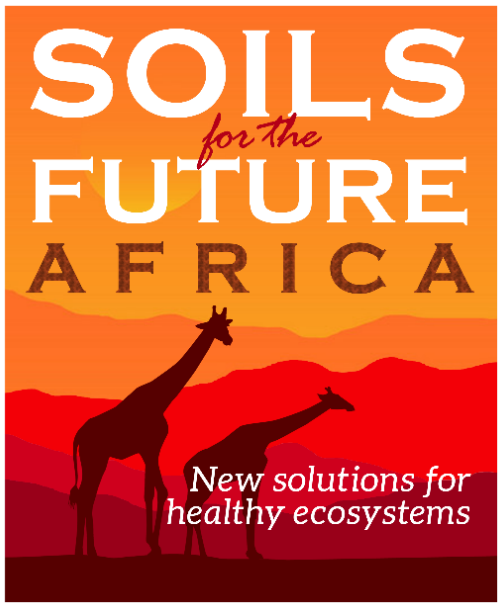
KAJIADO RANGELANDS CARBON PROJECT MONITORING REPORT



carbon
New solutions for healthy ecosystems
SOLVE

Project title	Kajiado Rangelands Carbon Project
Project ID	4714
Crediting period	16-October-2023 to 15-October-2063
Monitoring period	16-October-2023 to 15-October-2063
(CCB) GHG accounting period	16-October-2023 to 15-October-2063
Original date of issue	01-September-2026
Most recent date of issue	01-September-2026 (to be updated after audit completion)
Version	1.0
VCS Standard version	4.7
CCB Standards version	3.1
Project location	Republic of Kenya, Kajiado County
Project proponent(s)	Soils for the Future Africa Ltd

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Validation/verification body	Aster Global Environmental Solutions Matt Campbell | +1-330.294.1242 Ext. 115 | mcampbell@asterglobal.com
History of CCB Status	No history of CCB status
Gold Level criteria	Exceptional Climate Adaptation Benefits: Activities include restoring perennial grasses to improve soil carbon storage and water retention, enhancing rangeland resilience to climate change. Exceptional Community Benefits: The project improves livelihoods by strengthening grazing cooperatives, increasing income from sustainable livestock management, and supporting education through carbon revenue reinvestment. Exceptional Biodiversity Benefits: Conservation initiatives focus on maintaining habitat connectivity for wildlife, reducing human-wildlife conflicts, and protecting key species like elephants, giraffes, and vultures.
Prepared by	Mark E. Ritchie, Ph.D. Director – Soils for the Future Africa Ltd; Director – CarbonSolve, LLC

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1. SUMMARY OF PROJECT BENEFITS

1.1. Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) **Community-Led Implementation of Rapid Rotational Grazing**	Participating Maasai communities in Kajiado County have partnered with the project proponent to implement rapid rotational grazing (RRG) centered on short duration (i.e., rapid) grazing episodes that are shifted from location to location (i.e., rotational) within both wet and dry season grazing areas (i.e., a new grazing practice because it occurs within grazing areas during each grazing season).	2.1.1, 3.2.2	Same as during the monitoring period (1st monitoring report)
2) **Soil Organic Carbon Sequestration & Long-Term CO_2 Removals**	Through growing organic carbon stocks, the project has yielded durable removals of CO_2 from the atmosphere.	3.2.2, 3.2.4	Same as during the monitoring period (1st monitoring report)
3) **Revitalization of Traditional Pastoral Mobility to Restore Rangeland Productivity**	Over the monitoring period, nine project activity instances came together to participate in grazing plans allowing livestock to move over long distances and efficiently use wet and dry season range.	3.2.2	Same as during the monitoring period (1st monitoring report)
4) **Strengthening Livestock & Community Resilience to Climate Extremes**	Through restoration of perennial grasses, RRG implementation has begun to accrue community benefits including a lower likelihood of catastrophic livestock loss during drought, sustained meat and milk production through the dry season, and heavier livestock that are more valuable economically.	3.3.1, 4.1.1	Same as during the monitoring period (1st monitoring report)
5) **Enhancing Biodiversity & Wildlife Connectivity**	Ecological changes in vegetation and soil from the project implementation are helping to maintain or enhance biodiversity High Conservation Values, most notably wildlife movement corridors.	5.1.2, 5.2.1	Same as during the monitoring period (1st monitoring report)

1.2. Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Achievements during the Project Lifetime
GHG emission reductions & removals	*Net estimated emission removals in the project area, measured against the without-project scenario*	1,268,555 tCO2e (net removals + buffer)	Same as for Monitoring Period
	Net estimated emission reductions in the project area, measured against the without-project scenario	0	Same as for Monitoring Period
Forest[1] cover	*For REDD[2] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario*	Not Applicable	N/A
	For ARR[3] projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Not Applicable	N/A
Improved land management	*Number of hectares of existing production forest land in which IFM[4] practices have occurred as a result of the project's activities, measured against the without-project scenario*	Not Applicable	N/A
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	501,881	Same as for Monitoring Period

[1] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO, or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)

[2] Reduced emissions from deforestation and forest degradation (REDD) – Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

[3] Afforestation, reforestation and revegetation (ARR) – Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)

[4] Improved forest management (IFM) – Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood, and fuelwood (*VCS Program Definitions*)

Training	*Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities*	At least 880 community members were trained during the monitoring period: approximately 410 in paid project roles (70 full-time staff including 49 grazing coordinators drawn from participating communities, 85 short-term contract staff, and 255 household-survey enumerator engagements) and 470 grazing-committee members serving on 40 committees across the six PAIs, who receive grazing-management training (deduplicated committee register; a small number may hold both). (Grazing Committee Register; Sections 4.4.6 [GL2.9] and 4.4.1 [GL2.2].)	Same as for Monitoring Period
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	At least 170 women were trained: 85 in paid project roles (6 full-time, 17 short-term, 62 household-survey enumerator engagements) and 85 women serving as grazing-committee members (18.1% of the 470 committee members across the six PAIs). (Grazing Committee Register; Section 4.4.1 [GL2.2].)	Same as for Monitoring Period
Employment	*Total number of people employed in of project activities,[5] expressed as number of full-time employees[6]*	70 full-time employees during the monitoring period. In addition, 85 short-term/seasonal contract staff and 255 household-survey enumerator engagements were employed but are not counted as full-time employees. (Sections 2.3.10 and 4.4.6 [GL2.9].)	Same as for Monitoring Period
	Number of women employed in project activities, expressed as number of full-time employees	6 women employed full-time (of 70). Across all paid roles, 23 women held full-time or short-term contract positions (6 full-time and 17 short-term), and 85 women held paid engagements in total, including enumerator roles. (Section 4.4.1 [GL2.2].).	Same as for Monitoring Period

[5] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers, and community members that are paid to carry out project-related work.

[6] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region, or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102]; [17.28])

Livelihoods	*Total number of people with improved livelihoods[7] or income generated as a result of project activities*	Approximately 60,600 people across the six participating PAIs (12,121 registered member households in the 2025 sampling frame multiplied by the PD-validated mean of 5 persons per household, PD Section 2.1.15). By PAI: Olgulului 25,815, Shompole 11,400, RAMAT East 10,070, Olkeri 5,755, Eselenkei 5,070, Olkiramatian 2,495. These communities benefit project-wide from the improved rangeland productivity delivered by rapid rotational grazing and from the US$2/ha benefit-sharing distributed across all six PAIs (KSh 166.6 million; at least 4,660 education-bursary recipients; approximately 410 community members in paid roles). Population-wide household-survey indicators confirm improving livelihoods: households owning livestock rose from 88.4% to 95.0%, livestock-sales participation from 72.4% to 77.8%, and median reported annual household income from KSh 100,000 to KSh 144,000 (nominal; drought-recovery caveat, Section 4.3.1). (2025 sampling frame; PD Section 2.1.15; Sections 4.1.1, 4.3.1 and 4.4.1.).	Same as for Monitoring Period
	Number of women with improved livelihoods or income generated as a result of project activities	Approximately 29,900 women, applying the PD-validated per-PAI female proportions (PD Table 4-2: Olgulului 50.5%, Shompole 48.9%, Olkeri 48.8%, RAMAT East 49.0%, Olkiramatian 47.0%, Eselenkei 46.5%) to the six-PAI population above. Women-respondent indicators improved over the monitoring period: the children's-milk indicator rose from 41.7% to 78.6% and milk sales from 18.6% to 26.8%; median reported annual income among female-headed households rose from KSh 80,000 to KSh 120,000. Women also benefited through need-based education bursaries and women-endorsed	Same as for Monitoring Period

[7] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

		community budget proposals. (2025 sampling frame; PD Table 4-2; Sections 4.1.1, 4.1.3 and 4.3.1.).	
Health	*Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario*	Data not available (no project-attributable count this monitoring period). The carbon-revenue-funded health pathway had not commenced during the monitoring period; advance payments were allocated primarily to education, governance and community operations. Early, indirect health-relevant gains through the food-security and nutrition pathway are reported but not counted as health-service beneficiaries: the share of households in which children drank milk the previous day rose from 41.2% to 78.7% (poorest quartile 27.4% to 63.8%). (Sections 4.1.1 and 4.3.1.).	Same as for Monitoring Period
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	Data not available (the carbon-revenue-funded health pathway had not commenced during the monitoring period). Indirect nutrition signal among women respondents: the children's-milk indicator rose from 41.7% to 78.6% (Section 4.3.1).	Same as for Monitoring Period
Education	*Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario*	At least 4,660 students received education bursaries funded by advance US$2/ha payments (KSh 43.0 million) during the monitoring period; documented FY2024 disbursements include 1,400 students in Shompole and 500 in Olkeri (pre-payment evidence register). Household surveys show improved school attendance population-wide: ages 6–17 rose from 76.5% to 83.8%, the never-attended share fell from 18.4% to 12.6%, and ages 14–17 rose from 71.8% to 78.0%. (Sections 4.1.1 and 4.3.1.).	Same as for Monitoring Period
	Number of women and girls for whom access to, or quality of, education was improved as a result	Bursary recipients include girls and young women, and the largest attendance gains were among girls: ages 6–17 rose from 77.3% to 85.9% and ages 14–17 from 75.0% to	Same as for Monitoring Period

	of project activities, measured against the without-project scenario	84.1%. Sex-disaggregated bursary-recipient counts are being finalized from disbursement records. (Sections 4.1.1 and 4.3.1.).	
Water	*Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario*	Data not available (no project-attributable increase quantified this monitoring period). The household-survey water-access indicator showed no improvement over the monitoring period (Section 4.3.1). The project's water benefits operate through the indirect soil-moisture and surface-water (HCV2 hydrological-services) pathway (Sections 4.1.4 and B2.4), which is not yet quantified as a count of people with improved access to drinking water.	Same as for Monitoring Period
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Data not available. Water-collection times for women showed no improvement over the monitoring period and are disclosed in Section 4.3.1.	Same as for Monitoring Period
Well-being	*Total number of community members whose well-being[8] was improved as a result of project activities*	Approximately 60,600 people across the six participating PAIs (12,121 registered member households in the 2025 sampling frame multiplied by the PD-validated mean of 5 persons per household). Net positive well-being was achieved across all identified community groups (Section 4.1.3). Population-wide monitoring indicators improved: 98.8% of households rated the rapid rotational grazing plan helpful; the share rating village grazing lands good or very good rose from 72.5% to 90.5%; and food-security, nutrition, herd-size and income indicators improved across community groups (Section 4.3.1). (2025 sampling frame; Sections 4.1.3, 4.3.1 and 4.4.1.).	Same as for Monitoring Period

[8] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.

	Number of women whose well-being was improved as a result of project activities	Approximately 29,900 women (the PD-validated per-PAI female proportions, PD Table 4-2, applied to the six-PAI population above). Net positive for women and female-headed households (Section 4.4.3): female-headed households rating grazing lands good or very good rose from 74.6% to 93.5%, and the children's-milk indicator among women respondents rose from 41.7% to 78.6%. (2025 sampling frame; PD Table 4-2; Sections 4.1.3 and 4.4.3.).	Same as for Monitoring Period
Biodiversity conservation	*Change in the number of hectares significantly better managed by the project for biodiversity conservation,[9] measured against the without-project scenario*	501,881	Same as for Monitoring Period
	Number of globally Critically Endangered or Endangered species[10] benefiting from reduced threats as a result of project activities,[11] measured against the without-project scenario	At least 8, though only baseline monitoring data have been gathered to date.	Same as for Monitoring Period

2. PROJECT DETAILS

2.1. Summary Description of the Implementation Status of the Project

2.1.1. Summary Description of the Project (VCS, 2.1, 3.6; CCB, G1.2)

The Kajiado Rangelands Carbon Project (KRCP), developed by Soils for the Future Africa (SftFA) in partnership with CarbonSolve, LLC, is an approximately 1.0-million-hectare soil carbon project in Kajiado County, Kenya, along the central part of the southern border with Tanzania. Importantly, it uses the same methodology as the validated Verra VCS-CCB Northern Kenya Grassland Carbon Project (#1082), the VM0032 methodology authored by Soils for the Future, LLC. As with the Northern Kenya project, the KRCP involves a two-tiered approach to monitoring project activities and resultant impacts by 1) tracking on-the-ground movements of livestock via grazing coordinators, and 2) remotely measuring the impacts of grazing on vegetation via satellite imagery.

[9] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.
[10] Per IUCN's Red List of Threatened Species
[11] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

Prior to the development of the KRCP, local pastoral Maasai were increasingly succumbing to the pressures of modern life that promotes sedentarization, often leading to reduced livestock mobility and the decline in rangeland health due to overgrazing. The project engages with local communities to implement rapid rotational grazing (RRG) practices that actively restore the production of perennial grasses, remove carbon dioxide (CO_2) from the atmosphere to soil organic carbon (SOC), and enhance biodiversity through restored rangeland health.

During the monitoring period (2024-2025) the project implemented RRG in 501,881 hectares, yielding removals of 1,268,555 of tCO2e. This rate of removal (1.74-1.77 tons per hectare CO_2-e), when projected over an eventual ~1 million hectares, gives an annual average of more than 1,700,000 tons CO_2-e and a total of 48,149,114 tons CO_2-e over 40 years (accounting for leakage).

The KRCP also aims to provide exceptional benefits in community adaptation to climate change and improved community well-being (in the form of pastoralists improving their lands to secure pastoral livelihoods). The prolonged practice of RRG is expected to restore perennial grasses and other livestock forage, which will provide buffers against variable rainfall and reduce the need for long and risky migrations during droughts. Access to deep-rooted perennial grasses and abundant soil carbon will increase the climate adaptability of local communities because soils with more carbon store more water and sustain greater forage production via improved nutrient cycling, which is especially important during dry periods. Water retained in soils will have the added benefit of improving surface water availability and making intermittent water sources more reliable and longer-lasting and protecting perennial water sources from vulnerability to extreme drought.

In addition, the project provides biodiversity benefits in the form of restored rangeland health and attendant benefits to rangeland dependent species. The project's location straddles the crossroads between world-famous High Conservation Value protected areas: four Kenyan National Parks (Amboseli, Chyulu Hills, Tsavo, and Nairobi); one National Reserve (Maasai Mara); and four Tanzanian National Parks (Kilimanjaro, Arusha, Tarangire, and Serengeti). Restoration of perennial grasses and soil water storage capacity is also expected to bring important biodiversity benefits, particularly to herbivores negatively impacted by declining rangeland health. The KRCP is home to multiple species listed as Endangered or Critically Endangered by the International Union for Conservation of Nature (IUCN), including iconic African large herbivores such as the savanna elephant (*Loxodonta africana*) and the Masai giraffe (*Giraffa tippelskirchi*), as well as declining raptor species such as the Bateleur (*Terathopius ecaudatus*) and Rüppell's Vulture (*Gyps rueppellii*).

2.1.2. Audit History (VCS, 4.1)

Audit Type	Period	Program	VVB Name	Number of years
Validation	(17-September-2024-- 03-October-2025)	VCS-CCB	Aster Global Environmental Solutions	One year
Verification	(16-October-2023 – 31-Deceber-2025)	VCS-CCB	Aster Global Environmental Solutions	Two years

2.1.3. Sectoral Scope and Project Type (VCS, 3.2)

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	Improved grassland management
Project Activity Type	Grouped

2.1.4. Project Proponent (VCS, 3.7; CCB, G1.1)

Organization name	Soils for the Future Africa Ltd
Contact person	Timothy H. Tear, Ph.D.
Title	Director
Address	276 Canco Rd., Suite 2, Portland, ME 04103, USA
Telephone	+1-518-898-8545
Email	ttear.carbonsolve@gmail.com

2.1.5. Other Entities Involved in the Project

Organization name	CarbonSolve, LLC
Role in the project	Technical lead, climate benefits
Contact person	Mark Ritchie, Ph.D.
Title	Director
Address	23 Meadows Circle, Preston ID 83263 USA
Telephone	+1-315-447-1612
Email	mark.ritchie@carbonsolve.world

Organization name	Climate Asset Management as Portfolio Manager for the Nature Based Carbon Fund (NBCF)
Role in the project	Investor
Contact person	Ben Caldwell
Title	Senior Carbon Investment Manager
Address	Hill House, 1 Little New Street, London, EC4A 3TR, United Kingdom

Telephone	+31-683-792-828
Email	ben.caldwell@climateassetmanagement.com

Organization name	Converge
Role in the project	Technical lead, community benefits
Contact person	Deepali Gohil
Title	Executive Director
Address	Westlands, Nairobi, Kenya
Telephone	+254-702-788-055
Email	gohil@convergecatalysts.com

Organization name	Biodiversity Research Institute
Role in the project	Technical lead, biodiversity benefits
Contact person	David Evers, Ph.D.
Title	Executive Director
Address	276 Canco Rd., Portland, ME 04103 USA
Telephone	+1-207-653-7378
Email	david.evers@briwildlife.org

2.1.6. Project Start Date (VCS, 3.8)

Project start date	16-October-2023
Justification	As set out in VCS Standard Version 4.7, the project start date of an AFOLU project is the date on which activities that lead to the generation of reductions or removals are implemented. For this project, the project start date is defined by commencement of RRG activities in the initial PAIs, which began on 16 October 2023, as substantiated by livestock monitoring report data provided to the VVB.

2.1.7. Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Crediting Period	The crediting period is 16-October-2023 to 15-October-2063, which meets the VCS program requirements of a minimum of 20 years and a maximum of 100 years as set out in section 3.9.3 of the most recent version of the VCS Standard.
Start Date of First or Fixed Crediting Period	16-October-2023 to 15-October-2063
Total Number of Years of Crediting Period	40 years
CCB Benefits Assessment Period	16-October-2023 to 15-October-2063

2.1.8. Project Location (VCS, 3.11; CCB, G1.3)

X KML file has been provided

The project will be implemented in Kajiado County, Kenya, and is expected to ultimately include lands within all administrative districts (or divisions) of the county, including Namanga, Central, Magadi, Loitokitok, Mashuru, and Ngong.

The Project Area includes all of the PAIs (see hatched areas in Figure 2.1-1). After screening out non-grassland areas using a standard protocol (details available in *"SOP Removing ineligible areas"* in supporting documents) from the delineated geographic boundaries of Phase I and II PAI communities (e.g., large roads, forested area, agricultural lands), the total Project Area under this verification is 501,881 hectares. This will ultimately expand to roughly 1,307,025 million hectares for the full project buildout. The overall Project Geographic Area (PGA)/CCB Project Zone, which is inclusive of all current and potential PAIs, is presented in Figure 2.1-1 and encompasses approximately 1,675,470 hectares.

The VCS Project Zone, outlined in blue dashes in Figure 2.1-1, includes all PAIs as well as areas that border those PAIs, into which leakage may occur. This includes areas that fall outside of the PGA/CCB Project Zone (i.e., the Enduimet WMA and Entasekera, Eworendeke, Entonet, Kalii, Kikumini, Kimana, Kimwati, Matale "A", Mbirikani, Morijo Loita, Mweini, Olmesutie, and Wosiwosi villages and communities).

The communities within the PGA/CCB Project Zone (see Section 2.3.2) include businesses, communities (CLA), concessions, conservancies, cooperatives, a National Park, and Private land ownerships. Community participation in the project will be phased, with PAI enrollment occurring between 2023 and 2026, with corresponding first verification years spanning from 2024 to 2027.

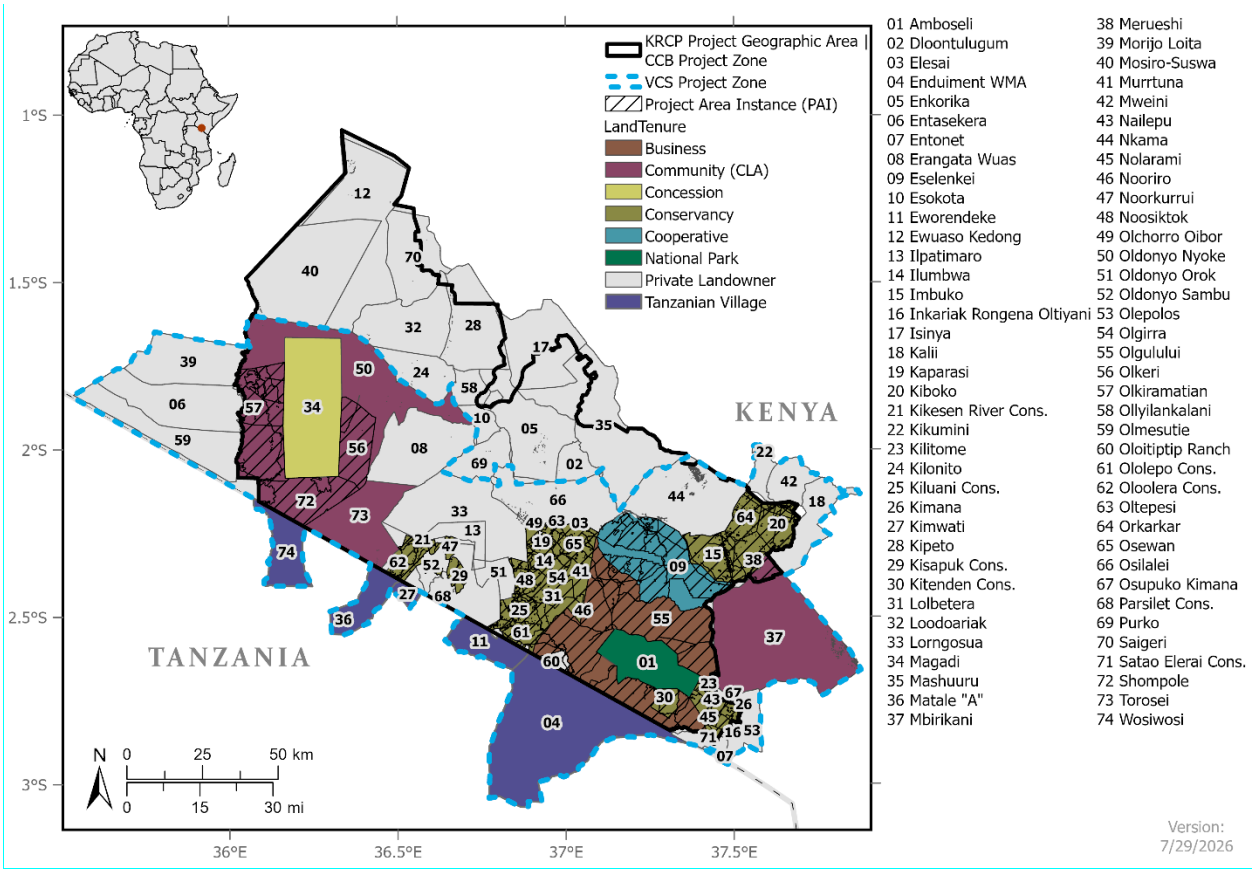


Figure 2.1-1: Map of the Kajiado Rangelands Carbon Project (KRCP) Project Geographic Area (PGA; black outline) and communities within the VCS (dashed blue outline) or CCB (black outline; equivalent to PGA) Project Zones. The Project Activity Instances (PAIs) are hatched, and communities are visualized by known land tenure.

2.1.9. Title and Reference of Methodology (VCS, 3.1)

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	VM0032	Methodology for the Adoption of Sustainable Grasslands through Adjustment of Fire and Grazing	1.0
Tool	VT0001	Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities	N/A
Tool	N/A	AFOLU Non-Permanence Risk Tool	4.2
Module	VMD0033	Estimation of Emissions from Market Leakage	4.0

2.1.10. Double Counting and Participation under Other GHG Programs (VCS, 3.23; CCB, G5.9)

2.1.10.1. No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program, or any other form of community, social, or biodiversity unit or credit?

☐ Yes ☒ No

2.1.10.2. Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

2.1.10.3. Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

2.1.11. Double Claiming, Other Forms of Credit, and Scope 3 Emissions (VCS, 3.24)

2.1.11.1. No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the VCS Program Definitions for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

2.1.11.2. No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the VCS Program Definitions for definition of GHG-related environmental credit system.

☐ Yes ☒ No

2.1.11.3. Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

2.1.12. Sustainable Development Contributions (VCS, 3.17)

During the monitoring period, RRG was implemented and advance payments of US$2/ha were distributed during the monitoring period, resulting in Sustainable Development Goals (SDG) contributions. RRG enhanced livestock revenue by promoting healthier animals, milk production, and livestock numbers, while increasing GHG sequestration and food security (SDG 1, 2, 13, 15). RRG improved gender equality by creating jobs for women and increasing cross-community collaboration in developing and implementing grazing plans (SDG 5, 16). Income streams supported by RRG were used at community discretion to support health and well-being (SDG 3). The KRCP project activities contribute to SDGs (including national priority SDGs 2, 3) as described in the Table below.

Table 1: Sustainable Development Contributions

Row #	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	1: No Poverty	1.2.1, 1.2.2, or 1.4.1	Implemented activities to decrease poverty	Median household herd size was higher in 2025 in all six PAIs (e.g., Eselenkei 5.83 to 7.74 cattle-equivalents; Olgulului 5.17 to 7.56; Olkeri 6.50 to 8.05; Shompole 6.37 to 6.90; RAMAT East 7.96 to 9.60 on a like-for-like basis across the four monitored conservancies (Ilesai, Osewan, Murtuna, Oltepesi)1). The proportion of households selling livestock in the past three months was higher in 2025 (77.8% vs 72.4%), as was the proportion selling milk in the past two weeks (26.6% vs 18.6%), indicating an early positive shift in income stability. Median reported annual household income was KSh 144,000 in the 2025 round against KSh 100,000 at baseline (nominal values; part of the difference reflects recovery from the 2020–2023 drought — Section 4.3.1), and the share of households naming livestock activities as their first income source rose from 70.0% to 75.6%, indicating recovering confidence in the primary pastoral livelihood.	Same as Current Project Contributions
2)	2: Zero Hunger	2.3.1, 2.3.2, or 2.4.1	Implemented activities to increase food security	The proportion of households reporting a day with no food of any kind in the past 30 days was lower in 2025 (47.6%) than at baseline (53.2%), the proportion reporting that children drank milk on the previous day was substantially higher (78.7% vs 41.2%), and meat consumption in the past 7 days was higher (59.5% vs 56.6%). Part of the difference reflects recovery from the severe 2020–2023 drought; the direction of difference is nonetheless consistent across PAIs and community groups, indicating an early positive shift in food security.	Same as Current Project Contributions

Row #	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
3)	3: Good Health and Well-Being	Access to healthcare	Implemented activities to increase health and well-being	The carbon-revenue-funded component of this impact — health facilities and services funded from carbon revenue — is a predicted benefit that had not commenced during the monitoring period. Improved health nonetheless has an early, project-linked pathway that the PD identifies under food security and nutrition: greater availability of meat and milk (Impact 1) supports better nutrition and health. Consistent with that pathway, the proportion of households reporting illness or injury in the past month was lower in 2025 (44.7%) than at baseline (50.7%), tracking the round's nutrition gains (children's-milk 41.2% to 78.7%; Impact 1) alongside recovery from the 2020–2023 drought. Care-seeking among ill households remained near-universal across the population (93.7% at baseline and 93.1% in 2025 at a formal facility), the hospital share of ill households rose from 25.5% to 30.6%, and untreated illness stayed below 3% in both rounds (Section 4.3.1). The reduction in reported illness is reported as early, indirect evidence operating through the nutrition pathway; the carbon-revenue-funded health-care-access benefit itself remains predicted, pending distribution of carbon revenue to health services.	Same as Current Project Contributions
4)	5: Gender Equality	5.5.1 or 5.a.1 OR use social impact indicators	Implemented activities to increase gender equality	The proportion of households selling milk in the past two weeks — an income stream predominantly controlled by women — was higher in 2025 (26.8%) than at baseline (18.6%). Household herd size, the asset base underpinning women's dairy income, was higher across all six PAIs (Section 4.1.1), and median reported annual household income rose from KSh 100,000 to KSh 144,000 (nominal; drought-recovery caveat, Section 4.3.1), indicating an early positive shift in the income streams women manage. The project also increased women's participation in decision-making. In grazing-committee governance, women held 86 of the 461 seats on the 40 zone- and conservancy-level grazing committees across the six PAIs (18.7%). These ranged from 11.9% in Shompole to 22.4% in Olkiramatian (grazing-committee tracker, 2025), and women held formal leadership roles in conservancy and ranch governance (Section 4.4.5). Household attendance at community AGMs among women respondents was 75.2% in 2025.	Same as Current Project Contributions

Row #	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
5)	13: Climate Action	Tons of greenhouse gas emissions removed OR participation in carbon related training	Implemented activities to increase climate action	1,268,555 of tCO2e removed by the project during the monitoring period.	Same as Current Project Contributions
6)	15: Life on Land	15.3.1; 15.5.1	Implemented activities to increase sustainable use of terrestrial ecosystems, combat desertification, and halt land degradation and biodiversity loss	During the monitoring period, the project improved management in 501,881 hectares of rangelands. The project also supported the conservation of 9 trigger species (i.e., Secretarybird, Martial Eagle, Bateleur, Rüppell's Vulture, Lappet-faced Vulture, White-backed Vulture, Tawny Eagle, Masai Giraffe, and African Savanna Elephant).	Same as Current Project Contributions
7)	16: Peace, Justice, and Strong Institutions	Increased collaboration between political entities, neighboring communities, and ethnic groups	Implemented activities to increase peace, justice, and strong institutions	The implementation of RRG during the monitoring period has required and fostered collaboration across local communities, promoting peaceful management of natural resources while ensuring the inclusion of marginalized groups, thus supporting sustainable development. Grazing plans have been developed in close collaboration with village councils and other local community members, including women, youth, elders, small-holders and ethnic minorities, increasing community engagement in decision making.	Same as Current Project Contributions

2.2. Project Implementation Status

2.2.1. Implementation Schedule (VCS, 3.2; CCB, G1.9)

This is the first monitoring period for this project. As detailed in the PDD, rapid rotational grazing (RRG) was the only GHG removal activity employed during the first monitoring period. Implementation of RRG began in October 2023 on a limited basis, and achieved widespread operationalization by 01 Jan 2024, the date upon which the project conservatively starts counting credits. In section 3.2.2, a detailed description of the outcome of community-led RRG practices is provided. These data clearly show that RRG was successfully implemented across more than 80% of the project landscape in both 2024 and 2025. This represents a clear departure from the continuous grazing with locally varying livestock densities (in proportion to distance from bomas or settlements).

No material carbon stocks were lost because of project activities. Community reports of grass fires that burned standing biomass left behind by mobile livestock were investigated. However, the total area burned by these fires (as reported in detail in section 3.2.2) was a very small proportion (< 0.1%) of the project area, and methane and nitrous oxide emissions from such fires are shown to be de minimis. No removal of trees or shrubs to improve rangeland occurred in the project area during the monitoring period. No new crop agriculture areas were detected within the project area during the monitoring period.

2.2.2. Baseline Reassessment (VCS, 3.2.6, 3.2.7)

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

2.2.3. Methodology Deviations (VCS, 3.20)

The project proponents use the following methodology deviations. These deviations do not impact conservativeness of the quantification of GHG emissions or carbon dioxide removals. They also relate only the criteria and procedures for monitoring or measurement.

1. **Reducing bulk density samples per sampling station.**

The project requests a deviation from the VM0032 version 1 requirement that bulk density be obtained from at least three cores per sampling station. Instead, we sampled bulk density from a single core at each station. This deviation relates only to the criteria and procedures for monitoring or measurement and does not relate to any other part of the methodology.

Justification: Obtaining bulk density cores is very time-consuming in the field and results in large probability of errors in bagging, labeling, transporting and analyzing samples. We have found that trying to recover subsamples from bulk density cores for SOC% analysis led to many errors in measuring soil mass (subsamples were removed before soil mass was measured), lost samples and confusion in the labs where analyses were done. Cores in this project typically weigh 1.5 kg and often access to sampling

points is only by hiking, sometimes over 2 km. Furthermore, because of the time required at each station, and the need to sample at hundreds of stations across the project area within dry weather conditions, sampling for more time at each station reduces the total number of sampling stations that can be sampled in a year.

In a pilot study, we compared bulk density estimates from 1, 3 and 5 cores at ten individual stations in northern Kenya in 2014 in association with the Northern Kenya Rangelands Carbon Project. We compared the uncertainties in estimating BD of sandy loam soils at 10 stations with similar soils (so we were testing for mostly sampling error). For five cores per station, the 90% CI uncertainty was 21%, for three it was 23% and for one core per station it was 31%.

Table 2.2-1. Comparison of bulk density measures in northern Kenya from 1, 3, and 5 cores per sampling station

Statistic	1 Core	Comparing 3 Cores to 1	Comparing 5 Cores to 1
Mean	1.077	1.093	1.099
SE	0.210	0.153	0.141
Uncertainty	31.91%	23.02%	21.01%
t -value		0.009	0.012
P		0.993	0.990

The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or carbon dioxide removals. We compared the uncertainties in estimating BD of sandy loam soils at 10 stations with similar soils (so we were testing for mostly sampling error). For five cores per station, the 90% CI uncertainty was 21%, for three it was 23%, and for one core per station it was 32% (Table 2.2-1). While the uncertainty at each station was about 39% higher with only one core, taking only one core allowed us to sample > 60 additional stations, such that the uncertainty in the overall estimate of SOC density across the project area declined by 20%. It is difficult to determine how much the station-level sampling error influenced the overall uncertainty in SOC estimates.

Sampling one core introduced no loss of conservativeness as the bulk density mean estimate was virtually identical among one- three- and five-core samples (t-tests, $P > 0.99$)

2. Reducing the displacement leakage buffer from 2 km to 1 km. As stated in Sections 2.6.1 and 3.2.3, VM0032 considers livestock excursions beyond 2 km from the project boundary to constitute displacement leakage. However, based on extensive field interviews with local herders in the KRCP project area, the project proponents request a methodology deviation to reduce this buffer distance from 2 km to 1 km.

This deviation relates only to the criteria and procedures for monitoring or measurement and does not relate to any other part of the methodology.

Justification: Herders consistently reported that, based on visual reference points and geographic familiarity, they are confident in their ability to identify whether livestock are within 1 km of project boundaries. This adjustment allows for more conservative and practical leakage monitoring, while maintaining methodological integrity and minimizing false-positive leakage attribution.

The deviation will not negatively impact the conservativeness of the quantification of GHG emission reductions or carbon dioxide removals. The 1 km threshold makes leakage more likely and thus leakage estimates should increase, thereby making estimates of project removals more conservative.

3. Marking permanent sampling stations with physical markers. We request that we are not required to mark permanent sampling stations with physical markers, as required by VM0032 v 1.0, such as rock cairns, fence posts, etc.

Justification: In practice in prior projects, maintenance of such permanent markers has proved difficult if not impossible because pastoralist peoples often take fence posts or scatter rocks in cairns in the sometimes years between visits to permanent sampling stations. The purpose of such markers is to ensure accuracy in returning to resample at permanent stations; this accuracy can be achieved through + 5 m accuracy of handheld GPS devices rather than needing to find the permanent marker. This change does not reduce the ability to re-sample SOC or vegetation at permanent sampling stations. This deviation therefore does not increase the risk of overestimating soil organic carbon or vegetation changes and does not compromise the conservative estimation of net GHG removals. Instead, the use of GPS-based relocation provides a practical and reliable approach for resampling permanent stations in pastoral rangelands while avoiding the operational challenges associated with maintaining physical markers. The deviation therefore maintains a conservative quantification while removing a requirement that is not feasible under the conditions present in the project area.

2.2.4. Minor Changes to Project Description (CCB Program Rules, 3.5.6)

There are no changes to the Project Description.

2.2.5. Project Description Deviations (VCS, 3.21; CCB Program Rules, 3.5.7 – 3.5.10)

New project activity instances (PAIs) were added to the project per protocols for adding PAIs to a grouped project. These new PAIs are all eligible according to the criteria for eligibility, as detailed below in section 2.2.6

2.2.6. Grouped Projects (VCS, 3.6; CCB, G1.13-G1.15, G4.1)

This is a grouped project in which the initial Project Activity Instances (PAIs) (labeled Phase I) were included in project validation and for which this monitoring report covers project years 2024 and 2025. A second set of PAIs (Phase II) were added to the project, and here we provide information on baseline conditions, eligibility, and baseline emissions and carbon stocks, in addition to monitoring data for 2025.

2.2.6.1. New Project Areas and Communities (VCS, 3.6; CCB, G1.13)

As described in the PDD, the Maasai tribe have historically occupied rangelands stretching across 155,000 square kilometers of Kenya and Tanzania. Due to a complex history of colonial and post-independence land-tenure regulations, the Maasai were increasingly constrained to present day Kajiado and Narok counties on the Kenyan side and over 8 districts in the Arusha and Manyara regions on the Tanzania Side.

The Kenyan Land (Group Representatives) Act of 1968 led to the adjudication of land into Group or Individual Ranches, the membership of which was determined by respective sections (sub-tribes), but was also influenced by political elite, education and social influence. The history and evolution of the Group Ranch is a complex subject, however these Group Ranches (now defunct) continue to be used as a self-identification tool and hold linkages to land and usage rights.

Maps of the former group ranches were also accessible to the team through reports published for the Amboseli Ecosystem Management Plan, the Kenya Wildlife Conservancies Association's State of Conservancies Report, the SORALO website, and peer-reviewed journal articles on the Amboseli Ecosystem. These resources facilitated the identification of group ranches and conservancies within the landscape. Additionally, as members of the KRCP team originate from the area, they were already familiar with the initial group ranches and their leadership.

The KRCP team first started engaging with communities in September 2021 by identifying the land rights-holders and their representatives – the group ranch leadership. This was followed by informative meetings with the respective community members to describe the intention, project activities, potential benefits and risks and the carbon project cycle. Once an MOU was signed with respective communities, indicating intentions to analyze the feasibility of a soil carbon project, the project undertook a stakeholder analysis.

The first group of PAIs was included in the PDD. The second group is comprised of communities that enrolled in the project on or before 31 March 2025, so that they could be included in part or all of the first monitoring period (01 January 2024 to 31 December 2025).

Table 2-1. List of new communities (Phase II) that have been included in Project Activity Instances. See Figure 2-1 for a map of these communities.

Name of Individual Community	*Previous Group Ranch*	*Maasai clan (Iloshon)*	*Name of Umbrella Community (if Applicable)*
Kaparasi	Mailua Group Ranch	Matapato	RAMAT East
Kiboko	Kiboko Group Ranch	Kaputei	Nasaru Olosho Conservancy Trust
Kikesen River	Meto Group Ranch	Matapato	RAMAT - Meto
Kilotome	Kimana Group Ranch	Ilkisonko	ALOCA
Kiluani	Mailua Group Ranch		RAMAT East

Kisapuk	Meto Group Ranch	Matapato	RAMAT - Meto
Lolbetera	Mailua Group Ranch	Matapato	RAMAT East
Lumbwa	Mailua Group Ranch		RAMAT East
Mbuko			Nasaru Olosho Conservancy Trust
Meruashi	Merrueshi Group Ranch	Kaputei	Nasaru Olosho Conservancy Trust
Nalarami	Kimana Group Ranch		ALOCA
Nailepu	Kimana Group Ranch	Ilkisonko	ALOCA
Noorira	Mailua Group Ranch		RAMAT East
Noosikitok	Mailua Group Ranch	Matapato	RAMAT East
Norkurruki	Meto Group Ranch		RAMAT - Meto
Olchorro Oibor	Mailua Group Ranch	Matapato	RAMAT East
Olepolos	Kimana Group Ranch	Ilkisonko	ALOCA
Olkarkarr			Nasaru Olosho Conservancy Trust
Oloolepo	Mailua Group Ranch		RAMAT East
Oltiyani	Kimana Group Rank		ALOCA
Orgira	Mailua Group Ranch		RAMAT East
Osupuko	Kimana Group Ranch	Ilkisonko	ALOCA
Satao Elerai	Individual Ranches	Ilkisonko	ALOCA

2.2.6.2. Removed Project Areas and Communities (CCB, G1.13)

No previously participating PAIs (Phase I) were removed from the project.

2.2.6.3. Eligibility Criteria for Grouped Projects (VCS, 3.6.14; CCB, G1.14)

As stated in the PDD, for the grouped project, eligibility is based on the project's design to only allow new project activity instances that:

1. Apply the technologies or measures specified in the project description; in this case, new project activity instances have adopted and applied RRG grazing practices.
2. Meet the applicability conditions set out in the methodology.
    a. The new PAIs do not cause the project to expand beyond the prescribed limits for project size under VM0032.
    b. No land under cultivation or fertilization is included. Maps of the new PAIs demonstrate that ineligible lands have been excluded.
    c. No increase in large areas (e.g. feedlots) with high deposition of dung and urine.
    d. Governance mechanisms discourage the movement of livestock outside the Project Area.
3. Feature the same baseline scenario, which is sedentary livestock behavior and continuous use of pastures for entire seasons due to privatization and subdivision of grasslands.
4. New PAIs share characteristics with respect to additionality consistent with the initial PAIs, including financial and technical barriers that would make the RRG transition unfeasible without incentives from community revenue and training for grazing coordinators.
5. Subject to the same processes for stakeholder engagement, respect for rights to lands, territories, and resources.
6. Agree to similar plans for monitoring livestock numbers and movement, and changes in soil and vegetation, biodiversity, and human well-being.

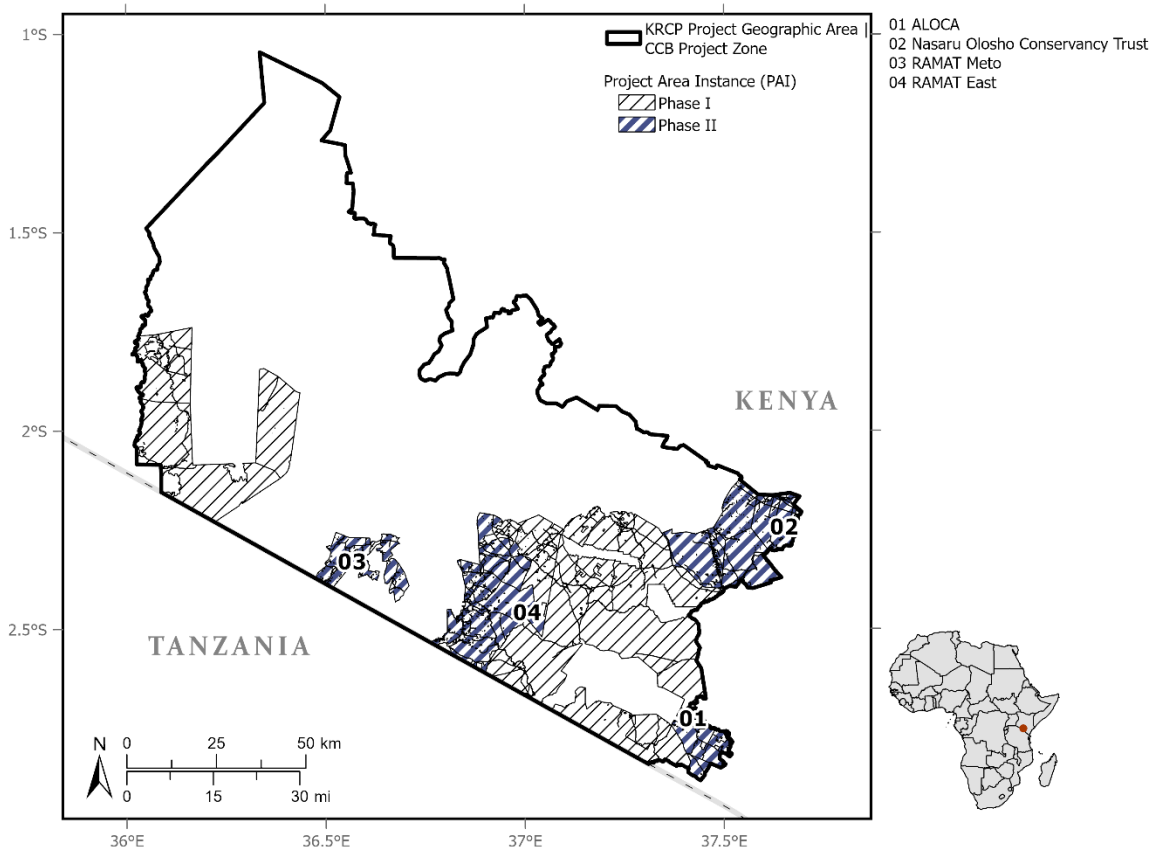
Per Section 3.4.1 of the PDD, the following criteria were needed to evaluate baseline conditions:

- Baseline fire conditions. Number of years with fire (2015-2024) for each PAI, which was assessed using the MODIS Burned Area Product. *(Already have information for Eselenkei, Olgulului, Olkeri, Olkiramatian, RAMAT East, and Shompole)*
- Baseline vegetation conditions
- Baseline methane conditions
- Baseline soil organic carbon stocks to a depth of 40 cm. *(Already have information for Eselenkei, Olgulului, Olkeri, Olkiramatian, RAMAT East, and Shompole)*
- Livestock numbers for the 10-year baseline period (cattle, donkeys, goats, sheep), which were gathered through nearly 5,000 household surveys in which respondents reported the number and type of livestock owned.

2.2.6.4. Risk Mitigation for Grouped Projects (VCS, 3.6; CCB, G1.15)

The project's technical, financial, management, governance, and stakeholder engagement aspects have all been designed for success as a grouped project. As described in the PDD section 2.1.6, expanding the group project is done only after engagement with potential new PAIs in a full FPIC process, the design of which is described fully in the PDD Section 2.5.7 and can be briefly summarized as introductory meetings and consultation, signing of a Memorandum of Understanding, signing of Carbon Rights Transfer and Benefit-Sharing Agreements at a public meeting with a majority of the community, development of RRG Plans, and implementation of the plans. During this FPIC process, any risks that may arise from adding new project areas can be identified and avoided and/or mitigated – though no such risks have arisen yet.

2.2.6.5. Project Zone Map (CCB, G1.13)



Version: 7/28/2026

Figure 2-2: Updated map of the Kajiado Rangelands Carbon Project (KRCP) CCB Project Zone/Project Geographic Area (PGA; black outline). The initial Project Activity Instances (PAIs) presented in the PDD are black hatched and the four PAIs containing new communities added to the project for this verification are blue hatched.

2.2.6.6. Changes to Management (CCB, G4.1)

No changes to project management structure, roles, and/or responsibilities have occurred as a result of new PAIs joining the project.

2.2.7. Risks to the Project (CCB, G1.10)

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Nature risk: severe drought	Decreased perennial grass growth/forage production, decreased available water for livestock. Large-	Rapidly build areas of restored perennial grasses that are resilient to drought and provide a forage base even in the case of severe drought.

	scale movement of livestock to areas outside the Project Area.	This is a central activity of the project and has been carried out through the monitoring period in all PAIs.
Nature risk: increased fire	Occurrence of wildfire is expected to increase as vegetation conditions improve and the amount of standing herbaceous biomass increases. The risk to climate benefits is that this factor goes unmonitored.	Fire monitoring in the baseline and project scenario is treated extensively in the monitoring plan. Fire occurrence can be accurately measured from satellite imagery and is being incorporated into future re-baselining of the net removals calculation.
Community participation risk	Widespread dropout from RRG, blunting the restorative impact of the planned implementation.	Ensure that the economic benefits of the carbon revenues and better forage quality of restored grasslands are effectively communicated. While no carbon revenues have yet been generated through the project, the Project has actively engaged with communities to describe the benefits of RRG and future carbon revenues. See Section 2.3.6.
Political risk	Decreased support for communal grazing areas necessary for sustaining the livelihood of pastoral communities.	The project has continued to engage with officials at the County and national levels to educate and advocate for how the KRCP goals and objectives align with long-term development goals as stated in current planning and policy documents (Kajiado County Spatial Plan and UN SDGs). See Section 2.3.4 for more details on such engagement activities.

2.2.8. Benefit Permanence (CCB, G1.11)

As described in PDD Section 2.1.22, the project is designed to ensure the long-term sustainability of climate, community, and biodiversity benefits even after the formal project period ends. To achieve this, the project has implemented specific measures during the monitoring period that will maintain and enhance these benefits independently of carbon revenues.

1. Climate Benefits & Land Productivity Enhancement

    a. The restoration of perennial grasses and improved soil carbon sequestration will create self-sustaining ecological systems that increase land productivity and reduce soil degradation beyond the project lifetime. Evidence of changes that support this permanence feature include a ~ 21% increase in forage production above what would be expected on the basis of rainfall during the project monitoring period (2024-2025) as compared to the historical average (2013-2022). For more details, see section 3.3.1.

    b. The project has implemented a long-term training and capacity-building program to institutionalize RRG practices among pastoralist communities. These training programs ensure that RRG is embedded as a standard land management practice, rather than being dependent on project-driven interventions.

    c. To further secure these benefits, the project has been actively coordinating with local and regional government agencies to integrate sustainable grazing practices into land-use policies and community conservation frameworks.

2. Community Benefits & Sustainable Livelihoods

    a. Strengthened traditional pastoral governance structures: The project is enhancing the capacity of grazing communities and integrating them into registered communities and livestock cooperatives to ensure that they continue functioning as independent governance bodies beyond the project's duration.

    b. Livelihood diversification strategies have been incorporated to reduce dependency on carbon revenue, including:

        i. Improved livestock health programs, enabling communities to maximize the benefits of increased rangeland productivity.

        ii. Strengthening market access for sustainably managed livestock, supporting economic resilience for herders.

        iii. Training programs in sustainable tourism management, allowing communities to benefit from expanding wildlife-based income opportunities.

    c. A Community-Led Grazing Management Plan has been developed and is being implemented to serve as a long-term guide for grazing committee decisions, ensuring that best practices persist beyond the project's lifetime.

3. Biodiversity & Conservation Benefits

    a. The restoration of rangelands enhances wildlife habitats, increasing biodiversity resilience. The project has introduced wildlife-friendly land-use planning strategies that communities have formally adopted, securing conservation gains for the long term.

b. The expansion of Wildlife Conservancies and structured partnerships with tourism operators will continue to provide sustained financial incentives for conservation activities beyond the project's operational period.

c. The project has supported legal recognition and documentation of community conservation areas, ensuring that conservation land-use commitments remain enforceable after the project ends.

d. The project has initiated a biodiversity monitoring framework that can be maintained by local conservation groups, ensuring continued tracking of key species and habitat conditions beyond the project's lifetime.

2.3. Stakeholder Engagement & Safeguards

2.3.1. Stakeholder Identification (VCS, 3.18, 3.19; CCB, G1.5)

Since validation, the most important change to the stakeholder makeup has been the addition of new communities. As described in Section 2.2.6.1 and listed in Table 2-1, nine conservancies were added to the RAMAT East PAI, and three new PAIs were added – the Nasaru Olosho conservancies, the Amboseli Land Owners' Conservancy Association (ALOCA), and the RAMAT West conservancies. Please refer to Section 2.2.6.1 for a description of the stakeholder identification process that led to the addition of these new communities.

For community groups within the newly participating communities, following the process described in the PDD, structured discussions were conducted by Converge with key informants in each community. They targeted leadership, elders, women and youth, and were followed by wider focus groups individually encompassing elders, women and youth. The purpose of these studies was to understand issues around grazing including how grazing is planned and managed and mapping the influencers versus the implementers of grazing planning and management. This was further informed by peer-reviewed research focusing on anthropological studies related to Maasai culture and grazing.

For stakeholders other than participating communities and community groups, following the process described in the PDD, the KRCP team have been keenly participating in community meetings across the landscape, and engaging with government bodies, non-governmental organizations (NGOs) and civil society organizations (CSOs) to understand their objectives, roles and build on existing synergies. This has resulted in continuous re-mapping of the various stakeholders and updating our understanding of social networks for grazing planning and management in the landscape.

2.3.2. Stakeholder Access to Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

Full project documentation, including the PDD, monitoring reports, and validation and verification reports as they are completed, is always publicly available (downloadable) to communities, stakeholders, and anyone with an internet connection, on the Verra Registry under the VCS and CCB programs (ID# 4714). The PDD was formally submitted to the Designated National Authority at NEMA, as required under the regulations, on 07 May 2026. As a CCB project, KRCP went through two rounds of public comment during validation and expects to go through another round beginning September 2026.

KRCP has also worked closely with the Kajiado County Government throughout the monitoring period and ensured they have access to project information and documentation as needed. This engagement included developing a formal MoU between the County Government of Kajiado and SftFA on climate-change mitigation and grazing management (signed 11 June 2024), conducting a training session with the County Environment Committee, and the participation of County officials' in community meetings across the landscape. KRCP will continue to share full project documentation with Kajiado County as it becomes available.

2.3.3. Dissemination of Summary Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

1. Project summary information was presented in native languages at community meetings including Annual General Meetings (AGMs), meetings of cooperatives, and grazing committee meetings throughout 2024 and 2025. Local language PDD summaries were presented in meetings and posted in visible locations in community centers.

2. Summaries of this monitoring report and future monitoring reports, including a summary of expected credit issuance, will be presented at community meetings including Annual General Meetings (AGMs), CDA Committee meetings, meetings of cooperatives, and grazing committee meetings.

3. Summaries of monitoring reports and household surveys will be presented separately to community leadership including grazing committees and their implications for issuance of credits and community payments will be discussed.

4. Summaries of financial reports to demonstrate transparency of project cash flows will be presented to established CDA Committees.

Dissemination during the monitoring period is evidenced in the project record, including meeting minutes and reports documenting the presentation of project summaries at AGMs, cooperative and grazing committee meetings records, and photographs of posted local-language summaries where taken.

2.3.4. Informational Meetings with Stakeholders (VCS, 3.18, 3.19; CCB, G3.1)

Informational meetings are the project's primary engagement instrument. Every meeting is logged by the responsible grazing coordinator or project officer, and all meeting records are consolidated in Converge Loop, the project's digital monitoring, reporting and verification (dMRV) solution — the single source of information about engagement events. Converge Loop integrates and synchronizes meeting submissions from the field by grazing coordinators and supervisors and the digitized archive of senior management staff meeting reports; such field submissions are loaded as Meeting Tracker records for meetings that would not otherwise be captured.

As described in the PDD, to widely publicize meetings, the project engages with former group ranch and/or conservancy leadership, who in turn engage the traditional structures to pass information about the project and upcoming meetings across their constituencies. This includes engaging with grazing committees, who then inform their constituents about upcoming meetings. The iterative process has ensured that a high awareness of meetings has been achieved.

During the monitoring period (01 January 2024 – 31 December 2025), 1,074 engagement meetings were documented in the six Phase I project activity instances (PAIs): 705 in 2024 and 369 in 2025. Attendance was recorded for 1,060 of the 1,074 meetings, totaling 36,068 participant-attendances (26,738 men, 9,330 women; 25.9% female). A further 458 documented meetings took place over the same period (1,532 project-wide): 308 in the Phase II PAIs added at this verification, reported per instance in the Stakeholder Consultation section below, and 150 in candidate expansion areas and cross-PAI venues. Meetings were publicized in advance through community structures — area chiefs and assistant chiefs (ex-officio members of zonal grazing committee meetings), group ranch and conservancy leadership, grazing committees — and conducted in Maa and/or Kiswahili with materials presented in plain language.

Table 2.3-1. Documented meetings and attendance by PAI during the monitoring period.

PAI	Meetings	Male	Female	Total attendance
Olgulului	349	7,031	2,250	9,281
Eselenkei	220	7,262	2,509	9,771
RAMAT East	175	5,979	2,382	8,361
Olkeri	148	2,264	978	3,242
Shompole	99	2,282	564	2,846
Olkiramatian	83	1,920	647	2,567
Total	**1,074**	**26,738**	**9,330**	**36,068**

Table 2-.3-2. Distribution of documented meetings by type across the six PAIs.

Meeting type	Meetings	Notes
Grazing committee meetings	310	Zonal committees; grazing plan development and review
Herders meetings	176	Block-level implementation of grazing plans
Livestock owners meetings	122	RRG rules, seasonal block openings
Village meetings	108	Project information and FPIC sensitization
Conservancy meetings (incl. leadership)	57	Governance, registration, benefit sharing
Youth group meetings	41	Targeted youth engagement
Group ranch meetings	37	Agreement deliberations and governance

Stakeholders meetings	19	Government / NGO / private-sector participation
Women's group meetings	14	Targeted women's engagement
Focus group discussions	12	Including women-only and youth-only FGDs
Annual general meetings	8	Group ranch / community land AGMs
Grazing coordinator trainings	8	Capacity building for committees and coordinators
Cooperative society meetings	2	Cooperative governance
Other (incl. multi-type meetings)	160	Bursary events, signings, partner meetings, other

All meeting records — including the digitized archive of narrative meeting reports — reside in Converge Loop. The underlying narrative reports (minutes, decisions, attendance detail) are retained in the project's evidence pack, indexed to their corresponding Converge Loop records, and include the November–December 2023 FPIC consultation round conducted immediately ahead of the monitoring period.

2.3.5. Risks from the Project and No Net Harm (VCS, 3.18, 3.19)

The risks identified at validation (PDD Section 2.3.6) remained the relevant risk set during the monitoring period; no new natural or human-induced risks arising from project activities were identified. Mitigation and preventative measures operated as designed, including grazing-plan governance through zonal grazing committees, the grievance mechanism described in the Grievances section below, and the occupational safety measures described in the Occupational Safety Assessment section. See Appendix 2 for a breakdown by project risk.

2.3.6. Community Costs, Risks, and Benefits (CCB, G3.2)

As described in PDD Section 2.3.7, the project ensures that all costs, risks, and benefits associated with participation are communicated in a transparent, participatory, and understandable manner. These elements are discussed before communities make any decisions about project participation, during village meetings, AGMs, and targeted stakeholder engagements.

During the monitoring period, Information on the potential costs, risks, and benefits of project participation was provided to communities in an understandable form, in local languages, and ahead of each decision point, following the FPIC workflow in the project's Stakeholder Engagement Plan. More specifically, the Converge Loop meeting record documents that community meetings addressing carbon rights, benefit sharing, and consent (including MoU development and signing meetings) were held across the six PAIs ahead of each execution step. For the FY 2024, the six-PAI record shows that 308 project-information, 104 consent-subject, 44 carbon-rights and 81 benefit-sharing meetings were held. Converge Loop introduced a staged consultation scoping method of recording meetings. Of the six-PAI meetings, 58 carried an explicit consent/agreement scope (MoU, pre-MoU, benefit sharing, benefit-share/carbon-transfer), with a further 110 RRG grazing-plan development and validation meetings, alongside the wider information-meeting program described above. The Converge Loop record also documents the FPIC consultation round of November–December 2023, held immediately ahead of the monitoring period.

Disaggregated by PAI and by stage of the FPIC process, the engagement record shows the same staged pattern in every community — information and awareness, consultation and consent-seeking (including carbon rights and MoU development), benefit-sharing deliberation, agreement execution, and ongoing participation through the RRG grazing-plan cycle. See Table 2.3-3 below.

Table 2.3-3. Meeting-level counts from Converge *Loop (01 Jan 2024 – 31 Dec 2025; Phase II PAIs from each community's enrollment).* *Stages are identified from Converge Loop's meeting-subject coding (2024) and staged consultation scoping (2025); meetings addressing more than one stage are counted under each applicable stage. Agreement dates per the grouped-project inclusion section of this monitoring report (Section 2.2.6) and the project's FPIC register.*

PAI	Stage 1 — Information & awareness (meetings)	Stage 2 — Consultation & consent-seeking, incl. carbon rights and pre-MOU/MOU (meetings)	Stage 3 — Benefit-sharing deliberation (meetings)	Stage 4 — Agreement execution (MOU → BSA / Carbon-Transfer)	Stage 5 — Ongoing participation: RRG plan development & validation (meetings)
Olgulului	124	55	19	MOU 12 Apr 2023; BSA/CTA 21 Jul 2023; Oloitiptip Ranch BSA 04 Dec 2023 (pre-period)	42
Eselenkei	53	28	40	MOU 23 Dec 2021; BSA/CTA 24 Feb 2024	38
Olkeri	43	—	4	MOU 12 Dec 2021; BSA/CTA 09 Sep 2023 (pre-period)	15
Olkiramatian	20	6	4	MOU 12 Dec 2021; BSA/CTA 02 Dec 2023 (pre-period)	7
Shompole	23	5	11	MOU 12 Dec 2021; BSA/CTA 15 Sep 2023 (pre-period)	17
RAMAT East	58	66	39	Conservancy MOUs Apr 2024 (Ilesai Apr 2022); BSA/CTA: Ilesai, Murrtuna, Osewan, Oltepesi 02 Dec 2024; Noosiktok 04 Sep 2024; carbon-transfer rights secured from the remaining nine conservancies	7

RAMAT West (RAMAT–Meto)	27	27	14	MOUs 16–24 Apr 2024; carbon-transfer rights secured from three RAMAT–Meto communities: Kikesen River 08 Nov 2024, Kisapuk 18 Nov 2024,	9
Nasaru Olosho	66	65	26	MOUs 05 Jun 2024 (Imbuko, Kiboko, Merueshi, Orkarkar); BSAs/CTAs 29 Nov 2024	11
ALOCA	14	13	7	ALOCA–SftFA MOU 28 Mar 2024; carbon-transfer rights secured from seven ALOCA communities (BSAs 30 Nov 2024)	12
Satao Elerai	4	3	3	MOU 04 Mar 2024; BSA/CTA resolved and executed at AGM 30 Nov 2024	7

Costs and risks discussed with communities included grazing-plan obligations (block demarcation, seasonal closures, herding discipline), the multi-year nature of the commitment, and the timing and governance of carbon revenue. Benefits discussed included benefit-sharing arrangements and community development priorities, employment (grazing coordinators, enumerators, scouts), capacity building, and co-benefits from partner programs. Decisions on participation were taken by community assemblies and legitimate leadership structures in line with the Community Land Act, 2016 thresholds, as described in the Stakeholder Consultation Channels section below.

Informed participation is documented at meeting level: the project administers a written meeting consent form (current version V3, 10 March 2025, in English, Kiswahili and Maa) covering voluntary participation and a separate photo/video consent, and 975 of the 1,532 project-wide meeting records in the monitoring period carry scanned consent-form images attached to the Converge Loop record (and 1,267 carry meeting photographs). Signed consent sheets are retained in the evidence pack.

2.3.7. Information to Stakeholder on Verification Process (VCS, 3.18.6, 3.19; CCB, G3.3)

As described in PDD Section 2.3.8, the project ensures that all stakeholders (including participating communities, government agencies, conservation NGOs, and other relevant parties) are informed of the validation and verification process through multiple communication channels. This includes details on the validation and verification requirements, timelines, stakeholder roles, and independent communication opportunities with the VVB.

Measures Taken to Inform Stakeholders

Community Meetings & Consultations: Information is delivered directly to community members in local languages through regular meetings with grazing committees, community liaison officers, and local leaders. These meetings provide details on project monitoring, expected verification timelines, and stakeholder engagement processes.

Contractual Agreements: The design of the contractual agreements, and how they and the Rapid Rotational Grazing plans fulfill requirements of the validation and verification process is verbally discussed in the FPIC engagement process leading up to signing of the agreements. In the contractual agreements themselves, the responsibilities of Soils for the Future Africa and the communities in project design, monitoring and evaluation, including the collection of livestock monitoring data, socioeconomic data, and ecological data, are all included in the carbon rights transfer agreements between the project proponent (SftFA) and participating communities.

Printed & Digital Communications: The project distributes template meeting consent forms summarizing the validation and verification process. These documents, available in English, Kiswahili, and Maasai, are shared with community leadership, government agencies, and stakeholders via email, WhatsApp, and printed copies at meetings.

Stakeholder Engagement Plan: The project's Stakeholder Engagement Plan (SEP) includes a specific section (Section 8, Monitoring and Evaluation) on monitoring and evaluation of the impact of the project, data which is used in the verification process, and outlines methods of engagement for each stakeholder group. The SEP also communicates the project risk of delays in validation and verification reviews.

Grievance & Feedback Mechanism: Stakeholders can submit questions, concerns, or grievances related to the verification process through designated contact persons, KRCP's phone hotline, email, and in-person meetings with KRCP staff. See Section 2.3.16 for more information.

Communities and other stakeholders are kept informed of the validation and verification process through the standing channels described in the PDD and Stakeholder Engagement Plan: community meetings in local languages through grazing committees and leadership; the FPIC engagement process ahead of agreement signing (with VVB roles and monitoring responsibilities set out in the carbon-rights transfer agreements themselves); consent-form summaries in English, Kiswahili and Maa; and the grievance and feedback channels. During the monitoring period this system operated around the project's validation**:** twelve validation-related sensitization meetings were held across the landscape (March–September 2025), reaching 749 members of leadership (399 men, 350 women), alongside a preparatory meeting in February 2025 — in the Phase I PAIs, Phase II PAIs and candidate areas — explaining in local languages what independent assessment involves, the role of the VVB, and how members can participate. Community-level information meetings specific to this verification will be convened through the same channels ahead of the site visit expected in Q4 2026 ⟨dates/coverage to be added once conducted⟩.

2.3.8. Site Visit Information and Opportunities to Communicate with Auditor (VCS, 3.18.6, 3.19; CCB, G3.3)

As noted in PDD Section 2.3.9, Communities will be informed of the validation/verification body's site visit in a timely manner before it occurs, through the same channels used for VVB sensitization (chiefs,

conservancy leadership, grazing committees, and community meetings). Direct and independent communication between community members and the auditor will be facilitated during the site visit, including opportunities to meet the VVB without project staff present. This information will include expected site visit dates, logistics, communities to be visited and the types of interactions with independent auditors.

2.3.9. Stakeholder Consultation (VCS, 3.18; CCB, G3.4)

Olgulului

Date(s) of stakeholder consultation	In Olgulului, during the monitoring period, stakeholder consultation meetings were held on the following dates: 06-March-2024 community meeting 18-March-2024 group ranch/grazing committee meeting (Big Life Foundation [BLF], IFAW, KWCA, KWS, and WWF in attendance) 10-July-2024 livestock owners' meeting (Water is Life in attendance) 24-July-2024 village meeting (Amboseli Ecosystem Trust [AET] and Water is Life in attendance) 05-August-2024 village meeting (IFAW and Water is Life in attendance) 22-November-2024 grazing committee meeting (BLF and IFAW in attendance) 28-March-2025 grazing committee meeting (AET in attendance) 09-July-2025 community meeting (Kajiado County Government in attendance) 06-October-2025 village meeting (KWS in attendance) 05-December-2025 livestock owners' meeting (Kajiado County Government in attendance) In total, 349 stakeholder consultation meetings were recorded for Olgulului during the monitoring period (244 in 2024 and 105 in 2025), with a total recorded attendance of 9,281 (7,031 men and 2,250 women). All community groups described in PDD Section 4.2.1 within the Olgulului community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group

	ranch/conservancy leadership meetings. Other stakeholders engaged included the Kajiado County Government, IFAW, Big Life Foundation, KWS, KWCA, Water is Life, WWF, the Amboseli Ecosystem Trust, and the local administration (area chiefs and village administrators).
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between Olgulului and the project proponent throughout the monitoring period by means of grazing committee meetings (118 grazing committee meetings were recorded for Olgulului during the monitoring period) and the annual development, feedback, and validation of RRG plans. Findings of this monitoring report will be communicated in a timely manner so that Olgulului community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project implementation status, benefit sharing, the validation and verification process, trainings, biodiversity conservation measures, and consultation with government and NGO stakeholders. Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they were

	received and resolved through the project grievance mechanism described in Section 2.3.14.

Eselenkei

Date(s) of stakeholder consultation	In Eselenkei, during the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 20-March-2024 group ranch meeting on grazing-management planning, including coordination with partner organizations (Big Life Foundation, Kajiado County Government) 26-March-2024 grazing committee training on RRG (14-day rotation rule) and enforcement of grazing by-laws with group ranch officials and the area chief 29-April-2024 conservancy meeting on the Eselenkei conservancy management plan and benefit sharing 17-May-2024 livestock owners' meeting on RRG implementation and invasive species 21-August-2024 community meeting on plot allotment (registered with the County Government of Kajiado, Department of Lands) and grazing management 19-September-2024 village meeting on community water access (Nolturesh pipeline) 04-February-2025 grazing committee meeting to develop the 2025 rapid rotational grazing plan 14-February-2025 conservancies meeting on a proposed new conservancy for forest protection 18-February-2025 focus group discussion on benefit sharing (bursary disbursement to college and university students) In total, 220 stakeholder consultation meetings were recorded for Eselenkei during the monitoring period (131 in 2024 and 89 in 2025), with a total recorded attendance of 9,771 (7,262 men and 2,509 women). All community

	groups described in PDD Section 4.2.1 within the Eselenkei community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included the Kajiado County Government, the National Environment Management Authority (NEMA), Big Life Foundation, and the local administration (area chiefs and village administrators).
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between Eselenkei and the project proponent throughout the monitoring period by means of grazing committee meetings (53 grazing committee meetings were recorded for Eselenkei during the monitoring period) and the annual development, feedback, and validation of RRG plans. Findings of this monitoring report will be communicated in a timely manner so that Eselenkei community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project implementation status, benefit sharing

	(including bursary disbursement), land administration, community water access, the validation and verification process, and trainings. Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

Shompole

Date(s) of stakeholder consultation	In Shompole, during the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 18-June-2024 livestock owners' meeting endorsing the grazing plan (agreement stamped by the area chief) 05-August-2024 village meeting at Lenkobei centre on the opening and subdivision of the Inkutukie Olang'at grazing block 19-September-2024 grazing committee meeting on fire-outbreak preparedness 04-October-2024 livestock owners' meeting on visiting livestock and watering points 19-October-2024 stakeholders' meeting with the newly posted area assistant chief 05-November-2024 village meeting on cross-border grazing pressure near Lake Natron 15-January-2025 village meeting on Oladalu-season grazing blocks and water points 17-February-2025 village meeting sharing the 2025 grazing plan 05-March-2025 stakeholders' meeting with neighboring Tanzanian communities on cross-border grazing coordination

	16-June-2025 village meeting on block management and visiting herds In total, 99 stakeholder consultation meetings were recorded for Shompole during the monitoring period (58 in 2024 and 41 in 2025), with a total recorded attendance of 2,846 (2,282 men and 564 women). All community groups described in PDD Section 4.2.1 within the Shompole community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included the local administration (area chiefs and assistant chiefs), the Kajiado County Government, KWS, and neighboring communities in Tanzania.
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between Shompole and the project proponent throughout the monitoring period by means of grazing committee meetings (25 grazing committee meetings were recorded for Shompole during the monitoring period) and the annual development, feedback, and validation of RRG plans. Findings of this monitoring report will be communicated in a timely manner so that Shompole community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken.

	Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project implementation status, benefit sharing, cross-border and visiting-livestock management, fire preparedness, and trainings. A community request concerning the timing of fund distribution was handled through the grievance mechanism (see Section 2.3.14). Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

Olkeri

Date(s) of stakeholder consultation	In Olkeri, during the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 29-May-2024 livestock owners' meeting introducing the project and the benefits of rapid rotational grazing 03-June-2024 village meeting at the Chief's office, Murantawua (Magadi senior chief, village administrator, and assistant chief in attendance) 16-September-2024 group ranch meeting verifying the student list for the KSh 2 million carbon-funded bursary 03-October-2024 herders' meeting on grazing movements between Olashaki and Oloonkuchai 13-December-2024 grazing committee meeting reviewing RRG implementation progress since project start 30-May-2025 grazing committee meeting reviewing the project design and RRG principles

	03-June-2025 village meeting validating estimated livestock numbers and the grazing plan 22-August-2025 youth group meeting on RRG implementation 08-September-2025 village meeting agreeing grazing movements toward Loormaroro In total, 148 stakeholder consultation meetings were recorded for Olkeri during the monitoring period (107 in 2024 and 41 in 2025), with a total recorded attendance of 3,242 (2,264 men and 978 women). All community groups described in PDD Section 4.2.1 within the Olkeri community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included the Kajiado County Government and the local administration (Magadi senior chief, area chiefs, and village administrators).
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between Olkeri and the project proponent throughout the monitoring period by means of grazing committee meetings (38 grazing committee meetings were recorded for Olkeri during the monitoring period) and the annual development, feedback, and validation of RRG plans. Findings of this monitoring report will be communicated in a timely manner so that Olkeri community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be

	verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project implementation status, benefit sharing (including the community bursary), the validation and verification process, and trainings. Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. Where concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

Olkiramatian

Date(s) of stakeholder consultation	In Olkiramatian, during the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 04-March-2024 leaders' briefing with chiefs and village administrators ahead of grazing committee trainings held 04–07 March 2024 11-April-2024 herders' meeting on livestock vaccination support provided through the Kajiado County Government 31-May-2024 and 01-June-2024 group ranch meetings on project awareness and the agreement process 12-September-2024 youth group meeting on grazing-block compliance in the conservation area 17-October-2024 grazing committee meeting on grazing by-laws

	05-December-2024 grazing committee meeting on the grazing committee budget and meeting schedule 31-January-2025 annual general meeting, including community feedback on information sharing (local chiefs in attendance) 21-February-2025 grazing committee meeting on shared grazing blocks and by-law amendments (closed by the area chief) 11-November-2025 youth meeting convened with the Magadi Ward youth chairman In total, 83 stakeholder consultation meetings were recorded for Olkiramatian during the monitoring period (59 in 2024 and 24 in 2025), with a total recorded attendance of 2,567 (1,920 men and 647 women). All community groups described in PDD Section 4.2.1 within the Olkiramatian community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included the local administration (chiefs and village administrators), the Kajiado County Government, and SORALO.
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between Olkiramatian and the project proponent throughout the monitoring period by means of grazing committee meetings (29 grazing committee meetings were recorded for Olkiramatian during the monitoring period) and the annual development, feedback, and validation of RRG plans. Findings of this monitoring report will be communicated in a timely manner so that Olkiramatian community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent,

	details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project implementation status, benefit sharing and use of project funds, employment, community infrastructure supported by project revenue, and governance concerns (which were also addressed through the grievance mechanism; see Section 2.3.14). Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

RAMAT East

Date(s) of stakeholder consultation	RAMAT East is an umbrella PAI comprising conservancies established on the lands of the former Mailua Group Ranch. Figures below include meetings recorded under the former Mailua Group Ranch designation and under RAMAT East member conservancies (including Ilesai, Murrtuna, Osewan, Oltepesi, Noosikitok, and Kaparasi). During the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection):

	14-March-2024 village elders' meeting on project information (area chief in attendance) 24-June-2024 community meeting introducing the KRCP and SftFA 28-August-2024 conservancy meeting at which the area chief explained the FPIC process and voluntary participation 10-September-2024 and 13-September-2024 grazing committee meetings on FPIC, project information, and benefit sharing 30-October-2024 joint meeting of grazing and conservancy committees, village elders, and area chiefs reviewing the Benefit Sharing Agreement and Transfer of Carbon Rights Agreement clause by clause 05-November-2024 Kaparasi conservancy meeting on the agreements, at which the community resolved to engage a lawyer for independent review 14-November-2024 Noosikitok grazing committee meeting on conservancy mapping 19-November-2024 Ilesai grazing committee training on RRG plan development, and a special committee sitting on BSA/TCR signing arrangements 07-April-2025 conservancies meeting (KWCA, WWF, and KWS in attendance) In total, 175 stakeholder consultation meetings were recorded for RAMAT East during the monitoring period (106 in 2024 and 69 in 2025), with a total recorded attendance of 8,361 (5,979 men and 2,382 women). All community groups described in PDD Section 4.2.1 within the RAMAT East community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included the local administration (area chiefs and village elders), KWCA, WWF, KWS, the Kajiado County Government, and NEMA.

Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between RAMAT East and the project proponent throughout the monitoring period by means of grazing committee meetings (47 grazing committee meetings were recorded for RAMAT East during the monitoring period) and the annual development, feedback, and validation of RRG plans. Four RAMAT East conservancies (Ilesai, Murrtuna, Osewan, and Oltepesi) executed Benefit Sharing Agreements on 02 December 2024 following the consultation process summarized above (see Sections 2.2.6.1 and 2.5.7). Findings of this monitoring report will be communicated in a timely manner so that RAMAT East community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project information, the FPIC process, benefit sharing, review and negotiation of the Benefit Sharing and Transfer of Carbon Rights Agreements (including the community's decision to obtain independent legal review), conservancy mapping, and RRG plan development.

	Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

RAMAT West

Date(s) of stakeholder consultation	RAMAT West was added to the project as a new PAI (Phase II) at this verification, following the FPIC process described in Sections 2.2.6 and 2.5.7; its constituent conservancies signed MOUs in April 2024 (Kisapuk 16-Apr-2024; Parsilet 17-Apr-2024; Kikesen River 23-Apr-2024; Oldonyo Sambu 24-Apr-2024), with Benefit Sharing Agreements executed for Kikesen River (08-Nov-2024) and Kisapuk (18-Nov-2024). During the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 12-September-2024 village elders' meeting on project information and community benefits 26-September-2024 chief's baraza on fire prevention and carbon project awareness 29-January-2025 Kisapuk grazing committee meeting on RRG implementation measures 21-February-2025 stakeholders' meeting addressing community concerns regarding agreement signatures (resolved through dialogue; see Section 2.3.14) 25-February-2025 women's and youth group assessment of the Ipomoea (invasive species) pruning project at Kisapuk 02-April-2025 Kikesen River conservancy meeting (WWF, KWCA, and KWS in attendance) 14-May-2025 conservancy meeting launching the Ipomoea removal project at Kisapuk

	13-October-2025 village meeting on youth education, grazing plan implementation, and grazing committee training 08-December-2025 conservancies meeting on title-deed verification, land-use restrictions, and benefit sharing In total, 97 stakeholder consultation meetings were recorded for RAMAT West during the monitoring period (49 in 2024 and 48 in 2025), with a total recorded attendance of 5,100 (2,670 men and 2,430 women). All community groups described in PDD Section 4.2.1 within the RAMAT West community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included WWF, KWCA, KWS, NEMA, the Kajiado County Government, and the local administration (area chiefs).
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between RAMAT West and the project proponent throughout the monitoring period by means of grazing committee meetings (22 grazing committee meetings were recorded for RAMAT West during the monitoring period) and the annual development, feedback, and validation of RRG plans. As a Phase II PAI, RAMAT West's monitoring results have been communicated through the same channels since enrollment, including validation of the conservancy RRG plans developed with its grazing committees. Findings of this monitoring report will be communicated in a timely manner so that RAMAT West community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the

	meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project information, the FPIC and agreement process, benefit sharing, women's and youth livelihood activities (Ipomoea removal), land-use restrictions, and fire prevention. Concerns raised regarding agreement signatures were received and resolved through the grievance mechanism (see Section 2.3.14). Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. Where concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

Nasaru Olosho

Date(s) of stakeholder consultation	Nasaru Olosho was added to the project as a new PAI (Phase II) at this verification, following the FPIC process described in Sections 2.2.6 and 2.5.7; its constituent communities (Imbuko, Kiboko, Merueshi, and Orkarkar) signed MOUs on 05-Jun-2024 and Benefit Sharing Agreements on 29-Nov-2024. During the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 20-June-2024 conservancies meeting on the carbon project background, planned surveys (soil sampling, household, vegetation, and biodiversity), pre-financing, the Transfer of Carbon Rights, and the Benefit Sharing Agreement

	26-August-2024 meeting at the chief's office on project information and land management 09-September-2024 stakeholders' meeting with community game rangers, who agreed to act as project ambassadors 11-September-2024 herders' meeting on grazing planning (WWF staff present) 19-September-2024 focus group discussion and village meeting on project consent 08-October-2024 focus group discussion with Merrueshi village leaders 12-October-2024 livestock owners' meeting on project information, consent, and grazing management 24-October-2024 conservancies meeting on the Benefit Sharing Agreement 30-October-2024 village meeting (Ilderkes) on project information, consent, and carbon rights In total, 135 stakeholder consultation meetings were recorded for Nasaru Olosho during the monitoring period (72 in 2024 and 63 in 2025), with a total recorded attendance of 5,659 (4,048 men and 1,611 women). All community groups described in PDD Section 4.2.1 within the Nasaru Olosho community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group ranch/conservancy leadership meetings. Other stakeholders engaged included the local administration (area chiefs and village elders), the Kajiado County Government, the Amboseli Ecosystem Trust, WWF, NEMA, and community game rangers.
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between Nasaru Olosho and the project proponent throughout the monitoring period by means of grazing committee meetings (16 grazing committee meetings were recorded for Nasaru Olosho during the monitoring period) and the annual development, feedback,

	and validation of RRG plans. As a Phase II PAI, Nasaru Olosho's monitoring results have been communicated through the same channels since enrollment. Findings of this monitoring report will be communicated in a timely manner so that Nasaru Olosho community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project information, the FPIC and consent process, the Benefit Sharing and Transfer of Carbon Rights Agreements, grazing planning, and environmental conservation (including human-wildlife conflict). Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they were received and resolved through the project grievance mechanism described in Section 2.3.14.

ALOCA (Including Satao Elerai)

Date(s) of stakeholder consultation	ALOCA was added to the project as a new PAI (Phase II) at this verification, following the FPIC process described in Sections 2.2.6 and 2.5.7; the ALOCA–SftFA MOU was signed on 28-Mar-2024 and member conservancy Benefit Sharing Agreements were executed on 30-Nov-2024. During the monitoring period, stakeholder consultation meetings were held on the following dates (representative selection): 15-April-2024 to 19-April-2024 conservancies meetings introducing SftFA and the KRCP to broader membership across ALOCA member conservancies 28-August-2024 Elerai conservancy grazing committee training on FPIC and development of a historic grazing plan (reviewing the MOU signed 31-May-2024) 29-August-2024 ALOCA and Tawi grazing committee training on FPIC and the historic grazing plan (reviewing progress since the 28-March-2024 ALOCA–SftFA MOU) 04-September-2024 meeting on rangeland restoration (reseeding and seed banks) undertaken with WWF-Kenya 11-March-2025 validation meeting at which Amboseli-region grazing committee chairmen reviewed and signed their 2025 RRG plans 24-April-2025 focus group meeting on grazing blocks under restoration with WWF-Kenya 30-May-2025 conservancies meeting on the ALOCA–Big Life Foundation lease fee agreement and grazing management 09-June-2025 group ranch meeting on the lease fee agreement and RRG compliance In total, 54 stakeholder consultation meetings were recorded for ALOCA during the monitoring period (26 in 2024 and 28 in 2025), with a total recorded attendance of 2,050 (1,535 men and 515 women). All community groups described in PDD Section 4.2.1 within the ALOCA community were included in these consultations, including community and village meetings, grazing committee meetings, livestock owners' and herders' meetings, women's groups, youth groups, and group

	ranch/conservancy leadership meetings. Other stakeholders engaged included WWF-Kenya, Big Life Foundation, the Kajiado County Government, and the local administration (area chiefs).
Communication of monitored results	Monitoring results regarding project implementation (i.e., the movement and management of livestock and RRG planning) have been communicated between ALOCA and the project proponent throughout the monitoring period by means of grazing committee meetings (9 grazing committee meetings were recorded for ALOCA during the monitoring period) and the annual development, feedback, and validation of RRG plans. As a Phase II PAI, ALOCA's monitoring results have been communicated through the same channels since enrollment, including the March 2025 validation of the 2025 RRG plans by grazing committee chairmen. Findings of this monitoring report will be communicated in a timely manner so that ALOCA community members can discuss, ask questions, and have input, including through the posting of native-language project summaries at market centers and community leader centers (see Section 2.3.3).
Consultation records	All meetings conducted with stakeholders were recorded through a meeting reporting form. Meeting report forms captured details of attendees with signatures of consent, details of meeting objectives, discussions, outcomes, and next steps. Completed forms are digitized and maintained in the project's central meeting register, from which the meeting counts and attendance figures reported here can be verified (consolidated meeting register export of 30 July 2026).
Stakeholder input	Due account of all stakeholder input in consultation meetings was taken. Grazing committee meetings reviewed recent and upcoming planned movements of livestock, status of forage on grazing blocks, and any needed adjustments to RRGs. Community, village, and leadership meetings allowed discussion of project information, the FPIC process, benefit sharing, rangeland restoration undertaken with WWF-Kenya

	and Justdiggit, the lease fee agreement with Big Life Foundation, and trainings. Stakeholder input was incorporated through the adaptive management of grazing plans (e.g., adjustments to grazing-block openings and closures, watering points, and movement schedules). No updates to the validated project design were necessary as a result of these consultations. If any concerns rose to the level of grievances, they would be received and resolved through the project grievance mechanism described in Section 2.3.14.

2.3.10. Continued Consultation and Adaptive Management (VCS, 3.18; CCB, G3.4)

Communication between the project proponent and communities is continuous by design: grazing coordinators resident in the communities log meetings weekly, and issues that cannot be resolved in routine engagement are referred to the grievance mechanism with a case ID. The project operates a "you said / we did" feedback loop under its Stakeholder Engagement Plan: issues raised are recorded per meeting, commitments tracked, and outcomes reported back at subsequent meetings. Grievance and engagement trends are reviewed together to detect patterns and inform adaptive management. See table below for details about comments received and associated actions taken by the project during the monitoring period.

Summary of comments received	Actions taken
Grazing committees requested subdivision of large grazing blocks to improve rotation (Olgulului, November 2024).	Committees agreed to subdivide the largest blocks into sub-blocks; revised block plans implemented in subsequent seasons.
Communities requested more frequent project-education and sensitization meetings (Eselenkei grazing committee, April 2025; village meetings elsewhere in the landscape, April–May 2025).	Additional sensitization meetings were scheduled and held, including village-level FPIC meetings and VVB-sensitization sessions.
Community members called for future meetings and trainings to include all community members, including persons with disabilities, women, and youth (September 2024).	Persons with disabilities (PwD), women's and youth representation reflected in subsequent governance processes (e.g., a benefit-sharing agreement signed with participation of the conservancy's PwD Representative, November 2024); targeted women's and youth meetings continued.

Herders raised recurring cross-zone grazing intrusions into rested blocks (Eselenkei Iloirero / neighbouring Imbuko zone, September–November 2025).	Handled between the two grazing committees with daily grazing-report monitoring; logged and tracked in the field-based grievance tracker pending an inter-committee consensus.
The CCB public comment period is expected to open in August 2026. Any public comments received during that period will be summarized here.	The CCB public comment period is expected to open in August 2026. Any actions taken (or justification of why no action was needed) will be provided here.

2.3.11. Stakeholder Consultation Channels (CCB, G3.5)

All consultations and participatory processes were undertaken directly with communities or through their legitimate representatives. The project's engagement channels follow customary and statutory governance structures: registered group ranch and community land leadership (chairmen, secretaries, treasurers), elected zonal grazing committees (the standing consultation body for grazing management, meeting regularly with project coordinators), area chiefs and assistant chiefs as ex-officio participants, conservancy committees [including women's, youth and — where established — Persons with disabilities (PwD) representatives], and open community assemblies (barazas, AGMs) for decisions requiring broad participation.

Where engagement outcomes create legally binding commitments affecting community land rights, the project applies the decision thresholds of the Community Land Act, 2016 (two-thirds quorum for community assembly decision-making; disposal decisions binding only with support of at least two-thirds of registered adult members). Adequate information sharing is evidenced by the volume and coverage of the documented meeting record (1,074 meetings across all six Phase I PAIs during the monitoring period, conducted in local languages) and by the digitized meeting-report archive showing information meetings preceding each consent decision.

2.3.12. Stakeholder Participation in Decision-Making and Implementation (VCS, 3.18, 3.19; CCB, G3.6)

As described in PDD Section 2.3.13 and above, communities participate in project decision-making and implementation through several established structures. Grazing committees — elected by their zones — develop and enforce the RRG grazing plans that constitute the project's core activity, deciding block demarcation, seasonal openings and closures, and sanctions. Group ranch and community land assemblies took the participation decisions (MoUs, benefit-sharing agreements and carbon transfer agreements), with signing meetings documented in the meeting record. Community members are employed in implementation as grazing coordinators, supervisors, enumerators, and scouts.

Implementation of engagement was culture- and gender-sensitive: meetings conducted in Maa/Kiswahili at accessible venues; dedicated youth group meetings (41), women's group meetings (14) and focus group discussions (12) in the six PAIs during the monitoring period; and women and youth representation in committee structures. PwD participated in governance and consultation during the period: a community resolution in the project landscape (September 2024) required PwD, women and youth

inclusion in all future meetings and trainings; a benefit-sharing agreement was signed with the conservancy's PwD Representative participating (November 2024); and conservancy governance documented as inclusive of women, youth and PwD (May 2025). The project has identified under-reporting of PwD attendance in meeting records as a data gap and is adding a PwD attendance field to Converge Loop from 2026, with a standing PwD agenda item at AGMs.

2.3.13. Anti-Discrimination Assurance (VCS, 3.19; CCB, G3.7)

As described in PDD Section 2.3.14, the SftFA Employee Handbook makes clear that the policy of SftFA is to provide equal employment opportunities to all individuals regardless of age, race, color, religion, gender, national origin or ancestry, physical or mental disability, marital status, military service record, genetic information or any other protected group as provided by law. This applies to all areas of employment including, but not limited to hiring, training, promotion, compensation, benefits, and termination.

As an Equal Employment Opportunity Employer, SftFA is committed to creating and maintaining a positive work environment for all Employees, free of offensive or hostile conduct. SftFA will not tolerate harassment or other actions that interfere with our equal employment opportunity policy. Staff are asked to review the Harassment Policy and reporting procedures. In addition, staff are instructed that if they believe there have been any other actions in violation of SftFA's Equal Employment Opportunity Policy, they are strongly encouraged to use the Open-Door Policy to report such concerns.

The Employee Handbook also states that SftFA is committed to a diverse, inclusive, and equitable environment where staff respected and valued regardless of gender, age, race, ethnicity, national origin, disability, education, or any other bias. SftFA is committed to being nondiscriminatory and providing equal opportunities for employment, volunteering, and advancement in all areas of SftFAs work.

SftFA's philosophy is to provide informed leadership for diversity, inclusion, and equity, and the handbook states that SftFA will:

- Strive to see diversity, inclusion, and equity in connection with our vision and mission.
- Aim to recognize and address inequities in our policies, programs, and services.
- Update and document progress on our diversity, equity, and inclusion practices.
- Commit to advocating for systemic inequities that impact our work and address it according to this policy and in accordance with our mission.
- Commit to challenging commonly accepted notions about what constitutes strong leadership within our organization.
- Commit to being transparent about diversity in all our interactions.
- Commit to leading with respect and tolerance and we encourage all employees and volunteers to express this in their work within our organization.

KRCP has also established non-discrimination and anti-harassment policies, ensuring equitable stakeholder engagement. These policies are aligned with SftFA's Employee Handbook and associated training programs.

Non-Discrimination & Anti-Harassment Measures

KRCP has zero tolerance for discrimination and harassment in all aspects of project design and implementation. The following measures ensure compliance and were implemented during the monitoring period:

1. Policies & Ethical Standards
    - Equal Opportunity & Anti-Discrimination Policy
        - Outlined in the SftFA Employee Handbook (April 2023).
        - Prohibits discrimination based on gender, ethnicity, age, disability, religion, or socioeconomic status in hiring, project implementation, and community engagement.
        - Covers stakeholder interactions, ensuring fair representation of marginalized groups (e.g., women, youth, pastoralists with no livestock).
    - Anti-Harassment & Workplace Conduct Policy
        - Prohibits all forms of sexual harassment, including verbal, physical, and non-verbal misconduct.
        - Defines clear reporting channels for victims and witnesses.
        - Ensures no retaliation against those who report incidents.

2. Training & Awareness Programs

All KRCP personnel, contractors, and community liaisons undergo:

- Mandatory annual training on anti-discrimination and harassment prevention (outlined in SftFA Employee Handbook).
- FPIC (Free, Prior, and Informed Consent) training to ensure culturally sensitive stakeholder engagement.
- Gender sensitivity training for all field staff and grazing coordinators.
- Reporting procedures training, ensuring personnel understand how to document and escalate complaints appropriately.

3. Reporting & Enforcement Mechanisms

To ensure non-discrimination and harassment-free implementation, KRCP has established the following grievance reporting procedures:

- Community & Staff Grievance Mechanisms
    - Confidential reporting channels: email, WhatsApp, SMS, and designated grievance coordinators.
    - Anonymous reporting option: allows individuals to report misconduct without fear of retaliation (https://grievances.sftfa.co.ke/).
    - Logging & tracking system: all grievances are recorded in Salesforce CRM for transparency and accountability.

- Incident Resolution & Accountability
    - Initial review (within 5 working days): report logged, acknowledged, and assigned for review.
    - Mediation (within 6 weeks): conflict resolution through structured dialogues with community leadership and senior KRCP staff.
    - Escalation (within 10 weeks): if unresolved, the case is escalated to SftFA senior management or legal mediation services.
- Whistleblower Protection
    - Ensures all grievances are addressed impartially.
    - Protects complainants from retaliation or exclusion from project activities.

During the monitoring period, no instances of discrimination or harassment were observed or reported.

2.3.14. Grievances (VCS, 3.18.4; CCB, G3.8)

The project's grievance mechanism (described in the Anti-Discrimination Assurance section above and in the Stakeholder Engagement Plan) remained accessible throughout the monitoring period through multiple channels: designated grievance coordinators in the communities, a field-based grievance tracker in Converge Loop through which grazing coordinators log grievances received in the field (operational from October 2024), email, WhatsApp, SMS, letters to project leadership, and an anonymous web channel (https://grievances.sftfa.co.ke/), with all cases logged and tracked in Converge Loop. Accessibility was actively maintained project-wide: the meeting record shows 32 meetings during the monitoring period whose scope was the grievance mechanism or grievance handling, including grievance-redress trainings for grazing committees and community meetings convened specifically to resolve raised issues. Grievance figures in this section cover the whole project area (the mechanism operates project-wide, and no complaint is excluded from reporting on scope grounds); grievances arising outside the six PAIs are labeled accordingly.

Formal grievances. Nine grievances were opened through the formal mechanism during the monitoring period. All were acknowledged, investigated and responded to under the project's grievance procedure; eight were resolved and closed within the monitoring period (the last on 24 August 2025), and the ninth — an anonymous misconduct allegation received in November 2025 — was investigated and found unsubstantiated (see table and Section 2.3.13). The six 2024 grievances are also logged as cases in Converge Loop (case numbers 00001003 and 00001008–00001012), which corroborate the manual tracker. Four further grievances opened in 2026, after the monitoring period, and will be reported in the next monitoring report.

Grievances received	Resolution and outcome
2024-1 (Oldonyo Nyokie, expansion area; opened 9 Apr 2024). Letters from two individuals alleging governance	Same-day acknowledgment; community and leaders meeting convened 12 Apr 2024 (chiefs, opinion leaders, area MP attending); complainants did not attend; community leadership characterized the allegations as political. Closed 19 Apr 2024 (10 days) with acknowledgment by a complainant; County

and project-related concerns on behalf of the community.	Commissioner arbitration offered for the underlying political dispute.
2024-2 (Olkeri; opened 2 Jun 2024). Alleged mismanagement of community funds, bounced bursary cheques, and limited community benefit.	Investigated with Olkeri leadership; treasurer provided evidence that four school cheques bounced due to incorrect account details and were re-paid via M-Pesa with evidence to SftFA's account manager; alleged unbudgeted office construction shown not to be in the year's proposal. Closed 28 Aug 2024 (87 days).
2024-3 (Olkiramatian; opened 2 Jun 2024). Community-relations complaint concerning project conduct in Olkiramatian.	Correspondence with complainant and community; apology and commitments communicated; complainant notified of the community meeting of 12 Aug 2024 convened to deliberate the community position. Closed 11 Aug 2024 (70 days).
2024-4 (Olkiramatian; opened 17 Jul 2024).	Resolved through direct engagement with the parties. Closed 26 Jul 2024 (9 days).
2024-5 (Shompole; opened 26 Jun 2024). Letter demanding suspension of fund releases to Shompole citing a heated political environment ahead of leadership elections.	Leadership responded through their lawyer that no leadership vacuum existed and activities should not stop; SftFA maintained non-interference in community internal affairs; resolution meeting at Enchula Resort (26 Aug 2024) walked the complainant through budget and employment processes. Closed 26 Aug 2024 (61 days) with complainant satisfied.
2024-6 (Parsilet conservancy, RAMAT–Meto; opened 5 Aug 2024). Dissatisfaction with hiring, mapping and boundary processes; request to contract directly rather than through RAMAT; subsequent letter revoking the MoU.	SftFA explained hiring and mapping processes in writing (7 Aug 2024); on receipt of the revocation letter, SftFA acknowledged and agreed to the MoU revocation, leaving the door open to future engagement. Closed 24 Aug 2024.
2025-1 (Ol Donyo Nyokie, expansion area; opened 1 Mar 2025). Sustained email campaign (several hundred emails) from a self-identified group alleging leadership, transparency and land-allocation failures and demanding the project cease engagement.	All emails responded to; SftFA's position stated publicly (community consent evidenced by signature records; internal community matters outside SftFA's mandate; community free to accept or reject the project via its own decision-making). Closed 19 May 2025 (80 days) with a public statement to the AGM, the Ministry of Environment, and on the project website.
2025-2 (Satao Elerai; opened 1 Apr 2025). Email campaign by a former employee (dismissed Feb	Each email answered; SftFA maintained non-involvement in community disputes; meetings sought with community leadership to clarify the situation. Closed 24 Aug 2025 (146 days).

2025) and others alleging project interference and organizing opposition, culminating in demonstrations (23 May 2025).	
2025-3 (Olgulului/OOGR, Lenkisim zone; received 6 Nov 2025). Anonymous email alleging gross misconduct by a grazing coordinator, including sexual relationships with married women and rude, abusive and unethical behavior toward community members.	Treated as serious and a potential code-of-conduct violation. Employee informed and suspended pending inquiry; investigation team appointed immediately; stakeholders notified (Climate Asset Management; OOGR leadership). Complainant provided no evidence; the investigation concluded the allegation could not be substantiated ⟨confirm closure date⟩. Preventative sexual-harassment awareness training delivered to all staff.

Field-level grievances. In addition to the formal mechanism, grazing coordinators log grievances received in the field in Converge Loop's dedicated field-based grievance tracker. Twenty-one distinct field-level grievances were recorded during the monitoring period (October 2024 – November 2025; twenty-two records including one duplicate report of the same issue). Each records the grievance detail, the follow-up channel used (in-person meeting, group ranch leadership, local chief, county government), and whether it was escalated; twelve of the twenty-one were escalated to grazing coordinator supervisors, SftFA leadership, or external authorities. Nine arose in the RAMAT area — eight in Oldonyo Sambu (RAMAT West) and one in Oldonyo Orok (RAMAT East) — between October 2024 and February 2025 during benefit-sharing and carbon-transfer agreement consultations — largely requests for information and complaints about misinformation and political opposition to signing. These were handled through area chiefs, the District Officer's and Assistant County Commissioner's offices, and community meetings, culminating in a community resolution (December 2024, with administration and conservancy leadership present) that members supporting the project proceed to sign. The remainder were grazing- and resource-related conflicts and benefit-sharing queries, resolved through grazing committees, group ranch leadership and area chiefs:

Date	Community	Field-level grievance and handling
23 Oct 2024	Oldonyo Sambu (RAMAT West)	Some members not following the grazing-plan rotation, causing conflict within a block. Coordinator made a personal visit and settled the dispute with community leaders; escalated to supervisors.
27 Oct 2024	Oldonyo Sambu (RAMAT West)	Requests for clearer information on carbon revenue allocation, the 40-year project period and 5-year reviews, and certified title

		copies. Referred through area chiefs to elders, PwD and conservancy leadership; escalated to SftFA management.
16 Nov 2024	Oldonyo Orok (RAMAT East)	Claims of political alignment of the conservancy committee; a rival company being promoted; employment requests. Handled through group ranch leadership and chiefs.
20 Nov 2024	Oldonyo Sambu (RAMAT West)	Political friction between conservancy and youth leaders; misinformation about BSA clauses. In-person meeting with youth leadership; escalated to SftFA management.
26 Nov 2024	Oldonyo Sambu (RAMAT West)	Leaders' questions on project duration, RRG and job opportunities at the BSA/CTA signing. Area chief asked to work with the opposing group and conservancy leaders; escalated to SftFA leadership.
3 Dec 2024	Oldonyo Sambu (RAMAT West)	Community position on signing deliberated at Linti village with administration and conservancy leadership present: consenting members to sign, opponents free to abstain. Escalated externally; inclusive follow-up meeting (chiefs, pastors, youth, women, PwD) requested.
27 Dec 2024	Oldonyo Sambu (RAMAT West)	Opposition activity and friction with chiefs supportive of the project. Followed up through area chiefs; escalated externally.
4 Jan 2025	Olgulului (Namelok/Osoit)	Youth group demanded fuller benefit-sharing information and questioned prior-year funds; some opposed the grazing plan. Referred to group ranch leadership; escalated to supervisors.
16 Jan 2025	Oldonyo Sambu (RAMAT West)	Leadership-election interests; claims of better-paying carbon partners; misinformation that land would be leased. Parties requested to meet at the DO's office with their chiefs; escalated externally.
4 Feb 2025	Oldonyo Sambu (RAMAT West)	Misinformation by project opposers causing members to hesitate on BSA/CTA signing; pressure on supportive chiefs. Chiefs' office asked to follow up; stakeholder meeting at the Assistant County Commissioner's office (Namanga); escalated to SftFA leadership.
5 Feb 2025	Oldonyo Sambu (RAMAT West)	Request that payment rates increase once carbon credits are sold. Referred to county government (deputy governor's office); not escalated.

26 Feb 2025	Kaparasi (RAMAT East)	Conservancy leadership dormancy affecting project evaluation and capacity building (reported twice; single issue). In-person and phone follow-up with committee members; escalated to supervisors.
3 Mar 2025	Olgulului (Risa/Inchakita)	Herder aggressively opposed livestock recording (GPS/counts) during monitoring. Grazing committee chairman informed and following up with a meeting; not escalated.
18 Mar 2025	Olkiramatian	Complaint of misuse of grazing committee funds and poor communication between community land leadership and the grazing committee; complaint-redress meeting held. Not escalated.
21 Apr 2025	Olgulului (Namelok/Osoit)	Unconsulted use of the Namelok dam for irrigation. Meeting organized by the senior chief and grazing committee chairman; user explained permissions and issue resolved locally.
4 Jun 2025	Olgulului (Enkong'u Narok/Oltiyani)	Village-level dispute over zone membership and access to the Imirishari grazing block. Boundary meeting held with the group ranch chairman present; boundaries between Enkong'u Narok and Emparinkoi zones agreed. Not escalated.
22 Aug 2025	Olkiramatian	Interested party and colleagues objected to project meetings, alleging that some members were benefiting from project funds to the detriment of others. Followed up in person; escalated.
2 Sep 2025	Eselenkei (Iloirero)	Livestock intrusion from the neighbouring Imbuko zone (Nasaru Olosho) into the rested Lesikaoi grazing block. Reported via daily grazing reports; being handled between the two grazing committees; escalated.
10 Sep 2025	Nasaru Olosho	Migrant herders moving into Eselenkei blocks without consensus between the two grazing committees. Meeting held on the grievance; not escalated.
9 Oct 2025	Olkiramatian	Livestock theft and destruction of vegetable farms reported as a boundary conflict. Followed up in person; not escalated.
11 Nov 2025	Eselenkei (Iloirero)	Recurring block-boundary intrusion (Imbuko zone and livestock from outside the project area) reducing the carrying capacity of the Lesikaoi block; first reported in the olameyu season. Followed up through the grazing committees; not escalated.

Consolidation across trackers. The three grievance records maintained by the project — the manual grievance tracker, the Converge Loop case log, and the Converge Loop field-based grievance tracker — were reconciled and deduplicated for this report. The Converge Loop cases correspond one-to-one to the manual tracker's 2024 grievances (Olkeri fund-utilization complaints from two complainants are logged as two cases against one grievance) and contain no additional in-period grievances; system-generated artefacts (mail-forwarding confirmations) and post-period web-channel test submissions (April 2026, confirming the anonymous web channel is functional) were excluded. The field-based tracker's twenty-one grievances are distinct from the eight formal cases, with no overlap. One Converge Loop case (Ol Donyo Nyokie governance, logged 29 August 2024) remained open awaiting community response after grievance 2024-1 closed; the matter re-emerged and was resolved as grievance 2025-1. Meeting-level issues flagged in the digitized meeting reports (grazing-rule adherence, cross-border encroachment, boundary friction) were cross-checked: those meeting the grievance definition appear in the tables above; the remainder were handled through routine engagement by grazing committees, as described under Continued Consultation and Adaptive Management.

2.3.15. Worker Training (VCS, 3.19; CCB, G3.9)

During the monitoring period, new employees – such as grazing coordinators, supervisors, monitoring and evaluation personnel, accountants, etc., were provided training on all aspects of the SftFA Code of Conduct via training sessions associated with the SftFA Employee Handbook. Worker training occurs initially on the signing of the original employee contract, and periodically over time for various aspects of the Environmental, Social and Governance (ESG) procedures. All procedures have evolved from experienced practice by local community members and are specifically designed to build local capacity that transcends personnel turnover. Grazing coordinator training has historically involved university courses and offsite training, such as the US Forest Service rangeland management training or programs at the Savory Institute. However, these courses have been summarized and distilled into local versions for use in areas with little to no internet connectivity.

Training in grazing management at the level of grazing committee members occurs on approximately an annual basis. In the first year of the project, the concepts of RRG were communicated with the grazing committees to develop the RRG grazing plans that had to demarcate grazing blocks within both wet and dry season grazing areas – something that had not been done previously. Subsequent grazing committee training sessions were focused on reviewing grazing plan implementation.

Training delivery during the monitoring period is documented in the meeting record: 32 grazing-coordinator and committee training events were logged across the project (eight held at venues within the six PAIs, the remainder at cross-PAI training venues such as Kimana, Namanga and Bissil serving PAI committees). These occurred alongside the 310 grazing committee meetings at which grazing-plan implementation was reviewed.

2.3.16. Community Employment Opportunities (VCS, 3.19.13; CCB, G3.10)

The project provides numerous employment opportunities for residents of Kajiado County. The project has and will continue to actively seek out local applicants for positions such as grazing coordinators, monitoring specialists, field assistants, drivers, interviewers, accountants, and other positions. These jobs are announced and posted locally and in standard job posting sites, with special attention given to applicants from vulnerable or marginalized groups (e.g., women, members of households without cattle).

As noted in Section 2.3.13 above, the SftFA Employee Handbook, which is used for employee training, states that it is the policy of SftFA to provide equal employment opportunity to all individuals regardless of age, race, color, religion, gender, national origin or ancestry, physical or mental disability, marital status, military service record, genetic information or any other protected group as provided by law. This applies to all areas of employment including, but not limited to hiring, training, promotion, compensation, benefits, and termination. The project provides equal pay for equal work in project design and implementation, ensuing equal opportunities and gender equity across roles and responsibilities. SftFA human resources staff actively monitor compliance with this policy during the hiring process. All project staff must be at least 18 years old, meeting the legal age requirement, and are selected based on a merit-based system to ensure fairness and competence.

The worker selection process is initiated by SftFA staff, who develop a job description and post it via online adverts and in public locations. Applicants are scored in a standardized system that has been designed in keeping with the equal employment opportunity policy stated above. The scoring system is based on their qualifications, the quality of their application materials, their knowledge of the Project Area, and their work experience. Grazing coordinator positions represent the largest number of advertised and hired staff positions, and the pool of applicants for these positions in 2024 and 2025 has ranged from 100% male to 74% male, depending on the community.

2.3.17. Occupational Safety Assessment (VCS, 3.19; CCB, G3.12)

As described in PDD Section 2.3.19, the KRCP is committed to ensuring worker safety through compliance with Kenyan labor laws and adherence to international best practices. The project follows the Occupational Safety and Health Act of 2007 and integrates workplace safety standards outlined in the SftFA Employee Handbook. Compliance is monitored by SftFA human resources staff and reinforced through training and risk mitigation measures. Below, we describe how we (1) identify risks, (2) raise awareness of and mitigate risks and (3) minimize risks and ensure accountability.

1. Risk Assessment & Project Implementation Risks

The following risks have been identified as substantial risks to worker safety during project implementation:

- Vehicular Accidents: Field employees frequently operate 4WD vehicles and motorcycles on rough terrain.
- Exposure to Harsh Environmental Conditions: Fieldwork in remote rangelands exposes workers to extreme temperatures, dehydration, and wildlife encounters.

- Fire Hazards: Although project field crews do not actively conduct or manage prescribed fires, there is a potential risk that a natural or accidental bushfire may occur in or near a field site.
- Discrimination & Harassment Risks: Risks associated with gender-based violence, sexual harassment, and discrimination in the workplace or during community interactions.

2. Risk Awareness & Mitigation Measures

Workers are informed of risks and trained to minimize them through the following measures:

- Vehicle & Road Safety:
    - Annual training in defensive driving and road safety provided by the National Transport and Safety Authority (NTSA)
    - Use of licensed, trained drivers and provision of helmets and protective gear for motorcycle use.
    - Field staff work in pairs to ensure rapid response in case of an accident.
- Environmental & Field Safety:
    - Heat stress prevention protocols (mandatory hydration, shaded breaks).
    - Wildlife safety training to minimize risks of encounters in remote areas.
    - Fire Safety: field crews are instructed to immediately cease field operations and leave the site if a fire is reported or observed near the work area. Field work will only resume once the fire has subsided and the area is deemed safe for return.
- Workplace Harassment & Discrimination Prevention:
    - Annual mandatory training on anti-harassment and non-discrimination (outlined in the SftFA Employee Handbook).
    - Grievance mechanism for reporting incidents anonymously via email, WhatsApp, SMS, or designated grievance officers.
    - Strict no-retaliation policy to protect complainants and ensure a safe working environment.

3. Risk Minimization & Accountability

- Incident Tracking & Reporting:
    - All workplace safety incidents are logged in Salesforce CRM to ensure transparency and resolution.
    - Immediate response measures ensure grievances and safety concerns are addressed within 5 working days.

- Emergency Medical Support:
    - Field teams have designated emergency contact procedures and access to local health providers.
    - At least one team member per field unit is trained in first aid.
- Review & Continuous Improvement:
    - Safety training and protocols are reviewed annually based on incident reports and feedback.

2.4. Management Capacity

2.4.1. Required Technical Skills (VCS, 3.19; CCB, G4.2)

The project team has maintained the skills required to implement the project successfully through the monitoring period. Below, we summarize the project team's expertise in community engagement, biodiversity assessment, carbon measurement and monitoring, project administration in Kenya, and carbon sales.

Community engagement: Converge Analytics, Ltd leads all project education and social monitoring efforts to establish FPIC and thus community consent for the project. The in-country project management company SftFA also has hired more than 30 permanent employees directly from the larger Maasai community that engage with communities on a daily basis.

Biodiversity assessment: This aspect of the project will be coordinated by CarbonSolve (https://carbonsolve.world/) through its relationship with the Biodiversity Research Institute (https://briwildlife.org/), a world leader with vast international experience in conducting biodiversity surveys of various taxa.

Carbon measurement and monitoring: The project carbon accounting will be overseen by CarbonSolve and its relationship with Soils for the Future USA (SftF USA; see https://www.soilsfuture.com/). SftF USA, headed by Mark Ritchie, Ph.D. has experience in designing and validating multiple carbon projects, and is a Verra expert in carbon modeling, especially in rangelands under different grazing management regimes. SftF USA also brings various tools to the project, including the SNAPGRAZE model that links grazing management to soil carbon dynamics, and different satellite-based methods of assessing livestock impacts and movement.

Kenya-based project management and administration: The project requires substantial daily efforts by project proponent employees of SftFA, including financial, human resources, logistics, and grazing coordinators and community liaisons.

Carbon sales: Climate Asset Management (CAM), is a U.K.-based joint venture of HSBC Asset Management and Pollination founded in 2020 and specializing in natural capital investment. CAM has set up Funds to invest in nature-based solution projects that generate high-quality carbon credits. CAM has

entered into an Emissions Reduction Purchase Agreement (ERPA) with CarbonSolve and SftFA. CarbonSolve - through its relationship with multiple major carbon buyers or brokers - is well equipped to monetize any volume of carbon credits that are not contractually agreed under the ERPA with CAM.

2.4.2. Management Team Experience (VCS, 3.19; CCB, G4.2)

Mark Ritchie, Ph.D., is a Director of CarbonSolve and a Director of Soils for the Future Africa. Dr. Ritchie is also the author of VM0032, the approved Verra Methodology used by CarbonSolve's soil carbon projects. Dr. Ritchie has published predictive models in the peer-reviewed literature that are used to implement VM0032, led the application of the methodology to the Northern Kenya Rangelands Project, and is deeply engaged with the scientific underpinnings of the KRCP, as well as supporting and supervising on-the-ground activities by KRCP staff.

Timothy H. Tear, Ph.D., is a Director of Soils for the Future Africa and also a Director at CarbonSolve. Dr. Tear is an Africa conservation specialist and Director of BRI's Climate Change Program, that has prioritized rangeland carbon projects as a central initiative of climate change work at BRI. Dr. Tear is available to support field-based monitoring and provide oversight of governance systems via on-the-ground training and capacity building. These two Directors make frequent trips to the KRCP and are available for remote technical assistance training and coordination meetings.

SftFA is led on-the-ground by Jackson Kikardi Suiyanka. Mr. Kikardi is a Kenyan citizen and resident who was born and raised in Kajiado County. He is the Country Coordinator for SftFA, is a partial owner in the company, and oversees the day-to-day operations of the KRCP. Mr. Kikardi has extensive experience in soil carbon monitoring and evaluation, program logistics and is a respected member of the Maasai community in Kajiado. He has built a local management team recruited from the Maasai community in Kajiado. Current roles include the lead accountant, human resource manager, procurement officer, community lead, director of monitoring and evaluation, and grazing coordinator supervisors.

2.4.3. Project Management Partnerships/Team Development (VCS, 3.19; CCB, G4.2)

SftFA has entered into a contract with Converge Catalysts (www.convergecatalysts.com) to support socioeconomic data collection and community engagement strategies in the KRCP. Converge works "at the nexus of monitoring and evaluation, strengthening governance and building ecosystem resilience for improving ecological productivity." They state that "when these converge, we seek to establish carbon finance projects." Their team is made up of socio-economists, ecologists, GIS/Remote Sensing specialists, translators, and experts in data analysis, finance and technology. Converge is led by Deepali Gohil, who has a master's degree in economics, and has been working at Converge since 2016. Prior to that, Ms. Gohil was an impact monitoring specialist for the Northern Rangelands Trust, where she worked on the largest soil carbon project in the world – the Northern Kenya Grasslands Project. Ms. Gohil still provides consulting services for NRT.

SftFA has contracted with Kieti Law (https://www.cliffedekkerhofmeyr.com/en/about/kieti.html) for legal advice on all issues concerning carbon project development. Kieti Law has worked closely with the Government of Kenya on the development of carbon regulations.

Similarly, SftFA has also contracted with Russell Bedford Alexander and Associates in Nairobi (https://russellbedford.ke/) to support all the project accounting. Established in 1967, Russell Bedford Alexander & Associates is a certified/chartered accounting firm, serving over 300 clients from various industries locally, and across the region.

SftFA currently has over 50 full-time employees and continues to hire and build capacity in Kenya.

2.4.4. Financial Health of Implementing Organization(s) (CCB, G4.3)

As noted in the PDD, Soils for the Future Africa (SftFA) and CarbonSolve have entered into a long-term collaboration agreement with Climate Asset Management (CAM – see Climate Asset Management | Investment Strategies) to ensure the financial sustainability of the KRCP. CAM is a London-based asset manager specializing in nature-based investment strategies and currently manages over $650 million USD in global assets from companies and investors, including Apple and HSBC.

As part of its Nature-Based Carbon Strategy, CAM provides upfront financing for large-scale landscape restoration and conservation initiatives in developing and emerging markets, including the KRCP. This financial model ensures that project activities – such as RRG implementation, biodiversity monitoring, and community benefit-sharing mechanisms – are adequately funded throughout the project's 40-year duration, including for the phased enrollment of new groups of PAIs into the grouped project.

CAM's investment agreement with KRCP secures financial support by committing capital in exchange for the future flow of high-quality carbon credits generated by the project. High-quality carbon credits are defined as those resulting from verified landscape restoration activities, which also yield tangible benefits for local communities, biodiversity, and ecosystems.

To further mitigate financial risk, the project proponents have also established:

- A structured financial plan ensuring that project funds are allocated effectively to cover operational, monitoring, and implementation costs. The project has provided a confidential financial model to the validator that demonstrates that the financial mechanisms adopted provide an adequate actual and projected flow of funds, and also demonstrates projected revenues from carbon dioxide removals that substantiate the projection of self-sustainability after year 4.
- A benefit-sharing mechanism that reinvests revenue from carbon credits sales back into the participating communities.
- Contingency planning for financial sustainability, including diversified revenue streams beyond carbon credit sales, such as conservation partnerships and ecosystem service payments.

This financial framework ensures that KRCP is well-capitalized throughout its lifetime and capable of delivering its intended climate, community, and biodiversity benefits while maintaining financial integrity and long-term viability.

2.4.5. Avoidance of Corruption and Other Unethical Behavior (VCS, 3.19; CCB, G4.3)

Neither the project proponent nor any of the other entities involved in the project are involved in any form of corruption, bribery, or other unethical behavior. As noted in PDD Section 2.4.6, SftFA has an employee handbook that includes a section on "Anti-Corruption (Fraud, Bribery, Collusion, Money Laundering) and Terrorism." In this section, it states that "SftFA is committed to the prevention of corruption (fraud, bribery, collusion, money laundering) and terrorism - and any other forms of dishonesty and will promote an anti-corruption culture. It is our policy to conduct all our business in an honest and ethical manner. We take a zero-tolerance approach to all forms of corruption. We are committed to acting professionally, fairly and with integrity in all our business dealings and relationships wherever we operate, implementing, and enforcing effective systems to counter corruption."

Furthermore, it states that "SftFA's anti-corruption policy applies to the conduct of all staff. It also applies to volunteers, consultants, associates or agents of SftFA and any third party acting on its behalf, or any other person associated with SftFA, wherever they may be located. SftFA will investigate all suspicions of corruption committed by staff, suppliers and other third parties. SftFA requires all staff to act honestly and with integrity at all times; and to report all suspicions of corruption. We will uphold all laws relevant to countering corruption in all the jurisdictions in which we operate."

In addition, it states that "SftFA does not do business with other companies or individuals that directly or indirectly to assist in, sponsor, or provide support for acts of terrorism or to support organizations or persons listed as terrorists on lists maintained by the United States government, the United Nations, the European Union, and other entities."

Finally, SftFA's handbook provides important definitions so that all employees are aware of each term – and sign a document declaring that they have read the handbook and understand its implications before formal employment can commence. The definitions are as follows:

• Corruption - Is an act of dishonesty or criminal offence committed by a person or organization entrusted with a position of authority, to acquire illicit benefit or abuse power for private gain. Corruption may include many activities including bribery and embezzlement, though it may also involve practices that are legal in many countries.

• Fraud - A deliberate intent to acquire money or goods dishonestly through the falsification of records or documents. The deliberate changing of financial statements or other records by a staff or supplier of SftFA.

• Bribery - Is the offering, promising, giving, accepting or soliciting an advantage as an inducement for action that is illegal or a breach of trust. A bribe is an inducement or reward offered, promised or provided to gain any commercial, contractual, regulatory or personal advantage.

• Collusion – Involves firms coming to an agreement to artificially raise prices and increase profitability at the expense of consumers.

• Money laundering - Is the process of concealing the origin of money, obtained from illicit activities by converting it into a legitimate source.

• Terrorism - the unlawful use of violence and intimidation, especially against civilians, in the pursuit of political aims.

All of the policies described here and in more detail in the employee handbook itself have been in place during the monitoring period.

2.4.6. Commercially Sensitive Information (VCS, 3.5.2-3.5.4; CCB Program Rules, 3.5.13 – 3.5.14)

The public version of the project description has not had any commercially sensitive information excluded or removed from it. The SNAPGRAZE model is copyrighted but is considered shareware. All other relevant data including baseline soil carbon stocks is intended to be publicly available and shared with communities and other stakeholders.

2.5. Legal Status and Property Rights

2.5.1. National and Local Laws (VCS, 3.1, 3.6. 3.7, 3.14, 3.18, 3.19; CCB, G5.6)

The project is complying with all relevant national, regional, and local laws, statutes, and regulatory frameworks in Kenya that apply to the project activities. No laws or regulations have changed or newly gone into effect since validation.

2.5.2. Relevant Laws and Regulations Related to Worker's Rights (VCS, 3.18, 3.19; CCB, G3.11)

Awareness

As noted in the PDD, the KRCP is committed to full compliance with all Kenyan labor laws and regulations governing workers' rights, health, and safety. The project adheres to the following laws:

Applicable Labor Laws:

1. Employment Act of 2007 – Regulates employment contracts, working conditions, wages, and worker protections.
2. Occupational Safety and Health Act of 2007 – Ensures workplace safety and health standards.
3. Labor Relations Act of 2007 – Governs trade unions, collective bargaining, and dispute resolution between employers and employees.
4. Work Injury Benefits Act of 2007 – Establishes employer responsibilities for compensation in cases of work-related injuries and illnesses.

To ensure compliance, SftFA has engaged Russel Bedford Alexander and Associates of Nairobi, Kenya, a professional labor and compliance consultancy, to oversee employment coverage, taxation, and legal obligations related to worker protection.

Worker Rights Awareness & Training Measures:

To further support compliance with relevant laws and policies, the KRCP ensures all project staff and workers are informed of their rights through the following mechanisms:

- Employee Handbook & Workplace Policies
    - The Soils for the Future Africa (SftFA) Employee Handbook serves as a comprehensive reference for worker rights, ethical workplace conduct, and grievance procedures.
    - It explicitly outlines freedom on association, the right to collective bargaining, and non-discrimination policies, reinforcing compliance with Kenyan labor laws.
- Mandatory Worker Rights Training
    - All employees receive annual training on workers' rights, workplace safety, and dispute resolution mechanisms.
    - Training covers employment conditions, anti-discrimination laws, workplace safety standards, and grievance reporting procedures.
    - New hires undergo an onboarding session where they are briefed on their rights and project policies.
- Grievance Mechanism & Reporting Channels
    - A confidential grievance reporting system allows workers to report labor violations, workplace concerns, or human rights issues without fear of retaliation.
    - Workers can file grievances via multiple channels:
        - In-person reporting to KRCP supervisors or HR representatives.
        - Email, phone, WhatsApp, and SMS communication.
        - Anonymous reporting mechanisms integrated into the Salesforce CRM system for case tracking and resolution.
    - Complaints are addressed within the designated timeframes, following the three-stage grievance resolution framework (initial resolution, mediation, arbitration/legal action if required).

2.5.3. Human Rights (VCS, 3.19)

As described in PDD Section 2.5.3, the project is designed and implemented in full alignment with the International Bill of Human Rights, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), and the International Labour Organization (ILO) Convention 169 on Indigenous and Tribal Peoples, as well as relevant safeguards under the ICVCM Assessment Framework. The project recognizes that the Maasai pastoralists, who form the majority of landowners in the PGA/CCB Project Zone, are both Indigenous Peoples and customary rights holders. Their rights to land, self-determination, and cultural integrity are respected and promoted through the project's legal and governance instruments, particularly the Benefit-Sharing Agreements (BSAs) and the Carbon Rights Transfer Agreements (CRTAs).

The project collaborates with Maasai pastoralists,to implement RRG and respects the cultural and spiritual importance of their relationship with the land. The landowners have historically been aggregated, based on clans, into now defunct group ranches that have transitioned into communal landholdings (conservancies, cooperatives and trusts) or own individual lands. These remain clan-based structures of aggregation.

The project emphasizes the efficient and regenerative nature of rapid rotational grazing, which is grounded in traditional knowledge and practices and helps protect and preserve the environment of the Maasai territories. These practices are integrated with monitoring regulations and technology to establish a holistic system that harmonizes traditional knowledge with technological advancements. A key aspect of these plans is the recognition and utilization of traditional knowledge, particularly regarding land use patterns, mobility, and seasonality. Additionally, central to the Maasai culture is the idea of sharing resources, which the project encourages for on-project area communities. Furthermore, the project will honor and protect the customary cultural and governance values and structure of Maasai society, where elders make decisions, while youth and men are responsible for implementation. To do so, regular consultations with grazing committees and village elders are conducted, and traditional conflict resolution mechanisms are employed to address general conflicts. Consensus meetings serve as the primary platform for discussing items and issues and allow Maasai landowners to participate in the formulation and implementation of project activities.

The project has fomented a deep understanding of the Maasai culture, having employed more than 70 Maasai in full-time and part-time position that forms the core of the KRCP community engagement process, and seeks to respect, protect, and strengthen Maasai pastoral values, identity and practices. As described at multiple points throughout the document, Benefit Sharing Agreements for the project are subject to specific provisions including required translation into local languages, required majority consensus, approval by traditional Maasai governance structures, and inclusion of risk mitigation that serve to recognize, respect, and promote the protection of Maasai rights, In line with the United Nations Declaration on the Rights of Indigenous Peoples, the project affirms the equality of Maasai people, and the urgent need to respect and promote their inherent rights derived from traditional structure, culture, and self-organization. As described by the International Labor Organization's Convention 169, the project affirms that the measures adopted by the project to safeguard Maasai culture and environment shall not be contrary to the communities' freely expressed wishes and that communities are fully consulted in regards to any administrative measures. The project respects Maasai self-determination and the right to decide community development priorities, as they are enabled through carbon revenue as a result of the project.

Below are specific examples that demonstrates how the project recognizes, respects and promotes the rights of Maasai pastoralists:

Protection of Customary and Land Rights. The Carbon Rights Transfer Agreements are structured to ensure that only voluntary and informed landowners or representative governance bodies (conservancies, cooperatives, or trusts) can transfer carbon rights. These agreements are executed only after Free, Prior and Informed Consent (FPIC) processes have been completed, including translations into Maa and other relevant languages, consultations with elders and grazing committees, and formal approval by traditional governance structures. This process directly safeguards the rights of customary landowners by ensuring that no transfer is made without their freely given consent, in line with UNDRIP (Articles 26–32) and ILO 169.

Respect for Cultural and Governance Systems. Both BSAs and CRTAs explicitly recognize the clan-based and customary governance structures of Maasai society. Elders retain decision-making authority, while

youth and men undertake implementation roles, and women participate in grazing and benefit-sharing committees. This embeds the project within traditional systems of governance, thereby protecting the cultural rights of Indigenous Peoples in accordance with international human rights law.

Promotion of Equitable Benefits and Human Well-being. Benefit-Sharing Agreements ensure that revenues from carbon credits are distributed equitably, with specific allocations for vulnerable groups, including women, youth, the elderly, and the poorest households. Safeguards are included to ensure revenues support education, health, and emergency response, directly promoting the economic, social, and cultural rights of communities in line with the International Covenant on Economic, Social and Cultural Rights (ICESCR). Gender-inclusive provisions mandate participation of women in decision-making and access to project benefits, aligning with CEDAW and human rights best practices.

Transparency, Accountability, and Risk Mitigation. Both BSAs and CRTAs require majority consensus and documentation, preventing unilateral decision-making and protecting against elite capture. Agreements include grievance redress mechanisms, including reliance on both traditional conflict resolution processes and independent oversight by SftFA, ensuring communities have accessible avenues to assert their rights. This reflects Article 8 of UNDRIP (protection from dispossession of land and resources) and ICVCM safeguard principles on human rights due diligence.

Enabling Self-Determination and Development Priorities. Communities retain the right to set their own development priorities. Carbon revenues are used for community-determined projects through consensus meetings, thereby supporting the right to self-determination (UNDRIP Articles 3 & 4; ILO 169 Articles 6 & 7). The project does not impose development models but instead enables communities to realize their own visions for land stewardship and livelihood resilience.

In summary, the Benefit-Sharing Agreements and Carbon Rights Transfer Agreements are the primary legal mechanisms through which the project demonstrates recognition, respect, and promotion of Indigenous Peoples' and customary rights holders' rights. They operationalize human rights safeguards by embedding FPIC, protecting customary land tenure, ensuring equitable benefits, requiring consensus and transparency, and enabling self-determination—all in direct alignment with applicable international human rights law.

2.5.4. Indigenous Peoples and Cultural Heritage (VCS, 3.18, 3.19)

The Maasai community practices semi-nomadic pastoralism. They move from one place to another in search of pasture and clean water. Their movement and duration for which they settle in one area are determined by rain. In drought seasons, they migrate further away from their permanent settlement. Wet and dry grazing blocks are determined by factors such as closeness to permanent water sources and the quantity and quality of forage. Wet season grazing blocks are in located in areas receiving more rainfall and have lush vegetation and are close to permanent settlements. Dry season grazing areas are selected so that livestock can get access to water sources and grass remains available during the entire dry season. Establishment of temporary home settlement areas (Ronjo) is determined by proximity of grazing blocks to permanent homes, the more the distance livestock have to cover to get pasture and water, the

more likely elders will advise herders and warriors to migrate with livestock to avoid the long distances covered.

The KRCP uses the basis of the semi-nomadic pastoralism to create a new system of more intense and higher impact rapid rotational grazing. It retains the wet and dry season grazing blocks; however it requires these to be grazed only once a year. Livestock are moved together in tightly bunched herds to new forage on a daily basis. Livestock herds are grazed in a single location until the grass reaches the height of four fingers put together (the width of your palm or length of your thumb - approximately 5cm) or for a maximum of 14 days - whichever comes first. Livestock herds are encouraged to move across the landscape so as to avoid over-use of areas near settlements or water points.

By promoting RRG, the project is helping improve the sustainability and productivity of pastoralism in the PGA/CCB project zone and is thereby contributing to the preservation and protection of a central part of Massai cultural heritage.

2.5.5. Recognition of Property Rights (VCS, 3.7, 3.18, 3.19; CCB, G5.1)

Disputes over rights to territories and resources	N/A
Respect for property rights	As noted in Section 2.5.6 of the PDD, the KRCP ensures compliance with laws and regulations that protect and preserve the rights of stakeholders, Ips, LCs and customary rights holders by: • Engaging communities in land-use planning • Facilitating community landowner engagement in decision-making related to carbon project participation and • Ensuring Free, Prior, and Informed Consent (FPIC) is obtained before project implementation. The KRCP does not replace or impose land tenure structures but assists community landowners in navigating legal processes when requested. Specifically, the project: • Provides informational resources on legal land registration requirements • Facilitates engagement with legal bodies where community landowners seek formal recognition and

	• Works with registered community land management committees to support land tenure security.

2.5.6. Benefit Sharing Mechanism (VCS, 3.18, 3.19)

Summary of the benefit sharing plan	The benefit-sharing agreement specifies that 70% of net revenues will be distributed to participating communities. The allocation is based on the amount of viable rangeland a community has entered into the carbon project and contingent on sufficient evidence of grazing plan implementation. Community representatives participated in developing the revenue-sharing framework to ensure fairness and transparency. Where affected stakeholder groups wish to keep elements of the benefit-sharing plan private, those elements have been documented separately in commercially sensitive agreements, which will be available to authorized stakeholders upon request. The project proponents have obtained written confirmation from affected communities that they wish to maintain confidentiality on these aspects.
Benefit sharing during the monitoring period	Since this is the project's first round of verification and no carbon revenues have yet been generated by the project, the full implementation of the benefit sharing plans for carbon revenue has not yet occurred. Community investment of advance payments of $2/ha is described in Section 4.1.1.

2.5.7. Free, Prior, and Informed Consent (VCS, 3.18, 3.19; CCB, G5.2)

Consent	Soils for the Future Africa (SftFA) started engaging with communities in September 2021 by first identifying the right holders and their representatives – the former group ranch leadership, and/or the conservancy leadership, where relevant. Informative meetings to describe the intention, project activities, potential benefits and risks, and project cycle were held in the respective initial PAIs, and central towns of Kiserian and Kajiado as determined by the respective former

group ranch and/or conservancy leadership. These meetings sought to clarify the right holders, land tenure and legal registration of the former group ranch and/or conservancy under the laws of Kenya. Former group ranch leadership and/or conservancy leadership have in turn engaged in the traditional structures to pass this information across their constituencies. This has included engaging with grazing committees, who have then informed their constituents of the project. The iterative process has ensured that initial project information has been communicated to the relevant parties.

SftFA has recruited a team of Grazing Coordinators to further engage with the communities. The project team has trained the grazing coordinators on FPIC protocols. Meetings are organized in collaboration with group ranch, zonal and community leadership. These meetings seek appropriate times and availability based on feedback from constituents. Clear agendas for the meetings are also established and communicated. Prior to commencing meetings, project details are shared with attendees to refresh the purpose and objectives of the Kajiado Rangelands Carbon Project. The details have been simplified and translated into Maasai and Kiswahili for ease of communication and consistency of messaging. All meetings conducted with stakeholders are recorded through a meeting reporting form. Meeting report forms capture details of attendees with signatures of consent, details of meeting objectives, discussions and next steps.

During the initial consultation stages with the group ranch leadership, a draft Memorandum of Understanding (MOU) is presented to the group ranch leaders. It is stressed that this is a draft version, and the group ranch leadership should engage with their members and get advice from legal experts to review and refine on any concerns they have. The MOU describes the process that leads to joining the project – including entering into the MOU to show intent, then to follow with a similar engagement process that would result in the transfer of carbon credits and entering into a benefit sharing agreement. The primary purpose of the MOU is to indicate a consensus and goodwill towards initiating the project consultation process.

The Draft Benefit Sharing Agreement and Draft Transfer of Carbon Rights agreements are also shared with the Group Ranch leadership for review with their respective lawyers. These documents are also translated into local Maasai language for wider distribution within the communities for review. Once deliberations with the community are completed, StfFA is invited to an AGM where majority of community is

	present. Where group ranches are sub-divided, individuals sign a transfer of carbon rights to an established legal entity (e.g., a cooperative society), which then signs the agreement with SftFA. Where consent is withheld, the project proponents (SftFA) will repeat the FPIC process all over again. More meetings and consultations with communities/individuals who have withheld their consent will be planned. Causes of refusal will be established, renegotiations considered and terms & conditions fixed until consensus is reached.
Outcome of FPIC	As noted in the PDD, the project has signed transfer of carbon rights agreements with initial PAIs (i.e., the Eselenkei, Olgulului, Olkeri, Olkirimatian; Shompole communities and the Elesai, Murtuna, Osewan, and Oltepesi conservancies of RAMAT East). During the monitoring period, the project has secured carbon transfer rights from the following additional "Phase II" PAIs (see Section 2.2.6.1): seven ALOCA communities, four Nasaru Olosho Conservancy Trust communities, and three RAMAT Meto communities, and the remaining 9 RAMAT East conservancies,

2.5.8. Property Right Protection (VCS, 3.18, 3.19; CCB, G5.3)

As noted in PDD Section 2.5.9, this project will not engage in any project activities that directly or indirectly result in the involuntary removal or relocation of property rights holders from their lands or territories, nor will they displace activities essential to land rights holders culture and livelihoods. RRG, the central activity of the project, does not require relocation from lands currently used for grazing—an activity central to pastoralist culture and livelihoods. Instead, it represents a collaborative effort among pastoralist communities to intensively graze designated rangeland sectors before allowing them to rest, ensuring a sustainable and regenerative grazing system.

2.5.9. Identification of Illegal Activity (VCS, 3.19, CCB, G5.4)

PDD Section 2.5.10 describes the key illegal activities that could affect the project's impact, including:

- Wildlife poaching and illegal wildlife trade
- Livestock theft and
- Retaliatory lion killings

During the monitoring period, no such illegal activities were observed in the PGA/CCB Project Zone. In addition, the project carried out related mitigation activities as described in the PDD, including:

- Community education and outreach about the importance of wildlife conservation
- Monitoring and reporting by community members and grazing coordinators
- Community monitoring and enforcement to mitigate livestock theft
- Livestock branding and

- Coordination with locally active conservation groups (see Section 2.3)

In addition, the project remains committed to upholding human rights and ethical labor standards. For example, HR protocols mandate full compliance with international and national labor laws, ensuring that no victims of human trafficking, forced labor, or child labor are involved at any stage. The project undergoes regular audits and training to confirm adherence to these standards, with zero tolerance for exploitation. Policies and procedures are in place to monitor and prevent any violations, safeguarding the dignity and rights of all workers.

With respect to children's participation in grazing activities, Soils for the Future Africa does not support child labor. As stipulated in the Employee Handbook, Principle 5 explicitly states the organization's commitment to the abolition of child labor. No children are permitted to take responsibility for the implementation of project-related RRG activities. However, pastoralist communities have long-standing cultural practices of teaching children about livestock management through observation and guided participation—which is considered education, not labor.

KRCP also actively supports children's access to education, helping to reduce child labor. A significant financial barrier to education in participating communities is the cost of school fees. As outlined in community proposals, many communities have chosen to allocate a portion of KRCP's financial benefits toward bursaries and education, in some cases covering school fees for all children in the community. This investment helps mitigate the risk of children dropping out of school and reverting to herding as a livelihood strategy due to financial constraints.

2.5.10. Ongoing Disputes (VCS, 3.18, 3.19; CCB, G5.5)

PDD Section 2.5.11 describes several recent and/or ongoing disputes in the CCB Project Zone that are relevant to the project. The list includes several disputes involving land tenure or resource rights just outside the project area, and two disputes over community governance within the project area. During the monitoring period, the project has not engaged in activities that would prejudice the outcome of any of the disputes in question. While future court decisions may influence the implementation or expansion of the project in the future, no new, relevant court decisions have been issued during the monitoring period. The project will continue to monitor active disputes closely and respond appropriately.

3. CLIMATE

3.1. Monitoring GHG Emission Reductions and Removals

3.1.1. Data and Parameters Available at Validation (VCS, 3.16)

The following data and parameters were presented at validation:

- Maps of Project areas with ineligible areas excluded
- Coordinates and photos of soil and aboveground woody biomass sampling stations

- Remote sensing and modeled input data used for soil carbon modeling
- Calculation workbooks for livestock methane emissions and soil carbon removals
- Methodological writeups on determining vegetation class, sampling point distances from livestock corrals, soil sampling protocols, protocols for monitoring livestock locations and counts,
- SNAPGRAZE version history
- Calculations showing de minimis emissions from biomass burning
- Descriptions of project RRG practices and grazing committee grazing plans

The parameters in this section are established at the start of the project (validation) and remain fixed unless re-measurement is required. They provide the baseline context and fixed reference values needed to quantify greenhouse gas reductions or removals. These parameters include project area boundaries, global warming potential values, and baseline livestock and soil carbon information. As this is a grouped project, new Project Activity Instances will present baseline data from this list of parameters.

3.1.1.1. Baseline Methane Emissions

Data / Parameter	GWP_{CH4}
Data unit	t CO_2e / t CH_4
Description	Global-warming potential for methane (CH_4) over a 100-year time horizon.
Source of data	IPCC Fifth Assessment Report, 2014
Value applied	28
Justification of choice of data or description of measurement methods and procedures applied	Value adopted from IPCC AR5 for non-fossil methane.
Purpose of Data	Calculation of baseline and project emissions.
Comments	N/A

Data / Parameter	$W_{c,t}$
Data unit	kg
Description	Average body weight for animals of category c in year t.
Source of data	Measured in Project Area or obtained from published regional sources.
Value applied	As determined for the Project Area.

Justification of choice of data or description of measurement methods and procedures applied	Livestock weights were derived from regionally relevant literature or development/government reports due to the impracticality of weighing animals in open pastoralist systems.
Purpose of data	Calculation of baseline emissions.
Comments	N/A

Data / Parameter	$N_{c,i}$
Data unit	Number of animals
Description	Baseline number of animals of livestock species and age class *c* in census year *i*.
Source of data	Household livestock surveys conducted in the Project Area.
Value applied	Measured
Justification of choice of data or description of measurement methods and procedures applied	Livestock data were collected through two household surveys implemented by Converge: (1) a historical livestock recall survey conducted in January-February 2023, in which heads of households randomly selected from approximately 15-20% of registered member households per community reported annual livestock holdings (cattle, sheep, goats, and donkeys) for each year from 2012-2022; and (2) a livestock census module embedded within general household surveys conducted in 2023 and 2024, recording current livestock holdings by species and age class (adult and young). Households with no livestock were included. Livestock totals were calculated by multiplying average livestock per household by the total number of households per stratum. Survey data were processed, validated, and aggregated by CarbonSolve. Comparison of recall-based historical estimates with recent census data indicates no systematic bias in reported livestock numbers.
Purpose of data	Calculation of baseline emissions.
Comments	N/A

3.1.1.2. Baseline SOC Measurement

Data / Parameter	$FIRE_{m,j,0}$
Data unit	Proportion (0-1)
Description	Proportion of years with recorded fire occurrence at soil sampling station *j* in stratum *m* during the baseline scenario. This parameter represents fire occurrence at the sampling-station

	(point) level and is a required input to the SNAPGRAZE soil carbon model.
Source of data	MODIS Burned Area Product, derived for the 10-year baseline period immediately preceding the project start date (2015-2024).
Value applied	0 for ~99% of sampling points; 0.1 for 3 sampling points.
Justification of choice of data or description of measurement methods and procedures applied	Fire occurrence at each soil sampling station was assessed by intersecting station coordinates with annual MODIS burned area layers covering the baseline period. This geospatial analysis demonstrates that fire is extremely rare across the PGA/CCB Project Zone (Figure 3.2-1), with the large majority of sampling stations (~99%) experiencing zero detected fire events during the baseline period. Accordingly, $FIRE_{m,j,0}$ equals zero for nearly all sampling stations in the baseline scenario.
Purpose of data	Calculation of baseline emissions. More specifically, used as a baseline input to the SNAPGRAZE model to represent pre-project fire conditions and to ensure conservative estimation of baseline soil carbon dynamics.
Comments	N/A

Data / Parameter	$DEPTH_{m,j,0}$
Data unit	cm
Description	Depth to which soil cores are taken at station *j* in stratum *m* at time *t = 0* (i.e., at the start of the project or since last verification).
Source of data	Measured
Value applied	Typically 40 (or shallower if bedrock encountered).
Justification of choice of data or description of measurement methods and procedures applied	Many locations in the Project Area have shallow soils to bedrock at depths < 40 cm. Sampling to deeper levels is not feasible for remote field teams that must sample by hand and carry equipment > 10 km to access a single sampling station.
Purpose of data	Calculation of baseline emissions (SOC stock calculation).
Comments	N/A

Data / Parameter	$SOC\%_{j,m,0}$
Data unit	%

Description	Soil organic carbon concentration at station *j* in stratum *m* at time *t = 0* (i.e., at the start of the project or since the last verification).
Source of data	Laboratory analysis of soil samples.
Value applied	Measured
Justification of choice of data or description of measurement methods and procedures applied	Baseline for performance-based removals based on increasing SOC. SOC is tracked at the level of individual sampling stations in each stratum because net removals are calculated using the SNAPGRAZE model, which predicts current SOC based on past conditions at individual stations. Crop Nutritional Services, an internationally accredited laboratory in Nairobi, analyzed the soil samples using the dry combustion (Loss on ignition) method, in which samples are heated to 550 °C for 24 hours and the resulting mass loss is concerted to SOC% using a standard conversion factor.
Purpose of data	Calculation of baseline emissions.
Comments	N/A

Data / Parameter	$BULK_{m,j,0}$
Data unit	Grams per cubic centimeter (g/cm^3).
Description	Soil bulk density at sampling station *j* in stratum *m* at time *t = 0* (i.e., at the start of the project or since the last verification).
Source of data	Measured
Value applied	Measured
Justification of choice of data or description of measurement methods and procedures applied	Measured following standard protocols by taking a 40 cm soil core (known volume) at each sampling station and weighing them in the field after sieving out rocks. A second 100 g sample is collected from the soil and weighed, then dried in a lab at 105°C to a constant weight, which will be recorded. This provides a dry:wet mass ratio that is used to convert the field (wet) mass of the soil from the bulk density core to dry mass. Volume of removed rocks and pebbles are subtracted from the core volume. Dry mass of the sieved soil divided by the quantity core volume less rock volume yields bulk density.
Purpose of data	Calculation of baseline emissions.

Comments	N/A

3.1.1.3. Soil Carbon Models

Data / Parameter	$MAP_{m,j}$
Data unit	mm/yr
Description	Mean annual precipitation at sampling station *j* in instance (stratum) *m*.
Source of data	CHIRPs v3.0 annual precipitation data[12]
Value applied	Estimated
Justification of choice of data or description of measurement methods and procedures applied	Mean annual precipitation values were derived from CHIRPs v3.0 satellite- and station-integrated annual precipitation data for Africa. Annual precipitation layers for each year from 2012 to 2022 were averaged to produce a single baseline-period mean annual precipitation raster. Raster values were extracted at each sampling station location using the *Sample Raster Values* tools in QGIS, following the procedures described in Section 3.1.4.5.2 of the Project Document. CHIRPs provides high-resolution (~5 km), quality-controlled precipitation estimates that integrate satellite imagery with ground-based weather station observations, making it suitable for spatially explicit precipitation estimation in data-scare regions such as southern Kenya.
Purpose of data	Calculation of baseline emissions. More specifically, required input for the SNAPGRAZE soil carbon dynamics model to estimate baseline soil carbon stocks and associated carbon dioxide removals.
Comments	

Data / Parameter	$MAT_{m,j}$
Data unit	^{o}C
Description	Mean annual temperature at sampling station *j* in instance (stratum) *m*.

[12] CHIRPS: Rainfall Estimates from Rain Gauge and Satellite Observations | Climate Hazards Center - UC Santa Barbara (ucsb.edu) (Accessed September 18, 2025).

Source of data	ERA5-Land monthly averaged data,[13] air temperature at 2m above the surface (*t2m*)
Value applied	Varies, mean of 22.2 °C, range of 15.8 to 28.2 °C over project geographic area
Justification of choice of data or description of measurement methods and procedures applied	ERA5 is a leading reanalysis dataset produced by the European Centre for Medium-Range Weather Forecasts, derived from data assimilation of satellite and station data using a global weather model. For a more spatially detailed model, we downscaled ERA5 from 9 km to 90 m using a digital surface model and empirically derived temperature lapse rate (Section 3.2.1.5.1). To check the accuracy of this procedure, the downscaled product was resampled to native resolution and compared to native ERA5 values. The downscaled product had a bias of 0.00 °C and RMSE of 0.15 °C.
Purpose of data	Calculation of baseline and project emissions. More specifically, it is required input for the SNAPGRAZE soil carbon dynamic model to estimate baseline carbon stocks and project carbon dioxide removals.
Comments	N/A

Data / Parameter	$SAND\%_{j,m}$
Data unit	%
Description	Percent sand content at station *j* in stratum *m*.
Source of data	Laboratory analysis
Value applied	Measured
Justification of choice of data or description of measurement methods and procedures applied	Initially, SAND% was estimated using the field-based "ball and ribbon" method[14] to classify soil texture. However, during the site visit, it was determined that this method is difficult to replicate consistently across testers. As a result, archived baseline soil samples from all sampling stations were sent for laboratory analysis at Crop Nutrition Services for more precise soil texture determination.

[13] https://cds.climate.copernicus.eu/datasets/reanalysis-era5-land-monthly-means?tab=overview (accessed April 20, 2026)

[14] Jeremy A Giddings, "Determining Soil Texture Using the Ribboning Technique," Agriculture NSW Water Unit, (January 2015). https://doi.org/10.13140/RG.2.1.3876.6809 (Accessed September 18, 2025).

Purpose of data	Calculation of baseline emissions.
Comments	N/A

Data / Parameter	$MAPLC_{j,m}$
Data unit	Proportion
Description	Mean proportion of aboveground plant material composed of the chemical compounds lignin and cellulose, which are resistant to microbial attack, at sampling plot *j* in stratum *m*.
Source of data	Assigned on the basis of the dominant plant types in and near the permanent sampling station. These assignments were based on sampling of different plant species' roots and shoots in East Africa, namely the northern Kenya carbon project in Samburu and Isiolo Counties and in Serengeti National Park in Tanzania.
Value applied	Plant type / Mean / SE Annual Grass / 23.25 / 1.56 Forb / 22.33 / 1.14 Perennial Grass / 35.67 / 1.42 Mixture / 25.20 / 0.79
Justification of choice of data or description of measurement methods and procedures applied	Lignin and cellulose are slow-decomposing plant compounds that contribute substantially to particulate soil carbon and act as metabolic precursors to more stable humic substances. Direct measurement requires laboratory fiber analysis, which is not feasible for routine monitoring. Therefore, literature-derived MAPLC values were assigned based on dominant plant functional groups. Belowground carbon inputs in the SNAPGRAZE model are adjusted using an annuals correction factor, which accounts for differences in root-to-shoot ratios between shallow-rooted (annuals/forbs) and deep-rooted (perennial grasses) vegetation types. The correction factor is applied to root production estimates for annual and shallow-rooted plant types, while perennial grasses are assigned a value of 1.0. This approach follows the parameterization described in Ritchie (2020).
Purpose of data	Calculation of baseline emissions.
Comments	N/A

Data / Parameter	$MSOC_{m,j,b}$
Data unit	tC/ha
Description	Modeled SOC at station *j* in stratum *m* for each year *b* during the baseline period.
Source of data	SOC model
Value applied	Estimated
Justification of choice of data or description of measurement methods and procedures applied	SOC models applied must meet with the modeling requirements described in Section 8.1.3.4 of the Methodology VM0032 v 1.0. It is estimated using a backwards projection of SOC change over the last 10 years prior to project start given the initial measured SOC density. Derivation of the formula used is presented in section 3.2.1
Purpose of data	Calculation of baseline and project emissions.
Comments	N/A

Data / Parameter	$PSOC^{eq}_{m,j,}$
Data unit	tC/ha
Description	Modeled SOC at equilibrium at station *j* in stratum *m*
Source of data	SOC model
Value applied	Estimated
Justification of choice of data or description of measurement methods and procedures applied	SOC models applied must meet the modeling requirements described in Section 8.1.3.3 of the Methodology VM0032 v 1.0. The SNAPGRAZE model, chosen for this project, calculates an equilibrium SOC density that will be achieved under project scenario conditions as inputs.
Purpose of data	Calculation of baseline and project emissions.
Comments	N/A

Data / Parameter	D
Data unit	years
Description	Years required to achieve SOC equilibrium.
Source of data	SOC model
Value applied	As determined for the Project Area

Justification of choice of data or description of measurement methods and procedures applied	SOC models applied must meet the modeling requirements described in VM0032 Section 8.2.3.
Purpose of Data	Calculation of baseline and project emissions.
Comments	N/A

Data / Parameter	$VegClass_{m,j,0}$
Data unit	Category
Description	Category of dominant plant type, BARE; ANNUALS; MIXTURE; PERENNIALS corresponding to bare ground; annual grasses, forbs, or shallow-rooted perennials; mixture of annuals and shallow-rooted perennials at the project start. VegClass is assessed for stratum *m* at station *j* for time *t* = 0.
Source of data	Field observation + photo verification.
Value applied	Measured
Justification of choice of data or description of measurement methods and procedures applied	Plant functional groups serve as a surrogate variable for expected lignin and cellulose inputs to soil and are used to assign MAPLC values (see MAPLC parameter table above). Vegetation class is initially assigned based on qualitative assessment of four quadrants within a 10 m radius of the sampling station center as described in 3.2.1.5.2.
Purpose of data	Calculation of baseline and project emissions.
Comments	Used to assign MAPLC values.

Data / Parameter	$VegClass_{m,j,t}$
Data unit	Category
Description	Category of dominant plant type, BARE; ANNUALS; MIXTURE; PERENNIALS corresponding to bare ground; annual grasses, forbs, or shallow-rooted perennials; mixture of annuals and shallow-rooted perennials at the project start. VegClass is assessed for stratum *m* at station *j* for time *t* = number of years during the monitoring period.

Source of data	Modeling assumption that, by the time project reaches equilibrium SOC density under the project scenario, original $VegClass_{m,j,0}$ will have transitioned to $VegClass_{m,j,t}$
Value applied	Transition rules – If $VegClass_{m,j,0}$ = ANNUALS or BARE, $VegClass_{m,j,t}$ = MIXTURE; If $VegClass_{m,j,0}$ = MIXTURE, $VegClass_{m,j,t}$ = PERENNIALS; If $VegClass_{m,j,0}$ = PERENNIALS, $VegClass_{m,j,t}$ = PERENNIALS.
Justification of choice of data or description of measurement methods and procedures applied	When the SOC model is re-assessed in year t = 5 to t=10, per requirement of Methodology VM0032 v 1.0, VegClass will be re-measured as for $VegClass_{m,j,0}$. Plant functional groups serve as a surrogate variable for expected lignin and cellulose inputs to soil and are used to assign MAPLC values (see MAPLC parameter table above). Vegetation class is initially assigned based on qualitative assessment of four quadrants within a 10 m radius of the sampling station center as described in 3.2.1.5.2.
Purpose of data	Calculation of baseline and project emissions.
Comments	Used to assign MAPLC values.

Data / Parameter	$G_{m,j}$
Data unit	Days
Description	Number of days in the growing season at sampling station *j* in stratum *m*, estimated from mean annual temperature and mean annual precipitation.
Source of data	Derived from $MAT_{m,j}$ and $MAP_{m,j}$ using a literature-based regression equation (Ritchie 2020).
Value applied	Estimated for each sampling station using $G_{m,j} = 22.99*MAT – 0.94*MAT^2 + 0.073*MAP$
Justification of choice of data or description of measurement methods and procedures applied	The regression equation is based on a review of published studies relating climate variables to growing season length. It provides a consistent, climate-driven method to estimate biologically active growing periods across the Project Area.
Purpose of data	Calculation of baseline and project emissions (controls biomass productivity and soil carbon dynamics in the SNAPGRAZE model).
Comments	N/A

Data / Parameter	r
Data unit	g g^{-1} day^{-1}
Description	Maximum relative growth rate (RGRmax) of forage biomass at sampling station *j* in stratum *m*. This parameter represents the maximum per-unit biomass growth rate of vegetation under favorable conditions and determines how quickly plant biomass accumulates between grazing events in the SNAPGRAZE episodic herbivory model.
Source of data	Literature-based parameter values derived from plant growth studies and applied within the SNAPGRAZE modeling framework described in Ritchie (2020).
Value applied	Typical values applied in SNAPGRAZE range from 0.035 g g^{-1} day^{-1} for temperate grassland systems to 0.05 g g^{-1} day^{-1} for tropical grassland systems.
Justification of choice of data or description of measurement methods and procedures applied	The maximum relative growth rate represents the intercept of the relationship between relative growth rate and plant biomass and reflects the potential growth rate of vegetation at low biomass when resource limitation and self-shading are minimal. It can be estimated empirically from plant growth experiments or from regressions of measured RGR against biomass in field or greenhouse studies. In the SNAPGRAZE framework, literature-derived values representing typical temperate and tropical grassland growth rates are used to parameterize vegetation growth dynamics across different climatic contexts.
Purpose of data	Calculation of baseline and project emissions (controls biomass accumulation and soil carbon dynamics in the SNAPGRAZE model).
Comments	N/A

Data / Parameter	n
Data unit	Number of pastures
Description	Number of grazing pastures used in the baseline (pre-project) grazing system to represent the spatial subdivision of grazing areas.
Source of data	Community-reported grazing practices and project assumptions.
Value applied	1 (continuous grazing)

Justification of choice of data or description of measurement methods and procedures applied	Grazing coordinators from participating communities reported the use of seasonally divided grazing areas during project implementation, and recorded detailed spatial and temporal records of historical grazing rotations were not available. To ensure a conservative representation of baseline grazing pressure, a value of one pasture was applied, corresponding to continuous grazing across the Project Area. This assumption represents the least rotational and most spatially concentrated grazing pattern, resulting in higher razing intensity per unit area and therefore more conservative baseline soil carbon outcomes. Sensitivity analyses were also conducted using two pastures to reflect the reported seasonal grazing practices and to assess the influence of alternative historical grazing structures on modeled soil organic carbon dynamics.
Purpose of data	Calculation of baseline emissions.
Comments	N/A

Data / Parameter	$PA_{m,g}$
Data unit	ha
Description	Project Area in stratum *m* in year *g* (start of project).
Source of data	Measured (GIS-based spatial analysis)
Value applied	Measured from area of topologically corrected polygons of the participating communities.
Justification of choice of data or description of measurement methods and procedures applied	Boundaries of PAIs were initially based on legal boundaries of group ranches or of registered community lands. These were verified using Google Earth Pro to align with physical boundary features (e.g., roads, landmarks). Ineligible areas (roads, large settlements, forests, swamps) were removed before final area calculation.
Purpose of data	Calculating livestock density and multiplying removals/ha to project totals.
Comments	N/A

3.1.2. Data and Parameters Monitored (VCS, 3.16)

Monitored parameters are measured periodically during the crediting period to quantify project scenario greenhouse gas emissions, removals, and leakage, as well as to verify the implementation of planned

project activities. These data track the effects of management interventions (e.g., adjusted grazing) and allow comparison against baseline conditions.

3.1.2.1. Project Animal Methane Emissions

Data / Parameter	Forage Biomass
Data unit	Kg/ha
Description	Forage biomass available for livestock grazing
Source of data	Inference for MODIS (or other satellite) NDVI, EVI or other vegetation index
Description of measurement methods and procedures to be applied	Forage biomass inferred from vegetation index, using calibration between ground-truthed measurements and index values at the same satellite pixel and time of year.
Frequency of monitoring/recording	Ground-truthed once; satellite imagery downloaded every 16 days
Value applied	Variable
Monitoring equipment	Satellite imagery; basic field biomass sampling tools (e.g., quadrats, scales).
QA/QC procedures to be applied	Validation of satellite-derived biomass estimates against field measurements.
Purpose of data	Calculation of project emissions; demonstration of successful adoption of project grazing practices.
Calculation method	Vegetation index values are converted to forage biomass using established calibration relationships derived from ground-truthed field measurements.
Comments	N/A

Data / Parameter	$PN_{c,t}$
Data unit	Number of animals
Description	Number of animals of category *c* in the Project Area during year *t*
Source of data	Measured in Project Area
Description of measurement methods and procedures to be applied	Measured as the arithmetic mean of one or more years' animal censuses during the verification period

Frequency of monitoring/recording	Annual
Value applied	As determined in/for the Project Area
Monitoring equipment	Household survey forms; livestock records; mobile data collection tools where applicable.
QA/QC procedures to be applied	Based on records of livestock numbers, interviews of grazing managers, coordinators, herders, or other administrative staff. Records should be kept as paper and electronic copies.
Purpose of data	Calculation of project emissions
Calculation Method	Arithmetic mean of livestock counts recorded during annual censuses within the verification period.
Comments	N/A

3.1.2.2. SOC Removal Calculation

Note, these parameters will be measured or applied in project year t = 5 to t=10 when measurements of change in SOC density at each sampling point are required to re-assess the SOC model performance.

Data / Parameter	$PA_{m,t}$
Data unit	ha
Description	Project Area in stratum *m* in year t
Source of data	Measured in Project Area
Description of measurement methods and procedures applied	Using the same GIS-based methods and tools used during validation, boundaries of PAIs will be reviewed and adjusted as needed to reflect any changes in land eligibility.
Frequency of monitoring/recording	Annual
Value applied	Measured
Monitoring equipment	GIS software
QA/QC procedures to be applied	Boundaries verified using GPS with ≤ 5 m positional accuracy and cross-checked against high-resolution satellite imagery.
Purpose of data	Calculating livestock density and multiplying removals/ha to determine project emissions and removals totals.

Calculation Method	Project Area is calculated as the sum of eligible land area within topographically corrected PAI polygons for each stratum *m* in year *t*.
Comments	N/A

Data / Parameter	$FIRE_{m,j}$
Data unit	Proportion (0-1)
Description	Proportion of years with recorded fire occurrence at soil sampling station *j* in stratum *m* during the project scenario. This parameter represents fire occurrence at the sampling-station (point) level and is a required input to the SNAPGRAZE soil carbon model.
Source of data	MODIS Burned Area Product and VIIRS active fire detections (NASA FIRMS) for ongoing fire monitoring during the project period.
Description of measurement methods and procedures to be applied	During the project scenario, fire occurrence will be monitored using satellite-based burned area and active fire products. Sampling station coordinates will be spatially intersected with burned area layers for each verification period to identify whether fire has occurred at or overlapping a given station. $FIRE_{m,j}$ will not be assumed to be zero; rather, it will be updated based on observed fire occurrence and incorporated into SNAPGRAZE simulations as required. If fire begins returning annually or biennially, fire management programs may be implemented to shift fire regimes toward lower intensity, patchy, early-season fires, which have been shown to benefit soil carbon retention[15].
Frequency of monitoring/recording	Assessed for all stations at each verification cycle using cumulative burned area data since the previous verification. Interim monitoring may be conducted using NASA FIRMS where relevant.
Value applied	Variable
Monitoring equipment	Satellite fire detection products (MODIS Burned Area, VIIRS/NASA FIRMS).
QA/QC procedures to be applied	Cross-validation between MODIS and VIIRS fire products.

[15] Adam F. A. Pellegrini et al., "Soil Carbon Storage Capacity of Drylands under Altered Fire Regimes," *Nature Climate Change* 13, no. 10 (October 2, 2023): 1089–94, https://doi.org/10.1038/s41558-023-01800-7 (Accessed September 18, 2025).

Purpose of data	Calculation of project emissions. More specifically, used as a project-scenario input to the SNAPGRAZE model to simulate the effects of fire on soil carbon dynamics and to ensure that project activities do not increase fire occurrence relative to baseline conditions.
Calculation method	For each sampling station, FIREm,j is calculated as the number of years with detected fire intersecting the station location divided by the total number of years in the relevant monitoring period.
Comments	

Data / Parameter	$DEPTH_{m,j,t}$
Data unit	cm
Description	Depth to which soil cores are taken at station *j* in stratum *m* during year *t*
Source of data	Measured
Description of measurement methods and procedures to be applied	Soil cores collected manually to a maximum depth of 40 cm.
Frequency of monitoring/recording	At the end of the monitoring period (estimated as 5-10 years after project activities have increased SOC density sufficiently to detect a change in SOC%).
Value applied	Measured
Monitoring equipment	Manual soil cores or augers; measuring tapes or depth markers.
QA/QC procedures to be applied	Depth cored must be the same as for baseline soil carbon sampling. However, the depth used in calculating SOC after t years of project activities must be adjusted to account for changes in bulk density such that DEPTHm,j,t x BULKm,j,t = DEPTHm,j,0 x BULKm,j,0 . This ensures that equal masses of soil are compared between year 0 and year t.
Purpose of data	Calculation of project emissions. More specifically to support calculation of soil core volume for determination of carbon stock density.
Calculation method	Soil core depth adjusted to maintain equivalent soil mass across sampling periods: DEPTHm,j,t x BULKm,j,t = DEPTHm,j,0 x BULKm,j,0

Comments	N/A

Data / Parameter	$SOC\%_{m,j,t}$
Data unit	%
Description	Proportion of soil organic carbon at station *j* in stratum *m* at time *t*
Source of data	Measured
Description of measurement methods and procedures to be applied	Soil samples analyzed at Crop Nutrition Services Laboratory using standardized procedures.
Frequency of monitoring/recording	At the end of the monitoring period (estimated as 5-10 years after project activities have increased SOC density sufficiently to detect a change in SOC%).
Value applied	Measured
Monitoring equipment	Laboratory soil analysis instruments (e.g., combustion analyzer).
QA/QC procedures to be applied	The organic carbon concentrations will be measured at Crop Nutrition Services, an industrial laboratory with automated and calibrated analytical machines.
Purpose of data	Calculation of project emissions. More specifically, they help calculate year t carbon stocks.
Calculation method	SOC percentage determined from laboratory analysis of dried samples.
Comments	N/A

Data / Parameter	$BULK_{m,j,t}$
Data unit	Grams per cubic centimeter (g/cm^3)
Description	Soil bulk density at sampling station *j* in stratum *m* at time *t*
Source of data	Measured

Description of measurement methods and procedures to be applied	40 cm soil cores collected, rocks removed, wet mass measured, subsamples dried at 105 °C to determine dry mass.
Frequency of monitoring/recording	At the end of the monitoring period (estimated as 5-10 years after project activities have increased SOC density sufficiently to detect a change in SOC%).
Value applied	Measured
Monitoring equipment	Soil corers; drying ovens; precision scales.
QA/QC procedures to be applied	Measured following standard protocols by taking a 40 cm soil core (known volume) at each sampling station and weighing them in the field after sieving out rocks. A second 100 g sample will be collected from the soil and weighed, then dried in a lab at 105°C to a constant weight, which will be recorded. This will provide a dry:wet mass ratio that will be used to convert the field (wet) mass of the soil from the bulk density core to dry mass. Volume of removed rocks and pebbles will be subtracted from the core volume. Dry mass of the sieved soil divided by the quantity core volume less rock volume yields bulk density.
Purpose of data	Calculation of project emissions. More specifically, needed to to convert proportion of SOC in soil to mass of SOC/area.
Calculation method	Dry soil mass divided by adjusted core volume (excluding rock volume) to calculate bulk density.
Comments	N/A

3.1.2.3. Project Soil Carbon Models

Data / Parameter	$MAP_{m,j,t}$
Data unit	mm/yr
Description	Mean annual precipitation at sampling station *j* in instance (stratum) *m* at time *t*.
Source of data	CHRIPs v3.0 annual precipitation data[16]
Description of measurement methods	Annual CHIRPS precipitation layers are compiled for the monitoring/verification period and summarized to derive mean

[16] CHIRPS: Rainfall Estimates from Rain Gauge and Satellite Observations | Climate Hazards Center - UC Santa Barbara (ucsb.edu) (Accessed September 18, 2025).

and procedures to be applied	annual precipitation. Raster values are extracted at permanent sampling station coordinates using GIS, consistent with procedures described in Section 3.2.1.5.2.
Frequency of monitoring/recording	Each verification cycle (using annual rasters covering the period since the previous verification).
Value applied	Estimated (station-specific)
Monitoring equipment	Remote sensing datasets (CHIRPS); GIS software.
QA/QC procedures to be applied	Use consistent CHIRPS version and extraction workflow across verification cycles; verify correct coordinate reference system and station locations prior to extraction; archive raw raster and extraction outputs.
Purpose of data	Calculation of project emissions (SNAPGRAZE model input).
Calculation method	Extract CHIRPS annual precipitation at station locations and compute mean annual value over the relevant period.
Comments	N/A

Data / Parameter	$MAT_{m,j,t}$
Data unit	°C
Description	Mean annual temperature at sampling station *j* in stratum *m* at time *t*.
Source of data	ERA5-Land monthly averaged data air temperature at 2m above the surface (*t2m*)
Description of measurement methods and procedures to be applied	ERA5 is a leading reanalysis dataset produced by the European Centre for Medium-Range Weather Forecasts, derived from data assimilation of satellite and station data using a global weather model. For a more spatially detailed model, we downscaled ERA5 from 9 km to 90 m using a digital surface model and empirically derived temperature lapse rate (Section 3.2.1.5.1). If the same dataset continues to be used, MAT values are recorded and retained for verification consistency.
Frequency of monitoring/recording	Each verification cycle (recorded; updated only if the project updates the climate dataset consistent with the methodology).

Value applied	Varies, mean of 22.2 °C, range of 15.8 to 28.2 °C over project geographic area.
Monitoring equipment	Gridded climate datasets; GIS software.
QA/QC procedures to be applied	Use consistent dataset/version and extraction workflow; archive extraction outputs used in each verification cycle.
Purpose of data	Calculation of baseline and project emissions. More specifically, it is required input for the SNAPGRAZE soil carbon dynamic model to estimate baseline carbon stocks and project carbon dioxide removals.
Calculation method	Raster extraction at station coordinates.
Comments	N/A

Data / Parameter	$VegClass_{m,j,t}$
Data unit	Category
Description	Category of dominant plant type, BARE; ANNUALS; MIXTURE; PERENNIALS corresponding to bare ground; annual grasses, forbs, or shallow-rooted perennials; mixture of annuals and shallow-rooted perennials at the project start. VegClass is assessed for stratum *m* at station *j* for time *t* = number of years during the monitoring period.
Source of data	Modeling assumption that, by the time project reaches equilibrium SOC density under the project scenario, original $VegClass_{m,j,0}$ will have transitioned to $VegClass_{m,j,t}$
Description of measurement methods and procedures to be applied	When the SOC model is re-assessed in year t = 5 to t=10, per requirement of Methodology VM0032 v 1.0, VegClass will be re-measured as for $VegClass_{m,j,0.}$ Plant functional groups serve as a surrogate variable for expected lignin and cellulose inputs to soil and are used to assign MAPLC values (see MAPLC parameter table in Section 3.1.2.3). Vegetation class is initially assigned based on qualitative assessment of four quadrants within a 10 m radius of the sampling station center as described in 3.2.1.5.2.
Frequency of monitoring/recording	Each verification cycle (recorded; updated only if the project updates the climate dataset consistent with the methodology).
Value applied	Transition rules – If $VegClass_{m,j,0}$ = ANNUALS or BARE, $VegClass_{m,j,t}$ = MIXTURE; If $VegClass_{m,j,0}$ = MIXTURE, $VegClass_{m,j,t}$ =

	PERENNIALS; If $VegClass_{m,j,0}$ = PERENNIALS, $VegClass_{m,j,t}$ = PERENNIALS.
Monitoring equipment	Transect tape, quadrat markers, notebook or tablet
QA/QC procedures to be applied	Quality control based on expert review of plot photos
Purpose of data	Calculation of baseline and project emissions.
Calculation method	Derived from field quadrats and transition rules above
Comments	Used to assign MAPLC values.

Data / Parameter	$N_{m,t}$
Data unit	Number of pastures/grazing blocks used by livestock
Description	Number of pastures used in stratum *m* (community) during year *t*.
Source of data	Management decision variable
Description of measurement methods and procedures to be applied	Livestock herd locations and numbers of animals per herd will be directly observed and recorded by grazing coordinators for all blocks in each planned bi-weekly interval during the year. These herd locations will be converted into "livestock footprints" determined from the minimum convex polygon of livestock observations (herd location plus estimated radius) in each grazing zone in each community for each bi-weekly interval. Footprints from overlapping herds within the same bi-weekly interval are dissolved so that each part of the landscape is counted once per interval regardless of herd or zone of origin. The resulting bi-weekly footprints are rasterized and for each pixel the count of the livestock visits during each year is divided into the total number of possible visits in a year (26) to obtain estimated number of pastures. The raster of pasture number estimates is then extracted for each sampling station and rounded down to the nearest integer and the value used for each year $N_{m,t}$ in the SNAPGRAZE models for each sampling point in stratum *m* in year *t*.
Frequency of monitoring/recording	Bi-weekly
Value applied	1-26 as determined from the aggregation of livestock within grazing zones as described above and in section 3.3.3:
Monitoring equipment	motorcycles and safety equipment, binoculars, GPS tablets, range finders.

QA/QC procedures to be applied	Cross-checking field observations from coordinator reports against household survey livestock censuses and grazing plans. See detailed description in section 3.3.3
Purpose of data	Calculation of project removals
Calculation method	Count of distinct grazing blocks used during year *t* as defined in community grazing plans and verified in the field.
Comments	N/A

3.1.2.4. Project Leakage

Data / Parameter	$DN_{c,x}$
Data unit	Head of livestock
Description	Number of livestock of each category *c* that were outside the Project Area (outside the fence defining the boundary of the Project Area, or, in the case of open grazing lands e.g. pastoralist areas, beyond 2 km from the mapped Project Area boundary on day x)
Source of data	Measured
Description of measurement methods and procedures to be applied	Determined from records of livestock distributions, as recorded from interviews with grazing managers, coordinators, herders, or other administrative staff. For additional details see Section 9.3.3.
Frequency of monitoring/recording	Monthly
Value applied	As determined in/for the Project Area
Monitoring equipment	Household interviews; livestock movement records.
QA/QC procedures to be applied	Records should be kept as paper and electronic copies
Purpose of data	Calculation of leakage
Calculation method	Count of livestock outside the Project Area on day *x* based on reported and recorded movements.
Comments	N/A

Data / Parameter	d
Data unit	days
Description	Total number of days livestock were off the Project Area

Source of data	Measured
Description of measurement methods and procedures to be applied	Based on records of livestock numbers and their distribution on and off the Project Area, based on interviews of grazing managers, coordinators, herders, or other administrative staff. For additional details see Section 9.3.3.
Frequency of monitoring/recording	Weekly to monthly
Value applied	As determined in/for the Project Area
Monitoring equipment	Livestock movement logs; interview records.
QA/QC procedures to be applied	Records should be kept as paper and electronic copies, with at least one electronic copy kept off the project as an online database
Purpose of Data	Calculation of leakage
Calculation method	Sum of days livestock were recorded outside the Project Area during the monitoring period.
Comments	N/A

3.1.3. Monitoring Plan (VCS, 3.16, 3.20)

The KRCP monitors livestock counts and movement and ecosystem variables relevant to soil carbon stocks.

3.1.3.1. Livestock monitoring data

1) Household Surveys. Annual surveys of individual households made in the community each year include the number of livestock of different species that are owned by the household. Households within communities are sampled randomly to include those without livestock or without cattle. Numbers from these surveys are averaged and then multiplied by the number of households in the community (known from membership records) to determine $N_{c,m}$, the number of livestock of each species and age class in community (stratum) *m*. These livestock numbers are used to estimate a) baseline and project livestock enteric methane emissions; b) inputs on livestock density, expressed as cattle-equivalents using standard Tropical Livestock Unit conversions (Section 3.2.1.5.2), into the SNAPGRAZE soil carbon dynamic model; c) as reference expected livestock numbers for grazing coordinators in each community to determine compliance with grazing plans, livestock encroaching from other communities, and livestock from the community that left either the grazing lands in that community and/or the Project Area altogether (potential displacement leakage).

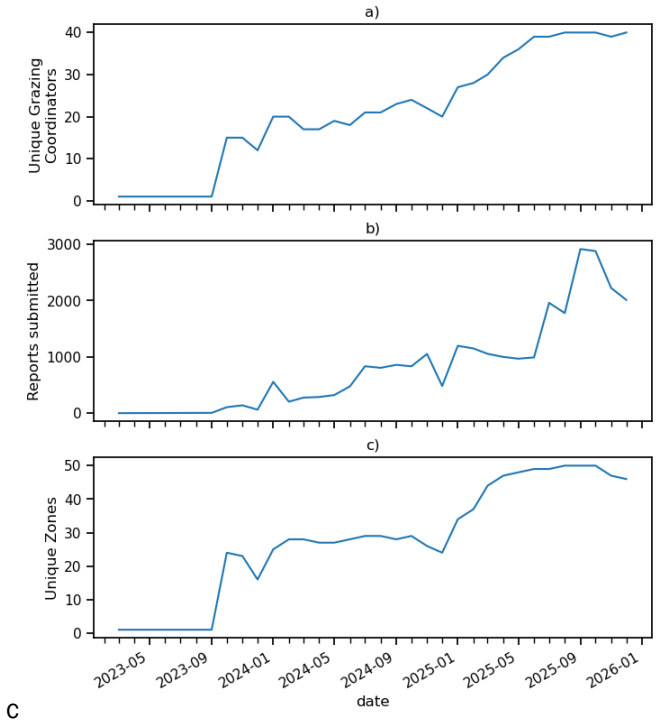
2) Bi-weekly surveys of livestock in grazing areas. The project tracks livestock spatial use with daily grazing reports performed by hired grazing coordinators (GCs) within their assigned grazing zone in their communities at bi-weekly (14-day) revisit intervals. 49 GCs have been hired since the project start date (Figure 3.1-1). The sampling approach (Figure 3.1-2) follows a GC workplan designed to coincide with the

expected livestock occupancy of seasonal grazing blocks. For these reports, GCs visit the day's assigned block and locate as many livestock herds as possible. They stand in the center of the herd and record the number of livestock (including juveniles) of each species using a Samsung tablet with SurveyCTO software. The software automatically collects the user's location and GPS accuracy. Herds are defined based on a 50m aggregation distance. GCs also measure the distance from the center of the herd to the outermost animal with a rangefinder to determine the herd footprint. Data is also collected on whether the livestock are in a scheduled grazing block per the rapid rotational grazing (RRG) plan, and whether livestock are moving to/from water. GCs meet regularly with supervisors for reviews and attend annual trainings on measurement protocols. Further GC instructions are provided in Appendix 4: Instructions to grazing coordinators and data analysts.

This livestock movement dataset is regularly uploaded to the cloud (as managed by Converge Analytics through Salesforce and Tableau software) and shared with the CarbonSolve technical team for analysis. Results of livestock counts and locations are shared with grazing committees to keep communities updated as to the success of their Rapid Rotational Grazing (RRG) Plans.

Reconciliation with livestock estimates from household surveys. Annual household surveys (methods governed by a separate protocol) provide an estimate of livestock numbers for each species (cattle, donkeys, goats, sheep) for each grazing zone, which covers lands used by one or more villages and 20-30 grazing blocks. These estimates serve as an independent reference for determining whether all livestock are accounted for on bi-weekly intervals, whether and how much displacement leakage is occurring, and whether and how much encroachment, or instances where non-project community livestock are using lands in the grazing zone of interest.

Point counts made during each bi-weekly interval, with the assistance of the grazing coordinator supervisor, are compared with the annual household counts. This comparison is made using a spreadsheet data form that states the annual livestock estimates on the top row and entries of observed livestock counts beneath, such that a difference in counts from the household survey estimate for each livestock species is automatically generated. Difference between household counts and bi-weekly observations greater than 15% (higher or lower) are investigated through phone calls to relevant herders or owners, and the cause (off-zone use, encroachment, herds moving to water or bomas, etc) is recorded in survey software. We use a 15% margin of error to account for sampling error in livestock counts within herds, the likelihood that some herds will not be observed, inaccurate counting, and other sources of error. The project proponent supports the reconciliation component by providing an updated baseline of expected livestock populations, reflecting births, sales, losses, and seasonal moves. This baseline is crucial for checking whether current reports account for all animals in each area and spotting discrepancies early.



C

Figure 3.1-1. Monthly counts of number of grazing coordinators (a), livestock monitoring reports submitted (b), and number of grazing zones visited (c). New communities were added in 2025, causing an increase in all metrics.

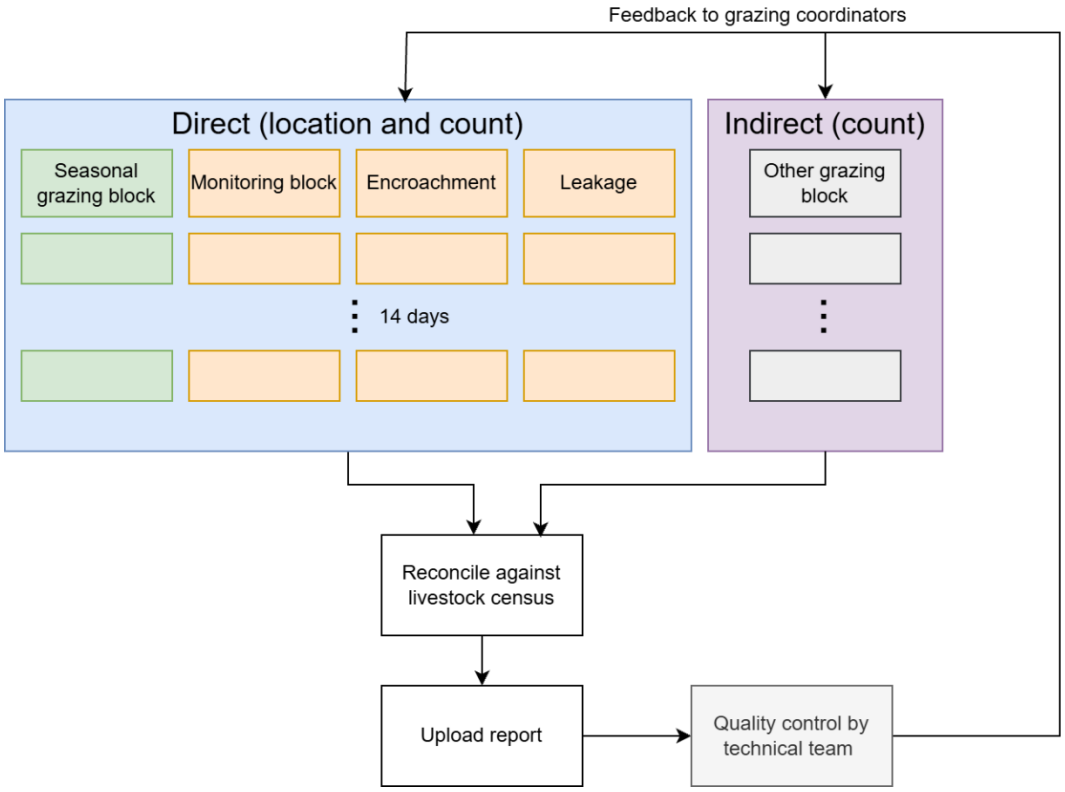


Figure 3.1-2. Diagram outlining livestock monitoring data collection and initial quality control for a grazing zone. Grazing coordinators record direct observations of counts by animal type, with GPS coordinates and timestamp automatically collected. Herds located in accordance with the community's grazing plan are denoted as within the seasonal grazing block. A random grazing block scheduled to be rested is randomly sampled, and any herds within are denoted as within a monitoring block. Encroachment refers to herds originating from outside the PAI, and leakage refers to herds observed outside the PAI. Grazing coordinators also record indirect observations based on communication with herders. Both types of observations are reconciled against the annual livestock census for that grazing zone at the end of each 14-day reporting period. The CarbonSolve technical team (grey box) performs quality control and data analysis, and reports back to grazing coordinators.

Assessing Livestock Use of Grazing Blocks. The livestock movement data can detect herds that use unscheduled grazing blocks or use grazing lands in other grazing zones within the community. While rotational grazing can be achieved even if RRG plans are not strictly followed, determination of use of unscheduled grazing blocks provides valuable feedback to grazing committees. These data allow committees to communicate with community members and remind them of the importance of adhering to RRG plans, or in the case of repeat intentional non-compliance, impose penalties.

Assessing Displacement Leakage. Displacement leakage occurs when livestock from project-participating communities use lands in communities that are not participating in the project. Leakage can be mitigated by obtaining permission to use such lands from off-project community leaders or grazing committees AND adherence of project herders to off-project community grazing plans. However, in the instance where no such permissions are obtained, herd size, species composition and number of bi-weekly intervals spent off-project are key data in calculating leakage and easily obtained from the livestock location and herd

size data. Instances of leakage can be determined during reconciliation of bi-weekly counts against the household survey-based estimates of numbers for each livestock species.

Any identified leakage (discrepancies that involve livestock using non-project lands without permission) can be extracted from these bi-weekly reports and assembled into a leakage database in which the number, species, and duration of off-project land use can be quantified.

3) Remote sensing of grazing impacts via satellite imagery. Livestock grazing impacts were assessed by monitoring pasture use and grass height through grazing reports. In PDD S3.3.3.2, we described a backup method using remote sensing of forage biomass change relative to ungrazed reference areas. Given a robust data collection system with up to 40 grazing coordinators having collected ~30,000 unique livestock presence observations, we opt to use this dataset to assess grazing impacts.

4) Number of pastures utilized. A key parameter in the SNAPGRAZE model is the number of pastures (N_p) through which livestock rotate during the growing season. This is assessed using the bi-weekly livestock locations and counts (see **2**) above). These data provide information about space use that is incorporated into the SNAPGRAZE model used to determine CO_2 removals to soil organic carbon.

First, herds are analyzed spatially as points (herd center). Circles, referred to as "footprints," are constructed using a buffer around the herd center using a radius recorded by GCs. All the livestock footprints from each grazing zone for each for bi-weekly period are enveloped within a minimum convex polygon (referred to as a "hull;" e.g., Figure 3.1-3). This hull conservatively represents the maximum collective area utilized by the herds, including landscape usage when herds were not being actively recorded during a bi-weekly period. To compute N_p, these hulls are summed for each year and divided into 26, the maximum number of visits in a year based on the aggregation method. More details on this computation are provided in 3.2.2.1.1 Project Scenario Model Inputs.

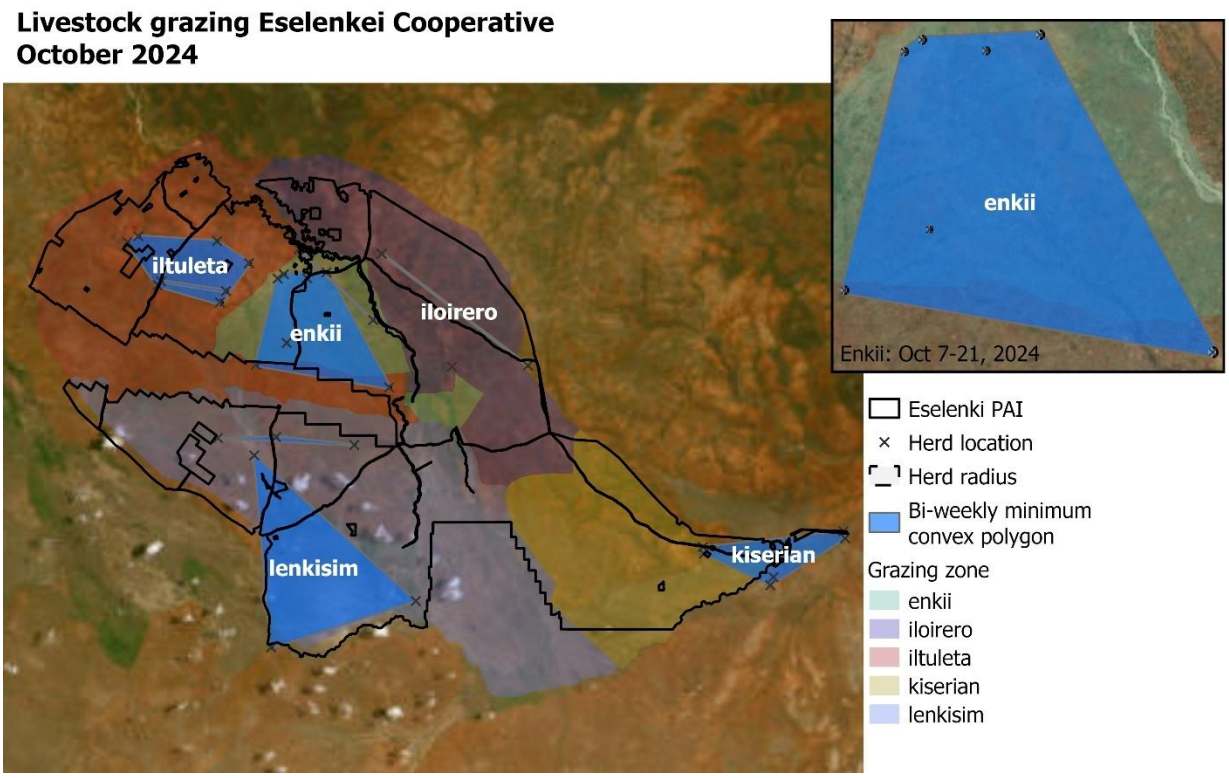


Figure 3.1-3. Example of livestock use in Eselenkei Cooperative in bi-weekly intervals beginning in October, 2024. Herd centers are indicated by x, white circles with dashed outlines indicate footprints of each herd, and the blue shaded area is the minimum convex polygon for that zone and bi-weekly interval. Total area of livestock occupied polygons is 12,215 ha, or approximately 20% of the project area in the dry season.

3.1.3.2. Ecosystem monitoring data

Additionally, monitoring is occurring for fire, plant species composition, and aboveground woody biomass.

4) Fire. Fire is very rare (>99% never burned during the baseline period) in the project ecosystem (Figure 3.2-1) and grazing animal reduction in potential fuel loads is likely to be strong even under new grazing management. The SNAPGRAZE fire input (*FIRE*) is set equal to the proportion of years with fire during the baseline scenario for each soil sampling station for simulations with the model for the baseline scenario and the initial verifications. As perennial grasses become more abundant and a greater proportion of area has high grass biomass entering the dry season, natural wildfires may begin to occur. As a result, the fire frequency in the Project Area will continue to be monitored going forward using the MODIS Burned Area Product, allowing continual assessment to understand if there is a change in the likelihood of fire due to project activities. Fire frequency will be assessed at least at each verification, and each time soil sampling occurs to re-assess the accuracy of soil carbon dynamic model inputs. If MODIS Burned Area Product analysis indicates increased fire frequency requires fire management at later stages of the project (fire returning annually or every other year), the NASA FIRMS (Fire Information for Resource Management System) provides near real-time fire data on active fires aggregating data from both MODIS and VIIRS satellite data. This system allows teams on the ground to identify hotspots early and intervene before

fires spread when appropriate. The focus of a fire management program, if needed, would be shifting the fire regime from higher intensity late season fires to lower intensity, patchy, early season fires. There is substantial evidence that this has significant impacts on soil carbon and that fire management interventions can be successful[17].

5) Plant species composition. Plant species composition is monitored in two ways. At repeat visits to permanent sampling stations, the plant community based on dominant plant functional groups and plant community structure will be assigned based on qualitative assessment of these indicators within a 10 m plot subdivided into four quadrants. The qualitative assessment made in the field is corroborated by an expert who will later review two photos taken from the center point of the sampling station facing north and south, respectively, at the time of assessment. Grouping plant species by functional traits can help provide a mechanistic view of plant communities[18,19]. At a subset of permanent sampling stations, an established methodology developed for monitoring rangeland health[20] is employed to quantitatively determine plant species composition. Within four 2x2 m quadrats per monitoring plot (n = 4), plant species will be identified to the highest taxonomic specificity possible. Additionally, percent cover of each plant species identified is recorded. Plant species composition monitoring co-occurs with collection of additional indicators of plant community composition and structure including percent cover of vegetation functional groups based on growth habit (e.g., shrub, grass, forb), perennial grass biomass, basal cover, and percent bare ground, to fully understand plant community responses to new management activities. Data collection to monitor changes in plant composition will occur every three to five years over the lifetime of the project (no repeat monitoring data has yet been collected), and reporting will occur with verification.

3.1.3.3 Organizational Structure, Responsibilities, and Competencies

The monitoring of project activities and their corresponding impacts for vegetation and soils will be administered and coordinated by SftFA personnel. All soil and vegetation data used in the SNAPGRAZE model are collected by SftFA and stored in spreadsheets on both project hard drives, as well as a cloud-based storage system for duplication and ease of access on a server supported by the Biodiversity Research Institute (BRI) and Soils for the Future LLC (USA). Field data collected on tablets are uploaded to the cloud-based data management program Salesforce[21] which automates generation of reports and integrates data on community free, prior, and informed consent, social survey data, as well as grazing reports of counts and location of livestock within communities. Soil, vegetation, and biodiversity data are

[17] Pellegrini et al. 2023. "Soil Carbon Storage Capacity of Drylands under Altered Fire Regimes." October 2, 2023.
[18] Wainwright, C.E., HilleRisLambers, J., Lai, H.R., Loy, X., & Mayfield, M.M. "Distinct responses of niche and fitness differences to water availability underlie variable coexistence outcomes in semi-arid annual plant communities". 2018. Journal of Ecology, 107(1), 293–306. https://doi.org/10.1111/1365-2745.13056 (Accessed September 17, 2025)
[19] H. Gondard, S Jauffret, J. Aronson, and S. Lavorel. "Plant functional types: a promising tool for management and restoration of degraded lands"; 2003. Applied Vegetation Science (6)2: 223-234. https://doi.org/10.1111/j.1654-109X.2003.tb00583.x (Accessed September 17, 2025).
[20] Corrina Riginos and Jeffrey Herrick, "Monitoring Rangeland Health: A Guide for Pastoralists and Other Land Managers in Eastern Africa, Version II" (Nairobi, Kenya, 2010).
[21] http://www.salesforce.com (Accessed September 18, 2025).

maintained on the BRI server and, to achieve redundancy, with Soils for the Future USA. All field data are checked by supervisors and SftFA USA and Converge before posting to the cloud and site visits to sample stations or communities are routinely conducted to clarify discrepancies. Soil carbon contents are measured by Crop Nutrition Services, an internationally accredited soils analysis lab that analyzes samples from projects all over Africa.

The structure of data collection and monitoring protocols have been established by project SftFA (Mark Ritchie) and Converge (Deepali Gohil). Soils for the Future benefits from Dr. Ritchie's 30+ years research on grassland ecosystems. He is also an author of this document and author of the SNAPGRAZE model and the VM0032 Methodology used by this project. Converge has engaged in social livelihood monitoring for the last 12 years including the Northern Kenya Rangelands Carbon Project, the world's largest soil carbon project[22]. All policies for oversight and management of personnel and data are contained in the SftFA Employee Handbook.

3.1.4. Dissemination of Monitoring Plan and Results (VCS, 3.18; CCB, CL4.2)

The Monitoring Report and its native language summary (Kiswahili and Maa languages) will be posted on the CarbonSolve (http://carbonsolve.world) and Soils for the Future Africa(https://sftfa.co.ke/) websites. The native language summaries will feature data on the observed distribution and numbers of livestock over the monitoring period, the resulting estimated net removals (after increases in methane emissions, buffer and leakage), analysis of changes in range condition, and outcomes of community well-being surveys that demonstrate exceptional community benefits. Additionally, the native language summaries will be posted on kiosks at market centers in Kimana, Oloitokitok, Kajiado, Namanga, and Selengay towns and at community leader centers at each of the Nasaru Olasho, RAMAT East, RAMAT West, ALOCA, Olgulului, Eselenkei, Olikiramatian, Olkeri, and Shompole communities.

Soils for the Future, Africa staff will meet with community leaders to discuss the observed distribution and numbers of livestock over the monitoring period, the resulting estimated net removals (after increases in methane emissions, buffer and leakage), analysis of changes in range condition, and outcomes of community well-being surveys that demonstrate exceptional community benefits.

Finally, The Monitoring Report will be listed on the Verra Registry for the 30-day public comment period required for CCB certification.

3.2. Quantification of GHG Emission Reductions and Removals

3.2.1. Baseline Emissions (VCS, 3.15)

In this Monitoring Report, information is provided for Phase I PAIs to report monitoring data and calculations for project years 2024 and 2025. Baseline emissions for these communities are presented in the Project Document but are shown for clarity in determining claimed removals from the project.

[22] https://www.northernkenyacommunitycarbon.org/ (Accessed September 18, 2025).

Baseline emissions are detailed for Phase II communities, covering the 10 years 2015-2024 prior to their entry into the project in 2025.

3.2.1.1. Baseline Methane Emissions

Baseline emissions from enteric methane were calculated using the formulas provided in Methodology VM0032 v 1.0. Daily emissions were calculated for each of 8 different classes of livestock sorted by species (cattle, donkeys, goats, sheep) and age (adult vs juvenile). Body masses (W_c) were derived from literature data and converted to emissions using allometric equations for ruminants (cattle, goats, sheep) and equids (donkeys) (Table 4 in the Methodology). For ruminants:

$$DMEF(W_{ruminant}) = 0.66 \times W_c^{0.97}$$

For equids:

$$DMEF(W_{equid}) = 0.18 \times W_c^{0.97}$$

These daily emissions factors were incorporated into equation 1 in the Methodology to determine a yearly rate of methane production for a particular class *c*:

$$BEM = \sum_{c=1}^{K} (BN_c \times DMEF(W_c)) \times GWP_{CH_4} \times 365 \times 6.26x10^{-7}$$

where:

BEM = *Baseline annual emissions from grazing animals (tCO2e)*

BNc = *Baseline number of animals of category c (head)*

DMEF(W_c) = *Daily emission factor as a function of animal weight for category c (L CH_4 / day)*

W_c, = *Average body weight during the baseline period for animals of category c (kg)*

GWP_{CH4} = *Global warming potential for methane (tCO_2e / tCH_4)*

c = *category of grazing animals (ruminant or equid)*

K = *number of categories of grazing animals, e.g. species, sex, age combinations*

365 = *Conversion factor for days to years*

6.26 x 10^{-7} = *Conversion factor for L CH_4 / day to t CH_4/ day*

This yearly rate for each class was then multiplied by the estimated harmonic mean number of individuals across all Phase II PAIs during the baseline period.

For Phase II communities, we could not conduct the household surveys we used previously for Phase I communities to determine livestock numbers for each class in each year of the baseline period. Instead,

we scaled the Phase I household surveys to match 2025 annual community livestock census counts. We estimated number of livestock each year of the baseline period by assuming that the ratio of livestock counts in baseline year *i* to the number in the 2025 census for Phase II communities was the same as this ratio in the 2024 census for Phase I communities. Note that the need to estimate young numbers from adult numbers in the annual census requires the categories *c* to reflect all combinations of species categories s and age classes (a = adult, y = young).

The number of individuals of species s in Phase II communities in baseline year *i* was estimated as:

$$N_{s,II,a,i} = \frac{N_{s,I,a,i}}{\eta_{s,I,2024}} \times \eta_{s,II,2025}$$

where:

$\eta_{s,I,2024}$ = *number of individuals of species* s *in the Phase I community censuses in 2024*

$\eta_{s,II,2025}$ = *number of individuals of species* s *in Phase II community censuses in 2025*

and the number of young of species s in baseline year *i* was estimated from adults as:

$$N_{s,II,y,i} = r_s \times N_{s,II,a,i}$$

where:

$r_{s,}$ = *mean ratio of young: adult animals of species* s *in annual total estimates during the baseline period.*

$N_{s,I,a,i}$ = *number of adult animals of species* s *in Phase I communities in baseline year* i *(from historical livestock surveys)*

$N_{s,II,a,i}$ = *estimated number of adult animals of species* s *in Phase II communities in baseline year* i.

$N_{s,II,y,i}$ = *estimated number of young animals of species* s *in Phase II communities in baseline year* i.

The estimates of adults and young of each class (cattle, donkeys, goats, sheep) for each year *i* of the baseline period for the years 2015-2022 can be estimated with this method. Note that because the Phase I baseline period was 2013-2022, this produces only 8 years of estimates. However, this is within the 4 years of estimates, distributed approximately equally across the baseline period, required by VM0032 v 1.0.

From these estimates, the harmonic mean number of animals of each species and age *(g)* for Phase II was estimated as (equation on page 25 of the Methodology):

$$BN_c = \left(\frac{1}{n}\right) \times \left(\frac{1}{\sum_{i=1}^{n} \frac{1}{N_{c,i}}}\right)$$

where:

n = *number of years (counts)*

$N_{c,i}$ = *number of animals in Phase II communities of species age and class c in baseline year* i ($N_{s,II,y,i}$ *or* $N_{s,II,a,i}$).

Table 3.2-1. Estimation of average annual enteric methane emissions from livestock and their uncertainty for Phase I participating communities, used as 2024 baseline.

Grazing Animal Category					Animal Census (Number of Animals)[6]										
Species	Sex/Age	Weight (kg)	Annual Methane Emissions/ Animal, tCO2e [1]	Uncertainty in regression for pred daily methane per animal category (%, UDMEc)[1]	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cattle[2]	Cows	442.1	1.555	9.5	63,536	65,883	64,623	63,386	64,850	61,219	61,113	63,302	66,428	64,153	57,606
	Calves	170	0.615	9.5	23,954	24,180	24,182	23,423	23,378	20,715	21,556	22,857	22,894	22,847	19,095
Donkeys[5]	Adult	155.5	0.154	28.2	8,700	9,168	8,489	8,410	8,118	8,386	7,778	8,036	8,401	8,109	8,219
	Juvenile	77.5	0.078	28.2	4,042	4,334	4,118	3,886	3,579	3,487	3,356	3,407	3,660	3,350	3,268
Goats[3]	Adult	28	0.107	9.5	86,358	84,320	82,250	83,693	84,255	83,704	85,404	89,666	96,695	92,822	92,034
	Juvenile	13	0.051	9.5	35,466	33,816	33,118	32,874	32,570	32,007	31,921	34,603	35,522	34,952	33,243
Sheep[4]	Adult	59	0.220	9.5	103,005	104,250	101,041	101,053	103,480	105,753	105,142	107,787	114,849	112,425	124,776
	Juvenile	18.2	0.070	9.5	41,043	39,360	37,795	37,569	37,575	36,855	37,007	38,413	40,843	40,330	42,923

Grazing Animal Category		Baseline Animal Counts		Project Animal Counts		Baseline Methane Emissions (tCO2e)			Project Methane Emissions (tCO2e)		
Species	Sex/Age	Harmonic Mean (BNc)	Uncertainty in Harmonic Mean of Animal Counts (%; UBNc)	Arithmetic Mean (PNc)	Uncertainty in Arithmetic Mean of Animal Counts (%; UPNc)	Harmonic Mean Methane (tCO2e; BEMc)	Uncertainty in Baseline Methane Emissions from Animals in Cat c (%; UBEMc)	Weighted Harmonic Mean Methane Uncertainty	Arithmetic Mean Methane (tCO2e; PEMc)	Uncertainty in Arithmetic Methane Emissions from Animals in Cat c (%; UPEMc)	Weighted Arithmetic Mean Methane Uncertainty
Cattle[2]	Cows	63,188	5.01	63,282	4.81	98,255	10.74	1.11397E+12	98,402	10.65	1.09826E+12
	Calves	22,534	9.28	22,644	8.52	13,866	13.28	33899241569	13,933	12.76	31609956312
Donkeys[5]	Adult	8,332	5.25	8,347	5.39	1,282	28.69	1353259019	1,285	28.71	1360417623
	Juvenile	3,650	11.39	3,681	11.89	286	30.41	75601287.11	288	30.60	77849794.85
Goats[3]	Adult	87,161	6.29	87,382	6.53	9,325	11.39	11289349410	9,348	11.53	11612965167
	Juvenile	33,598	4.72	33,645	4.75	1,708	10.61	328250037	1,710	10.62	329968879.7
Sheep[4]	Adult	107,194	7.51	107,596	8.10	23,630	12.11	81846790285	23,719	12.49	87713822002
	Juvenile	38,976	6.00	39,065	6.16	2,746	11.24	951884107	2,752	11.32	970707664.4
	Totals	**364,632**		**365,641**		**151,097**		**7.381**	**151,437**		**7.329**

Source: Franz, R., C. R. Soliva, M. Kreuzer, P. Steuer, J. Hummel, and M. Clauss. 2010. Methane production in relation to body mass of ruminants and equids. Evolutionary Ecology Research 12:727-738

1 Equation https://www.zora.uzh.ch/id/eprint/41217/36/2569_re-rev_publisher_version.pdf

2 Cattle http://agtr.ilri.cgiar.org/kenyan_sahiwal

3 Goats Table 3 for Northeastern dry lands (NEDL) in: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0296353

4 Sheep Adult source: Food and Agriculture Organization of the United Nations (2025). Dorper sheep breed profile. Available at https://agtr.ilri.org/dorper.html
Juvenile source: Schoeman, S. J. (1992). "Growth and body composition of Dorper sheep", Small Ruminant Research, 7(1). Available at: https://www.sciencedirect.com/science/article/abs/pii/092144889290156X

5 Donkeys M. Gichure, J. Onono, R. Wahome and P. Gathura Veterinary Medicine International 2020 Vol. 2020 Pages 8816983

Measured
Transcribed
Calculated

Table 3.2-2. Estimation of average annual enteric methane emissions from livestock and their uncertainty for Phase I and II communities, used as 2025 baseline.

Grazing Animal Category					Animal Census (Number of Animals)[6]										
Species	Sex/Age	Weight (kg)	Annual Methane Emissions/ Animal, tCO2e [1]	Uncertainty in regression for pred daily methane per animal category (%, UDMEc)[1]	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cattle[2]	Cows	442.1	1.555	9.5				74,597	76,203	72,014	71,810	74,389	78,126	75,594	67,962
	Calves	170	0.615	9.5				27,326	27,331	24,473	25,280	26,717	26,967	26,830	22,701
Donkeys[5]	Adult	155.5	0.154	28.2				9,459	9,101	9,396	8,713	8,991	9,399	9,063	9,196
	Juvenile	77.5	0.078	28.2				4,343	4,007	3,927	3,763	3,823	4,095	3,766	3,694
Goats[3]	Adult	28	0.107	9.5				97,496	97,916	97,235	98,903	103,794	111,894	107,480	107,075
	Juvenile	13	0.051	9.5				38,070	37,713	37,101	37,003	39,922	41,244	40,470	38,906
Sheep[4]	Adult	59	0.220	9.5				111,273	113,840	116,267	115,492	118,258	126,079	123,488	137,566
	Juvenile	18.2	0.070	9.5				41,184	41,240	40,574	40,668	42,117	44,815	44,243	47,447

Grazing animal category		Baseline Animal Counts		Project Animal Counts		Baseline Methane Emissions (tCO2e)			Project Methane Emissions (tCO2e)		
Species	Sex/Age	Harmonic Mean (BNc)	Uncertainty in Harmonic Mean of Animal Counts (%; UBNc)	Arithmetic Mean (PNc)	Uncertainty in Arithmetic Mean of Animal Counts (%; UPNc)	Harmonic Mean Methane (tCO2e; BEMc)	Uncertainty in Baseline Methane Emissions from Animals in Cat c (%; UBEMc)	Weighted Harmonic Mean Methane Uncertainty	Arithmetic Mean Methane (tCO2e; PEMc)	Uncertainty in Arithmetic Methane Emissions from Animals in Cat c (%; UPEMc)	Weighted Arithmetic Mean Methane Uncertainty
Cattle[2]	Cows	73,715	6.38	73,837	6.21	114,626	11.44	1.72042E+12	114,815	11.35	1.69841E+12
	Calves	25,854	9.95	25,953	9.31	15,908	13.76	47885333533	15,970	13.30	45104267424
Donkeys[5]	Adult	9,159	4.04	9,165	3.99	1,410	28.49	1612662569	1,411	28.48	1613993120
	Juvenile	3,917	7.67	3,927	7.97	307	29.22	80405493.8	308	29.30	81257587.26
Goats[3]	Adult	102,459	7.80	102,724	7.96	10,961	12.29	18162307348	10,990	12.39	18545319247
	Juvenile	38,747	5.91	38,804	5.98	1,969	11.19	485643514	1,972	11.22	489936692.8
Sheep[4]	Adult	119,786	9.68	120,283	10.28	26,406	13.56	1.28274E+11	26,515	14.00	1.37804E+11
	Juvenile	42,667	8.04	42,786	8.38	3,006	12.44	1398600329	3,014	12.67	1458247214
	Totals	**416,304**		**417,479**		**174,593**		**7.933**	**174,994**		**7.884**

3.2.1.2. Baseline Emissions from Biomass Burning

Baseline emissions of biomass burning was evaluated by 1) assessing the area burned each year in new Phase II community areas and then determining how many years raster pixels experienced fire over the 10 years of the baseline period (2015-2024), and 2) estimating the biomass and combustion and emission factors for biomass if fire did occur. Burned area was determined from MODIS Burned Area Product (MODIS MCD64A1) for the project zone and for the delineated areas of Phase II PAIs (Figure 3.2-1). Less than 2% of these PAIs burned in any year. Preliminary de-minimis analysis of emissions from biomass burning suggested that nearly 10% of the project area would need to burn for biomass burning emissions to be material in any one year. Consequently, baseline emissions from biomass burning were set to 0.

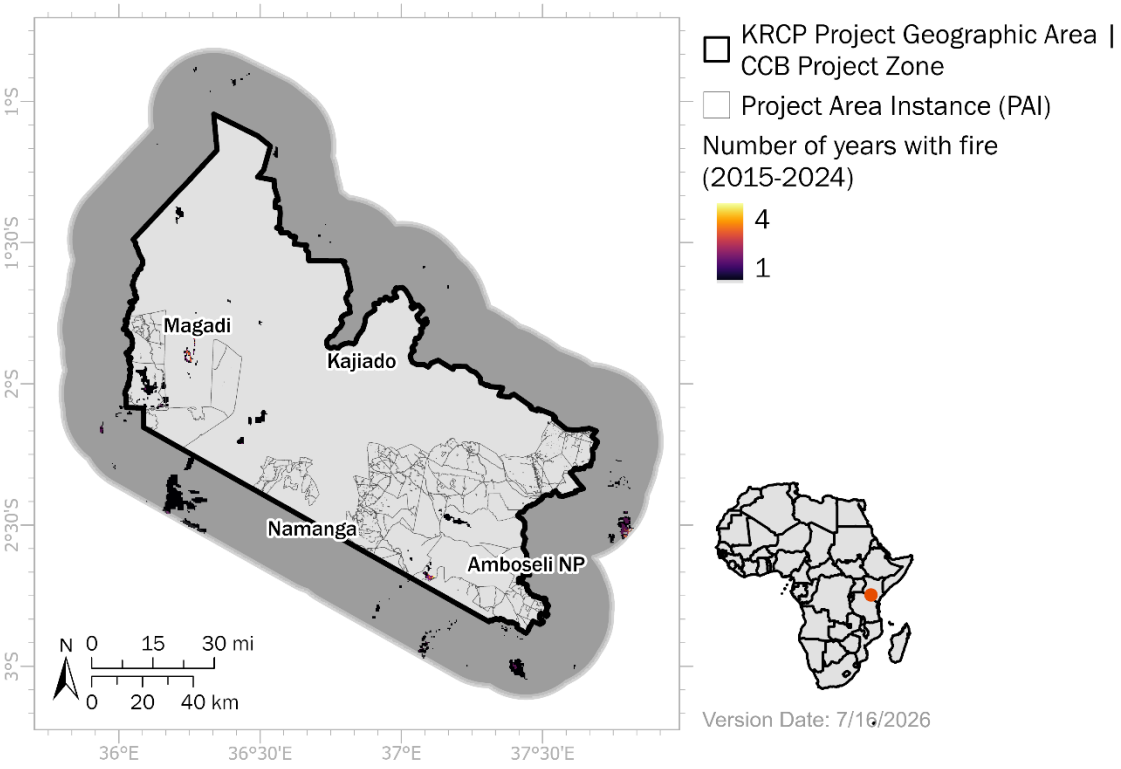


Figure 3.2-1. Fire history in the KRCP PGA/CCB Project Zone and Phase I and II Project Activity Instances (PAIs) over the baseline period from 2015-2024, demonstrating that fire is rare, with less than 1% of the PGA experiencing any fire.

3.2.1.3. Baseline Vegetation Assessment

To demonstrate baseline vegetation degradation and provide a benchmark for evaluating project impacts, we used Normalized Difference Vegetation Index (NDVI) from the Moderate Resolution Imaging Spectroradiometer (MODIS) MOD13Q1 V6.1 Vegetation Index product at 250 m resolution. NDVI is a validated proxy for aboveground forage biomass and vegetation productivity. Previous studies in northern Kenya and the Serengeti have confirmed that MODIS NDVI values are strongly correlated with measured aboveground biomass, with coefficients of determination (R^2) ≥ 0.60, well above the VM0032 threshold of 0.35 (PDD Figure 3-7). NDVI has also been found to be particularly sensitive to grazing impacts in low-production rangelands (0-300 g/m^2), which are typical of the project region under high levels of continuous grazing. Higher NDVI values are associated with greater perennial grass cover and lower grazing intensity.[23, 24] In the PDD, we showed January NDVI (first dry season) is correlated with the prior year's rainfall and the regression relationship between these variables is influenced by grazing, or lack thereof.

The amount of biomass grazed is proportionate to the difference between regression fits in protected (reference) and grazed (project) areas:

$$GI = \frac{NDVI_{ref}(RAIN) - NDVI_{proj}(RAIN)}{NDVI_{ref}(RAIN)}$$

where:

GI = *Grazing Intensity (unitless)*

$NDVI_{ref}$ = *Function for mean January NDVI in reference frames as a function of rainfall*

$NDVI_{proj}$ = *Function for mean January NDVI in project sampling frames as a function of rainfall*

RAIN = *Mean annual rainfall in previous year (mm)*

Reference areas were selected from seven randomly placed ~3500 ha rectangles in Amboseli National Park (two rectangles) or Tsavo National Park (seven rectangles) (Figure 3.2-2). We used 4 random sampling frames selected within Phase II communities and paired them with a total of 3 reference frames based on soil type and rainfall. Comparative soil and rainfall characteristics are shown in Table 3.2-3.

[23] A. Huete et al., "Overview of the Radiometric and Biophysical Performance of the MODIS Vegetation Indices," *Remote Sensing of Environment* 83, no. 1–2 (November 2002): 195–213, https://doi.org/10.1016/S0034-4257(02)00096-2 (Accessed September 18, 2025).

[24] Ritchie, M.E., Suyianka, J. K., Tear, T.H., Mayemba, E. P., Gohil, D., McSherry, M., Soka, G.E., Brereton, R., King, J. 2024. Increased pastoralist livestock mobility is associated with large-scale rangeland restoration and soil carbon sequestration. Originally submitted to Nature Sustainability https//www.cabidigitallibrary.org/doi/pdf/10.31220/agriRxiv.2024.00233

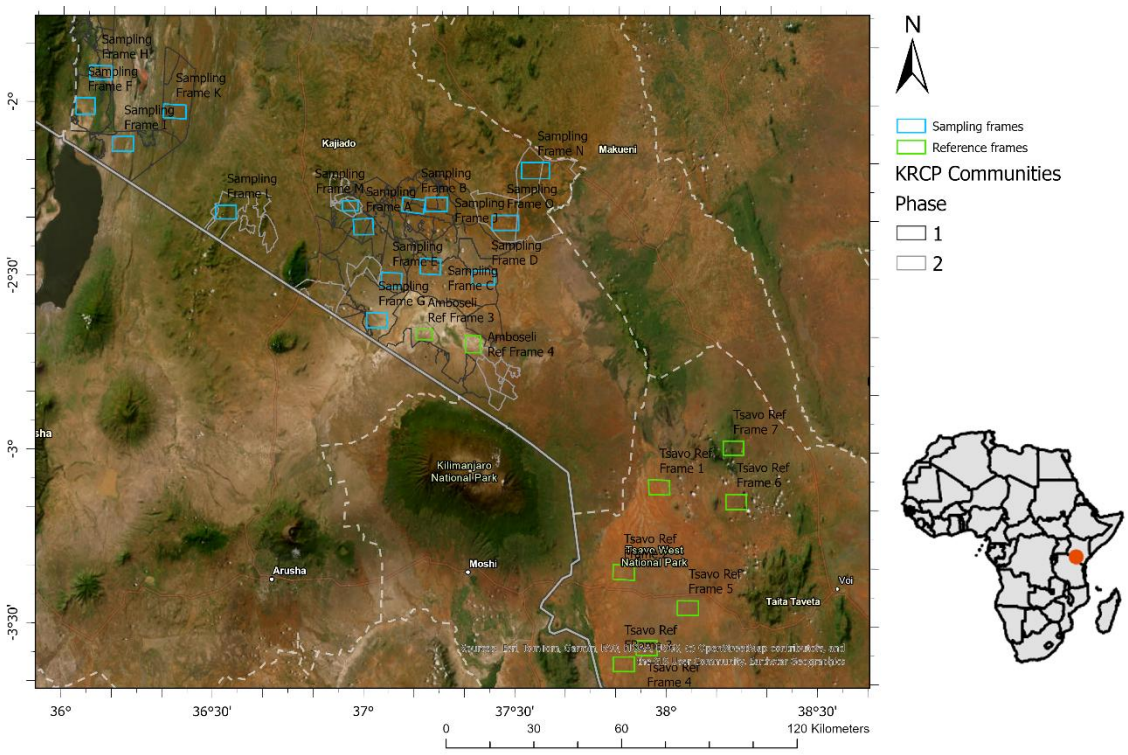


Figure 3.2-2. Map of locations of sampling (blue) and reference (green) frames used for grazing intensity analysis, overlain on PAI communities.

Table 3.2-3. Soil class and mean annual rainfall of matched sampling frames from project area and ungrazed reference frames from Amboseli and Tsavo National Parks, Kenya. Sampling frames L-O are in phase II communities and were used for grazing intensity analysis.

Project Frame	Soil Type	Rainfall mm/yr	Reference Frame	Soil Type	Rainfall mm/yr
D	SL	501	T5	SL	560
G	SL	517	T1	SL	564
C	SL	527	T1	SL	564
E	BC	548	A4	BC	613
J	BC	570	A4	BC	613
B	SL	593	T2	SL	586
K	BC	645	T6	BC	803
H	SL	677	T4	SL	645
A	BC	715	T6	BC	803

I	BC	719	T6	BC	803
F	SL	752	T3	SL	772
L	BC	918	T7	BC	937
M	SL	714	T4	SL	686
N	SL	724	T4	SL	686
O	BC	634	A4	BC	639

For Phase I communities, we had calculated a GI of 10.9%, using an average rainfall of 605.94 mm/yr across Project and Reference areas. Here, we repeated this analysis for recently enrolled Phase II communities using regression equations from Figure 3.2-3 and an updated mean rainfall of 890 mm/yr for Phase II. This average rainfall is greater due to the higher elevations and subsequent precipitation in recently enrolled RAMAT West communities, plus high precipitation in 2024. We found a Phase II grazing intensity of 1.8%, indicating more grazing within the PAI than in protected areas.

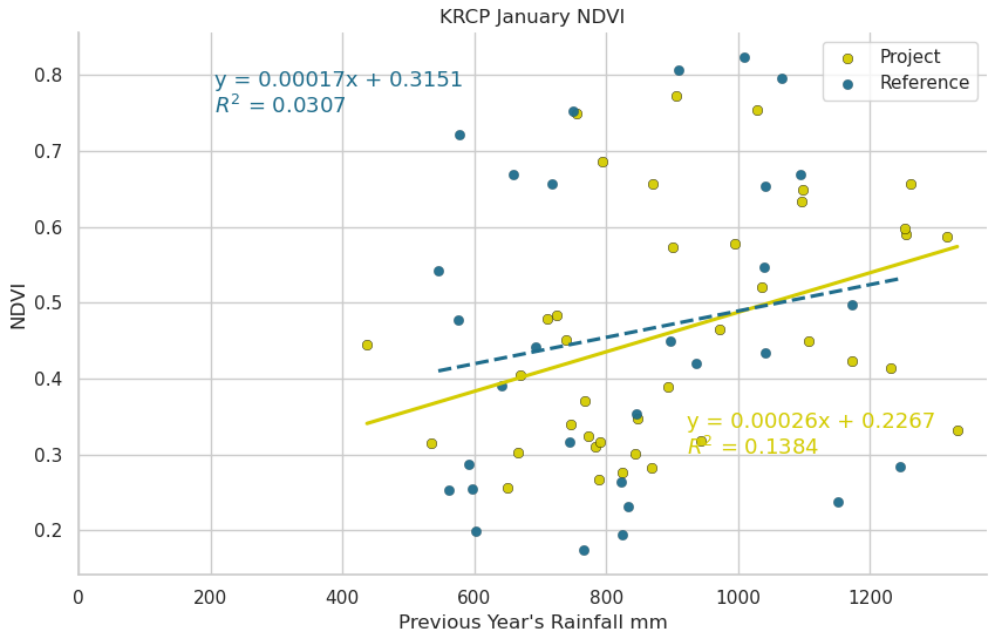


Figure 3.2-3. Comparison of January NDVI values averaged over randomly placed reference frames in Reference Areas (blue points) and in Phase II Project Areas as a function of rainfall (mm) in the previous year in southern Kenya. Project areas have ~30% lower slope and greater scatter than reference areas, showing the impact of unrestricted grazing.

3.2.1.4. Changes in Soil Carbon Stocks

Despite evidence of ongoing decline in vegetation cover that would indicate ongoing declines in soil organic carbon (SOC) stocks, methodology VM0032 v 1.0, per VCS Standard 4.7, states that changes in SOC density are conservatively assumed to be zero in the baseline.

3.2.1.5. Modeling Baseline Soil Organic Carbon Stocks

This section is a response to a Forward Action Request to complete calibration and validation of the SNAPGRAZE model for this project.

3.2.1.5.1. Baseline Carbon Stocks

A total of 369 sampling stations were surveyed during baseline field campaigns (Figure 3.2-4). Of these, 51 were excluded from model calibration and validation because they were located in areas determined to be ineligible (e.g., forest or farmland) or were missing required data. An additional 10 stations were in newly enrolled communities and were not used for modeling or crediting in this report. This left 308 stations eligible for SNAPGRAZE modeling.

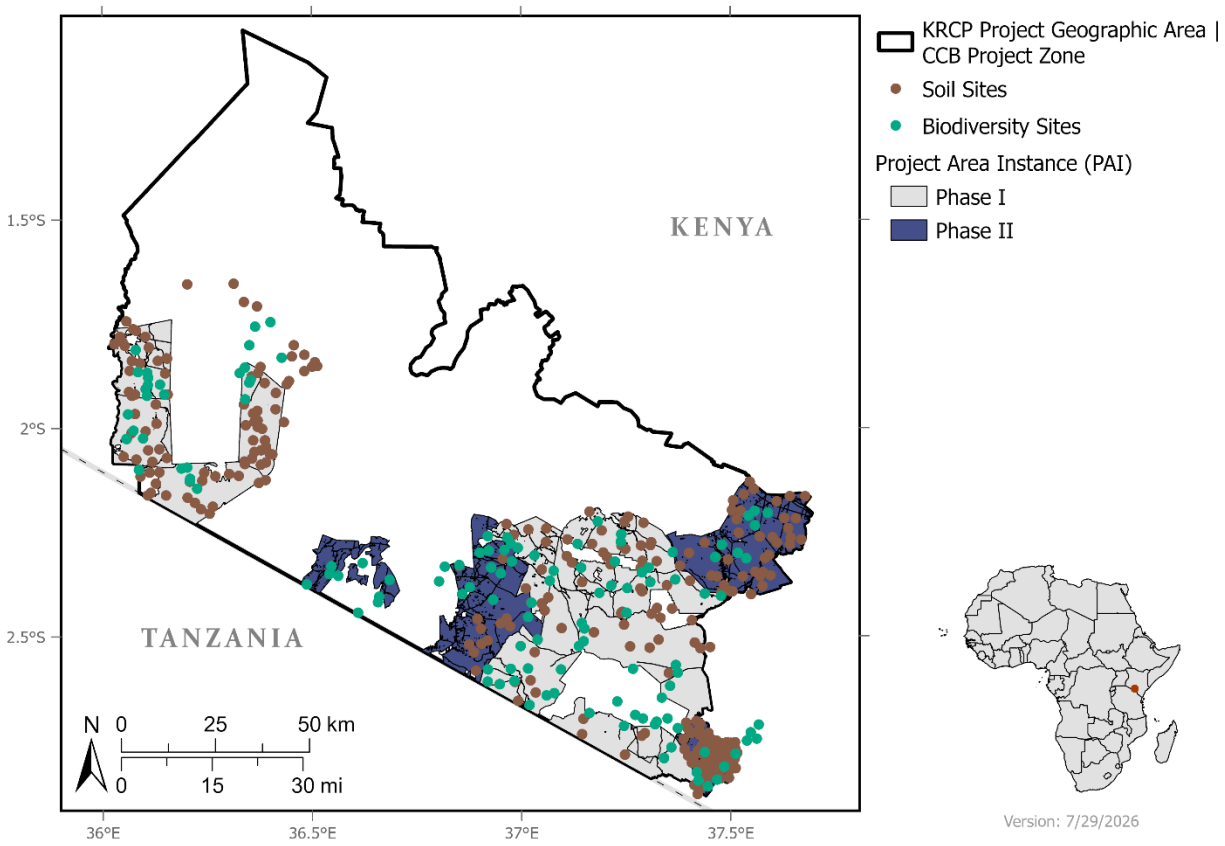


Figure 3.2-4. Locations of soil and biodiversity sampling stations within the KRCP Project Geographic Area (black outline). Of the 369 randomly distributed soil sampling stations, 308 had baseline SOC and vegetation class data used in analyses. Locations shown in the context of Phase I (gray) and Phase II (purple) Project Area Instances.

Table 3.2-4. Measured mean baseline soil organic carbon stocks (± standard error) to a depth of 40 cm in the Project Area, sorted by community and with 90% confidence limits and margins of error.

Community	SOC Density	SE	90% LCL	90% UCL	Margin of Error

Eselenkei	30.19	2.71	25.75	34.63	14.71%
Olgulului	39.61	2.95	34.78	44.44	12.20%
Olkeri	27.20	4.78	19.37	35.03	28.80%
Olkiramatian	29.06	4.34	21.94	36.18	24.51%
Shompole	29.61	4.22	22.68	36.53	23.40%
ALOCA	49.98	2.30	46.21	53.76	7.56%
Nasaru Olosho	56.63	3.72	50.53	62.73	10.77%
RAMAT East	54.18	3.77	48.00	60.36	11.41%
RAMAT Meto	52.07	8.32	38.43	65.72	26.20%
Satao Elerai	102.69	5.49	93.69	111.69	8.76%

3.2.1.5.2. Soil Carbon Dynamic Model

Baseline soil organic carbon for the proposed activity-based Modeled approach per the VCS VM0032 methodology requires the measurement of the certain model parameters. The project uses the SNAPGRAZE model[25], v2.3[26], to estimate SOC dynamics.

Model Inputs: Environmental Parameters

Fire frequency: As discussed in Sections 2.2.1, 2.2.2, and 3.1.4.1, fires are very infrequent and >99% of the PGA/CCB Project Zone has experienced no fire during the baseline period. The fire frequency from each sampling station was assessed using the MODIS-derived fire history over the 10-year baseline period. For sampling stations that did not burn, FIRE = 0, and for three sampling stations that burned once, FIRE = 0.1. As perennial grasses become more abundant and a greater proportion of area has high grass biomass entering the dry season, natural wildfires may begin to occur. At that point, burned area maps based on MODIS satellite Burned Area Product (see Figure 3.2-1) will be used to reassess fire frequency.

Soil texture: $SAND\%_{m,j}$ was estimated from archived baseline soil samples from all sampling stations that were sent to a professional laboratory (Crop Nutrition Services) to determine percent sand at each sample point.

Sampling depth: Soil cores were collected by hammering a 5.08 cm diameter steel pipe to a depth of 40 cm or to bedrock or hardpan. Soil carbon was normalized to 40 cm depth based on root biomass profiles over a range of mean annual rainfall and soil textures in Serengeti National Park.[27]

Plant lignin and cellulose content: MAPLC of aboveground vegetation was estimated by collecting samples of the four most common species of the dominant types of herbaceous vegetation: perennial

[25] Ritchie, "Grazing Management, Forage Production and Soil Carbon Dynamics." April 23, 2020.
[26] https://github.com/markeburton/Soil-Carbon-Dynamics/tree/main
[27] McNaughton, S. J., F. F. Banyikwa, and M. M. McNaughton. "Root Biomass and Productivity in a Grazing Ecosystem: The Serengeti." *Ecology* 79, no. 2 (1998): 587–92. https://doi.org/10.1890/0012-9658(1998)079%255B0587:RBAPIA%255D2.0.CO;2.

grass, annual grass, legume or forb. Samples for analysis of each type of plant were collected from 58 sampling in northern Kenya, encompassing a range of mean annual precipitation (250-800 mm/yr) and from sandy loam and clay soils. Vegetation was clipped to the ground surface from two 0.125 m^2 quadrats at each station, sorted to vegetation class, sun-dried (at 45^oC for 3-6 days) and weighed. Plant material was ground through a 0.9 mm sieve with a Wiley Mill, and a standard fiber analysis was performed, consisting of sequential digestion in acid detergent (to obtain cellulose) and 12 M sulfuric acid to remove lignin[28].

In addition to aboveground plant chemistry, the SNAPGRAZE model requires estimates of belowground carbon inputs, which depend on the relative allocation of biomass to roots versus shoots. To account for systematic differences in root-to-shoot ratios among plant functional groups, an "annuals correction" factor of is applied. This correction adjusts root production for shallow-rooted vegetation types (annual grasses, forbs, and shallow-rooted perennials) relative to deep-rooted perennial grasses. For MAPLC results and associated parameter values, see the MAPLC table in Section 3.3.1. – Data and Parameters Available at Validation.

Vegetation class: $VegClass_{m,j}$ was assessed at each sampling station to classify the dominant plant type into one of four categories: BARE, ANNUALS, MIXTURE, or PERENNIALS, corresponding respectively to bare ground; annual grasses, forbs, or shallow-rooted perennials; mixture of annuals and shallow-rooted perennials; and perennial grasses. Dominance was determined by qualitative assessment within four quadrants of a 10 m radius circle surrounding the station center point, and this field classification was cross-checked against photographs taken from the center point facing north and south. These vegetation categories serve as a surrogate variable to assess expected lignin and cellulose content and complement the MAPLC measurements. As with SOC, VegClass is measured every 5-10 years, as required by VM0032.

Vegetation class is initially assigned based on qualitative assessment of four quadrants within a 10 m radius of the sampling station center and is informed by estimates of bare ground, shrub cover, annual grasses and forbs, shallow-rooted perennial grasses, and deep-rooted perennial grasses. Initial classifications follow the thresholds below:

- BARE is assigned when the sum of bare ground and shrub cover > 70% of herbaceous (without tree) cover,
- ANNUALS is assigned if bare ground + shrub cover < 70% and annual + shallow-rooted perennial cover > 2 x deep-rooted perennial cover,
- PERENNIALS is assigned when bare ground + shrub cover < 70% and deep-rooted perennial cover > 2x annual + shallow-rooted perennial cover,
- MIXTURE is assigned when ½ <(Annuals + shallow-rooted perennials)/Perennials < 2

[28] Lars S. Jensen et al., "Influence of Biochemical Quality on C and N Mineralisation from a Broad Variety of Plant Materials in Soil," *Plant and Soil* 273, no. 1–2 (June 2005): 307–26, https://doi.org/10.1007/s11104-004-8128-y (Accessed September 18, 2025).

These threshold-based classifications are subsequently reviewed by an experienced vegetation assessor using site photographs and field observations. During review, classifications may be adjusted to account for known sources of bias in cover estimation, including inconsistent treatment of woody cover, difficulty distinguishing shallow-rooted from deep-rooted perennial grasses, and evidence that shrub abundance may contribute lignified belowground biomass. Final vegetation class assignments are based on expert interpretation of all available field and photographic evidence and are used in SNAPGRAZE calibration, validation, and carbon accounting calculations.

Mean annual precipitation and **mean annual temperature:** $MAP_{m,j}$ was interpolated from digital layers of estimated mean annual rainfall from CHIRPS[29] and $MAT_{m,j}$ was interpolated from digital layers of mean annual temperature. CHIRPs v3.0 data were used by summing annual precipitation rasters for Africa. These climatic data were assigned to the sample points by using the *Extract Multi Values to Points* in ArcGIS Pro 3.6.2.

Temperature data were derived from WorldClim[30] for Phase I communities, and this derivation was updated for Phase II communities to use downscaled ERA5 reanalysis data. In both cases, the aim was to obtain high spatial resolution gridded temperature data for the relevant baseline period, but we are not aware of a dataset that natively fit these requirements. For each phase, the same temperatures were used per site for both baseline and project emissions.

For Phase I, WorldClim data (limited to years 1970-2000) were updated using a spatially varying offset derived from the ERA5-Land reanalysis product,[31] which provides gridded MAT at approximately 9-km resolution since 1950. ERA5 MAT was calculated during both the 2012–2022 baseline period and the 1970–2000 climatology period, corresponding to WorldClim data availability, at each sample location. The difference in ERA5 MAT between the two periods was added to the corresponding WorldClim value to produce a corrected estimate of mean annual temperature representative of the baseline period.

For Phase II, only ERA5 was used, using the baseline years 2015-2014, inclusive. ERA5 is a leading reanalysis dataset produced by the European Centre for Medium-Range Weather Forecasts, derived from data assimilation of satellite and station data using a global weather model. ERA5 is produced on a 9km grid. For a more spatially detailed model, we downscaled ERA5 to 90 m using the ALOS-PALSAR digital surface model (DSM)[32] and the temperature lapse rate. The temperature lapse rate gives the relationship between surface elevation and temperature, and here we derived it empirically from baseline mean ERA5 temperature over all elevations in the project geographic area.

Following Karger et al. (2023),[33] we applied the equation:

$$T_{HR} = T_{LR} + \tau\,(z_{HR} - z_{LR})$$

[29] https://data.chc.ucsb.edu/products/CHIRPS/v3.0/annual/africa/tifs/
[30] https://www.worldclim.org/data/worldclim21.html (Accessed September 18, 2025).
[31] https://cds.climate.copernicus.eu/datasets/reanalysis-era5-land-monthly-means?tab=overview
[32] https://www.eorc.jaxa.jp/ALOS/en/dataset/aw3d30/aw3d30_e.htm
[33] Karger, Dirk Nikolaus, Stefan Lange, Chantal Hari, et al. "CHELSA-W5E5: Daily 1km Meteorological Forcing Data for Climate Impact Studies." *Earth System Science Data* 15, no. 6 (2023): 2445–64. https://doi.org/10.5194/essd-15-2445-2023.

where *T* refers to temperature in ºC, *z* refers to surface elevation in m, *τ* is the empirically-derived temperature lapse rate calculated at -5.4 ºC / km, and subscripts *HR* and *LR* refer to high resolution (90 m) and low resolution (9 km), respectively. The ERA5 2-meter air temperature (2tm) variable was used for all calculations. To check the accuracy of this procedure, the downscaled product was resampled to native resolution and compared to native ERA5 values. The downscaled product had a bias of 0.00 ºC and RMSE of 0.15 ºC.

Growing season days: Number of days in the growing season for each sampling station, $G_{m,j}$ was estimated from mean annual rainfall (MAP) and temperature (MAT) using the regression equation $G_{m,j}$ = 22.99 MAT – 0.94 MAT^2 + 0.073 MAP derived from a review of the literature[34] as shown in Figure 3.2-5. However, the mean annual temperature in almost all of the PGA exceeded the temperature range for the regression and the downward curve of the regression line, which is driven by the quadratic term in the regression and its coefficient, is uncertain (95% Confidence margin of error = 20.68%). Consequently, the coefficient of the quadratic term was a target for calibration.

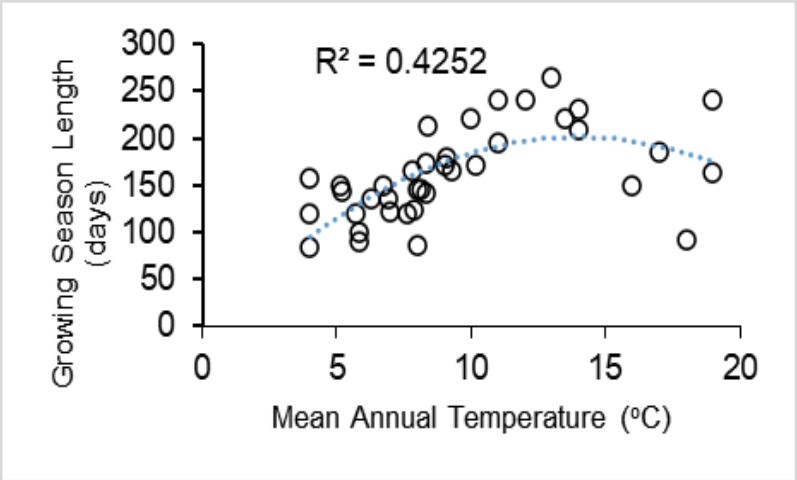


Figure 3.2-5. Regression of reported growing season length (days) versus mean annual temperature for 39 worldwide grassland sites. Reproduced from Ritchie (2020).

Model inputs: Grazing Management Parameters

Animal density: Annual censuses of livestock numbers were collected across the six initial management units within the KRCP PGA/CCB Project Zone for the 10-year baseline period (2012-2022). These data were gathered through nearly 5,000 household surveys in which respondents reported the number and type of livestock owned each year. Totals were estimated by multiplying household means by the number of registered households in each community. Results indicate that numbers of cattle, goats, sheep, and donkeys remained relatively stable over the baseline period, with no evidence of a long-term decline (Figure 3.2-6). This stability supports the use of the historical average livestock population as a conservative and representative estimate for calculating baseline livestock densities used as inputs to the SNAPGRAZE model.

[34] Ritchie, "Grazing Management, Forage Production and Soil Carbon Dynamics." April 23, 2020.

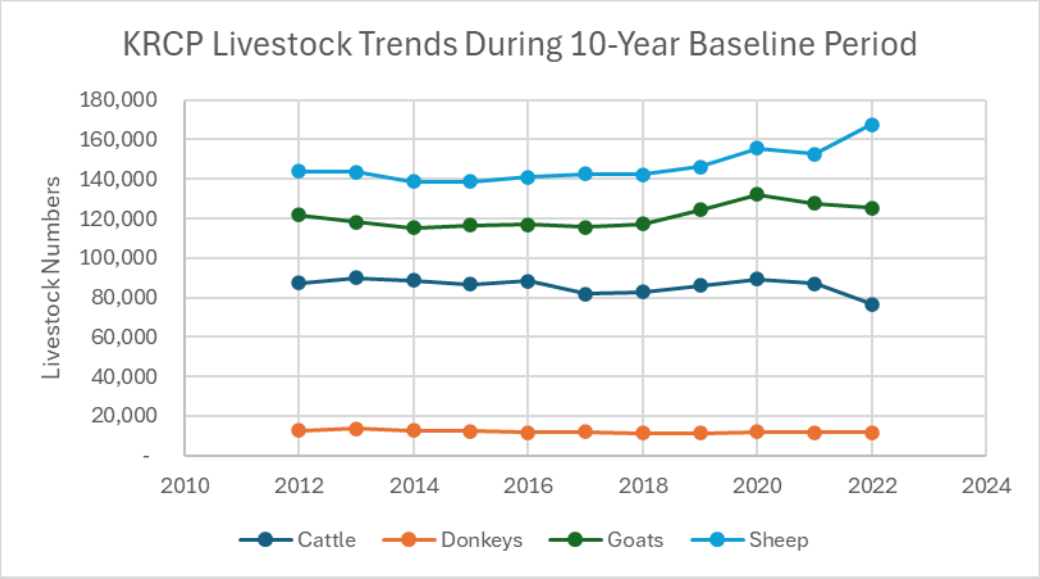


Figure 3.2-6. Livestock trends across KRCP PAI communities during the 10-year baseline period (2012-2022). Data were derived from nearly 5,000 household surveys in the six initial management units. Herd sizes for cattle, goats, sheep, and donkeys remained relatively stable, supporting the use of average livestock densities as baseline inputs for SNAPGRAZE modeling.

Thus, historical livestock densities H_m in stratum m were determined as the average total livestock numbers over the 10 years prior to the start of the project divided by project area of each community.

$$H_m = \frac{\sum_{y=1}^{10} N_{m,y}}{10 \times PA_m}$$

However, livestock densities were unlikely to be uniform across the landscape, as continuous grazing within a seasonal range generally results in animals being concentrated near water and/or spending more time closer to settlements. We assume that the probability of use of a given location declined linearly with distance from settlement to a value of zero at the maximum distance livestock are herded from the settlement. Further analysis (see Box 1) shows that animal density declines with distance as:

$H_m(x) = \mu R(1-x/R)$ (derived in Box 1)

Box 1. Animal density as a function of distance from settlement

Assume a linear decline in livestock density, $H(x)$, with distance from settlement, x, in stratum m

$H_m(x) = a - bx$ (x1)

where a and b are constants. The number of animals N in the vicinity of the settlement with radius R surrounding the settlement (assuming for simplicity this area is a circle of area πR^2)

$$N = \int_0^R 2\pi(a - bx)\, dx$$ (x2)

And the boundary condition that herbivore density is zero at the outer boundary a distance R from the settlement

$a - bR = 0$; and thus $b = a/R$ (x3)

Solving the definite integral in equation (x2) after substituting for b from equation (x3) and assuming that the overall mean density μ is $N/\pi R^2$, yields

$a = \mu R$ (x4)

Substituting equation (x4) into (x3) and then (x3) and (x4) into (x1) yields an equation for livestock density as a function of distance

$H_m(x) = \mu R(1-x/R)$ (x5)

Informal conversations with herders in our PGA/CCB Project Zone suggested that R = 3 km was the maximum distance that livestock would be herded from a settlement during the plant growing season in the baseline scenario. To assign distances to settlement for each point, we used the QGIS 3.14 Processing Tool - Vector analysis - Distance to nearest hub (points) with a vector layer of settlement locations.

Number of pastures: Rotational grazing was parameterized through the average number of pastures a herd visits throughout the year. A value of 1 indicates continuous grazing, while greater values indicate rotational grazing. When calculated from grazing reports, this number can be fractional, but it was conservatively rounded down to the nearest integer, since it represents count data.

Body mass: Livestock of different species were converted into cattle equivalents using the Tropical Livestock Unit conversions: cattle (mean mass = 442 kg) are multiplied by a factor 1, Sheep and goats 35-40 kg were multiplied by a factor 0.13 and donkeys by 0.7 (Jahnke 1982). Since all livestock were converted to cattle equivalents in estimating animal density, we used a mass of 442 kg as a model input. For further justification of animal masses see Section 3.2.1.1.

Summary

Although the SNAPGRAZE model is run for inputs at each sampling station, to provide an idea and show the uncertainty in these inputs, the mean and SE for the parameters that varied among sampling stations is shown in Table 3.2-5.

Table 3.2-5. Summary of SNAPGRAZE model input parameters by community. Note: one location in Olgulului has been reclassified as Eselenkei since the PDD due to updated boundaries. 21 locations have also been added in RAMAT East to account for 9 additional communities that have enrolled and are being included in this strata.

Community	N	Cattle Equiv Density/ha	SE	MAT oC	SE	MAP mm	SE	Growing Season Days	SE	LigCell%	SE	SAND%	SE
Eselenkei	33	0.45	0.03	22.09	0.05	566.63	4.02	183.23	0.67	24.00	0.22	50.01	2.90
Olgulului	42	0.46	0.03	22.32	0.06	543.87	6.84	179.11	1.03	24.94	0.50	40.26	2.82
Olkeri	23	0.75	0.05	24.34	0.13	658.82	6.60	163.02	2.02	24.60	0.77	39.88	3.16
Olkiramatian	18	0.41	0.04	25.68	0.11	738.93	26.39	149.62	3.32	23.85	0.73	47.59	4.89
Shompole	29	0.39	0.04	25.68	0.09	709.19	6.67	147.34	1.34	23.77	0.47	46.96	3.34
ALOCA	53	0.45	0.03	20.70	0.08	771.99	11.01	210.61	1.43	28.44	0.76	24.70	1.31
Nasaru Olosho	40	0.51	0.01	22.97	0.05	655.57	6.61	180.17	0.85	27.14	0.81	36.79	2.58
RAMAT East	37	0.44	0.03	21.76	0.05	637.20	5.03	191.57	0.78	27.76	0.81	43.58	2.86
RAMAT Meto	3	1.12	0.02	19.77	0.34	852.34	69.88	223.45	7.47	32.18	3.49	59.97	10.73
Satao Elerai	7	1.01	0.21	18.68	0.23	966.75	25.67	238.10	2.91	35.68	0.00	13.33	3.77

Estimation of Baseline Soil Organic Carbon. The SNAPGRAZE model conservative estimate of SOC at each station was calculated by back-casting the model 10 years from current assumed equilibrium SOC under the same parameter values used in the validation of the model. The procedure is detailed in VM0032 v 1.0.

3.2.1.5.3. Model calibration

Separation of model calibration and validation datasets. Out of the 369 baseline sampling stations, 51 were excluded from model calibration and validation because they were located in areas determined to be ineligible (e.g., forest or farmland) or were missing required data. An additional 10 stations were in newly enrolled communities and were not used for modeling or crediting in this report. This left 308 stations eligible for SNAPGRAZE modeling. Of these, 33 were in eligible grassland areas within the broader Project Geographical Area but outside the enrolled communities comprising the Project Activity Instances. Because these stations represented the same ecological conditions as the initial PAI communities, they were retained as eligible modeling data (Table 3.2-6). The remaining 275 stations were located within eligible grassland areas of the initial PAIs and provided the basis for model validation and calculation of ex ante removals for these PAIs.

Following statistical best practices, we separated this soil sampling dataset (n = 308) into independent calibration and validation datasets, using approximately 80% of the observations for model calibration (n = 246) and 20% for model validation (n = 62). The validation dataset was seeded with seven randomly-selected replicates from each of the eight strata under verification (n = 56). Six more validation observations were randomly selected from any stratum. Finally, the remainder of the dataset was assigned to calibration.

Model Calibration. Calibration of the SNAPGRAZE v2.3 soil carbon model was conducted to ensure unbiased prediction of baseline SOC density across the Project Area and compliance with validation

requirements under VM0032. Based on prior sensitivity analyses[35,36], several unmeasured parameters or indirectly measured parameters were identified as likely to exert substantial influence on predicted SOC densities across sampling stations.

Model inputs informed by field measurements taken outside of typical environmental ranges for the Project Activity Instance (PAI) were parameterized and resulting parameters were tuned through calibration against baseline SOC measurements. Mean annual temperatures in the Project Area exceeded the range of temperatures used in the original parameterization of SNAPGRAZE for assessing the effect of temperature on productivity and the number of days in the growing season (Section 3.2.1.5.1). Accordingly, the coefficient relating microbial respiration to SOC density was treated as a free parameter. Likewise, the coefficient of the quadratic term relating productivity to mean annual temperature in the equation for ANPPmax was freed. In the baseline, number of pastures was freed but only allowed to be 1 or 2. Participating communities reported using separate wet and dry season ranges prior to the project start date, which would imply 2 pastures, but this may not have been implemented entirely. The maximum relative growth rate (RGRmax) parameter was originally estimated for perennial grasses dominant in Serengeti National Park. However, many dominant grasses within the Project Area are annuals or shallow-rooted perennials that allocate biomass similarly to annual species, suggesting lower growth rates than those observed in Serengeti perennials. For this reason, RGRmax was systematically adjusted during calibration. Other model input parameters were either measured or independently estimated and remaining coefficients were retained because the ranges of independent variables used in their derivation encompassed conditions observed in the PAI.

Model calibration proceeded through systematic evaluation of combinations of the parameters mentioned above. Calibration performance was assessed using multiple metrics, including the coefficient of determination (R^2), regression slope (expected value = 1), regression intercept (expected value = 0), and percent model bias. These metrics were evaluated to identify parameter sets that minimized bias while maintaining acceptable regression performance. The definitions of calibration statistics are provided below:

$$MBIAS = \frac{\sum_{i=1}^{n}(Y^{obs}{}_i - Y^{pred}{}_i)}{\sum_{i=1}^{n} Y^{obs}{}_i}$$

Where:

MBIAS = Percent bias of carbon model predictions relative to observed data

[35] Ritchie, "Plant Compensation to Grazing and Soil Carbon Dynamics in a Tropical Grassland." January 28, 2024.
[36] Ritchie, "Grazing Management, Forage Production and Soil Carbon Dynamics." April 23, 2020.

n = number of sampling stations tested

Y^{obs} = observed or measured SOC density at station *i*

Y^{pred} = SOC density predicted by SNAPGRAZE at station *i*

Table 3.2-6 summarizes the full set of parameter combinations evaluated and highlights the parameter sets with near-zero bias (light green). The selected parameter configuration (light blue) minimized bias and maximized regression performance across the calibration dataset. The selected parameter values are: RGRmax = 0.033, microbial respiration coefficient = 0.00042, coefficient of the quadratic temperature term for growing-season length = 0.75, and wet-days coefficient = 0.00051. This parameter set was applied to all Phase I and Phase II strata.

Table 3.2-6. Outcomes SNAPGRAZE v 2.3 calibration. Grey coloring indicates parameter values that were changed in each subsequent modeling step. Green coloring indicates parameter sets with near-zero bias. Blue coloring indicates the selected parameter set which minimized bias and maximized regression performance across the calibration dataset.

Model #	Pastures	RGRmax	Respiration Coefficient	Productivity Temperature Coefficient	WetDays Rainfall Coefficient	R^2	Slope	Intercept	Calibration Bias %	Validation Test Bias %
1	1	0.034	0.00044	0.94	0.00044	0.2792	0.2252	27.138	-49.15%	-66.40%
2	1	0.034	0.00044	0.9	0.00044	0.612	0.6234	8.2793	-27.92%	-24.10%
3	1	0.034	0.00044	0.85	0.00044	0.65	0.699	6.4556	-20.46%	-15.40%
4	1	0.034	0.00044	0.8	0.00044	0.6641	0.7376	6.0935	-15.35%	-10.30%
5	1	0.034	0.00044	0.75	0.00044	0.6713	0.7777	5.8145	-10.28%	-5.50%
6	1	0.034	0.00045	0.75	0.00045	0.6708	0.8156	5.5245	-6.03%	-1.40%
7	1	0.034	0.00047	0.75	0.00045	0.6694	0.8536	5.4036	-1.66%	2.90%
8	1	0.034	0.00048	0.75	0.00045	0.6689	0.8723	5.3637	0.41%	4.90%
9	1	0.034	0.00048	0.8	0.00045	0.6626	0.8261	5.7448	-4.03%	0.70%
10	1	0.034	0.00048	0.8	0.00048	0.6629	0.8855	5.0611	1.06%	5.50%
11	1	0.034	0.00048	0.8	0.00047	0.6628	0.8658	5.2862	-0.56%	4.00%
12	1	0.033	0.00048	0.8	0.00047	0.6596	0.8937	5.1507	221.00%	6.60%
13	1	0.033	0.00048	0.78	0.00047	0.6643	0.912	4.9847	3.73%	8.10%
14	1	0.033	0.00048	0.82	0.00047	0.6539	0.8757	5.3279	0.69%	5.10%
15	1	0.033	0.00048	0.83	0.00047	0.6506	0.8665	5.4214	-0.10%	4.30%
16	1	0.033	0.00042	0.75	0.00042	0.6727	0.7251	6.3128	-16.61%	-11.60%
17	1	0.033	0.00045	0.75	0.00042	0.6699	0.7801	6.0629	-9.17%	-4.30%
18	1	0.033	0.00048	0.75	0.00042	0.6683	0.8338	5.935	-2.51%	2.20%
19	1	0.033	0.00049	0.75	0.00042	0.6681	0.8514	5.9172	-0.44%	4.20%
20	1	0.033	0.00042	0.75	0.00045	0.6744	0.7792	5.7355	-10.32%	-5.60%
21	1	0.033	0.00042	0.75	0.00048	0.6763	0.832	5.2365	-4.79%	-0.40%
22	1	0.033	0.00042	0.75	0.0005	0.6773	0.8663	4.9377	-1.48%	2.70%
23	1	0.033	0.00042	0.75	0.00051	0.6779	0.8833	4.7972	0.08%	4.10%
24	2	0.034	0.00044	0.85	0.00044	0.6193	0.5285	8.8346	-48.30%	-41.40%
25	2	0.034	0.00044	0.8	0.00044	0.604	0.566	8.848	-38.41%	-32.30%
26	2	0.034	0.00044	0.75	0.00044	0.5926	0.6174	8.6428	-27.71%	-22.10%
27	2	0.034	0.00048	0.75	0.00048	0.592	0.741	7.8005	-9.19%	-4.40%
28	2	0.034	0.0005	0.75	0.0005	0.5918	0.8069	7.3882	-1.52%	3.00%
29	2	0.034	0.00051	0.75	0.0005	0.5917	0.8231	7.3811	0.46%	4.90%

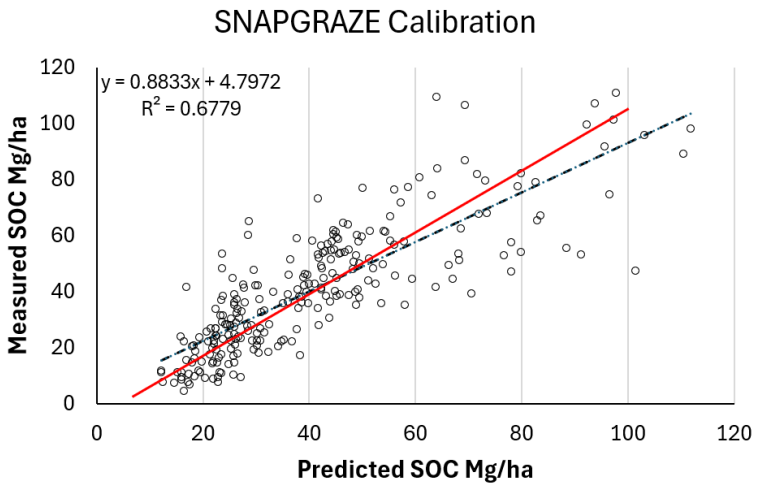


Figure 3.2-7. Model performance against calibration dataset (n=246). The red line represents the line of perfect agreement, and the dashed line is a fitted regression.

3.2.1.5.4. Model validation

Model Uncertainty. As prescribed in methodology VM0032 v 1.0, uncertainty in the predictions of the SNAPGRAZE model were assessed using Monte Carlo simulation. Means and 95% confidence intervals were calculated for all input parameters in each of the participating communities. Means and confidence intervals for model coefficients were taken from previous publications[37,38]. These parameters and their confidence intervals define a presumed normal distribution of parameter values. The calibrated version of SNAPGRAZE was run 10,000 times, with random "draws" from each of the presumed distributions for each input parameter and coefficient. The analysis produced standard errors in predicted initial SOC density in predicted mean and standard error of annual change in SOC density in each stratum (i.e. umbrella community). These uncertainties are calculated using equations reported in section 3.2.2.2.2. This assessment is illustrated in Figure 3.2-8. All eight of the initial PAIs satisfied the confidence-interval overlap requirement using the selected parameter set.

[37] Ritchie, "Plant Compensation to Grazing and Soil Carbon Dynamics in a Tropical Grassland." January 28, 2014.
[38] Ritchie, "Grazing Management, Forage Production and Soil Carbon Dynamics." April 23, 2020.

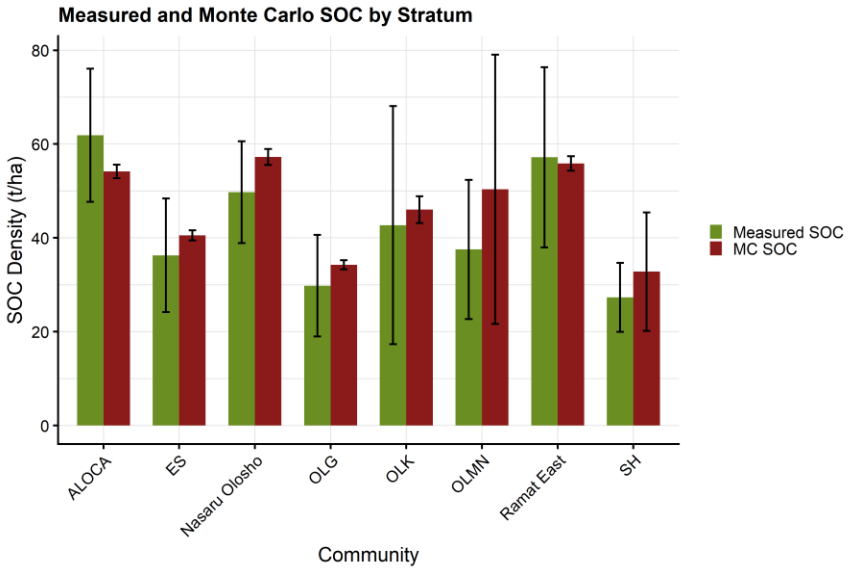


Figure 3.2-8. Measured and Monte-Carlo predicted mean soil organic carbon (SOC) density by stratum (t C ha-1). Bars show mean values and error bars represent 95% confidence intervals for field-measured SOC (green) and SNAPGRAZE Monte-Carlo derived SOC (red). Confidence interval overlap was evaluated for each stratum in accordance with VM0032 Section 8.1.3.3.

Following calibration, the model was validated (not to be confused with a carbon project being validated) against measured baseline SOC density. Per the protocol in Methodology VM0032 v 1.0, the predicted values were compared with the measured SOC density value at each station in a linear regression. The assessment of the calibrated model is shown in Figure 3.2-9, along with the statistical tests for validity under VM0032 v 1.0 in Table 3.2-7.

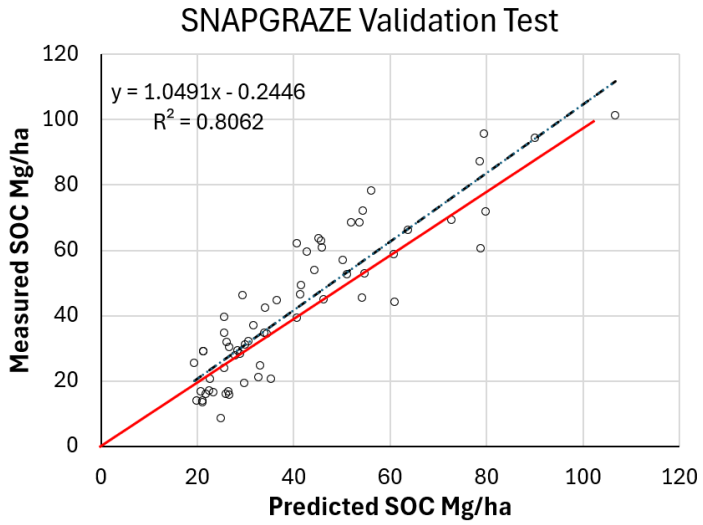


Figure 3.2-9. Analysis of the SNAPGRAZE model predicted SOC density versus measured SOC density at 62 sample stations using the final calibration parameter values. The red line represents the line of perfect agreement, and the dashed line is a fitted regression.

Table 3.2-7: Regression and bias analysis for the calibrated model against the validation dataset.

Validation Test Statistics

Model 23

Regression Statistics	
Multiple R	0.898
R Square	0.806
Adjusted R Square	0.803
Standard Error	10.189
Observations	63

† VM0032 Requirement: $R^2 > 0.8$ (green field indictes requirment is met)

Validation Bias	
Bias	4.1%

† VM0032 Requirement: Validation bias ≤ ±20% (green field indictes requirment is met)

Validation CI test	
CI test	92.06%

† VMD0053 Requirement - 90% of observations with the 90% CI of the prediction error (green field indictes requirment is met)

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	26347.10868	26347.10868	253.792713	2.067E-23
Residual	61	6332.623236	103.8134957		
Total	62	32679.73192			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Jpper 95%*
Intercept	-0.2446116	2.985177444	-0.081942051	0.93496108	-6.213843	5.72462
X Variable 1	1.04914082	0.065855828	15.93087294	2.0674E-23	0.917454	1.180828

† VM0032 Requirement: Intercept 95% CI includes 0; Slope 95% CI includes 1 (green fields indictes requirments are met)

3.2.2. Project Emissions and Removals (VCS, 3.15)

3.2.2.1. Project Methane Emissions

Project methane emissions included enteric methane emissions from Phase I communities in 2024 and Phase I and Phase II in 2025. Since each monitoring year featured different livestock numbers, fair assessment of net removals (removals minus the above-baseline increase in enteric methane emissions) required calculating the increase in methane emissions above baseline separately for 2024 and 2025.

Project enteric methane emissions were calculated from equation 8 in Methodology VM0032 v 1.0

$$PEM_t = \sum_{c=1}^{K} \left(PN_{c,t} \times DMEf(W_{c,t}) \right) \times GWP_{CH_4} \times 365 \times 6.26x10^{-7}$$

where:

PEM_t = *Project emissions of CH_4 from grazing animals at year t (tCO_2e)*

$PN_{c,t}$ = *Number of animals of each category c in project year t (head)*

$DMEf(W_{c,t})$ = *Daily emission factor as a function of animal weight for category c (L CH_4 / day)*

$W_{c,t}$ = *Average body mass during year t for animals of category c (kg)*

GWP_{CH4} = *Global warming potential for methane (tCO_2e / tCH_4)*

365 = *Conversion factor for days to years*

6.26 x 10^{-7} = *Conversion factor for L CH_4 / day to tCH_4 / day*

Numbers of animals were obtained from the total number of animals of species (cattle, donkeys, goats, sheep) and age class c for each grazing zone or conservancy in each community, summed across the annual censuses and visiting livestock.

Visting animals from communities outside the project area contributed to project enteric methane emissions. Grazing coordinators counted visiting animals during their bi-weekly (26 per year) measurement of animal numbers and locations in their respective communities. These counts combined adults and juveniles. For each community, animal species, and year, total visitors were quantified by:

$$V_{s,k,t} = \sum_{i=1}^{26} v_{s,i,k,t}$$

where:

$V_{s,k,t}$ = *visiting animals of species s, in community k, in year t*

$v_{s,i,k,t}$ = *visiting animals of species s, in bi-weekly interval i, in community k, in year t*

s = *livestock species category (cattle, donkeys, goats, sheep)*

k = *community.*

Total estimates of visiting animals contributing enteric methane emissions on an annual basis were calculated separately for adults and young:

$$\boldsymbol{V}_{y,s,t} = \sum_{k=1}^{K} \sum_{i=1}^{26} f_s \times v_{s,i,k,t,y}$$

$$\boldsymbol{V}_{a,s,t} = \sum_{k=1}^{K} \sum_{i=1}^{26} (1 - f_s) \times v_{s,i,k,t,a}$$

where:

$\boldsymbol{V}_{y,s,,t}$ = *total visiting young animals across all bi-weekly intervals and across all communities in year t*

$\boldsymbol{V}_{a,s,t}$ = *total visiting adult animals across all bi-weekly intervals and across all communities in year t*

$v_{s,k,t,y}$ = *visiting young animals of species s, in community k, in year t*

$v_{s,k,t,a}$ = *visiting adult animals of species s, in community k, in year t*

K = *total number of communities (15 for Phase I, 33 for Phase II)*

i = *community*

26 = *total number of bi-weekly intervals in a year.*

The visiting animals and animal censuses can be combined to estimate the number of animals contributing methane emissions.

For adult categories:

$$T_{s,t} = N_{a,s,t} + \boldsymbol{V}_{a,s,t}$$

For young categories:

$$T_{s,t} = N_{y,s,t} + \boldsymbol{V}_{y,s,t}$$

where:

$T_{s,t}$ = *Total animals of species s in year t contributing methane emissions.*

Body masses (W_c) for adults and juveniles were kept the same as the baseline values (see Table 3.2-8 and Table 3.2-10).

Visiting livestock comprise less than 5% of the total each year and are reported in Table 3.2-8.

Table 3.2-8. Census and reported visiting livestock numbers by species and age for Project Activity Instances (PAIs) in 2024 and 2025.

Livestock Species and Age	Census Total	Visitor Total	Combined Total
	2024		
cattle_adult	57,014	2,120	59,134
cattle_young	19,335	713	20,048
donkeys_adult	8,681	6	8,687
donkeys_young	3,914	3	3,917
goats_adult	78,233	287	78,520
goats_young	29,105	103	29,208
sheep_adult	117,578	466	118,044
sheep_young	40,703	165	40,868
	2025		
cattle_adult	78,985	3,554	82,539
cattle_young	26,893	1,209	28,102
donkeys_adult	11,164	115	11,279
donkeys_young	4,942	53	4,996
goats_adult	105,816	1,777	107,593
goats_young	39,689	698	40,387
sheep_adult	165,761	2,905	168,666
sheep_young	57,358	1,054	58,412

Table 3.2-9. Estimated enteric methane emissions in the Kajiado Rangelands Carbon Project for project year 2024.

Grazing Animal Category					Animal Census (Number of Animals)[6]		Project Animal Counts		Project Methane Emissions (tCO2e)		
Species	Sex/Age	Weight (kg)	Annual Methane Emissions/ Animal, tCO2e [1]	Uncertainty in regression for pred daily methane per animal category (%, UDMEc)[1]	2024		Arithmetic Mean (PNc)	Uncertainty in Arithmetic Mean of Animal Counts (%; UPNc)	Arithmetic Mean Methane (tCO2e; PEMc)	Uncertainty in Arithmetic Methane Emissions from Animals in Cat c (%; UPEMc)	Weighted Arithmetic Mean Methane Uncertainty
Cattle[2]	Cows	442.1	1.555	9.5	59,134		59,134	0.00	91,952	9.50	7.63086E+11
	Calves	170	0.615	9.5	20,048		20,048	0.00	12,336	9.50	13733808335
Donkeys[5]	Adult	155.5	0.154	28.2	8,687		8,687	0.00	1,337	28.20	1421602385
	Juvenile	77.5	0.078	28.2	3,917		3,917	0.00	307	28.20	74864007.42
Goats[3]	Adult	28	0.107	9.5	78,520		78,520	0.00	8,400	9.50	6368366536
	Juvenile	13	0.051	9.5	29,208		29,208	0.00	1,485	9.50	198901630.1
Sheep[4]	Adult	59	0.220	9.5	118,044		118,044	0.00	26,022	9.50	61112325135
	Juvenile	18.2	0.070	9.5	40,868		40,868	0.00	2,879	9.50	747965307.5
						Totals	**358,426**		**144,718**		**6.36**

1 Equation Source: Franz, R., C. R. Soliva, M. Kreuzer, P. Steuer, J. Hummel, and M. Clauss. 2010. Methane production in relation to body mass of ruminants and equids. Evolutionary Ecology Research 12:727-738
2 Cattle http://agtr.ilri.cgiar.org/kenyan_sahiwal
3 Goats Table 3 for Northeastern dry lands (NEDL) in: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0296353
4 Sheep Adult source: Food and Agriculture Organization of the United Nations (2025). Dorper sheep breed profile. Available at https://agtr.ilri.org/dorper.html
Juvenile source: Schoeman, S. J. (1992). "Growth and body composition of Dorper sheep", Small Ruminant Research, 7(1). Available at: https://www.sciencedirect.com/science/article/abs/pii/092144889290156X
5 Donkeys M. Gichure, J. Onono, R. Wahome and P. Gathura Veterinary Medicine International 2020 Vol. 2020 Pages 8816983

Measured
Transcribed
Calculated

Table 3.2-10. Estimated enteric methane emissions in the Kajiado Rangelands Carbon Project for project year 2025.

Species	Sex/Age	Weight (kg)	Annual Methane Emissions/ Animal, tCO2e [1]	Uncertainty in regression for pred daily methane per animal category (%, UDMEc)[1]	2025		Arithmetic Mean (PNc)	Uncertainty in Arithmetic Mean of Animal Counts (%; UPNc)	Arithmetic Mean Methane (tCO2e; PEMc)	Uncertainty in Arithmetic Methane Emissions from Animals in Cat c (%; UPEMc)	Weighted Arithmetic Mean Methane Uncertainty
Cattle[2]	Cows	442.1	1.555	9.5	82,539		82,539	0.00	128,346	9.50	1.48666E+12
	Calves	170	0.615	9.5	28,102		28,102	0.00	17,292	9.50	26985739382
Donkeys[5]	Adult	155.5	0.154	28.2	11,279		11,279	0.00	1,736	28.20	2396499163
	Juvenile	77.5	0.078	28.2	4,996		4,996	0.00	391	28.20	121762709.9
Goats[3]	Adult	28	0.107	9.5	107,593		107,593	0.00	11,511	9.50	11957424660
	Juvenile	13	0.051	9.5	40,387		40,387	0.00	2,053	9.50	380300047.5
Sheep[4]	Adult	59	0.220	9.5	168,666		168,666	0.00	37,181	9.50	1.24766E+11
	Juvenile	18.2	0.070	9.5	58,412		58,412	0.00	4,115	9.50	1528017951
						Totals	**501,974**		**202,625**		**6.35**

3.2.2.2 Project Removals

Project removals were estimated using the modeled approach given in equation 13 in Methodology VM0032.

$$PRS_{m,t} = {}^{44}/_{12} \times \frac{PSOC_m^{eq} - MSOC_{m,0}}{D}$$

where:

$PRS_{m,t}$ = *Annual project removals due to changes in SOC stocks in stratum* m *in year* t *(tCO_2e/ha)*

$PSOC^{eq}{}_m$ = *Project modeled equilibrium SOC at station* j *in stratum* m *(tC/ha) based on parameter values from* z_m *sampling stations in stratum* m

$MSOC_{m,0}$ = *Hindcast maximum baseline SOC density for stratum* m *at time t =0 (tC/ ha)*

D = *Years required to achieve equilibrium*

44/12 = *Conversion factor from tC to* tCO_2e

Using the SNAPGRAZE v 2.3 model and input changes summarized in Section 3.2.2.1.1, expected changes in SOC density were calculated for each sampling point in the Phase I communities for 2024 and for the points in Phase I and Phase II communities for 2025. The expected SOC changes for each stratum were then determined by the average SOC change across the sample points in that stratum as

$$\frac{PSOC_m^{eq} - MSOC_{m,0}}{D_m} = \left(\frac{1}{z_m}\right)\sum_{j=1}^{z_m}\frac{PSOC_j^{eq} - MSOC_{j,0}}{D_j}$$

Where:

$PSOC^{eq}_j$ = *estimated SOC density equilibrium under the project scenario at station* j *(t C/ha)*

$MSOC_{j,0}$ = *hindcast maximum baseline SOC density at sampling station* j *at time* t = *0 (t C/ha)*

D_j = *estimated time (years) for SOC density at station* j *to reach* $PSOC^{eq}_j$

z_m = *number of sampling stations in stratum* m

Estimated removals for all sampling points within each stratum were averaged to produce estimated annual changes in SOC density, which were then multiplied by the GHG conversion from C to CO_2 of 44/12 to estimate annual project removals in each stratum. The *Project Document* section 3.2.2 contains derivations for how to determine $MSOC_{j,0}$ and D_j from *SNAPGRAZE* model inputs. The resulting formulas are equations 12, 8, and 11 in the *Project Document* and are briefly described here.

Equation 12 – modeled approaches must use a conservative baseline that corresponds to the maximum SOC density at a sampling station in the 10 years prior to the project start date ($MSOC_{j,m,0}$). The rate of decline is SOC density from pre-degradation conditions is very closely approximated by the negative of the rate of decline in $\Delta PSOC_{j,m,y}$. Thus, we can estimate the $PSOC_{j,m-10}$, that is going backward 10 years from the measured SOC density $SOC_{j,m,0}$ as the measured SOC density plus the $\Delta PSOC_{j,m,y}$ over the 10 years prior to the project start date as:

$$MSOC_{j,m,0} = PSOC_{j,m,-10} = SOC_{j,m,0} + \left(\Delta PSOC_{j,m,1} \Big/ k_{j,m}\right) \times \left(e^{10k_{j,m}} - 1\right)$$

Where:

$PSOC_{j,m,-10}$ = *model-predicted SOC density at station j in stratum m 10 years prior to the project start (t/ha).*

$SOC_{j,m,0}$ = *measured SOC density at project start (t/ha)*

$\Delta PSOC_{j,m,1}$ = *modeled annual increment in carbon stocks at station j in stratum m in year 1*

$\Delta PSOC_{j,m,y}$ = *modeled annual increment in SOC stocks at station j in stratum m in year y*

$k_{j,m}$ = *the annual exponential decay rate of change in* $\Delta PSOC_{j,m,y}$ *at station j in stratum m*

e = *the natural base*

Equation 8 – the rate $k_{j,m}$ can be estimated from the ratio of modeled predicted increments of change divided by the number of years between the changes:

$$k_{j,m} = ln\left(\frac{\Delta \mathrm{PSOC}_{j,m,Y}}{\Delta \mathrm{PSOC}_{j,m,1}}\right)/\mathrm{Y}$$

Where:

Y = *number of years separating the modeled estimates of* $\Delta PSOC_{j,m,y}$

Equation 11 – given the exponential decay behavior of $\Delta PSOC_{j,m,y}$ there is no number of years at which $\Delta PSOC_{j,m,y}$ = 0 and $\Delta PSOC_{j,m,y}$ approaches zero as $PSOC_{j,m,y}$ approaches but never quite reaches an asymptote of the equilibrium $PSOC_{j,m}$. To avoid including small increments in SOC density in the calculation of PRS_y that would occur decades to more than 100 years after the project lifetime, $D_{j,m}$ is estimated as 2 x the half-life of $\Delta PSOC_{j,m,y}$:

$$D_{j,m} = 2 \times \frac{\ln\left[1 - \left(k_{j,m} \times \left(PSOC_{j,m} - MSOC_{j,m,0}\right)\Big/\left(2 \times \Delta \mathrm{PSOC}_{\mathrm{j,m,1}}\right)\right)\right]}{-k_{j,m}}$$

Total project removals are then obtained by summing over the project strata:

$$PRS_t = PA_{m,t} \sum_{m=1}^{s} PRS_{m,t}$$

Where:

PRS_t = *total gross project removals in year t (t* CO_2e*)*

$PA_{m,t}$ = *area of project activity in stratum m in year t (ha)*

$PRS_{m,t}$ = *Annual project removals due to changes in SOC stocks in stratum m in year t (*tCO_2e/ha*)*

3.2.2.1.1. Project Scenario Model Inputs

Model parameters used in the baseline scenario SNAPGRAZE model were estimated for the project scenario. Mean annual rainfall (mm) and temperature (°C) assigned to each sample point was assumed to be the same in both scenarios because both represent long-term climate. The values of lignin and cellulose assigned to vegetation classes and soil texture (SAND%) were also assumed to be the same.

Inputs that differed in the project scenario included livestock management variables number of pastures and livestock density, VegClass, and fire frequency.

Livestock densities in the project scenario were assigned based on umbrella community and assumed to be the same for all points in the community project activity area unless monitoring data showed that livestock did not use areas near the point. Values were calculated as the number of cattle equivalents in each community divided by the project activity area. Cattle equivalencies (Tropical Livestock Unit conversions in Section 3.2.1.5.2) were applied equally to adult and young animals.

Table 3.2-11. Livestock numbers reported from annual censuses in each of the "umbrella" communities in the Kajiado Rangelands Carbon Project in the project years 2024 and 2025.

2024		Cattle		Donkeys		Goats		Sheep	
Community	**Phase**	**Adult**	**Juvenile**	**Adult**	**Juvenile**	**Adult**	**Juvenile**	**Adult**	**Juvenile**
Eselenkei	I	6,039	2,131	376	172	6,106	2,575	8,419	3,427
Ol Keri	I	3,842	1,508	1,126	524	14,024	5,676	16,639	6,461
Olgulului	I	23,070	7,303	476	169	12,390	4,360	27,935	9,812
Olkiramatian	I	3,120	1,000	600	262	15,488	4,812	17,391	5,309
Shompole	I	7,698	2,782	3,827	1,796	13,168	5,262	31,720	10,220
Total		**43,770**	**14,723**	**6,405**	**2,923**	**61,177**	**22,684**	**102,104**	**35,229**

2025		Cattle		Donkeys		Goats		Sheep	
Community	**Phase**	**Adult**	**Juvenile**	**Adult**	**Juvenile**	**Adult**	**Juvenile**	**Adult**	**Juvenile**
Eselenkei	I	9,416	3,323	477	219	7,943	3,349	11,910	4,848
Ol Keri	I	4,381	1,719	1,392	648	16,373	6,627	19,808	7,692
Olgulului	I	30,392	9,620	1,393	494	19,136	6,734	39,164	13,756
Olkiramatian	I	1,128	362	572	250	14,191	4,409	21,681	6,619
Shompole	I	11,128	4,022	4,139	1,943	18,844	7,530	45,946	14,803
Aloca Nasaru	II	2,172	756	26	11	2,844	1,071	2,546	901
Olosho	II	7,123	2,480	888	387	9,428	3,549	9,231	3,266
Ramat East	II	13,245	4,611	2,276	991	17,056	6,421	15,474	5,474
Total		**78,985**	**26,893**	**11,164**	**4,942**	**105,816**	**39,689**	**165,761**	**57,358**

Livestock numbers in each community was then divided by the area of project activity within each community. This area was determined from equal area-projected polygons digitized in ArcGIS to remove cropland, roads, rivers, and settlements (Table 3.2-12).

Table 3.2-12. Digitized areas of project activity in the participating umbrella communities (carbon accounting strata) in the Kajiado Rangelands Carbon Project.

Phase	Strata Code	Strata	Area (ha)	Livestock density 2024 (TLU/ha)	Livestock density 2025 (TLU/ha)
I	ES	Eselenkei	58,765.77	0.16	0.23
I	Ramat East	Ramat East	22,622.70		0.25
I	OLG	Olgulului	149,083.22	0.21	0.29
I	OLK	Olkeri	26,799.83	0.27	0.32
I	OLMN	Olkiramatian	25,238.79	0.22	0.18
I	SH	Shompole	55,603.15	0.25	0.35
II	ALOCA	ALOCA	14,736.41		0.22
II	Nasaru Olosho	Nasaru Olosho	64,980.87		0.17
II	Ramat East	Ramat East	83,729.26		0.25

Number of pastures. A critical project scenario input value at each sampling point is the duration and timing of grazing by livestock, as collected in daily grazing reports. These grazing reports for all communities and zones in the Project Area were compiled and distributed by Converge Analytics. The grazing reports are designed to answer multiple questions (Figure 3.1-2) so were first cleaned to meet criteria for inclusion in the spatial pasture number analysis. For this monitoring report, only 2024 (Phase I) and 2025 (Phase I & II) reports were included, comprising ~27,000 spatial observations. Only reports associated with explicit, valid coordinates were considered, so the dataset was treated as presence-only data. Coordinate validity was assessed by filtering out and excluding any points with a GPS accuracy >30 meters. We also excluded any reports from Kajiado or Namanga city centers as hardware or software trials. Finally, we constructed 1 km buffers around PAI communities and any community-associated grazing zones with geospatial information. The combination of both buffers ensures inclusion of herds grazing in valid blocks outside the mapped community borders (particularly within the Magadi Concession). We excluded any reports with coordinates that were not within these buffers for purposes of pasture number calculations (though they were included for leakage and methane emissions calculations). The remaining reports were assigned to a bi-weekly period based on report date with periods beginning January 1st annually and limited to a maximum of 26 per year by ensuring the final period ended Dec 31st. Estimated herd radii were standardized by converting values <1 from kilometers to meters, scaling (100x) values from 1-10 meters to meters by assuming km-m conversion error, and implementing a cap of 200 m as a valid herd radius.

This cleaned and filtered dataset was used to calculate pasture numbers using a custom script in R employing the terra and sf packages.[39,40,41] We applied a circular buffer around each herd location using the field-estimated grazing radius. These buffered herd locations were used to generate minimum convex polygons delineating the spatial footprint of livestock grazing for each grazing zone and bi-weekly period representing the collective area utilized by herds. Following hull generation, all polygons overlapping within the same bi-weekly interval were dissolved. This ensured that each discrete part of the landscape was evaluated on a binary basis of either "grazed" or "ungrazed" for that specific period, preventing duplicate counts from overlapping herds. For calculating the number of visits in a given area, we thus did not differentiate between herd origin.

Finally, we rasterized these biweekly footprints at a spatial resolution of 0.00025° (~30 m) and counted the active grazing intervals across each calendar year. This yielded an annual visit frequency metric ranging from 0 to 26, where 0 indicates no detected livestock density and 26 signifies livestock presence during every biweekly interval of the year. The annual pasture number (N_p) for each raster pixel was then calculated for full years (Figure 3.2-10) by dividing the total number of potential yearly monitoring chunks (26) by the actual recorded visit count (V):

$$N_p = \frac{26}{V}$$

For pixels where no livestock visits were recorded (V = 0) the pasture number was conservatively assigned the baseline value of 1 representing continuous grazing. Spatial outputs for pasture number

[39] Hijmans R (2026) _terra: Spatial Data Analysis_. doi:10.32614/CRAN.package.terra <https://doi.org/10.32614/CRAN.package.terra>, R package version 1.8-93, <https://CRAN.R-project.org/package=terra>

[40] Pebesma E, Bivand R (2023) Spatial Data Science: With Applications in R. Chapman and Hall/CRC. https://doi.org/10.1201/9780429459016

[41] R Core Team (2025) _R: A Language and Environment for Statistical Computing_. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org/>

were masked to the defined livestock analysis boundary and the extracted for each year at each sampling station.

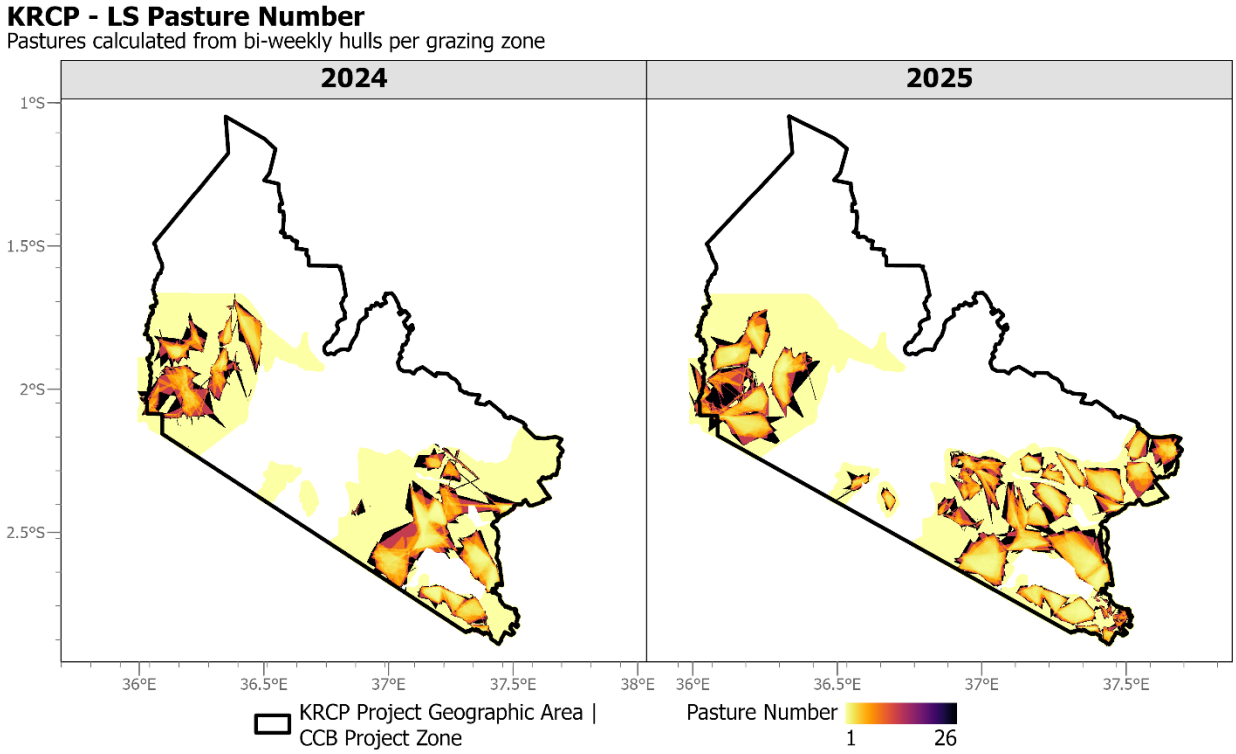


Figure 3.2-10. Estimated livestock pasture number across KRCP Project Geographic Area communities for 2024 and 2025. Pasture number is derived from bi-weekly livestock grazing hulls (minimum convex polygons) created from reported herd locations within each grazing zone and bi-weekly period. The count of bi-weekly periods with active grazing (visits) was divided into the total number of potential grazing chunks per year (26). Lower pasture numbers indicate more frequent use of the same area, and zero livestock visits were conservatively set to a pasture number of one.

Phase I communities provided data during 2024. However, even though four conservancies in RAMAT East had signed agreements and grazing plans, no livestock monitoring occurred in these four conservancies. Consequently, we could not demonstrate that the RRG plans they developed were implemented, and therefore removals were conservatively assumed to be zero in 2024 for these conservancies. Phase I and Phase II communities, including the original four from phase I, and 9 new conservancies in RAMAT East provided livestock monitoring data in 2025.

The monitoring data provided an overwhelming case that the project activities led to implementation of RRG. Figure 3.2-11 shows the frequency distribution of pasture number across sampling stations by community and year. When pooled across the 2024 and 2025 monitoring periods and communities, the most frequent pasture number assignment was “no grazing,” reflecting no visits by livestock. Among sampling stations that experienced some grazing, a pasture number of 26 (one visit in 26 possible bi-weekly intervals) was most frequent, followed in frequency by 13 pastures (two visits during the 26 bi-weekly intervals) and eight pastures (three visits during 26 bi-weekly intervals). With the exception of Olgulului and one station in Olkiramatian, there were few communities with sampling points subject to

continuous grazing (visited in more than 13 bi-weekly intervals, *n* = 1). This outcome indicates that the project area overall experienced a stronger implementation of RRG than even what would have been produced by perfect adherence to the RRG plan, which called for five rotations per year, e.g., visiting five pastures per year or visiting the area of a point during five bi-weekly intervals. Likely this improvement resulted from several factors. 1) the tendency for Maasai herders to aggregate livestock into reasonably tight herds < 100 m in radius, 2) tendency for herders to use the same areas on a given day and to never venture farther from water than necessary, 3) relatively high long wet season rainfall in both 2024 and 2025, which spurred high forage production (see section 3.3.1) that obviated the need for herds to travel far from water or bomas within a grazing block. This level of aggregation meant that substantial portions of grazing blocks were used seldom or not at all, which would contribute to greater rest from grazing than expected from RRG plans for more than half the landscape.

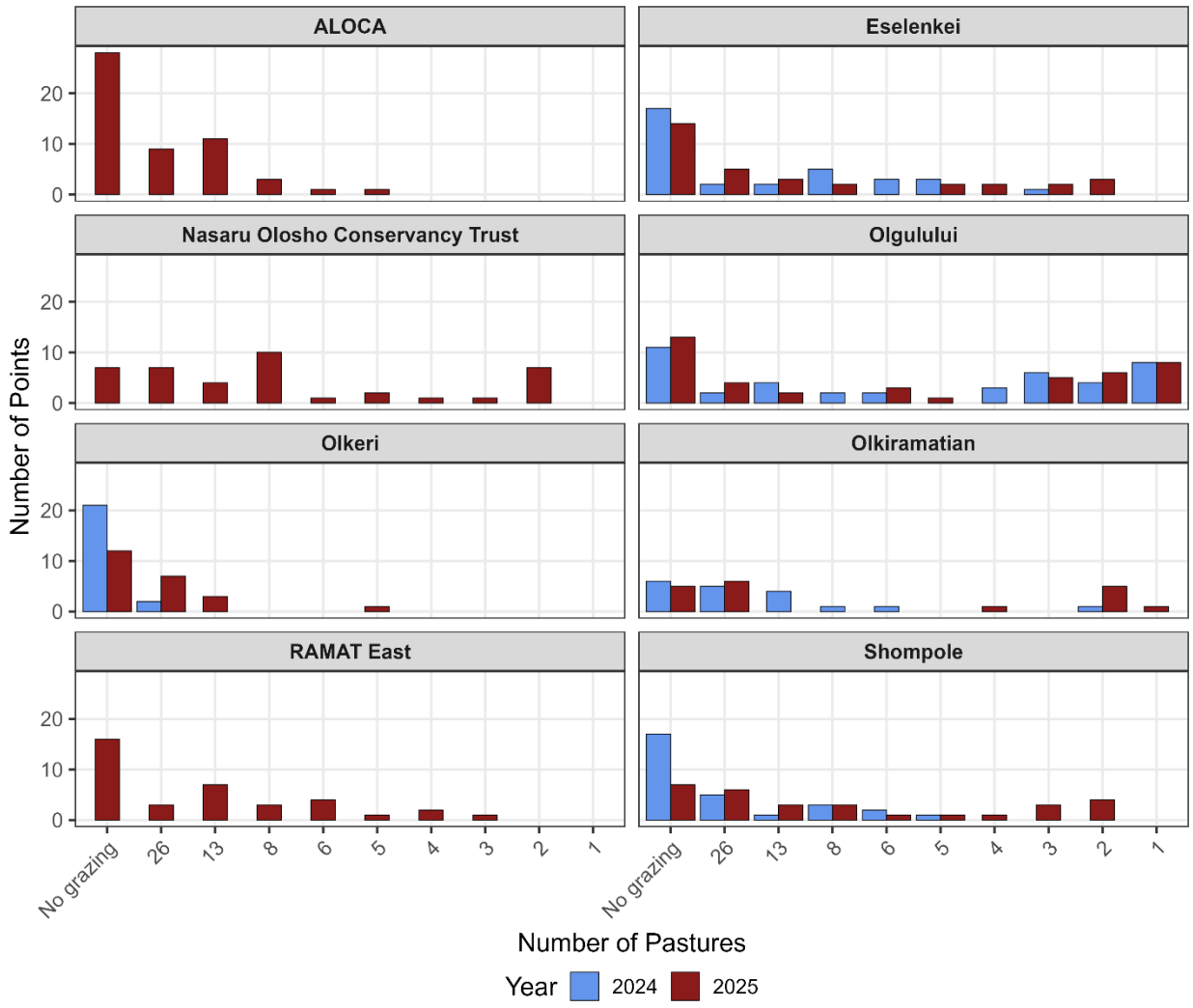


Figure 3.2-11. Frequency distributions of sample points with different assigned number of pastures for participating communities in project years 2024 and 2025 in the Kajiado Rangeland Carbon Project. Only the numbers depicted on the x-axis are possible since pasture number is defined as 26 divided by the number of biweekly periods with a visit.

Changes in Vegetation State. The third project-specific input to the SNAPGRAZE model is a change in the assigned dominant plant type (VegClass) at each point. Because Methodology VM0032 v 1.0 calculates removals as the average difference between initial conservative baseline SOC densities and project scenario SOC density equilibria, the project scenario equilibria carry with them the expectation of rangeland restoration, namely the increased dominance of deep-rooted perennial grasses. Consequently, the calculation of annual removals, which reflects the average annual change in SOC density over a period that exceeds the project lifetime of 40 years, was made under the assumption that VegClass would shift from ANNUALS or BARE to MIXTURE, and from MIXTURE to PERENNIALS. Any point originally classified as PERENNIALS was assumed to retain that classification.

A question that might arise is whether such changes are justified over the first few years of a project. The analysis of NDVI, a satellite-based surrogate of forage, section 3.3.1, suggests that substantial increases in forage production occurred above that expected from even the higher annual rainfall that occurred during 2024 and 2025. This pulse of productivity is consistent with a greater expression of deep-rooted perennial grasses at some sample points and reasonably justifies the application of a change in VegClass in quantifying removals early in the project lifetime.

Table 3.2-13 presents the project scenario SNAPGRAZE parameter input values (± standard deviation) for number of pastures, lignin and cellulose content, and livestock density for each community in Phase I (except RAMAT East) in 2024 and each community in both Phase I and II in 2025.

Table 3.2-13. Project scenario SNAPGRAZE model inputs for each community, with their uncertainty, for project years 2024 and 2025 in the Kajiado Rangelands Carbon Project.

Community	Number Pastures		LigCell		Animals/ha	
	Mean	Std dev	Mean	Std dev	Mean	Std dev
2024						
Eselenkei	5.2	6.5	30.6	5.3	0.1	0.1
Olgulului	4.5	6.1	31.4	5.2	0.2	0.1
Olkeri	3.2	7.2	29.3	5.2	0.0	0.1
Olkiramatian	11.3	10.4	27.5	4.5	0.1	0.1
Shompole	6.9	9.4	28.1	4.8	0.1	0.1
2025						
Eselenkei	6.9	8.9	30.6	5.3	0.1	0.1
Olgulului	4.8	7.5	31.4	5.2	0.2	0.1
ALOCA	8.3	9.4	33.5	4.3	0.1	0.1
Nasaru Olosho	9.0	8.8	32.8	4.7	0.1	0.1
Olkeri	10.3	11.3	29.3	5.2	0.2	0.2
Olkiramatian	9.8	11.8	27.5	4.5	0.1	0.1
Ramat East	6.7	7.4	34.5	3.3	0.1	0.1
Shompole	8.9	9.6	28.1	4.8	0.3	0.2

3.2.2.1.2. Project removals

Removals due to project activities for project years 2024 and 2025 were calculated using the SNAPGRAZE model with any inputs modified from baseline values presented in Table 3.2-13. These removals are presented in Table 3.2-14 as annual removals per hectare and total removals for each community. Uncertainty is calculated as described in section 3.2.2.2.2 from a Monte Carlo analysis based on variation in inputs and standard errors of model coefficients. Details of Monte Carlo analysis are provided in section 3.2.1.5.4, where model calibration and validation is made against mean SOC densities in each community (administrative unit stratum) (Figure 3.2-8).

Table 3.2-14. Modeled project year carbon dioxide removals for each stratum with uncertainties and per unit area.

Strata	Samples	Removals tons CO_2e ha^{-1} yr^{-1}	Uncertainty %	Area ha	Total Removals tons CO_2e yr^{-1} (PRS)	Weighted uncertainty squared (UPRS)
2024 Monitoring Year						
Eselenkei	33	1.92	5.3%	58,766	113,023	35,343,151
Olgulului	42	1.83	9.4%	149,083	272,736	661,465,907
Olkeri	23	1.98	8.7%	26,800	52,977	21,292,111
Olkiramatian	18	1.42	31.7%	25,239	35,760	128,181,580
Shompole	29	1.53	13.4%	55,603	85,111	129,683,776
Totals	145	1.77		315,491	559,608	5.58%
2025 Monitoring Year						
Eselenkei	33	1.93	5.1%	58,766	113,541	33,399,670
Olgulului	42	1.82	6.6%	149,083	271,923	317,231,252
Olkeri	23	2.03	8.7%	26,800	54,504	22,330,082
Olkiramatian	18	1.42	10.6%	25,239	35,744	14,301,672
Ramat East	37	1.69	5.3%	83,729	141,323	55,258,628
Shompole	29	1.57	62.7%	55,603	87,356	3,003,858,329
ALOCA	53	1.72	5.1%	14,736	25,312	1,633,961
Nasaru Olosho	40	1.58	6.6%	64,981	102,449	45,167,618
Totals	275	1.74		478,937	832,154	7.10%

3.2.2.2. Project Uncertainty

3.2.2.2.1. Uncertainty in Emissions

Baseline and project emissions were completely determined by enteric methane emissions in the baseline and project scenario, respectively. Biomass burning emissions in both the baseline and project scenario were demonstrated to be *de minimis, such that BEBB* = 0 and $PEBB_t$ = 0.

Uncertainty in Baseline Emissions

Baseline enteric methane emissions uncertainty is determined from the baseline enteric methane emissions worksheet (Table 3.2-1 and Table 3.2-2) In section 3.2.1.1 and is calculated from equation 26 in the Methodology VM0032 v 1.0 as:

$$UBEM = \frac{(\sum_{c=1}^{k}(BEM_c \times UBEM_c)^2)^{\frac{1}{2}}}{\sum_{c=1}^{k} BEM_c}$$

Where:

UBEM = *Uncertainty in baseline methane emissions from grazing animals (%)*

$UBEM_c$ = *Uncertainty in baseline methane emissions from animals in category* c *(%)*

BEM_c = *Baseline emissions from animals in category* c *(tCO2e)*

c = *livestock class determined by species (cattle, donkeys, goats, sheep) and age (adult versus juvenile)*

k = *number of livestock classes*

Uncertainty in methane emissions has two components: uncertainty due to interannual variability in animal numbers of class *c* (UBN_c), and uncertainty in the regression relating animal body mass to daily methane emissions ($UDME_c$).

UBNc is derived from *SEBNc*, the standard error of the harmonic mean *BNc* of the series $N_{c,i}$ of animals in category *c* in count *i* of *n* counts or censuses from equation 27 in Methodology VM0032 v 1.0

$$SEBN_c = (BNc)^2 \times \frac{SD\left(\frac{1}{N_{c,i}}\right)}{(n-1)^{1/2}}$$

where:

$SEBN_c$ = *Standard error of the harmonic mean of animal counts in category* c.

$SD(1/N_{c,i})$ = *Standard deviation of the inverses of the count* i *(in baseline year t) of animals in category c.*

$N_{c,i}$ = *Animals in category c in census* i *in baseline year* t *(head).*

BN_c = *Harmonic mean number of animals in category* c *during the baseline period (head).*

n = *Number of censuses or number of years in the baseline period animals were counted or estimated.*

The 95 percent confidence interval-based uncertainty in the estimated number of animals in category c is given by equation 28 in Methodology VM0032 v 1.0

$$UBN_c = 3.84 \times 100 \times (\frac{SEBN_c}{BN_c})$$

where:

UBN_c = *Uncertainty in the harmonic mean of animal counts (%)*

$SEBN_c$ = *Standard error of the harmonic mean of animal counts*

BN_c = *Baseline number of animals of category* c *(head)*

3.84 = *Multiplier converts expression into a 95% confidence interval*

100 = *Multiplier converts expression into percent*

$UDME_c$ is also calculated from equation 28 in Methodology VM0032 v 1.0 using standard errors reported in Table 4 of the Methodology for ruminants (cattle, goats, and sheep) and equids (donkeys) as

$$UDME_c = 3.84 \times 100 \times (\frac{SEDME_c}{DMEF(W_c)})$$

where:

$UDME_c$ = *Uncertainty in the daily emissions factor of animals of category* c *(%)*

$SEDME_c$ = *Standard error of daily mean emission factor of animals of category* c *(%)*

$DMEF(W_c)$ = *Daily methane emissions factor as a function of animal weight in category* c

These two error components are summed in quadrature following Equation 29 in the Methodology for each animal class as

$$UBEM_c = (UBN_c^2 + UDME_c^2)^{\frac{1}{2}}$$

These quantities are calculated in the methane emissions reporting table for baseline enteric emissions (Table 3.2-1 and Table 3.2-2) in section 3.2.1.

Uncertainty in Project Emissions

Because we assessed methane emissions separately for 2024 and 2025 due to the addition of Phase II communities, there was no inter-annual variability in animal numbers to generate uncertainty. Thus, uncertainty in each year's methane emissions depended only on the uncertainty in daily per-animal methane emissions calculated from the allometric equations for animal body mass in Table 4 in Methodology VM0032 v 1.0.

From equation 33 in VM0032 v 1.0, the general formula for uncertainty in project emissions is

$$UPE_t = \frac{\left((PEM \times UPEM)^2 + \sum_{m=1}^{s}\left(PEBB_{m,t} \times UPEBB_{m,t}\right)^2\right)^{\frac{1}{2}}}{PEM + \sum_{m=1}^{s} PEBB_{m,t}}$$

where:

UPE_t = Uncertainty in project emissions (%) in year *t*

$UPEM_t$ = Uncertainty in project methane emissions from grazing animals (%) during year *t*

$UPEBB_{m,t}$ = Uncertainty in project methane emissions from burning of biomass (%) in stratum *m* in year *t*

PEM = project methane emissions by animals during the monitoring period (tCO2e)

$PEBB_{m,t}$ = project emissions from biomass burning in stratum *m* at time *t* (tCO2e)

m = stratum

s = number of strata

t = year of monitoring period

However, since $PEBB_t = 0$ (demonstrated to be *de minimis*), this equation simplifies to

$$UPE_t = PEM_t \times UPEM_t$$

Note that we are adding the index *t* to account for the fact that project enteric methane emissions, and thus their uncertainty, are calculated separately for each year of the monitoring period (2024 and 2025) rather than being averaged over the monitoring period as implied by the quantities *PEM* and *UPEM*.

From equation 35 in Methodology VM0032 v 1.0, after adapting to calculating methane emissions in separate years *t* of the monitoring period, uncertainty in project methane emissions is the pooled uncertainty across all livestock species x age classes:

$$UPEM_t = \frac{\left(\sum_{c=1}^{k}\left(PEM_{c,t} \times UPEM_{c,t}\right)^2\right)^{1/2}}{\sum_{c=1}^{k} PEM_{c,t}}$$

where:

$PEM_{c,t}$ = project enteric methane emissions by animal class c in year t

$UPEM_{c,t}$ = uncertainty in project enteric methane emissions by animal class c in year t

Similarly, since there is no interannual variation in animal numbers within a single year, equation 36 for uncertainty for a given animal class c in Methodology VM0032 v 1.0 also simplifies to

$$UPEM_{c,t} = UDME_{c,t}$$

where:

$UPME_{c,t}$ = *Uncertainty in the regression in Table 4 for predicting daily methane emissions for animals of category c as a function of their body mass.*

3.2.2.2.2. Uncertainty in Project Removals

Following the Methodology VM0032 v 1.0, the net baseline emissions and removals are in equilibrium under the assumption ΔSOC = 0. From Methodology equation 44, under a modeled approach, uncertainty in removals calculated by the SNAPGRAZE 2.3 model, and $UPRS_{m,t,}$ is obtained from the calculated 95 percent confidence interval from a Monte Carlo simulation of modeled changes in soil carbon averaged across *n* model runs in each stratum *m*.

$$UPRS_{m,t} = 3.84 \times 100 \times \frac{SDMOD\Delta SOC_{m,t}}{MOD\Delta SOC_{m,t} \times (n-1)^{\frac{1}{2}}}$$

where:

$UPRS_{m,t}$ = *Uncertainty in project removals through increased soil carbon in stratum m in year t (%).*

$SDMOD\Delta SOC_{m,t}$ = *Standard deviation of more than 100 modeled changes in SOC applicable to year t for stratum m from a Monte Carlo simulation.*

$MOD\Delta SOC_{m,t}$ = *Mean modeled annual change in SOC for stratum m from more than 100 simulations of project equilibrium SOC, (tC/ha). Note this variable is equivalent to $PRS_{m,t}$ calculated from equations 7 and 13 in Methodology VM0032 v 1.0.*

n = *Number of times simulation is run (must be greater than 100). Note the formula divides by $n^{1/2}$ rather than $(n - 1)^{1/2}$ because the intention is to calculate a standard error and the correct .formula for standard error is standard deviation / $n^{1/2}$*

m = *stratum*

3.84 = *Multiplier to convert standard error into a 95% confidence interval*

100 = *Multiplier to convert to percent*

Pooled project removal uncertainty across strata is therefore

$$UPRS_t = \frac{\left(\sum_{m=1}^{s}\left(PRS_{m,t} \times UPRS_{m,t}\right)^2\right)^{1/2}}{\sum_{m=1}^{s} PRS_{m,t}}$$

The method of determining $SDMOD\Delta SOC_{m,t}$ from the Monte Carlo simulation is described in detail in section 3.2.1.5.4.1

3.2.2.2.3. Total Project Uncertainty

Total project uncertainty is calculated from the pooled, weighted uncertainty of baseline and project enteric methane emissions, net changes in carbon stocks (removals) and emissions from baseline and biomass burning following equation 23 in Methodology VM0032 v 1.0

$$UNR_t = \frac{((\mathrm{UPE}_t \,\mathrm{x}\, (\mathrm{PEM}_t + \mathrm{PEBB}_t))^2 + (\mathrm{UNCCS}_t \,\mathrm{x}\, \mathrm{NCCS}_t)^2 + (\mathrm{UBE}\,\mathrm{x}\,(\mathrm{BEM} + BEBB))^2)^{1/2}}{PEM_t + PEBB_t + NCCS_t + BEM + BEBB}$$

where:

UNR_t = *uncertainty in net emission reductions and removals, not including leakage, in year t (%)*

UPE_t = *uncertainty in project emissions in year t (%)*

$UNCCS_t$ = *uncertainty in net change in carbon stocks in year t (%)*

UBE = *uncertainty in baseline emissions (%)*

BEM = *baseline animal methane emissions (tCO2e)*

PEM_t = *project animal methane emissions in yeart (tCO2e)*

BEBB = *baseline emissions from biomass burning (tCO2e)*

$PEBB_t$ = *project emissions from biomass burning (tCO2e)*

$NCCS_t$ = *net project changes in carbon stocks (tCO2e)*

Note that $NCSS_t$ *i*ncludes changes in woody $PERWP_t$ and soil PRS_t carbon stocks (equation 20 in Methodology VM0032 v 1.0), but in this project woody aboveground biomass is not a carbon pool in the project boundary. Consequently, equation 20 simplifies to $NCSS_t = PRS_t$. Also, emissions from biomass burning were determined to be *de minimis* so *BEBB = 0, PEBB*$_t$ *= 0,* and uncertainty in baseline and project emissions were determined only by uncertainty in enteric methane emissions. The equation for total uncertainty thus simplifies to

$$UNR_t = \frac{((UBEM \times BEM)^2 + (PEM_t \times UPEM_t)^2 + (PRS_t \times UPRS_t)^2)^{1/2}}{BEM + PEM_t + PRS_t}$$

where:

PRS_t = *project removals calculated under the modeled approach for year t*

$UPRS_t$ = *uncertainty in project removals for year t*

These individual emission and removal estimates used as coefficients are presented in Table 3.2-1 and Table 3.2-2 for *BEM/UBE,* Table 3.2-8 and Table 3.2-10 for *PEM/UPE,* and Table 3.2-14 for *PRS_t/$UPRS_t$*.

Total project uncertainty is shown in Table 3.2-16 in section 3.2.4 below.

3.2.3. Leakage Emissions (VCS, 2.5, 3.2, 3.6, 3.15, 4.3)

Two forms of leakage are accounted in Methodology VM0032 v 1.0 - displacement leakage and market leakage. Therefore, in VM0032 Equation 16, total leakage emissions are defined as:

$$\mathrm{LE_t} = \mathrm{LD_t} + \mathrm{LM_t}$$

where:

LE_t = *total leakage emissions in year t (tCO_2e)*

LDt = *leakage emissions from displaced livestock in year t (tCO_2e)*

LMt = *emissions from market leakage in year t (tCO_2e)*

Market leakage addresses practices that reduce leakage by reducing livestock numbers. Market leakage is taken to be zero (*LM_t* = 0) because project year livestock counts (**Error! Reference source not found.** in Section 3.2.2) and livestock density (**Error! Reference source not found.**Table 3.2-13 in Section 3.2.2) did not decrease from the baseline period beyond fluctuations from drought-induced mortality (**Error! Reference source not found.** and **Error! Reference source not found.** for counts and **Error! Reference source not found.** for density, all in Section 3.2.1). This decline in livestock numbers is evident from household livestock survey data used to establish baseline animal numbers (**Error! Reference source not found.** and **Error! Reference source not found.**) which show declines during extreme droughts of 2017-2018 and 2021-2023. Therefore, observed fluctuations in livestock numbers are governed by climate variability and do not create market demand elsewhere based on project activities.

Displacement leakage occurred during the monitoring period and was quantified using Equation 17 of Methodology VM0032 v 1.0:

$$LD_t = \frac{\sum_{x=1}^{d}\sum_{c=1}^{k} DN_{c,x}}{365 \times \sum_{c=1}^{k} PN_{c,t}} \times PRS_t$$

where:

LD_t = *Leakage emissions from displaced livestock (tCO_2e)*

$DN_{C,x}$ = *Number of livestock of each category c that were off the project area on day x (head).*

d = *Total number of days livestock were off the project area during project year t*

k = *Total number of livestock categories*

$PN_{c,t}$ = *Number of animals of each category c in project year t (head)*

PRS_t = *Project removals due to changes in SOC stocks in year t (tCO2e)*

According to VM0032 v 1.0 Equation 18, total leakage is negligible where:

$$LE_t < 0.05 \times PNR_t$$

where:

LE_t = *Total leakage emissions* (tCO_2e)

PNR_t = *Project emissions plus removals in year t* (tCO_2e)

Determination of DN_c

Calculation of displacement leakage using Equation 17 requires estimating the number of displaced livestock ($DN_{c,x}$) for each livestock category. DN_c is determined by the difference between actual counts relative to a benchmark of livestock known to be present in a community or the entire project area. We assume that the proportion of total livestock composed of each species in the GC field surveys is the same as in the annual census, and if so, the following relation is true.

$$\frac{\sum_{x=1}^{d}\sum_{c=1}^{k} DN_c}{365 \times \sum_{c=1}^{k} PN_c} = \frac{\sum_{x=1}^{d} DCE_x}{365 \times TCE}$$

where:

DCE_x = *displacement cattle-equivalents on day x*

TCE = *total cattle equivalents in annual census*

DCE_x = *Difference in cattle equivalents between the lower error bound (15% below) in total cattle-equivalents (TCE) in the annual census and the corrected grazing coordinator survey count on day x.*

TCE = *Total cattle equivalents in the annual census.*

In the above equation, the left-hand side is the ratio in Methodology equation 17 and the right-hand side is the ratio of the sum of displaced cattle equivalent-days over *d* total days in the year off the project area to the total number of cattle-equivalent days in the project area.

Livestock accounting and determination of displaced cattle-equivalents

Data used to calculate displacement leakage were obtained from two complementary monitoring programs designed to determine whether livestock expected to be within the project area could be accounted for throughout the monitoring period.

First, an annual livestock census was conducted within each participating community to establish the benchmark number of livestock by species (adults and juveniles combined). Livestock numbers were converted to cattle-equivalents (*TCE*), providing the reference livestock population against which GC field observations were compared.

Second, grazing coordinators (GCs) conducted field surveys during twenty-six biweekly (14-day) monitoring intervals each year. GCs attempted to account for all livestock within their assigned area of responsibility, consisting of one or more grazing zones within a participating community. During each survey, coordinators recorded herd size, species composition, and geographic location for livestock observed directly in the field. Mobile phone communication with herders and grazing committees was additionally used to locate livestock in inaccessible areas, neighboring grazing zones, other participating communities, or areas outside the project boundary. Further details on GC data collection protocols are provided in Section **Error! Reference source not found.**.

During livestock monitoring data analysis, livestock counts were summed for each bi-weekly interval. Any livestock unaccounted for (defined as < 15% below the annual census benchmark) were counted as $DN_{c,x}$, and days off-project were assumed to be the entire 14 days of the bi-weekly interval.

Livestock accounting was reconciled at the community level in each year *t* to ensure, conservatively, that livestock counts exceeding annual censuses in one community did not artificially compensate for undercounts in another community in the same bi-weekly interval. While it was certainly possible for livestock to move onto neighboring project-participating communities, grazing committees and coordinators reported such instances only rarely. Thus, Methodology equation 17 was modified to accommodate this within-community reconciliation

$$\sum_{x=1}^{d} DCE_x = 14 \times \sum_{j=1}^{J} \sum_{i=1}^{BW} [TCE_j \times (1 - 0.15) - CFCE_{i,j}]$$

and

$$TCE = \sum_{j=1}^{J} TCE_j$$

where:

DCE_x = *displaced number of cattle equivalent livestock on day x*

d = *total days in year t livestock were off the project area*

J = *number of communities in project area*

BW = *number of bi-weekly intervals monitored in community j in year t*

TCE_j = *total cattle-equivalent livestock in community j*

(1-0.15) = *factor to represent that livestock were considered displaced outside the project area only if corrected GC field counts were less than a threshold of 15% error in annual census.*

$CFCE_{i,j}$ = *model-corrected field cattle-equivalent livestock from the GC field surveys*

Correction of undercounts. The grazing coordinator (GC) grazing reports used to estimate $CFCE_{i,j}$ were estimates of population size[42] and should not be thought of as counting animals in enclosures as might normally occur in Western agricultural settings. Instead, animal counts involve errors due to animal sightability (animals more difficult to locate in denser bush), variation over time in effort by a single coordinator and in average effort among different coordinators, over- allocation of effort to areas unexpectedly without livestock, errors in counting animals in herds > 40 individuals, etc. As a result, a constant number of livestock might be counted differently in sequential reports and reports in general are likely to undercount by as much as 50% even with experienced observers.[43] Likewise, household surveys to determine the annual livestock census benchmark values also count animals with error because they depend on accurate reporting by heads of household and the ability to survey communities in an unbiased manner. Consequently, several assumptions were invoked in accounting of livestock numbers in the project area.

1) Benchmark livestock counts were assumed to have been matched by GC bi-weekly grazing report counts (converted to cattle-equivalents), implying no "missing" animals that could have been off the project area, if such counts were within ± 15% of the annual household census count.

2) GC bi-weekly counts were assumed to be undercounts, based on previous research counting known ungulate numbers in enclosures, and were corrected by a factor estimated by a statistical model. This model was generated by application of a Generalized Additive Model (GAM). After evaluating 10 candidate input variables, the chosen model included two factors: effort and spatial match.

a) Effort was measured as the percent of grazing blocks in a community sampled by GCs in a bi-weekly interval.

b) Spatial match was the proportion of community livestock found in a zone relative to the proportion expected in a zone from the annual household livestock census, and

The result of this statistical analysis was a correction factor for each community and bi-weekly interval multiplied by the raw livestock count (in cattle-equivalents) from the GC grazing reports.

3) Counts across zones were added to yield a community total livestock (in cattle-equivalents). This summation helped correct for situations in which livestock from one zone were found outside their zone

[42] Peña-Carmona, Genís, María Escobar-González, Michael Taylor Dobbins, et al. "Direct Counts Could Underestimate the Size of Mountain Ungulate Populations." *European Journal of Wildlife Research* 71, no. 1 (2024): 5. https://doi.org/10.1007/s10344-024-01883-3.
[43] Ibid.

(but within the same community and within the project area) and were thus undercounted in their home zone, possibly leading to an overcount in the zone they visited.

Overall, the GAM explained 68% of the variation in raw counts. Inclusion of the correction factor for each community and bi-weekly interval combination effectively increased matches (within ± 15% of total cattle equivalents) with the annual census.

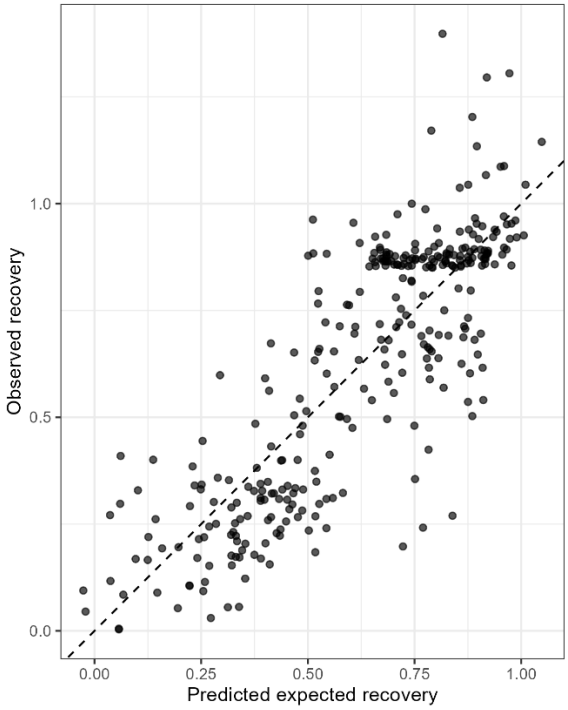


Figure 3.2-12. Generalized additive model (GAM) predicted livestock count recovery compared to observed recovery, based on annual census data. The dashed line shows 1:1 correspondence.

Constraints on monitoring

Several factors either restricted the period or area in which leakage was effectively monitored by GC field surveys.

1) ***Drought-induced stabling of livestock.*** At the project start, the East Africa region was near the end of an extended drought from failed wet seasons in late 2022 and in both early and late 2023. Accounts from grazing committees of multiple Phase I communities indicated that livestock had been almost ubiquitously returned to village bomas to be watered and fed feedstocks (hay, corn residue, etc.) and were thus not available to be counted in rangelands. This condition lasted from January-March 2024.

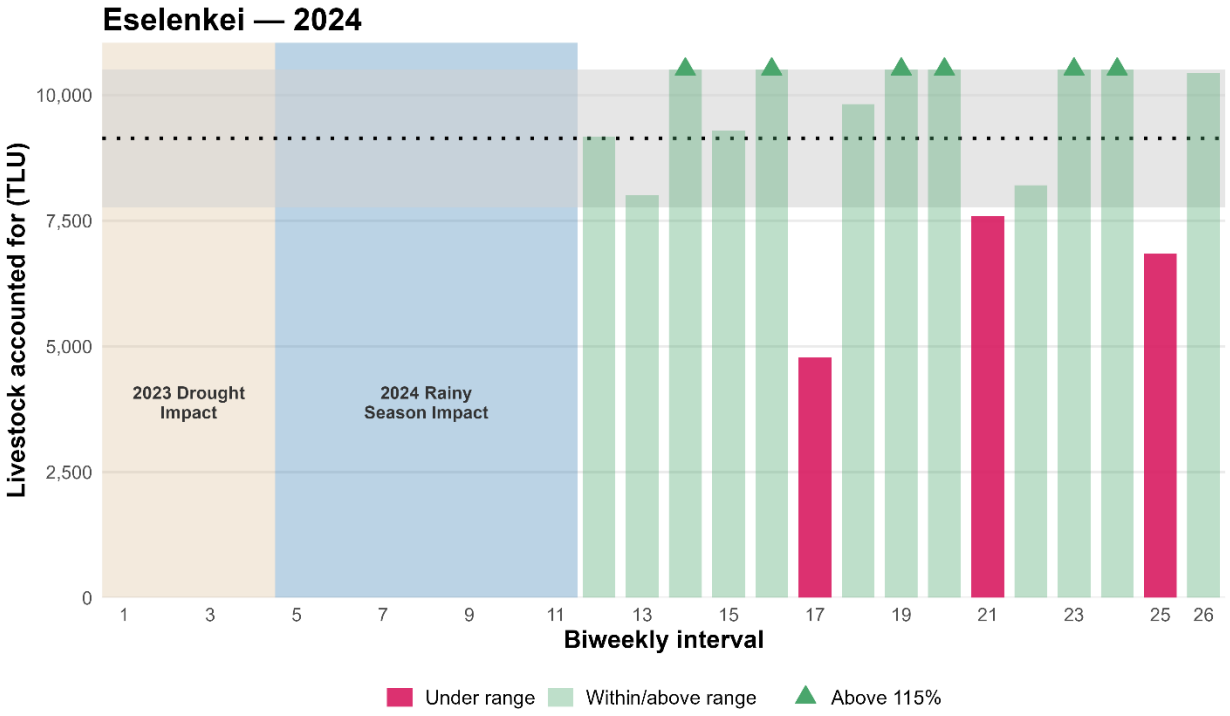
2) ***Limited monitoring during heavy rains.*** During April-May 2024, the project area received multiple days of heavy rains, leading to flooded roads and river crossings. During this period, grazing coordinators reported that they were unable to visit target grazing blocks on most days. Thus, the project was largely unable to monitor field locations of livestock, although community grazing committee reports indicated no movement of livestock off the project area. An abundance of

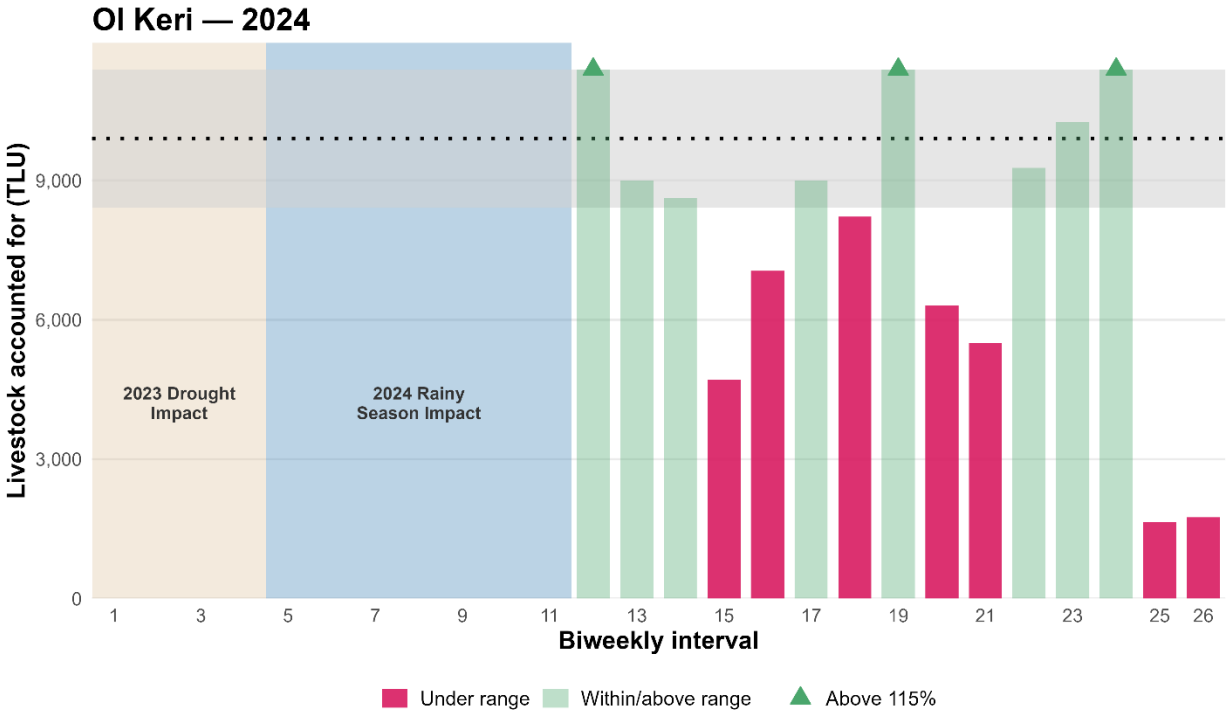
forage near bomas associated with the heavy rains plus flooded drainages disincentivized large-scale movements of livestock more than 1-2 km from bomas. Consequently, GC field surveys were not effectively conducted in Phase I communities until June 2024.

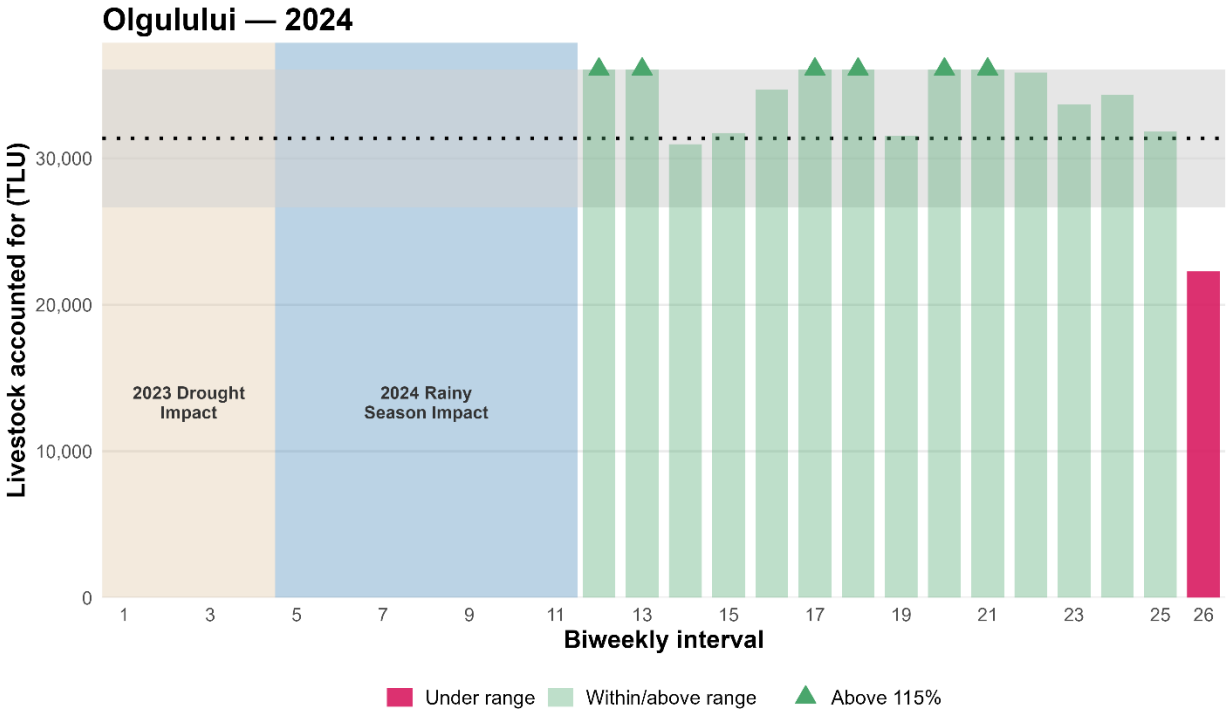
3) ***Permitted movements.*** Livestock occasionally moved off the project area as part of planned movements and with permission from the community to which they moved. Such permissions were documented with signed permission forms that declared that herders would abide by their target community grazing plans, and these animal-days spent off the project were not counted as leakage. For example, in the Magadi Soda Concession, which lies between Olkirimatian, Olkeri, and Shompole communities, the Maasai have been allowed to build bomas and herd their livestock on concession lands for decades. These concession lands were included in the RRG plans for all three communities. In any case use of concession lands was not considered leakage, though no carbon removals were quantified or claimed for Magadi Concession lands.

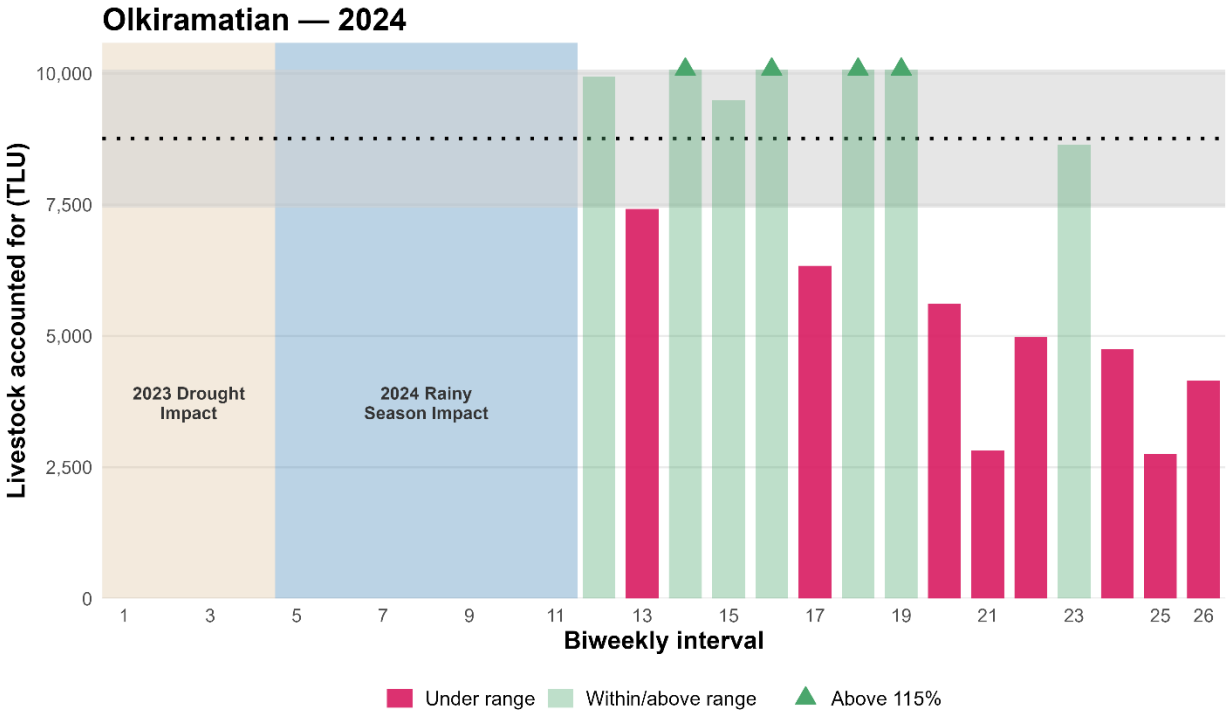
4) ***Mid-year start of Phase II monitoring.*** Phase II communities did not complete their RRG plans and hiring of grazing coordinators until April-May 2025. Consequently, GC field surveys did not begin in Phase II communities until April 2025, and animal-days were calculated for only a portion of the year.

Figure 3.2-13 and Figure 3.2-14 demonstrate the temporal pattern of corrected field cattle-equivalent livestock for each of the 8 participating communities over the monitoring period June 2024 – December 2025. Table 3.2-14 provides the estimated total cattle-equivalent animal-days and total displaced cattle-equivalent livestock for each community and their sum for each year. The data in this table were used to estimate leakage from the project area for each year using the modified version of Methodology equation 17. By interval 15 (July) in 2025 as the monitoring system matured, livestock counts consistently matched census totals in all communities, even prior to correction.


Eselenkei — 2024
Livestock accounted for (TLU)
10,000
7,500
5,000
2,500
0
2023 Drought Impact
2024 Rainy Season Impact
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Ol Keri — 2024
Livestock accounted for (TLU)
9,000
6,000
3,000
0
2023 Drought Impact
2024 Rainy Season Impact
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Olgulului — 2024
Livestock accounted for (TLU)
30,000
20,000
10,000
0
2023 Drought Impact
2024 Rainy Season Impact
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Olkiramatian — 2024
Livestock accounted for (TLU)
10,000
7,500
5,000
2,500
0
2023 Drought Impact
2024 Rainy Season Impact
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%

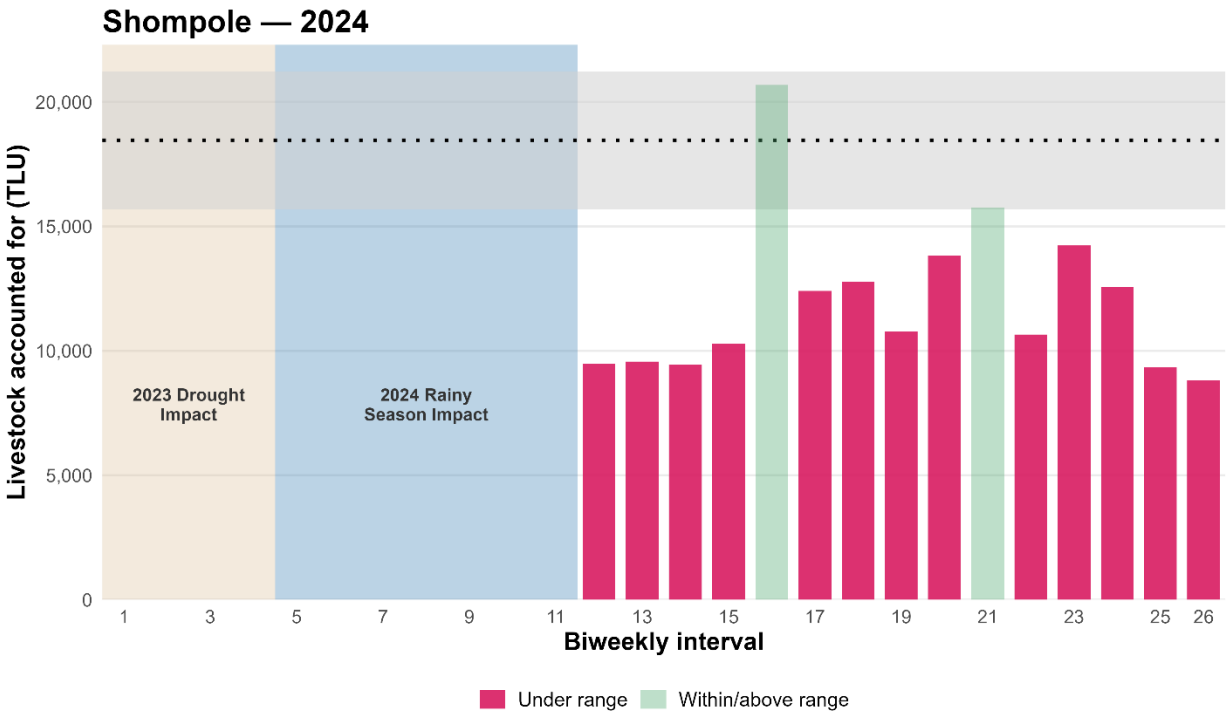
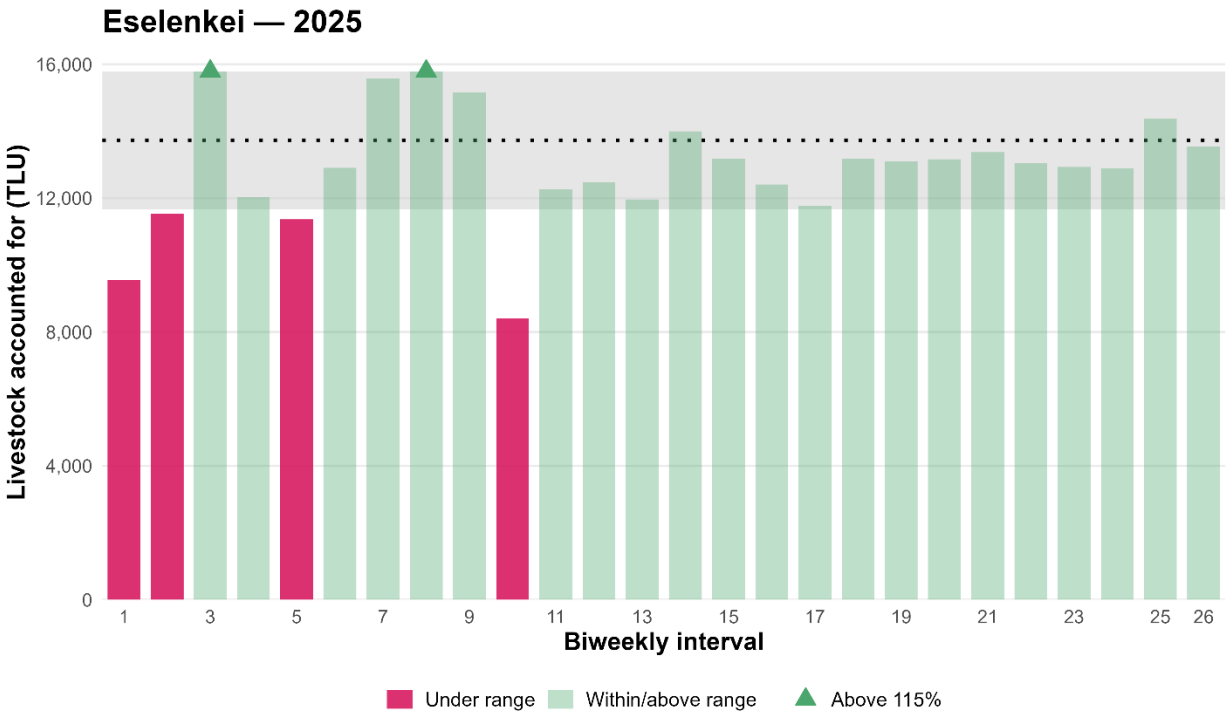
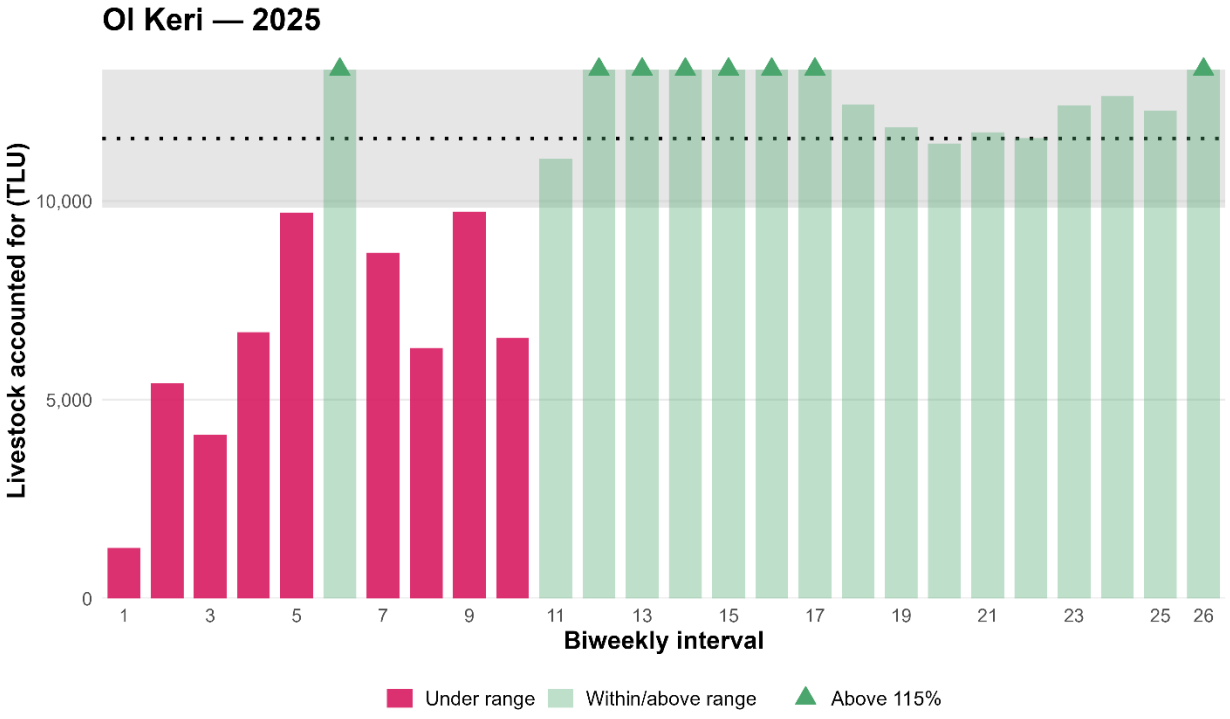
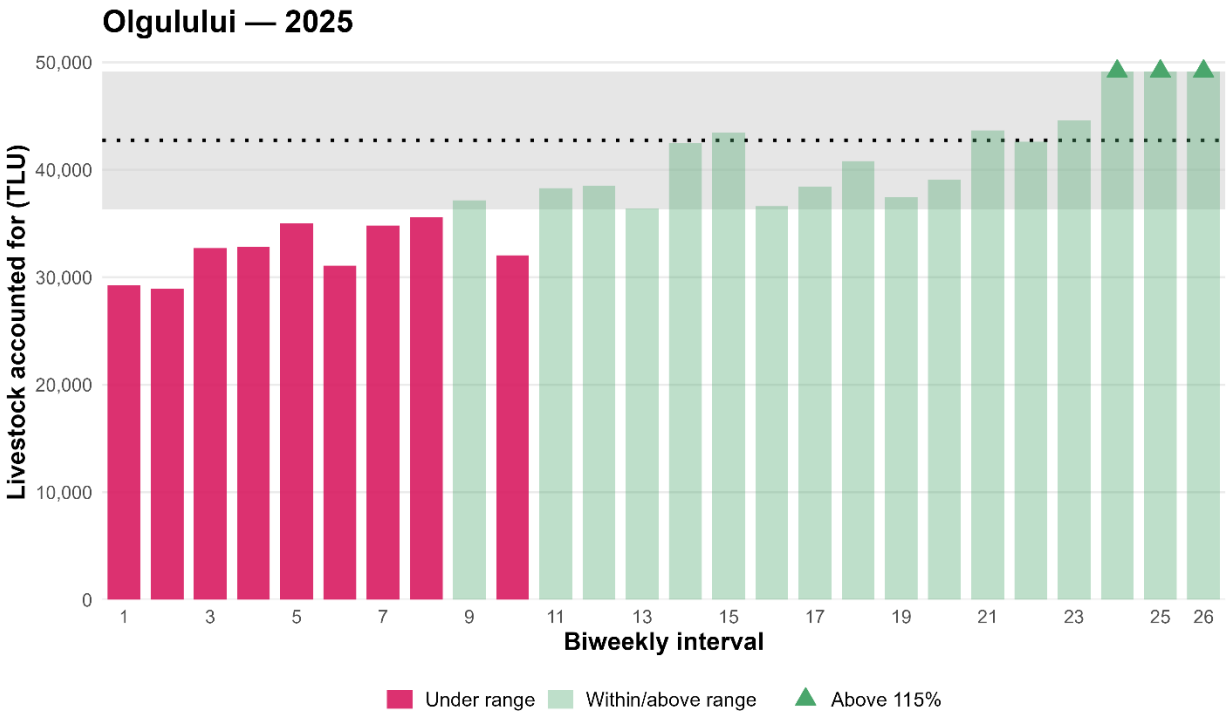
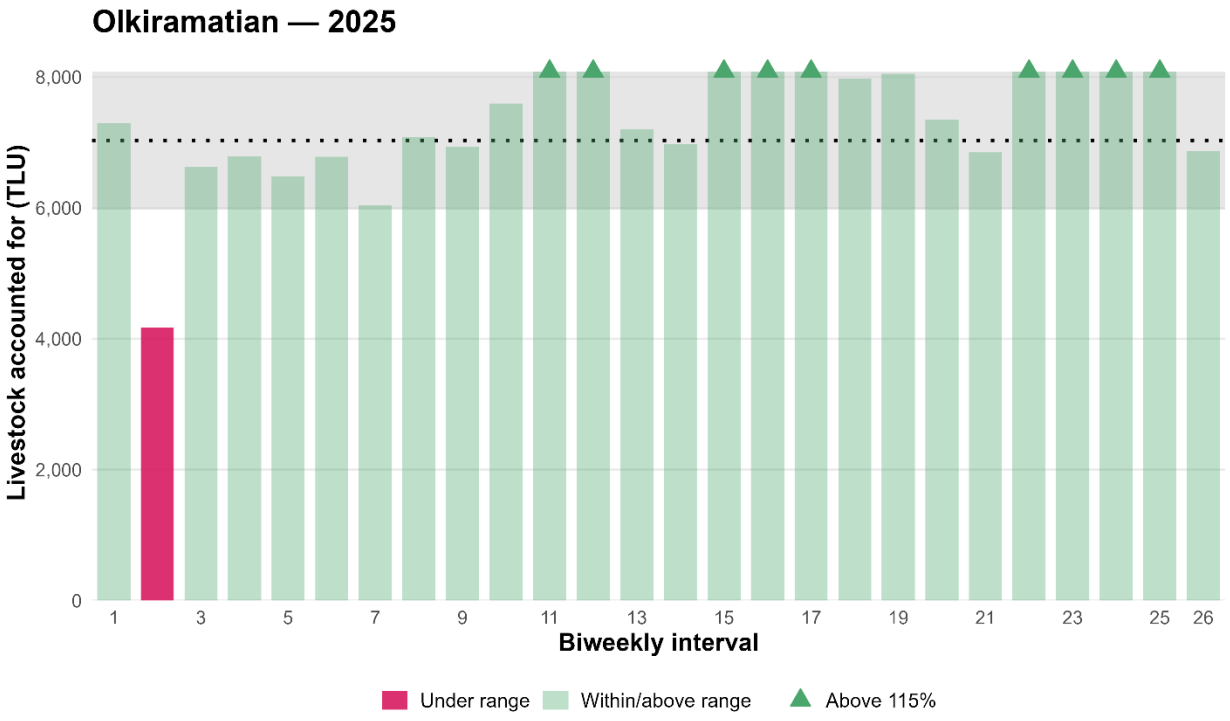


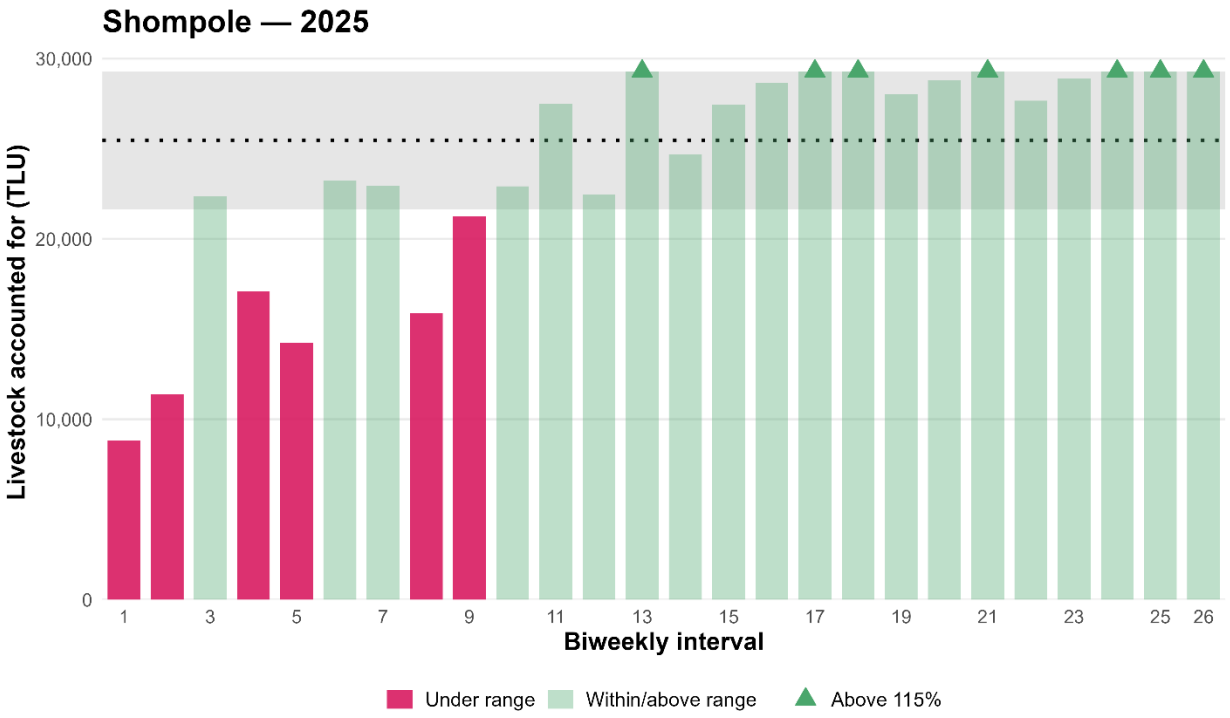
Figure 3.2-13. Corrected GC field counts, as cattle-equivalent livestock, relative to annual census cattle-equivalent livestock across bi-weekly intervals in monitoring year 2024 for each participating community in the Kajiado Rangelands Carbon Project. The grey ribbon represents the annual livestock census benchmark and 15% above and below this value. Triangles indicate where overcounts have been truncated. Red histogram bars indicate bi-weekly intervals with undercounts (below the annual census – 15%) and hence intervals with leakage, green bars indicate counts within the acceptable error range for matching the annual census and in which no leakage occurred.

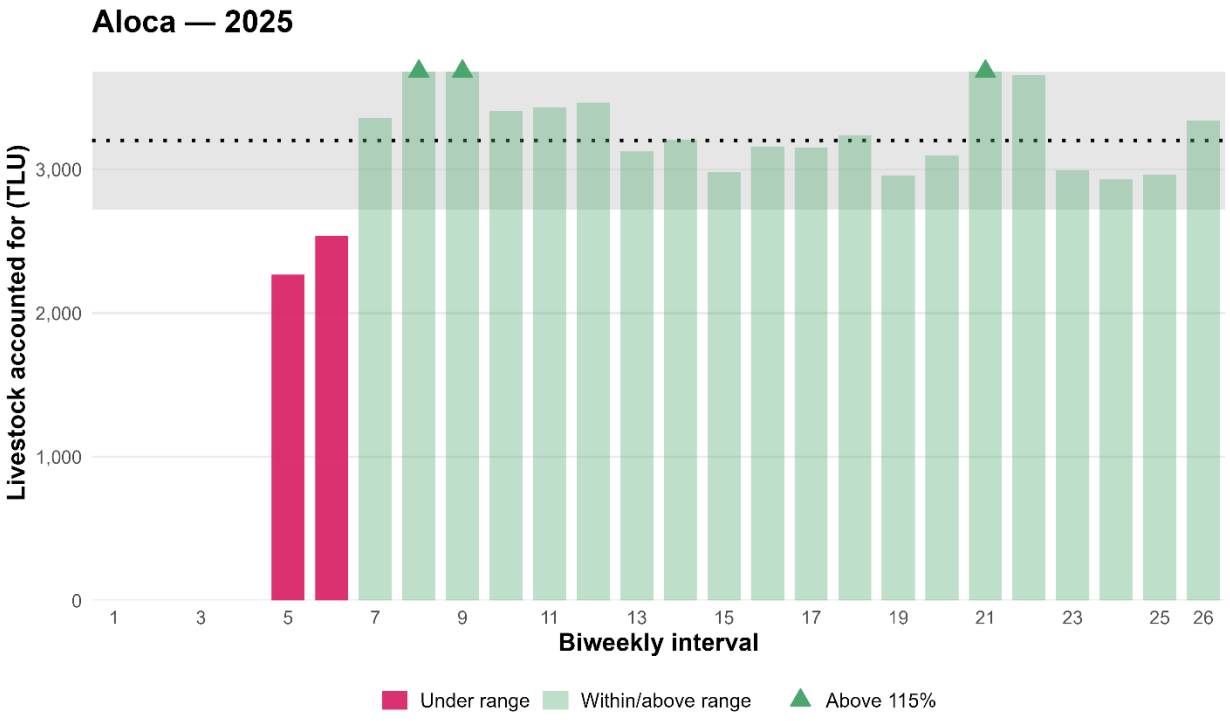

Eselenkei — 2025
Livestock accounted for (TLU)
16,000
12,000
8,000
4,000
0
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Ol Keri — 2025
Livestock accounted for (TLU)
10,000
5,000
0
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Olgulului — 2025
Livestock accounted for (TLU)
50,000
40,000
30,000
20,000
10,000
0
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Olkiramatian — 2025
Livestock accounted for (TLU)
8,000
6,000
4,000
2,000
0
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Shompole — 2025
Livestock accounted for (TLU)
30,000
20,000
10,000
0
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%


Aloca — 2025
Livestock accounted for (TLU)
3,000
2,000
1,000
0
1
3
5
7
9
11
13
15
17
19
21
23
25
26
Biweekly interval
Under range
Within/above range
Above 115%

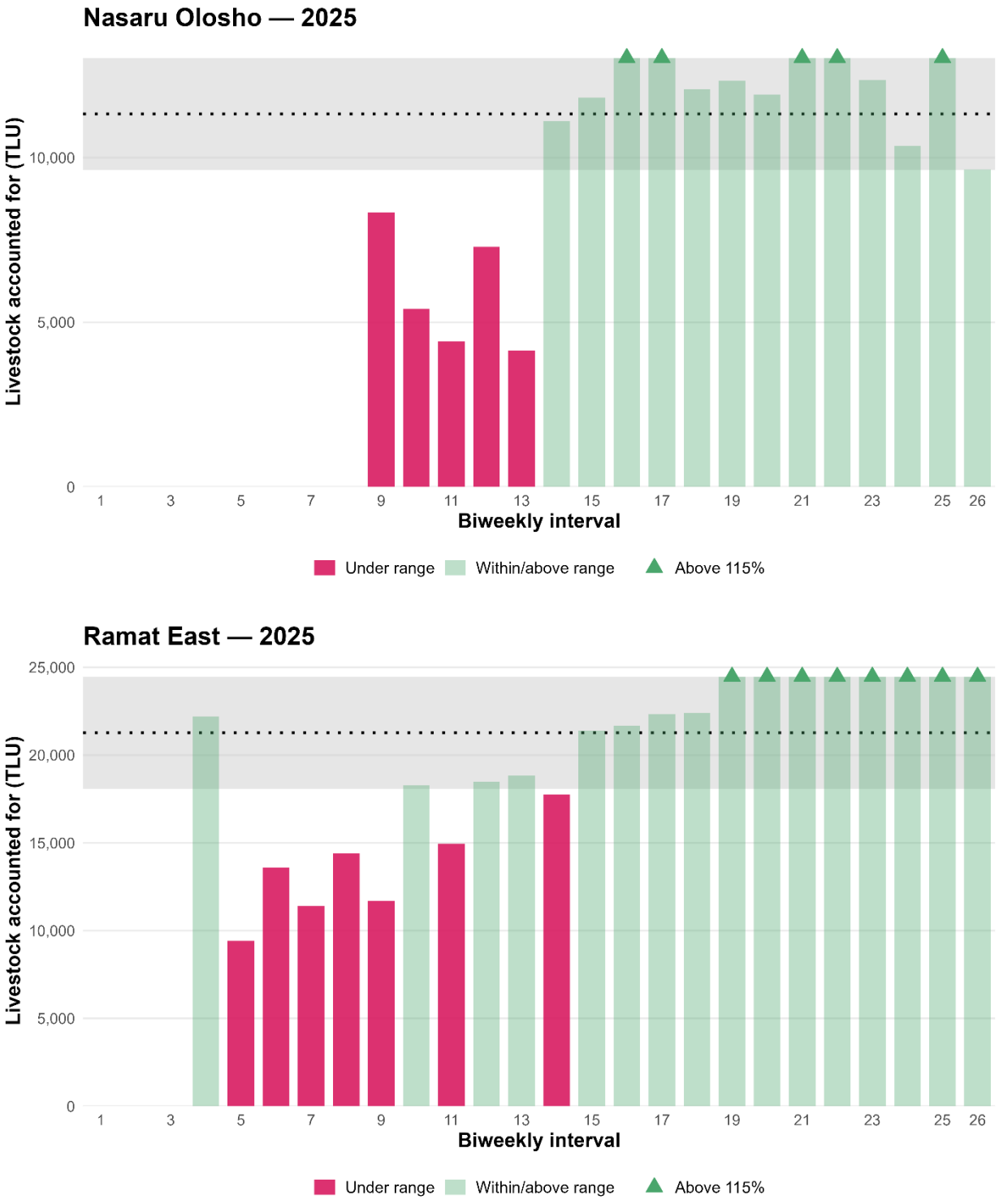


Figure 3.2-14. Corrected GC field counts, as cattle-equivalent livestock, relative to annual census cattle-equivalent livestock across bi-weekly intervals in monitoring year 2025 for each participating community in the Kajiado Rangelands Carbon Project. The grey ribbon represents the annual livestock census benchmark and 15% above and below this value. Triangles indicate where overcounts have been truncated. Red histogram bars indicate bi-weekly intervals with undercounts (below the annual census – 15%) and hence intervals with leakage, green bars indicate counts within the acceptable error range for

matching the annual census and in which no leakage occurred. By interval 15 (July 2025), corrected counts consistently match census totals in all communities.

Table 3.2-15. Estimated total animal days and displaced animal-days for the years 2024 and 2025 and each community participating in the Kajiado Rangelands Carbon Project.

	2024				
	Intervals Monitored	Annual Census-Based Animal Count (TLU)	Annual Displaced Animal Count (TLU)	Total Census-Based Animal-Days	Total Displaced Animal-Days
Eselenkei	15	7,772	4,095	1,920,157	57,325
Olkeri	15	8,420	23,757	2,080,122	332,598
Olgulului	15	26,674	4,388	6,590,038	61,431
Olkiramatian	15	7,449	20,784	1,840,235	290,971
Shompole	15	15,695	59,867	3,877,673	838,133
Total		66,009	112,890	16,308,225	1,580,458
				% Displaced Animal-Days	9.69%
	2025				
Eselenkei	26	13,730	5,824	4,997,900	81,541
Olkeri	26	11,575	30,045	4,213,223	420,632
Olgulului	26	42,753	34,700	15,562,272	485,795
Olkiramatian	26	7,032	1,806	2,559,508	25,287
Shompole	26	25,474	41,222	9,272,356	577,107
ALOCA	22	3,202	640	986,186	8,957
Nasaru Olosho	18	11,335	18,565	2,856,340	259,913
RAMAT East	23	21,280	33,422	6,852,177	467,909
Total		136,381	166,224	47,299,962	2,327,141
				% Displaced Animal-Days	4.92%

3.2.4. GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

Table 3.2-16. Net carbon removals and claimed credits for the KRCP in 2024 and 2025. Key: BEM = Baseline Enteric Methane; BEBB = Baseline Biomass Burning; UBE = Uncertainty in Baseline Emissions; PEM = Project Enteric Methane; UPE = Uncertainty in Project Emissions; PEBB = Project Biomass Burning; (U)PRS = (Uncertainty in) Project Removals due to Changes in Carbon Stocks; NR = Net Emission Reductions and Removals; LE = Leakage Emissions; and UT = Total Project Uncertainty. All units are in tCO2e, except when noted. Per VM32 8.2.1, net credit calculation does not include reductions from reduced methane emissions. *Assumes average probability of fire remains equal to the baseline

Year	Area (ha)	BEM	BEBB	UBE	PEM	UPE	PEBB*	PRS	UPRS	NR	Non-Permanence Buffer	LE	Net Credits	UT
2024	315,491	151,097	0	7.38%	144,718	6.36%	0	559,608	5.58%	559,608	117,518	54,233	387,857	3.70%
2025	478,937	174,593	0	7.93%	202,625	6.35%	0	832,154	7.10%	804,122	174,752	40,942	588,428	4.88%

State the non-permanence risk rating (%)	21%
Has the non-permanence risk report been attached as either an appendix or a separate document?	x Yes ☐ No
For ARR and IFM projects with harvesting, state, in tCO2e, the Long-term Average (LTA).	Not applicable
Has the LTA been updated based on monitored data, if applicable?	Not applicable
State, in tCO2e, the expected total GHG benefit to date.	2024: 505,375 tCO2e (net removals before buffer deduction) 2025: 763,180 tCO2e (net removals before buffer deduction) Total: 1,268,555 tCO2e (net removals before buffer deduction)
If a loss occurred (including a loss event or reversal), state the amount of tCO2e lost:	Not applicable

Vintage period	Baseline emissions (tCO_2e)	Project emissions (tCO_2e)	Leakage emissions (tCO_2e)	Buffer pool allocation (tCO_2e)	Reductions VCUs (tCO_2e)	Removals VCUs (tCO_2e)
01-Jan-2024 to 31-Dec-2024	151,097	144,718	54,233	117,518	0	387,857
01-Jan-2025 to 31-Dec-2025	174,593	202,625	40,942	174,752	0	588,428
Total	325,690	347,343	95,175	292,270	0	976,285

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference

01-Jan-2024 to 31-Dec-2024	507,136	505,375	-0.3%	1. Crediting area was ~23,000 ha smaller than estimated ex ante because four Ramat East communities were excluded from crediting due to insufficient monitoring data. 2. This reduction was offset by greater-than-anticipated implementation of RRG practices in the remaining Phase I communities, with ~55% of grazing lands rested and livestock movements exceeding five pastures, resulting in greater SOC removal rates than projected.
01-Jan-2025 to 31-Dec-2025	685,497	763,180	10.7%	1. All eligible Phase I and Phase II communities were implementing RRG practices and are included in crediting, increasing the credited project area relative to 2024. 2. RRG implementation exceeded ex ante expectation, with nearly half of grazing lands rested and livestock movements exceeding five pastures. 3. Displacement leakage (4%)
Total	1,192,633	1,268,555	6.2%	1. Greater-than-anticipated implementation of RRG practices across participating communities increased SOC removals above ex ante estimates. 2. Displacement leakage remained substantially

				below the conservative ex ante assumption.

3.3. Optional Criterion: Climate Change Adaptation Benefits

3.3.1. Activities and/or processes implemented for Adaptation (CCB, GL1.3)

3.3.1.1. Capacity building for sustainable grazing

KRCP has employed grazing coordinators (GCs) since March 2023, reaching a peak of 40 people employed at the end of 2025 and 49 different employees since the project start (Figure 3.1-1). GCs are recruited from the communities in which they will be working and are trained in RRG monitoring and reporting. In several cases, GCs have been recruited to soil sampling field teams. GC training includes:

- Identification of wet and dry season grazing blocks
- Grazing plans for cattle and other livestock
- Desired livestock grouping and movements
- Rangeland rest and growth curves
- Estimation of livestock counts within grazing blocks
- Measuring herd clustering through laser rangefinder measurements
- Measuring livestock distance and heading from settlements
- Identifying discrepancies between counted livestock and existing community livestock census
- Data entry using a tablet and survey app
- Managing grazing conflicts
- Free, prior, and informed consent (FPIC)
- Team building, first aid, and fire prevention

Rising temperature and changing seasonal partitioning of rainfall are expected to challenge rangeland management in Kenya.[44,45,46] RRG is a tool to restore rangelands and provides climate change adaptation benefits to communities and biodiversity through increased soil carbon[47,48], improved vegetative condition[49], and enhanced soil water retention capacity[50], allowing rangeland vegetation to persist through increasingly extreme drought. The training and accumulated experience of the GCs can benefit grazing communities practicing RRG to adapt to climate change. For example, GCs are trained to identify and record key indicators of sustainable grazing such as grass height, stocking density and periods of rest. These indicators can be used to plan and track climate adaptations. Most importantly, GCs are the face of the project in the community. They travel by motorbike across grazing zones every two weeks and track grazing patterns. They contribute to a community infrastructure for sharing information between herders, grazing committees, and centralized organizations like Soils for the Future Africa. This community infrastructure can be leveraged to help adapt to climate change.

3.3.1.2. Increased vegetation resilience to drought

Even at this early stage in the project, ecosystem benefits are measurable. We received multiple reports after the 2026 long rainy season (March – May) that vegetation regrowth was exceptional. During an April 2026 site visit to KRCP and a neighboring carbon project in Tanzania managed by the same project proponent, we heard accounts that by this time of year, herders would have crossed the border looking for fresh pasture, but didn't need to this year (T. Tear, personal communication).

These observations are supported by a remote sensing analysis of forage biomass response to precipitation. Using Google Earth Engine, we obtained precipitation data from Climate Hazards Center Infrared Precipitation with Stations (CHIRPS v3), gridded at 0.05° and Normalized Difference Vegetation Index (NDVI) from the Moderate Resolution Imaging Spectroradiometer (MODIS) MOD13Q1 V6.1 Vegetation Index product at 250 m resolution. These same sources were used at project validation for remote sensing analyses and soil carbon modeling. The datasets were aggregated by month, using summation for precipitation and averaging for NDVI. The aggregations were then spatially averaged over

[44] Brian Ayugi et al., "Evaluation of Meteorological Drought and Flood Scenarios over Kenya, East Africa," *Atmosphere* 11, no. 3 (March 21, 2020): 307, https://doi.org/10.3390/atmos11030307 (Accessed July 14, 2026).
[45] Victor Ongoma and Haishan Chen, "Temporal and Spatial Variability of Temperature and Precipitation over East Africa from 1951 to 2010," *Meteorology and Atmospheric Physics* 129, no. 129 (May 21, 2016): 131-44. https://doi.org/10.1007/s00703-016-0462-0 (Accessed July 14, 2026).
[46] Mark E. Ritchie, "Global Climate Change and the Serengeti," in *Sinclair, A.R.E., Packer C., Mduma S.A.R., and Fryell, J.M. (Editors) Serengeti III: Human Impacts on Ecosystem Dynamics.* (Chicago (Ill.): University of Chicago Press, 2008).
[47] Chaplot, Dlamini, and Chivenge, "Potential of Grassland Rehabilitation through High Density-Short Duration Grazing to Sequester Atmospheric Carbon." (June 1, 2016).
[48] David C. Johnson et al., "Adaptive Multi-Paddock Grazing Management's Influence on Soil Food Web Community Structure for: Increasing Pasture Forage Production, Soil Organic Carbon, and Reducing Soil Respiration Rates in Southeastern USA Ranches," *PeerJ,* no. 10 (July 19, 2022): e13750, ttps://doi.org/10.7717/peerj.13750 (Accessed September 19, 2025).
[49] Ritchie et al., "Increased Pastoralist Livestock Mobility Is Associated with Large-Scale Rangeland Restoration and Soil Carbon Sequestration.," February 20, 2024.
[50] Apfelbaum et al., "Vegetation, Water Infiltration, and Soil Carbon Response to Adaptive Multi-Paddock and Conventional Grazing in Southeastern USA Ranches." April 15, 2022.

each community in the PAI, and PAI-wide simple averages were computed across Phase I and Phase II communities. Datasets were masked to only include eligible areas used for crediting. This procedure was repeated for every year from the start of the baseline period to the end of the monitoring period to produce an analysis dataset.

The analysis dataset provided two ways to show changes in vegetation response to precipitation over time. First, precipitation and NDVI in ungrazed reference areas were averaged across years by month, which revealed a 15-45 day lag between precipitation and vegetation response. Based on this lag, normalized NDVI was computed as the ratio of NDVI: previous month rainfall and was plotted as a time series for PAI communities (Figure 3.3-1). This analysis showed a relatively constant normalized NDVI over time, except in years directly following droughts, for which it doubled. We attribute this doubling to the increase of bare ground and decline in livestock during droughts. When water limitation ends, other resources like light and nutrients are readily available, stimulating rapid regrowth even for small levels of rainfall. After the droughts when pastoralists were forced to travel to find suitable pasture, these distant rangelands are not visited and can regrow without grazing competition. The only year not following a drought in which normalized NDVI doubled was 2025, the second year of project implementation. These early results are consistent with expected vegetation resilience and increased primary production caused by RRG.

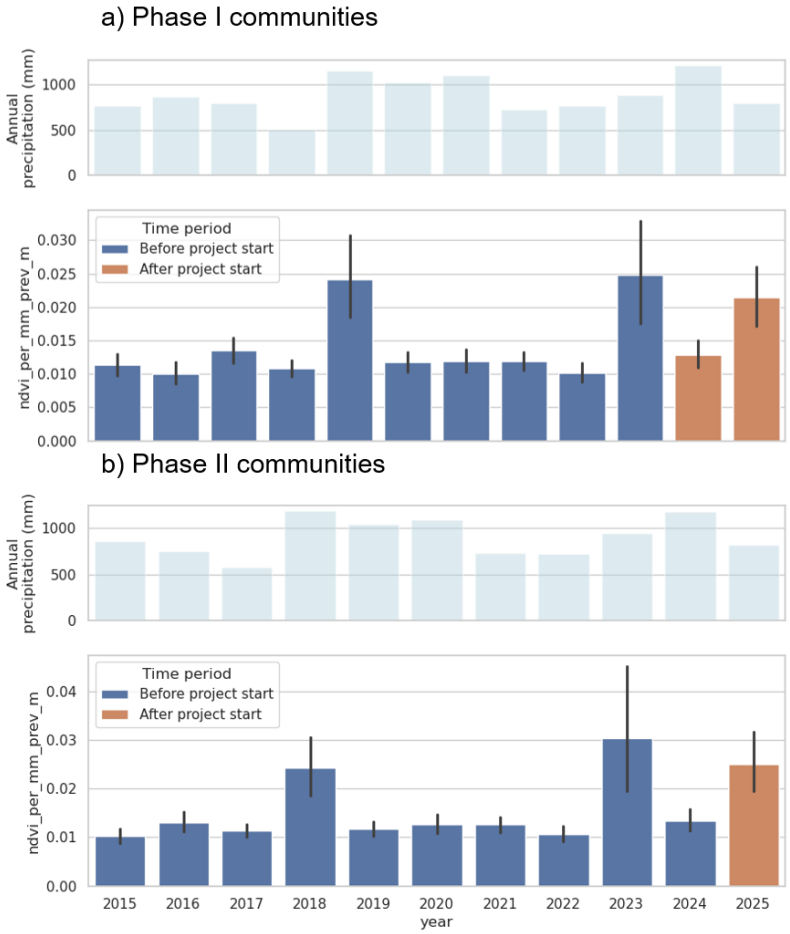


Figure 3.3-1. Monthly NDVI per mm of prior month rainfall in Phase I strata show increased vegetation productivity after the project start for Phase I (a) and Phase II (b) communities. Error bars give the 95% confidence interval using 1,000 bootstrapped samples of unique conservancy – month combinations. In 2018 and 2023 after droughts, rainfall-corrected NDVI was unusually high as vegetation grew back. 2025, after the project start, was the second-greatest year on record for rainfall-corrected NDVI, and it did not even follow a drought.

Second, NDVI was corrected for precipitation using linear regression. NDVI was regressed against previous month's precipitation (P_{t-1}) with an intercept:

$$NDVI_t \sim P_{t-1}$$

The model was fit on baseline data yielding an r^2 of 0.48 and $p << 0.01$. It was then applied to the entire time series, and the residual was calculated as actual – modeled NDVI. Once again, both project years were exceptional due to their anomalously high residual values and these values occurring in adjacent years (Figure 3.3-2). Since the model was trained during baseline continuous grazing, we interpret these high residuals as indicating greater vegetation biomass than would be expected from rainfall during continuous grazing. This analysis also is consistent with the effects of RRG and demonstrates rangeland resilience to moderate rainfall years like 2025.

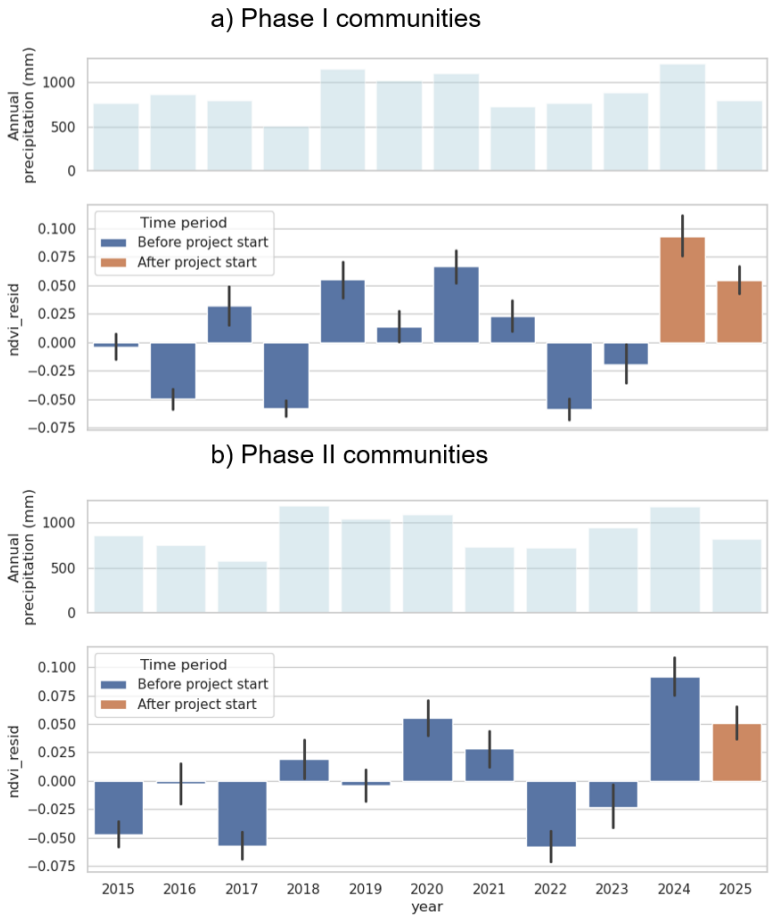


Figure 3.3-2. Residual NDVI from a linear model of NDVI based on previous month rainfall is aggregated annually over all Phase 1 (a) and Phase II (b) communities and months of the year. Error bars show the 95 % confidence interval from bootstrapping. The two project years (orange) had exceptionally high NDVI relative to the model. 2025 was a moderate year for annual precipitation (top), but still had a high, positive NDVI residual.

These ecosystem benefits were envisioned as the project's main contribution to climate resiliency. As stated in the PDD: "Increased vegetation growth and soil carbon will directly benefit the climate adaptability of local communities and wildlife due to the availability of better forage and the increased water storage capacity of more carbon-rich soils." Grass reserves that persist longer into drought periods can help mitigate food insecurity and displacement, such as after the 2020-2023 drought.

While there has been no extreme drought during the project, the 2025 failure of the short rainy season resulted in moderate annual rainfall. Even so, by both NDVI measures, vegetation grew successfully in 2025. This growth is corroborated by reports of unexpected rangeland productivity. Herders described finishing their annual rotation schedule early due to lack of rain, yet deciding to re-visit the blocks rather than move herds outside of their conservancy, as they normally would. They were pleased to find abundant grass and less bare ground than when they left (T. Tear, personal communication). As the project continues, we expect additional evidence showing the positive impact grazing modification has had on the landscape.

4. COMMUNITY

4.1. Net Positive Community Impacts

4.1.1. Community Impacts (CCB, CM2.1)

Community group	**Maasai Pastoralists in the CCB Project Zone**
Impact 1	Increased food security
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	The proportion of households reporting a day with no food of any kind in the past 30 days was lower in the 2025 monitoring round (47.6%) than at baseline (53.2%), the proportion reporting that children drank milk on the previous day was substantially higher (78.7% vs 41.2%), and meat consumption in the past 7 days was higher (59.5% vs 56.6%). Part of the difference reflects recovery from the severe 2020–2023 drought; the direction of difference is nonetheless consistent across PAIs and community groups, indicating an early positive shift in food security.
Impact 2	More stable/increased income
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	Median household herd size was higher in the 2025 round in all six PAIs (e.g., Eselenkei 5.83 to 7.74 cattle-equivalents; Olgulului 5.17 to 7.56; Olkeri 6.50 to 8.05; Shompole 6.37 to 6.90; RAMAT East 7.96 to 9.60 on a like-for-like basis across the four monitored conservancies (Elesai, Osewan, Murtuna, Oltepesi)[51]. The proportion of households selling livestock in the past three months was higher in 2025 (77.8% vs 72.4%), as was the proportion of selling milk in the past two weeks (26.6% vs 18.6%), indicating an early positive shift in income stability. Median reported annual household income was KSh 144,000 in the 2025 round against KSh 100,000 at baseline (nominal values; part of the difference reflects recovery from the 2020–2023 drought — see Section 4.3.1), and the share of households naming livestock activities

[51] For this round of survey data Ilesai, Osewan, Oltepesi and Murtuna were the only communities considered in the sampling design.

	as their first income source rose from 70.0% to 75.6%, indicating recovering confidence in the primary pastoral livelihood.
Impact 3	Increased employment opportunities
Type of benefit/cost/risk	Actual direct benefit
Change in well-being	Across the project's establishment and first monitoring period, the project engaged approximately 410 people in paid roles recruited from members of participating communities: 70 full-time staff (including 49 grazing coordinators drawn from participating communities), 85 short-term contract staff for survey and monitoring work in 2024–2025, and 255 household-survey enumerator engagements across the 2023 baseline and 2024–2025 monitoring rounds. The large majority were held by members of participating Maasai communities, and 85 engagements (about 21%) were held by women. Date of birth was recorded for full-time staff only: of the 69 with a recorded date of birth, 47 (68%) were aged 18–35 at the period end (median age 32); date of birth was not recorded for short-term contract and enumerator roles, so age is not disaggregated for those roles in this period. The project will record date of birth at engagement in future rounds. This is an actual, realized benefit of the project.
Impact 4	Improved education access
Type of benefit/cost/risk	Actual direct benefit; supported by education bursaries funded through the advance payments distributed during the monitoring period (see Change in well-being below).
Change in well-being	Although carbon credits had not yet been issued or sold, the project distributed advance payments of US$2/ha to participating communities during the monitoring period. KSh 166.6 million of distributions recorded across the six PAIs under community fiscal years 2024 and 2025 (each community's fiscal year runs from the anniversary of its BSA/Carbon Rights Transfer signature), of which KSh 43.0 million was allocated by communities to education bursaries reaching at least 4,660 recorded recipients. Documented FY2024 disbursements include KSh 7,000,000 to 1,400 students in Shompole and KSh 2,500,000 to 500 students in Olkeri, in each case through community-defined eligibility criteria and selection committees (full per-community figures are given in the pre-payment evidence register accompanying this report). Household demographic surveys corroborate improving education access: among children aged 6–17, school attendance was higher in 2025 (83.8%) than at baseline (76.5%), the never-attended share fell from 18.4% to 12.6%, and attendance among 14–17-year-olds, the ages most at risk of leaving school, rose from 71.8% to 78.0% (Section 4.3.1, education-attendance indicators).
Impact 5	Improved health care access

Type of benefit/cost/risk	Predicted direct benefit — per the PDD, driven by carbon-revenue-funded healthcare; this carbon-revenue-funded component had not commenced during the monitoring period (advance payments were allocated primarily to education, governance and community operations). Early health signals observed this round operate through the separate food-security and nutrition pathway (Impact 1), not through carbon-revenue-funded services.
Change in well-being	The carbon-revenue-funded component of this impact — health facilities and services funded from carbon revenue — is a predicted benefit that had not commenced during the monitoring period. Improved health nonetheless has an early, project-linked pathway that the PDD identifies under food security and nutrition: greater availability of meat and milk (Impact 1) supports better nutrition and health. Consistent with that pathway, the proportion of households reporting illness or injury in the past month was lower in 2025 (44.7%) than at baseline (50.7%), tracking the round's nutrition gains (children's-milk 41.2% to 78.7%; Impact 1) alongside recovery from the 2020–2023 drought. Care-seeking among ill households remained near-universal across the population (93.7% at baseline and 93.1% in 2025 at a formal facility), the hospital share of ill households rose from 25.5% to 30.6%, and untreated illness stayed below 3% in both rounds (Section 4.3.1). The reduction in reported illness is reported as early, indirect evidence operating through the nutrition pathway; the carbon-revenue-funded health-care-access benefit itself remains predicted, pending distribution of carbon revenue to health services.
Impact 6	Preservation of cultural traditions
Type of benefit/cost/risk	Actual direct benefit (early evidence); stems from the implementation of rapid rotational grazing, which mimics traditional Maasai grazing patterns in the region, and was assessed in the first round of repeat community impact monitoring (2025 against the 2023/24 baseline; Section 4.3.1).
Change in well-being	In the 2025 round, 76.1% of households reported understanding how rapid rotational grazing (RRG) is being implemented and 66.6% reported participating in RRG as directed by their grazing committee (2025 levels; the corresponding 2023 questions measured intended rather than actual participation and are not directly comparable). Sustained participation in a grazing system that mirrors traditional Maasai rotational practice is an early indicator of this benefit, and 98.8% of responding households rated the RRG plan as helpful in 2025. The traditional livestock-gifting network, a core institution of Maasai mutual aid, strengthened markedly: households reporting having given a milking cow or goat for another family's wellbeing in the past year rose from 35.9% at baseline to 51.9% in 2025, and those receiving such an animal from 21.5% to 31.3% (Section 4.3.1, livelihood tables). Community-cohesion perceptions remained high through the first distributions: households rated the sense of peace in their community

	at a mean of 8.6 out of 10 at baseline and 8.4 in 2025, and community unity at 8.6 and 8.8 — with unity among female-headed households rising to 9.1 (comparable ten-point scales; Section 4.3.1). Community perception of this benefit is being assessed directly in the 2025 monitoring-round focus-group discussions being carried out in 2026, with the synthesis incorporated on completion.
Impact 7	Increased sustainability of livestock management
Type of benefit/cost/risk	Actual indirect benefit (early evidence); a longer-term outcome underpinned by the gains in herd productivity and food security reported above, which sustains community commitment to rapid rotational grazing.
Change in well-being	Early evidence across the measures that constitute sustainable livestock management is positive: median household herd size (cattle-equivalents) was higher in all six PAIs and the share of households owning livestock rose from 88.4% to 95.0%, indicating herds growing under rapid rotational grazing while stocking remained within carrying-capacity thresholds (Impact 8 below; Section 3.1.2); food security improved (no-food day 53.2% to 47.6%; children's milk 41.2% to 78.7%); and no drought-forced livestock migrations were reported during the monitoring period, consistent with the intended reduction in distress movement as forage near settlements recovers. The durability of these gains remains a longer-term outcome to be tracked across successive monitoring rounds.
Impact 8	Overstocking
Type of benefit/cost/risk	Predicted, indirect risk, as it would stem from increases in forage availability from project activities.
Change in well-being	An intended outcome of RRG is that improved forage supports larger, healthier herds; the risk identified in the PD is that herd growth could exceed the carrying capacity of project rangelands. The annual livestock census recorded herd growth in five of six initial PAIs between 2023 and 2025 (cattle-equivalents: Eselenkei 9,755 to 16,873; Olgulului 43,940 to 51,576; Olkeri 11,499 to 14,093; Shompole 21,664 to 30,733; Olkiramatian declined 11,746 to 8,162), consistent with the productivity gains intended under RRG. Stocking rates are assessed against carrying capacity through the forage and grazing-plan monitoring described in Section 3.1.2, which indicates stocking remained within sustainable levels in all current PAIs during the monitoring period.
Impact 9	Increased human and wildlife interactions
Type of benefit/cost/risk	Predicted, indirect risk as it would stem from increases in forage availability, which would attract large herbivores and their predators to the Project Area.

Change in well-being	No wildlife-conflict incidents attributable to project activities were reported in any PAI during the monitoring period. The project maintained coordination with local wildlife organizations working on conflict reduction (Section 4.2.1).
Impact 10	Unequitable distribution of carbon revenues.
Type of benefit/cost/risk	Predicted direct risk, as carbon revenue distribution is under the direct purview of the project. While carbon credits had not yet been issued or sold, advance payments of US$2/ha were distributed during the monitoring period, so the safeguards described in Section 4.1.2 were actively applied.
Change in well-being	Advance payments of US$2/ha were distributed during the monitoring period against community-submitted budget proposals endorsed by women and youth representatives, with community selection committees applying need-based eligibility criteria for bursaries and SftFA financial review of allocations. Awareness of the benefit-sharing mechanism was 77.1% population-wide in the 2025 round (86.0% at baseline); the project is intensifying benefit-sharing sensitization as distributions scale (Section 4.3.1).

Community group	**Maasai Women**
Impact 1	Improved nutrition
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	Among women respondents, the proportion reporting that children drank milk the previous day was much higher in 2025 (78.6%) than at baseline (41.7%), and the proportion reporting a no-food day in the past 30 days was lower (47.7% vs 53.9%), indicating an early positive shift in nutrition.
Impact 2	More stable/increased income
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	The proportion of households selling milk in the past two weeks — an income stream predominantly controlled by women — was higher in 2025 (26.8%) than at baseline (18.6%). Household herd size, the asset base underpinning women's dairy income, was higher across all six PAIs, and median reported annual household income rose from KSh 100,000 to KSh 144,000 (nominal; drought-recovery caveat, Section

	4.3.1), indicating an early positive shift in the income streams women manage.
Impact 3	Improved education access
Type of benefit/cost/risk	Actual direct benefit (early evidence); education bursaries funded through the advance payments distributed during the monitoring period reached recipients including girls, and household survey data show measured gains in girls' school attendance over the period (see below).
Change in well-being	Although carbon credits had not yet been issued or sold, the project distributed advance payments of US$2/ha to participating communities during the monitoring period, KSh 166.6 million recorded across the six PAIs under community fiscal years 2024 and 2025 (each community's fiscal year runs from the anniversary of its BSA/Carbon Rights Transfer signature), of which KSh 43.0 million was allocated by communities to education bursaries reaching at least 4,660 recorded recipients. Documented FY2024 disbursements include KSh 7,000,000 to 1,400 students in Shompole and KSh 2,500,000 to 500 students in Olkeri, in each case through community-defined eligibility criteria and selection committees (full per-community figures are given in the pre-payment evidence register accompanying this report). Bursary support directly benefits girls' school attendance. Survey data show the largest attendance gains among girls: 6–17 attendance rose from 77.3% to 85.9% (boys: 75.7% to 81.9%), and attendance among girls aged 14–17 rose from 75.0% to 84.1% — evidence of more girls staying in school (Section 4.3.1, education-attendance indicators).
Impact 4	Reduced workload
Type of benefit/cost/risk	Predicted direct benefit driven by improved pasture conditions near settlements. The pasture-condition driver is evidenced this round. Village grazing-land ratings rose from 72.5% to 90.5% good or very good (see Change). Workload itself was not directly measured and will be assessed in future rounds.
Change in well-being	No direct time-use measure was collected this round; two population-level indicators inform this impact. The first is the perceived quality of grazing lands in the village, a proxy for pasture availability near settlements, which determines how far livestock and the women managing milking herds must range. This improved markedly: 72.5% of households rated grazing lands good or very good at baseline against 90.5% in 2025, with poor/very poor ratings falling from 7.4% to 1.0% (Section 4.3.1). Part of this improvement reflects recovery from the 2022–23 drought. The parallel rises in children's milk consumption and milk sales (see above) are consistent with productive pasture closer to settlements.

	A second indicator, water-collection times, showed no improvement (dry-season times remained long, see the water-access table in Section 4.3.1) and are disclosed accordingly. Women's workload will additionally be assessed directly in subsequent rounds (Section 4.3.1).
Impact 5	Exclusion from decision-making
Type of benefit/cost/risk	Predicted direct risk that stems from how the project engages with local communities to implement the project; assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	In grazing-committee governance, women held 86 of the 461 seats on the 40 zone- and conservancy-level grazing committees across the six PAIs (18.7%). These ranged from 11.9% in Shompole to 22.4% in Olkiramatian (grazing-committee tracker, 2025), and women held formal leadership roles in conservancy and ranch governance (Section 4.4.5). Household attendance at community AGMs among women respondents was 75.2% in 2025. Monitoring of this risk continues as governance participation deepens.
Impact 6	Carbon revenue access
Type of benefit/cost/risk	Predicted direct risk, as carbon revenue distribution is under the direct purview of the project. While carbon credits had not yet been issued or sold, advance payments of US$2/ha were distributed during the monitoring period, so the safeguards described in Section 4.1.2 were actively applied.
Change in well-being	Advance payments of US$2/ha were distributed during the monitoring period against community-submitted budget proposals endorsed by women and youth representatives, with community selection committees applying need-based eligibility criteria for bursaries and SftFA financial review of allocations. Among women respondents, awareness of the benefit-sharing mechanism was 77.0% in the 2025 round (86.0% at baseline); the project is intensifying benefit-sharing sensitization as distributions scale (Section 4.3.1).
Impact 7	Potential exclusion from project-associated employment opportunities
Type of benefit/cost/risk	Predicted direct risk, as it stems from how the project selects its employees (e.g., employee-selection processes, access to drivers' licences, access to motorbikes). Assessed through project employment records for the establishment and first monitoring period.
Change in well-being	Of approximately 410 paid roles engaged from members of participating communities across the establishment and first monitoring period, about 21% (85 engagements) were held by women. During 2025 the project promoted two women into Grazing Coordinator Supervisor positions, a typically male-dominated role, and women held

	86 of the 461 grazing-committee seats (18.7%). Female participation in paid employment remains lower than men's, and the project is actively mitigating the identified barriers — selection processes and access to drivers' licenses and motorbikes — as described in Section 4.1.2 (Mitigating Barriers to Female Employment). The number of women employed by the project is tracked as a standing indicator.

Community group	**Female-headed households**
Impact 1	Improved nutrition
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (see above and Section 4.3.1).
Change in well-being	Among female-headed households, the children's-milk indicator was much higher in 2025 (74.2% vs 37.7%) and the no-food-day indicator lower (49.6% vs 55.0%), indicating an early positive shift in nutrition.
Impact 2	More stable/increased income
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	Median herd size among female-headed households was higher in the 2025 round in every PAI (e.g., Olgulului 4.48 to 7.04 cattle-equivalents; Olkeri 4.55 to 6.60; Olkiramatian 5.88 to 9.50; RAMAT East 5.5 to 7.28, margin of error ±14.9%). Milk sales were higher (30.5% vs 17.2%), and median reported annual income among female-headed households rose from KSh 80,000 to KSh 120,000 (nominal; drought-recovery caveat, see Section 4.3.1).
Impact 3	Improved education access
Type of benefit/cost/risk	Actual direct benefit (early evidence); education bursaries funded through the advance payments distributed during the monitoring period reached this group, and household survey data show measured gains in attendance among children in female-headed households over the period (see Change in well-being below).
Change in well-being	Although carbon credits had not yet been issued or sold, the project distributed advance payments of US$2/ha to participating communities during the monitoring period. KSh 166.6 million recorded across the six PAIs under community fiscal years 2024 and 2025 (each community's fiscal year runs from the anniversary of its BSA/Carbon Rights Transfer signature), of which KSh 43.0 million was allocated by communities to education bursaries reaching at least 4,660 recorded recipients. Documented FY2024 disbursements

	include KSh 7,000,000 to 1,400 students in Shompole and KSh 2,500,000 to 500 students in Olkeri, in each case through community-defined eligibility criteria and selection committees (full per-community figures are given in the pre-payment evidence register accompanying this report). Survey data show children in female-headed households attending school at rates slightly above the population in both rounds (80.6% at baseline and 83.9% in 2025, ages 6–17), with attendance at ages 14–17 rising from 74.4% to 79.9% (Section 4.3.1, education-attendance indicators).
Impact 4	Reduced workload
Type of benefit/cost/risk	Predicted direct benefit driven by improved pasture conditions near settlements. The pasture condition driver is already evidenced for this group. Village grazing-land ratings among female-headed households rose from 74.6% to 93.5% good or very good (see Change). While workload itself was not directly measured and will be assessed in subsequent rounds (Section 4.3.1).
Change in well-being	As for Maasai women overall, no direct time-use measure was collected this round. Among female-headed households specifically, the share rating village grazing lands good or very good rose from 74.6% (n=1,187) at baseline to 93.5% (n=508) in 2025, slightly above the all-household figures, indicating this group is sharing fully in the improvement in pasture conditions near settlements; the drought-recovery caveat in Section 4.3.1 applies. Water-collection times showed no improvement and are disclosed in the water-access table. Workload will be assessed directly in subsequent rounds (Section 4.3.1).
Impact 5	Exclusion from decision-making
Type of benefit/cost/risk	Predicted direct risk that stems from how the project engages with local communities to implement the project; assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	AGM attendance among female-headed households was 72.4% in 2025 (79.6% at baseline); mitigation measures for decision-making inclusion are described in Section 4.1.2.
Impact 6	Unequitable distribution of carbon revenues.
Type of benefit/cost/risk	Predicted direct risk, as carbon revenue distribution is under the direct purview of the project; while carbon credits had not yet been issued or sold, advance payments of US$2/ha were distributed during the monitoring period, so the safeguards described in Section 4.1.2 were actively applied.
Change in well-being	Advance payments of US$2/ha were distributed during the monitoring period against community-submitted budget proposals endorsed by

	women and youth representatives, with community selection committees applying need-based eligibility criteria for bursaries and SftFA financial review of allocations. Among female-headed households, awareness of the benefit-sharing mechanism was 79.9% in the 2025 round (84.3% at baseline) — slightly above the all-household level, and with a smaller decline over the period; the project is intensifying benefit-sharing sensitization as distributions scale (Section 4.3.1).
Impact 7	Potential exclusion from project-associated employment opportunities
Type of benefit/cost/risk	Predicted direct risk, as for Maasai women overall; female-headed households are additionally more vulnerable given their more limited economic opportunities. The risk stems from how the project selects its employees (e.g., employee-selection processes, access to drivers' licenses, access to motorbikes).
Change in well-being	As for Maasai women overall: of approximately 410 paid roles across the establishment and first monitoring period, about 21% (85 engagements) were held by women, two women were promoted into Grazing Coordinator Supervisor positions in 2025, and women held 86 of the 461 grazing-committee seats (18.7%). The project is actively reducing barriers to female employment (Section 4.1.2) and tracks the number of women employed as a standing indicator; female-headed households are prioritized within this effort given their heightened vulnerability.

Community group	**Youth**
Impact 1	Increased employment opportunities
Type of benefit/cost/risk	Actual direct benefit
Change in well-being	Across the project's establishment and first monitoring period the project engaged approximately 410 people in paid roles to members recruited from participating communities (70 full-time staff, 85 short-term contract staff, and 255 household-survey enumerator engagements across the 2023 baseline and 2024–2025 monitoring rounds), of which 85 (about 21%) were held by women. The workforce is youth-dominated where age is recorded: of the 69 full-time staff with a recorded date of birth, 47 (68%) were aged 18–35 at the period end (median age 32), including 38 of 49 grazing coordinators. Date of birth was not recorded for short-term contract and enumerator roles, so a quantified youth headcount is not available for those roles this period; the project will record date of birth at engagement for all future roles so this indicator can be quantified from the second monitoring period.
Impact 2	Improved education access

Type of benefit/cost/risk	Actual direct benefit (early evidence); education bursaries funded through the advance payments distributed during the monitoring period reached secondary, college and university students, and household survey data show measured gains in attendance at the older, tertiary-transition ages (see Change in well-being below).
Change in well-being	Although carbon credits had not yet been issued or sold, the project distributed advance payments of US$2/ha to participating communities during the monitoring period. KSh 166.6 million was recorded across the six PAIs under community fiscal years 2024 and 2025 (each community's fiscal year runs from the anniversary of its BSA/Carbon Rights Transfer signature), of which KSh 43.0 million was allocated by communities to education bursaries reaching at least 4,660 recorded recipients. Documented FY2024 disbursements include KSh 7,000,000 to 1,400 students in Shompole and KSh 2,500,000 to 500 students in Olkeri, in each case through community-defined eligibility criteria and selection committees (full per-community figures are given in the pre-payment evidence register accompanying this report). The Shompole disbursement included university and college students, directly expanding tertiary education access. Survey data show more young people staying in education: attendance among 14–17-year-olds rose from 71.8% to 78.0%, and among 18–24-year-olds , the tertiary and vocational ages that some of the bursaries targeted, rose from 24.7% to 36.5% (Section 4.3.1, education-attendance indicators).
Impact 3	Diversification of youth livelihoods
Type of benefit/cost/risk	Actual indirect benefit (early evidence); a longer-term outcome that will deepen as carbon revenue expands access to secondary and tertiary education, but for which the pathway has demonstrably begun during the monitoring period — advance-payment-funded bursaries already reached secondary, college and university students (Section 4.1.1), and youth took up new paid project roles outside pastoralism (see Impact 1 above).
Change in well-being	Early evidence of this diversification pathway is already visible. Communities allocated KSh 43.0 million of advance payments to education bursaries reaching at least 4,660 recorded recipients, and these included college and university students (for example, the Shompole disbursement covered tertiary students), directly widening the secondary-to-tertiary transition that underpins non-pastoral careers. In parallel, youth took up new paid livelihoods created by the project: 47 of the 69 full-time staff active during the monitoring period with recorded dates of birth were aged 18–35 (median age 32), and youth were also engaged among the community members contracted for short-term survey and monitoring work and the household-survey enumerators. These are paid roles distinct from livestock-keeping. School attendance among 6–17-year-olds also rose over the period (76.5% to 83.8%; girls 77.3% to 85.9%), keeping more young people on the educational pathway that enables diversification. These are

	first-step, indirect gains; the fuller diversification of youth livelihoods remains a longer-term outcome to be tracked in future monitoring.
Impact 4	Disappointment/disengagement
Type of benefit/cost/risk	Predicted direct risk associated with potential exclusion from employment or educational opportunities.
Change in well-being	Predicted direct risk associated with potential exclusion from employment or educational opportunities.
Impact 5	Opportunity costs
Type of benefit/cost/risk	Predicted direct risk, tied to lands being committed to the project by current landowners. Committing land to pastoralism over the long term can close off future opportunities for youth to practice alternative forms of livestock management, convert land to row-crop agriculture, or use land to develop small businesses.
Change in well-being	This is a long-horizon risk and no adverse evidence emerged this period. The project mitigates it by expanding youth livelihood options now: youth held the majority of short-term project roles, and carbon-revenue bursaries reached secondary and tertiary students (KSh 43.0 million allocated, at least 4,660 recorded recipients), diversifying incomes beyond herding (see Section 4.1.2, Mitigating Risks for Youth). The opportunity-cost risk will continue to be monitored as land commitments mature.

Community group	**Elderly**
Impact 1	Increased food security
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	Among elderly-headed households, the no-food-day indicator was lower in 2025 (52.9% vs 58.4%) and the children's-milk indicator much higher (78.2% vs 40.3%); median herd size was higher in all reportable PAIs. (RAMAT East elderly results are suppressed this round: n=17 is below the reporting threshold; see Section 4.3.1.)
Impact 2	Recognition of traditional authority
Type of benefit/cost/risk	Predicted direct benefit; stems from the project requirement that elders be included in community decision-making bodies. This requirement was maintained in all PAIs during the monitoring period (see Change), and governance-perception monitoring provides early supporting evidence: among elderly-headed households, satisfaction

	with community leadership was 81.4% in 2025 (up from 79.7% at baseline, n=408). A dedicated measure of elders' perceived recognition of traditional authority is being captured through the monitoring-round elder focus-group discussions being carried out in 2026, with the synthesis incorporated on completion.
Change in well-being	The project requirement that elders be included in community decision-making bodies, including grazing committees, benefit-sharing endorsement and conservancy governance, was maintained in all PAIs during the monitoring period. Governance perceptions among elderly-headed households provides early supporting evidence: satisfaction with community leadership was 81.4% in the 2025 round, marginally higher than the 79.7% recorded at baseline (n=740 baseline, 408 in 2025), and 98.9% rated the rapid rotational grazing plan helpful (n=305). Attendance at community AGMs among elderly-headed households was 72.5% in 2025 (80.5% at baseline), a decline in line with the population-wide dip in AGM attendance (all households 80.6% to 75.2%) rather than one specific to elders. A dedicated measure of elders' perceived recognition of traditional authority is being captured through the monitoring-round elder focus-group discussions being carried out in 2026, with the synthesis incorporated on completion (Section 4.3.1).
Impact 3	Continued vulnerability during drought related migrations
Type of benefit/cost/risk	Predicted direct risk driven by the need to move cattle during drought. The dedicated elder-perception measure for this risk is being collected in the monitoring-round elder focus-group discussions being carried out in 2026; the household indicators below — food security, herd size and grazing condition among elderly-headed households — are reported as proxies, with the synthesis to be incorporated on completion
Change in well-being	No drought-forced livestock migrations were reported in any PAI during the monitoring period, and the conditions that drive elder vulnerability during such migrations eased over the period: among elderly-headed households food security improved (no-food day 58.4% to 52.9%; children's milk 40.3% to 78.2%) and median herd size was higher in all reportable PAIs (Impact 1 above), while village grazing-land conditions improved population-wide (72.5% to 90.5% good or very good). These are early indications that distress-movement pressure eased rather than intensified; the project will continue to monitor drought-related migration and its effect on elders.

Community group	**Poorest 25% of Households (including small-scale herders and landless pastoralists)**
Impact 1	Increased food security

Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	Among the poorest quartile, the children's-milk indicator was much higher in 2025 (63.8% vs 27.4%) while the no-food-day indicator was essentially unchanged (57.2% vs 56.3%), indicating improving nutrition but continuing acute food-resource stress in this group, a finding the project will track closely (climatic context of both rounds is disclosed in Section 4.3.1).
Impact 2	More stable/increased income
Type of benefit/cost/risk	Actual direct benefit (early evidence); assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	The prevalence of households owning no livestock was lower in the 2025 monitoring round than at baseline in five of the six PAIs: Eselenkei 14.9% to 4.5%; Olgulului 13.7% to 3.9%; Olkeri 13.4% to 2.5%; Shompole 4.4% to 1.7%; RAMAT East 19.5% to 5.6%. This is directionally consistent with the project's livelihood objectives. Because the monitoring samples for the poorest 25% were smaller than the baseline samples and households owning no livestock are among the more difficult to reach in a survey, the possibility that part of the difference reflects differential non-response among the poorest households cannot be excluded; the project reports this as an observed population-level difference and will assess its persistence in subsequent rounds. Olkiramatian moved against the pattern (12.0% to 13.7%, the only PAI in which landlessness did not fall); see the Olkiramatian analysis at the end of this section. The proportion of poorest-quartile households selling livestock products was higher in 2025 (68.0% vs 54.3%), and median reported annual income among this group edged up from KSh 90,000 to KSh 100,000 (nominal), a smaller gain than the population's, consistent with the continuing-vulnerability finding above.
Impact 3	Increased employment opportunities
Type of benefit/cost/risk	Actual direct benefit
Change in well-being	Across the project's establishment and first monitoring period the project engaged approximately 410 people in paid roles to members of participating communities: 70 full-time staff (including 49 grazing coordinators drawn from participating communities), 85 short-term contract staff for survey and monitoring work in 2024–2025, and 255 household-survey enumerator engagements across the 2023 baseline and 2024–2025 monitoring rounds. The large majority were held by members of participating Maasai communities, and 85 engagements (about 21%) were held by women. Date of birth was recorded for full-time staff only: of the 69 with a recorded date of birth, 47 (68%) were

	aged 18–35 at the period end (median age 32); date of birth was not recorded for short-term contract and enumerator roles, so age is not disaggregated for those roles this period, and the project will record it at engagement in future rounds. Short-term survey, monitoring and enumeration contracts, among the most accessible paid entry points for households with limited livestock assets, are opportunities this group can take up without livestock capital.
Impact 4	Improved education access
Type of benefit/cost/risk	Actual direct benefit (early evidence); need-based education bursaries funded through the advance payments distributed during the monitoring period prioritize this group, and household survey data show measured gains in attendance among children of the poorest quartile over the period (see Change in well-being).
Change in well-being	Although carbon credits had not yet been issued or sold, the project distributed advance payments of US$2/ha to participating communities during the monitoring period. KSh 166.6 million recorded across the six PAIs under community fiscal years 2024 and 2025 (each community's fiscal year runs from the anniversary of its BSA/Carbon Rights Transfer signature), of which KSh 43.0 million was allocated by communities to education bursaries reaching at least 4,660 recorded recipients. Documented FY2024 disbursements include KSh 7,000,000 to 1,400 students in Shompole and KSh 2,500,000 to 500 students in Olkeri, in each case through community-defined eligibility criteria and selection committees (full per-community figures are given in the pre-payment evidence register accompanying this report). Bursary eligibility criteria are need-based, prioritizing this group. Survey data show children of this group attending school at rates close to the population average and improving in step: 77.3% at baseline to 83.6% in 2025 (ages 6–17), with the never-attended share falling from 17.0% to 12.1% (Section 4.3.1, education-attendance indicators).
Impact 5	Improved health care access
Type of benefit/cost/risk	Predicted direct benefit — per the PD, driven by carbon-revenue-funded healthcare; this carbon-revenue-funded component had not commenced during the monitoring period. Any early health signal for this group operates through the separate food-security and nutrition pathway (Impact 1), not through carbon-revenue-funded services.
Change in well-being	The carbon-revenue-funded health-care-access component is predicted and had not commenced during the monitoring period. The health pathway the PD identifies runs through food security and nutrition (Impact 1); among the poorest quartile the illness indicator was essentially unchanged (47.4% in 2025 vs 44.4% at baseline), consistent with this group's more limited food-security gains this round (the no-food-day indicator was also essentially unchanged — see Impact 1). Across the population, care-seeking among ill households

	remained near-universal (93.7% at baseline and 93.1% in 2025 at a formal facility) and untreated illness stayed below 3% in both rounds, indicating existing patterns of healthcare access were maintained (Section 4.3.1). The project will track whether nutrition-linked health gains reach this group as its food security strengthens.
Impact 6	Exclusion from decision-making
Type of benefit/cost/risk	Predicted direct risk that stems from how the project engages with local communities to implement the project; assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	AGM attendance among poorest-quartile households was 71.0% in 2025, essentially unchanged from baseline (70.9%); inclusion measures are described in Section 4.1.2.
Impact 7	Unequitable distribution of carbon revenues
Type of benefit/cost/risk	Predicted direct risk, as carbon revenue distribution is under the direct purview of the project; while carbon credits had not yet been issued or sold, advance payments of US$2/ha were distributed during the monitoring period, so the safeguards described in Section 4.1.2 were actively applied.
Change in well-being	Advance payments of US$2/ha were distributed during the monitoring period against community-submitted budget proposals endorsed by women and youth representatives, with community selection committees applying need-based eligibility criteria for bursaries and SftFA financial review of allocations. Among the poorest quartile, awareness of the benefit-sharing mechanism was 73.9% in the 2025 round (83.9% at baseline), below the all-household level; the project is intensifying benefit-sharing sensitization as distributions scale (Section 4.3.1). Need-based bursary criteria direct a substantial share of distributed benefits to this group.

Community group	**Non-Maasai Group Ranch Members (Kamba, Kikuyu, Luo, etc.)**
Impact 1	Increased food security
Type of benefit/cost/risk	Predicted direct benefit; the 2025 monitoring sample contained too few non-Maasai-headed households to report for this group (six project-wide), so baseline values remain the reference (Section 4.3.1).
Change in well-being	The 2025 monitoring sample contained too few non-Maasai-headed households to report (six project-wide, versus 55 at baseline); results for this group are suppressed for the 2025 round under the project's small-subgroup reporting rule, and baseline values remain the

	reference. See the non-Maasai monitoring statement at the end of this section.
Impact 2	More stable/increased income
Type of benefit/cost/risk	Predicted direct benefit; the 2025 monitoring sample contained too few non-Maasai-headed households to report for this group (six project-wide), so baseline values remain the reference (Section 4.3.1).
Change in well-being	The 2025 monitoring sample contained too few non-Maasai-headed households to report (six project-wide, versus 55 at baseline); results for this group are suppressed for the 2025 round under the project's small-subgroup reporting rule, and baseline values remain the reference. See the non-Maasai monitoring statement at the end of this section.
Impact 3	Exclusion from decision-making
Type of benefit/cost/risk	Predicted direct risk that stems from how the project engages with local communities to implement the project; assessed through the first round of repeat community impact monitoring, completed in 2025 against the 2023/24 baseline (Section 4.3.1).
Change in well-being	The 2025 monitoring sample contained too few non-Maasai-headed households to report a household-survey trend for this group (six project-wide, versus 55 at baseline); quantitative results are suppressed for the 2025 round under the project's small-subgroup reporting rule, and baseline values remain the reference. As registered members of the group ranches, non-Maasai members participate in the same group-ranch AGMs and community decision-making forums as other members and are eligible for the same community-defined benefits — education bursaries and employment — under criteria that are need-based rather than ethnicity-based. See the non-Maasai monitoring statement at the end of this section.

Divergence detected in Olkiramatian. Across the six Project Area Instances, monitoring indicators were generally more favorable in the 2025 round than at baseline. Olkiramatian diverged from this pattern on several measures. The proportion of female-headed households aware of the project was lower in Olkiramatian in 2025 (57.1%, 48 of 84) than at baseline (71.1%, 64 of 90), whereas in every other Project Area Instance the 2025 proportion was higher, ranging from 81.6 to 97.7%. The prevalence of landlessness among surveyed households was also higher in Olkiramatian in 2025 (13.7%) than at baseline (12.0%) — the only Project Area Instance in which this measure did not fall. The annual livestock census independently recorded a decline in Olkiramatian from 11,746 to 8,162 cattle-equivalents between 2023 and 2025 — a census-based measure not subject to sampling variation.

Because the baseline and monitoring rounds comprise independent samples of households rather than the same households surveyed twice, these comparisons describe population-level differences rather than changes experienced by individual households. Nonetheless, the consistent divergence of

Olkiramatian from the other five Project Area Instances, across independent indicators measured identically, is unlikely to be explained by sampling variation alone.

The project associates this pattern with the ongoing community governance dispute in Olkiramatian, including the contested community leadership and the associated litigation (Environment and Land Case No. E053 of 2022). Where community governance structures are subject to dispute, the project's engagement, benefit-sharing and monitoring activities — all of which operate through those structures — are correspondingly impaired, and the effect is felt most acutely by households already at the margins of community decision-making. Governance-perception data independently corroborate this association: at baseline, Olkiramatian recorded the weakest community-governance perceptions of any Project Area Instance — 64.3% satisfied with community leadership, 68.6% trusting leaders to manage revenues, and 60.1% perceiving fair distribution, each 10–20 percentage points below every other Project Area Instance — and in the 2025 round, awareness of how to participate in the project and of carbon rights roughly halved there (72.3% to 32.5% and 75.8% to 43.3%), the largest declines in the project, while general leadership satisfaction recovered (84.7%). The pattern is consistent with project-related engagement — which operates through the disputed structures — being impaired even as day-to-day community governance functions. The project's detection of this pattern through disaggregated monitoring is itself evidence that the monitoring system is functioning as intended. Corrective measures are addressed through the project's adaptive management process (Section 2, Continued Consultation and Adaptive Management, and Section 4.1.2).

Monitoring of non-Maasai group ranch members. Non-Maasai group ranch members are identified in the project description as a community group requiring specific monitoring, and the project description records an associated risk of marginalization in revenue allocation and decision-making. The project committed to monitoring this group through the household survey and focus group discussions.
At baseline, 55 households with a non-Maasai household head were recorded across the six Project Area Instances, the majority of them in Olkiramatian (33 households). In the 2025 monitoring round, six such households were recorded project-wide. This sample is insufficient to support any estimate for the group, and monitored indicators for non-Maasai households are therefore not reported for the 2025 monitoring round at either Project Area Instance or project level. Baseline values are reported and remain the reference point for this group.

The project does not treat the low monitoring-round count as evidence that non-Maasai membership has declined. The household sampling design selects households by systematic interval within enumerated village lists; a numerically small and geographically dispersed group is correspondingly less likely to be captured in any given draw, and the reduction from 55 to six households is consistent with sampling coverage rather than with a demographic change of that magnitude. The project has no independent evidence of non-Maasai households leaving the project zone during the monitoring period.

Pending household survey coverage sufficient to report on this group, the project relies on the grievance redress mechanism as the operative monitoring channel for the marginalization risk, as anticipated in the project description. No grievances were received during the monitoring period from or on behalf of non-Maasai group ranch members. The grievances recorded within the credited six-PAI scope were intra-

community disputes among Maasai members — governance, leadership and fund-administration matters — none of which concerned the marginalization of non-Maasai members (project grievance log, 24 August 2025; Section 2, Grievances).

Corrective action: for the second monitoring period, the project will supplement systematic interval sampling with a targeted supplementary sample of non-Maasai households sufficient to support reporting on this group and will record household head ethnicity in the participating communities registry so that the group's size within each Project Area Instance is known independently of the household survey.

4.1.2. Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

Overstocking Risk Mitigation:

The project's grazing management framework includes several mechanisms that mitigate the risk of overstocking, all of which were implemented in each PAI during the monitoring period:

Rotational Grazing Plans: Plans are prepared with grazing committee approval to prevent overstocking and maintain sustainable use of rangelands.

Grazing Coordinators & Monitors: Local leaders oversaw plan adherence, recorded grazing activities, and adjusted plans in response to seasonal changes.

Carrying Capacity Safeguards: Forage and livestock numbers were monitored to ensure stocking rates remain within ecologically sustainable thresholds. Monitoring evidence (2025): stocking rates remained within ecologically sustainable thresholds in all current PAIs even as the annual livestock census recorded herd growth in five of six initial PAIs, and 98.8% of responding households rated the rapid rotational grazing plan helpful — indicating the overstocking safeguards operated as intended (Sections 3.1.2 and 4.1.1).

Mitigating Risk of Wildlife Conflict: During the monitoring period the project coordinated with local NGOs and wildlife monitoring organizations as per the PD to provide real-time data on wildlife movement. No wildlife conflict incidences were reported during the monitoring period.

Mitigating Risks of Inequitable Distribution of Carbon Revenues and Exclusion of Marginalized Groups from Decision-Making:

Poorest 25% (Including Small-scale Herders and Landless Pastoralists): When carbon revenues are generated and distributed, the project will ensure this community group benefits from bursaries, training, and financial support that provide alternative avenues for livelihood improvement. While carbon credits had not yet been issued or sold, the first advance-payment distributions were made during the monitoring period, and the need-based bursary criteria described here were applied to them — including the 500 bursaries in Olkeri and 1,400 in Shompole recorded in FY2024 (Section 4.1.1). Monitoring evidence (2025): early outcomes among the poorest quartile are consistent with this safeguard — the share of households owning no livestock fell in five of six PAIs (e.g., Eselenkei 14.9% to 4.5%; RAMAT East 19.5% to 5.6%), the share selling livestock products rose from 54.3% to 68.0%, school attendance among their children rose from 77.3% to 83.6%, and AGM attendance in this group held at 71.0% (Section 4.1.1).

Female-Headed Households & Women in General: The project requires women's representation in grazing committees and benefit-sharing structures. On grazing committees, women held 86 of the 461 seats on the 40 zone- and conservancy-level grazing committees across the six PAIs (18.7%), ranging from 11.9% in Shompole to 22.4% in Olkiramatian (grazing-committee tracker, 2025), and every community budget proposal for advance-payment distribution carried the endorsement of a woman representative and a youth representative. When carbon revenues are generated, they will be targeted toward education and healthcare, addressing women's priority concerns. This choice has already been demonstrated by the $2/ha community payments, with community allocations having directed substantial support to education bursaries (Section 4.1.1). Monitoring evidence (2025): outcomes for women and female-headed households moved in the intended direction — milk sales (a women-controlled income stream) rose from 18.6% to 26.8%, girls' school attendance rose from 77.3% to 85.9%, female-headed-household herd size was higher in every PAI, satisfaction with community leadership among women was 83.2%, and four of the six women employed full-time are themselves heads of their households (Section 4.1.1).

Other Vulnerable Groups (Youth, Elderly): Specific provisions in bursary, training, and revenue allocation ensure inclusivity across generations. In this way, community members—regardless of wealth, gender, or age—are protected from potential harms while being assured equitable access to project benefits. While carbon credits had not yet been issued or sold, advance payments of US$2/ha were distributed during the monitoring period; no access issues were identified in the distributions made to date, and access will continue to be monitored as distributions scale (Section 4.3.1).

Mitigating Barriers to Female Employment by the Project:

SftFA is committed to reducing barriers to female employment by the project. In 2025 SftFA promoted two SftFA women staff into Grazing Coordinator Supervisor positions, a typically male-dominated sector. This move has helped to further open the dialogue whereby women can now be seen in positions directly related to livestock - including cattle grazing management. The project has also committed to helping women interested in grazing coordinator positions obtain a driver's license. Furthermore, SftFA has encouraged women to apply for all jobs. Across the project's paid engagements, women held 85 of approximately 410 (about 21%) — 6 of 70 full-time staff, 17 of 85 short-term contract staff, and 62 of 255 household-survey enumerator engagements; female representation is lowest in full-time and leadership roles, which is where the barrier-removal measures above are directed, and four of the six women in full-time roles are themselves female household heads (HR/staff register, July 2026).

Mitigating Risks for Youth:

As noted in Section 4.1.1, the project involves committing land to pastoralism over the long-term and this can close off future opportunities for youth to practice alternative livestock management practices, convert pastureland to agriculture, or use land to develop small businesses. However, the project is actively working to mitigate opportunity costs for youth (i.e., viable income-generating opportunities) and increase their engagement by ensuring the project offers a range of youth employment opportunities. For example, across the monitoring period the project engaged community members in a range of paid roles — full-time grazing coordinators, short-term survey and monitoring contracts and household-survey enumeration, the majority of age-recorded roles held by young adults — to support a wide array of

activities, including accounting, human resource management, communications, ecological research, computer programming and analysis, and coordinating grazing activities. In addition, in 2025 there were several meetings between SftFA leadership and different Maasai Traditional Leaders in Kajiado to discuss how to best address youth concerns about the project. To begin to address this issue, SftFA senior leadership helped organize two cultural days to celebrate youth and their connections to Maasai culture, in addition to annual football tournaments to connect awareness of Rapid Rotational Grazing practices to rangelands productivity, livelihoods and carbon. These events included raising awareness regarding the opportunities that SftFA provide for youth in the county. The project also ensures youth representation in grazing committees, implements mentorship programs, and organizes youth-focused activities. Monitoring evidence (2025): HR date-of-birth records confirm the youth focus of these roles — 47 of the 69 full-time staff with recorded dates of birth were aged 18–35 (median age 32), including 38 of 49 grazing coordinators — and youth engagement held up in the survey (project awareness 85.1%, rapid-rotational-grazing participation 65.7%), while school attendance among 18–24-year-olds rose from 24.7% to 36.5% (Section 4.1.1).

In addition, as with other vulnerable groups, the project will continue to identify youths experiencing exclusion from the project through the community monitoring efforts described in Section 4.3.1. The project will work with relevant communities to ensure that youth are being incorporated into decision-making processes and into project activities as appropriate, given the specific issues that arise.

Mitigating Risks for the Elderly:

To mitigate the risks for the elderly, the project conducts dedicated elder focus groups (held at the 2023 baseline and being reconvened for the monitoring-round evaluation in 2026) and cross-checks revenue allocations to ensure benefits reach elderly households. Any individuals experiencing exclusion from revenues or decision-making will be identified through the community monitoring efforts described in Section 4.3.1. When problems are identified, the project team and community leadership will work together to ensure elder perspectives are appropriately considered and individuals taken care of. While carbon credits had not yet been issued or sold, advance payments of US$2/ha were distributed during the monitoring period, and the safeguards described in this section were actively applied to those distributions; no such issues were identified during the monitoring period. Monitoring evidence (2025): early outcomes for elderly-headed households are positive — food security improved (no-food day 58.4% to 52.9%; children's milk 40.3% to 78.2%), median herd size was higher in all reportable PAIs, no drought-forced migrations were reported, satisfaction with community leadership was 81.4% (up from 79.7% at baseline), and 98.9% rated the rapid rotational grazing plan helpful (Section 4.1.1).

Mitigating the Risk of the Marginalization of Non-Maasai Group Ranch Members:

To mitigate the risk of the marginalization of non-Maasai group ranch members, the project provides regulatory oversight of revenue allocations. Community members have access to the projects grievance redress mechanism to report cases where there are concerns about revenue and benefits distribution to this group. In addition, individuals experiencing such marginalization will be identified through the community monitoring efforts described in Section 4.3.1 and the project will encourage such individuals to utilize established grievance mechanisms. While carbon credits had not yet been issued or sold,

advance payments of US$2/ha were distributed during the monitoring period, and the safeguards described in this section were actively applied to those distributions; no such issues were identified during the monitoring period. Monitoring evidence (2025): as registered group-ranch members, non-Maasai members participate in the same AGMs and are eligible for the same need-based (non-ethnicity-based) bursaries and employment as other members; the 2025 monitoring sample contained too few non-Maasai-headed households (six project-wide) to report a household-survey trend, and no ethnicity-related grievance, and no grievance from or on behalf of non-Maasai members, was recorded during the monitoring period (project grievance log, 24 August 2025).

Mitigation Measures to Support the Maintenance or Enhancement of Community HCVs (see Section 4.2.4):

Because the implementation of RRG is protective of all of the Community HCVs listed in Section 4.1.3, all of the mitigation measures described above, which are designed to maximize the benefit and minimize the harm of project activities (RRG), support the maintenance or enhancement of each Community HCV (see Section 4.2.4). Thus, no additional mitigation measure were undertaken to protect HCVs during the monitoring period.

Consistency with the Precautionary Principle:

All mitigation measures described above are consistent with the precautionary principle, understood as taking preventive action in the face of uncertainty. The implementation of RRG itself is a preventive measure to halt further degradation under the without-project scenario. By acting conservatively, monitoring impacts continuously, and adjusting management, the project ensures risks are anticipated and mitigated before they can undermine well-being.

4.1.3. Net Positive Community Well-Being (VCS 3.19; CCB, CM2.3, GL1.4)

As stated in Section 4.2.3 of the PDD, we expect the net well-being impacts of the project to be positive for all identified community groups compared with their anticipated well-being conditions under the without-project scenario. Maasai pastoral community that comprises 99% of the project population have livestock-based livelihoods. Although there are demonstrated patterns of diversification into agro-pastoralism and employment, livestock keeping and trading remain the most important.

As described in Section 4.2.1 of this report, the project is expected to positively affect the Maasai pastoral communities in several ways, including by:

- Supporting marketable livestock production
- Reducing livestock mortality during droughts
- Strengthening income security
- Reducing land degradation
- Improving soil carbon stocks
- Creating local employment opportunities and

- Expanding economic opportunities for marginalized groups.

In contrast, net well-being under the without-project scenario is expected to decline for all groups and would not provide any of the benefits described above. Below, we analyze the net benefits of the project by community group, reinforcing the analysis provided in the PDD.

Community group	Maasai Pastoralists in the CCB Project Zone
Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring evidence (this report, Sections 4.1.1 and 4.3.1): food-security indicators were more favorable in 2025 than at baseline (no-food day 53.2% to 47.6%; children's milk 41.2% to 78.7%), median herd sizes were higher in all six PAIs, livestock-sales participation rose (72.4% to 77.8%), perceived pasture quality improved in every PAI (72.5% to 90.5% rating grazing lands good or very good), and approximately 410 paid engagements across the project's full-time, short-term and household-survey workforce went to community members (about 21% held by women) — subject to the drought-recovery caveat disclosed in Section 4.3.1. The pathways described below are therefore already observable in the first monitoring round. As described in Section 4.1.1, the project helps sustain the livelihoods of Maasai pastoralists in the PGA/CCB Project Zone by restoring sustainable rotational grazing practices that capture key elements of traditional semi-nomadic rangeland management. By improving forage availability, the project reduces livestock mortality during droughts, supports marketable livestock production, and strengthens income security. Grazing-based livelihoods will remain viable despite increasing land-use pressures, ensuring long-term sustainability for the community. Sustainable grazing prevents land degradation and enhances soil carbon sequestration, which improves rangeland conditions and maintains water availability for livestock. Improved grazing governance minimizes conflicts over land use, fostering greater household stability and long-term economic security. The project will also generate revenue through carbon credit sales, supporting reinvestment in sustainable grazing management and conservation efforts. Additionally, it will create employment opportunities for grazing coordinators, conservation rangers, and carbon project staff, further improving economic stability within the community.

	As noted in Section 4.1.1, collectively, these dynamics improve community well-being by strengthening livestock-based livelihoods, improving economic security, and enhancing access to critical ecosystem services such as water availability and forage production. As described in PDD Section 4.1.4, without the Project, this community group would experience fragmentation of communal lands, overgrazing, and climate shocks, further eroding its resilience. Declines in forage and water access would also undermine the ability to move between grazing areas, reduce herd sizes below viable recovery thresholds, and threaten the long-term sustainability of pastoral livelihoods and cultural identity. Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1.

Community Group	**Maasai Women**
Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring evidence for this group: the children's-milk indicator among women respondents rose from 41.7% to 78.6%, milk sales from 18.6% to 26.8%, girls' school attendance (ages 6–17) from 77.3% to 85.9%, and household ratings of village grazing lands (good or very good) from 72.5% to 90.5% (female-headed households: 74.6% to 93.5%); 85 women held paid engagements across the project's establishment and monitoring rounds (about 21% — 6 full-time staff, 17 short-term contract staff and 62 household-survey enumerator engagements) — subject to the drought-recovery and water-collection caveats disclosed in Section 4.3.1. As noted in Section 4.1.1, Maasai women benefit under the project from improved milk yields and small-stock productivity, which are central to household nutrition and income. Once established, carbon revenues will be directed toward bursaries to support girls' education, and improved rangelands close to settlements reduce the distance women must travel for pasture and water, easing their workload.

	Taken together, these benefits ensure that women have improved household food security, increased capacity to support children's education and reduced labor burdens. Equitable inclusion in governance ensures these benefits are felt widely. As described in PDD Section 4.1.4 of the PDD, without the Project, forage declines will reduce milk yields and egg production, which would harm this community group. Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1.

Community Group	**Female-headed households**
Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring evidence for this group: 93.5% of female-headed households rated village grazing lands good or very good in 2025 (74.6% at baseline); the children's-milk indicator rose from 37.7% to 74.2%; children in these households attended school at 83.9% (ages 6–17, vs 80.6% at baseline); median herd sizes were higher in every PAI; and four of the six women employed full-time on the project head their own households. Water-collection times showed no improvement and are disclosed in Section 4.3.1 Potential impacts for this group are very similar to that for Maasai women overall (see Section 4.1.1), but this group is even more vulnerable than women because of their marginalized status and limited economic opportunities. As with women overall, potential impacts include improved milk yields and small-stock productivity as well as increased availability of bursaries through carbon revenues. The project can also reduce workloads for female heads of household by reducing the distance women must travel for pasture and water. Taken together, these benefits mean that female-headed households will have improved food security, increased capacity to support children's education, and reduced labor burdens. Equitable inclusion in governance ensures these benefits are felt widely. As described in PDD Section 4.1.4, without the Project, female-headed households, which are already structurally disadvantaged by limited livestock ownership, would be at higher risk of food

	insecurity. Increased travel times to water sources and unpaid caregiving or herding labor would further strain women's participation in education, economic activities, and decision-making. Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1.

Community Group	Youth
Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring evidence for this group: project employment is youth-dominated (of approximately 410 paid engagements across the project's rounds — 70 full-time, 85 short-term and 255 enumerator engagements — 47 of the 69 full-time staff with recorded dates of birth were aged 18–35, including 38 of 49 grazing coordinators; date of birth was not recorded for short-term and enumerator roles), school attendance rose at ages 14–17 (71.8% to 78.0%) and 18–24 (24.7% to 36.5%), and advance-payment bursaries reached secondary, college and university students (Sections 4.1.1 and 4.3.1). As noted in Section 4.1.1, youth benefit from employment opportunities created by the project (e.g., grazing coordinators, rangers, monitoring staff). Bursaries, once established with carbon revenues, help expand access to secondary and tertiary education. This diversifies youth livelihoods beyond herding, which is declining in viability due to reduced land and climate shocks. These benefits increase youth well-being under the Project by Increasing livelihood options and education access. Project involvement would also foster youth engagement in community decision-making. As described in PDD Section 4.1.4, without the Project, youth would increasingly be required to engage in unpaid herding labor, reducing access to schooling and perpetuating cycles of limited educational attainment. Rising unemployment among educated youth, combined with land subdivision, could force many into informal or urban labor markets, weakening community cohesion.

	Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1. Youth confidence in community governance was maintained: satisfaction with community leadership among youth households was 82.7% in 2025 (79.2% at baseline).

Community Group	**Elderly**
Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring evidence for this group: among elderly-headed households the no-food-day indicator fell (58.4% to 52.9%) and the children's-milk indicator rose sharply (40.3% to 78.2%); median herd sizes were higher in all reportable PAIs; 98.9% of elderly-headed households rated the RRG plan as helpful in 2025; and elders were represented on all local committees (Sections 4.1.1 and 4.3.1). As noted in Section 4.1.1, elders benefit from rotational grazing that allows herds to stay closer to homesteads, reducing the need for long migrations they cannot undertake. Their cultural authority is reinforced through roles in grazing governance committees. Overall, these benefits increase elders' food security and strengthen their social standing, increasing overall well-being. As described in PDD Section 4.1.4, without the Project, the elderly would face increased migration in search of forage and water. This would be particularly harmful to the elderly, who are less mobile and more dependent on local support systems. Without sufficient livestock or diversified income, the elderly would also face heightened risks of food insecurity, social isolation, and diminished care within increasingly fragmented communities. Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1. Governance participation held up for this group: satisfaction with community leadership among elderly-headed households was 81.4% in 2025 (up from 79.7% at baseline).

Community Group	**Poorest 25% of Households (including small-scale herders and landless pastoralists)**

Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring evidence for this group: livestock ownership among the poorest quartile rose from 53.5% to 80.1% and landlessness prevalence fell in five of six PAIs; the children's-milk indicator rose from 27.4% to 63.8%; school attendance rose from 77.3% to 83.6% (ages 6–17); and need-based bursary criteria directed support to this group (including the 500 recorded bursaries in Olkeri and 1,400 in Shompole) — while the no-food-day indicator was essentially unchanged, a finding disclosed and tracked (Sections 4.1.1 and 4.3.1). As noted in Section 4.1.1, the project improves forage availability, reducing mortality in small herds and protecting families from total herd loss. In addition, the project's carbon revenues will provide support for bursaries, healthcare, and job opportunities that target the most vulnerable households. These resources serve as a safety net to reduce poverty cycles. All of these benefits help reduce poverty and improve the well-being of this community group through enhanced access to education and health care. As described in PDD Section 4.1.4, without the Project, households with limited or no livestock holdings would be the most vulnerable to forage scarcity. Without formalized grazing plans or benefit-sharing mechanisms, these groups would risk exclusion from resource access, increasing urban migration, reliance on wage labor, and permanent loss of pastoral livelihoods. Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1. Governance confidence in this group held steady: satisfaction with community leadership among the poorest quartile was 81.3% in 2025 (80.4% at baseline).

Community Group	**Non-Maasai Group Ranch Members (Kamba, Kikuyu, Luo, etc.)**
Net Well-Being Impacts of the Project vs. Without Project Scenario	First-round monitoring status for this group: the 2025 sample contained too few non-Maasai-headed households to report (six project-wide against 55 at baseline), so monitored indicators are suppressed for 2025 and baseline values remain the reference; the grievance redress mechanism is the operative monitoring channel

	in the interim, and a targeted supplementary sample is committed for the second monitoring period (see the non-Maasai monitoring statement, Section 4.1.1). As noted in Section 4.1.1, non-Maasai members legally entitled to group ranch land also benefit from improved grazing, income opportunities, and carbon revenue distribution. However, they may feel excluded from cultural benefits or sidelined in decision-making dominated by Maasai elders. If project benefits are distributed fairly as designed, these members achieve economic security and inclusion, increasing their well-being. As described in PDD Section 4.1.4, without the Project, non-Maasai group ranch members will face the same challenges as Maasai pastoralists without the project (i.e., increasing fragmentation of communal lands, overgrazing, and climate shocks). However, they may be even more vulnerable to these forces as they may be marginalized in decision-making, which is often dominated by Maasai elders. Overall, the project is thus improving the net well-being of this community group as compared to the without-project scenario. Early monitoring evidence for this group is presented in Section 4.1.1.

Beyond the net positive community well-being impacts described above, project activities are helping participating communities adapt to the impacts of climate change (see the PDD and references therein). Access to deep-rooted perennial grasses and abundant soil carbon increases the climate adaptability of local communities because soils with more carbon store more water and sustain greater forage production through dry periods. The first round of repeat community impact monitoring (Section 4.3.1) provides quantitative support for this expectation: food-security, nutrition, herd-size and income indicators were more favorable in the 2025 round than at baseline across community groups, and project participants report greater forage availability on project lands during dry periods. The prolonged practice of rapid rotational grazing also provides buffers against variable rainfall and reduces the need for long and risky migrations during droughts. Water retained in soils also improves surface water availability and makes intermittent water sources more reliable and longer lasting and protects perennial water sources from vulnerability to extreme drought. The severity of the 2020–2023 drought against which these adaptation benefits are being established is documented in the climatic-context statement in Section 4.3.1.

4.1.4. Protection of High Conservation Values (CCB, CM2.4)

As noted in PDD Section 4.3.1, project activities will enhance rather than negatively impact community High Conservation Values (HCVs). Below, we reiterate the expected protective effects of the project on each of the HCVs identified in the PDD:

- HCV1 – Open, Connected Grasslands that Support Maasai Pastoralism: Project activities restore rangeland productivity, reduce overgrazing, and improve forage availability, thereby directly sustaining pastoral livelihoods and reinforcing cultural identity. Maasai Pastoral Rangelands Management has been identified as targeted system within the FAO program for preserving "Globally Impacted Agricultural Heritage Systems"[52], further reinforcing the importance of this HCV,
- HCV2 – Water Resources and Hydrological Services: By enhancing vegetation cover and soil infiltration, the project supports groundwater recharge and protects traditionally used water sources, ensuring water security for livestock, wildlife, and domestic use.
- HCV3 – Amboseli Ecosystem for Wildlife Conservation and Tourism Income: Project activities strengthen wildlife habitat connectivity by reducing land degradation and subdivision pressures, ensuring continued tourism revenues for local communities.
- HCV4 – South Rift Ecosystem for Wildlife Conservation and Emerging Tourism Benefits: Project activities protect critical rangeland areas within South Rift conservancies (e.g., Shompole, Olkirimatian), maintaining habitat integrity and supporting growth of community-based conservation enterprises.

During the monitoring period, project activities in the PAIs proceeded as planned, and thus each of these HCVs has been protected and has not been negatively affected by the project.

4.2. Other Stakeholder Impacts

4.2.1. Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

Below, we describe how the project mitigated potential negative impacts on other stakeholders, consistent with PDD Section 4.3.2.

Offsite Maasai Pastoralists

These include Maasai herders from other group ranches or trust lands outside the Project Area, which may be affected by reduced grazing access and conflicts over grass and water resources. Below, we describe the project's approach for mitigating such impacts which were implemented during the monitoring period.

1. Reduced grazing access

The project reinforces the Maasai identity and traditional sharing practices while incorporating structured grazing plans that promote rapid rotational grazing. This ensures that grazing access continues for offsite pastoralists, provided that they adhere to sustainable land management practices. Household monitoring corroborates that shared access operated in practice: in the 2025 round, 57.8% of surveyed households

[52] https://www.fao.org/fileadmin/templates/giahs/PDF/GIAHS_B_terminalReport.pdf

project-wide reported that livestock from neighboring communities came into their grazing zone in the past year — highest in RAMAT East (78.3%) and Olkiramatian (72.6%) (2025 level; the baseline question used a different spatial reference and is reported single-round — Section 4.3.1). Additionally, community-led governance structures support ongoing negotiations for grazing access under agreed conditions. Examples during the monitoring period include inter-conservancy coordination meetings among RAMAT conservancies and cross-border grazing coordination documented in project meeting records. [PENDING: confirm best two examples to cite]

2. Potential Escalation of Conflicts over Grass and Water Resources

To mitigate potential resource conflicts, the project relies on strong community structures, including the traditional group ranch governance system and land tenure agreements, to manage resource allocation. More specifically, the project has actively facilitated the organization of entities that regulate grazing, formalize boundaries, and coordinate grazing plans among neighboring communities. By strengthening cooperation among group ranches in the PGA/CCB Project Zone, the project creates a structured approach to resolving grazing-related disputes. Further, KRCP will coordinate with Amboseli Ecosystem Trust (AET) and local grazing task forces to ensure fairness and uphold the Maasai tradition of offering mutual support in times of extreme drought by means of grazing access.

During the monitoring period, cooperation among group ranches and other stakeholders has been successful, and no conflicts over forage or water resources occurred. This is corroborated by grazing-committee meeting records and the absence of resource-conflict grievances in the project grievance log during the monitoring period, and independently by household perceptions: mean perceived peace in the community was 8.6 out of 10 at baseline and 8.4 in 2025, and perceived unity 8.6 and 8.8, on comparable ten-point scales (Section 4.3.1).

Traders, settlers, and agriculturalists

For these stakeholders one concern is increased human-wildlife conflict project activities; however, during the monitoring period, no such conflict occurred in any of the PAI's. The project mitigated this risk by coordinating with and maintaining communication with NGOs and local wildlife monitoring organizations that work on human-wildlife conflict reduction (e.g., IFAW, Big Life, and Lion Guardians).

Conservation Organizations & Conservancies

No negative impacts anticipated, so no mitigation action was needed.

Local and National Government

No negative impacts anticipated, so no mitigation action was needed.

Private Sector & Infrastructure Stakeholders

No negative impacts anticipated, so no mitigation action was needed.

4.2.2. Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

During the monitoring period, as noted in Section 4.2.3 above, the potential negative effects of the project have been effectively mitigated. Negotiated agreements among grazing committees of different communities both on and off the Project Area have allowed the continuance of cultural traditions while

maintaining the integrity of the project. Thus, no negative impacts on other stakeholders were realized during the monitoring period.

In addition, as noted in Section 4.3.3 of the PDD, we expect the potential negative effects on stakeholders to be balanced or exceeded by positive effects of the project. For example, we expect that over time there will be fewer excursions of livestock from the Project Area onto lands used by neighboring pastoralist groups. Likewise, at least some project grazing land will be shared with offsite stakeholders. However, as also noted in the PDD, it may take a decade or more for these net benefits to be realized.

Below, we provide an analysis of net impact by the stakeholders identified in the PDD.

Stakeholder	Net Impact
Offsite Maasai pastoralists	Net positive impacts through improved access to more productive grazing lands during the monitoring period and no increase in conflict over grazing lands access; 57.8% of surveyed project households reported neighboring communities' livestock grazing in their zone in the past year (2025 round), evidencing continued shared access
Traders, settlers, and agriculturalists from other Tribes	No impact (no increase in wildlife conflict; no observed economic benefits from project)
Amboseli Ecosystem Trust	No negative impact; conservation benefits are beginning to emerge through improved grazing management and rangeland condition (Section 3) and will scale with project implementation
Kenya Wildlife Service	No impact; positive effects of the project (reducing grazing in Amboseli National Park) not yet observed
Conservation NGOs (IFAW, Big Life, Lion Guardians, Peregrine Fund, Olgulului Wildlife Rangers)	No negative impact; conservation benefits are beginning to emerge through improved grazing management and rangeland condition (Section 3) and will scale with project implementation
Local Conservancies (e.g. Kitirua, Ole Narika, Ilanguronyi)	No negative impact; conservation benefits are beginning to emerge through improved grazing management and rangeland condition (Section 3) and will scale with project implementation
Kajiado County Government	No negative impact; early engagement includes the MoU between the County Government of Kajiado and SftFA (signed 11 June 2024, Enchula) and coordination meetings on land-use planning. Development contributions will scale as carbon revenues flow

National Government (NEMA, SDECC)	No impact
Private Sector (tourism operators, lodges, traders, markets)	No negative impact; conservation benefits are beginning to emerge through improved grazing management and rangeland condition (Section 3) and will scale with project implementation
Tata Chemicals Magadi Ltd and Magadi Soda Foundation	No impact; no observed change in grazing on concession land

4.3. Community Impact Monitoring

4.3.1. Community Monitoring Plan (CCB, CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

Monitoring Methodology

Below we describe the monitoring methodology that governs all community monitoring results reported in this section.

Reporting scope. All community-impact indicators and benefit-distribution figures reported in this section are on the credited six-PAI scope — Eselenkei, Olgulului, Olkeri, Olkiramatian, Shompole, and the four credited RAMAT East conservancies (Ilesai, Osewan, Murtuna and Oltepesi) — corresponding to the in-PAI household-survey sample and the community fiscal-year disbursement records. Communities outside this credited scope, including the Phase-II expansion conservancies and non-PAI communities are excluded from the figures reported here.

Sampling design. Household sampling in both rounds followed a two-stage probability design. In the first stage, the 2019 Kenya Population and Housing Census sub-location populations were used to establish the household allocation for each Project Area Instance and constituent zone. In the second stage, the villages within each sub-location were enumerated together with their populations, and households were selected across those villages by systematic interval sampling. Village-level allocations for the 2025 monitoring round are documented in the sample allocation schedule accompanying this report.

The specific villages surveyed differ between the baseline and monitoring rounds. This is a property of the design rather than a departure from it: the sampling unit is the household selected by systematic interval within the enumerated village list of each sub-location, not a fixed panel of villages. Both rounds therefore constitute independent cross-sectional probability samples of the same sub-location populations, and all comparisons in this report are population-level prevalence differences, not household-level change.

Because the sampling design selects households independently in each round, the baseline and monitoring samples comprise different households, and results describe the surveyed population at each

point in time. The lower landlessness prevalence observed in the 2025 round is directionally consistent with project objectives and changes being driven by the Community Lands Act (2014), but the smaller monitoring samples and the difficulty of reaching households owning no livestock mean that differential non-response cannot be excluded; the persistence of this difference will be assessed in subsequent rounds.

Precision achieved. The project description commits to a sampling precision of 95% confidence with a margin of error of ±5%. Precision achieved in the 2025 monitoring round, calculated against the 2019 census household frame for each Project Area Instance with finite population correction, was as follows:

Project Area Instance	Frame (households)	Sample required at ±5%	Baseline Sample (2023)	Monitoring Sample (2025)	Margin of Error Achieved
Eselenkei	1,559	308	498	377	±4.40%
Olgulului	6,533	363	835	439	±4.52%
Olkeri	3,520	346	521	481	±4.15%
Olkiramatian	1,038	281	459	372	±4.07%
Shompole	2,331	330	965	354	±4.80%
RAMAT East	817	262	559 (full RAMAT area)	143	±7.45%
All Project Area Instances	**15,798**	**376**	**3,837**	**2,166**	**±1.96%**

Five of the six Project Area Instances met or exceeded the committed precision. Project-level estimates, pooling all Project Area Instances, achieve a margin of error of approximately ±2%. The RAMAT East Project Area Instance did not meet the committed precision; this is addressed as a disclosed deviation below.

Disclosed deviation — precision shortfall in RAMAT East. The sampling frame for the RAMAT East area was constructed across the full RAMAT area, comprising 2,014 households and including conservancies subsequently confirmed as belonging to the RAMAT West umbrella (Phase II, outside the scope of this monitoring period). A sample of 315 households was correctly determined for that 2,014-household frame at 95% confidence and ±5% margin of error.

When legal eligibility subsequently restricted monitoring to the four conservancies with executed agreements — a reporting domain of 817 households — the sample was allocated proportionally from the original 315. This yielded a planned allocation of 128 households, adjusted to 136 in the village-level allocation schedule following rounding at village level, against which 143 households were delivered. Proportional allocation preserves the committed precision for the frame on which the sample was sized; it does not preserve that precision when a sub-domain becomes the reporting unit. The correct procedure would have been to redetermine the sample size for the reduced 817-household domain, which requires 262 households.

The consequence is that RAMAT East Project Area Instance estimates in this monitoring report carry a margin of error of ±7.45% at 95% confidence, rather than the committed ±5%. The project discloses this as a deviation with the following observations: (1) the deviation is confined to the RAMAT East Project

Area Instance — it arose because RAMAT East is the only Project Area Instance in which the eligible reporting domain diverged from the sampling frame during the monitoring period, and the five other Project Area Instances met the committed precision; (2) the deviation affects socioeconomic community monitoring only and has no bearing on the greenhouse gas quantification, which is derived independently under VM0032 and does not use household survey data; (3) no monitored indicator or Gold Level claim in this report rests on RAMAT East data alone — all indicators are reported across multiple Project Area Instances, and project-level estimates achieve ±2%; and (4) the differences reported for RAMAT East substantially exceed the achieved margin of error — for example, project awareness among surveyed households was 97.2% in the monitoring round against 71.6% at baseline, a difference of approximately 26 percentage points, well outside ±7.45%.

Corrective action: for the second monitoring period, sample sizes will be determined against the confirmed eligible reporting domain for each Project Area Instance at the point of fieldwork planning, rather than allocated proportionally from a frame constructed before eligibility is confirmed. The RAMAT East monitoring sample will be increased to at least 262 households, or to the size required by the then-eligible domain, whichever is greater.

Small-subgroup reporting rule. Demographic disaggregations within the RAMAT East monitoring sample are based on smaller subgroups and carry correspondingly wider margins of error:

Group	Households (2025)	Margin of error	Reporting treatment
All households	143	±8.2%	Reported
Women	143	±8.2%	Reported
Youth (19–25)	91	±10.3%	Reported with margin of error stated
Female-headed households	43	±14.9%	Reported with margin of error stated
Poorest 25%	36	±16.3%	Reported with margin of error stated
Elderly (60+)	17	±23.8%	Not reported — sample insufficient
Non-Maasai	0	not applicable	Not reported — no households in group

Results for the elderly demographic group in RAMAT East are suppressed for the 2025 monitoring round on the grounds that a sample of 17 households cannot support an interpretable estimate. No non-Maasai households were recorded in the RAMAT East monitoring sample. Both groups are reported normally for the five other Project Area Instances and at project level.

Climatic context of the two survey rounds. The baseline round was fielded in the closing months of the 2020–2023 Greater Horn of Africa drought, in which consecutive below-average rainy seasons from late 2020 through 2022 produced the region's most severe drought in four decades; at its early-2023 peak an estimated 5.4 million Kenyans — 32% of the population of the arid and semi-arid counties — were acutely food insecure, with widespread livestock mortality (OCHA/ReliefWeb Kenya drought record DR-2014-000131-KEN; Roba et al., 2026). The baseline focus group discussions and key-informant interviews conducted in March–May 2023 (31 transcribed FGD sessions and 24 key-informant interviews

across the PAIs) reflect these conditions, with drought stress a recurrent theme throughout. Baseline values for food-security, illness and pasture condition indicators therefore describe populations under acute climatic stress, and part of the more favorable levels observed in 2025 reflects recovery from that drought rather than project effect alone — a caveat carried throughout this section wherever those indicators are cited. Equally, where a 2025 figure is less favorable than baseline (see the RAMAT East analysis above and the poorest-quartile food-security results), climatic timing is a candidate explanation that the project weighs before attributing change to project performance. The 2025 monitoring round was fielded in March–May 2025, spanning the pre-rains lean period and the long-rains season. NDMA drought early-warning bulletins for Kajiado County characterize this window: the county was in the Normal drought phase with improving trends throughout — long-rains onset was near to above the long-term average in March, vegetation condition was above normal in most sub-counties by April (though only moderate in the eastern parts of the county), and cumulative seasonal rainfall by late May (404.9 mm) was well above the long-term average (267.3 mm) — while average milk production remained below the normal range into April, consistent with recall windows opening in the lean period (NDMA Kajiado County DEW Bulletins, March, April and May 2025). Drought conditions recurred at the close of the monitoring period: following poor short-rains performance, Kajiado County entered the Alert drought phase by December 2025 (NDMA Kajiado County DEW Bulletin, December 2025), after the 2025 fieldwork was complete; this bears on conditions at the period end and the design of the next monitoring round, not on the survey results reported here. The project discloses the climatic context of both rounds rather than adjusting any figure for it.

Comparability of survey instruments between rounds. The baseline household survey (June 2023) and the monitoring household survey (March–May 2025) were administered using successive versions of the survey instrument. Of the 120 questions common to both rounds, 30 were revised, four were retired, and nine were introduced. Most revisions were minor clarifications that do not affect comparability. Seven variables, however, were changed in ways that preclude direct baseline-to-monitoring comparison, and these are reported as single-round values rather than change over time.

The most material of these revisions concern the grazing plan. In 2023, respondents were asked whether their community had “a grazing plan” and whether it was helpful; in 2025, the same questions referred specifically to “the carbon-related rapid rotational grazing plan.” Because the 2025 questions reference a distinct project intervention that did not exist at baseline, the two rounds measure different things, and any apparent change would misrepresent the underlying reality. These indicators are therefore reported for the 2025 monitoring round only. Four further variables relating to seasonal livestock movement were revised from calendar months to seasons, and from village-level to zone-level spatial references, and are likewise reported single-round. In addition, the 2023 questions on participation in rapid rotational grazing and transfer of carbon rights measured intention, while the 2025 questions measured actual behavior; these are also reported as 2025 levels. Two further response-set changes affect the governance and consent perception questions: the 2025 instrument added a “don’t know” option to the carbon-rights-transfer awareness question (selected by 21.3% of 2025 respondents), and the baseline round recorded intermediate (“somewhat”) responses only for the leadership-satisfaction question, so for the other governance questions strict-yes and yes-or-somewhat shares are reported together. A complete variable-

by-variable comparability register accompanies this report and identifies the status of every monitored variable.

All variables reported as change over time between the baseline and monitoring rounds are drawn exclusively from the 46 questions confirmed to be identical in wording and response structure across both instruments.

Monitoring coverage within the RAMAT East umbrella. The RAMAT East Project Area Instance comprises the community conservancies established on the lands of the former Mailua Group Ranch. At the time of the first monitoring period, these conservancies were at differing stages of formal enrolment: carbon transfer and benefit-sharing agreements were being negotiated and executed at the individual conservancy level rather than uniformly across the umbrella.

Household monitoring in the 2025 round was therefore confined to those conservancies whose carbon transfer and benefit-sharing agreements had been executed at the time of the March–May 2025 fieldwork. Four conservancies met this condition — Ilesai, Osewan, Murtuna and Oltepesi, all of which executed agreements on 2 December 2024 — and 143 households were surveyed across them. Conservancies still negotiating agreements at the time of fieldwork were not monitored, consistent with the principle that community monitoring follows the establishment of the crediting relationship rather than preceding it. The legal status and monitoring coverage of every conservancy in the umbrella is recorded in the RAMAT East coverage register accompanying this report and can be reconciled against the project's participating-communities registry.

Two conservancies, Noosikitok and Norkurruki, had executed agreements before the fieldwork window but were not surveyed in this round. Noosikitok was not sampled owing to community-level disputes affecting field access at the time of fieldwork. Norkurruki, which separated from Oldonyo Sampu in the neighbouring RAMAT West umbrella, had been scheduled for resampling but this could not be completed within the available fieldwork budget. Both conservancies will be incorporated into the monitoring program in the next monitoring period. Noriro executed its agreement after the fieldwork period and was appropriately outside the 2025 monitoring scope.

Baseline treatment for the RAMAT East Project Area Instance. As a grouped project, KRCP enrolls Project Area Instances in phases, and the RAMAT East Project Area Instance was established through the disaggregation of the former Mailua Group Ranch into constituent community conservancies. The socioeconomic baseline for RAMAT East is drawn from the 2023 household survey of the former Mailua Group Ranch (559 households), which covered the full extent of the land subsequently organized into the RAMAT East umbrella. This baseline was established prior to the disaggregation of the group ranch into conservancies, and accordingly reflects the umbrella-level population.

The 2025 monitoring round (143 households) covered the four conservancies whose crediting agreements were executed at the time of fieldwork, as described under Monitoring coverage above. The monitoring round therefore represents partial coverage of the RAMAT East umbrella relative to the baseline. This is a direct consequence of the staged, conservancy-level enrolment described above, and not of any change in the definition of the Project Area Instance. As enrolment across the umbrella is

completed, subsequent monitoring rounds will progressively extend coverage toward the full baseline population.

RAMAT East uses two complementary bases. The full 559-household baseline is retained as the Project Area Instance's reference population for descriptive purposes. Every change-over-time indicator reported against the 2025 monitoring round, however, is computed on a like-for-like basis restricted to the four conservancies monitored in both rounds (Ilesai, Osewan, Murtuna and Oltepesi), so that the comparison holds geography constant. This matters: the conservancies not yet monitored make up the majority of the full baseline and have systematically lower baseline herd sizes, so comparing the full-area baseline against the four-conservancy monitoring sample would overstate the change. Restricting the baseline to the monitored conservancies for change indicators avoids that confounding; the partial coverage of the umbrella is disclosed rather than concealed.

RAMAT East indicator pattern and survey timing. Within RAMAT East, livelihood indicators were markedly more favorable in the 2025 round than at the like-for-like baseline restricted to the four conservancies monitored in both rounds — milk sales 57.3% vs 8.8%, children's milk consumption 80.4% vs 20.6%, project awareness 97.2% vs 71.6% (livestock ownership was near-universal in both rounds and essentially unchanged on this basis, 95.1% vs 99.0%, so it is not counted among the gains) — while two 30-day-recall indicators moved the other way: the no-food-day indicator was higher in 2025 (74.8% vs 46.1%), as was reported illness (71.3% vs 41.2%). Three features of the monitoring design bear on the interpretation of these two indicators. First, the recall windows fall in different phases of the pastoral calendar: the RAMAT East baseline was fielded in late July 2023 (survey submission records: 25–31 July 2023), so its 30-day recall window sits in the cool dry season shortly after the long rains, whereas the monitoring round was fielded in April 2025, with a recall window spanning the late dry season and the onset of the long rains — ordinarily the leanest period of the year, before long-rains milk becomes available; NDMA's April 2025 bulletin corroborates leaner conditions on the eastern side of the county specifically, recording moderate vegetation condition there against above-normal elsewhere. Second, the baseline was collected in the closing months of the severe 2020–2023 drought, which would tend to elevate baseline food stress; this consideration cuts against a purely seasonal reading and is why the project has not dismissed the pattern. Third, all indicators above are computed on a like-for-like basis restricted to the four conservancies monitored in both rounds (see Baseline treatment above), so the adverse movement in these two indicators is not an artefact of comparing partial 2025 coverage against a footprint-wide baseline; the 2025 monitoring sample is a representative systematic-interval sample of the eligible conservancies, delivered against the planned allocation, and carries a ±7.45% margin of error. Taken together, the seasonal misalignment of the recall windows is the most plausible principal explanation for these two indicators, but the project does not treat it as established: the pattern has been referred to the field team for verification, and both indicators will be re-measured in a season-matched round before any conclusion is drawn.

Summary of Monitoring Activities

During the monitoring period, the project conducted the following monitoring activities, consistent with the community monitoring plan described in PDD Section 4.4.1:

1. Household Socioeconomic Surveys

Household socioeconomic surveys were conducted in all six PAIs: the baseline round in June–August 2023 (including the former Mailua Group Ranch lands that now comprise RAMAT East; Mailua fieldwork 25–31 July 2023 per survey submission records), and the first monitoring round in March–May 2025 (n=2,166 across the six PAIs; per-PAI samples and precision are given in the methodology above).

2. Focus Group Discussions (FGDs)

Baseline focus group discussions were held in April–May 2023 (31 transcribed sessions across the PAIs, covering elder, youth and mixed community groups), complemented by 24 key-informant interviews in March–April 2023 with group-ranch leaders, community leads, and women's and youth representatives; the transcripts are held in the project archive and document baseline conditions, including the drought stress described in the climatic-context statement above. Dedicated monitoring-round focus-group discussions, benchmarked against the 2023 baseline sessions, are being carried out in 2026 to complete the community evaluation of this period's impacts, with the synthesis to be incorporated on completion. In their place, the community's own evaluation of project impacts was captured through the seasonal rapid-rotational-grazing feedback meetings held with grazing committees and herders across all six PAIs, the community AGMs and budget-proposal process, and the perception questions in the 2025 household survey (for example, 98.8% of responding households rated the rapid rotational grazing plan helpful, alongside the governance-satisfaction and community-priority results reported below).

3. Livestock Grazing and Monitoring

   a. Livestock movement.

      Livestock movements were recorded through daily grazing reports compiled by grazing coordinators in every PAI throughout the monitoring period and entered into the project database.

   b. Livestock census.

      An annual livestock census was conducted in each PAI in 2023, 2024 and 2025 (RAMAT East censused from 2025 following its establishment), recording herd numbers and composition by species at village level. Herd sizes are expressed throughout this section in cattle-equivalents (cattle 1.0; camels 1.4; donkeys 0.7; pigs 0.3; sheep and goats 0.13; poultry 0.014) using the cattle-equivalent scale defined in PDD Table 3-14 and used in the VM0032 greenhouse-gas quantification, so that livestock wealth is reported on the same basis as the project's carbon accounting.

Summary of Monitoring Results

Below, we share the results of monitoring activities across project PAIs during the monitoring period.

Variable	Livestock herd composition and numbers/grazing plan compliance

Monitoring methods applied	Livestock census; livestock movement reports
Frequency of monitoring	Annual census; weekly movement reporting
Affected Community groups	Maasai pastoralists in the PGA/CCB Project Zone
Purpose of monitoring	To understand whether the project is successfully implementing RRG, and whether the carrying capacity of project lands is increasing over time. These monitoring data are also critical inputs for the carbon removals estimates provided in Section 3.
Monitoring results	The annual livestock census recorded total herds (cattle-equivalents) of: Eselenkei 9,755 (2023) to 16,873 (2025); Olgulului 43,940 to 51,576; Olkeri 11,499 to 14,093; Shompole 21,664 to 30,733; Olkiramatian 11,746 to 8,162; RAMAT East 26,111 (first censused 2025). Weekly livestock-movement reporting by grazing coordinators operated in all PAIs. In the 2025 household round, 66.6% of households reported participating in RRG as directed by their grazing committee (2025 level; the 2023 question measured intent).
Change in well-being implications of results	Herd growth alongside grazing-plan compliance indicates rising carrying capacity supporting livestock-based well-being; the Olkiramatian decline is addressed in the Olkiramatian analysis (Section 4.1.1) and reflects governance disruption rather than forage decline.

Variable	**Pasture condition**
Monitoring methods applied	Household survey; FGD
Frequency of monitoring	Every three years
Affected Community groups	Maasai pastoralists in the PGA/CCB Project Zone
Purpose of monitoring	To understand whether the project is successfully implementing RRG, and whether the carrying capacity of project lands is increasing over time. These monitoring data are also critical inputs for the carbon removals estimates provided in Section 3.
Monitoring results	Pasture condition was addressed through the grazing monitoring reported in Section 3.1.2 and was a topic of the 2025 RRG feedback round (May–September 2025). The 2025 household

	round also provides a direct population-level indicator: the share of households rating the quality of grazing lands in their village as good or very good rose from 72.5% at baseline (n=3,837) to 90.5% in 2025 (n=2,166), while poor/very poor ratings fell from 7.4% to 1.0%, and the improvement holds in every PAI (Section 4.3.1, pasture-condition indicators). Part of this shift reflects recovery from the 2022–23 drought that preceded the baseline round; the FGD synthesis will help apportion the contribution of RRG management.
Change in well-being implications of results	Improved pasture condition near settlements reduces herding labor and supports milk production, benefiting women and households generally (see Section 4.1.1). The f_1 results above are consistent with this pathway and align with the observed rises in children's milk consumption (41.2% to 78.7%) and milk sales (18.6% to 26.6%) reported in Section 4.1.1.

Variable	**Income stability**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Maasai pastoralists in the PGA/CCB Project Zone, women, female-headed households, youth, elderly, poorest 25%, non-Maasai group ranch members
Purpose of monitoring	To understand whether the project is improving the carrying capacity of the landscape, benefiting participating communities
Monitoring results	The proportion of households selling livestock in the past three months was higher in the 2025 round (77.8%) than at baseline (72.4%), and the proportion selling milk in the past two weeks was higher (26.6% vs 18.6%); median herd sizes were higher in all six PAIs (Section 4.1.1). Median reported annual household income was KSh 144,000 (2025) vs KSh 100,000 (baseline) — nominal values, rising in every PAI and among female-headed households (80,000 to 120,000) and the poorest quartile (90,000 to 100,000); livestock activities remained the first income source for three-quarters of households (70.0% to 75.6%).

Change in well-being implications of results	Higher sales participation and larger median herds indicate strengthening income stability across community groups, with the poorest quartile showing the largest relative gains (Section 4.1.1).

Variable	**Access to water; time spent collecting water**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Women, female-headed households, elderly
Purpose of monitoring	To understand whether the project improves access to water and reduces labor associated with water collection over time
Monitoring results	Time to fetch water (go, wait and return) was measured directly in both household rounds (d2 wet season, d4 dry season; answered by all 3,837 baseline and 2,166 monitoring households). In the wet season, 60.1% of households at baseline and 55.7% in 2025 fetched water within 30 minutes, and the share taking over one hour was essentially unchanged (13.9% vs 12.1%). Dry-season collection remained substantially more burdensome: 29.5% (baseline) vs 19.1% (2025) within 30 minutes, and 50.2% vs 58.9% taking over one hour. No reduction in water-collection time is claimed for this monitoring period; differences in fieldwork season between rounds and the drought-recovery context limit direct comparison, and dry-season access will continue to be tracked (Section 4.3.1, water-access indicators). Water access was also a designated topic of the FGD rounds.
Change in well-being implications of results	Dry-season water collection remains a significant labor burden, borne disproportionately by women, and no well-being improvement is claimed on this variable for this monitoring period. Soil-water effects of RRG (Section 3) and community water-infrastructure investments funded through benefit sharing are expected to improve access over time.

Variable	**Access to education/healthcare from carbon-funded bursaries**

Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Women, female-headed households
Purpose of monitoring	To understand whether the project improves these key social benefits over time
Monitoring results	Education bursaries funded through the advance payments were distributed during the monitoring period — KSh 43.0 million recorded across the six PAIs, including 1,400 recipients in Shompole and 500 in Olkeri in FY2024 (pre-payment evidence register). The carbon-revenue-funded health-care-access benefit had not commenced; the PD's health pathway through food security and nutrition (Section 4.1.1, Impact 1) is where early health signals appear this round and reported illness fell over the period (50.7% to 44.7% population-wide). Household-survey health-access indicators show existing access was maintained: among households reporting illness in the past month, 93.7% at baseline and 93.1% in 2025 sought care at a local health center or hospital, the share foregoing treatment stayed below 3% in both rounds, and the median distance to the place of treatment was 5 km at baseline and 6 km in 2025 (health-access tables, Section 4.3.1).
Change in well-being implications of results	Bursary distributions are an early realized education-access benefit reaching women and female-headed households; the carbon-revenue-funded health-care-access benefit remains expected rather than realized at this stage, while early health gains this round operate through the food-security/nutrition pathway (Section 4.1.1). Survey data further show formal-facility care-seeking held above 93% of ill households in both rounds, so the education-first allocation of advance payments has not come at the expense of existing healthcare access.

Variable	**Governance participation**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years

Affected Community groups	Women, female-headed households, youth, elderly, non-Maasai group ranch members
Purpose of monitoring	To understand whether marginalized groups are being effectively integrated into the project as planned and have a voice in the decision-making process
Monitoring results	Household AGM attendance was 75.2% in the 2025 round (80.6% at baseline). On grazing committees, women held 86 of the 461 seats on the 40 zone- and conservancy-level grazing committees across the six PAIs (18.7%), ranging from 11.9% in Shompole to 22.4% in Olkiramatian (grazing-committee tracker, 2025); women and youth representatives endorsed all community budget proposals for advance-payment distributions. The lower 2025 attendance is being addressed through the intensified sensitization described in Section 4.3.1. Perception indicators add depth: satisfaction with community leadership rose from 80.3% to 83.2% (yes), with trust in revenue management and perceived fairness of distribution affirmed (yes or somewhat) by 90.7% and 87.5% of households in 2025; leadership-communication ratings softened (84.5% to 76.4% for member communication) and are addressed through the sensitization measures described in Section 4.3.1 (governance-perceptions tables; response-set notes apply).
Change in well-being implications of results	Marginalized groups participated in governance at rates broadly tracking the general population; continued monitoring will verify that the modest attendance decline does not concentrate in marginalized groups. The perception data indicate that confidence in community governance held or improved as the first distributions flowed — a critical safeguard signal — while communication and participation-awareness measures identify exactly where sensitization must deepen before distributions scale.

Variable	**Employment opportunities**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Women, Youth

Purpose of monitoring	To understand whether the project is providing women and youth with direct economic opportunities through employment.
Monitoring results	Across the project's establishment and first monitoring period the project engaged approximately 410 people in paid roles to members of participating communities: 70 full-time staff (including 49 grazing coordinators drawn from participating communities), 85 short-term contract staff for survey and monitoring work in 2024–2025, and 255 household-survey enumerator engagements across the 2023 baseline and 2024–2025 monitoring rounds. The large majority were held by members of participating Maasai communities, and 85 engagements (about 21%) were held by women. Date of birth was recorded for full-time staff only: of the 69 with a recorded date of birth, 47 (68%) were aged 18–35 at the period end (median 32); date of birth was not recorded for short-term contract and enumerator roles, so age is not disaggregated for those roles this period, and the project will record it at engagement in future rounds.
Change in well-being implications of results	Employment created direct income for community members, with youth holding the majority of short-term roles; female employment remains low and is being active addressed (Section 4.1.2).

Variable	**Livestock herd size**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Female-headed households, elderly, non-Maasai group ranch members
Purpose of monitoring	To understand whether the project is improving the carrying capacity of the landscape, benefiting participating communities
Monitoring results	Median household herd size was higher in the 2025 round in all six PAIs, and the prevalence of households owning no livestock was lower in five of six (e.g., Eselenkei 14.9% to 4.5%; Olgulului 13.7% to 3.9%; Olkeri 13.4% to 2.5%).
Change in well-being implications of results	Larger median herds among female-headed, elderly and poorest-quartile households indicate broad-based improvement in the

	primary well-being asset of pastoral households, subject to the differential non-response caveat stated in the methodology.

Variable	**Education levels**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Youth
Purpose of monitoring	To understand whether the project is supporting the education of youth through carbon revenue-funded education bursaries as planned
Monitoring results	Bursary support funded through the advance payments reached students during the monitoring period (KSh 43.0 million recorded across the six PAIs; the Shompole disbursements included college and university students). Changes in attained education levels are longer-horizon outcomes; the 2025 round provides reference levels for future comparison. Attendance indicators from the household surveys already show movement: attendance among children aged 6–17 rose from 76.5% at baseline to 83.8% in 2025, the never-attended share fell from 18.4% to 12.6%, attendance among girls aged 14–17 rose from 75.0% to 84.1%, and the share of 18–24-year-olds in education rose from 24.7% to 36.5% (Section 4.3.1, education-attendance indicators). Attendance rose in five of the six PAIs; Shompole — the PAI with the weakest baseline attendance (52.8%) and among the largest recorded bursary programs — recorded the largest gain (to 73.5%), while the RAMAT East 2025 figure (79.0% vs 90.6% at baseline) carries the seasonal-timing and reduced-sample caveats described in the monitoring methodology.
Change in well-being implications of results	Early realized support for youth education access; attainment effects are expected to become measurable in later monitoring rounds. The attendance gains above — concentrated among girls, older adolescents and the PAIs with the largest bursary uptake — are an early indication that education access is improving ahead of measurable attainment effects.

Variable	Perceptions of grazing plan effectiveness
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Elderly
Purpose of monitoring	To understand how this community group perceives project-driven changes in grazing management
Monitoring results	In the 2025 round, 98.8% of responding households project-wide (n=2,166) rated the carbon-related rapid rotational grazing plan as helpful, and among elderly-headed households the figure was 98.9% (n=305). These are 2025 levels only: the 2023 question referred to a generic grazing plan and is not comparable (Comparability, Section 4.3.1).
Change in well-being implications of results	Near-universal perceived helpfulness of the RRG plan — including among elderly-headed households, the group most invested in traditional grazing authority — indicates the grazing system is experienced as beneficial rather than imposed; elder-specific qualitative perceptions are additionally being assessed in the dedicated elder focus-group discussions being carried out in 2026.

Variable	Food security
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Poorest 25% (including small-scale herders & landless pastoralists)
Purpose of monitoring	To understand whether the project is improving this key aspect of well-being for this community group
Monitoring results	Among the poorest quartile, the children's-milk indicator was much higher in 2025 (63.8% vs 27.4%) and meat consumption higher (51.7% vs 47.7%), while the no-food-day indicator was essentially unchanged (57.2% vs 56.3%).
Change in well-being implications of results	Nutrition among the poorest quartile is improving, but acute food-resource stress persists; bursary and benefit-sharing safeguards

	prioritize this group, and the indicator will be tracked closely in future rounds; interpretation is subject to the climatic context disclosed in Section 4.3.1.

Variable	**Reliance on benefit-sharing**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Poorest 25% (including small-scale herders & landless pastoralists)
Purpose of monitoring	To understand the extent to which the poorest households rely on benefit-sharing distributions, informing the design of safeguards against dependency and exclusion.
Monitoring results	Awareness of the benefit-sharing mechanism among poorest-quartile households was 73.9% in 2025 (83.9% at baseline). The first advance-payment distributions were made during the monitoring period, with need-based bursary criteria directing support to this group (e.g., 500 bursaries in Olkeri and 1,400 in Shompole recorded in FY2024).
Change in well-being implications of results	Benefit-sharing is beginning to function as a safety net for the poorest households; reliance will be quantified as distributions scale.

Variable	**Access to small stock forage**
Monitoring methods applied	Household survey, FGD
Frequency of monitoring	Every three years
Affected Community groups	Poorest 25% (including small-scale herders & landless pastoralists)
Purpose of monitoring	To understand whether forage access for small-stock keepers — the primary livestock asset of the poorest households — is improving under RRG.
Monitoring results	The proportion of poorest-quartile households owning livestock was substantially higher in the 2025 round (80.1%) than at baseline (53.5%), consistent with the lower prevalence of landlessness in

	five of six PAIs (Section 4.1.1); forage-access survey variables were revised between instruments and are reported single-round (Comparability above).
Change in well-being implications of results	Rising small-stock ownership among the poorest households indicates improving access to forage resources near settlements, consistent with the RRG design.

4.3.2. Monitoring Plan Dissemination (CCB, CM4.3)

Operational monitoring results were shared with communities on a continuing basis through the seasonal rapid-rotational-grazing feedback meetings held with grazing committees in the PAIs (conducted in Maa and Swahili and documented in grazing-coordinator reports). During the monitoring period these RRG feedback meetings were conducted across all six PAIs in a mid-2025 round — Magadi region (Olkeri, Shompole, Olkiramatian) over 9–27 June 2025, Amboseli region (Eselenkei, Olgulului and neighboring conservancies) over 10 June–5 July 2025, and the RAMAT conservancies over 30 June–4 July 2025 — with a further round in late August 2025; these are documented in the project's meeting records.

Results-dissemination meetings presenting the findings of this report to each Project Area Instance — through AGMs, grazing committees and the project's community offices, in Maa and Swahili — are planned ahead of and following verification, and the completed schedule will be recorded in the project archive. As part of this results-dissemination, the project has prepared per-PAI community feedback video kits (60–90-second videos with Maa narration and Swahili/English subtitles) that report each community's own monitoring results and priorities back to it, for screening at barazas and AGMs, forwarding by WhatsApp to zone representatives, and radio adaptation where reach is meaningful; questions raised at screenings are logged into the meeting and safeguards records and feed the next monitoring round. The project also maintains public-facing dissemination platforms through which it publishes project updates, community-engagement news and a photographic gallery, and hosts a monitoring-and-evaluation page: the project website (sftfa.co.ke) and the organization's social media channels (including its YouTube channel), complemented by a public online grievance-submission portal (https://grievances.sftfa.co.ke) through which any stakeholder can lodge a grievance. Following verification, this monitoring report and its summary will be posted to these platforms alongside the Verra registry.

4.4. Optional Criterion: Exceptional Community Benefits

As noted in the PDD, the pastoral communities in the Project Area own the carbon rights based on the constitution of Kenya. These pastoralists will be changing their herding behaviors to create a new system we are referring to as Rapid Rotational Grazing (RRG) practices that will largely remove livestock from continuous grazing in areas near settlements, thereby reducing grazing pressure on forage in these areas. This activity is what creates the carbon credits that accrue under the VM0032 methodology.

These community-driven project activities are also what result in the community benefits articulated in Section 4.1 of this report, including benefits to the community groups delineated in Section 4.1.1. For example, a key vulnerable group, women, is expected to gain improved nutrition, more stable income, improved access to education and reduced workloads from the project. Widowed women that lead female-headed households are disproportionately marginalized. In these households, women, together with their male children aged 8-12, typically are responsible for husbanding small livestock, mainly sheep and goats, to provide milk and meat for families. Women, including those leading female-headed households, should benefit from longer-lasting green forage because it would drive more sustainable milk production and less time required for herding livestock long distances from the family boma to find suitable forage. These outcomes should provide more time for their children to attend school, and more time and resources (from selling milk) to engage in alternative livelihoods, such as making crafts to sell through wildlife-based tourism, sewing, etc. The poorest 25% of households may benefit for similar reasons, as they typically own less than 5 livestock and no cattle. Youth are expected to have increased employment opportunities, improved access to education, and potentially a diversification of livelihoods through secondary or tertiary education. The elderly are expected to enjoy increased food security under the project as well as increased recognition of traditional authority. And non-Maasai group ranch members are expected to have the same benefits as overall participating communities – increased food security and more stable incomes due to increased livestock production and carbon revenues.

In addition, carbon revenues from the project will likely be spent on community-wide infrastructure projects identified as priorities by each community, such as rainwater collection and storage, increasing access of the children of this group to schools and health care. In particular, carbon revenues may also increase outlays from bursaries, which support school fees and other needs for the poorest 25% in participating communities. The benefits of employment, cash revenues, and peace and security extend to all ethnic and socioeconomic groups.

Revenues are dispersed to communities based on submitted proposals and awarded from the net revenues of the KRCP once carbon credits are sold and expenses covered. Net revenues from the project will not be dispersed based on number of livestock or area of village/grazing lands, but instead on the amount of viable rangeland habitat the community has entered into the carbon project, and the effectiveness of grazing plan implementation (based on grazing reports and satellite imagery assessment).

4.4.1. Short-term and Long-term Community Benefits (CCB, GL2.2)

Consistent with the PDD, below we categorize short-term and long-term community benefits of the project while also addressing potential negative impacts and net benefits.

Short-Term Community Benefits (First 5 Years)

- Improved Grass Production & Soil Health:
    - Rapid rotational grazing will enhance soil carbon levels, restore perennial grass production, and improve forage quality.

        - **Monitoring findings:** Consistent with early expectations: median herd sizes were higher in the 2025 round in all six PAIs and grazing-plan monitoring (Section 3.1.2) indicates improving forage; full soil-carbon results are reported in Section 3.
    - Healthier soils and grasses will lead to better water infiltration, increasing availability of underground and surface water for livestock and community use.
        - **Monitoring findings:** Soil-water effects are expected to emerge over multiple seasons. Household water-collection times were measured in both rounds and do not yet show improvement — dry-season collection remains burdensome (Section 4.3.1, water-access table); community water infrastructure is among the priorities communities may fund through benefit-sharing allocations.
- Livestock Health & Productivity:
    - Increased forage availability supports larger and healthier livestock numbers, which directly improves income generation for Maasai households dependent on livestock sales.
        - **Monitoring findings:** The proportion of households owning livestock was higher in the 2025 round (95.0% vs 88.4%) and median herd sizes were higher in all six PAIs; livestock sales participation was higher (77.8% vs 72.4%).
    - Healthier livestock will fetch higher market prices, enhancing access to necessities such as food, education, and healthcare.
        - **Monitoring findings:** Livestock sales participation and milk sales were both higher in the 2025 round (see above); price data are not collected by the household survey.
- Nutritional Improvements:
    - Milk and meat are the primary dietary staples for Maasai communities, providing essential nutrients such as vitamin A and iron. Improved forage increases milk yields, benefiting vulnerable populations (children and elders).
        - **Monitoring findings:** The proportion of households in which children drank milk on the previous day was much higher in the 2025 round (78.7%) than at baseline (41.2%), with the largest gains among the poorest quartile (63.8% vs 27.4%).
- Community Governance & Cultural Strengthening:
    - The project strengthens traditional Maasai governance structures related to grazing management, enhancing community cohesion and promoting rangeland conservation.
        - **Monitoring findings:** Grazing committees operated in all PAIs with elder, woman and youth representation; household AGM attendance was 75.2% in 2025. The project's support for committee-led planning is described in Sections 4.1.2 and 4.4.5.
- Targeted Benefits for Marginalized Groups

- Bursaries and health support prioritize vulnerable groups such as landless households, the poorest quartile, women, and youth.
  - **Monitoring findings:** The first advance-payment distributions were made during the monitoring period, with need-based bursary criteria prioritizing vulnerable households (KSh 43.0 million in recorded bursary allocations across the PAIs, including 1,400 recipients in Shompole and 500 in Olkeri in FY2024; pre-payment evidence register).
- Employment opportunities (e.g., grazing coordinators, supervisors, rangers, monitoring staff) create new roles for youth, reducing pressure to migrate.
  - **Monitoring findings:** Across the project's establishment and first monitoring period the project engaged approximately 410 people in paid roles to members of participating communities: 70 full-time staff (including 49 grazing coordinators drawn from participating communities), 85 short-term contract staff for survey and monitoring work in 2024–2025, and 255 household-survey enumerator engagements across the 2023 baseline and 2024–2025 monitoring rounds. The large majority were held by members of participating Maasai communities, and 85 engagements (about 21%) were held by women. Date of birth was recorded for full-time staff only: of the 69 with a recorded date of birth, 47 (68%) were aged 18–35 at the period end (median 32); date of birth was not recorded for short-term contract and enumerator roles, so age is not disaggregated for those roles this period, and the project will record it at engagement in future rounds.

Long-Term Community Benefits (Beyond 5 Years)

- Livelihood Resilience & Poverty Reduction:
  - Pastoralists require a minimum TLU (Tropical Livestock Unit) of 10-15 per household to withstand economic shocks such as drought. Sustainable grazing ensures households maintain livestock above this welfare threshold, improving economic security.
    - **Not yet assessable in the first monitoring period.** The 10–15 FAO-TLU welfare threshold will be assessed against the household TLU distributions reported in Section 4.3.1 — converted from the project cattle-equivalent scale to FAO TLU (multiplying by approximately 0.7) for that comparison — as further rounds accumulate.
- Land Conservation, Rangeland Connectivity, & HCV Protection:
  - The project protects open, connected grasslands (HCV1), safeguards traditionally used water sources (HCV2), and strengthens ecosystem connectivity across Amboseli (HCV3) and South Rift conservancies (HCV4).
    - **Long-term outcome; not yet assessable in the first monitoring period.**

- By maintaining intact rangelands, the project supports both pastoral livelihoods and wildlife-based tourism income.
  - **Long-term outcome; not yet assessable in the first monitoring period.**

- Drought Resilience & Climate Adaptation:
  - Increased grass availability during drought periods will reduce livestock mortality and enable quicker ecosystem recovery, preventing long-term degradation.
    - **Long-term outcome; the improvement in perceived pasture condition recorded in every PAI (Section 4.3.1) is an early enabling signal, to be assessed against future drought cycles.**
  - Carbon-rich soils improve water retention, strengthening household and ecosystem climate resilience.
    - **Long-term outcome; not yet assessable in the first monitoring period (household water-collection results are disclosed in Section 4.3.1).**
- Carbon Revenue for Community Development:
  - The measured sequestration of soil carbon will generate carbon credit revenues, with 70% of profits distributed to the community under a mutually agreed benefit-sharing mechanism.
    - **Long-term outcome; carbon credits had not yet been issued or sold in the first monitoring period. The US$2/ha advance payments described under short-term benefits are the operational precursor to this benefit-sharing commitment.**

Potential Negative Impacts & Mitigation Measures

While the project is designed to provide net positive benefits, some short-term negative impacts may arise:

- Overstocking Risk
  - Improved forage may incentivize herd expansion, risking rangeland degradation.
  - Mitigation: Grazing plans enforce stocking limits and rotational use to sustain ecosystem recovery.
  - **Monitoring findings**: The annual livestock census recorded herd growth within monitored grazing plans in five of six PAIs; stocking remained within the carrying-capacity thresholds monitored under Section 3.1.2.
- Restricted Grazing Access
  - Neighboring pastoralists may face reduced open access.
  - Mitigation: Community-led agreements ensure flexible access during drought while maintaining carbon benefits.
  - **Monitoring findings**: No conflicts over forage or water resources with neighboring pastoralists were recorded during the monitoring period; negotiated access arrangements operated as designed (Section 4.2).
- Inequitable Revenue Distribution
  - Elite capture could marginalize poorer households.

  - Mitigation: Benefit-sharing agreements mandate transparent allocation, with safeguards for small herders, women, and the poorest households.
  - **Monitoring findings**: The first advance-payment distributions were endorsed by women and youth representatives and subject to SftFA financial review; the grievances recorded during the monitoring period were governance and leadership disputes, and where one touched on fund administration (a bursary-cheque query in Olkeri) it was investigated and found to stem from incorrect bank-account details and local electoral politics rather than inequitable distribution, and was resolved with the cheques paid (project grievance log, 24 August 2025; Section 2, Grievances).
- Human-Wildlife Conflict
  - Increasing wildlife populations may heighten predation or safety risks.
  - Mitigation: Project revenues fund human-wildlife conflict prevention activities.
  - **Monitoring findings**: No wildlife-conflict incidents attributable to project activities were reported during the monitoring period.
- Market Dependency
  - Fluctuations in livestock markets could affect incomes.
  - Mitigation: Diversification through conservation-linked enterprises (e.g., eco-tourism) reduces dependence.
  - **Long-term risk; not yet assessable in the first monitoring period.**

Net Positive Well-Being Impact

While there are risks associated with the project, the long-term gains of the project – including strengthened pastoral livelihoods, enhanced governance, improved resilience, and equitable benefit distribution – significantly outweigh any short-term challenges, ensuring sustainable pastoral livelihoods, rangeland conservation, and economic resilience for Maasai communities. When compared to the without-project scenario, under which the well-being of all community groups would be expected to decline (see Section 4.1.4), it is clear that the project is having a net positive impact on the well-being of all community groups. The affected communities' own evaluation of these impacts was captured during the monitoring period through the grazing committees' continuing evaluation of grazing-plan implementation at the seasonal rapid-rotational-grazing feedback meetings (documented across the project's grazing-coordinator report archive), the AGMs and community budget-proposal process, and the perception questions in the 2025 household survey (notably the 98.8% of households rating the rapid rotational grazing plan helpful, together with the governance-satisfaction and community-priority results in Section 4.3.1). Per-PAI community feedback videos in Maa are additionally being produced to report the monitoring results back to each community and to collect their responses through the channels each community uses (barazas, AGMs and WhatsApp), with questions raised at screenings logged and fed into the next round's evaluation. Dedicated comparative focus group discussions benchmarked against the 2023 baseline sessions are being carried out in 2026 to complete this community evaluation, with their synthesis to be incorporated on completion.

4.4.2. Marginalized and/or Vulnerable Community Groups (CCB, GL2.4)

Community Group	Maasai Women
Net Positive Impacts	Recognition of unpaid care and herding labor by ensuring milk and small-stock production support. Access to capacity-building in financial literacy and leadership. To demonstrate the net positive impacts on this group, we are tracking the following indicators: • % increase in women's participation in grazing committees • % increase in women with daily access to milk • Number of women employed by project **Monitoring results:** On grazing committees, women held 86 of the 461 seats on the 40 zone- and conservancy-level grazing committees across the six PAIs (18.7%), ranging from 11.9% in Shompole to 22.4% in Olkiramatian (grazing-committee tracker, 2025 zone returns). The children's-milk indicator among women respondents was 78.6% in the 2025 round (41.7% at baseline). 85 women held paid engagements across the project's establishment and monitoring rounds (about 21%) — 6 full-time staff, 17 short-term contract staff, and 62 household-survey enumerator engagements. Further evidence of the project positively affecting women from 2025 monitoring includes: milk sales rose from 18.6% to 26.8%, girls' school attendance rose from 77.3% to 85.9%, women held 18.7% of grazing-committee seats and 75.2% attended AGMs, satisfaction with community leadership among women was 83.2%, and four of the six full-time women staff are themselves household heads (Section 4.1.1).
Benefit Access	During the monitoring period, the following measures were taken to improve the access of women to project benefits: • Women must endorse revenue-sharing applications. • Reserved grazing zones near homesteads to reduce women's workload.

Negative Impacts	During the monitoring period, the following actions have been taken to reduce the potential negative impacts of the project on women (e.g., exclusion from resource allocation decisions, exclusion from employment opportunities). • Mandatory consultation with women's forums • Monitoring surveys disaggregated by gender • Removing driver's licenses as a barrier to employment • Active recruitment of women to apply for jobs

Community Group	Female Headed Households
Net positive impacts	Female-headed households often have fewer economic opportunities, as livestock sales are traditionally managed by men. However, these households benefit from milk and egg sales, which will improve due to increased livestock productivity. Increased forage availability near settlements enhances women's ability to manage small-stock for household consumption and income generation. Additionally, increased financial stability through equitable revenue-sharing mechanisms reduces economic burdens, especially concerning household essentials and education costs for children. To demonstrate the net positive impacts on this group, we are tracking the following indicators: • Number of female-headed households benefitting from milk and egg sales or project employment • Median income of female-headed households **Monitoring results:** Milk sales among female-headed households were higher in the 2025 round (30.5% vs 17.2%), and median herd size was higher in every PAI. Median reported annual household income among female-headed households was KSh 120,000 in the 2025 round against KSh 80,000 at baseline, narrowing the gap to the all-household medians (KSh 144,000 vs 100,000); values are nominal, cross-sectional, and carry the drought-recovery caveat (Section 4.3.1, livelihood tables). The cattle-equivalent median serves as the complementary wealth measure.

Benefit access	During the monitoring period, women have been actively integrated into decision-making processes related to grazing planning and benefit-sharing. Each community development application for revenue distribution has included the endorsement of both a woman representative and a youth representative to ensure funds support diverse community needs. Additionally, grazing plans have incorporated areas for small-stock herding closer to settlements, facilitating milk production and sales.
Negative impacts	The primary challenge for this group is limited participation in traditional planning meetings, which are often male dominated. Additionally, revenue allocations directed toward education and healthcare are structured to alleviate financial burdens that disproportionately affect female-headed households. Women can also feel excluded from project related job opportunities because of the hiring process or due to the need for a driver's license. To address these issues, during the monitoring period the project has implemented the following mitigation measures: • The project has worked with local leadership to increase women's participation in governance structures • Specific women-led forums have been established and sustained to ensure their voices influence land-use planning and financial decisions. • The project has worked with communities to ensure that women are being incorporated into decision-making processes and have access to project related employment opportunities.

Community Group	Youth
Net Positive Impacts	Employment opportunities in rangeland monitoring and project implementation. Also increased future land security via inclusion in grazing planning. To demonstrate the net positive impacts on this group, we are tracking the following indicators: • Number of youth employed/engaged in project activities • Number of youth being trained for alternative livelihoods **Monitoring results:** 85 community members held short-term project contracts during the monitoring period and 49 full-time grazing-coordinator roles were filled from participating communities. HR date-of-birth records show 47 of 69 full-time staff with recorded DOB were aged 18–35 at period end, including 38 of 49 grazing coordinators; bursary support in Shompole included college and university students. Dates of birth were not recorded for short-term staff and will be captured at engagement from the second monitoring period; the dated trainings delivered during the monitoring period are listed in Section 4.4.6. Further evidence of the project positively affecting youth from 2025 monitoring includes: school attendance at ages 18–24 rose from 24.7% to 36.5%, and youth engagement held up (project awareness 85.1%, rapid-rotational-grazing participation 65.7%) (Section 4.1.1). Youth also held 87 of the 461 grazing-committee seats across the six PAIs (18.9%), and youth representatives endorsed every community budget proposal for advance-payment distribution (grazing-committee tracker, 2025).
Benefit Access	During the monitoring period, the following measures were taken to improve the access of youth to project benefits: • Youth representatives must endorse all revenue applications.

	• Training and capacity-building prioritized for youth
Negative Impacts	During the monitoring period, the following actions have been taken to reduce the potential negative impacts of the project on youth (e.g., exclusion from decision-making, over-reliance on elder authority, lack of livelihood opportunities). • Ensure youth representation in grazing committees • Creation of mentorship programs • Implementation of youth-focused activities • Employment of youth by the project.

Community Group	Elderly
Net Positive Impacts	Inclusion in healthcare subsidies and direct support through carbon revenue. Reduced physical burden from grazing plans that minimize long-distance herding for households with elderly dependents. To demonstrate the net positive impacts on this group, we are tracking the following indicator: • Number of elderly households accessing healthcare benefits **Monitoring results:** Since this indicator is related to a benefits associated with carbon revenues, which have not been generated yet, there are no associated data to report. Interim evidence for this group: the no-food-day indicator among elderly-headed households was lower in the 2025 round of monitoring (52.9% vs 58.4%) and median herd size was higher in all reportable PAIs; elders were represented on all local committees. Further evidence of the project positively affecting the elderly from 2025 monitoring includes: satisfaction with community leadership was 81.4% (up from 79.7% at baseline), 98.9% rated the rapid rotational grazing plan helpful, and no drought-forced migrations were reported (Section 4.1.1).

Benefit Access	During the monitoring period, the following measures were taken to improve the access of elderly to project benefits: • Local committees required to include at least one elder representative. • Elders prioritized in community-led welfare allocations.
Negative Impacts	During the monitoring period, the following actions have been taken to reduce the potential negative impacts of the project on elders (e.g., isolation or neglect in decision-making). • Dedicated elder focus groups during monitoring surveys • Cross-check of revenue allocations to ensure benefits reach elderly households.

Community Group	Poorest 25%, including small-scale herders and landless pastoralists
Net positive impacts	Households in this category may not directly benefit from increased livestock productivity. However, they will receive indirect benefits through revenue disbursement mechanisms (e.g., bursaries for school fees, healthcare subsidies, and emergency support). Additionally, the project's grazing management will reduce overgrazing near settlements, improving forage availability for those relying on small livestock (sheep and goats) for sustenance. To demonstrate the net positive impacts on this group, we are tracking the following indicators: • % reduction in the number of poor households based on TLU. • Perception of the type and magnitude of benefits derived from the project **Monitoring results**: The traditional livestock-gifting safety net reached this group in both rounds — 28.3% of poorest-quartile households received a milking animal in the past year in 2025 (22.9% at baseline), while the share of this group able to give

	rose from 25.8% to 36.9%, indicating the group is a net beneficiary of a strengthening mutual-aid network.
Benefit access	During the monitoring period, the following measures were taken to improve the access of elderly to project benefits: • The revenue-sharing plan is structured to ensure equitable allocation of funds, with community-driven processes identifying and supporting vulnerable households • Grazing plans will prioritized accessible areas for those with fewer livestock, ensuring they maintain some level of livestock-related livelihood security.
Negative impacts	During the monitoring period, the following actions have been taken to reduce the potential negative impacts of the project on the poorest 25% (e.g., exclusion from decision-making on revenue distribution and grazing management). • The project has been structure to conduct financial reviews annually by SftFA to ensure revenues are used appropriately. • Local leadership structures include representatives from vulnerable groups to ensure their needs are considered in community decisions.

Community Group	Non-Maasai Group Ranch Members (Kamba, Kikuyu, Luo, etc.)
Net Positive Impacts	Equal rights to revenue-sharing and grazing access as group ranch members. To demonstrate the net positive impacts on this group, we are tracking the following indicators: • Share of benefits (bursaries, healthcare, revenue) reaching non-Maasai households. **Monitoring results**: As registered group-ranch members, non-Maasai members have equal AGM participation and equal eligibility for need-based (non-ethnicity-based) benefits; the

	2025 sample was too small to report a household-survey trend (six project-wide) and no ethnicity-related grievance, and no grievance from or on behalf of non-Maasai members, was recorded (project grievance log, 24 August 2025).
Benefit Access	During the monitoring period, the project ensured representation of this group in revenue and land management committees to help ensure access of this group to project benefits.
Negative Impacts	During the monitoring period, the following actions have been taken to reduce the potential negative impacts of the project on non-Maasai group ranch members (e.g., marginalization by majority Maasai members): • Independent oversight of revenue allocations • Grievance redress mechanism established and accessible to non-Maasai members.

4.4.3. Net Impacts on Women (CCB, GL2.5)

As described above and in the PDD, the project will generate net positive impacts on women by improving food security, economic opportunities, and participation in decision-making. More specifically, the project will help ensure the following:

- Household Benefits: During the monitoring period, as described in Section 4.1.1, women experienced direct household benefits through increased food security from greater availability of meat and milk and improved pasture conditions near settlements (household water-collection times did not improve this period as discussed in Section 4.1.1).
- Economic Empowerment: Women, especially female-headed households, benefited from increased cash income from livestock-related sales, particularly milk and eggs, which are primarily controlled by women. While carbon credits had not yet been issued or sold during the monitoring period, advance payments of US$2/ha were distributed during the monitoring period and were allocated by communities to local development priorities, including education bursaries; benefit-sharing at full scale will follow credit issuance. Women held about 21% of the project's paid engagements across its establishment and monitoring rounds — 85 of approximately 410 — comprising 6 of 70 full-time staff, 17 of 85 short-term contract staff, and 62 of 255 household-survey enumerator engagements (of which 21 during the 2024–2025 monitoring rounds); four of the six full-time women are themselves heads of their households (project employment register, July 2026).

- Participation in Decision-Making: During the monitoring period, women were actively involved in decision-making at multiple levels of project governance and benefit-sharing. In grazing committees, which guide grazing plans and management, women held 86 of the 461 seats on the 40 zone- and conservancy-level grazing committees across the six PAIs (18.7%), ranging from 11.9% in Shompole to 22.4% in Olkiramatian (grazing-committee tracker, 2025). At the group ranch level, women also held formal leadership roles such as secretaries and treasurers in conservancy and ranch governance structures. Furthermore, women have directly participated in decision-making on budget proposals and carbon rights transfer agreements, ensuring their voices are included in both operational and strategic project processes. These multiple avenues of engagement confirm that women not only participated but also influenced decisions on resource management, benefit allocation, and project direction. First-round monitoring evidence for the net-impact pathways is reported in Sections 4.1.1 and 4.3.1: the children's-milk indicator among women respondents rose from 41.7% to 78.6%, girls' school attendance (ages 6–17) rose from 77.3% to 85.9%, and perceived pasture quality near settlements improved in every PAI. Female-headed households also expressed higher confidence in community governance than the population at large in both rounds (satisfaction with leadership 83.7% at baseline and 88.2% in 2025; trust in revenue management affirmed by 93.7% in 2025, yes or somewhat) — evidence that are not feeling excluded from benefits as distributions begin. Dedicated women-and-youth awareness meetings were also held during the monitoring period — including in Olkiramatian (27–28 August 2024) and in Shompole (29–30 August 2024) — documented in dated grazing-coordinator reports in the project's FPIC records.

4.4.4. Benefit Sharing Mechanisms (CCB, GL2.6)

Benefit sharing is described in Section 2.5.6 above.

4.4.5. Governance and Implementation Structures (CCB, GL2.8)

As described in the PDD, the initial PAIs are registered communities or legal entities that all represent self-governance structures used for aggregation of smallholders/community members. These governance structures hold the legal right to manage grazing and carbon rights, and their participation in the project unfolds in a participatory, transparent FPIC process. These communities operate under a quasi-traditional hierarchical structure that facilitates community communication, collaboration, and decision-making.

Each initial PAI community has a preexisting internal structure called a Grazing Committee. During the monitoring period, the committees decided on behalf of the communities they represent how many, or what type, and where livestock were grazed on the Project Area, informed by assessments conducted by herders. These committees were supported by grazing coordinators and the KRCP monitoring team.

Household AGM attendance of 75.2% in the 2025 round, women's and youth endorsement of all advance-payment budget proposals, and the operation of grazing committees in every PAI evidence

effective smallholder participation in project decision-making through these structures. Household perceptions of community governance corroborate this: satisfaction with community leadership — a fully comparable indicator — was higher in the 2025 round (83.2% yes) than at baseline (80.3%), and among female-headed households higher still (88.2% vs 83.7%). Trust in leaders to manage revenues and perceived fairness of distribution were affirmed (yes or somewhat) by 90.7% and 87.5% respectively in 2025; because the baseline round recorded almost no intermediate responses for these questions, strict-yes and yes-or-somewhat shares are reported together in the governance-perceptions tables (Section 4.3.1). Awareness-depth indicators moved the other way — awareness of how to participate in the project was lower in 2025 (44.0% vs 53.1%), as was carbon-rights awareness (55.4% vs 61.4%) — except in Eselenkei and RAMAT East, where both rose markedly; deepening participation awareness alongside the existing benefit-sharing sensitization is a priority for the second monitoring period. Critically, this confidence in community leadership held up across the project's marginalized and vulnerable groups, not only the majority: in the 2025 round satisfaction with community leadership was 81.4% among elderly-headed households, 82.7% among youth households, 81.3% among the poorest quartile, 83.2% among women and 88.2% among female-headed households — each comparable with baseline and each at or above its baseline level — evidence that the governance structures enable effective participation across all community groups, not just the pastoralist majority (governance-perceptions tables, Section 4.3.1).

Consistent with the PDD, an additional governance structure is being used by the project in observance of the Kenya Climate Change (Carbon Markets) Regulations, 2024: the Community Development Agreement (CDA) Committee. More specifically, CDAs have been established during the monitoring period for PAIs registered communities under the Community Land Act, 2016 — Olkiramatian, Shompole and Olkeri. The CDA Committee monitors and evaluates compliance with the terms of the agreement, provides oversight of use of revenues from the carbon project, ensures transparency, sensitizes the community regarding project activities, and settles disputes and grievances. Thus, for relevant communities, the CDA helps further ensure full and effective community participation, including key marginalized groups, in project decision-making and implementation.

The project also continued to develop the CDAs through leader consultations. A Magadi leaders' meeting on project status and CDA development (6 March 2026) was attended by the Kajiado County Executive Committee Member for Environment and Climate Change, the Director of Climate Change and the National Environment Management Authority, with community leaders emphasizing transparency, inclusive participation and clear governance structures.[53]

4.4.6. Smallholders/Community Members Capacity Development (CCB, GL2.9)

As noted in the PDD, the project actively builds the capacity of smallholders, community members, and relevant local organizations to effectively participate in project design, implementation, and management through structured training programs, employment opportunities, and participatory governance mechanisms.

[53] https://sftfa.co.ke/2026/03/06/magadi-leaders-meeting-on-project-status-and-community-development-agreement/

Training & Employment of Community Members

One of the core ways the project develops community capacity is through the direct employment and training of local members. During the project's establishment and monitoring period, approximately 410 community members were engaged in paid project roles and trained — 70 full-time staff (including 49 grazing coordinators drawn from participating communities), 85 short-term contract staff, and 255 household-survey enumerator engagements. This equipped participants with critical skills for implementing and sustaining rotational grazing systems, tracking environmental changes, and reporting key data. These individuals received training in grazing management, data collection, conflict resolution, and adaptive land-use planning, thereby increasing their technical expertise and ability to lead local conservation efforts.

Community Participation in Governance and Decision-Making

The project also strengthens local governance structures by engaging community members in grazing committees, land management groups, and benefit-sharing committees as described in previous sections. These participatory bodies ensure that local stakeholders are actively involved in planning and decision-making.

Additionally, traditional governance structures, such as the group ranch committees, are integrated into project governance, leveraging their existing authority and knowledge in land and livestock management. This approach fosters community ownership and long-term project sustainability.

Capacity Building Through Knowledge Sharing & Workshops

The project organizes workshops and knowledge-sharing sessions to enhance the capacity of local organizations and institutions, particularly in areas related to:

- Sustainable rangeland management
- Climate adaptation strategies
- Financial planning for benefit distribution
- Conflict mitigation and resolution

These sessions empower local leaders and institutions to actively participate in project implementation, ensuring the integration of both traditional knowledge and scientific best practices.

During the monitoring period, the project delivered a county-wide round of grazing-committee trainings in March 2024, documented in dated grazing-coordinator reports: Oloibortoto and Olkiramatian (5 March), Oldorko (7 March), Risa–Inchakita (14 March), Lenkobei and Oloika (19 March), Nakishomi, Naipeya, Israel and Ololepo (20 March), and Kitirua (22 March), among others. Further sessions during the monitoring period included the Elerai grazing-committee training (28 August 2024), leadership trainings for conservancy committees, and refresher training for RAMAT grazing coordinators. Foundational committee trainings immediately preceded the monitoring period (Ilparakuo and Komiya, 2 November 2023; Iluanat, Oloshaiki and Kilelu, 1 December 2023). The underlying training reports are held in the project's meeting records archive.

Integration with Existing Institutional Structures

The project aligns with local county government and conservancy organizations to ensure that capacity development efforts are reinforced at an institutional level. This alignment strengthens the role of local organizations in sustainable land-use planning, natural resource management, and climate resilience efforts.

Examples during the monitoring period include the MoU between the County Government of Kajiado and SftFA (signed 11 June 2024, Enchula) and coordination meetings with county officials on MoU development (April 2024). Conservancy-level MoUs and agreement signings (e.g., Elerai, Kikesen River, Kitenden Conservancy Trust) further embedded project governance within existing institutions.

Demonstrating Effective Participation in Project Management

The combined impact of hiring and training local staff, integrating community members into governance structures, and aligning with institutional frameworks ensures that smallholders, community members, and local organizations are not just passive beneficiaries but active participants in project management and decision-making.

This participatory approach directly supports the project's long-term success, ensuring that knowledge, skills, and governance mechanisms remain embedded within the community beyond the project's lifespan.

5. BIODIVERSITY

5.1. Net Positive Biodiversity Impacts

5.1.1. Biodiversity Changes (VCS, 3.19; CCB, B2.1)

In PDD Section 5.4.1, the project described several biodiversity elements that would be monitored over the project's lifetime, how they would be monitored, key assumptions and the rationale for our methodological choices. To date, the project has undertaken the baseline data collection effort and analysis described for the initial PAIs in Section 5.4.1 of the PDD and in the associated *Kajiado Rangeland Carbon Project Baseline Biodiversity Monitoring Report.*

Baseline biodiversity monitoring commenced in 2023 and has now been completed in all Phase I and II Project Area Instances (PAIs) as well as two adjacent reference areas (Amboseli National Park and Kimana Sanctuary). As laid out in the PDD Section 5.4.1 and the *Kajiado Rangeland Carbon Project Baseline Biodiversity Monitoring Report,* the KRCP monitoring plan calls for follow-on biodiversity monitoring three to five years after the community baseline, including resampling of baseline sites and establishment of a formal framework for ensuring spatial and temporal sampling distributions that allow quantification of changes in biodiversity metrics. To date, post-baseline biodiversity surveys have been conducted at 47 sites. In keeping with the project timeline, these data will be compiled with ongoing sampling efforts to understand changes in biodiversity compared to the baseline data while allowing for correction for confounding factors (e.g., climatic - the drought through initial 2023 baseline sampling). Additionally, both anecdotal evidence and remote sensing analyses (see Section 3.3.1) of the PAIs already support the project theory of change documenting increased forage production above that expected from rainfall during the year after communities began implementing RRG plans.

Below we outline the changes in biodiversity we expect to see over time as the project continues to be implemented.

Change in Biodiversity	Increased populations of trigger species, including vultures, elephants, and giraffes.
Monitored Change	With baseline monitoring completed, the changes are predicted, positive, and indirect, consistent with the project theory of change described in Section 5.4.1 and Appendix 2 of the PDD.
Justification of Change	As explained in Section 5.2.1, 5.4.1 and Appendix 2 of the PDD, implementing RRG is expected to decrease habitat fragmentation and increase forage availability for elephants and giraffes. RRG implementation is also expected to increase herbivore abundance and distribution in the CCB Project Zone, leading to increases in carcasses available to vultures. Additionally, other organizations (Lion Guardians, Peregrine Fund, and Kwenia Conservancy) are addressing key sources of vulture declines, such as poisoning, habitat loss, and human-wildlife conflict. Through these combined efforts, we expect the project to help stabilize vulture populations.

Change in Biodiversity	Increased rangeland health as indicated by increased vegetation cover, reduced basal gaps, and decreased evidence of erosion
Monitored Change	With baseline monitoring completed, the changes are predicted, positive and direct, consistent with the project theory of change described in Section 5.4.1 and Appendix 2 of the PDD. Remote sensing analysis has already detected greater forage production above that expected from rainfall after communities began implementing RRG plans (see section 3.3.1).
Justification of Change	Improvements in vegetation are predicted to stem directly from the implementation of RRG, which provides rest for forage plants, allowing

	recovery and increased seed production over time. Improved perennial vegetation will reduce bare ground, stabilize soils and reduce erosion.

Change in Biodiversity	Increased abundance of dung beetles and grasshoppers
Monitored Change	With baseline monitoring completed, the changes are predicted, positive, and indirect, consistent with the project theory of change described in Section 5.4.1 and Appendix 2 of the PDD.
Justification of Change	As explained in Section 5.2.1, 5.4.1 and Appendix 2 of the PDD, implementing RRG is expected to increase vegetation cover and structural complexity, habitat condition, perennial grass abundance, soil organic carbon (SOC), and the diversity of herbivores. All of these changes will create resources and microhabitats that are better able to support dung beetle populations, especially in periods of drought. In addition, while we expect several factors (including rainfall) to contribute to patterns in grasshopper abundance and diversity[54], we expect increases in grass biomass under the project to directly contribute to increases in the abundance and diversity of grasshoppers over time.

Change in Biodiversity	Increased abundance of indicator bird taxa including pigeons and doves, weavers and allies, larks, and the eastern chanting goshawk
Monitored Change	Because only baseline monitoring has been completed, the changes are predicted, positive, and indirect, consistent with the project theory of change described in Section 5.4.1 and Appendix 2 of the PDD.
Justification of Change	As explained in Section 5.2.1, 5.4.1 and Appendix 2 of the PDD, species that require adequate ground cover to forage and/or breed, or primarily feed on grass seeds, are expected to benefit under RRG through improved habitat conditions. Medium-sized raptors like Eastern Chanting-Goshawk may also benefit from the project as they feed on small reptiles, mammals, insects, and ground-dwelling birds, all of which are likely to increase in availability under RRG. However, increases in ground cover under RRG may worsen hunting success in areas not recently grazed, which may constrain the benefits this species receives from the project.

Change in Biodiversity	Increased mammal species diversity and richness

[54] Lavhelesani D. Simba et al., "Interactive Effects of Rangeland Management and Rainfall on Dung Beetle Diversity," *Biodiversity and Conservation* 31, no. 11 (2022): 2639–56, https://doi.org/10.1007/s10531-022-02448-z.

Monitored Change	Because only baseline monitoring has been completed, the changes are predicted, positive, and indirect, consistent with the project theory of change described in Section 5.4.1 and Appendix 2 of the PDD.
Justification of Change	As explained in Section 5.2.1, 5.4.1 and Appendix 2 of the PDD, increasing grass cover and habitat heterogeneity should benefit small to mid-sized grazers and the carnivores that consume them[55]. The project is also likely to lead to an increase in abundance of small mammal species that have not been detected during baseline monitoring.

5.1.2. Mitigation Actions (VCS, 3.19; CCB, B2.3)

As described in Section 5.2.2 of the PDD, no negative impacts on biodiversity are anticipated as a result of project activities, and thus no mitigation measures have been designed to counter any negative effects of project activities. However, the project is implementing an adaptive management approach to ensure that if any unforeseen negative impacts on biodiversity arise, appropriate mitigation measures will be designed and implemented to address them effectively.

During the monitoring period, the project worked to build and strengthen collaboration with and among organizations already working to protect biodiversity in the project zone. The project also shared baseline monitoring data with the Kenyan Wildlife Service (KWS) and the Wildlife Training and Research Institute (WRTI) to ensure transparency, strengthen wildlife conservation strategies, encourage sustainable land use practices, and support strategies that help reduce retaliatory killings of predators.

Bird communities are widely studied as indicators of environmental change because they are diverse, abundant, and relatively straightforward to monitor using well-established methods. SftFA and BRI scientists held three workshops on bird capture, ringing, and sampling in Amboseli for key stakeholders, including representatives from KWS, WRTI, and the Kajiado County Government in April and June 2024 and April 2025. Experts from Nature Kenya and the National Museum of Kenya supported these training sessions as well. Following the workshops, a pilot study was conducted in September 2025 across four sites representing a gradient of grazing pressure within the broader Amboseli ecosystem. To date, 375 individuals across 84 species have been captured using standardized mark-recapture techniques, alongside in-hand assessments of morphology, molt condition, and breeding status. These data will be analyzed to investigate how shifting habitat quality influences bird demography, phenology, and physical condition. Furthermore, tissue samples will be screened for contaminants and other chemical residues.

Building on these workshops (and the trigger species investigative efforts described in Section 5.4.1 below), and inspired by the region's globally significant avian diversity, the 160-page book Birds of Amboseli was published in 2026. Authored by experts from BRI and Soils for the Future Africa, supported

[55] Jose R. Soto-Shoender et al., "The Importance of Grass Cover for Mammalian Diversity and Habitat Associations in a Bush Encroached Savanna," *Biological Conservation* 221 (May 2018): 127–36, https://doi.org/10.1016/j.biocon.2018.02.028 (Accessed September 25, 2025).

by numerous collaborators, with a Foreword from Joel Ole Nyika (Kajiado County Government) and Daniel Leturesh (Olgulului Chairman), and published by Big Dipper Books, the volume explores the lives of Amboseli's birds and the conservation challenges they face. Aimed at scientists, birders, and safari-goers alike, it highlights the deep bond between the Maasai people and their native environment.

As noted in PDD Section 5.2.2, the project is committed to helping mitigate conflict between pastoralists and lions as needed. The Project design supports and strengthens many conservancy partners within the KRCP PGA/CCB Project Zone. Several of these conservancies, in partnership with the project and other stakeholders, have active programs to reduce human-wildlife conflict (e.g., predator monitoring, awareness raising, and compensation funds). Importantly and encouragingly, there were no reports of wildlife conflict or wildlife poisonings during the monitoring period.

The project aligns with the precautionary principle by ensuring broad public participation in decision-making. Community engagement through grazing committees and stakeholder meetings will help identify and address biodiversity concerns early, allowing for proactive adjustments in management strategies. Any future conservation interventions will be guided by ecological monitoring data, community input, and coordination with conservation organizations.

5.1.3. Net Positive Biodiversity Impacts (VCS, 3.19; CCB, B2.2, GL1.4)

Species and habitat	All targeted trigger species will benefit from structural changes and higher forage production to support food webs in the savanna grasslands that dominate the project area. Evidence for such changes are provided in section 3.3.1 as a climate change adaptation change: greater forage production above that expected from rainfall during 2024 and 2025
Areas needed for habitat connectivity	The project has enhanced wildlife corridors by improving habitat quality (higher forage production) in project areas. A total of 39 wildlife conservancies (see **Fig. 5-1)** have been established within the PGA since the project start date, straddling corridors between protected areas in Tanzania (Kilimanjaro NP, Ngorongoro Conservation Area, Kitumbeine and Gilai National Forests) and Kenya (Masai Mara National Reserve, Nairobi, Amboseli, Chyulu Hills, and Tsavo National Parks).

As described in the PDD Sections 5.1.1. and 5.1.2., the KRCP PGA/CCB Project Zone sits at the vital nexus of multiple globally iconic national parks and protected areas, extending from Serengeti National Park and Maasai Mara National Reserve in the west to Tsavo and Kilimanjaro National Parks in the east.

The land tenure framework in Southern Kenya is rapidly shifting due to the subdivision of former group ranches and increasing privatization and parcelization of historically communal lands. These changes threaten the viability of Maasai pastoralist culture, traditional knowledge, land use practices, and

livestock management practices. It also threatens the landscape connectively, migratory corridors, and the open rangelands relied on by the iconic fauna of Southern Kenya.

In response to these pressures and the changing national legal frameworks governing land ownership, community conservancies have emerged as an effective mechanism for maintaining landscapes and livelihoods. KRCP is explicitly designed to partner with, strengthen, and sustain these conservancies to allow them to continue, and expand, operations. Partnerships with the project, and other stakeholders, helps conservancies through access to training, technical expertise, capacity building, and financial resources to support initiatives and achieve long-term sustainability.

Since the project start date, 39 new wildlife conservancies have been established within the KRCP PGA/CCB Project Zone. Notably, 31 of these conservancies directly overlap with documented wildlife corridors (Figure 5-1). The open rangeland corridors within and bordering KRCP provide ecological linkages and corridors allowing for seasonal migrations of animals, particularly of large herbivores (e.g., African savanna elephant, Maasai giraffe) between High Conservation Values (HCVs) areas.

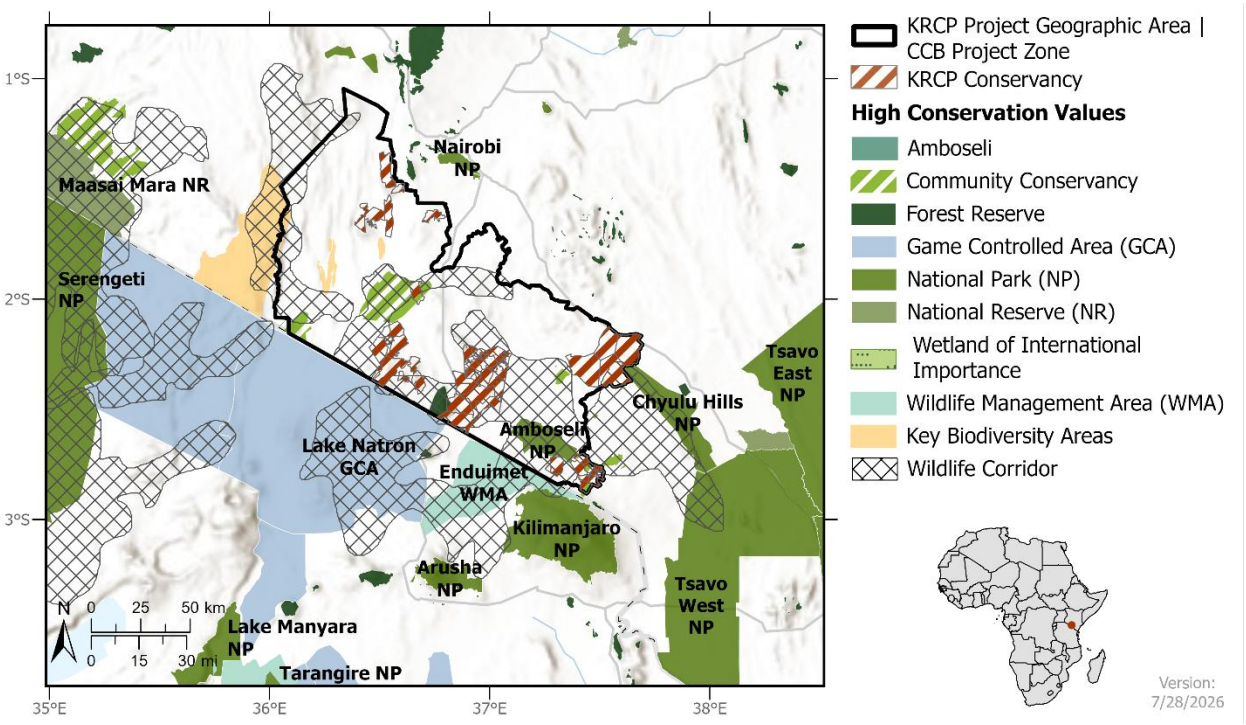


Figure 5-1. A total of 39 new conservancies (red hatched) have been established within the borders of the Project Geographic Area (PGA; black outline) and CCB Project Zone (equivalent to PGA) since the project start date. They are shown in relation to reference landscapes corresponding to identified biodiversity and community High Conservation Values (HCVs) areas.

Conservancies in Kenya are formally registered with the Kenya Wildlife Conservancies Association (KWCA). Structurally, they are committed to protecting and conserving wildlife, recognizing it as intertwined with enhancing and preserving traditional livelihoods and culture. The conservancies within the KRCP PGA/CCB Project Zone benefit biodiversity through:

- **Wildlife management** RAMAT East conservancies have implemented a Maasai giraffe (a trigger species) tracking program to better understand spatial utilization, critical habitats, and refine migratory corridors. These data will feed into management and land use decisions to both improve conservation outcomes and reduce human-wildlife conflict. They are also partnering with Save Giraffes Now (SGN) and Kenya Wildlife Service (KWS) to free enclosed wildlife inside fenced private parcels.
- **Training and capacity building** Local community members are trained and employed as scouts and rangers. They patrol their conservancies to aid in wildlife protection and prevent deforestation. Through these patrols they also engage members of their communities about benefits of wildlife management.
- **Reducing human-wildlife conflict** Conservancies in Eselenkei and Olgulului are working with Lion Guardians Amboseli training local Maasai Morans to track and prevent lions from attacking livestock by alerting herders. Additionally, Big Life Foundation runs predator compensation programs to provide payments when livestock are killed by predators (e.g., lions, hyenas) to reduce incidence of retaliatory killings.
- **Rangeland ecosystem restoration** ALOCA conservancies, with additional support of WWF and Just Dig it, are undertaking restoration activities by clearing invasive species, reseeding bare patches, and mitigating erosion. Similar programs are also underway in parts of Olgulului. Restored rangelands in in Eselenkei, Olgulului, and ALOCA conservancies has the additional benefit of reducing pressure to graze livestock in neighboring Amboseli National Park, benefiting wildlife in the park.
- **Landscape-scale collective stewardship** Extensive efforts are underway by conservancies, in partnership with KRCP, to map conservancy borders. Defined boundaries and conservancy maps facilitate accurate and more effective land use planning to support conservation outcomes. These efforts also include mapping fences and other obstructions impeding wildlife movement and migration. These open landscapes benefit both wildlife and the pastoralists who rely on the ability to move livestock across the landscape to access resources. Additionally, conservancies are undertaking awareness raising campaigns to shift towards a positive public perception of wildlife in communities.

These conservancies, bolstered by financial, structural, and technical partnerships with the project, have a net positive biodiversity impact that extends to maintaining vital landscape connectivity and strengthening local governance committed to wildlife management as a viable, community-led strategy for the future.

As noted above in Section 5.1.1 and in PDD Section 5.2.3, the expected biodiversity changes to occur with the project activities are all positive. No negative biodiversity impacts are expected, so the net biodiversity impacts are thus positive in comparison with the without-project scenario.

Species and habitat	Large raptors: Secretarybird, Martial Eagle, Bateleur, Rüppell's Vulture, Lappet-faced Vulture, White-backed Vulture, Tawny Eagle. All of these trigger species utilize the rangeland habitat in the

	KRCP PGA/CCB Project Zone and are expected to benefit indirectly from restored rangelands under the project through increases in availability of herbivore carcasses (for vultures), mid to small-sized mammals and gamebirds (for eagles), and large insects (for Secretarybird). With baseline monitoring completed, project activities are expected to benefit these species as compared to the without project scenario (which would result in rangeland degradation and a decline in prey availability). Their populations will be monitored as project implementation continues. No negative impacts of the project on these species have been observed during the monitoring period
Species and habitat	Masai giraffe and African savanna elephant. As with the above trigger species and as noted in Section 5.2.1, each of these species are expected to benefit indirectly from the project as compared to the without-project scenario. The benefits to these species comes primarily through helping reduce incentives for local landowners to convert their land to other types of land use (e.g. intensive agriculture), which would lead to habitat loss and fragmentation. That is, the more productive rangelands are, the less likely they will be converted to other uses. We expect stable to improving populations in these species over time as project benefits accrue. No negative impacts of the project on these species have been observed during the monitoring period.
Areas needed for habitat connectivity	As noted in PDD Section 2.1.1 and 5.1.1, the KRCP PGA/CCB Project Zone is centrally located between some of East Africa's most iconic national parks and protected areas, extending from Tanzania's Serengeti National Park in the west to Kenya's Tsavo National Park in the east (Figure 5-1). The plains of Kajiado County provide a vital ecological link for iconic migratory herbivores, such as giraffe, elephant, wildebeest, and zebra. Large carnivores, including lion, leopard, cheetah, wild dog, spotted hyena, and striped hyena, are also present, though at lower densities. The PGA/CCB Project Zone includes Amboseli National Park, an internationally renowned conservation area. As described in the PDD, the project is explicitly designed to provide improved habitat connectivity between these and other conservation areas by preserving and restoring open, contiguous savannah grasslands that wildlife can readily access. Thus, no negative impacts are expected, particularly relative to the without-project scenario. To date, the project has gathered baseline data for presence and abundance of different wildlife species using rangelands in the PGA/CCB Project Zone, and we will document the abundance and diversity of species using Kajiado rangelands over time as project benefits accrue. No negative impacts of the project habitat connectivity have been observed during the monitoring period.

Project activities will also provide climate change adaptation benefits in the form of better vegetation condition, better water retention capacity on rangeland soils, and longer duration of surface water sources, all of which provide wildlife with crucial protection from longer and/or more extensive droughts,

which is projected to occur under future climate change. Initial indications from anecdotal evidence and remote sensing analyses, detailed in Section 5.1.3, found greater forage biomass than would be expected from rainfall in the years after communities initiate RRG plans. This rainfall-corrected increase in forage biomass is an early quantitative signal that the KRCP landscape is already building resilience to climate variability, rather than merely responding to short-term rainfall conditions.

5.1.4. High Conservation Values Protected (CCB, B2.4)

In PDD Section 5.1.2, the project identified 11 HCVs in the CCB Project Zone:

1. Amboseli National Park
2. Chyulu Hills National Park
3. Kilimanjaro National Park (Tanzania)
4. Namanga Hills Forest Preserve
5. Enduimet Wildlife Management Area (Tanzania)
6. Lake Natron Game Controlled Area (Tanzania)
7. Kwenia Important Bird Area/Key Biodiversity Area
8. Lake Magadi Key Biodiversity Area
9. South Nguruman Key Biodiversity Area
10. Wildlife Corridors between Kilimanjaro to Amboseli, the Natron Basin and Nguruman Escarpment, and Ngorongoro and Arusha
11. The persistence of arid to semi-arid savannah grasslands

As described in the PDD, each of these HCVs is expected to benefit from the project indirectly through primarily two key mechanisms. First, as rangeland health improves under the project, project rangelands will provide improved habitat for wildlife, including a wide range of insects, mammals (primarily herbivores), and birds. In addition, improving rangeland productivity under the project will incentivize the conservation of intact, contiguous grassland habitat in the PGA/CCB Project Zone. This will reduce habitat loss and fragmentation and benefit all wildlife that utilize Kajiado rangelands, including the threatened and endangered species described in Section 5.1.1 and 5.1.3. The demonstration of RRG implementation in Section 3 shows that intact, contiguous grassland habitat is being supported and under improved management within the PGA/CCB Project Zone under the project scenario.

As noted in other sections above, the project has completed baseline biodiversity monitoring for the Phase I and II PAIs and two reference areas (Amboseli National Park and Kimana Sanctuary. As laid out in the Monitoring Plan, analyses of biodiversity impacts on specific HCVs have not yet been completed, with ongoing sampling underway. However, no negative impacts have been observed on any HCV during the monitoring period and we will report effects on HCVs consistent with the monitoring plan after the next round of monitoring has been completed for participating PAIs.

5.1.5. Species Used (VCS, 3.19; CCB, B2.5, 2.6)

Not applicable.

5.1.6. Invasive Species (VCS, 3.19; CCB, B2.5)

As noted in PDD Section 5.2.8, the project does not facilitate the introduction or spread of invasive species. RRG supports the recovery of native plant cover and grass productivity in particular (see section 3.3.1), which directly limits the establishment of invasive species. The project does not involve bringing in livestock from other areas, so the risk of invasive species dispersal through long-distance livestock transport is not present. Similarly, none of the project activities would result in an increase in invasive species. This project's activities promote the increase in native plant cover, especially native perennial grasses, which serve as a direct counter to invasive species spread from other sources.

Table 5-3: Identified invasive species & mitigation measures

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
Ipomoea sp. (morning glory)	Called Oltiameleteki in Maa, this species is highly prevalent in the PGA/CCB Project Zone. It is preferable to be cut as opposed to being removed to prevent soil disturbance. Control of this species has begun in some villages around settlements where its density is highest due to severe overgrazing.
Parthenium hysterophorus (famine weed)	A widespread and aggressive plant, it is controlled by careful cutting and burning to prevent seed distribution. Planting of native grasses is an important option once the plant has been removed to prevent re-occurrence. This species may require a biocontrol agent should one be found to be effective. See https://www.thecitizen.co.tz/tanzania/news/national/how-invasive-weeds-threaten-pastoral-livelihoods-in-tanzania-4629960
Vachellia (Acacia) reficiens (false umbrella thorn)	This tree is known to be allelopathic and therefore has no vegetation growing under its crown. Local communities have started to cut it down and reseed the barren land or simply leave it fallow and await natural seeding. Depending on when it is cut, it either dies or can resprout. Resprouting trees need to be treated again (cut).

Neltuma juliflora (mesquite)	Introduced from the Americas to counter soil erosion and known locally as Mathenge, it has overtaken large areas of former grassland, especially in Shompole. It spreads quickly, has deep roots that access water before native species, and its leaves are poisonous to livestock and wildlife. It is removed by cutting.
Opuntia ficus (prickly pear)	Sometimes planted as a fence, this New World cactus has spread in and around many settlements. It can be cut to be removed, and there is a fungus that can be applied as a biocontrol agent – mostly cochineal insects have become preferred over mechanical removal due to the regenerative capacity of the species.

5.1.7. GMO Exclusion (CCB, B2.7)

The project guarantees no GMOs have been introduced into the Project Area as part of any project activities.

5.1.8. Inputs Justification (VCS, 3.19; CCB, B2.8)

Project activities preclude the use of fertilizers to stimulate productivity and possibly carbon removals through applicability conditions. The PGA/CCB Project Zone necessarily excludes lands devoted to crop agriculture, and project activities are not applicable to agricultural land, so there is no way for project activities to lead to increased use of pesticides or herbicides.

Name	None
Justification of use	No inputs are used in project activities
Potential adverse effect	Not applicable

5.2. Offsite Biodiversity Impacts

5.2.1. Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Actions (CCB, B3.2)

Negative offsite impact	Mitigation measure(s)
Herders from outside the Project Area and outside the PGA/CCB Project Zone (but within the VCS Project Zone) may be displaced due to the enforcement of project boundaries, leading to increased	The project incorporates an inclusion strategy that allows herders from outside the Project Area and outside the PGA/CCB Project Zone (but within the VCS Project Zone) to graze within project boundaries under structured agreements, provided they follow rotational grazing

grazing pressure and biodiversity loss in lands outside the Project Area and outside the PGA/CCB Project Zone (but within the VCS Project Zone).	plans. This measure prevents overgrazing and resultant biodiversity impacts outside the PGA/CCB Project Zone and integrates these herders into sustainable grazing management. Residual negative impact to offsite herders can be mitigated with conflict resolution methods and peace meetings and mitigation. No such conflicts were reported during the monitoring period and thus no additional mitigation measures were taken.
Potential encroachment into forest reserves outside the Project Area and outside the PGA/CCB Project Zone (but within the VCS Project Zone) for emergency livestock forage, leading to degradation of forest ecosystems outside the Project Area and outside the PGA/CCB Project Zone (but within the VCS Project Zone).	Implementation of RRG creates designated drought forage reserves (grass banks) within the Project Area, reducing the incentive for herders to seek forage outside the Project Area and outside the PGA/CCB Project Zone (but within the VCS Project Zone). This measure prevents forest encroachment outside the PGA/CCB Project Zone, and is actively monitored through grazing reports and forest integrity assessment. Data gathered to date do not suggest changes in grazing within forest reserves (see Section 3.2.3).

5.2.2. Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

During the monitoring period, implementation of the project activities was expected to accrue extensive biodiversity benefits within the project area that also benefit offsite biodiversity. The positive impacts on offsite biodiversity were expected to strongly outweigh any negative offsite impacts noted under Section 5.2.1 above, which are mitigated as part of the project's design. After applying the mitigation measures noted above, all remaining negative offsite biodiversity impacts will be restricted to minor increases in the prevalence of overgrazing, which are isolated, temporary, and restricted to the leakage belts that the project has already identified. Thus, positive biodiversity benefits of the project have far outweighed negative effects resulting in net positive offsite biodiversity benefits.

5.3. Biodiversity Impact Monitoring

5.3.1. Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

In PDD Section 5.4.1, the project described several biodiversity elements that would be monitored over the project's lifetime. The project has undertaken the baseline data collection effort described for the initial PAIs in Section 5.4.1 of the PDD and in the associated *Kajiado Rangeland Carbon Project Baseline Biodiversity Monitoring Report.* As described in the PDD and the report, baseline biodiversity monitoring for the initial PAIs (Eselenkei, Olgulului, Olkeri, Olkirimatian, the RAMAT East conservancies, and Shompole) in 2023. For each PAI, baseline surveys are conducted as soon as practicable, and follow-on monitoring will occur every three to five years thereafter, relative to the year the initial baseline data were collected for that PAI. Consistent with the monitoring plan, we expect the first biodiversity monitoring results to be reported sometime between 2026 and 2028 for the initial PAIs.

For subsequent PAIs joining the project, baseline data collection and follow-up monitoring efforts are conducted using the same methods as the initial PAIs. The complete set of new PAIs that joined during this monitoring period is identified in Table 2-1 in Section 2. Baseline biodiversity surveys were conducted for these communities in 2024 and 2025. The results of these surveys are reported in the 2023-2025 Biodiversity Baseline Monitoring Report.

As noted in the PDD, our monitoring plan includes indicators of climate change adaptation benefits for biodiversity, which are achieved through the restoration of perennial grass on Kajiado's rangelands. Perennial grass coverage corresponds to deeper roots, more soil carbon, and better water retention capacity[56]. This in turn leads to better perennial availability of surface water during the dry season and shoulder seasons of transition. The specific vegetation metrics that the KRCP plans to track include perennial grass biomass, basal cover, and bare area. These metrics are expected not only to provide a measure of the recovery of the rangelands, but also to provide a measure of the climate change adaptation benefits for wildlife that will result from the project activities.

Our monitoring plan also includes tracking population trends for trigger species, including:

- Vultures (White-backed Vulture, Rüppell's Vulture, Lappet-faced Vulture),
- Raptors (Tawny Eagle, Secretarybird, Martial Eagle, Bateleur),
- Giraffe (Masai Giraffe),
- Elephant (African Savanna Elephant).

These species were chosen because they were detected during the 2023 baseline biodiversity surveys and are either numerous enough or detectable enough to enable meaningful analysis of changes in their population over time. Regular monitoring surveys will systematically track trends in their abundance.

5.3.2. Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

As described in PDD Section 2.3.4, project summary information (including information on the monitoring plan) was presented in native languages at community meetings including Annual General Meetings (AGMs), meetings of cooperatives, and grazing committee meetings in May and June, 2024. After project validation, English and native language summaries of monitoring reports will be presented at community

[56] Johnson et al., "Adaptive Multi-Paddock Grazing Management's Influence on Soil Food Web Community Structure for."

meetings. The full monitoring plan is publicly available with the PD at the Verra Registry under Verra ID# 4714.

5.4. Optional Criterion: Exceptional Biodiversity Benefits

5.4.1. Trigger Species Population Trends (CCB, GL3.2, GL3.3)

Trigger species	Secretarybird, Martial Eagle, Bateleur, Rüppell's Vulture, Lappet-faced Vulture, White-backed Vulture, Tawny Eagle
With-project scenario	Though the KRCP theory of change expects that large raptors benefit indirectly from restored rangelands and increased herbivore populations, there may be enough external stressors acting on these populations to mask any benefits from altered grazing practices. However, the project is implementing specific conservation measures to enhance raptor populations, including: <u>Reducing Threats:</u> • Community education programs on the impacts of poisoning and illegal wildlife killing, helping to reduce threats to scavenging species. • Engagement with conservation NGOs working in the region, such as the Peregrine Fund and Kenya Wildlife Service, to improve species monitoring and support implementation of anti-poisoning initiatives. • Improved livestock management practices that decrease the likelihood of human-wildlife conflict and retaliatory poisoning events. <u>Enhancing Population Status:</u> • Rotational grazing and rangeland restoration activities contribute to improved habitat conditions, increasing prey availability for raptors. • Protection of communal grazing areas prevents habitat degradation and loss of nesting sites for large raptors. • Observations of raptors are expected to remain stable, with Tawny Eagles encountered in sufficient numbers that a measurable positive trend is anticipated. • Targeted investigative efforts have also been launched on IUCN Red-Listed species—specifically the Martial Eagle and Secretarybird—to evaluate how these apex predators utilize the Amboseli landscape. In April 2025,

	solar-powered GPS transmitters were attached to two individuals of each species to track their fine-scale movements over time. Detailed data on space use, habitat preference, and seasonal behavior across the annual cycle provide vital insights for developing effective conservation management strategies for these endangered birds. Population Estimates at End of Project: The project will continue to monitor raptor presence through observational surveys, but precise population estimates within the project zone are currently not feasible due to the highly mobile nature of these species and lack of localized data collection efforts. However, estimates may become possible as more data is gathered over the course of the project. The ongoing tracking of Secretarybirds and Martial Eagles provides high-resolution movement, home range, and habitat utilization metrics. Evaluating temporal trends from tracking metrics will allow for direct, empirical testing of the project Theory of Change by linking spatial utilization by raptors with rangeland health metrics.

Trigger species	Masai giraffe
With-project scenario	Project activities will result in restoration of perennial grasses in the Project Area, in turn helping maintain open savanna landscapes that support giraffe populations by reducing land conversion pressures. While giraffe are obligate browsers and do not directly rely on grasses, project interventions that enhance rangeland management indirectly benefit them by: • Increasing the viability of livestock-based livelihoods, reducing incentives for land conversion to agriculture. • Maintaining open corridors for movement by preventing fragmentation from fencing and uncontrolled settlements. • Working with local grazing committees to integrate wildlife movement needs into grazing plans. Population Estimates at End of Project: No project-zone-specific estimates exist for giraffe at present, but future surveys will aim

	to establish more precise numbers. Until then, trends at the regional level provide the best available data for assessing likely changes in population.

Trigger species	African savanna elephant
With-project scenario	Project activities will result in restoration of perennial grasses, which will increase forage availability for elephants that use the Project Area. While elephants are facultative grazers and can consume a mix of browse and grass, rangeland improvements will: ● Maintain open space and prevent habitat fragmentation. ● Reduce agricultural encroachment, lowering the risk of human-elephant conflict. ● Ensure critical dry-season resources remain available in communal grazing areas. In August 2026, Kajiado County contacted SftFA and BRI to ask for support in designing a monitoring approach for habitats within the Amboseli ecosystem. This request was sparked by a recent spate of elephant deaths, wherein toxins from an unknown source in the local environment are hypothesized to be poisoning elephants, resulting in paralysis and eventual death. It is not thought that these deaths have any relation to poisonings (intentional or unintentional) of lions or raptors. Given that birds are an important taxonomic group for which toxicology studies have been well-established in other areas of the globe, Kajiado County has asked to move this monitoring approach ahead rapidly. Population Estimates at End of Project: Given the highly mobile nature of elephants and their movement between Kenya and Tanzania, estimating a project-specific population number is not currently possible. However, population monitoring through field surveys and ranger observations will continue, with the expectation that maintaining large, connected landscapes will support stable or increasing elephant numbers.

APPENDIX 1: NEW PROJECT AREAS AND STAKEHOLDERS

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APPENDIX 2: PROJECT RISKS TABLE

Use this appendix to identify and summarize the project risks and fulfill the requirements of Sections 2.3.5, 2.3.17, 2.5, and 5.1– 5.1.8, above. Where no risk is identified, write 'No risk identified' and provide justification in the third column. Add rows as needed.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Natural and human induced risks to stakeholders' wellbeing	Drought reducing forage availability.	Severe drought can decrease potential grass growth, reduce water availability, and force large-scale livestock movement outside the Project Area.	The project actively restores perennial grasses and implements rotational grazing to enhance drought resilience. Partnerships with Savannas Forever focus on reseeding degraded areas near settlements to provide forage for small livestock and buffer against future drought.
Risks to stakeholder participation	Limited engagement in rotational grazing programs.	Lack of participation could reduce the project's impact and limit benefits to communities.	Effective communication on carbon revenue benefits, improved forage quality, and participatory governance ensures continued engagement.
Working conditions	Lack of standardized employment conditions.	Poor working conditions may negatively impact local project personnel, including grazing coordinators and monitoring staff.	The project ensures compliance with local labor laws, provides fair wages, and guarantees safe and ethical working conditions.
Safety of women and girls	Exposure to gender-based violence during grazing activities.	Increased vulnerability to violence or harassment, particularly in remote grazing areas.	The project incorporates gender-sensitive training, establishes women's leadership groups, and ensures safe workspaces within project activities

Safety of minority and marginalized groups, including children	Exclusion of marginalized groups from decision-making.	Risk of unequal benefit distribution and disenfranchisement of certain communities.	The project promotes inclusivity through stakeholder consultations, village engagement, and equitable benefit-sharing mechanisms.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Use of non-biodegradable waste in grazing areas.	Could lead to pollution in the Project Area and impact soil and water quality.	The project prohibits hazardous waste disposal and encourages sustainable, non-polluting land-use practices.
Discrimination	Unequal access to benefits among community members.	Certain groups may be denied equal opportunities to participate in project activities.	The project mandates equal participation for all stakeholders and implements governance structures to ensure transparent decision-making.
Sexual harassment	Risk of workplace harassment.	Project personnel may face discrimination or harassment in leadership roles and work environments.	The project enforces a zero-tolerance policy for harassment, conducts gender sensitivity training, and actively promotes women's leadership.
Equal pay for equal work	Gender-based wage disparities.	Risk of wage inequality between men and women for similar roles.	The project ensures standardized pay structures and equal compensation policies.
Gender equity in labor and work	Limited employment opportunities for women.	Women may face barriers to meaningful employment within the project.	The project actively recruits women, integrates them into grazing committees, and ensures leadership roles.
Forced labor[57]	Coerced participation in project activities.	Risk of individuals being pressured into participation.	The project ensures that all labor is voluntary and adheres to local labor laws.
Child labor	Children participating in land management activities.	Potential diversion of children from education into manual labor.	The project ensures that all labor is voluntary and adheres to local labor laws.

[57] The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

Human trafficking	Movement of vulnerable individuals into exploitative labor conditions.	Though unlikely, any form of employment involves a general risk of exploitative labor.	The project ensures compliance with national labor laws, the Soils for the Future Africa Handbook, and community-based monitoring.
Recognition of, respect of, and promotion of the rights to IPs, LCs and customary rights holders	Potential disputes over land tenure.	Risk of displacement or lack of recognition of local land rights.	The project is community-driven, respects customary land tenure, and follows legal safeguards to prevent conflicts.
Preserving and protecting cultural heritage	Risk of disrupting culturally significant sites.	Project activities could inadvertently impact sacred or historical areas.	The project includes cultural heritage assessments and community involvement in land-use planning.
Protecting and preserving property rights, customary rights, or protecting legal or customary tenure/access rights to territories, property, and resources, including collective and/or conflicting rights	Conflicts over rights or access to grazing lands.	Unclear property rights could lead to disputes over land use as grazing management changes are implemented.	The project FPIC process ensures transparent land-use planning with legally established owners of defined management areas – villages and village land use plans. Approvals are secured at all necessary levels of government. Inclusive decision-making at the community level ensures that any land use conflicts are identified and resolved very early before implementation.
Impacts on biodiversity and ecosystems	Overgrazing leading to habitat degradation.	Could reduce plant diversity and negatively impact wildlife habitats.	Rotational grazing and ecosystem monitoring mitigate degradation risks.
Soil degradation and soil erosion	Increased soil erosion due to grazing pressure.	Overgrazing can cause bare ground, increase vulnerability to erosion, and lead to topsoil loss and reduced land productivity.	The project actively restores grassland vegetation and reduces the likelihood of overgrazing.
Water consumption and stress	Overuse of water sources by livestock.	Increased pressure on already limited water resources.	The project promotes sustainable water management and grazing rotation to prevent overuse of critical water sources.

Habitats (and areas needed for habitat connectivity) for rare, threatened, and endangered species	Overgrazing could negatively impact critical habitat for key species.	Overgrazing could cause habitat degradation for threatened species that rely on healthy grassland vegetation.	The project actively restores grassland vegetation and reduces the likelihood of overgrazing.
Areas needed for habitat connectivity	Encroachment on migration corridors.	Livestock grazing could interfere with wildlife movement.	The project ensures that wildlife corridors are maintained and integrated into razing plans, which actively preserve open community grazing lands with no fencing.
Invasive species	Spread of invasive species.	Could disrupt native vegetation and biodiversity.	The project includes invasive species monitoring and management strategies to prevent their spread or continued existence.
Ecosystem conversion	Conversion of rangelands into other land uses.	Land conversion could threaten biodiversity	

APPENDIX 3: COMMERCIALLY SENSITIVE INFORMATION

Table intentionally left blank in this edition. If applicable, commercially sensitive information will be noted in future editions of this document.

Section	Information	Justification

APPENDIX 4: INSTRUCTIONS TO GRAZING COORDINATORS AND DATA ANALYSTS

Grazing coordinators should:

1. Obtain as much contact information of herders and livestock owners within their grazing blocks as possible. Use of livestock of areas that are brushy or inaccessible by motorcycle or of areas outside the grazing zone may need to be tracked by calling herders or owners to confirm or check the location of their herds.

2. Schedule bi-weekly or monthly meetings with their supervisors to review data collected in the previous bi-weekly interval or month. Recorded livestock numbers are to be compared with those from the annual household surveys in each community. Discrepancies in numbers greater than 20% from expected should be explained or incentivize further investigation as to where "missing" livestock may be or whether encroachment from other grazing zones, participating communities or communities outside the project area have added to the counts.

3. Pay special attention to the accuracy of the herd locations they record. GPS locations are generated by the tablets used for recording data, and tablets are not necessarily as good as hand-held GPS units at picking up satellite signals. All recorded locations should have accuracies < 15m – if an attempt to record a location has lower accuracy (> 15 m), coordinators should wait until accuracy is sufficient before recording locations.

Instructions for Grazing Coordinators

Equipment: motorcycles, helmets, knee and elbow pads, rain gear, binoculars, rangefinder, tablet (charged), cell phone (charged), pens, paper

Drive motorcycles to target grazing blocks (those in which livestock are expected to occur) and search for livestock herds. DO NOT just sit at a water point and count and locate herds coming into water. The goal is to determine where livestock are grazing, not the location of water points.

Locate a herd. In pastoralist Africa, livestock are typically clustered and move together as a protection against loss from scattering or to predators. Occasionally two herds are relatively close together. Groups of livestock should be considered separate herds if the animals closest to each other are more than 50 m apart

When a herd is located, park the motorcycle 100 m from the herd and walk to the approximate center of the herd.

Make an entry for the herd in the tablet and record the GPS location.

While standing at the approximate center of the herd, locate the animal farthest from center and use the range finder to measure the distance from your location to the farthest animal. Distances on the tablets

are recorded in kilometers not meters. Make sure your entries are in the appropriate units (one meter is 0.001 km). As a reference, typically this distance will be < 100 m (0.1 km). Occasionally dispersed herds may have animals up to 200 m (0.2 km) from the center. Throughout most of the project area, and due to view obstruction by shrubs and trees, it is not possible to see animals more than 200 m away.

Record the livestock species and the number of each in the herd. Do not record young animals separately from adults – this is done instead in the annual household surveys. Typically, sheep and goats are herded together and separately from cattle.

Record whether the observed herd is grazing or moving to water or a boma. This is important to note because herds often are found in grazing blocks they are not scheduled to use because they are moving through an unscheduled grazing block to water or a boma. The designation helps reduce inappropriate assignment of herds as grazing in unscheduled grazing blocks.

Grazing coordinators should also visit all the grazing blocks in a grazing zone, even those not scheduled to be used during the bi-weekly period. This effort is necessary to detect herders not following the RRG Plan as well as livestock that may have encroached on community grazing lands and that are not conforming to the community RRG plan. Likely this will be the only way the expected livestock numbers from the household survey can be reconciled with the bi-weekly count.

I*nstructions to Data Analysts*

Entries of herd size, numbers of species, locations, and grazing vs moving to water or bomas are uploaded from tablets to Salesforce and then made available in Tableau as Excel spreadsheets.

Quality Control: Spreadsheets should be checked to make sure each entry has sufficiently accurate GPS locations and that distances from the center to the outermost animal are recorded in the appropriate units (km).

R scripts are available to generate the locations of herd centers, circles representing the herd footprint (radius = distance to outermost animal) for each herd center, and the minimum convex polygon that encapsulates all of the herd footprints for the grazing zone (Figure 3.1-3).