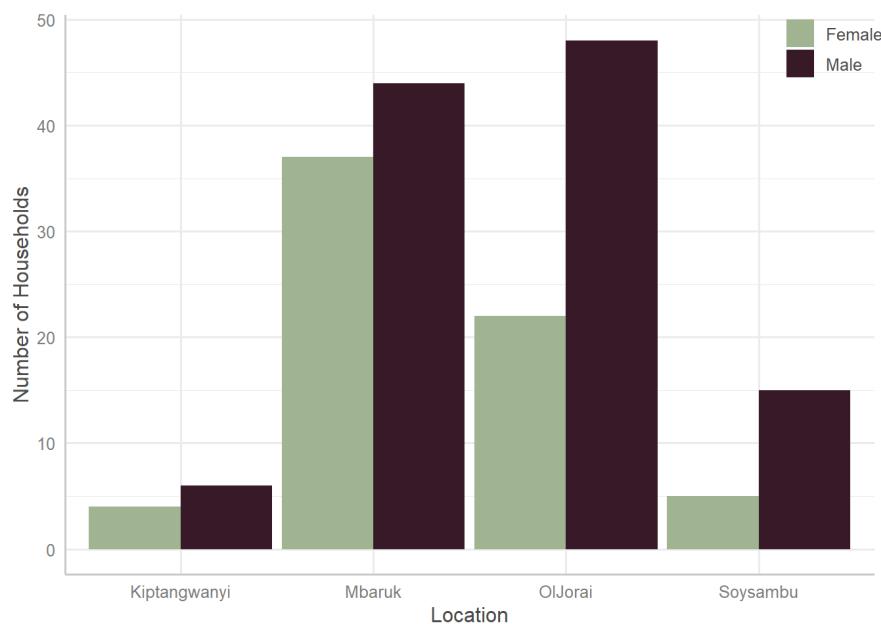


Figure 2: Gender of respondents

Table 2: Characteristics of households

Location	Mean no. of children	Mean age of household head
Kiptangwanyi	2.5	46.8
Mbaruk	1.8	54.1
OlJorai	3.6	47.0
Soysambu	3.2	45.3

Principal livelihoods of the households

Residents surrounding Soysambu Conservancy engage in various economic activities, each with distinct needs. To the south, adjacent to Samburu, are pastoralist communities. Along the Pipeline-Elementaita road, there exists a satellite urban settlement area where minimal agriculture is practiced. The northern region comprises a mix of satellite urban communities and pastoralists, while the area along the Nakuru road towards Gilgil is predominantly occupied by smallholder farmers.

However, as we can see in Figure 3 below, for almost all households, cultivation was the principal activity that contributed to the household's livelihood. Following this, pastoralism, and *vibarua* (paid manual labour) were stated in some locations. Finally, in some of the more urbanised areas, people shared that their own business, or a permanent salary (shown as other in Figure 3 below) was the principal livelihood.

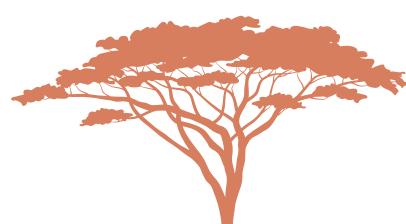


Figure 3 below shows that the second most important livelihood shows greater variability across locations.

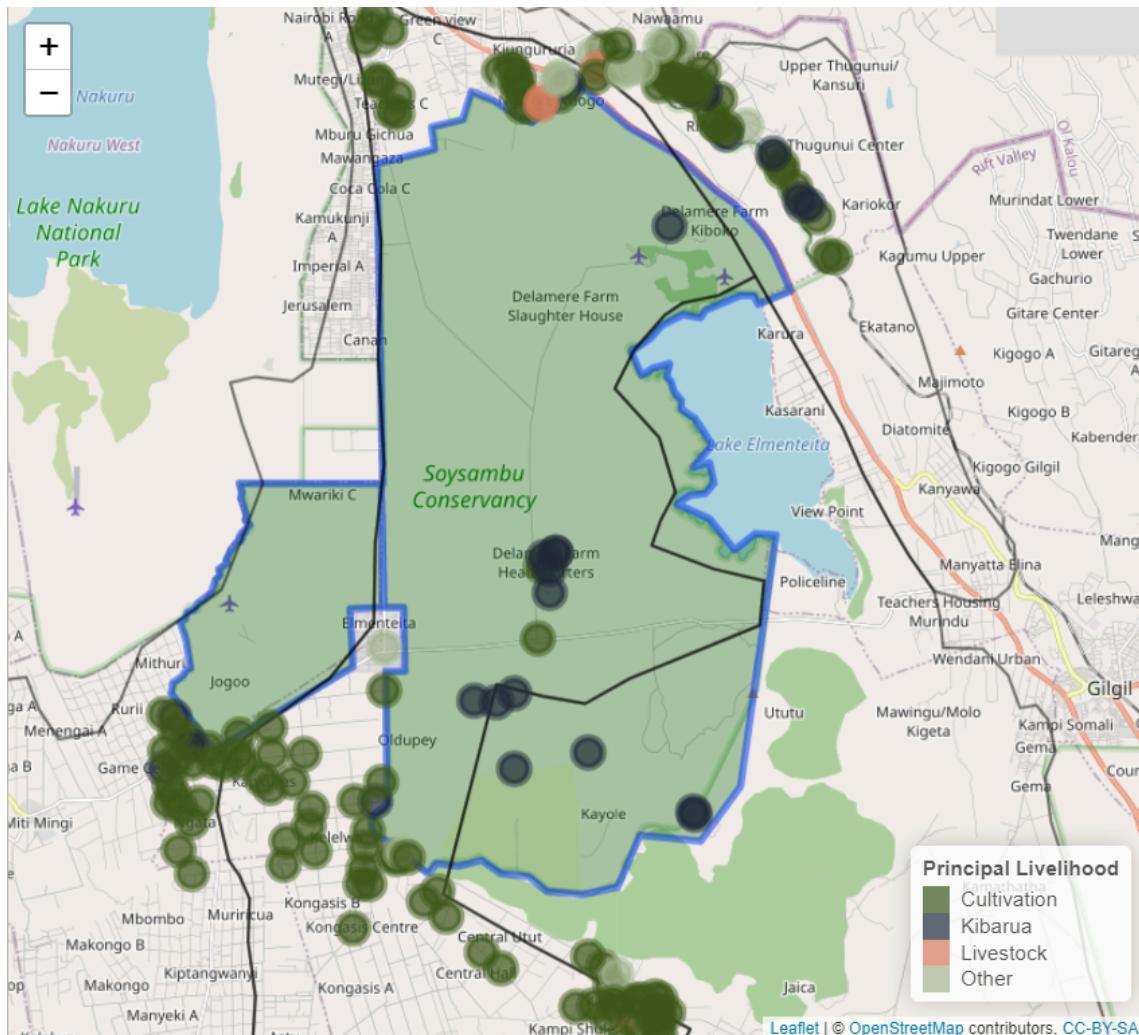


Figure 3: Map of principal livelihood activities in surveyed households

How long household heads have been in the area

Part of the survey was to understand the proportion of native-born residents versus migrants in the surveyed locations, by asking *This was achieved by asking the respondents, “Was the household head born in this community?”*

The survey results show that all respondents in the Kiptangwanyi location were not born in the community (note that the sample size in Kiptangwanyi was small, see Table 1). In Mbaruk and Soysambu, a greater percentage of respondents were also not born in the community. This was different in Oljorai where the majority of respondents were born in the area, with a minority who immigrated into the area.



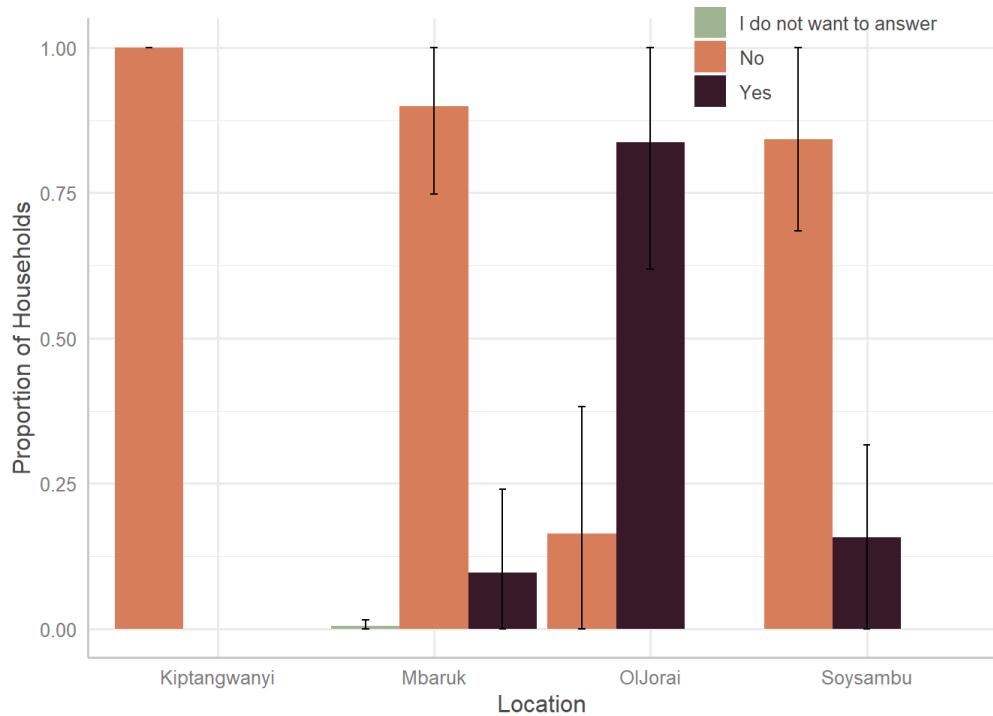
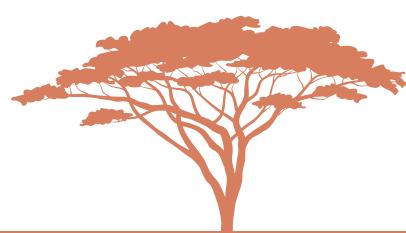


Figure 4: Was the household head born in this community?

Wealth of households

Based on a number of variables that were recorded during the survey, a wealth index was constructed. This included whether the household owned assets such as a car, motorbike, television, radio, generator, smart phone, water tank, pit latrine, and whether they used mpesa, the construction material of their house, how often they skipped meals, how many livestock they had, and how large an area they cultivated. Based on a principal component analysis, households were categorised into 5 quintiles, and a map of these is shown in figure 5 below, followed by two key variables in understanding household level wealth, namely how often the household were forced to skip a meal, and the construction material of the walls of their house.



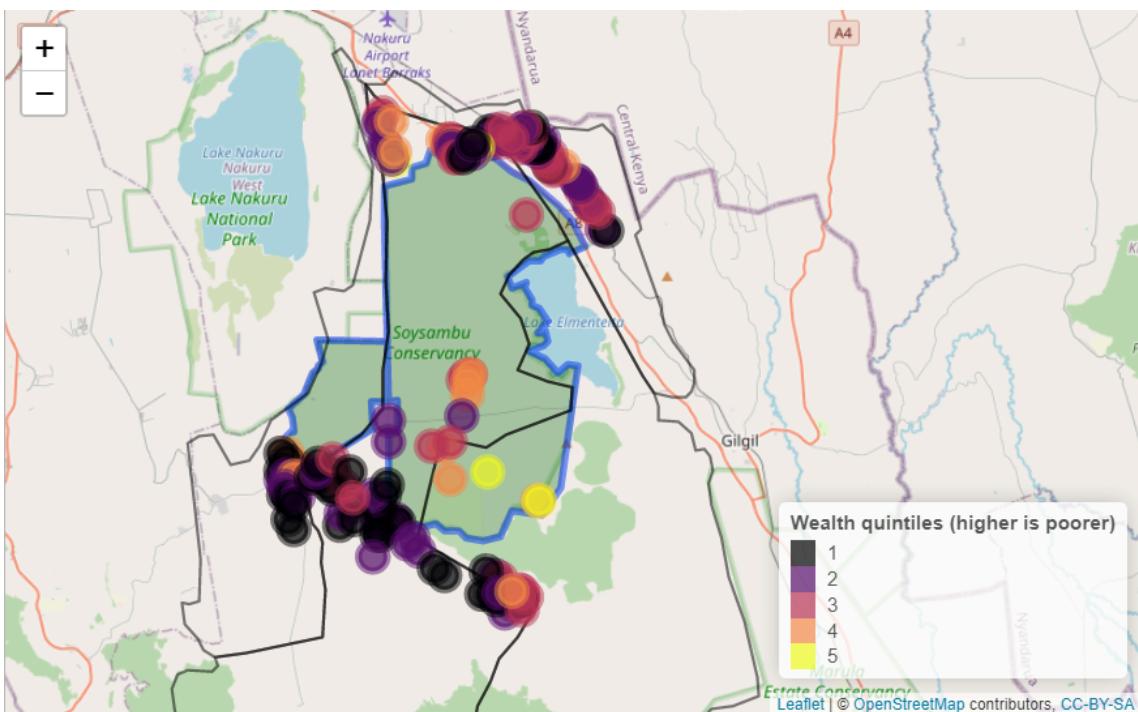


Figure 5: Map showing the distribution of wealth quintiles

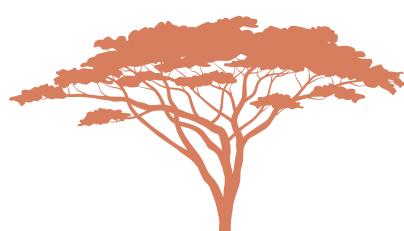
Positive Social Impacts

Soysambu conservancy's initiative to offer sponsorship opportunities for students, enabling access to education and fostering academic achievement, was seen as a positive social impact by some households. Additionally, Soysambu's contributions to local schools, such as providing school meals for students, school uniforms, desks, and sports equipment, positively impact educational outcomes and student well-being. The Conservancy also provides free guided educational trips to community members, offering valuable learning experiences and fostering appreciation for conservation efforts.

Soysambu conservancy's support for health projects, including the provision of equipment to clinics and cancer screening for women, contributed to improved healthcare access and outcomes within the community. Additionally, Soysambu Conservancy also provided anti-rabies vaccinations for dogs and donkeys, demonstrating a commitment to community health.

Soysambu conservancy provides water to the community either through trucks or by building water tanks, ensuring access to clean and safe water for local residents.

Soysambu conservancy's support in building or maintaining infrastructure including police posts, schools, and roads, were reported to enhance the overall quality of life for community members.



Soysambu conservancy also offered outreach services in the form of training in improved livestock production, health, and waste management, empowering residents with valuable knowledge and skills.

Soysambu actively participates in environmental conservation initiatives, such as tree planting, contributing to the preservation of natural resources and biodiversity. Moreover, Soysambu offers support to bush-clearing workers by providing firewood for free, demonstrating a commitment to employee welfare and community support.

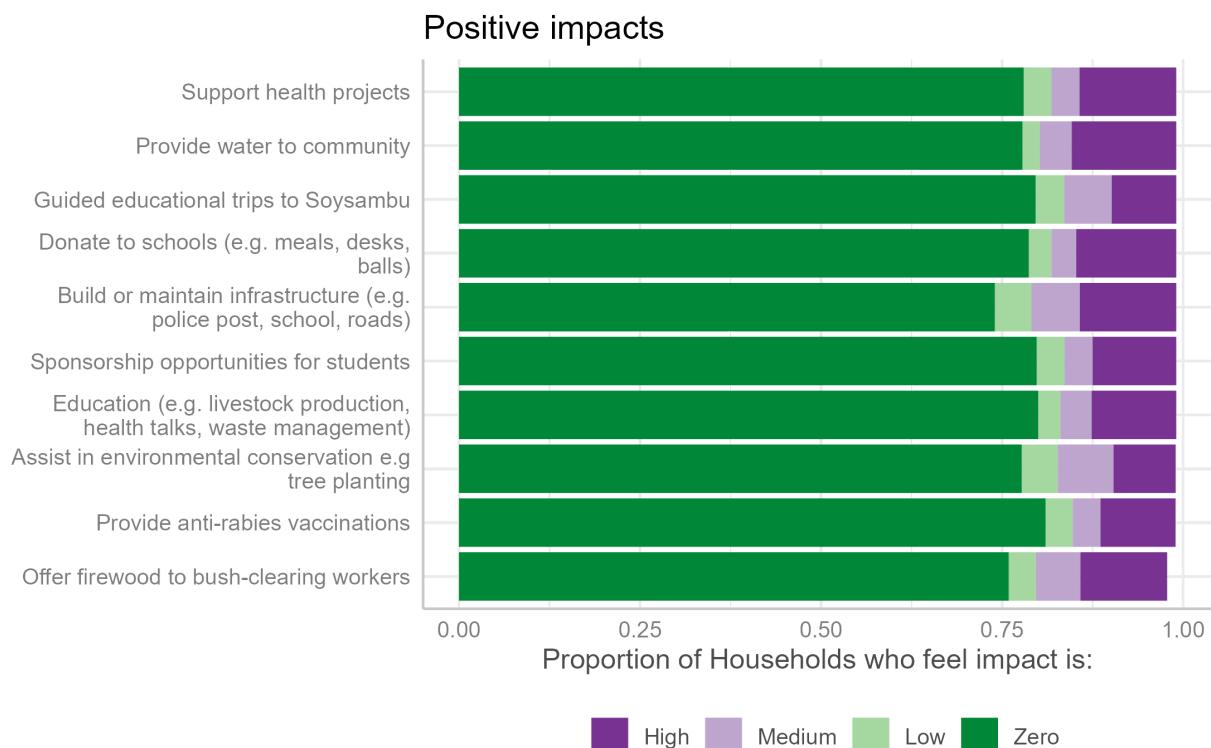
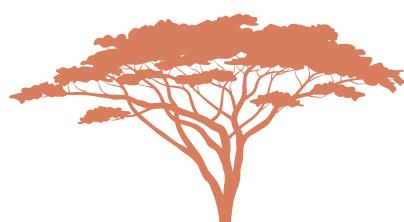


Figure 6: Overall positive impacts across all communities

Positive Impacts by Location

The findings of the household survey reveal diverse perspectives across the four locations. When the survey respondents were asked about how important projects previously implemented by Soysambu were to their households the majority of respondents from Kiptangwanyi location assigned a rating of zero, indicating little importance. A significant portion expressed low importance, while only a few acknowledged medium to high importance, particularly concerning water provision and infrastructure development.

In Mbaruk location, respondents indicated that the previously mentioned projects had zero impact on their households, with very few attributing medium to high importance to them. In the Oljorai location, the influence of Soysambu Conservancy



on the community appears notably positive. A majority of respondents affirmed the high importance of the projects to their households, with a significant number rating them as of medium importance. Fewer respondents indicated zero importance, while a minimal number expressed low importance.

The findings revealed mixed perceptions among residents within Soysambu regarding the significance of various projects. While a considerable number regarded most projects as of high importance, some perceived certain initiatives e.g sponsorship opportunities for students and community education programs, as having zero importance to their households. Consequently, the number of respondents expressing medium importance to the projects was minimal.

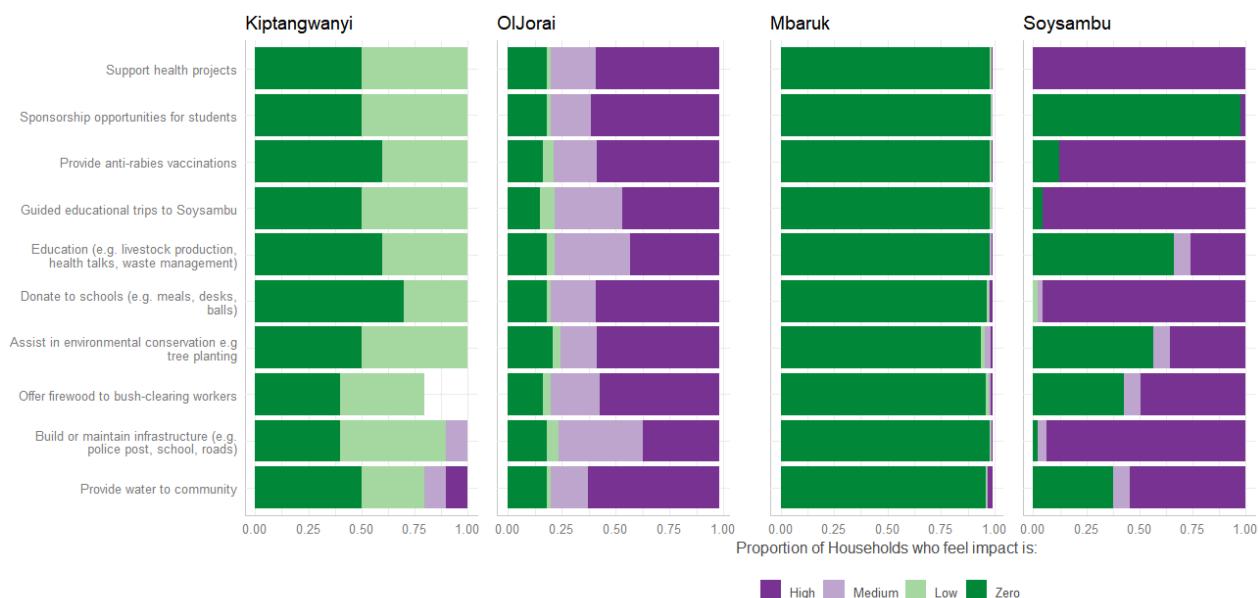


Figure 7: Positive impacts broken down into separate locations

Feelings of security

This was not across the board, but there were clear results that communities living on Soysambu conservancy felt much more secure than those living outside. Feeling secure is a crucial contributor to well-being.



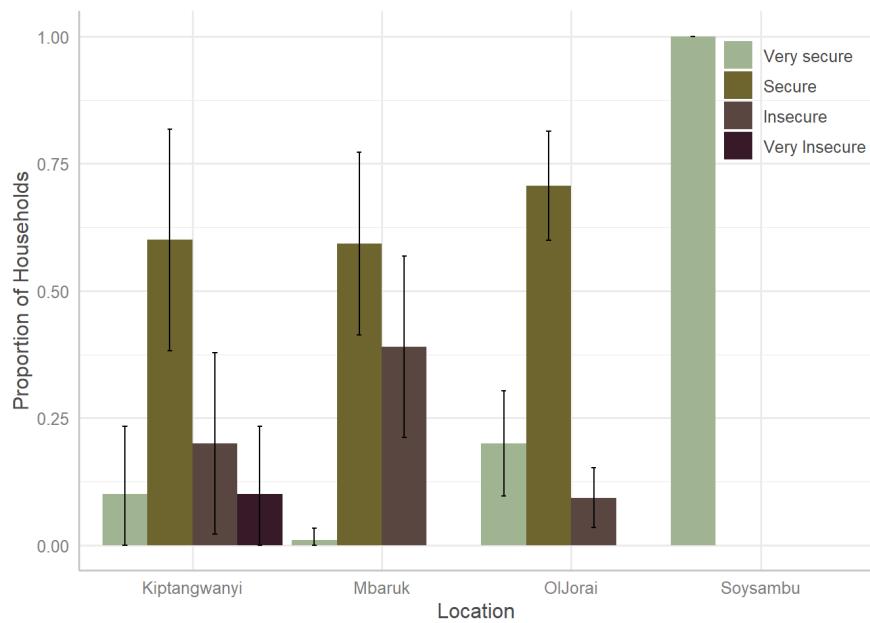


Figure 8: How secure do you feel from the risk of theft of your property?

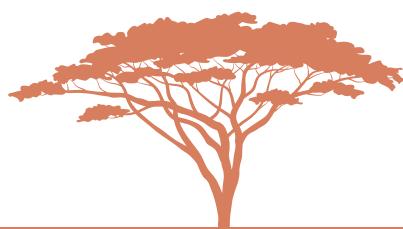
Negative Social Impacts

Although Soysambu Conservancy have made considerable efforts to improve relationships with communities within and neighbouring the conservancy, there are still a number of impacts that are having negative impacts on household well-being.

The findings from discussions with community representatives and the household surveys indicate that transmission of disease from wildlife and livestock in Soysambu to local livestock poses a significant concern for community members. Human-wildlife conflict also dominates in the area with wildlife originating from Soysambu exacerbating tensions and challenges for residents. Examples include the damage to crops, livestock and other property; injury of people; and lack of compensation for damage and injury by wildlife from Kenya Wildlife Service (KWS) Moreover, restricted access to certain public utilities, such as roads, creates barriers to mobility and community well-being.

Respondents also said that Soysambu-related benefits are unfairly shared, for example, there was main concern on limited employment opportunities and a lack of prioritisation in employment within Soysambu. This together with the exclusion of the local community from involvement in development projects perpetuates feelings of exclusion.

There is also a perceived lack of appreciation from Soysambu Conservancy when they receive assistance from the community, such as when the community assists in putting out fires during dry seasons. Limited access to grazing areas and restrictions on tree cutting within Soysambu Conservancy compound the challenges faced by local residents.



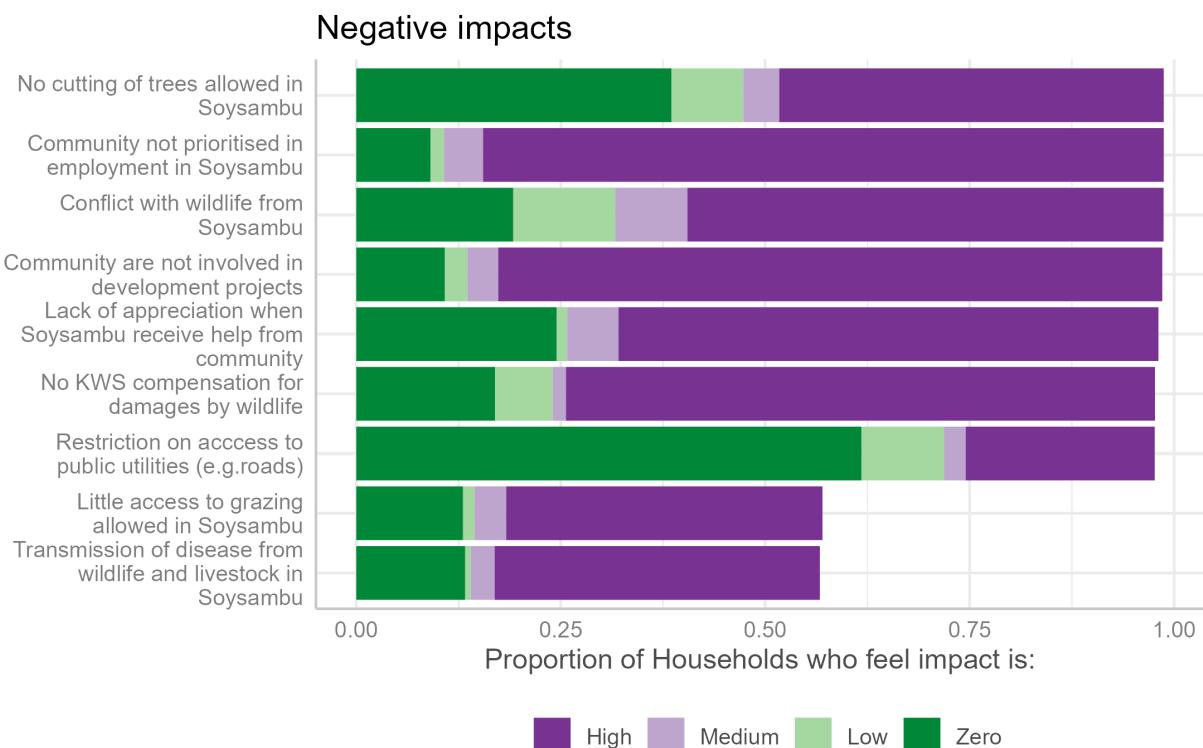


Figure 9: Overall negative impacts across all communities

Negative Impacts by Location

The assessment findings suggest that respondents in Oljorai location considered all of the highlighted negative impacts as of high importance, implying a detrimental effect on their household well-being. Fewer respondents felt that the impacts were of medium importance while a number of them feel that some impacts were of zero importance for example conflict with wildlife, little grazing access to Soysambu and community not being prioritised in employment by Soysambu.

Opinions among respondents in Kiptangwanyi location were varied when it came to negative impacts. A significant majority of respondents highlighted that all negative impacts were of high importance and thus had a lot of impact on their household well-being, except for the restriction of access to public utilities, where most respondents expressed a perception of zero importance. Some respondents cited the negative impacts as having low importance, while others had no opinion at all.



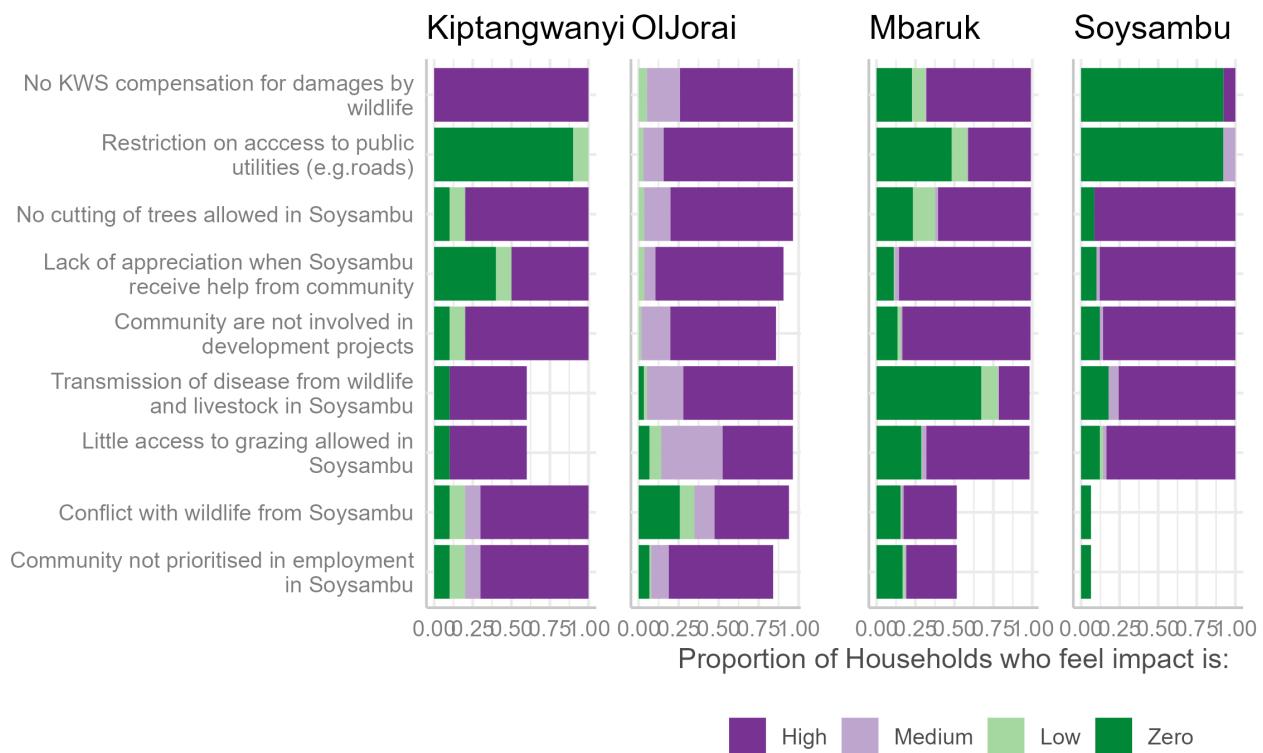


Figure 10: Negative impacts broken down into separate locations

Damage by wildlife

These are not caused by wildlife from Soysambu, although people often attribute this to be the case.

Conflict

Based on the results of the household survey, the majority of conflict with wildlife comes from baboons and velvet monkeys, as well as a few others, including porcupines and buffalo. For households who have livestock, hyaenas (not defined which species) were the most frequently cited. Furthermore, across all areas, thankfully less than 1% (0.9%) of households reported that a member of their household was injured or killed by wildlife in the last year.

Households reporting that livestock 🐃 were damaged by wild animals in the last year

10%

Kiptangwanyi

25%

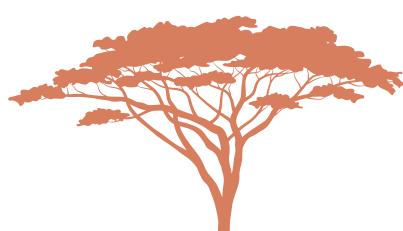
Mbaruk

50%

Oljorai

0%

Soysambu



Households reporting that 🌱 crops were damaged by wild animals in the last year

80% Kiptangwanyi **24%** Mbaruk **17%** Oljorai **4%** Soysambu

Overall contribution to wellbeing

In terms of well-being, the survey looked at this from a number of perspectives. Firstly, the respondents were asked about their own overall self-assessed well-being. This was achieved by asking the household head “How’s life?” and explaining that 1 means everything is very bad and 10 means everything is very good.

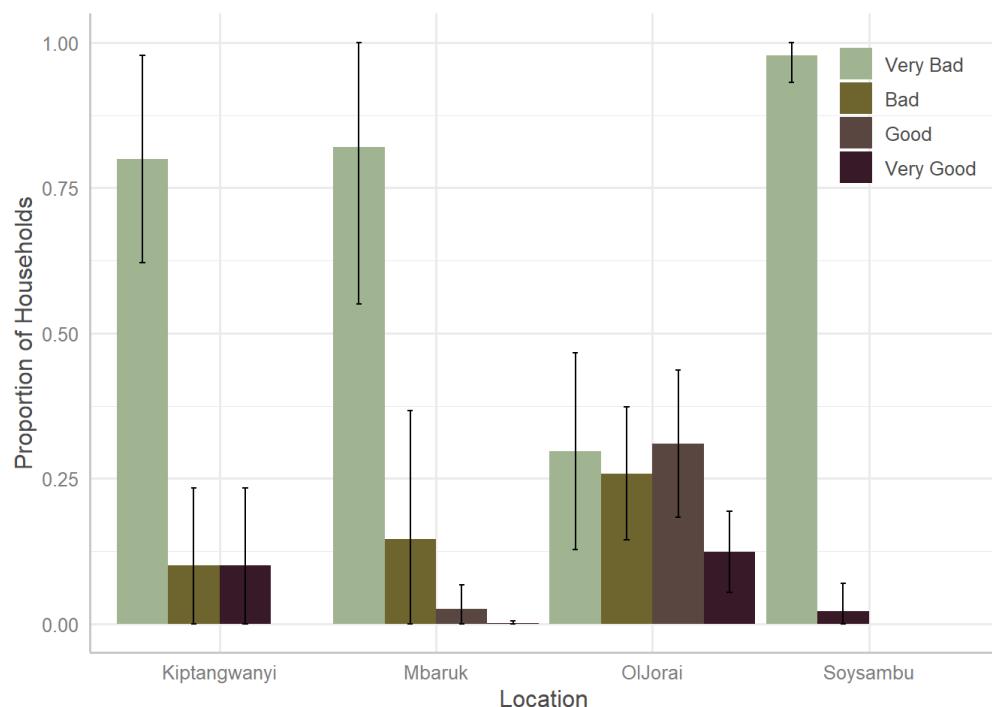
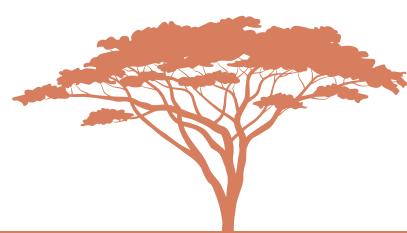


Figure 11: Responses when asked: How is your life at the moment?



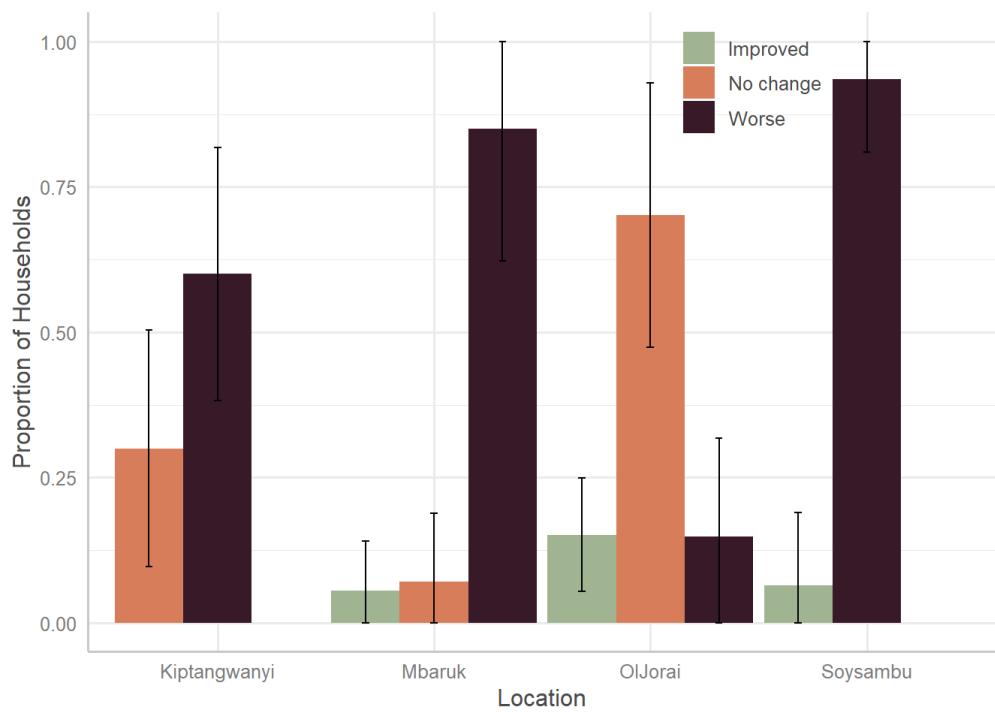
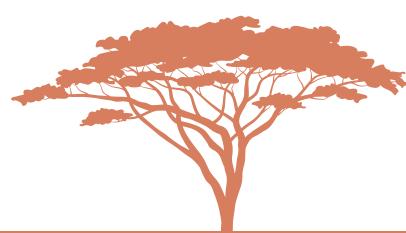


Figure 12: How has the general wellbeing of your household changed over the last 5 years?

Then, once the respondent was asked about the positive and negative impacts of Soysambu conservancy, they were asked if they could take into account all of these impacts discussed, and summarise the overall impact of Soysambu on the well-being of their household.



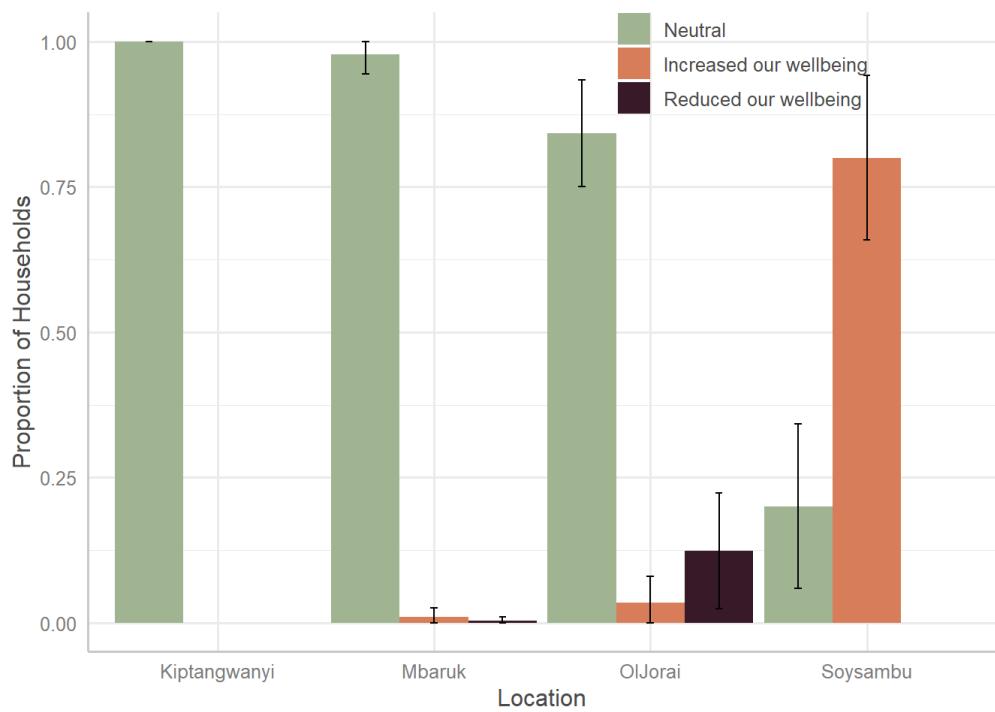


Figure 13: The impact of Soysambu Conservancy on the well-being of their household

Finally, in order to understand how the impact of Soysambu Conservancy on household well-being is changing over time, the respondents were asked how has the contribution of Soysambu to your household's well-being changed over the past 5 years?



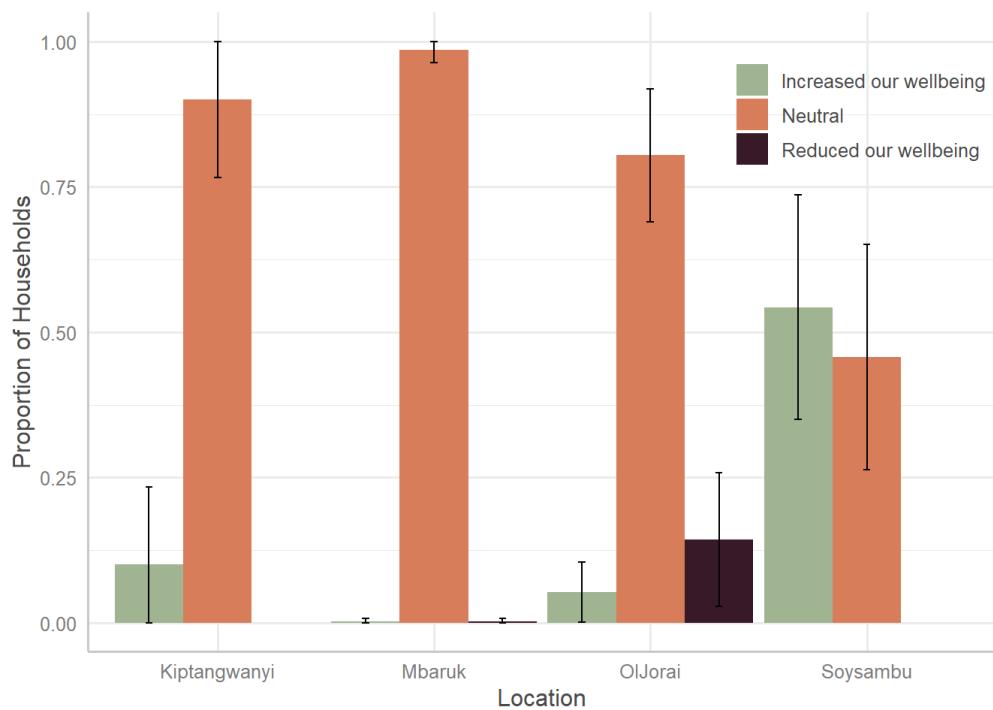


Figure 14: How has the contribution of Soysambu to your households well-being changed over the past 5 years?

The survey results indicated that the majority of respondents perceived Soysambu's overall contribution to well-being as neutral, taking into account both positive and negative impacts. There were exceptions, particularly in Oljorai and Mbaruk locations, where a few respondents felt that Soysambu had increased their well-being.

75%

of those residing in Soysambu felt the conservancy increased their wellbeing

On the other hand,

12%

of respondents living in Oljorai agreed that Soysambu had reduced their overall well-being



Governance

In the context of the Social Assessment of Protected Areas (SAPA), governance plays a pivotal role, encompassing various aspects such as power dynamics, relational structures, and mechanisms for accountability. Unlike management, governance within SAPA is concerned with decision-making processes, resource allocation, and ensuring the inclusion of all relevant stakeholders in the conservation framework.

So called “good governance” within SAPA is characterized by: Recognition and Respect for Rights; Full and Effective Participation; Transparency and Access to Information; Mitigation of Negative Impacts. As part of the SAPA process we asked questions about each of these.

Participation in decision-making

Full and effective participation in decision making ensures that all relevant stakeholders are actively involved in the decision-making processes which fosters a sense of ownership and inclusivity.

In the communities of Mbaruk and Oljorai, a significant portion of residents express that they disagreed that they were involved in decision-making processes that affect their communities. Conversely, within Soysambu itself, a notable proportion of individuals perceive a degree of participation, particularly in terms of awareness about their community representatives for engagements with Soysambu and the channels available for communication with them. In Kiptangwanyi, opinions vary, with some residents indicating a lack of participation, others acknowledging its existence, and a considerable number choosing to answer “Don’t know”, when asked about the extent of their involvement in decision-making processes.

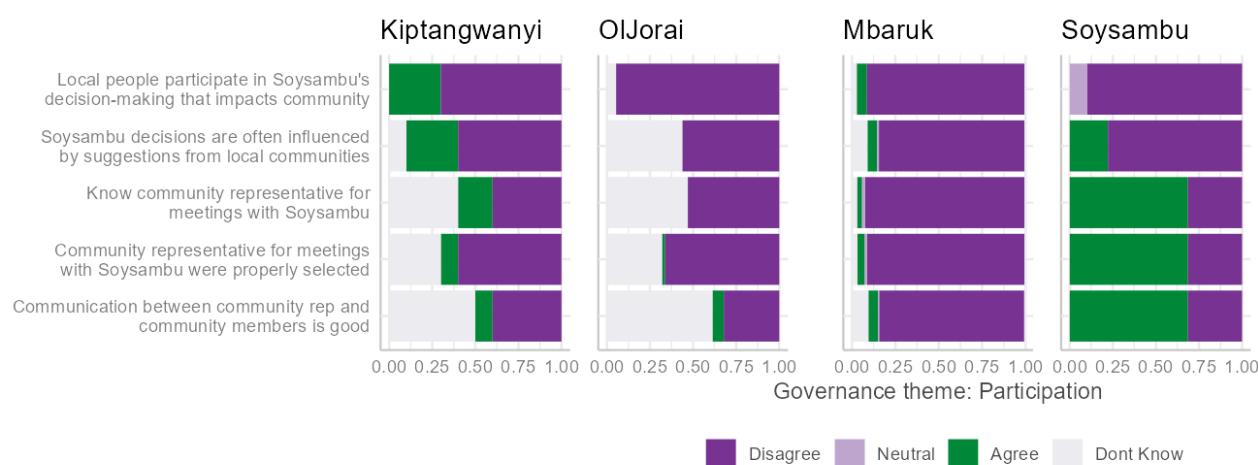


Figure 15: Map of survey locations



Level of influence

One key positive result that did emerge from the survey was that most household heads felt that they had medium or high levels of influence on decision making in their communities.

The percentage of households that said they had medium or high levels of influence in their communities:



Transparency and access to information

Transparency and Access to Information: Facilitating transparency through timely access to relevant information in suitable formats, thereby promoting openness and trust among stakeholders.

Transparency and timely access to information help to promote openness and trust among stakeholders. To assess this aspect, respondents were given three statements to react to (see Figure 16 below).

In Kiptangwanyi, Oljorai, and Mbaruk locations, results suggest that a substantial proportion of respondents expressed dissatisfaction with the transparency of information. They felt that there were no meetings with Soysambu, and that they did not have timely access to information about decisions affecting the community made by Soysambu. The results were slightly different in the communities living in Soysambu, where although a significant number of respondents disagreed that there was sufficient transparency, a greater proportion agreed with the statements.

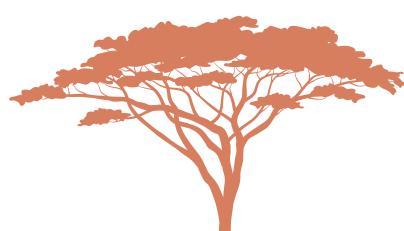




Figure 16: Agree/Disagree on statements about transparency and access to information

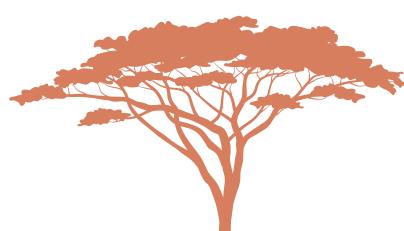
Mitigation of negative impacts

Mitigation of Negative Impacts: Implementing effective measures to mitigate any adverse effects on indigenous peoples and local communities, ensuring their well-being and protection.

Mitigation of negative impacts involves implementing effective measures to address any adverse effects on local communities, safeguarding their well-being and interests. This aspect of good governance was assessed through specific statements related to Soysambu and its associated negative impacts, shown in Figure 17 below.

The household survey results show diverse perspectives across locations. In Kiptangwanyi, Oljorai and Mbaruk, most respondents disagreed that an effective system for collecting information on damage caused by wild animals existed, as well a lack of help when serious issues of damage by wild animals did occur. On the contrary, in communities living in Soysambu, the majority agreed with the two statements. This suggests that some strategies do exist, but they are implemented in different ways across the different locations.

There was less consensus across Mbaruk, Kiptangwanyi, and Soysambu regarding Soysambu's use of effective measures to mitigate the negative impacts of the conservancy, with more respondents feeling like there were measures to mitigate negative impacts and crop damage. The exception here was Oljorai where the majority still disagreed that there were any measures in place.



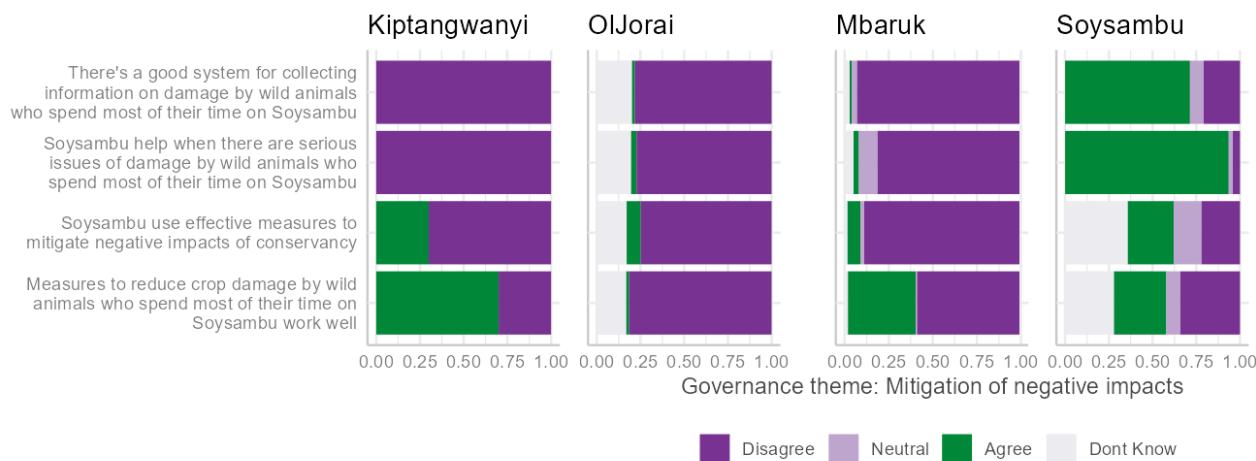


Figure 17: Agree/Disagree on statements about mitigation of negative impacts

Equitable benefit-sharing processes

Equitable benefit sharing in SAPA refers to ensuring that benefits derived from the conserved or protected area are equitably distributed among relevant stakeholders based on agreed-upon targeting options, thus promoting fairness and social justice. This can be slightly tricky in the case of private, conserved land. Therefore, the statements given to respondents sought to gauge the extent to which there was any perceived benefit sharing, and whether the allocation of benefits was gender balanced (see Figure 18 below).

Across Kiptangwanyi, Mbaruk, and OlJorai locations, almost all respondents disagreed with all statements. A minority of respondents in Soysambu agreed with the statements, which suggests that communities living in Soysambu do receive some benefits that other communities do not.

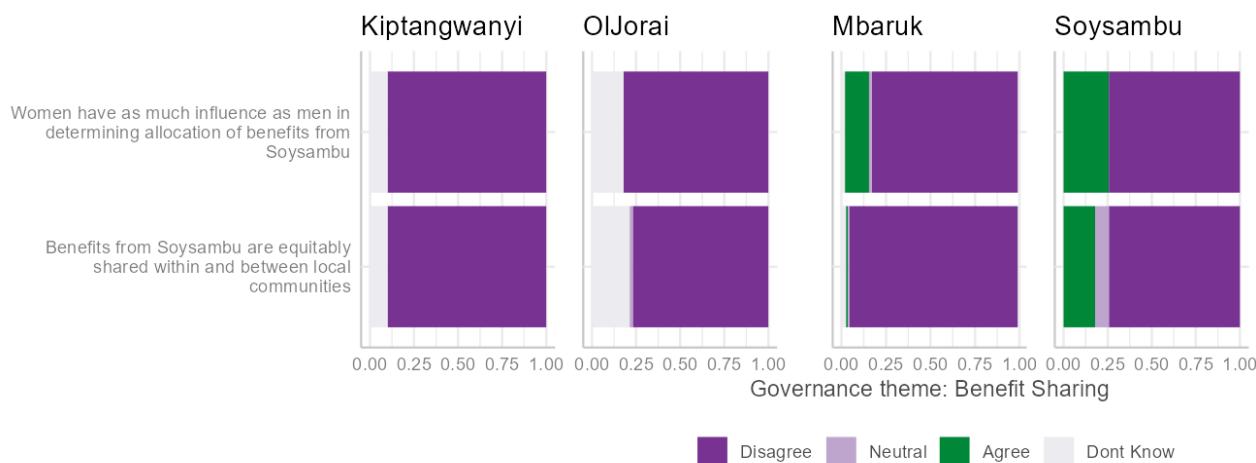


Figure 18: Agree/Disagree on statements about equitable benefit-sharing processes



Rights

In SAPA, prioritizing recognition and respect for rights of all relevant stakeholders engaged in protected area management is fundamental to good governance. Once more, it is tricky to study this in the context of private conserved land.

In the survey, respondents were asked whether Soysambu recognizes and respects the rights of local women and men. In response to the overall statement, in Oljorai and Soysambu, the majority disagreed with this statement, with a few in Mbaruk and Kiptangwanyi expressing similar views. Conversely, a few respondents in Kiptangwanyi and Mbaruk, as well as most in Oljorai and Soysambu, agreed with the statement.

When it came to the community's perceived right to harvest firewood, respondents in Soysambu felt that they had rights to harvest firewood. There were mixed responses in all other locations.

Regarding law enforcement staff potentially violating the law or local people's rights, the majority of respondents from Kiptangwanyi, Oljorai, and Soysambu disagreed. This result goes counter to some of the claims that were made in the open ended questions (see section on Harassment in "From assessment to action" below). Nevertheless, in Mbaruk, the perception was different as most respondents agreed that there were some violations of their rights.

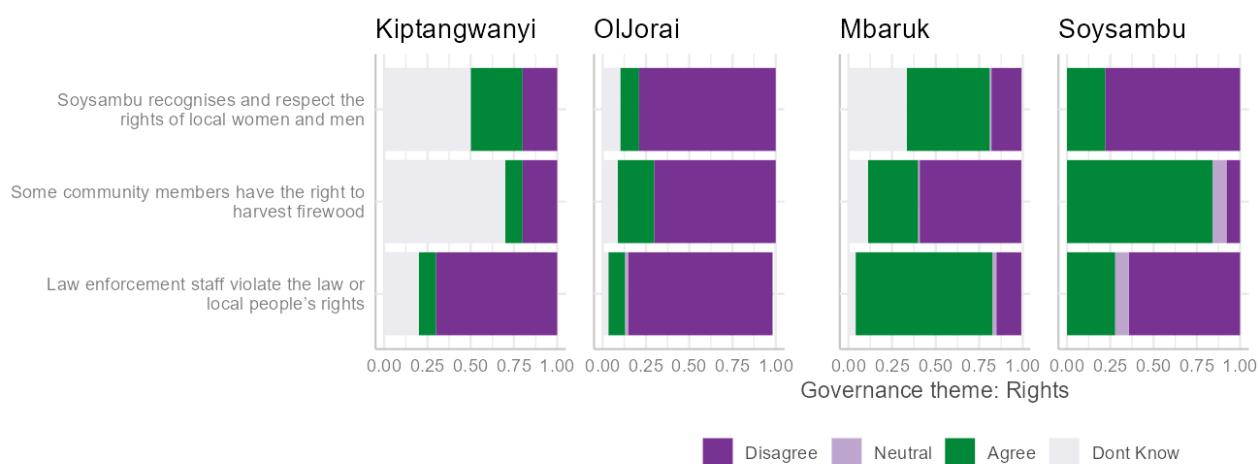


Figure 19: Agree/Disagree on statements about rights



From assessment to action

To capture suggestions from stakeholders, during the survey, respondents were asked a simple open-ended question: “*Are there any other ways, not mentioned, that you think Soysambu could help your community?*”. Furthermore, during the second stakeholder workshop, the 33 participants were divided into groups that represented their communities, and were given an opportunity to brainstorm and add further suggestions.

In the following section, we outline the main categories under which these suggestions fall.

Support for Schools and Education

Soysambu Conservancy has provided land for the construction of Lady Anne Secondary School. One household participant expressed gratitude to Soysambu for this initiative. However, there is a recurring call for greater support for schools and education, as highlighted in both the open-ended survey questions and the stakeholder workshops.

Specifically, participants made several requests for investments from Soysambu, including:

- i. Allocation of land between Baraka and Soysambu for the construction of a primary school and other public utilities, as well as the relocation of Kiboko Primary School to this land.
- ii. Construction of a primary school in Royal Estate.
- iii. Installation of ablution blocks in primary schools such as Kapkures, Kambi Turkana, Oldubei, Olesirwa, Kelelwa, and Olepolos.
- iv. Establishment of an Early Childhood Education (ECDE) center in Jogoo village, addressing a recognized need from community engagement sessions.
- v. Development of a nursery school in Kiwanja Ndege and Ngatta areas, along with polytechnics and secondary schools.
- vi. Implementation of school feeding programs in Ol Jorai Primary School.
- vii. Creation of a library in the Mololine area to engage the youth.
- viii. Provision of transportation for children commuting to Kiboko Primary.

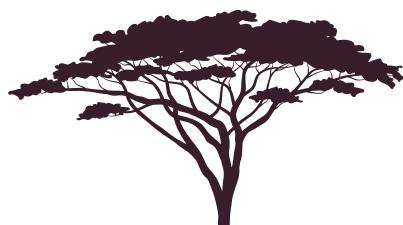
Furthermore, workshop participants suggested that Soysambu could offer scholarships to the brightest students from primary schools across all areas. Some respondents expressed concerns about the fairness of scholarship provisions, emphasizing the importance of ensuring a fair and transparent process.

Health and hospital facilities

Perhaps unsurprisingly, support for health initiatives within the communities was another form of support that was regularly mentioned. During the survey, respondents expressed a collective desire for improved health facilities, including the construction of hospitals, provision of medical equipment, and upgrades to existing dispensaries.

In the Mbaruk area, one in five respondents echoed the need for expanded healthcare infrastructure, including a hospital and a better-equipped dispensary in Echareria. The sentiment was further reinforced during the stakeholder workshops, with participants emphasizing the importance of constructing essential facilities such as a maternity wing, staff houses for health workers, and an outpatient wing in various locations, including Kiungururia.

Similarly, in Oljorai, some respondents stressed the need for improved health facilities in Kampi Turkana and Kapkures: “*We need a hospital in Kapkures as women are losing children because a hospital is lacking*”. The sentiment was echoed during



the stakeholder workshops, where requests for dispensaries at Kampi Turkana and Kapkures, along with staff housing at the Oljorai health center, were highlighted.

While there were not specific requests from respondents in Kiptangwanyi during the survey, during the stakeholder workshops, participants emphasized the importance of equipping the maternity wing at the Elementaita dispensary in Elementaita village.

Water Provision Services

The need for reliable access to water was a recurring theme among the communities surveyed. Respondents highlighted the necessity for water infrastructure such as dams and boreholes to address water scarcity, especially during dry seasons.

In the Mbaruk area, a significant portion of respondents emphasized the importance of water infrastructure, including the revival of existing boreholes and the construction of new ones. Participants specifically called for a water tower at Kiungururia and a borehole in Echareria during the stakeholder workshops, indicating the critical need for improved water access for water that passes through through Kiambogo and near cultivated land to Soysambu: “Allow access to the water passing through Kiambogo to [Soysambu].”

Similarly, in Kasambara, participants echoed the sentiment for enhanced water infrastructure, with requests for boreholes at Wamagwathi’s farm and a pipe extension at Kianyen village, to address water scarcity in the region. In particular, participants called for the existing boreholes near African Forest to be revived.

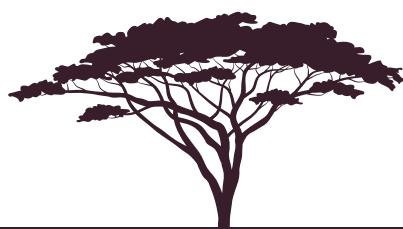
In Oljorai, a third of those surveyed underscored the necessity for dams or water pans to mitigate water scarcity, particularly during dry weather.

Respondents from Kiptangwanyi also expressed a pressing need for community water provision, with 50% of survey respondents advocating for improved water access. Stakeholder workshops reiterated the importance of constructing water points and providing water pipes in key areas to address water challenges effectively.

Overall, the stakeholder workshops served to emphasize the requests for water distribution infrastructure (e.g. water points at Mwariki C, water pipes in Jogoo village), a mega-dam at Soysambu to help harvest water heading to Elementaita around Maisha poa area, a water pan in Kampi Turkana, and a borehole in Ngatta.

Livestock Management

Livestock management also emerged as a significant concern among the communities surveyed, but particularly among those for whom livestock are one of their most important livelihoods. The map below shows that the second most important livelihood for most households, is livestock, especially in places like Oljorai.



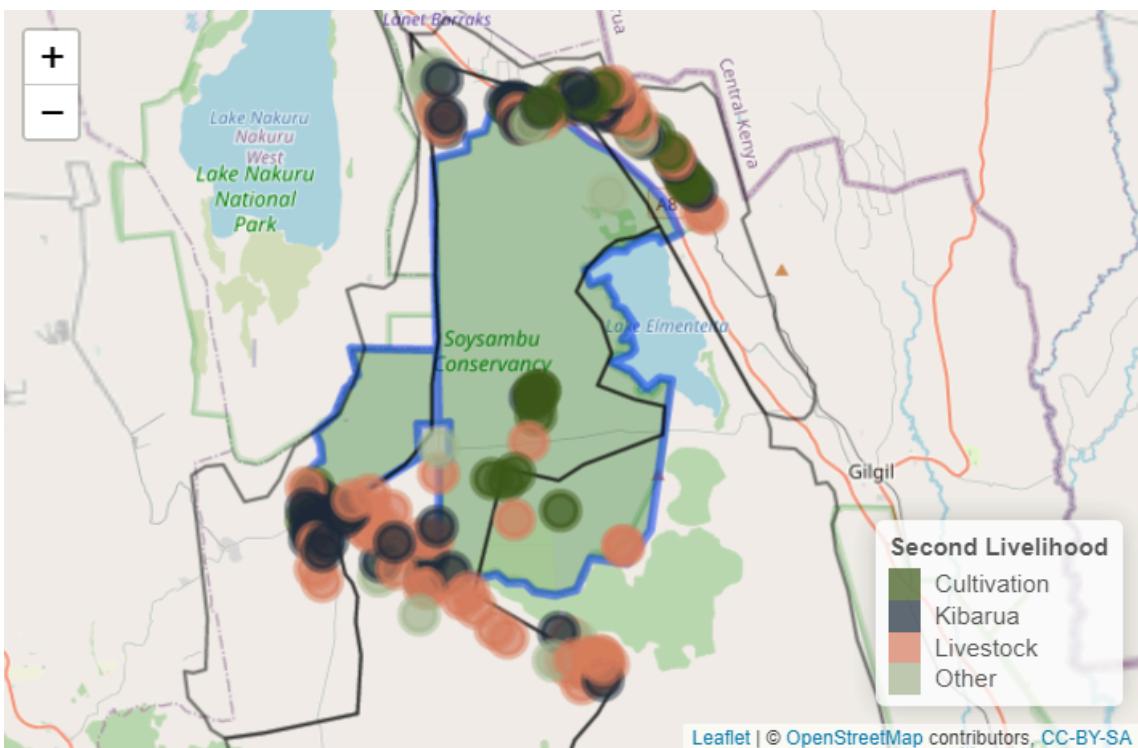


Figure 20: Map of 2nd most important livelihood in surveyed households

Therefore, unsurprisingly, requests and suggestions came primarily from Oljorai, where most of those surveyed sought assistance in multiple aspects of livestock management, including access to grazing fields during dry seasons, provision of grass for livestock, livestock management education programs, compensation for losses due to wildlife encounters, and cessation of harassment by security personnel on herders.

The stakeholder workshops further elucidated the community's requests, with a majority emphasizing the need for capacity building on improved livestock management, access to grazing areas, hay production (some suggested at Nderit primary school), livestock vaccination, and infrastructure development such as cattle dips (e.g. at Kambi Shule). Participants also highlighted the need for measures to mitigate wildlife-livestock conflict, from Hyaenas in particular, with some people suggesting the use of traps.

A number of respondents in the Mbaruk area also highlighted the need for support in sustainable livestock management, as well as grazing access (they mentioned on "unused land"), education on livestock management, and access to animal vaccination services and artificial insemination. Additionally, participants in Kasambara emphasized the long-standing request for the provision of dairy goats and dairy cattle, underscoring the community's desire for diversified livestock options.



Environment and Sanitation

The preservation of the environment and promotion of sanitation also emerged as key priorities and survey respondents and workshop participants emphasized the importance of addressing environmental issues and implementing sanitation measures to improve community well-being.

Respondents from Mbaruk and Oljorai in particular, suggested that Soysambu could address environmental challenges by: installing sanitation points near highways; providing tree seedlings (also mentioned in Oljorai); and raising awareness about environmental conservation.

Additionally, workshop participants emphasized the importance of fencing and tree planting at Chamuka springs to safeguard natural resources and promote environmental sustainability.

Security

Ensuring the safety and security of residents and their property is important for community well-being. While many respondents from communities within Soysambu expressed satisfaction with the prevailing sense of security (see Figure 7 above), it is evident that this is not the case in other areas.

In Mbaruk, 22% of survey respondents identified the need for additional security measures, specifically requesting assistance from Soysambu in constructing a police post in Murang'a Echereria, Mbaruk, and Mololine villages. This sentiment was further emphasized during the stakeholder workshops, with participants additionally advocating for the establishment of a police post in Royal estate.

These calls were echoed by respondents from Kiptangwanyi who also highlighted the need for administrative offices for the chief and assistant chiefs at the Kiptangwanyi chief's camp.

Land and Fencing

Land usage and fencing emerged as significant concerns among respondents. During the survey and stakeholder workshops, a number of people expressed appreciation for Soysambu's past initiatives, such as selling land to their fathers in Kiambogo.

In Mbaruk, 16% of respondents expressed various preferences regarding land usage within Soysambu. These included desires to purchase land from Soysambu if it were to become available, allocate portions of land for community purposes such as markets, graveyards, and waste disposal sites, and provide land to squatters at affordable rates.



In Soysambu, 35% of respondents suggested initiatives to optimize land usage which included requests for subsidized land allocations for cultivation purposes, setting aside land for vegetable farming, and advocating for the installation of electric fences around residential areas to bolster security measures.

Community representation

Based on the governance section, most people across all locations disagreed that there was sufficient transparency and access to information (see Figure 16 above) or equitable benefit sharing (see Figure 18 above). In fact, across all locations, most people felt they were not well informed, didn't have access to timely information about decision made by Soysambu that would affect them, nor that their communities were sharing information with Soysambu. Unsurprisingly, improved community representation emerged as a key recommendation, with survey respondents and stakeholder workshop participants expressing a desire for greater involvement and communication with Soysambu.

For instance, in Mbaruk, a number of respondents emphasized the importance of clear communication from Soysambu regarding community rules and regulations. Additionally, they advocated for the establishment of quarterly general meetings to facilitate open dialogue and transparency. One respondent requested the election of a community representative to enhance community voice and representation.

Similarly, in Oljorai, respondents underscored the importance of fostering positive relationships between Soysambu and local communities. They emphasized the need for community inclusion in decision-making processes and likewise, they suggested holding regular meetings to facilitate ongoing dialogue and collaboration between Soysambu and the community.

Harrassment and compensation

In Oljorai, some respondents highlighted instances where individuals gathering firewood experienced perceived harassment. Additionally, there were reports of individuals feeling harassed during law enforcement activities. Concerns were also expressed regarding perceived delays or lack of compensation from the Kenya Wildlife Service (KWS) for damage caused by wildlife to crops and livestock. These issues were not reported in other surveyed areas. It will be important for Soysambu to thoroughly investigate these reported incidents to ensure the well-being and safety of community members.



Further suggestions

Less frequently mentioned suggestions, or those posing potential implementation challenges, include prioritizing employment opportunities for community members within the conservancy and facilitating community participation in game drives to observe wild animals within the Soysambu Conservancy.



Recommendations

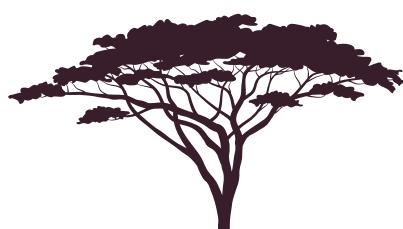
Here, we outline actionable steps and strategies aimed at enhancing the conservation efforts and social impact management within Soysambu Conservancy. Drawing upon the identified challenges and opportunities, our recommendations seek to foster sustainable practices, improve community engagement, and promote equitable outcomes for all stakeholders involved.

Requests from communities

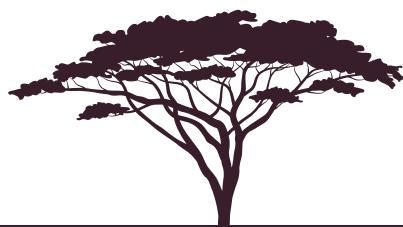
Here we have included all the suggestions that were made by survey respondents, or in the stakeholder workshops, into a table format.

Table 3: Community suggestions for other ways Soysambu could help the community.

Category	Suggestion
Support for Schools and Education	Allocation of land between Baraka and Soysambu for the construction of a primary school and other public utilities, as well as the relocation of Kiboko Primary School to this land.
	Construction of a primary school in Royal Estate.
	Installation of ablution blocks in primary schools such as Kapkures, Kambi Turkana, Oldubei, Olesirwa, Kelelwa, and Olepolos.
	Establishment of an Early Childhood Education (ECDE) center in Jogoo village, addressing a recognized need from community engagement sessions.
	Development of a nursery school in Kiwanja Ndege and Ngatta areas, along with polytechnics and secondary schools.
	Implementation of school feeding programs in Ol Jorai Primary School.
Support for Health and hospital	Creation of a library in the Mololine area to engage the youth.
	Provision of transportation for children commuting to Kiboko Primary.
	Offering scholarships to the brightest students from primary schools across all areas.



Category	Suggestion
facilities	Construction of hospitals and dispensaries, provision of medical equipment, and upgrades to existing healthcare facilities.
	Establishment of a maternity wing, staff houses for health workers, and outpatient wings.
	Improvement of health facilities in various locations such as Kampi Turkana and Kapkures.
	Equipping the maternity wing at the Elementaita dispensary.
Water Provision Services	Installation of water infrastructure including boreholes and water towers.
	Construction of dams, boreholes, and water towers.
	Revival of existing boreholes and extension of water infrastructure.
	Mitigation of water scarcity through the construction of water pans and pipes.
Livestock Management	Access to grazing fields during dry seasons and provision of grass for livestock.
	Education programs on improved livestock management and capacity building.
	Compensation for losses due to wildlife encounters and cessation of harassment by security personnel on herders.
Environment and Sanitation	Installation of sanitation points near highways and provision of tree seedlings.
	Fencing and tree planting at Chamuka springs.
	Raising awareness about environmental preservation.
Security	Construction of police posts in various locations.
	Establishment of administrative offices for local authorities.
Land and Fencing	Purchase and allocation of land for community use.
	Provision of land for cultivation and installation of electric fences.
Community representation	Clear communication of rules and regulations, and establishment of quarterly general meetings.
	Fostering positive relationships and inclusion of the community in decision-making processes.
Harrassment and compensation	Investigation of reported harassment incidents and compensation for wildlife-related damages.



Category	Suggestion
Further suggestions	Prioritizing employment opportunities for community members within the conservancy and facilitating community participation in game drives.

Agricultural extension services

In the requests and suggestions from those surveyed and workshop participants, there were a number of calls for education programs to improve livelihoods. For most households, the principal livelihoods are still agriculture based (with Kibarua or livestock for some). Soysambu has already carried out some form of agricultural extension activity through the farmer's seminar on livestock production. This could be an area that is expanded on to support those in the community who are engaged in smallholder activities.

An extension programme could be designed to promote new methods and solutions to inform smallholders on how to increase production (and income) and become more food secure.

A needs-based assessment would be required for the target community and tracking impact would be a crucial consideration. Changing farming practices and behaviours is a particularly challenging objective in the short-term as behaviours tend to change over longer periods of time and often proof of success of new practices needs to be demonstrated for changes in traditional farming practice to be adopted. As such, this would be a longer-term programme allowing for shifts in both the knowledge and attitudes of the target community with regards to the practices being promoted and actually being implemented. Funding of certain inputs should also be considered for the success of this programme and for the farmers to be able to adopt some of the practices being promoted.

An agricultural extension programme could be rolled out in a number of ways, from inviting interested members of the community to watch videos promoting new and improved farming methods – through to creating demonstration farms to impart knowledge in a more practical manner and allowing for participants to see changes over time.

The tables below set out some examples of how climate smart agriculture could be promoted to the smallholder community. These suggestion aim to increase farmer's knowledge on farming practices that can improve productivity in crop or livestock agriculture, and how farmers can adapt their practices to accommodate an ever-changing climate.



Table 4: Agricultural extension - Soil Management

Theme	Content	Disbursement of information
Soil health	<p>Information sharing on what a soil test is and why it is important to do one e.g. can tell the health of the soil, PH levels, which crops can be grown in your soil and which fertilizer to use.</p> <p>How to carry out a soil test. Should do a soil test every 3-5 years.</p>	<p>Practical demonstration - how to carry out a crop test.</p> <p>Potential to fund soil tests for participants. Cost circa 1000 KSH per test.</p>
Conservation agriculture	A way of farming to keep nutrients and moisture in the soil. Helps control pests and diseases. Minimum tillage, mulching, crop rotation	Practical demonstration of all 3 activities.
Soil management	<p>The importance of fertilizer to return nutrients to soil.</p> <p>Different types of fertilizer and nutrients at different stages of growth.</p> <p>Manure - helps soil fertility and improves soil health over time – reducing the need for fertilizer.</p>	<p>Practical demonstration of fertilizer and manure application.</p> <p>Possible provision of inputs for 1 season for participants.</p>

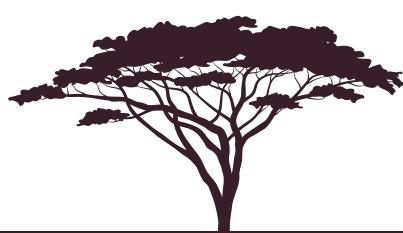


Table 5: Agricultural extension - Maize.

Theme	Content	Disbursement of information
Planting	Informing participants that maize does not grow well in acidic soils. Soil test can determine this. What can be done if soil is acidic e.g. add lime.	
	Selecting the best maize variety for the area and using certified seeds (disease free and guaranteed to germinate).	
	Consider planting drought resistant crops too e.g. maize and sorghum.	Practical demonstration of how to plant and education session on importance of certified seeds and contingency crops.
	Preparation of land for planting e.g. minimum tillage, marking planting lines, digging planting holes and manure and fertilizer application.	
	Plant beans between maize rows to boost soil health.	
Management	Importance of weeding, fertiliser and when do apply, soil testing (to gauge best fertilizer).	Practical demonstration.
Pests and diseases	Plant certified seeds, keep farm weed free and rotate crops each season. Scout for pests and diseases regularly and treat them as you see them. How to deal with plants once diseased.	Education session e.g videos.
Storage	The importance of harvesting and storing appropriately e.g. Dry maize thoroughly for 2-3 weeks on tarpaulin in the sun. If storing in a sisal sack – treat maize first with pesticide (can't be eaten for 6 months after treating).	Practical demonstration and education on alternative storage methods e.g. Hermetic bags. Possible funding of hermetic bags for participants.



Table 6: Agricultural extension - Livestock

Theme	Content	Disbursement of information
Cows – Housing	<p>Importance of good housing and what a cow shed should consist of e.g. Sleeping area, walking area, feeding area, milking place and calf pen.</p> <p>Use concrete flooring.</p> <p>Clean daily and use disinfectant.</p>	Practical demonstration.
Cows – feeding	<p>Ensure good yields with provision of fodder crops, protein supplements (dairy meal, legume plants) along with vitamins and minerals.</p> <p>What the average healthy cow needs to produce well.</p>	Education session e.g. talk from experts or videos.
Cows (dairy) - fodder	What grasses can be planted directly into the field and creating a nursery for other fodder grasses.	Practical demonstration.
Cows (dairy) – Hay	<p>Good for adapting to the changing climate.</p> <p>How to make it.</p>	Practical demonstration how and when to cut grass, drying it and storage.
Cows (dairy) – Silage	Planning for the dry season. How to make it and how long it can be stored for.	Practical demonstration on how to make and store silage.

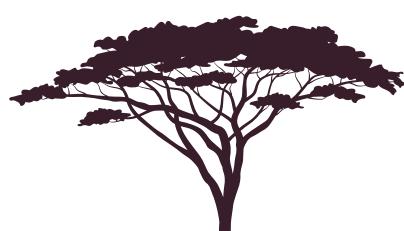


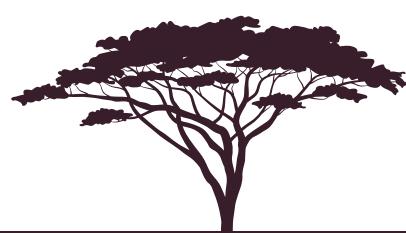
Table 7: Water Management

Theme	Content	Disbursement of information
Rainwater harvesting	<p>How to build a rainwater harvesting system by fixing gutters to roofs and connecting to a tank.</p> <p>Building a water pan that collects and stores surface run off water for crops.</p>	<p>Demonstration on how to create gutters on roofs.</p> <p>Demonstration of creating a water pan.</p> <p>Possible funding of materials e.g. water storage tanks, gutters.</p>
Water management	<p>Installing a drip irrigation system to save time and money.</p> <p>How solar power can also be used e.g. solar panels and solar pumps.</p>	<p>Demonstration of drip irrigation system.</p> <p>Possible funding of tanks, irrigation materials.</p>



Table 8: Financial literacy

Theme	Content	Disbursement of information
Budgeting	What is it? Why it's important.	Education session – talk given by an expert or video.
Loans	Why take a loan e.g. farm inputs. Type of loan e.g. bank/SACCO/Chama. Paying it back, interest, collateral.	Education session – talk given by an expert or video.
Savings	Why save e.g. gets you through poor yields, buying inputs etc. Work out how much you can afford to save, where to put your money e.g. a bank etc.	Education session – talk given by an expert or video.
Insurance	Why? Changing weather and unexpected losses. How insurance works etc.	Education session – talk given by an expert or video.



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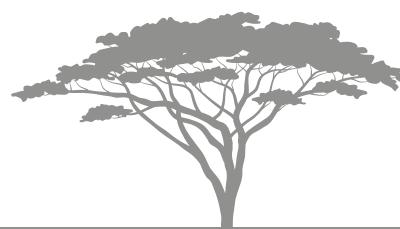
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Appendix

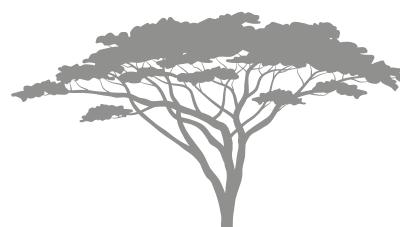
Appendix 1 - Sample frame

Table 9: Sampling of households from locations and villages

Location	Village	Estimated No. of HHs	Selected
Gilgil	Kikopey		
Gilgil	Karura		
Gilgil	Kasarani		
Kiptangwanyi	Jogoo	600	yes
Kiptangwanyi	Mwariki C		
Kiptangwanyi	Elmentaita	200	
Kiptangwanyi	Bombo	250	
Kiptangwanyi	Dam	150	
Kiptangwanyi	Old game		
Kiptangwanyi	Miti Mingi		
Mbaruk	Muranga	90	yes
Mbaruk	Mbaruk Marura	100	
Mbaruk	Pema	200	yes
Mbaruk	Kiwanja Ndege Mkulima	5000	yes
Mbaruk	Kiambogo	70	yes
Mbaruk	Kahuho	200	
Mbaruk	Mololine	80	yes
Mbaruk	Kasambara	100	



Location	Village	Estimated No. of HHs	Selected
Mbaruk	Kiwanja Ndege	200	
Mbaruk	Leleshwa	80	yes
Mbaruk	Echareria	300	yes
Mbaruk	Mbaruk	500	yes
Oljorai	Oldubey	260	yes
Oljorai	Kelelwa	282	yes
Oljorai	Central Utut	178	yes
Oljorai	Kapkures	274	yes
Oljorai	Elementaita Munyaka	600	
Oljorai	Lokichogio	400	
Oljorai	Kapedo	189	yes
Oljorai	Central hall	700	
Oljorai	Kongasis		
Oljorai	Block D	500	
Oljorai	Gema	400	
Oljorai	Kampi shule	400	
Oljorai	Kongasis A	800	
Oljorai	Kongasis B	1300	
Oljorai	Kongasis Centre	1200	
Oljorai	Ngatta	250	yes
Oljorai	Kampi Turkana	117	yes
Soysambu	Head office	92	
Soysambu	Soysambu area	183	yes
Soysambu	Melia Nyeupe/borehole/nginegii	28	
Soysambu	Jolai 1, 2, sleeping warrior, jolai gate	50	yes
Soysambu	Congreve area	11	



Appendix 2 - Additional data

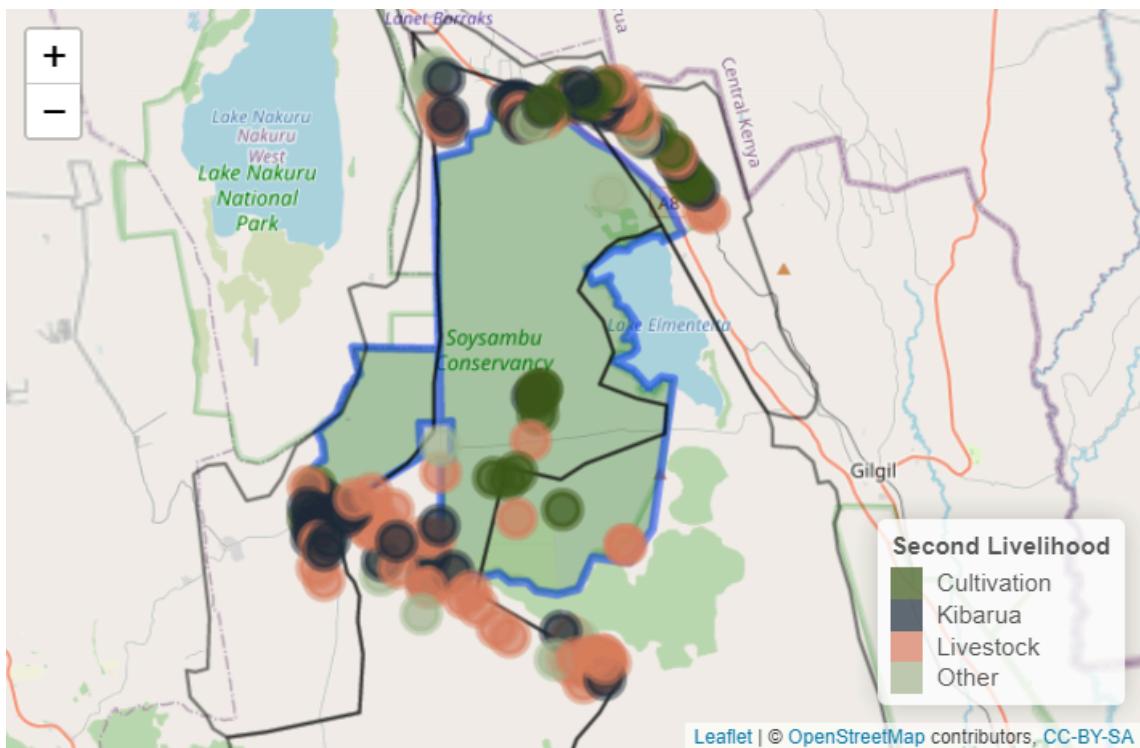


Figure 21: Map of second most important household livelihood

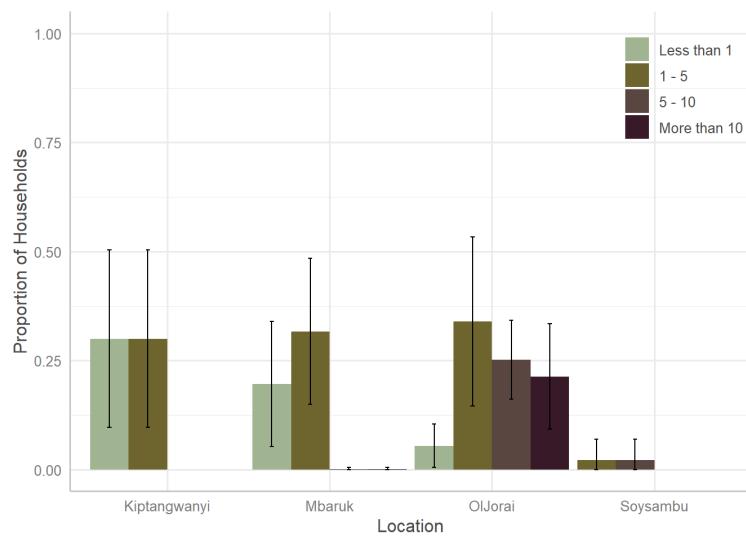
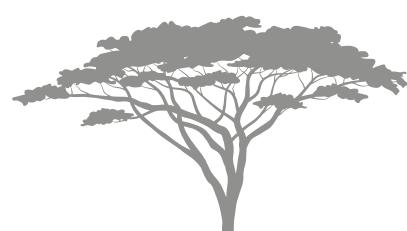


Figure 22: Livestock as tropical livestock units, per household



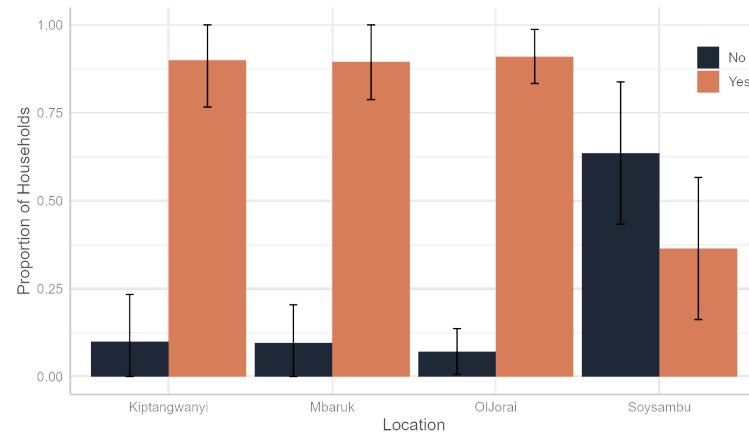


Figure 23: Did the household cultivate crops in the last year

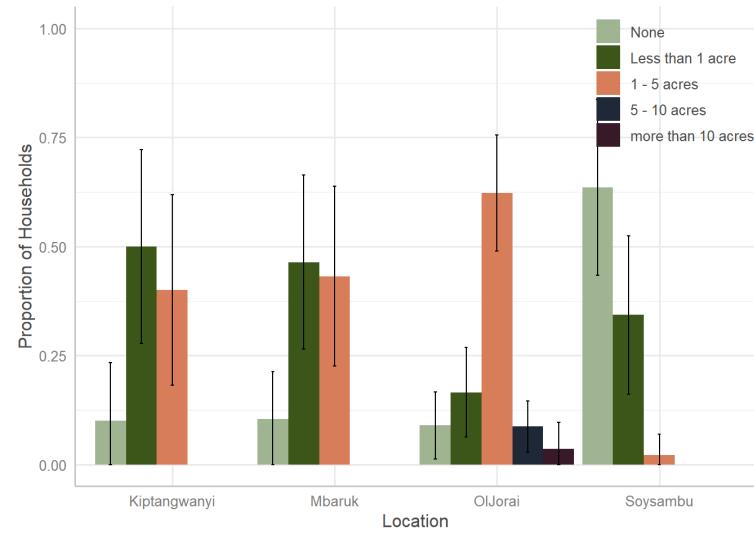
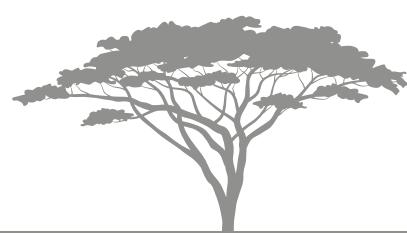


Figure 24: No. of acres cultivated by the household in their location, in the last year



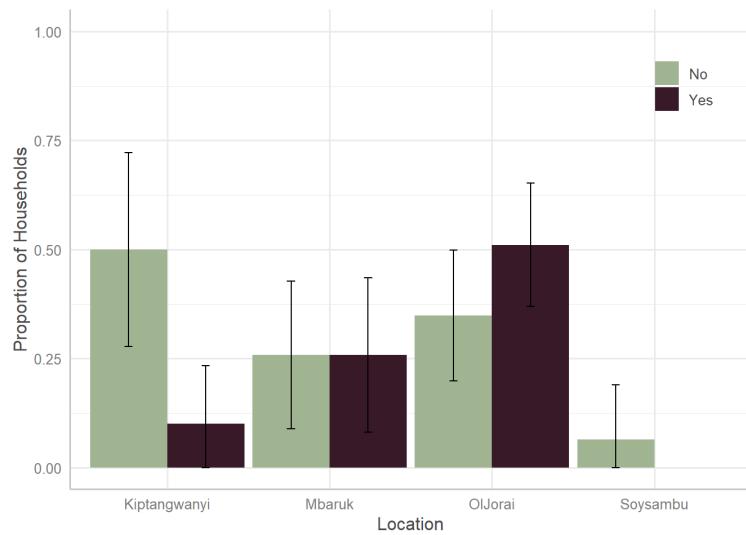


Figure 25: Livestock damaged by wildlife in the last year

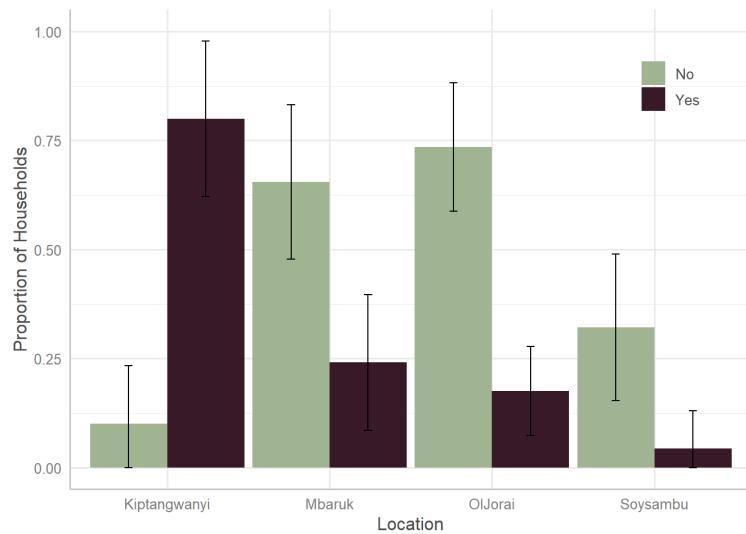


Figure 26: Cultivated crops damaged by wildlife in the last year

