



Outcome Assessment Maisha Bora Programme 2015-2019

End of programme evaluation report

Final

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Abbreviations

AIDS	Acquired Immuno-Deficiency Syndrome
BDS	Business Development Services
BFFS	Belgian Fund for Food Security
BTC	Belgian Development Agency, now called Enabel
CAHW	Community Animal Health Workers
CCRO	Certificate of Customary Rights of Occupancy
COWSO	Community-Owned Water System Organisation
Enabel	Belgian Development Agency, previously called BTC
FCS	Food Consumption Score
FGD	Focused Group Discussion
FIES	Food Insecurity Experience Score
GDP	Gross Domestic Product
HH	Household
HHS	Household Survey
HIV	Human Immuno-Deficiency Virus
IDP	Iles de Paix
LCDO	Longido Community Development Organisation
LGA	Local Government Authorities
MFI	Microfinance Institution
MUAC	Mid-Upper Arm Circumference
MVIWAMO	MVIWATA in Monduli and Longido
MVIWATA	Mtandao wa Vikundi vya Wakulima Tanzania (<i>Farmer Association in Tanzania</i>)
MWEDO	Maasai Women Development Organisation
NGO	Non Governmental Organisation
PFS	Pastoralist Field School
PVLUP	Participatory Village Land Use Plan
PLWC	Pregnant and Lactating Women and Children under 5 years
PWC	Pastoral Women Council
SD	Standard Deviation
SES	Socio-Economic Survey
SWOT	Strength Weakness Opportunity and Threats (analysis)
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
ToC	Theory of Change
TOR	Terms of Reference
URCT	Ujamaa Community Resource Trust
VICOBA	Village Community Bank
VLUP	Village Land Use Plan
VSF	Vétérinaires Sans Frontières
WASH	Water and Sanitation for Health
WFP	United Nations World Food Programme
WS	Women Survey

Executive summary

Since 2015, Enabel together with four other international partners and ten national partners have been implementing the 5-year Maisha Bora Programme, funded by the Belgian Fund for Food Security. It was designed to improve the food security of households in 15 villages, with a population of 9,000 mainly pastoralists and agro-pastoralists households, in Longido and Simanjiro districts in Tanzania. The programme consisted of five components: livestock, water, nutrition, business and coordination. The objective of the Maisha Bora programme is higher and more secured income used for nutrition and improved local availability of food for 9,000 households in 15 villages in Simanjiro and Longido districts and in particular for 40 percent of impoverished households, women and youth.

The main objective of the [Outcome Assessment](#) was to document the [outcomes](#) of the programme and establish the effect of those changes on the achievement of the development objective: *improved food security of households in 15 villages*.

The MDF approach towards this Outcome Assessment was based on participation, mixed methods, complexity awareness, quality assurance and ethics, using a combination of quantitative and qualitative methods. The quantitative household survey substantiated the level of improvement in the villages as compared to the baseline, while the outcome harvesting provided qualitative data on the meaningfulness of the achievements, and the Maisha Bora programme's contribution.

The findings of the assessment are summarised around the 3 anticipated outcomes of MB.

Outcome 1: People have sufficient and diverse sources of income

Overall, the monetary income of the beneficiaries has increased since the start of MB, as depicted by a 50.7% increase in the proportion of households that have an income source and a 32% increase in the proportion of women with income throughout the year compared to 2015. Livestock remains the backbone of the economy, complemented by income through small businesses. Income diversification has not yet been achieved. Beneficiaries often re-invest additional income from livestock and business back in livestock and businesses, or spent it on food, daily consumables and small assets, and on building/improving homes and school fees.

The collective approach towards reaching out to the community, focusing on women, youth and a pro-poor strategy, for business development and running training and awareness activities has been effective. Beneficiaries confirm that they successfully engaged in different forms of income generating activities through joining a VICOPA, preferably running their businesses individually. By engaging in VICOPAs women improved their self-esteem and the inter household relations.

During the programme, households have invested in livestock by both increasing the types and number of livestock they own, including cross breeds. Livestock keepers are slowly adopting a more commercial herd approach, often investing in smaller livestock for commercial purposes and paying for veterinary services.

MBOs increased trust amongst their members, increased their membership base, services to members, and achieved more savings and loans. However, many people are not ready for bigger loans. Government plays a big role in collection of business information. Bureaucratic processes often make doing business difficult.

Outcome 2: Households consume an adequate and diverse diet and safe drinking water

Beneficiaries made significant improvements in their diet, in terms of diversity, frequency of meals and readiness to buy foods. Households increased consumption of locally produced vegetable and animal products. Household food security as measured through FCS remains a concern. While there is little difference in infant feeding practices, there is a slight improvement in the dietary diversity for small children. The approach to target both men and women for dietary awareness has been successful and men have become more involved in decisions regarding nutrition.

Horticultural production in the districts has increased depending on water availability. While HHs understand benefits of producing their own food, erratic rainfall is a major challenge in horticultural production as well as limited support from district extension services.

There is more awareness on good practices regarding maternal health, infant and young child nutrition practices. There are positive changes in malnutrition of the under 5 children, as less children suffer from severe underweight, wasting and stunting. The malnutrition status among pregnant and lactating women has not improved. Morbidity of children under 5 years has also not changed. However, the proportion of children who have been vaccinated has increased. The mortality of children under 5 years has decreased by 90%. This may be as a result of the improved behaviour and practices towards health, hygiene and sanitation. Using schools and groups to change behaviour has been effective to reach out towards the communities. More people have and use soap. Beneficiaries have greatly increased practices of treating water before drinking. Generally, households' access to drinking water improved as well. This has enabled improved hygiene and has resulted in more time available to engage in business.

Outcome 3: Communities manage land and natural resources sustainably and harmoniously

All MB villages have institutionalised village land use plans and governing bodies. Traditional land use practices were considered whilst developing land use plans. Through adapting to CCRO, land is secured notably for pastoralist land practices. The governing bodies deal with ensuring adherence of land users to the planned land use. Some complex land conflicts are not yet solved. Access to water for pastoral use has improved throughout the year. The number of households that have access to pastoral water throughout the year has increased by 30.5%, but the average number of months with insufficient access to water varies depending on the weather. The distances to pastoral water sources has also decreased.

Access to pastures varies. There is sufficient pasture during the rainy season but it can be problematic during the dry season. Access to pasture improved more in Simanjiro than Longido, but it deteriorated in some villages. Availability of pasture is affected by shifting weather patterns, increased number of cattle and, in time of need, neighbouring villagers entering with their cattle. Access to livestock extension services improved as well as satisfaction with the services, though affordability is often a challenge. Notably, beneficiaries reported a high satisfaction with services provided by the CAHWs.

Communities have increased their awareness on natural resource management and there is a growing understanding on the relation between livestock numbers, livestock mobility and grazing availability. The extent to which pastoralists in the MB villages are adopting to the impact of climate change is debated.

Communities understand the importance of water management; they have and use by-laws governing water use and pay for use of water. COWSOs are functional entities. The districts support communities and COWSOs on water management and infrastructure.

Progress towards the strategic objectives: The outcomes found in the assessment show patterns of progress towards many of the intended result areas. Most strongly represented are change in business, income, balanced diet and natural resource management. Proof of progress was found though to a lesser extent for result areas such as food production, healthy behaviour, livestock trading and adaptation to climate effects. For the four specific outcome statements of the OH, the respective contribution claims are that two are strong contributions (water management and balanced diet: would not have happened without the project), one is a reasonable contribution (viable business) and one is moderate (VLUP). Outcomes on levels of water management and balanced diet are outcomes that did not exist before the programme. Outcomes related to business and VLUP are consolidating and sustaining, by working further on interventions, replicating and sustaining outcomes.

Social actors: Maisha Bora had a wide reach towards its intended actors and changes are holistic as several actors benefitted from multiple changes. Both genders were effectively impacted. The pro-poor strategy has proven to be effective. Interventions targeting traders and producers were not deliberately designed at inception, but played an important role in achieving some results. Collaboration with and between government and private sector delivered good results.

Type of change: The programme partners experienced that achieving behavioural change takes time as it entails changing the mind-set of communities who have deeply rooted culture and value systems.

Quality of life: beneficiaries generally testified that their perceived quality of life improved, but the ability to pay school fees went down everywhere. In Longido, there is an increased satisfaction with own life, while in Simanjiro, a higher proportion of households perceive difficulties on their quality of life. This corresponds with the Household Budget Survey 2017-2018 which highlights that the more members in a household, the higher the food poverty index and the poverty incidence in that household.

The Maisha Bora approach

In a programme with integrated components, collaboration among implementers is critical to achieving results. The holistic multi-actor and multi-sector programme approach has been well received by all involved actors and has proven to be successful in achieving the anticipated results. Collaboration on the level of the Steering Committee was strategic and effective. Through the MB project committees, adequate communication about MB was ensured between village and district level. Focal points were positively engaged in development planning and oversight and pro-active in raising awareness in the communities on participation, ownership and mutual accountability.

The approach to work in a synergetic way generated multiple benefits on outcome level: *Synergies between outcome areas 1 and 3* happened in different directions: land use planning leading to securing income from livestock resources; but also veterinary treatment of cattle protecting the grass lands, as community members do no longer burn grasslands. *Synergies between outcome 1 and 2:* with increased incomes through businesses, women buy a diversity of foods to improve their diets. Changes in nutrition practices are strengthened through poultry interventions, availability of water for cultivation and health centres that provided information on nutrition.

Water management (outcome 3) has strong linkages with all MB interventions, namely income, health, diet and nutrition, livestock and land use planning and the synergies are interlinked.

Table of Contents

Abbreviations	0
Executive summary	1
List of Tables	6
List of Figures	7
I INTRODUCTION	8
1 Project background	9
1.1 Maisha Bora	9
1.2 Objectives of the Outcome Assessment	9
1.3 Conceptual framework	10
2 Methodology	12
2.1 Evaluation design, scope and coverage	12
2.2 Quantitative data collection: Household Survey	12
2.3 Qualitative data collection: Outcome Harvesting	19
II FINDINGS AND INTERPRETATION	23
3 Findings Household Survey	24
3.1 Demographic and household characteristics	24
3.2 Household GDP and Poverty levels	26
3.3 Household access to clean water	32
3.4 Household production and decision making	34
3.5 Livestock resources	43
3.6 Hygiene and sanitation in handling livestock products	53
3.7 Nutrition	53
3.8 Diarrhoea prevention and treatment	62
3.9 HIV Awareness and Knowledge	64
3.10 Water, sanitation and hygiene knowledge, awareness and practices	66
3.11 Household quality of life	67
4 Findings Outcome Harvest	69
4.1 To what extent do the outcomes represent the strategic objectives?	69
4.2 Which social actors are changing?	79
4.3 To what extent is the change locally rooted?	82
4.4 To what extent do the outcomes show synergy?	83
4.5 How did the Maisha Bora Programme contribute to the outcomes?	86
III CONCLUSIONS	88
5 Conclusions and lessons learned	89
5.1 Outcome 1: People have sufficient and diverse sources of income	89
5.2 Outcome 2: Households consume an adequate and diverse diet and safe drinking water	91

5.3	Outcome 3: Communities manage the land and natural resources sustainably and harmoniously	93
5.4	Overall conclusions and lessons learned	94
6	Recommendations and strategic questions	98
6.1	Livestock component	98
6.2	Water component	99
6.3	Business development component	99
6.4	Nutrition component	100
6.5	Coordination component	101
IV	ANNEXES	102
Annex 1	References and Documentation	103
Annex 2	HHS Data Collection Tools	106
Annex 3	HH Food Consumption Tables	107
Annex 4	Theory of Change	111
Annex 5	Initial Draft Outcome Statements per result area	112
Annex 6	Final Outcome Statements	116
Annex 7	Final OH Statements substantiation matrixes	142
Annex 8	Final OH Statements contribution analyses	144
Annex 9	Agenda learning events	155

List of Tables

Table 1: Achieved number of interviews compared to the targeted across the 15 villages	14
Table 2: Demographic and household characteristics of households and respondents involved in SES and WS	24
Table 3: Profile of pregnant women and lactating mothers across the two districts	25
Table 4: Profile of Children under 5 years who were surveyed	25
Table 5: Profile of direct project beneficiaries who were part of the sampled households	26
Table 6: Comparison of assets owned at baseline and endline across the districts	28
Table 7: Sources of clean water during wet and dry seasons across the districts	32
Table 8: Time taken to reach water sources for HH water at baseline and endline during dry season	33
Table 9: Time taken to reach water sources for HH water at baseline and endline during wet season	33
Table 10: Average number of livestock mortality rates per HH per year	42
Table 11: Comparison of the causes of livestock mortality at baseline and endline across the districts.....	42
Table 12: Comparison of average no of months HH have access to sufficient pastoral water across villages	44
Table 13: Duration taken to access/walk closest water point for livestock during wet and dry seasons	44
Table 14: Comparison of queueing times during dry and wet seasons at baseline and endline across districts.....	46
Table 15: Satisfaction rating on water situation in wet and dry seasons.....	47
Table 16: Satisfaction rating on water situation in wet and dry seasons across the districts.....	47
Table 17: Satisfaction rating with the pastures during dry and wet seasons across the districts	48
Table 18: Rating of situation with access to extension services at baseline and endline across the districts	51
Table 19: Comparison of MUAC scores among pregnant women lactating mothers at baseline and endline	54
Table 20: Comparison of the endline FCS scores across the districts	57
Table 21: MUAC for children under 5 for baseline and endline and across age and districts.....	58
Table 22: Comparison of baseline and endline weight for Height scores across districts	59
Table 23: Comparison of children who are currently breastfeeding across the age groups.....	60
Table 24: Comparison of age when feeding started at baseline and endline across districts.....	60
Table 25: Comparison of vaccination rates for U5 at baseline and endline.....	61
Table 26: Comparison of proportion of children who have been sick the last 3 months at baseline and endline	62
Table 27: Knowledge of the symptoms of diarrhoea across the districts	63
Table 28: Comparison of the causes of HIV across the districts and gender at end line.....	65
Table 29: Comparison of Knowledge on HIV prevention measures across baseline and endline	65
Table 30: Number of coded segments per outcome area	69
Table 31: Number of Outcome Statements formulated per sub-result area	70
Table 32: Social Actors represented in the Outcome Statements	79
Table 33: Outcome statements confirmation according to villages/districts	82
Table 34: Outcome statements per component.....	83

List of Figures

Figure 1: Distribution of HH GDP across the various sources at endline and baseline	27
Figure 2: Endline (2019) Household PPI scores	28
Figure 3: Baseline (2015) Household PPI scores	28
Figure 4: Comparison of the proportion of households with monetary income per month across districts	29
Figure 5: Income generating activities being practiced across the districts:	30
Figure 6: Comparison of the average number of income sources at baseline and endline	30
Figure 7: Comparison of the mean monthly income spent on food in the households	31
Figure 8: Comparison of the mean monthly income spent on locally produced vegetables and fruits	32
Figure 9: Land ownership across HH in the two districts	34
Figure 10: Crop cultivation across households in both Longido and Simanjiro	35
Figure 11: Crop production in the last 12 months for HH who did crop cultivation	36
Figure 12: Comparison of the number of HH with cross breeds across the districts	37
Figure 13: Average number of cattle breeds per household across the districts.....	37
Figure 14: Average number of chicken per household across the districts	38
Figure 15: Average number of goats per household across the districts.....	39
Figure 16: Average number of sheep per household across the districts	40
Figure 17: Average number of donkeys per household across the districts	41
Figure 18: Comparison of the baseline and endline livestock mortality rates per household	41
Figure 19: Causes of livestock mortality in households across the districts	42
Figure 20: Comparison of the average no of months when HH have sufficient access to pastoral water	43
Figure 21: No of days when households access water points for pastoral water	45
Figure 22: Comparison of the queueing times during dry and wet seasons at baseline and endline	45
Figure 23: Comparison of time take to repair a broken water source across the districts	46
Figure 24: Access to livestock pasture throughout the year across the districts	47
Figure 25: Satisfaction rating of the grazing lands during the dry season across the Longido villages	48
Figure 26: Satisfaction rating of the grazing lands during the dry season across the Simanjiro villages	49
Figure 27: Access to livestock extension services and advisory in the last 12 months	49
Figure 28: Extension/advisory providers in the last 12 months across the districts	50
Figure 29: Satisfaction rating for livestock extension and advisory service providers	51
Figure 30: Current overall proportion accessing markets and the markets available	52
Figure 31: Comparison of satisfaction with access to livestock markets at baseline and endline across districts.....	52
Figure 32: Comparison of hygiene practices in handling livestock products at baseline and endline	53
Figure 33: Comparison of the number of meals in a HH across the districts for adults	55
Figure 34: Comparison of no of meals in HH across the districts for children	56
Figure 35: Comparison of FCS scores at baseline and endline	56
Figure 36: Comparison of proportion of HH with kitchen gardens at baseline and endline across districts	57
Figure 37: Comparison of stunting, wasting and underweight in U5 at baseline and endline	58
Figure 38: Figure 25: Comparison of the proportion of children who were ever breastfed	59
Figure 39: Comparison of proportion of children who	59
Figure 40: Common diseases for children in the last three months across the districts	62
Figure 41: Comparison of children who suffered diarrhoea in the last 2 weeks at baseline and endline	63
Figure 42: Proportion of mothers who sought advice or treatment and place where they sought it	64
Figure 43: Comparison of the awareness of HIV (those who have ever heard of HIV) across the districts	64
Figure 44: Comparison of soap availability and use at baseline and endline and across districts	66
Figure 45: Comparison of the proportion of women who treat water before drinking at baseline and endline	67
Figure 46: Overall satisfaction with the quality of life indicators.....	67
Figure 47: Overall satisfaction rating with the quality of life indicators across the districts	68
Figure 48: Colour coded Theory of Change.....	71
Figure 49: Outcome Area 1 - Coloured Theory of Change sub-results.....	72
Figure 50: Outcome Area 2 - Coloured Theory of Change sub-results.....	74
Figure 51: Outcome Area 3 - Coloured Theory of Change sub-results.....	76

I Introduction

1 Project background

1.1 Maisha Bora

Since 2015, Enabel together with four other international partners¹ and ten national partners² have been implementing the 5-year Maisha Bora Programme, funded by the Belgian Fund for Food Security. It was designed to improve the food security of households in 15 villages, with a population of 9,000 mainly pastoralists and agro-pastoralists households, in Longido and Simanjiro districts in Tanzania. The budget for the programme was 13.8 Million Euro.

The programme is relying on a loose, generic Results Framework, with four pillars linked to food security. The initiative consists of five components: livestock, water, nutrition, business and coordination. The Maisha Bora programme partners work collaboratively at multiple stakeholders including national, district and village government, local partners, economic groups, schools, households and individuals. The partners committed to work collaboratively rather than independently, so that the combination of activities would collectively deliver the desired outcomes.³

Several documented moments in the past years are important for this outcome assessment. In addition to the regular reporting, these documents provide important information about the rationale behind the programme, how it developed and what lessons were learned along the way:

- In 2013, a Context Study was implemented for a Food Security Programme of the Belgian Fund for Food Security in Longido and Simanjiro Districts in Tanzania.
- In November 2016, the programme partners engaged in a workshop to determine the SWOT of the programme and lessons learned thus far.
- In 2017 a Midterm Review was conducted.
- In January 2018, a Theory of Change workshop was organised.
- In May 2019, a field mission was organised by the Federal Public Service Foreign Affairs (Belgium Government) as part of the Evaluation of the Belgium Fund for Food Security (BFFS)

1.2 Objectives of the Outcome Assessment

The main objective of the consultancy is to document the outcomes of the programme and establish the effect of those changes on the achievement of the development objective: *improved food security of households in 15 villages*. Enabel and its partners also want to get an objective insight to what extent the programme has contributed to the changes.

¹ Enabel, Iles de Paix, WFP, VSF and Trias.

² Heifer, UCRT, OIKOS, LCDO, PWC, MWEDO, MVIWATA -Arusha, TCCIA Arusha, TCCIA Manyara, and Childreach Tanzania

³ Baseline study

As per ToR, the evaluation is expected to determine the extent to which the following changes have taken place:

- Income in the 9,000 households in 15 villages in Simanjiro and Longido districts has changed;
- Nutrition in the 9,000 households in 15 villages in Simanjiro and Longido districts has changed;
- Availability of food has changed for the 9,000 households in 15 villages in Simanjiro and Longido districts;
- Changes in income in the 9,000 households in 15 villages in Simanjiro and Longido districts have led to changes in household nutrition;
- Household food security in 15 villages has changed;
- Changes in availability of local food have led to changes in household nutrition;
- Access to adequate water for livestock has changed;
- Households have secured livestock resources;
- Households have benefited from different livestock products;
- Incomes of targeted groups of women, youth and households are now more diversified and secured;
- Households, and in particular pregnant and lactating women (PLW) and children under five years, consume more diversified foods, use cleaner water, prevent and treat diarrhoea effectively, and have increased awareness of HIV prevention; and
- The programme has been effectively coordinated in assuring coherence, induced cooperation and increased implementation efficiency;

1.3 Conceptual framework

As per the original programme document, **the specific objective** of Maisha Bora was: higher and more secured income used for nutrition and improved local availability of food for 9,000 households in 15 villages in Simanjiro and Longido districts and in particular for 40 percent of impoverished households, women and youth. Four result areas were defined as:

- **Result Area 1:** Households have livestock resources secured and can benefit more from different livestock products.
 - VSF-B is responsible for this result, while IDP is responsible for a major sub-result: improved and sustainable access to adequate water for livestock.
- **Result Area 2:** Incomes of women, youth and households are more diversified, secured and used to increase the quantity and quality of food intake.
 - TRIAS is responsible for this result.
- **Result Area 3:** More households and in particular pregnant and lactating women and children under five years, consume more diversified foods, use cleaner water, prevent and treat diarrhoea effectively and are aware of HIV prevention.
 - WFP is responsible for this result.
- **Result Area 4:** Effective coordination of the programme which assures external and internal coherence, induced cooperation and increases implementation efficiency.
 - ENABEL is responsible for this result.

The above objectives and results as described in the originally programme document strongly focus on income and food availability. At a later stage, **the vision** of the Maisha Bora has been in a participatory way phrased in a more inclusive way, considering aspects of livelihood, resilience and quality of life⁴: *The communities of Longido and Simanjiro are happy, healthy and have enough quality food. They are managing harmoniously and benefiting sustainably from the land and their communal natural resources. The communities are resilient and can cope with climate variability. People make their own choices on adapting their cultural practices. In a conducive business environment, people have diverse and sustainable sources of income, and women, youth and the disadvantaged enjoy more options for their livelihoods. The poorest have basic needs met. Women are empowered and exercise their choices about generating and using their income.*

An outcome monitoring framework has been developed with 3 major outcomes and several intermediate outcomes. The framework also consists of 1 to 6 outcome indicators for each outcome and intermediate outcome.



Outcome 1: People have sufficient and diverse sources of income

- 1: People engage in different viable business types providing income/ employment
- 2: People have the skills and vision to upscale and understand the market for diversified businesses
- 3: People sell their livestock at favourable prices (sufficient quantity / quality)
- 4 : LGAs create an enabling environment (taxes, regulations, market)



Outcome 2: Households consume an adequate and diverse diet and safe drinking water

- 1: HHs are willing and able to buy food
- 2: Communities produce adequate food
- 3: Communities adopt healthy behaviour
- 4: Communities access safe drinking water



Outcome 3: Communities manage the land and natural resources sustainably and harmoniously

- 1: Communities have sustainable access to sufficient water
- 2: Water management entities are implementing water management plans and enforcing rules
- 3: Communities benefit from natural resources
- 4: Communities own optimum size of herds / livestock
- 5: Communities adapt to climate effect

⁴ 180123 Final Report Maisha Bora ToC workshop

2 Methodology

2.1 Evaluation design, scope and coverage

The MDF approach towards this particular Outcome Assessment has been based on participation, mixed methods, complexity awareness, quality assurance and ethics. This Outcome Assessment used a combination of quantitative and qualitative methods. The quantitative household survey substantiated the level of improvement in the villages as compared to the baseline, while the outcome harvesting provided qualitative data on the meaningfulness of the achievements, and the Maisha Bora programme's contribution.

The complexity of the programme has been analysed during the inception phase. The Theory of Change has been studied and the non-linear change pathways have been discussed. Desk research also entailed research into the outcomes already reported, for the consultants to get a clear understanding of the programme's ambitions and performance. Details on the scope and coverage for each methodology, household survey and outcome harvesting, are described in chapters 2.2 and 2.3.

Reference is further made to the Inception Report of the Outcome Assessment. Information already covered in the inception report is not repeated in this report, unless deemed important for a good understanding of the evaluation report. This includes background information on the Household Survey and Outcome Harvest, agenda for meetings, workshops and training.

2.2 Quantitative data collection: Household Survey

2.2.1 Household Survey

The main objective of the household survey was to study Maisha Bora programme implementation to establish final values for the indicators of its specific objective and results (outcomes) and compare with the level of these same indicators at the beginning of the intervention (baseline).

Geographically, the household survey was undertaken in Kitwai A, Kitwai B, Llerumo, Lolbene, Londreskes, Lokosonoi and Namalulu villages in **Simanjiro district** and Eworendeke, Gelai Lumbwa, Ilichangisepukin, Magadini, Mairowa, Matale A, Matale B and Orkejuloongishu villages in **Longido district**.

The survey targeted the Head of Household, Spouses of the Head of Household, pregnant women, Lactating mothers and Children under 5 years. The *Heads of household* were targeted using a **Socio-Economic Survey Questionnaire**, *Spouses of the head of household* were targeted using a **Women Survey Questionnaire** and *Pregnant women, Lactating Mothers and Children Under 5 years* were targeted using a **Pregnant Women, Lactating Mothers and Under 5 Questionnaire**.

The approach and methodology for the Endline HH Survey was entirely aligned to the one used during the Baseline HH Survey. However, revisions were done to the questionnaires to align them to the programme's revised Results Framework, focussing the data collection to only the required data.

2.2.2 Questionnaires

The HHS data was collected using three household survey tools and two methods. The two key methods included face-to-face interviews with the selected respondents at household level and taking of anthropometric measurements using the relevant equipment. The data collection tools included:

Socio-Economic Survey Questionnaire: This targeted the head of household for every household. This questionnaire sought to capture information on the demographics, membership to economic groups, economic status of the household, asset ownership and decision making on sale of assets, crop cultivation and incomes from crops, livestock ownership and incomes, decision making on sale and use of incomes from livestock and crops, livestock losses, access to grazing pasture and water, access to extension services and CAHW services, quality of life and HIV/AIDS awareness and knowledge on prevention.

Women Survey Questionnaire: This targeted the spouses of the head of household in situations where the household visited had both the husband and wife. In cases where the woman was the head of household, the questions were asked but they were appended onto the SES questionnaire to avoid taking two different surveys on one female respondent. Specifically, the questionnaire sought to capture information on the woman's sources of income and decision making on income use, access to safe and clean water, HH sanitation knowledge and practices, diarrhoea prevention and treatment, household nutrition (consumption, sources and cost), food security, access and use of livestock and crop products, establishment of kitchen gardens and HIV/AIDS awareness and knowledge on prevention.

Pregnant Women, Lactating Mothers and Children Under 5 years Survey Questionnaire: This targeted pregnant women, lactating mothers and children under 5 years. The questionnaire sought to capture information on child breastfeeding practices, nutrition (consumption, sources and cost), access to safe and clean water, child death, anthropometric measurements (weight, height and MUAC) and HIV/AIDS awareness and knowledge on prevention.

2.2.3 Sampling

In drawing a representative sample size, the total number of households in the villages was considered. The baseline drew a sample of approximately 920 households in the two districts from the village registers (government records) - about 60-65 HH per village. These numbers were used as reference in the end line sampling strategy. In calculating the sample size, the following statistical formula was used:

$$n = \frac{N}{1 + N(e^2)}$$

Where n = sample size;
 N = Population (= 9,000);
 e = precision (3%);

Based on the formula, at a 97% confidence level and a $\pm 3\%$ precision/sampling error, the total sample size is **989⁵** which was further distributed proportionately in the 15 villages across the two districts - 7 villages in Simanjiro and 8 villages in Longido. These were the number of households targeted for the Socio-Economic and Women Surveys.

In the child health and Anthropometric Survey, respondents were specifically women who were pregnant, women who were lactating and children who were less than 5 years of age at the time of the survey. Thus, a separate sampling strategy was deemed necessary. In addition, the consideration that in a village; not all households have a pregnant or lactating mother or a child who is less than 5 years old, some pregnant and lactating women may also have children less than 5 years; some households may not have lactating and pregnant women but have children less than 5 years; and some households may have more than 2 children who are less than 5 years. Therefore, just like the approach in the baseline, a higher number of interviews was expected compared to the number of households that were sampled⁶. It then justified the selection of fewer households but expecting way higher number of interviews (enough to match the baseline number of interviews = 900). Using the same formula above at a confidence level of 95% and +5% precision, total sample of 385 households was selected across the two districts.

Therefore, in summary, the target number of households per survey and the achieved interviews is as shown the table 1 below.

Table 1: Achieved number of interviews compared to the targeted across the 15 villages

Village	SES		WS		PLWC	
	Target	Achieved	Target	Achieved	Target	Achieved
Longido District						
Matale A	86	92	86	91	28	29
Matale B	82	79	82	82	26	31
Ilichangisepukin	80	81	80	72	26	28
Gelai Lumbwa	81	115	81	103	26	30
Loondoluo	81	94	81	93	26	27
Mairowa	82	86	82	85	26	27
Orkejuloongish	84	89	84	83	27	27
Eworendeke	84	52	84	56	27	35
Total	660	688	660	665	211	234
Simanjiro District						
Kitwai A	48	34	48	29	25	46
Kitwai B	44	39	44	44	23	37
Londreskes	44	43	44	42	23	44
Llerumo	47	49	47	49	25	43
Namalulu	52	54	52	52	27	47
Lolbene	48	46	48	47	26	46
Losokono	46	48	46	48	24	52
Total	329	314	329	311	174	315

⁵ The sample is slightly higher to cater for attrition, non-response and refusals. It has however been kept at a considerable amount based on available resources as well.

⁶ Based on the approach used at baseline, in a household with more several children who were less than 5 years, a maximum of three were selected and measured.

NOTE: In the child health and anthropometric survey, there were 307 children under 5 years interviewed and 318 pregnant women and lactating mothers interviewed in the 549 households sampled. This is because for the under 5 years old children, there were households with more than one child and therefore, a maximum of 3 were assessed.

2.2.4 Respondent Selection

Selecting a household: Notably, the project implemented an integrated approach, having various interventions targeting various specific beneficiaries at household level and also had interventions targeting the whole communities⁷. The integrated approach adopted by the project ensures that the bigger proportion of the community at large benefits. Thus, in selecting the households, **systematic random sampling**⁸ was used. That is, a sampling interval was calculated at the start of the survey in every village. The interval was calculated by dividing the total number of households in the village by the targeted sample size. This would inform how many households in a boma⁹ would be skipped before selecting a household for an interview¹⁰.

Selecting a respondent in a HH: In selecting the respondents, **purposive selection** was applied. Purposive sampling is a non-probability sampling technique where a respondent is selected based on their characteristics which align to the objectives of the survey. Given the objectives of the HHS, the head of the HH was more appropriate to respond to the SES survey questions while the spouse to the head of the household was more appropriate to respond to the Women Survey. That is, in a household with a man as the household and a spouse, then the man responded to the SES survey while the woman will respond to the woman survey. In a household where the woman was the Head of HH, then the woman responded to two surveys – the SES and Woman Survey¹¹. In the Child Health and Anthropometric Survey, purposive selection of respondents was used. Only pregnant and lactating mothers were interviewed while only mothers/guardians of children less than 5 years were selected to answer Child Health questions. In situations where the pregnant or lactating mother also has a child (ren) under 5 years, they were also required to answer questions related to their children but only to a **maximum of 3 children per household**. In the SES survey, **Convenience sampling** was also applied especially in cases where the selected members of the HH were not available at the time of the survey (due to migration or were away on other duties). Convenience sampling entails choosing respondents who are accessible at the time of the survey, and most importantly, can answer questions on the relevant questionnaire.

⁷ There were interventions targeting women in groups, youth, pregnant and lactating women and children under 5 years and also broadly, women and men in a household. Water and resource management interventions can also be said to have targeted the whole community at large.

⁸ Systematic Random sampling was utilised as a last resort when Simple Random Sampling became a challenge due to unavailability of Village Registers.

⁹ A boma is a group of houses centred around the enclosure for the livestock.

¹⁰ For example, if the sampling interval was 3, then the enumerators would have to interview the first household in the first boma in a village, then skip 3 households within the boma and interview the fourth. If the boma had less than 3 households, then the enumerator would go to the next boma and continue with the skip.

¹¹ These two surveys were however combined and programmed appropriately on SurveyToGo to ensure the woman as the head of household would respond to them in a logical flow.

NOTE: To avoid respondent fatigue, households where there was a head of household who was pregnant / lactating mother who also had more than 2 children less than 5 years, they were not subjected to the three surveys in the same day. Enumerators would undertake the first two surveys – SES and woman survey – then the Child Health and Anthropometric Survey would be undertaken at a later time or day or vice versa.

2.2.5 Data Quality Management

An enumerator instruction manual was developed and translated in Swahili, to ensure standardisation of understanding key terms, processes, sampling and respondent selection as well as roles and responsibilities.

- i) **Recruitment of qualified enumerators.** The qualifications, experience and skills of enumerators and supervisors is highly critical in collecting quality data. As such, the enumerators were selected based on developed criteria. Additionally, their ability to communicate in local language was also considered.
- ii) **Use of real-time data collection and management (Tablets for data collection):** The evaluation utilised android devices (tablets) for data collection. SurveyToGo application was used to collect data in both online and offline mode. This ensured that the management of the field teams and incoming data was undertaken on real-time basis. This application ensured speedy collection of data, elimination of data entry (saving time) and quality management (through skip logics). In addition, the skip logics allowed for collection of consistent and logical data.
- iii) **Use of specialised enumerators in the Child Health and Anthropometric Survey:** To minimise error and uncertainty, health workers who were already working in health facilities were hired to undertake the Pregnant Women, Lactating Mothers and Under 5 Survey. This is because this was their specialty and thus, would not have any challenges in undertaking the measurements accurately and adhering to the ethical protocols.
- iv) **Thorough training of the research team:** All team members were trained for four days which included 2-day classroom training, one day field practice (pilot) and one day debriefing and planning. The training was held on 17th–20th October 2019 at Equator Hotel in Arusha, Tanzania.
- v) **Pilot testing of data collection tools:** all the quantitative data collection tools were pre-tested in one project village in Eworendekes, Longido District on Saturday, 19th October 2019. Care was taken to ensure the accuracy of the questions and local compatibility of the issues raised. Cultural sensitivity was also assessed so as to ensure the data generated was informative. Based on lessons drawn from the piloting, team structure and logistical organisation was developed. The tools were also revised accordingly to ensure they are aligned to the context and situation in the villages. The sampling strategy was also changed to systematic random sampling from simple random due to unavailability of the village registers at the Village Executive Officer's office. The field Supervisors attempted to mobilise the VEOs prior to the visits to get the registers but the VEOs were not able to generate the registers due to time limitations, facilitation issues as well as elections activities.

- vi) **Fieldwork protocols and data verification including back checking and quality control by supervisors:** A data collection instruction manual was developed in English and translated into Kiswahili. The manual had three key sections: (a) understanding the objectives of the project and evaluation; (ii) quantitative data collection and processing; (c) qualitative data collection and analysis, (d) key terms used during the HHS and (e) annexes with the data collection questionnaires. These manuals were provided to all team members in hard copies. The field supervisor also assigned responsibilities during data collection to all team members and then proceeded to conduct spot-checks of up to 5% of all data collection points.

2.2.6 Limitations

Formulation and administration of questions: There was notable difference in the design, phrasing and administration of questions at baseline and endline. Some questions had to be redesigned at endline to capture data relevant to the key project indicators. These included questions on duration/time taken to water sources among others which had to be opened up to provide interval scale data. Mode of administration for some questions also changed. For example, HIV related questions. At baseline all respondents (whether they were aware of HIV or not) were asked successive questions which resulted to many non-responses. At endline, only those that were aware of HIV were asked successive questions which reduced non-response and made analysis easier and more logical even to the respondent.

Household selection: The initial sampling strategy for the HHS was to be grounded on the baseline HHS which had utilised the simple random sampling through the use of updated village registers. The assumption at endline therefore was that the village registers would be available in all the villages. However, during the pilot, the HHS team found no registers in the piloting village and even on the first village of the HHS. Thus, the team had to resort to the systematic random sampling which relied on the sampling interval, calculated from the estimated total number of HH in a village and the targeted sample size.

External Factors affecting the results of the household survey: Seasonality, weather and other external factors played a big role in defining the situation of the households at the time of the survey. This is because most of the indicators measured were dependent highly liable to be affected by weather, seasons etc. Examples include, livestock mortality and access to water and pastures which was affected by the two seasons (2018-2019) having drought. In addition, the survey was undertaken at the end of the drought season (October 2019) which may affect the feeding patterns in a household. Thus, when asking questions limited to 12 months, 3 months, 30 days or last 7 days, the responses given will be prone to interpretation based on these factors. This may explain why some results may look skewed compared to the baseline¹².

Recall capacity of some respondents: The HHS entailed assessing the foods eaten in a HH in the last 7 days, frequency of consuming some food groups, expenditure of food in the last 30 days,

¹² Findings on crop productivity, animal productivity and mortality, household food security, household dietary diversity or even access to water and pastures were extreme compared to the baseline mostly because there had been two drought seasons in previous 2 years and also that the survey was undertaken in October 2019 instead of December 2019 in line with the baseline.

number of livestock they own¹³ and other assessments. Respondents found it difficult to recall accurately what their HH had eaten within the stated duration or how much it had cost them. Thus, much of the data collected on these questions was based on estimation. Nonetheless, they were accurate of counting those that died.

Unavailability of respondents in selected households: Given the pastoralist nature of the communities targeted, some of the respondents in the selected households were not available during the survey which prompted the survey team to replace the respective household in the interest of time. This was especially evident in Kitwai A village¹⁴ in Simanjiro. In addition, other notable events like the intra party nomination (LGE) in Kitwai B affected the availability of respondents within their localities as well as a lost boy in Longishu Hamlet where all men were involved for search.

¹³ The Maasai traditionally do not count their livestock fearing that it's a bad omen as once you start manual counting they 'will get lost sequentially'

¹⁴ In the following hamlets - Terere, Naipushi and Longishu

2.3 Qualitative data collection: Outcome Harvesting

Step 1: Design the harvest

During the inception phase, the scope and boundaries of the outcome harvesting exercise were defined. On the 4th of September, the evaluation team leader, the OH expert, and the harvest users (i.e. Enabel and the main partners) came together in Arusha to determine and agree upon what information needed to come from the harvest. The result was the outcome harvesting guide (shared in the inception report). The dimensions/categorisations included in the guide have been used for determining the focus and scope of the work and especially the analysis.

The harvesting questions were used as the main pillars of this assessment report:

1. To what extent do the outcomes represent patterns of progress towards the strategic objectives of the Maisha Bora programme?
2. Which social actors are changing?
3. To what extent is the change locally rooted?
4. To what extent do the outcomes show a link/synergy between the partners and sectors?
5. How did the Maisha Bora Programme contribute to the outcomes through its programme modalities?

Definition of outcomes

Outcome Harvesting focuses on outcomes, defined as the changes in behaviour, practices, relationships and actions of social actors that the Maisha Bora programme has influenced. In that sense, the activities and outputs of the programme do not count as outcomes because they are under the programme's sphere of control and do not show the effects of the programme.

Outcomes generally take time to emerge and some interventions may never lead to an outcome. Often, activities will contribute indirectly and partially to one or more outcomes. Outcome Harvesting seeks to avoid assessing results through a linear, cause-effect mind-set. Instead, it seeks to identify causality between the programmes interventions in a small or large way, directly or indirectly, and intentionally or not to the outcomes.

Step 2: Review documentation

Enabel has shared Annual Reports, minutes of meetings and workshops, monitoring reports, the mid-term review report and other documentation through an online folder (see annex 1). The documentation has been studied during the inception phase by the harvesters to identify, list and draft outcomes, as answers to the harvesting questions.

Coding with MaxQDA

When conducting desk research, the harvester developed a coding system in MaxQDA¹⁵ to organise the wealth of qualitative data that was made available by the Maisha Bora programme, such as progress reports, focal point field visit reports, the midterm report and other secondary sources. MaxQDA is a world-leading software package for qualitative research. It assisted the harvester to organise and then analyse all kinds of data, from document texts, to videos and transcripts of interviews. The harvester created codes. These codes formed the categories in which all data were organised. For example, one of the codes was 'Expected Results' and sub-codes under that were the specific result areas based on the Result Areas as specified in the Maisha Bora programme documents (4 results areas, 3 outcome areas, 5 components). For example, one sub-code was 'Coordination'. The Harvester then went through the documents to

¹⁵ Copyright, MAX QDA stands for Qualitative Data Analysis, for more information see maxqda.com

find and highlight segments of text that were related to a certain code. *Segments are sentences or pieces of text in a document that mention an outcome level result.* A coded segment from for example the Year 2 progress reports was ‘honey is being sold by bee-keeping groups at the Namanga youth Business Centre’. This segment was given the code ‘diverse sources of income’. All other text that mentioned the bee-keeping was also given the same code. At the end of coding all documents, the harvester was able to retrieve all the coded segments of texts, as to summarise and combine them to formulate the outcomes statements. A total of 364 codes were found and used for analysis. These codes formed the basis on which a total of 32 short draft outcomes statements (1 or 2 sentences) were formulated (see annex 5).

Step 3: Engage with programme implementers

A total of 24 of the 32 outcome statements were made available to partners in a google document. Online, partners provided input and helped in rephrasing the outcome statements. This resulted in some statements being dropped, merged or improved upon otherwise. Extra information was added and erroneous information was corrected.

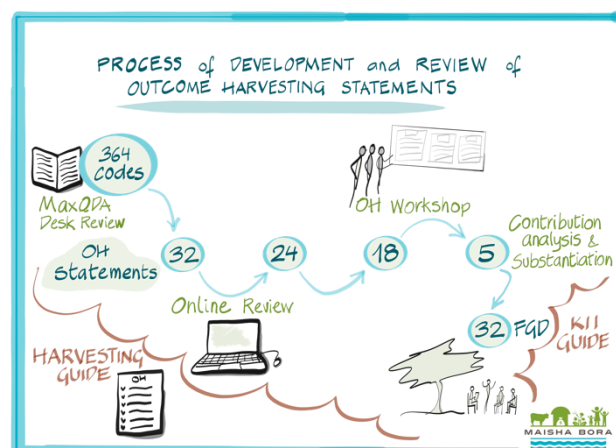
A selection of 18 statements were reviewed and improved upon during an outcome harvesting workshop on 8th October 2019, as being representative for the changes achieved (see annex 6). Finally, the participants selected the most significant statements, one for each Maisha Bora component, for contribution analysis and further substantiation in the Maasai communities.

Drafting of outcome statements

An outcome statement has the following format; it includes the result (what has changed/what was achieved), the social actor that underwent the change, the place where the change took place, why the change was significant. If applicable, the specified synergy between outcomes/programme components was mentioned.

In the inception phase outcome statements were formulated that are about a sentence or paragraph of length. During the OH validation workshop the validation ensured the statements became about 1 A4 page maximum.

Through engagement with programme implementers the OH statements were put into perspective; the partners explained its development over time, as some changes fluctuated in intensity. The discussions during the workshop especially brought a lot of nuance to the statements.



Step 4: Substantiate

To substantiate the outcome statements, a total of 32 FGD took place in 8 villages - 4 villages in each district. The villages in Longido were visited from 21 to 24 October and the villages in Simanjiro from 29 October till 1st of November.¹⁶ A specially developed FGD guide was developed that structured the substantiation and contribution analysis (see inception report).

¹⁶ Longido District: Eworendeke, Mairowa, Matale A and Orkejuloongishu. Simanjiro District: Kitwai A, Kitwai B, Namalulu and Llerumo.

In each village, four different groups were mobilised; community members who benefitted from nutrition interventions, Community Owned Water Source Organisations (COWSO), Village Community Bank (VICOBA) and the village council/Land Use Planning Committee (VLUP).

On average 8 participants per group were consulted (depending on mobilisation and availability of people, the largest group had 16 participants, smallest had only 2). Besides the FGD, Key Informant Interviews were held with 7 Village Executive Officers. As such, the harvesters were able to substantiate the outcome statements by engaging more than 250 people. About 57% of the participants were female.

The FGDs, first of all, confirmed if the outcome statement was correct. This was done by generally asking for changes that the community had witnessed and checking the responses against the outcome statements. This approach was taken instead of reading out loud the statement, as to have a more objective verification.

The outcome statements were ordered in about 10-14 key sentences. For example, if the community mentioned they 'had created by-laws', that confirmed one sentence of the (VLUP) outcome statement. If some of the sentences were not mentioned by the community, these were verified actively. For example, if the FGD respondents did not mention how often they normally meet, the question was asked 'how often do you meet?'.

The contribution analysis

Besides the substantiation of the outcome statements, the FGD visits to the villages and FGD were used to conduct a contribution analysis. Participants were asked to explain what factors contributed to the change (what had caused the change to take place).

Factors:

Primary factor	= factor related to MB to caused the change
Pre-condition	= factor that existed before MB intervened
Rival	= factor not related to MB but another actor, that caused the change
Contradicting	= information that indicates that the change <i>DID NOT</i> take place

This methodology aimed to verify the outcome statements in the wider context; which reveals a broad range of contributing, competing and rival factors. It enabled the formulation of a convincing contribution claim. Factors were weighted on their level of significance (*not significant, some significance, significant through not crucial, crucial*). Community members were also asked to explain why they rated the factor significant or not, in comparison to other factors.

In some communities, it was very difficult to get the contribution factors and even harder to get the significance levels. People were very focused on either Maisha Bora or the implementing partners. The consultants tried to introduce themselves as non-programme independent researchers and to explain clearly what the FGD was about, to gain insight into community development. This was successful in most villages.

Step 5: Analyse and interpret

Intended results

The initial 32, respective 24 and final 18 outcome statements harvested were analysed against the three major outcome result areas that were formulated after the Mid Term Review and as part of the Theory of Change (see the TOC in annex 4). This assisted the harvester in assessing in which areas the programme had been successful in establishing intended outcome level results (to what extent to the outcomes represent patterns of progress towards the strategic objectives?).

Furthermore, the outcomes were analysed with regard to what type of change they represented (behaviour, relationship or actions), what pillar or component(s) they fell under as well as if there were synergies/linkages, which social actors were mostly involved, and to what extent the change was locally rooted, comparing Longido/Simanjiro differences, and local-regional differences.

Scoring; substantiation matrix

During the analysis, a scoring system was used to rate the substantiation strength for each key sentence:

3 = very strong (mentioned often/elaborately)

2 = present (mentioned once or just confirmed)

1 = unclear (not mentioned or unclear result)

0 = absent (confirmed that it is not present/change did not happen)

When analysing the outcome statements, it was found that some of the key sentences were not mentioned or they were actually confirmed to be absent. In case the confirmation score was equal to or lower than 50% of the potential score, the statement was adjusted and the specific sentence was removed.

Besides scoring the presence of the change already formulated in the outcome statement, community members sometimes mentioned substantial additional changes. If this was the case in multiple of the FGD/villages, these changes were added to the outcome statements to enrich them. See the substantiation matrixes in annex 7.

Formulating the contribution claim

The qualitative raw data of the 32 FGD was analysed and ordered per outcome statement. The factors that were mentioned by each village were compiled to form a list of factors. Those factors that were mentioned in multiple villages were considered as more strong than those factors that were mentioned only in one village. Based on the contribution analysis, all factors and significance levels, a contribution claim was formulated for each outcome statement, indicating the level of contribution the Maisha Bora project has had in influencing the creation of the change. A lot of cross-examination between the FGD had to be done because community members provided a wealth of information on various outcomes, which made the analysis heavy but successful.

See the contribution matrixes in annex 8.

II Findings and interpretation

3 Findings Household Survey

3.1 Demographic and household characteristics

3.1.1 Socio-economic and women surveys

The survey sampled household across 15 Maisha Bora villages with the respondents and their respective households having the characteristics shown in Table 2.

Table 2: Demographic and household characteristics of households and respondents involved in SES and WS

Characteristic	Total	Longido	District Simanjiro
<i>N</i>	1001	688	313
<i>Sex of respondent</i>			
Male	25%	15%	47%
Female	75%	85%	53%
<i>Age of respondent</i>			
18 -24 years	18%	23%	6%
25-34 years	28%	30%	24%
35-44 years	21%	17%	28%
45-54 years	16%	15%	20%
55+ years	17%	15%	22%
<i>Highest level of education</i>			
Nursery	1%	1%	2%
Primary completed	21%	21%	21%
Primary not completed	10%	7%	16%
Secondary Completed	2%	2%	3%
Secondary not completed	1%	1%	1%
College certificate	0%	0%	0%
Post Graduate Degree	0%	0%	0%
None	64%	68%	56%
<i>HH size</i>			
Average HH size	6	6	6
Largest HH size	20	20	20
Smallest HH size	1	1	1

The average household size across all households visited was 6 people in a household in both Simanjiro and Longido. The maximum household size was 20 people¹⁷ while the minimum size was 1 person¹⁸. On age of these household members, at least 2 in every 10 households had two, three or more than five members who were over 18 years old.

¹⁷ This was in 2% of the households in Simanjiro

¹⁸ This was in 1% of the households in both Longido and Simanjiro.

3.1.2 Pregnant women and lactating mothers

A total of 318 pregnant women and lactating mothers (135 pregnant and 183 lactating) were interviewed during the survey as shown in Table 3¹⁹.

Table 3: Profile of pregnant women and lactating mothers across the two districts

Characteristics	Total	Longido	Simanjiro
N	318	145	173
Category			
Pregnant women	25%	21%	28%
Lactating mothers	33%	41%	27%
Age			
Min age ²⁰	13	13	16
Max age	47	47	46
Average age	25.5	26.5	25.5
Mode age (most frequent)	20	20	30

The average age of the pregnant and lactating women was 25.5 years with the youngest being 13 years old. Most women interviewed under this category were 20 years old.

3.1.3 Children under 5 years

A total of 307 children under 5 years old were included in the child health and anthropometric survey – 106 from Longido and 201 from Simanjiro as shown in Table 3.

Table 4: Profile of Children under 5 years who were surveyed

Characteristics	Total	Longido	Simanjiro
N	307	106	201
Gender			
Male	49%	46%	50%
Female	51%	54%	50%
Age in months			
Min age	6	6	6
Max age	59	59	59
Average age	31	34	30
Mode age	39	39	39

Majority (231) of these children were first children under 5 years in the respective households, 73 were second and 3 were the third under 5 years old children in these households.

The age of these children ranged between 6 – 59 months with the most common age of these children being 39 months. In addition, only 1% of the children had a primary guardian who was not their mother, or both parents.

¹⁹ As would have been expected, it was a challenge getting pregnant women given the vastness of the districts and also the time duration allocated for the HHS.

²⁰ There were 2 women who were 13 years old, 2 who were 15 years old, 12 who were 16 years old and 11 who were 17 years old.

3.1.4 Direct project beneficiaries

The surveys also assessed whether the selected households were direct beneficiaries of the Maisha Bora Programme. There were a total of 39% households with direct beneficiaries from the total number of households sampled²¹ in the three surveys (total was 1,784 households). Thirty three percent (586) of these beneficiaries were female while 6% (105) were male. Majority of these direct beneficiaries had been involved in business interventions, livestock interventions and nutrition interventions as shown in Table 5.

Table 5: Profile of direct project beneficiaries who were part of the sampled households

Proportion of direct project beneficiaries among sampled HH					
	Total	Female	Male	Longido	Simanjiro
Sex					
Direct Beneficiaries	691	691	691	252	439
Intervention areas					
Livestock	283	240	43	93	190
Business	29	21	8	13	16
Water	151	121	30	90	153
Nutrition	294	271	23	91	203
Coordination	5	4	1	-	5

* Includes those interviewed in all the three surveys – men + their spouses, lactating mothers and pregnant women

The number of direct beneficiaries in water were those that were involved in management of water infrastructure through COWSO and not the number of households who benefit from the improved water sources.

Across the districts, most of these beneficiaries were from Simanjiro which also cascaded to the proportions in the intervention areas. Notably, there were beneficiaries who had benefitted from more than one intervention area, which explains why the total responses across the interventions areas is 762 (sum of all responses on intervention areas) and not 691.

3.2 Household GDP and Poverty levels

The household poverty levels were assessed through five main indicators²²: financial income at household level (income from economic activities), household GDP, progress out of poverty indicators (PPI), housing conditions and ownership of assets.

3.2.1 Household GDP and Poverty

3.2.1.1 Household GDP

The household GDP was calculated using Trias GDP Tool²³ which calculates the HH GDP as a sum of the output of every class of enterprise – gross income from all enterprises in a household. It is important to note that prices for livestock or crops will vary from village to village and district.

²¹ This is derived from PLW & U5, women and Socio-Economic Surveys

²² These were used so as to remain consistent with the baseline survey which utilised the five indicators.

²³ The tool defines the HH GDP as the total monetary value of all the goods and services produced within a household in a given time frame.

The respondents also struggled in estimating their gross output from their enterprises in the last 12 months. Thus, values used herein are estimations based on the recall capacity of the respondents.

As in the baseline, the biggest contributor of HH income is livestock (mostly cows and goats). GDP from cows, goats, sheep, maize, donkeys, business, honey and beans has significantly ($p=0.000$) increased. Livestock production is still the dominant contributor of HH GDP as shown in Figure 6.

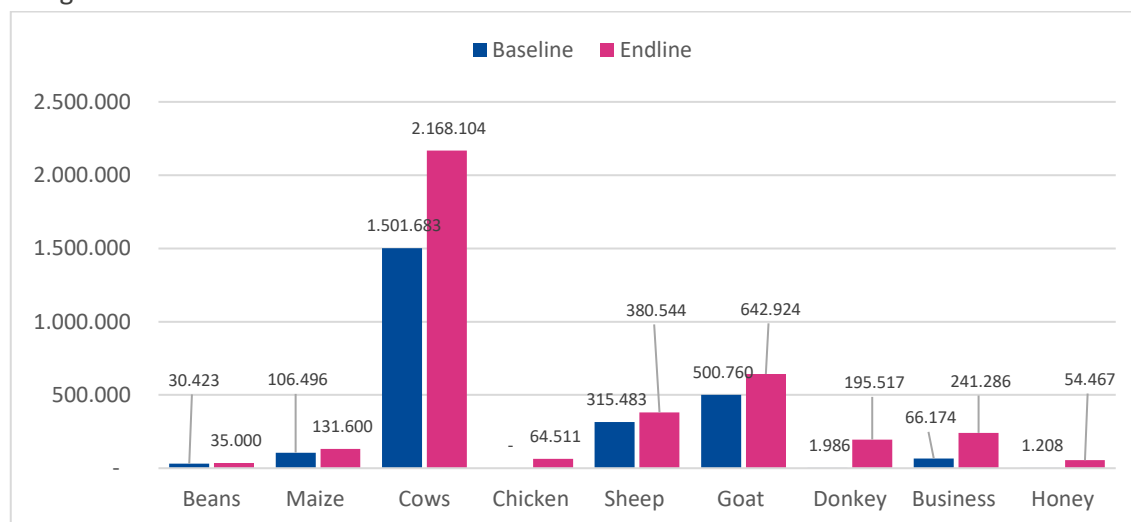


Figure 1: Distribution of HH GDP across the various sources at endline and baseline

Largest growth across the enterprises is on honey, business, donkey, cows and goats. This might be an indicator of growth in production of the same across the enterprises but it can also be a factor of increased market prices on production.

Livestock being the biggest contributor of HH GDP in the two districts is prone to various external factors for example drought. As indicated in Section 3.4.4 on livestock mortality, the extensive drought in 2018/2019 also led to high livestock mortality rates. This might have reduced the incomes and production from these enterprises which in turn would reduce the GDP.

3.2.1.2 Progress out of Poverty Index (PPI)

The PPI was calculated from a selection of household characteristics and asset ownership questions but guided by the PPI Scorecard Guide for Tanzania 2011. Unlike in 2015 there were no households above PPIs of 50²⁴. The largest proportion of the households sampled are below the PPI score of 25. Compared to the baseline in 2015, there are slightly more households below the PPI of 50 in 2019 as shown in Figures 2 and 3.

In 2015, the largest proportion of HH (16%) had a poverty likelihood of 25.6% compared to the largest proportion in 2019 (40%) who are on a poverty likelihood of 80.6%. Thus, the likelihood of the households sampled being poor is higher compared to the baseline situation. The fact that livestock, which is a measure of wealth for pastoralists is excluded in the PPI calculations, may explain why the scores are lower. In addition, the use of assets like Television,

²⁴ The baseline in 2015 had 29 households with PPIs scores of over 50 while the rest were below 50.

recorders/DVDs and tables which are not critical assets in the Maasai community context is a further limitation of the PPI scores

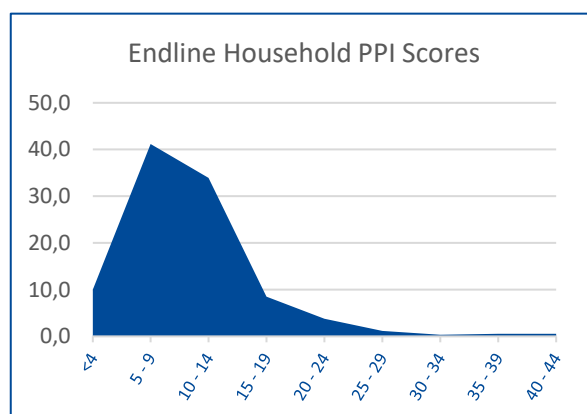


Figure 3: Endline (2019) Household PPI scores

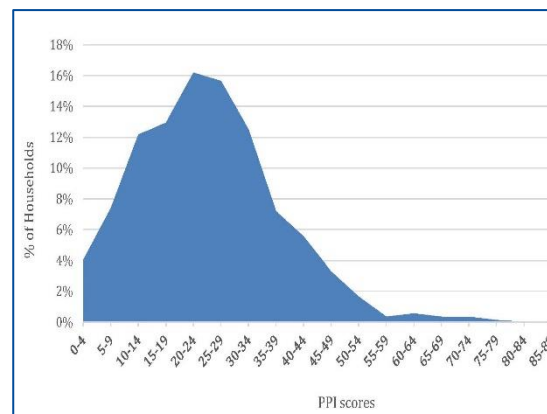


Figure 2: Baseline (2015) Household PPI scores

Therefore, even though the PPI scores are generated based on specific country (and are also objective), they might not give a true reflection of the wealth status of a household especially when you consider the context of some communities like the pastoralists²⁵.

3.2.1.3 Household assets ownership

Asset ownership was used at baseline as a measure of a household's social wellbeing. At baseline, households in Longido had a relatively high asset superiority compared to Simanjiro. As shown in Table 6, there has been an improvement in asset ownership for households in Simanjiro compared to Longido.

Table 6: Comparison of assets owned at baseline and endline across the districts

	Total		Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Mobile Phone	-	534	-	332	-	202
Bed	-	372	-	270	-	102
None	-	256	-	201	-	55
Lantern	-	143	-	115	-	28
Radio	154	112	96	91	58	21
Tables	-	83		68	-	15
Motorcycle	72	66	29	33	43	33
Bicycle	75	32	18	6	57	26
Television	11	18	9	14	2	4
Sofa Set	-	17	-	12	-	5
Video/DVD Player	9	2	9	1	2	1
Car	5	2	4	2	1	0
Other (plastic chairs, solar panels, plastic items)		123		110		13

With over 50% of the households owning a mobile phone and solar panels and plastic chairs etc., there is certainly an improved social well-being across the two districts. However, a quarter of

²⁵ Notably, the PPI scorecards will also be biased when applied with sub-groups that are not nationally representative

the households (256) indicated they owned none of the assets mentioned – approximately 26% of the total number of households sampled.

3.2.2 Income sources and diversity

The proportion of women (18 years and above) who have monetary income every month of the year has increased by 32% compared to the baseline in 2015 as shown in Figure 9. In total, the proportion of households with monetary income every month of the year has also increased by 50.7% compared to the baseline²⁶. Majority of these households are from Longido²⁷. More women compared to men have a monetary income every month of the year. This difference is statistically significant ($P=0.000$).

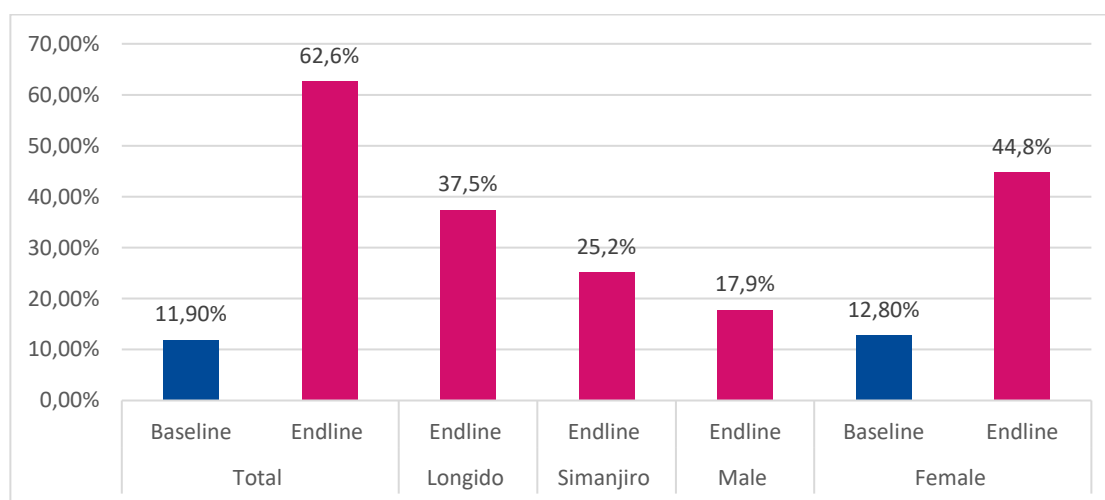


Figure 4: Comparison of the proportion of households with monetary income per month across districts

The most mentioned sources of income were livestock keeping, small business (<TZS 100,000 monthly turnover), farming and casual labour. VICOBAs were mentioned as a source of income by 1.9% of the respondents. This is an indication that livestock keeping is still the most common source of income for majority of the households. Approximately four in every ten (34.5%) respondents indicated they have no sources of income as shown in Figure 10.

The VICOBAs were only mentioned by a small proportion of the respondents because VICOBAs are not so much an additional income source but an avenue to save and get loans. A follow-up question on whether the head of households were members of an economic group indicated that 478 heads of households were members of economic groups of which 381 were involved in VICOBAs. This is an increase from the 85 heads of households who were members of VICOBAs at baseline. It is a clear indication that the communities now have improved access to savings and credit services with the increase in membership to VICOBAs.

²⁶ There were only 110 out of 921 households who had an income source in 2015 compared to the current 623 out of 1002.

²⁷ The only figure available for comparison at baseline was the proportion for women only

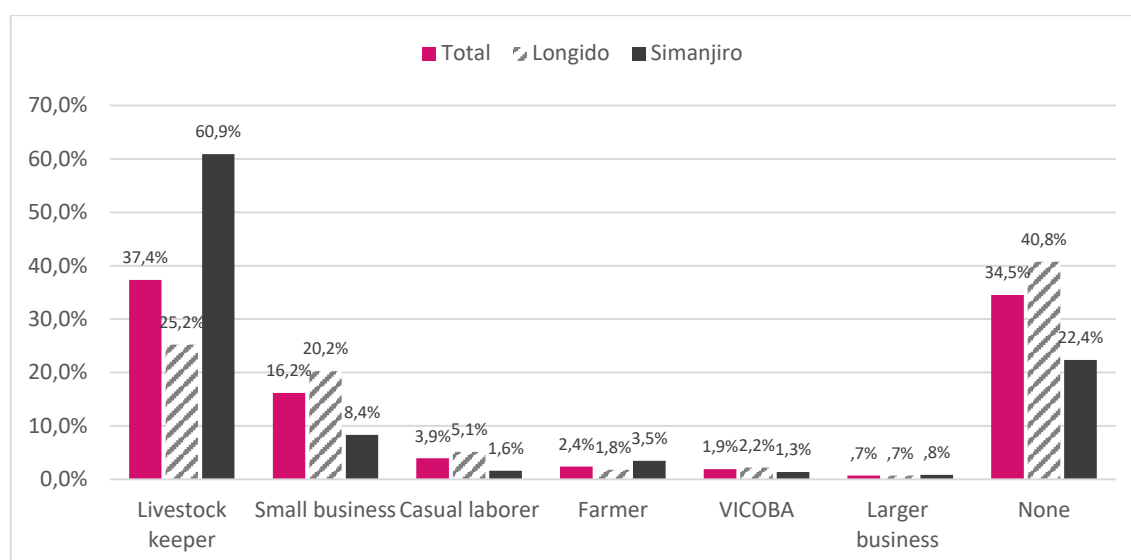


Figure 5: Income generating activities being practiced across the districts:

The average number of sources of income per household has gone down as shown in Figure 11. At baseline, the mean was 1.86 sources while at endline, the mean number of income sources was 1.23 sources²⁸.

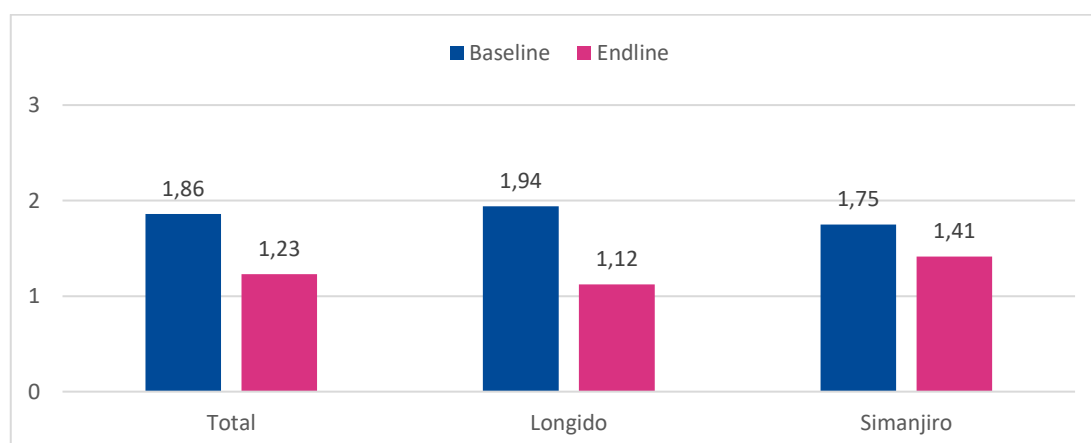


Figure 6: Comparison of the average number of income sources at baseline and endline

This has also reduced across the districts with Simanjiro households having a higher mean number of sources of income per household compared to Longido. Majority of the respondents who had an income source had only one (80.3%) while only 16.9% had two sources²⁹. The rest had 3 and 4 sources of income. This is an indication that the diversification of income sources has not increased and most of the households still depend on only one income source.

3.2.3 Income spent on food

3.2.3.1 Mean monthly income spent on food

²⁸ An important note is that care should be taken in interpreting these values. The baseline calculation of the average number of income sources was not available and thus, there might be a difference in calculation.

²⁹ An important note is that 628 household heads indicated they have a main income source while the rest did not have any source of income. Of those that had an income source, 145 had a second source of income.

The mean monthly household income spent on food has increased by 50% compared to the baseline as shown in Figure 12. Longido has the largest increase (50%) compared to Simanjiro (48%).

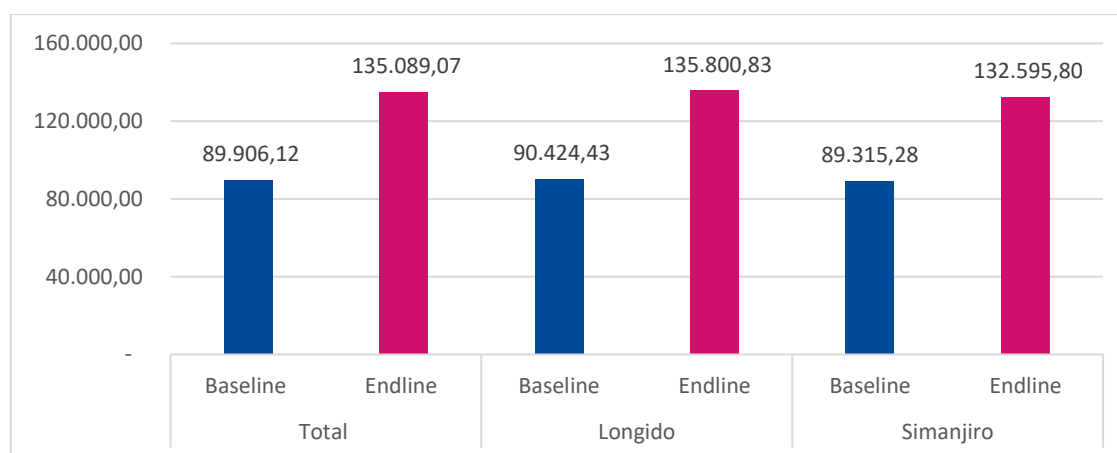


Figure 7: Comparison of the mean monthly income spent on food in the households

Additionally, the mean monthly income spent on locally produced foods in general was 105,425.47 TZS. Households in Simanjiro spent more (117,466.72 TZS) on locally produced foods compared to Longido (99,748.37 TZS). This is an indication that the levels of awareness and knowledge on nutrition has improved which may have changed the attitude of households on food intake, thus, the consumption of locally produced foods which are more nutritious.

3.2.3.2 Income spent on locally produced animal products, vegetables and fruits³⁰

From the mean monthly income spent on locally produced foods (105,425.47 TZS), 18,369.88 TZS was spent on locally produced vegetables and fruits while 14,374.79 TZS was spent on locally produced animal products as shown in Figure 13. Overall 14% of the income spent on locally produced foods was spent on locally produced animal products whereas 17% was spent on locally produced vegetables and fruits. This translates to 3% and 9% of income spent on locally produced animal products and vegetables and fruits respectively in Longido; and 33% and 32% in Simanjiro respectively.

³⁰ There were no baseline values available for comparison

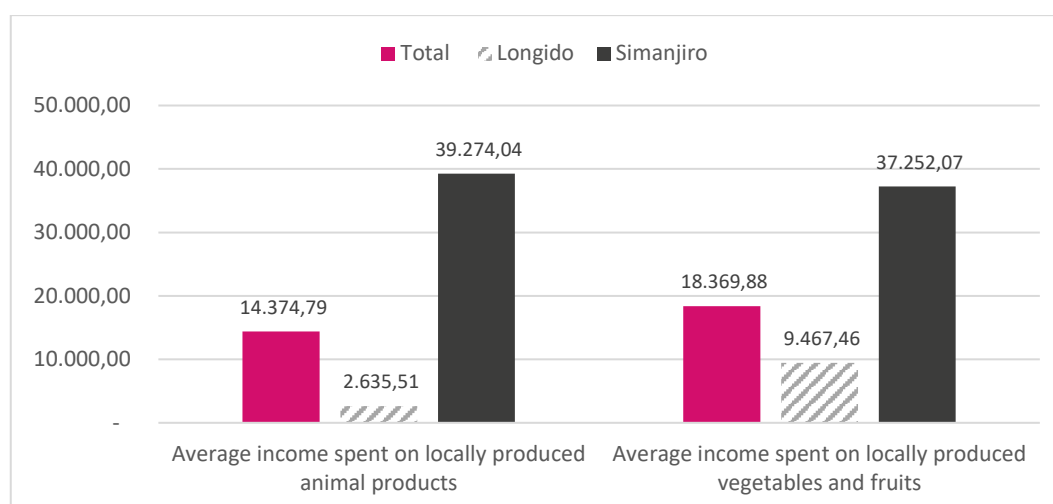


Figure 8: Comparison of the mean monthly income spent on locally produced vegetables and fruits

The figure further depicts Simanjiro households as consuming more locally produced foods compared to Longido

3.3 Household access to clean water

3.3.1 Sources of clean water

The main sources of clean water during wet and dry seasons are tabulated in Table 8. Across both districts, public taps, open public wells, springs, open wells and dams are the main sources of the clean water during dry season.

Table 7: Sources of clean water during wet and dry seasons across the districts

	Dry season			Wet season		
	Total	Longido	Simanjiro	Total	Longido	Simanjiro
Public tap	20%	30%	14%	20%	17%	22%
Open public well	15%	12%	17%	14%	14%	14%
Spring	13%	9%	15%	14%	10%	17%
Open well	11%	12%	10%	1%	1%	1%
Dam	10%	6%	12%	4%	4%	5%
River/Stream	7%	17%	1%	5%	10%	2%
Rainwater	6%	1%	8%	1%	1%	1%
Protected well	5%	1%	7%	5%	1%	7%
Protected public well	5%	4%	6%	5%	2%	6%
Neighbour's open well	3%		4%	5%		8%
Pond/Lake	3%	1%	3%	2%		3%
Neighbour's tap	2%	4%	1%	20%	36%	12%
Neighbour's borehole	2%	1%	2%	1%		1%
Other (Specify)	1%	1%	1%		1%	

However, during the wet season, neighbour's tap, public taps, open public well, springs are the main sources of clean water. There is no much difference between the sources of clean water during dry and wet seasons. Comparing these sources to the baseline, there is no difference across the seasons – public tap and springs were the most common sources during the dry season while dams, springs and public taps during the wet season at baseline.

Key providers of water in these sources are the Authorities (44.7%), Private operators (10.3%) and CBOs/NGOs (6.6%). Thirteen (13) out of 1001 households also indicated that they were getting water from sources developed by Maisha Bora Programme. The communities may not know directly who funded the water sources and thus, only 13 were well aware that the water source they were using was developed by Maisha Bora.

3.3.2 Distance of water sources for HH use

The distance from the nearest water source was estimated using the time spent to reach the nearest water source from the household, fetch water and come back to the household. The overall distance from the closest water source has reduced considerably as shown in Tables 8 and 9. At baseline, it took women 219.5 minutes during dry season, to get water and come back including waiting time. However, at endline, it only takes them an average of 180.0 minutes which is approximately 3 hours. The biggest proportion of these women indicated it took them approximately 120 minutes.

Table 8: Time taken to reach water sources for HH water at baseline and endline during dry season

	Total		During Dry season			
	Baseline	Endline	Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Average time	219.5	180.0	156.2	136.0	298.1	335.0
Max time	1440	720	900	600	1440	720
Min time	0	4	0	0	0	4
Mode	120	120		120		360
SD	218.3	166	160.03	124	253.05	199

In Table 8 further highlights there has been an 18% (40 minutes) reduction in the distance to the water sources during dry season compared to the baseline. This reduction is mostly in Longido villages compared to Simanjiro villages.

Table 9: Time taken to reach water sources for HH water at baseline and endline during wet season

	Total		During Wet season			
	Baseline	Endline	Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Average time	80.0	70.0	53.1	56.0	113.25	120.0
Max time	1140	480	600	480	1440	480
Min time	0	0	0	0	0	0
Mode	60	30		30		60
SD	128.7	84	66.37	65	172.49	117

In table 9, the average time taken to fetch water from the water sources during the wet season has reduced by approximately 10 minutes (13% reduction), with most women indicating it only takes them 30 minutes to fetch water during wet seasons compared to 60 minutes at baseline.

The variance has also reduced as can be shown by the SD³¹ across the districts in both wet and dry seasons. This means that most of the times provided by the respondents were close to the average time calculated. That is, communities are now accessing water from sources closer to them compared to the baseline situation.

Markedly, 2018 and 2019 had severe drought and even the rainy seasons were not adequate enough to provide water in the natural water points. This may explain why data collected indicates there was an increase in distances to water sources as at end of 2019.

3.4 Household production and decision making

3.4.1 Land ownership and decision making on land sale

Only 32% of the respondents indicated that their households owned land for agricultural use. Majority (42%) of them were from Simanjiro while only 28% of the respondents in Longido indicated that their households owned land for agricultural use. Another 2% rent land for agricultural use while 9% of the respondents indicated that jointly own land as shown in Figure 14. Compared to the baseline, there is no difference as 2% of the respondents at baseline rented land while 42% owned land.

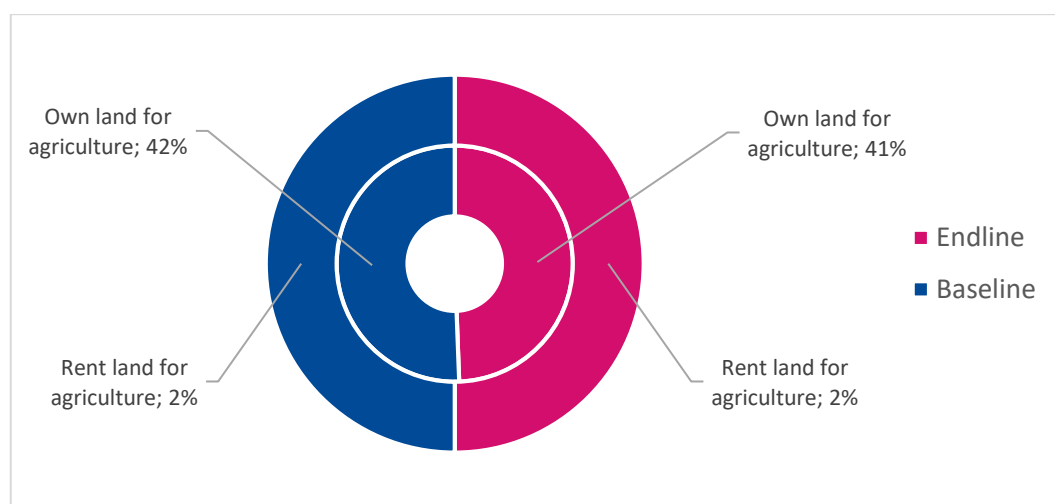


Figure 9: Land ownership across HH in the two districts

On average, the majority own 8 acres of land with Simanjiro having a bigger proportion of households that owned larger piece of land (an average of 13 acres) compared to Longido (an average of 4 acres).

Decisions on sale of land are done by the head of the household as indicated by 65% of the respondents with only 18% of the respondents indicating that such decisions are made jointly.

³¹ The SD shows how close or how far most values are from the average time. The small the SD, the more close most values are to the average time

Across the 43% of households that either owned or rented land, only 6% indicated that they cultivated their land in the last 12 months³², to which they indicated they had cultivated between 1-3 acres of the land they owned or rented.

3.4.2 Crop production

Only 63 out of the 1002 households visited indicated that they had cultivated their land. Longido district had more households (56) who had grown crops compared to Simanjiro district (7).

Ninety percent (90%) of the proportion that had cultivated their land (6%)³³ had mostly grown maize (86%), beans (84%) and green vegetables (9%). There is no difference with the baseline which also found that maize and beans are the most cultivated crops. There is however, a slight increase in cultivation of green vegetables and sweet potatoes grown by 9% and 7% of the households respectively as shown in the Figure 15.

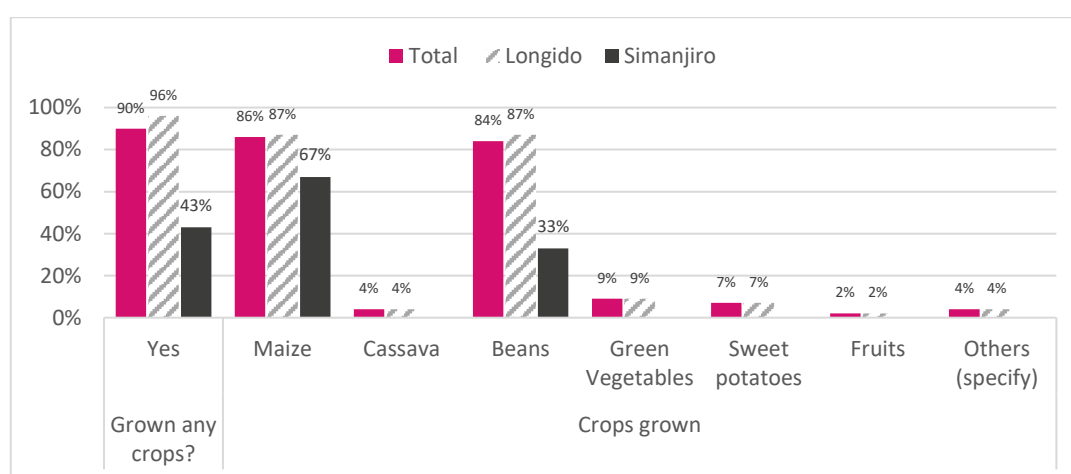


Figure 10: Crop cultivation across households in both Longido and Simanjiro

The average production for both maize and beans was 3.4 bags and 2.7 bags as shown in Figure 16. There was high production of green vegetables (average of 3.2 bags) and cassava (2.0 bags) for the households who indicated they had grown them in the last 12 months.

Across the districts, Simanjiro households only indicated that they had grown maize at an average production rate of 1.5 bags compared to Longido's 3.5 bags. There was no percentage difference in the production in Longido district compared to the average production.

³² As at the time of the survey, October 2019

³³ This was only 63 out of the 1002 households visited.

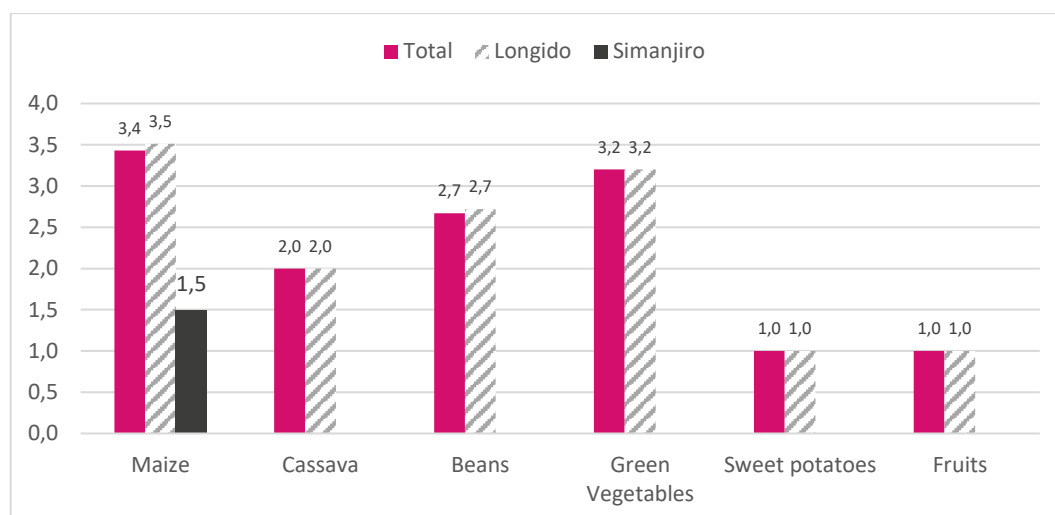


Figure 11: Crop production in the last 12 months for HH who did crop cultivation

Seven in every ten households (67%) who indicated they did crop production, produced it for consumption only, 11% for both sale and consumption. The 23% who indicated other clarified that they had planted but never harvested anything. Maize, Beans and Cassava fetched an average of 33,800 TZS, 23,333 TZS, 50,000 TZS and 30,000 TZS per 50kg bag respectively. Some respondents also indicated they had sold a 50kg bag of maize at a maximum of 124,000 TZS, a bag of beans at 80,000 TZS within that season³⁴.

3.4.3 Livestock ownership and production

This assessed the type of products generated from the various livestock kept, the average number of livestock owned by a household, the average income from the products and average quantity sold in the last 12 months. Compared to the baseline, there is a 27.3% increase in the proportion of households who own more than 3 types of livestock. At baseline, only 59.55% owned more than 3 types as compared to 75.80% at endline³⁵.

3.4.3.1 Cows

Seventy nine percent of the households visited owned cows (72% in Longido and 94% in Simanjiro). The Pure Maasai Zebu is owned by 85% of the households while the cross breeds (zebu/boran/Sahiwal etc.) were owned by 16% of the households visited.

There is a 9% increase in proportion of households who own cross breed cows compared to 2015³⁶ as shown in Figure 17. Currently, 13% of the households own crossbreeds with the majority being from Longido compared to Simanjiro.

³⁴ This data is only limited to Longido as Simanjiro households only produced Maize compared to Longido households who produced all the listed crops. This information is only limited to 6 respondents only, who indicated they had grown crops for sale and had actually sold.

³⁵ This proportion includes those that own 3 (24.30%), 4 (36.50%) and 5 (15%).

³⁶ The baseline in 2015 only had 107 households owning cross breeds (88 in Longido and 19 in Simanjiro) compared to 130 households out of 1002 currently. Longido had 126 of these while Simanjiro had only 4 households with cross breeds

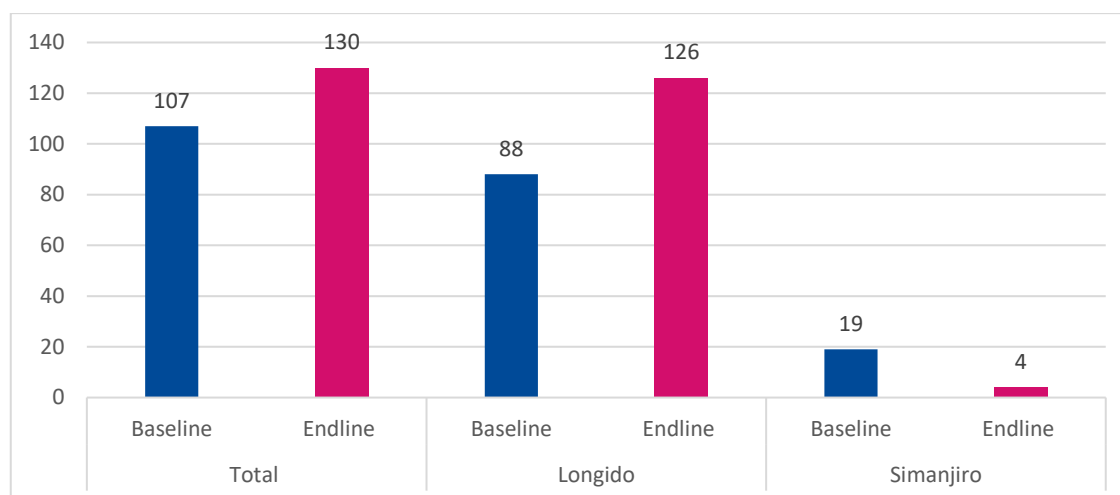


Figure 12: Comparison of the number of HH with cross breeds across the districts

Figure 18 further shows the average number of cows owned per household. On average, there were 18.5 herds of Pure Maasai Zebu breed cattle compared to 13.3 of the Cross breed (zebu/boran/Sahiwal). The average number of pure Maasai zebu breed has increased to 18.50 herds from 13.33 at baseline. The number of average herds of cross breed cattle has also increased from the baseline value of 1.74 to 12.83, which is a 76% increase.

Across the districts, there is also an increase in the average number of pure maasai zebu and cross breed cattle with Simanjiro having the largest increase.

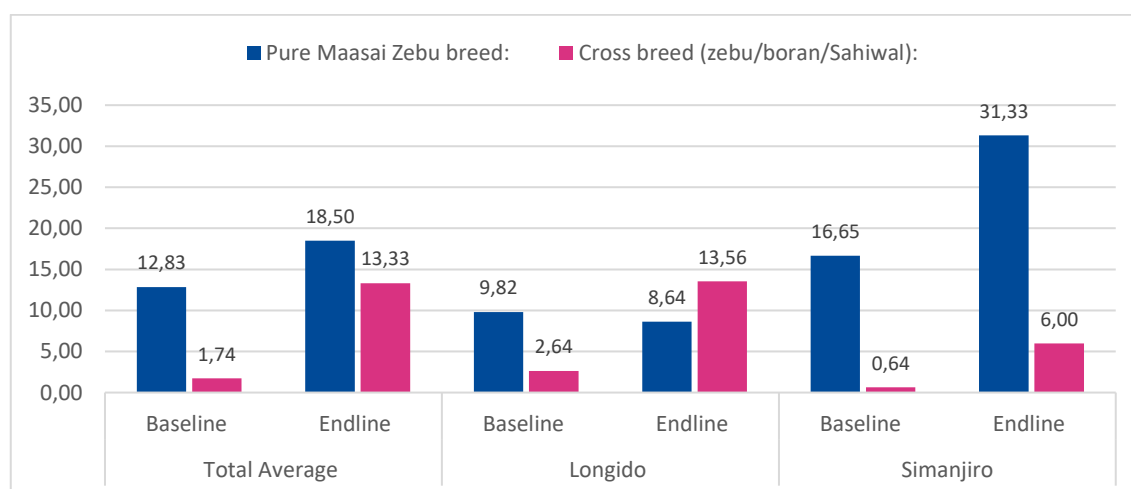


Figure 13: Average number of cattle breeds per household across the districts

Milk (93%), meat (71%) and skin (38%) are the most common products derived from cattle. However, only 11% sell any of these products.

On sale of the cows, 49% indicated that they normally sell their cows. In the last 12 months, there has been an average of 5 cows per household sold across households sampled, with Simanjiro herders (average of 6 cows) selling more than Longido herders (average of 4 cows). The average income received from the sale of cows in the last 12 months was 2,168,104 TZS across the two districts with Simanjiro (2,009,534 TZS) recording a lower average income from sale of cows compared to Longido (2,327,500 TZS).

Notably, the sale of cross breeds fetched an annual average price of 3,458,000 TZS. Across the two districts, cross breeds in Simanjiro fetched a slightly lower average price (2,233,333 TZS) compared to those in Longido (3,517,258 TZS).

Decision making on sale of cows is done by the man in a household as indicated by 80% of the respondents³⁷. Only 12% of the respondents indicated that such decision are made jointly by the man and woman in a household while the rest indicated it is done by the wife of the head of household. The decision making on income from sale of cattle is also majorly done by the man in a household (80%) with 13% indicating it's done jointly. This cut across the two districts.

3.4.3.2 Chicken

Chicken are only owned by 26% of the households where interviews were conducted. On the number of chicken owned by a household, the baseline had an average of less than one chicken per household across the two districts. The endline shows an increase, on average, in all the households which indicated they have chicken (had an average of 8.42 chicken). Simanjiro households reported a larger increment compared to Longido as shown in Figure 19.

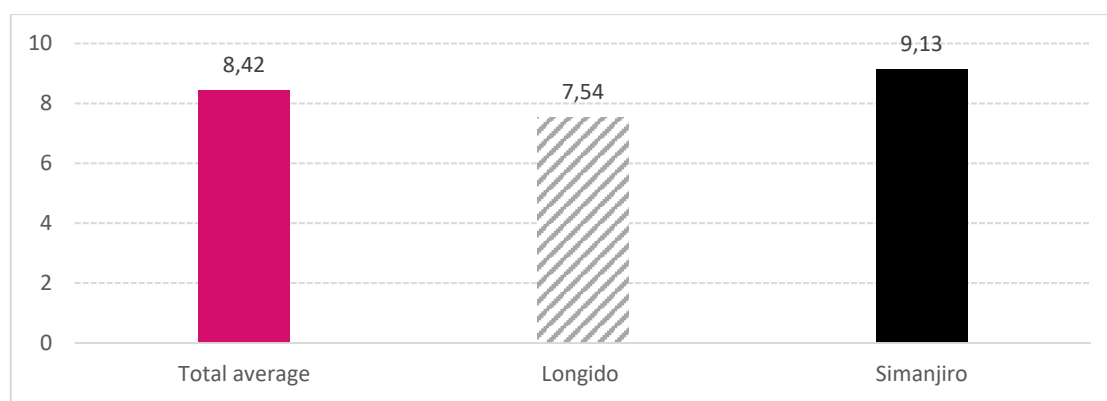


Figure 14: Average number of chicken per household across the districts

Eggs (40%), Meat and eggs (46%) and meat only (7%) are the most common products derived from chicken. Thirty eight percent (38%) of those that keep chicken indicated that they have sold any of the products in the last 12 months.

An average of 7 chicken per household has been sold in the last 12 months across households in the two districts (7 chicken in Longido and 6 chicken in Simanjiro), These sales translated to an average of 62,420 TZS across the two districts (75,998 TZS in Longido and 56,302 TZS in Simanjiro)³⁸. On sale of chicken products, an average of 56,941.30 eggs (36,026.47 in Longido and 116,200.00 in Simanjiro) were sold in the last 12 months.

Decision making on the sale of the chick and products is done by the wife of the head of household as indicated by 55% of the respondents, while 39% indicated that it is done by the man in that household. Additionally, decision making on the use of the income from earnings

³⁷ NOTE: In households where the woman was the head of the household, decisions on sale of cows was still made by the man who was the head of the boma.

³⁸ This is an estimation of the income earned from the sale of either eggs, chicken for meat or both in the last 12 months

made from the sale of chicken and the products is mostly done by the wife of the head of household (54%) and the man in the household (40%)

3.4.4.3 Goats

Ninety percent (90%) of the households interviewed owned goats. Compared to the baseline, there has been a 19.2% increase in the average number of goats owned by households in both districts as shown in Figure 20.

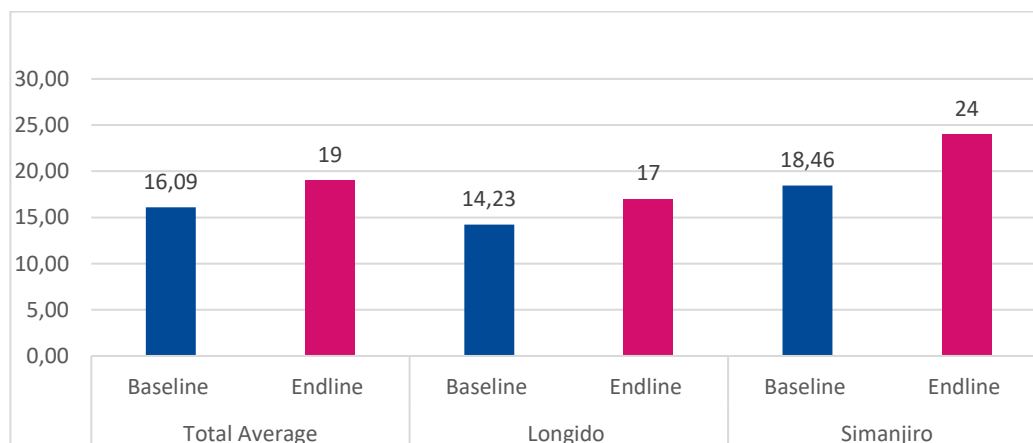


Figure 15: Average number of goats per household across the districts

On ownership, goats are owned by the head of the household as indicated by 76% of the respondents while 11% of the respondents indicated goats in their households are owned by the spouse of the head of household and jointly. This cut across both districts.

Main products derived from goats across the two districts include milk (88%), meat (75%) and skin (20%) while the rest receive no products. Only 7% of the respondents were selling any of these products across the two districts (4% in Longido and 15% in Simanjiro). However, 53% of the households sell their goats with the majority being from Simanjiro (69%) compared to Longido (47%).

An average of 9 goats per household across the two districts were sold in the last 12 months (9 goats per household in Longido and in Simanjiro) which translates to an average income of 642,704 TZS (572,022 TZS in Longido and 753,239 TZS in Simanjiro).

Decisions on sale of goats is made by the man in the household as indicated by 76% of the respondents with 14% indicating that they are made jointly (by both man and woman in the household). The decisions on spending of income from goats is also made by the man in the household (74%) and in 16% of the households, jointly (by both man and woman in the household).

3.4.3.4 Sheep

Eighty percent (80%) of the households visited owned sheep. On the number of sheep owned, the endline data indicates an 8.8% increase in the average number of sheep owned by a household across the two districts compared to the baseline average as shown in Figure 21.

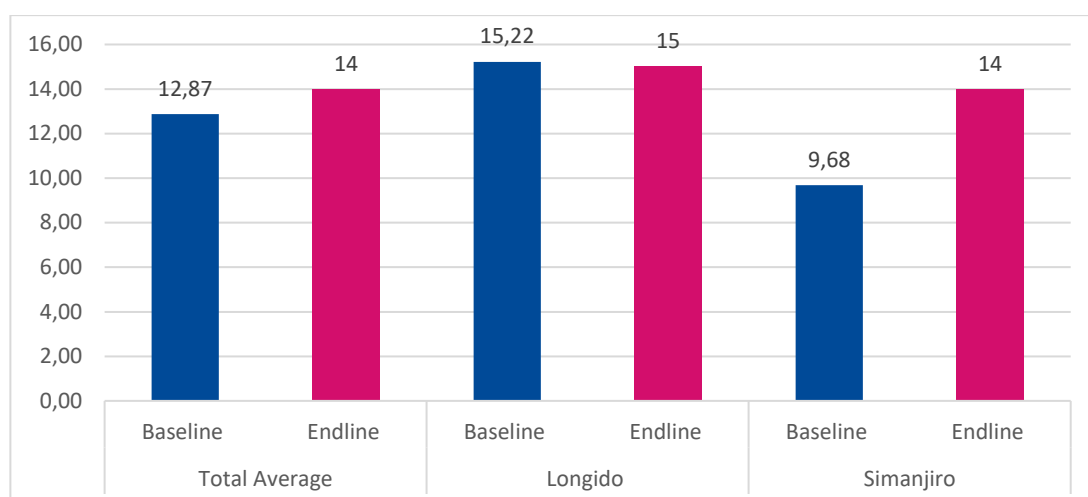


Figure 16: Average number of sheep per household across the districts

The head of households in 74% of the households owns the sheep while in 13% of the households, it is owned jointly by the head and spouse of the household. In 11% of the households, it is owned by the spouse of the head of household.

Main products derived from sheep include meat (80%), milk (47%) and skin (18%). Only 7% of the households get wool from sheep. Ninety five percent (95%) do not sell any of these products – they are for household consumption. However, 36% of the households sell sheep.

An average of 7 sheep per household were sold in the last 12 months across the two districts (7 sheep per household in Longido and 6 sheep in Simanjiro) translating to an average income of 380,544 TZS (412,884 TZS in Longido and 277,554 TZS in Simanjiro).

Decisions on sale of the sheep is made by the head of household (73%) and in 18% of the households, it is made jointly (by both head and spouse of household). This is also the case when it comes to decisions on how to spend the income generated from the sale of the sheep. Head of household in 72% of the household make these decisions and in 19% of the households, it is made jointly (by both head and spouse of household).

3.4.3.5 Donkeys

A total of 56% of the households interviewed owned donkeys. In 65% of the households, donkeys are owned by the head of household while in 27% of the households, they are owned by the spouse of the head of household. They are only owned jointly in 7% of the households. On the number owned, the average number of donkeys per household has increased by 76.5% as shown in Figure 22. There is also an increase across the districts with Simanjiro having the largest increment.

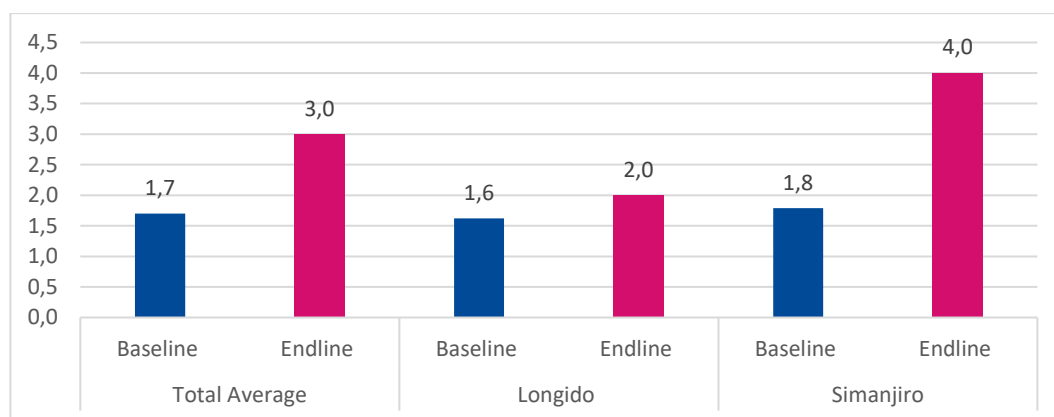


Figure 17: Average number of donkeys per household across the districts

Ninety five percent (95%) of the household do not sell their donkeys. However, in the 5% that indicated they sell their donkeys³⁹, they have sold an average of 1.9 donkeys per household in the last 12 months which translates to an average income of 19,5517.20 TZS.

In the 29 households that sell their donkeys, in 79% of these households, decisions on the sale of the donkeys are made by the man in the household while in 14%, they are made jointly. Decisions on how to spend income generated from the sale of the donkeys is also made by the man in the household in 83% of the households and jointly in 14% of the households.

3.4.4 Livestock mortality

The livestock mortality rate was calculate as the mean number of animals that had died within the last 12 months in the households. As depicted in Figure 23, the livestock mortality rates per household per year has increased by 36.9% compared to 2015. A comparison between the overall baseline and the endline livestock mortality rates indicates an increase for cows, goats/sheep and chicken.

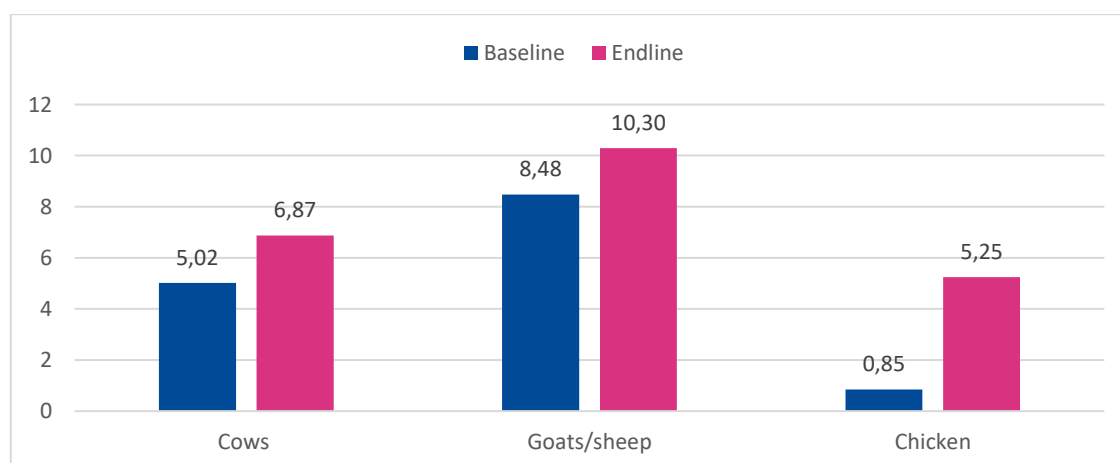


Figure 18: Comparison of the baseline and endline livestock mortality rates per household

The mortality is highest in Longido compared to Simanjiro as shown in Table 11. The highest number of deaths has been on goats followed by sheep.

³⁹ This is only 25 households across the two districts

Table 10: Average number of livestock mortality rates per HH per year

Livestock	Total Average	Longido	Simanjiro
Cows	6.87	9.71	2.10
Goats	11.30	12.27	7.25
Sheep	9.20	10.37	3.25
Chicken	5.25	6.57	3.62
Donkeys	1.25	1.45	0.53

The increase in the livestock mortality rates was caused by the lack of pasture (63%), diseases (29%), wild animals (28%) and by lack of water (27%) as shown in Figure 24. This is also due to the extensive drought that was experienced in 2018 and 2019, leading to diminished pastures and water. Drought also amplifies the disease threat, which explains why diseases were also a big cause of livestock mortality.

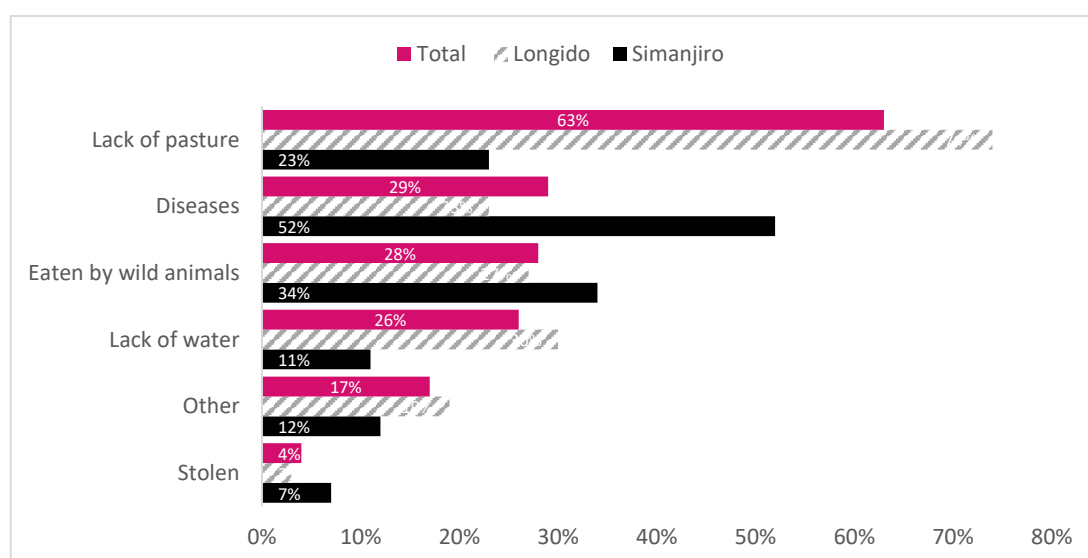


Figure 19: Causes of livestock mortality in households across the districts

Notably, lack of pasture is the major cause of death for livestock in Longido compared to Simanjiro, while diseases is the major cause death for livestock in Simanjiro compared to Longido. Three main causes of death for livestock in Longido are lack of pasture, lack of water and being eaten by wild animals. However, in Simanjiro, the three main causes are diseases, being eaten by wild animals and lack of pasture.

Table 11: Comparison of the causes of livestock mortality at baseline and endline across the districts

Causes of livestock mortality	Overall		Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Livestock diseases	1	2	2	4	1	1
Lack of pastures	2	1	1	1	2	3
Lack of water	3	4	3	2	3	4
Wild animals		3		3		2

There is a change in the main causes of livestock mortality across the districts compared to the baseline. In Longido, livestock diseases is no longer the prime cause of livestock mortality compared to baseline, while lack of water is no longer the third major cause of livestock

mortality in Simanjiro compared to the baseline. This may be as a result of the project interventions' contribution.

3.4.5 Decision making on incomes

The overall decision making on crop income is mostly made jointly between the head of household and the spouse of the head of household as indicated by 50% of the respondents followed by 33% of the respondents who indicated it is made by the head of the household only, while 17% indicated it is made by other people within the household like the son, daughter among others

3.5 Livestock resources

3.5.1 Access to water for livestock

3.5.1.1 Access to sufficient pastoral water throughout the year

Compared to the baseline, the proportion of households reporting access to pastoral water throughout the year has increased by 30.5% (from 49.05% to 64%) between 2015-2019. For the proportion (36%) who indicated they do not have access to sufficient pastoral water throughout the year, they highlighted that on average, they have access to sufficient water for 4.96 months in a year (4.38 months in Longido and 5.9 months in Simanjiro).

Households in both Simanjiro and Longido identified the months when there is no access to sufficient pastoral water as January (59%), February (62%), March (67%), April (66%), May (54%) and June (48%)⁴⁰.

During the baseline, households had sufficient water for their livestock for at least 6 months in that 2015 year. The situation has changed at endline with the households now having sufficient access to water for livestock for only 5 months as shown in Figure 25⁴¹. There is no much change in Simanjiro but there is a change in Longido by approximately 2 months. This is mostly attributed to the drought experienced in 2018-2019 where the rainy season did not yield sufficient water for livestock as would be expected.

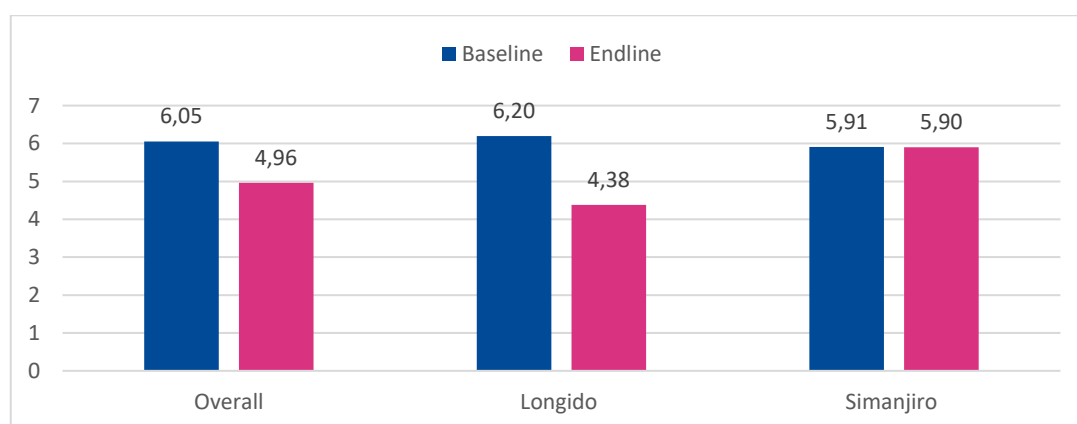


Figure 20: Comparison of the average no of months when HH have sufficient access to pastoral water

⁴⁰ It is important to note that some of these months fall under the rainy season. However, in 2018/2019, there has been inadequate rainfall during the rainy seasons which explains why these months were cited as having insufficient water.

⁴¹ These months were estimated based on the access of pastoral water from the last 12 months (year 2018/2019)

Across the villages, there is no increase in the average number of months when household have sufficient access to sufficient to pastoral water when compared to the baseline average except for two villages in Simanjiro district – Kitwai A and Llerumo as shown in Table 13.

Table 12: Comparison of average no of months HH have access to sufficient pastoral water across villages

	Endline	Baseline
Longido District		
Overall	4.38	6.20
Eworendeke	4.11	6.70
Matale B	4.94	5.23
Mairowa	4.53	6.68
Matale A	4.12	6.38
Loondoluo	4.44	
Orkejuloongishu	4.16	7.57
Ilchang'itsapukin	4.66	4.87
Gelailumbwa	3.88	5.38
Simanjiro District		
Overall	5.90	5.91
Kitwai A	5.44	4.96
Kitwai b	5.87	6.27
Londreskes	5.16	6.36
Llerumo	7.11	5.58
Namalulu	5.82	5.91
Lolbene	5.00	5.84
Losokonoi	6.93	6.28

3.5.1.2 Distance of water sources for pastoral use

The duration taken to access the closest water point for pastoral water varies in season as shown in Table 14. There is a 25% increase in the proportion of households that can access pastoral water in less than one hour during the dry season. This is despite the drought that had affected the pastoral water in 2018-2019.

Table 13: Duration taken to access/walk closest water point for livestock during wet and dry seasons

	Wet Season		Dry Season	
	Endline	Baseline	Endline	Baseline
Less than an hour	44%	63%	15%	12%
1 - 2 hours	35%	26%	19%	30%
Between 2 - 4 hours	17%	9%	27%	38%
More than 4 hours	5%	2%	39%	20%

During the dry seasons, 85% of the livestock keepers walk for more than 1 hour for pastoral water compared to 88.79% during baseline. During the wet season, only 57% walk for more than 1 hour to get pastoral water compared to 35.38% at the baseline. That is, there is improved access to pastoral water compared to the baseline - more households access water for their livestock closer during the dry season. This may be attributed to the harsh weather conditions experienced in the region in last 2 years (2018-2019).

3.5.1.3 Frequency and queueing time taken to access pastoral water

Figure 26 shows that the number of households that accessing pastoral water every day has increased by 83.3% from 2015 to 2019. There is a difference between the districts with households in Longido having a 58.8% increase in daily access to pastoral water every day compared to households in Simanjiro which reported a 50% increase compared to the baseline.

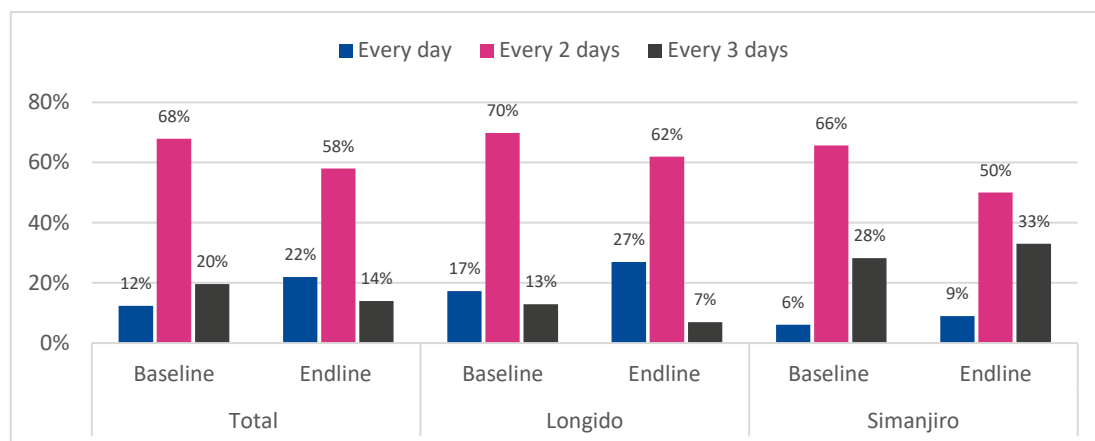


Figure 21: No of days when households access water points for pastoral water

Further analysis of the queueing time indicates that in as much as the water sources are now accessible within short distances from the households, it takes less time to fetch water from these water sources compared to the baseline especially during the dry season. This was measured by the duration taken to queue for water as shown in Figure 27.

In comparison to the baseline, the proportion of households queueing for less than one hour during the dry season has increased by 75%. This may be as a result of increased access to pastoral water through more water points provided by the Maisha Bora programme.

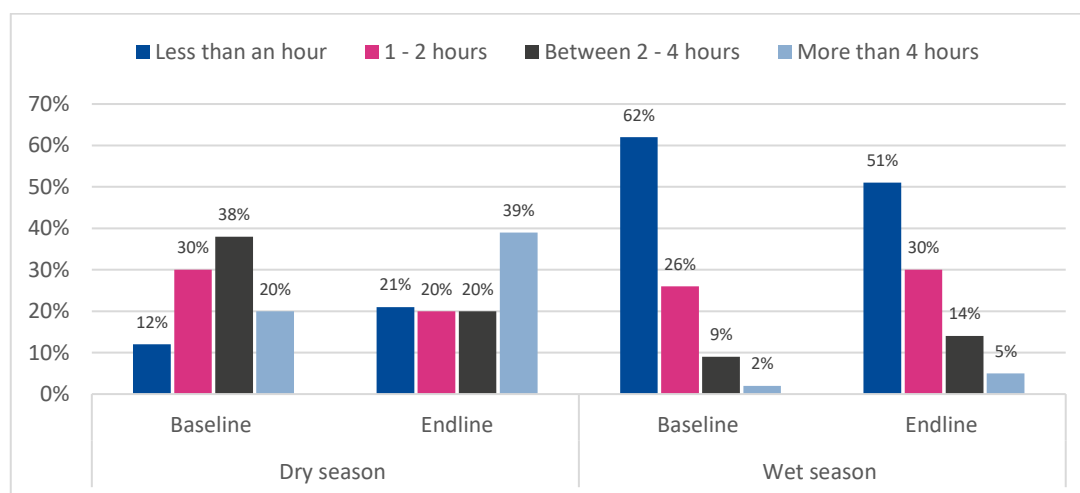


Figure 22: Comparison of the queueing times during dry and wet seasons at baseline and endline

Further comparison between the districts at baseline and endline indicate an improvement especially during the dry season as shown in Table 15. In Longido 26% of the households queue for less than 1 hour compared to 15% at baseline while in Simanjiro 11% of the households queue for less than an hour compare to 7% at baseline.

Table 14: Comparison of queueing times during dry and wet seasons at baseline and endline across districts

	Wet season				Dry season			
	Longido		Simanjiro		Longido		Simanjiro	
	BL	EL	BL	EL	BL	EL	BL	EL
Less than an hour	65%	66%	60%	19%	15%	26%	7%	11%
1 - 2 hours	26%	20%	26%	52%	35%	22%	25%	16%
Between 2 - 4 hours	7%	13%	12%	18%	35%	20%	42%	20%
More than 4 hours	3%	2%	2%	11%	15%	32%	27%	54%

*BL=Baseline, EL=Endline

The availability of water from various sources during wet season may explain the high proportion of households queueing for water for less than 2 hours across the districts and fewer households queueing for more than 4 hours.

3.5.1.4 Duration taken to repair broken water sources

The baseline findings indicated that 12% of the households reported it took more than 6 days to repair the broken down water points. Endline findings however indicate that 17% of the households have their water point repaired after more than 6 days. Furthermore, the average duration taken to repair the water points is 6.17 days (6.73 days in Longido and 4.85 days in Simanjiro). This shows that there is no much improvement in the duration taken to repair broken water sources across the districts especially in reducing the repair duration to less than 3 days. This indicator is not comparable to the baseline. This is because the baseline question was not able to capture the duration without the categorical values which do not give an accurate duration. Thus, the endline data that did not use the categorical model cannot be compared. In that case, there is no accurate way of comparing this indicator at baseline vs endline.

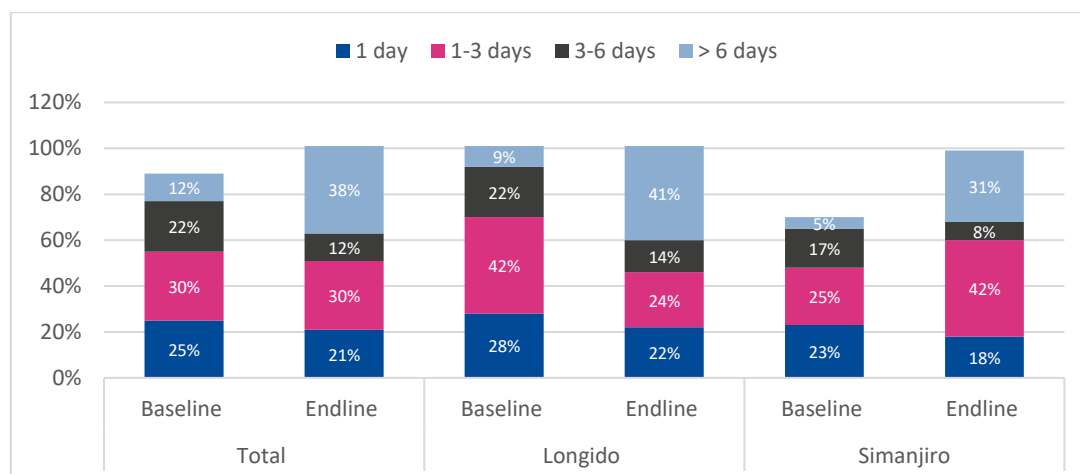


Figure 23: Comparison of time take to repair a broken water source across the districts

Figure 28 however shows that there is a slight improvement in the time taken to repair the water points - at baseline, 34% of the households indicated it takes over 3 days to repair the water points when broken. This proportion has decreased to 29%. This also cuts across the districts.

3.5.2 Satisfaction with access to pastoral water for livestock

As shown in Table 16, the number of households assessing their satisfaction with access to pastoral water during dry season as catastrophic has decreased by 56%. In addition, the number

of households assessing their satisfaction with access to pastoral water as average has increased by 61% compared to 2015.

Table 15: Satisfaction rating on water situation in wet and dry seasons

Satisfaction rating on access of water	Wet season		Dry season	
	Baseline	Endline	Baseline	Endline
The situation is catastrophic	5%	3%	41%	18%
The situation is difficult	7%	6%	34%	47%
The situation is average	25%	23%	18%	29%
The situation is good	63%	68%	7%	6%

Across the districts, the number of households assessing their satisfaction with access to pastoral water as catastrophic has decreased by 41.2% in Longido and 67.3% in Simanjiro as shown in Table 17.

Table 16: Satisfaction rating on water situation in wet and dry seasons across the districts

Seasons	Longido District				Simanjiro District			
	Wet		Dry		Wet		Dry	
	BL	EL	BL	EL	BL	EL	BL	EL
The situation is catastrophic	5%	2%	34%	20%	6%	5%	49%	16%
The situation is difficult	6%	2%	35%	51%	7%	15%	33%	36%
The situation is average	25%	21%	22%	22%	24%	26%	13%	43%
The situation is good	64%	75%	8%	7%	63%	54%	5%	5%

3.5.3 Access to pastures for livestock

Thirty five percent (35%) of the households have access to pastures throughout the year with the majority of those households being from Longido (42%) compared to Simanjiro (18%)⁴² as shown in Figure 29. The proportion without access to pastures throughout the year (65%) indicated that they have access to pastures at least 5.4 months in a year (4.78 months in Longido and 6.36 months in Simanjiro).

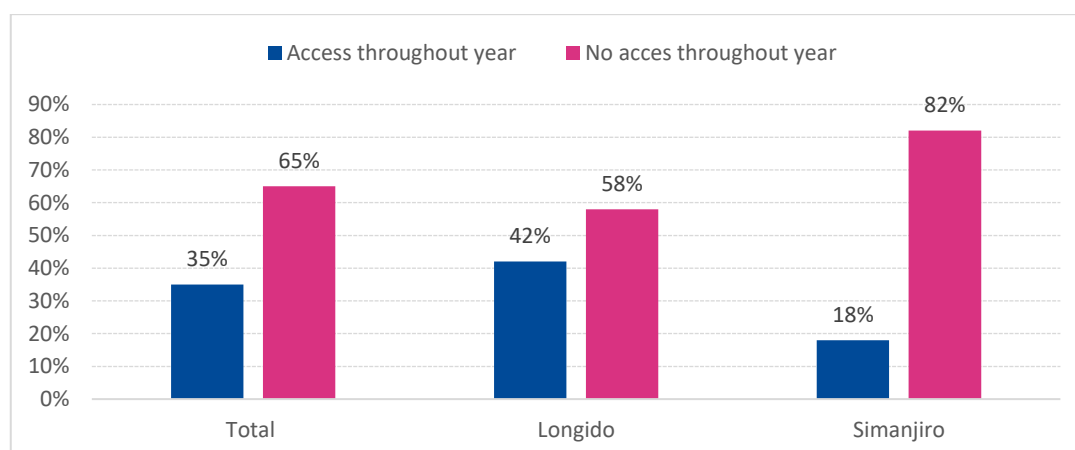


Figure 24: Access to livestock pasture throughout the year across the districts

⁴² This assessment was not done in the baseline and thus, no value for comparison

Satisfaction with access to pastures during dry season was rated as “catastrophic” and “difficult” by 83% of the households (48%=difficult and 35%=catastrophic) which is an increase compared to the baseline rating of 77.53% (for both catastrophic and difficult) as shown in Table 18.

Table 17: Satisfaction rating with the pastures during dry and wet seasons across the districts

Satisfaction rating	Wet season			Dry season		
	Total	Longido	Simanjiro	Total	Longido	Simanjiro
The situation is catastrophic	4%	2%	10%	35%	42%	21%
The situation is difficult	5%	2%	11%	48%	45%	55%
The situation is average	27%	26%	29%	14%	10%	23%
The situation is good	64%	70%	51%	3%	3%	1%

Compared to the baseline rating across the villages, there is notable improvement in the rating in some villages – Eworendeke, Orkejuloongishu as shown in Figure 30 (developed from a summation of the proportion that rated the access to pastures as either catastrophic and those that rated it as difficult). Their current rating shows there has been an improvement in their access to pastures during dry season compared to the baseline where more livestock keepers rated it catastrophic and difficult⁴³.

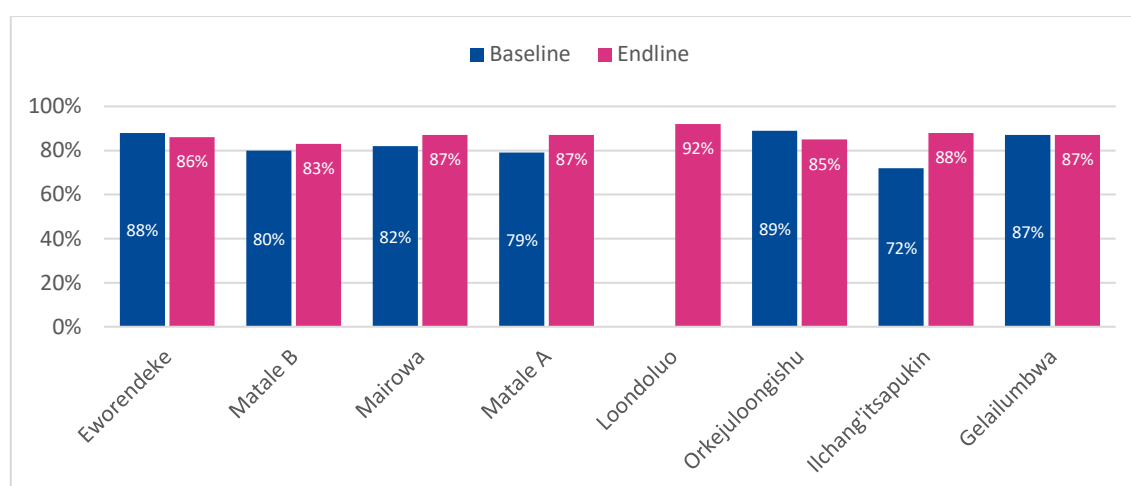


Figure 25: Satisfaction rating of the grazing lands during the dry season across the Longido villages

The situation is much more improved in Simanjiro villages compared to Longido villages as shown in Figure 31. There is a notable change in Llerumo, Lolbene and Losokonoi villages where the situation has improved compared to the baseline situation.

⁴³ This is a combination of the rating for catastrophic + difficult as these are the extreme ratings.

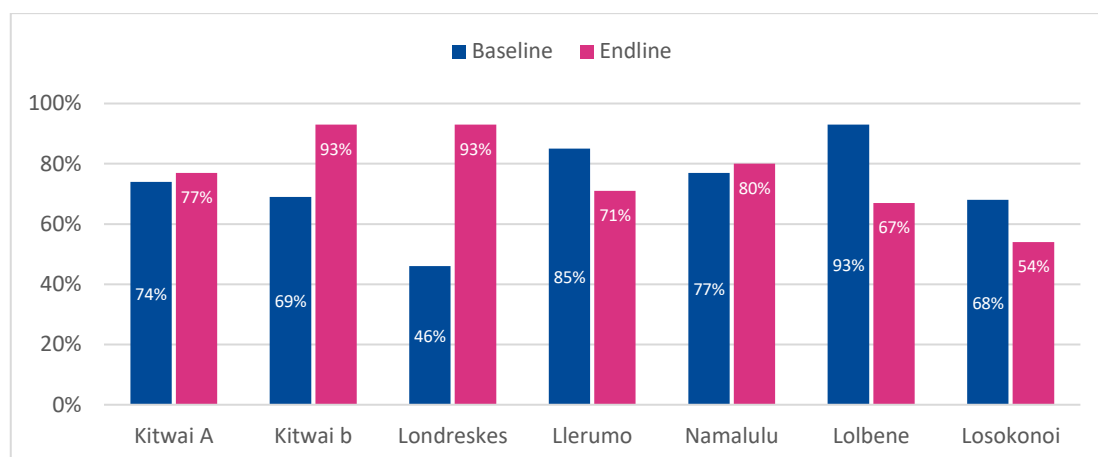


Figure 26: Satisfaction rating of the grazing lands during the dry season across the Simanjiro villages

However, there is a deterioration in situation in access to pastures during dry seasons in two villages namely – Kitwai B and Londreskes – which have households who rated their current situation as catastrophic and difficult at 93%.

3.5.4 Access, affordability and satisfaction with livestock extension services

3.5.4.1 Access to livestock extension services and advisory

The access to livestock extension and advisory services has improved compared to the baseline status. The endline findings indicate that 31% of the livestock keepers⁴⁴ have accessed livestock extension and advisory in the last 12 months compared to 17.37% of the livestock keepers at baseline as shown in Figure 32.

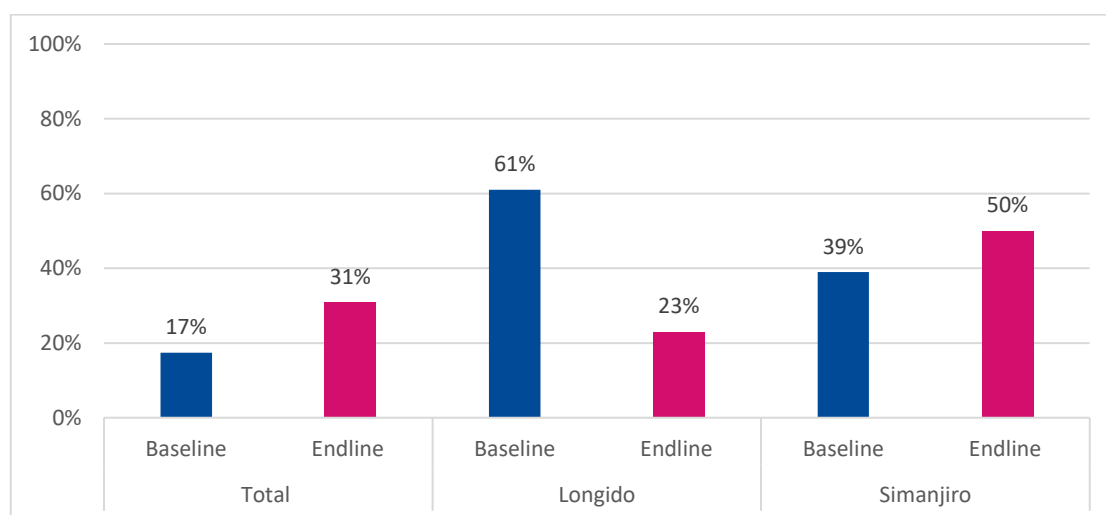


Figure 27: Access to livestock extension services and advisory in the last 12 months⁴⁵

From the overall proportion accessing these services, majority are from Simanjiro (50%) which is an increase compared to the baseline proportion of 39%. Majority of those who sought advice

⁴⁴ These were 315 in total, 159 in Longido and 156 in Simanjiro

⁴⁵ The baseline asked this question as a multiple response (7 different questions) while the endline asked the access question as one question (dichotomous). Thus, the disparity in comparison across the district. However, the total figure is valid for comparison.

received them from Government extension officers (68%), private extension officers (19%) and Community Animal Health Workers (CAHW) (13% as shown in Figure 33.

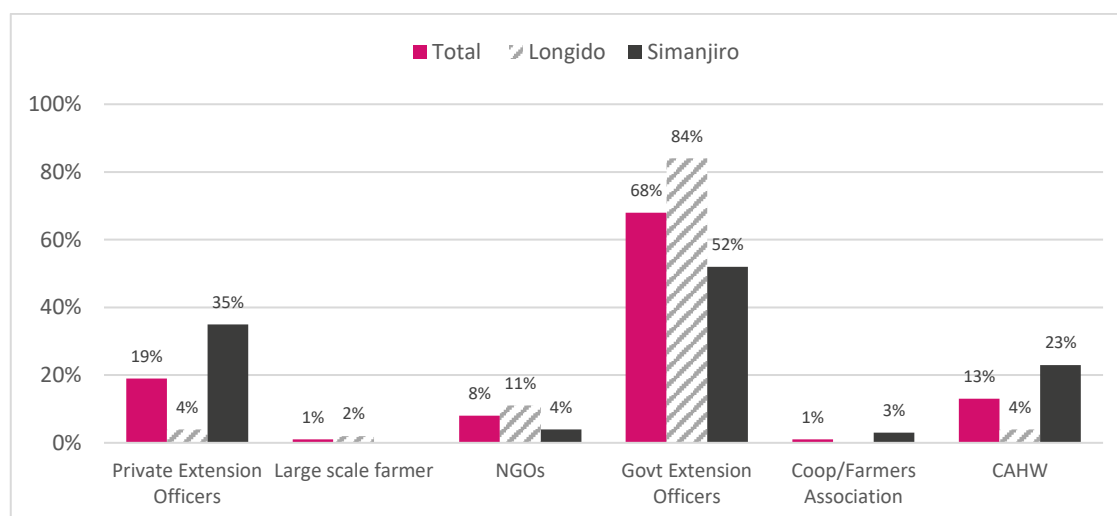


Figure 28: Extension/advisory providers in the last 12 months across the districts

The uptake of services from CAHW is especially notable in Simanjiro compared to Longido district⁴⁶. However, government extension officers are accessed more in Longido compared to Simanjiro.

3.5.4.2 Affordability of livestock extension services and advisory

From the 315 livestock keepers who sought extension services and advisory, 87% were seeking advice on prevention of livestock diseases 11% on livestock production. They were however required to pay (53%) of which 34% indicated that the amount they pay is “*affordable for me (I am able to pay without any challenges)*” while 59% indicated that “*I normally pay but with challenges*”. Only 7% of the respondents indicated the amount is “*unaffordable (I am unable to pay because it is too expensive)*”.

3.5.4.3 Satisfaction rating with livestock extension services and advisory

The satisfaction rating of services received from government extension and NGOs has increased by 3% and 19% respectively compared to the baseline values as indicated in Figure 34.

⁴⁶ Those who had accessed services through CAHWs were only 42 out of the 315 in total (6 were from Longido and 36 from Simanjiro)

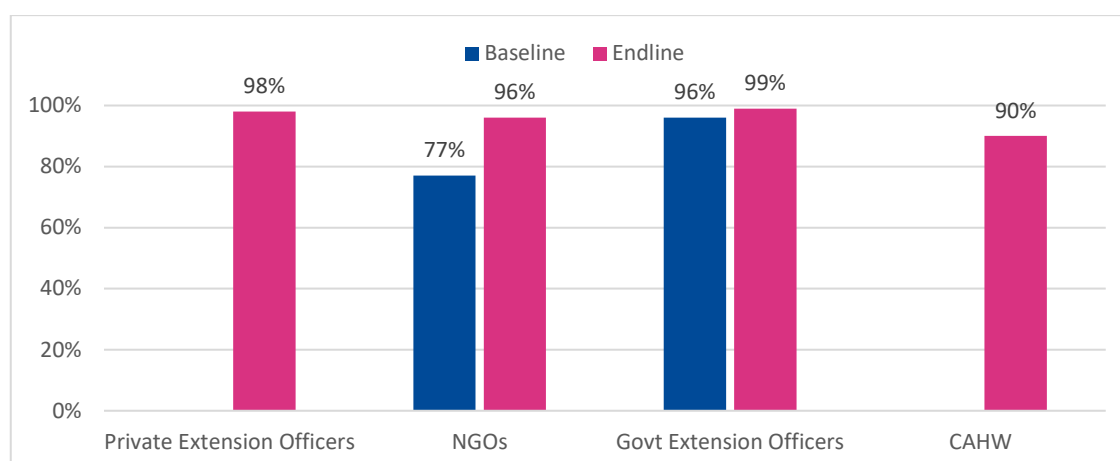


Figure 29: Satisfaction rating for livestock extension and advisory service providers

The services from CAHWs were also highly rated as depicted by the 90% respondents who rated them as good and average. This is in agreement with the Mid-Term Review which found the services of the CAHWs highly relevant and efficient⁴⁷.

A further assessment on the rating of current access to the extension services indicated that 81% of the households who accessed the services feel the situation with access to extension services is now good and average compared to the baseline where 40% of the households felt the situation was good and average as shown in Table 19.

Table 18: Rating of situation with access to extension services at baseline and endline across the districts

Rating of current situation	Total		Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
The situation is catastrophic	13%	3%	13%	3%	13%	3%
The situation is difficult	48%	16%	46%	12%	52%	19%
The situation is average	35%	58%	36%	52%	33%	65%
The situation is good	5%	23%	6%	33%	3%	13%

Across the districts, there is an improvement in the situation on access to extension services compared to the baseline. Fewer households (15% in Longido and 22% in Simanjiro) rated the situation as catastrophic and difficult compared to the baseline ratings of 59% in Longido and 65% in Simanjiro.

3.5.5 Access to markets for livestock products

3.5.5.1 Access to markets and types of markets

There is improved access to markets for livestock among the livestock keepers as indicated by 55% of the households⁴⁸ who indicated they have access to markets for selling livestock and livestock products. Majority of these households were from Longido (58%) compared to Simanjiro (49%) as shown in Figure 34.

⁴⁷ Maisha Bora Programme Mid-Term Review Report Page 22-23

⁴⁸ This a sizeable proportion of 550 households – 396 from Longido and 154 from Simanjiro.

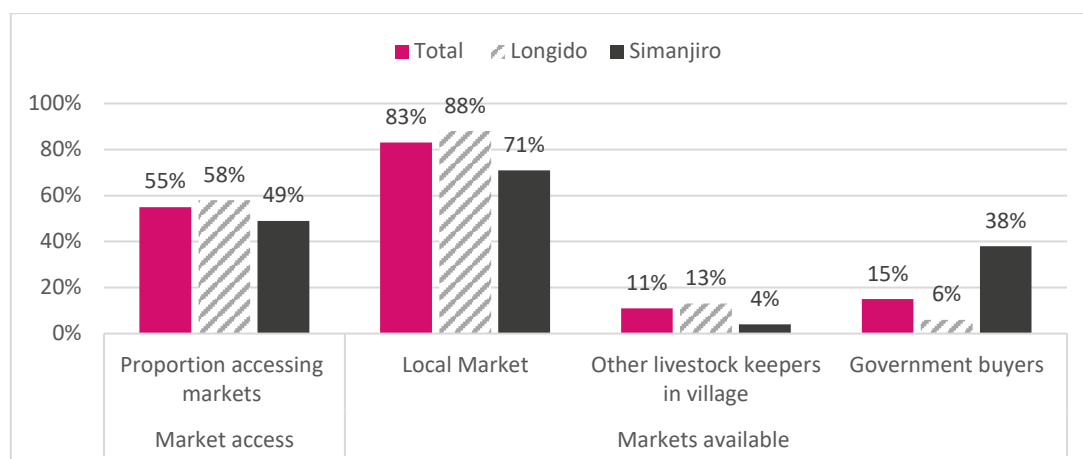


Figure 30: Current overall proportion accessing markets and the markets available

Main markets for livestock and livestock products are the local markets (83%), government buyers (15%) and other livestock keepers in the village (11%). Across the districts, Simanjiro livestock keepers have more access to government buyers as their market compared to Longido livestock keepers whereas Longido livestock keepers have a better access to the local market and other livestock keepers within the village compared to Simajiro livestock keepers.

3.5.5.2 Satisfaction rating with access to markets

There is a 38.9% increase in the households that rated their satisfaction with access to livestock market as good compared to the baseline situation. Endline findings indicate that 53% of the household who access the livestock markets indicated they rate the access to these markets as good (very good (10%) and somewhat good (43%)) which is an improvement from the baseline proportion of 38.16% (6.79% as very good and 31.37% as somewhat good).

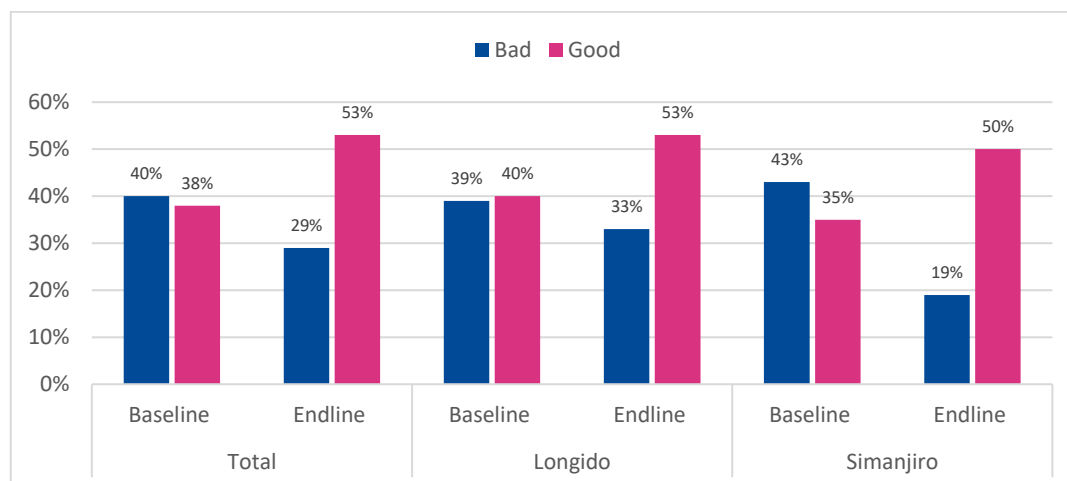


Figure 31: Comparison of satisfaction with access to livestock markets at baseline and endline across districts

Figure 35 further compares the satisfaction rating across the districts. More livestock keepers in Longido rated their access to markets as good compared to Simanjiro (50%). There is also a notable improvement in rating (over 10% increment) in the two districts when the ratings are compared between the baseline and endline.

3.6 Hygiene and sanitation in handling livestock products

Household hygiene and sanitation in handling livestock products were assessed through questions on three key topics: handwashing during milking, treatment of milk and blood before drinking and proper cooking of meat before eating. As shown in Figure 36, there has been a reduction in the proportion of households who practice unhygienic and unsafe practices when handling livestock products.

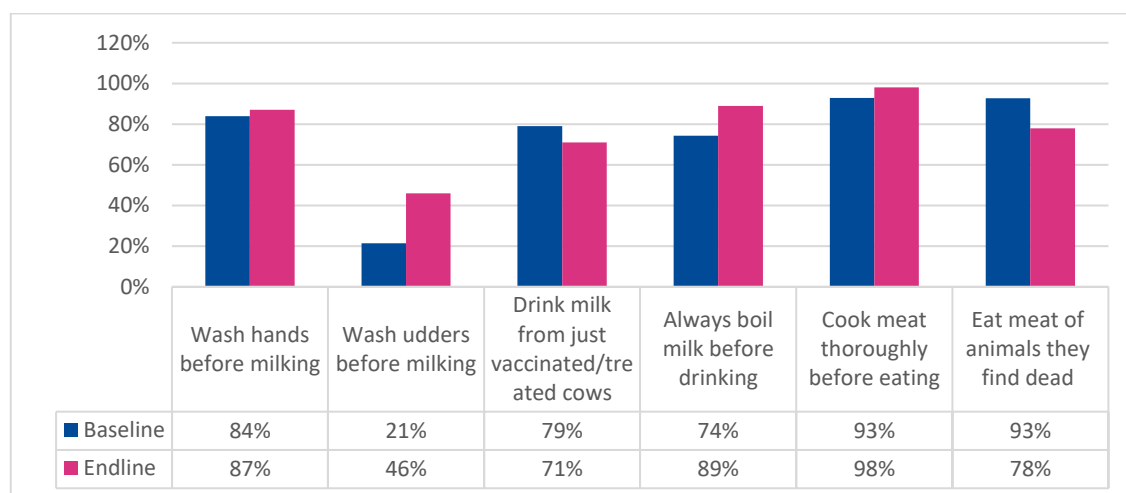


Figure 32: Comparison of hygiene practices in handling livestock products at baseline and endline

Compared to the baseline, more women are washing hands before milking, more women are washing the cows' udders before milking, fewer women are drinking milk from cows that have just been vaccinated/treated, more women are cooking the meat thoroughly before eating and fewer women are eating meat of animals they find dead. Increased awareness and knowledge on the hygiene and sanitation practices may have led to the increased in the proportion of community members practicing.

3.7 Nutrition

3.7.1 Household food consumption

Food consumption was assessed through the diet diversity and the frequency of good consumption. Respondents were asked separate questions on the number of days, number of times they had eaten certain food items in the last 7 days. The tables in annex 3 show the household food consumption.

3.7.1.1 Consumption of locally produced vegetables

For the purpose of this analysis, locally produced vegetables were defined as vegetables that are grown either by the communities for consumption, or the vegetables that are locally available in the local market and fall under the spinach, broccoli, amaranth, dark green leaves, cassava leaves or any local green leafy vegetables family as shown in annex 3.

Six hundred and twenty nine (629) households indicated they had consumed locally produced vegetables 7 days from the day of the survey. Majority (185) had consumed two times that week, 128 had consumed three times whereas 116 had consumed for more than four times that week. The proportion of households who had consumed locally produced vegetables for more than 2 times that week (69.2%) had increased compared to the baseline proportion of 35%.

There is definitely increased awareness and knowledge on the nutritional value of locally produced vegetables which may have improved the community's attitudes towards its consumption. In addition, the adoption of kitchen gardens for vegetables may have contributed to the increased consumption of locally produced vegetables.

3.7.1.2 Consumption of locally produced animal products

Locally produced animal products were defined as goat meat, beef, chicken, pork, blood and Milk and dairy products - fresh and sour milk, yoghurt among others. As can be seen in annex 3, a total of meat was consumed by 572 households during that past week whereas dairy and milk products were consumed by 616 households.

There is a notable increase in the proportion that consumed locally produced meat (59.3%) at least 2 times that week compared to the baseline (28.4%). The proportion that also consumed dairy and milk produce at least two times that week increased to 89.3% from 49.2% at baseline.

Livestock keepers will provide animals for the local market and also for household consumption. With the livestock keeping being the main income generating activity as highlighted in section 3.2, the market would have enough supply. In addition, the increase in the income spent on locally produced food is evidence for increased consumption for both locally produced animal products and locally produced vegetables.

3.7.2 Nutrition status among women

On average, the age of the pregnant women and lactating mothers who were interviewed was 26.82 years (27.79 in Longido and 26.10 in Simanjiro). Their age was between 13-55 years old and majority stated were 30 years old.

There is an increase in the proportion of women with acute malnutrition within the project villages. The proportion of pregnant women who have Severe Acute Malnutrition (SAM) was higher in endline compared to the baseline where there was no reported SAM cases. From the 318 pregnant women and lactating mothers who were measured at endline, 9 of them have SAM while 131 had MAM as shown in Table 19.

Table 19: Comparison of MUAC scores among pregnant women lactating mothers at baseline and endline

	Total	Pregnant women		Lactating women	
		Longido	Simanjiro	Longido	Simanjiro
SAM (<19cm)	9	2	2	3	2
MAM (19-23cm)	131	32	35	41	23
Normal (>23 cm)	178	14	50	53	61

NOTE: These are MUAC scores of both pregnant and lactating women.

Majority of the women with acute malnutrition were from Longido whereas majority of the women who are in normal range are from Simanjiro. At baseline, there were 0 cases of SAM and 27 cases of MAM while 47 were in normal range.

3.7.3 Household Food security

Food security sought to assess whether the households had access to sufficient, safe and nutritious food to meet their dietary needs and food preferences. As such, scales or indices such as Food Insecurity Experience Scale (FIES) and Food Consumption Score (FCS) mostly borrowed from the WFP and the Food Insecurity Experience Scale (FIES) from FAO were utilised.

3.7.3.1 Household food consumption frequency

The number of meals consumed in a household per day is a good indicator of the household food security. The recommended meals are 3 per day for adults and 5 for children aged 6 to 59 months.

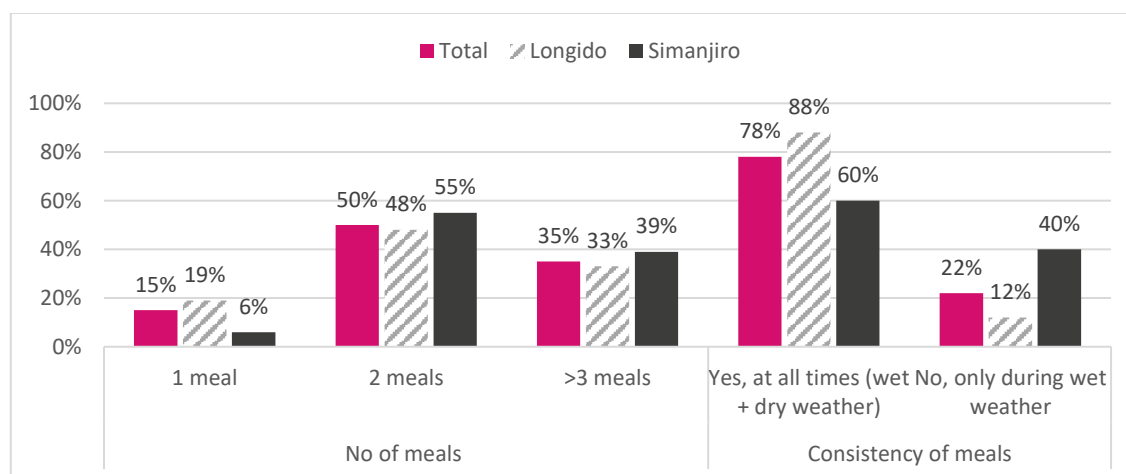


Figure 33: Comparison of the number of meals in a HH across the districts for adults

In Figure 37, only 15% of the households indicated that adults in that household only afford to have one meal per day compared to the 35% and 50% households that can afford to have three meals and two meals per day respectively⁴⁹. For the adults who manage to have more than 2 meals a day, 78% have them all the time (dry and wet season) whereas 22% only have two or more meals during wet season. Simanjiro has more food secure households compared to Longido.

On the other hand, 64% of the households⁵⁰ with children indicated that children in that household can afford to have more than three meals in a day compared to 27% who have two meals a day and 9% who have only one meal per day as shown in Figure 38.

⁴⁹ This is approximately 343 households out of 976 who can afford more than three meals in a day and 143 can only afford one meal in a day.

⁵⁰ This is approximately 623 households out of 976 households.

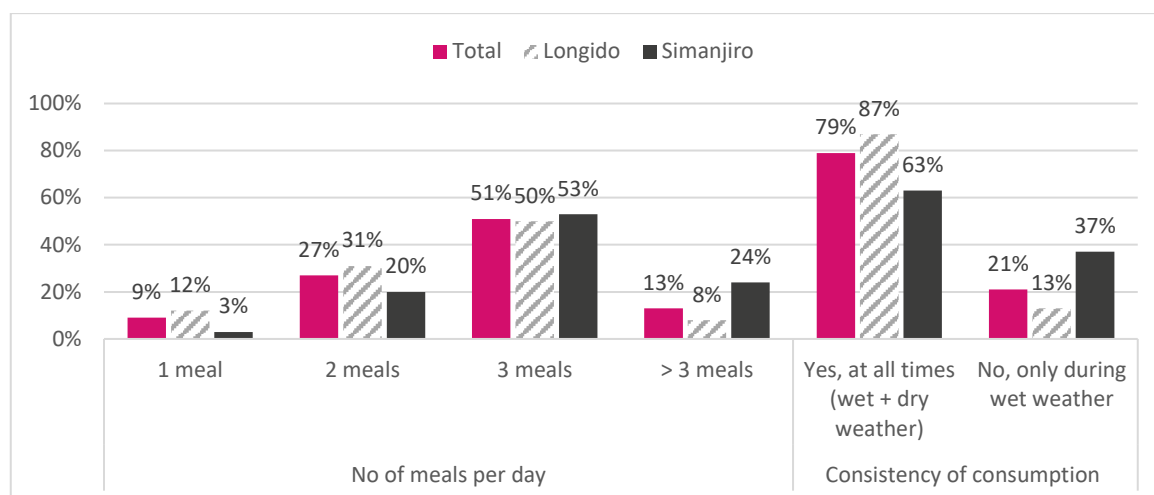


Figure 34: Comparison of no of meals in HH across the districts for children

More children in Simanjiro compared to Longido have more than three meals while more children in Longido compared to Simanjiro have one meal. However, more children in Longido have meals all the times whereas 20% more households can only manage to provide their children with meals mostly during wet season. Therefore, households in Simanjiro are more food secure compared to Longido.

3.7.3.2 Household Food Consumption Score (FCS)

FCS is a key indicator of the status of household food security. The FCS combines food diversity, food frequency (the number of days each food group is consumed), and the relative nutritional importance of different food groups.

Compared to the baseline, there is a 15.1% and 31.1% increase in the proportion of households in the acceptable food consumption threshold and borderline food consumption threshold respectively⁵¹ as shown in Figure 39.

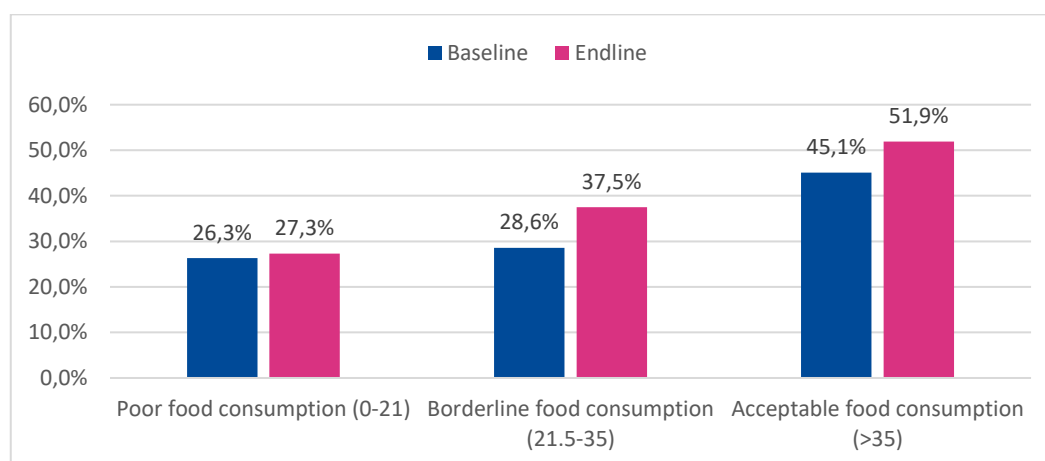


Figure 35: Comparison of FCS scores at baseline and endline

There is however a 1% increase in the proportion of households which are in the poor food consumption threshold. Table 20 further details the FCS scores across the districts at endline.

⁵¹ Note: These calculations do not include the sugar category as they were not assessed during the baseline nor the endline.

Table 20: Comparison of the endline FCS scores across the districts

	Total		Longido		Simanjiro	
	N	%	N	%	N	%
Poor food consumption (0-21)	258	26.3%	243	36.5%	15	4.8%
Borderline food consumption (21.5-35)	280	28.6%	196	29.4%	84	26.8%
Acceptable food consumption (>35)	442	45.1%	227	34.1%	215	68.5%
Total	980	100.0%	666	100.0%	314	100.0%

Based on these finding, there is likely to be a severe food access issue in Longido compared to Simanjiro. This indicator (FCS) may need further investigation since it contradicts with the increased household spending on food and the fact that only approximately 64% of the households can afford three meals in a day as indicated above. The seasonality and time the survey was undertaken may also have contributed to the reduction in the FCS. The survey was undertaken in October 2019 which falls under the long dry season (June – October) with August being the driest month. The baseline on the other hand took place in November – December 2015 which are basically within the short rainy season.

3.7.4 Production of own vegetables (Kitchen garden)

Compared to the baseline, there has been an increase in the proportion of households that have a kitchen garden where they produce their own food/vegetables. Sixty-three households (6%) of the households visited had a kitchen garden compared to only 2.82% at baseline as shown in Figure 40.

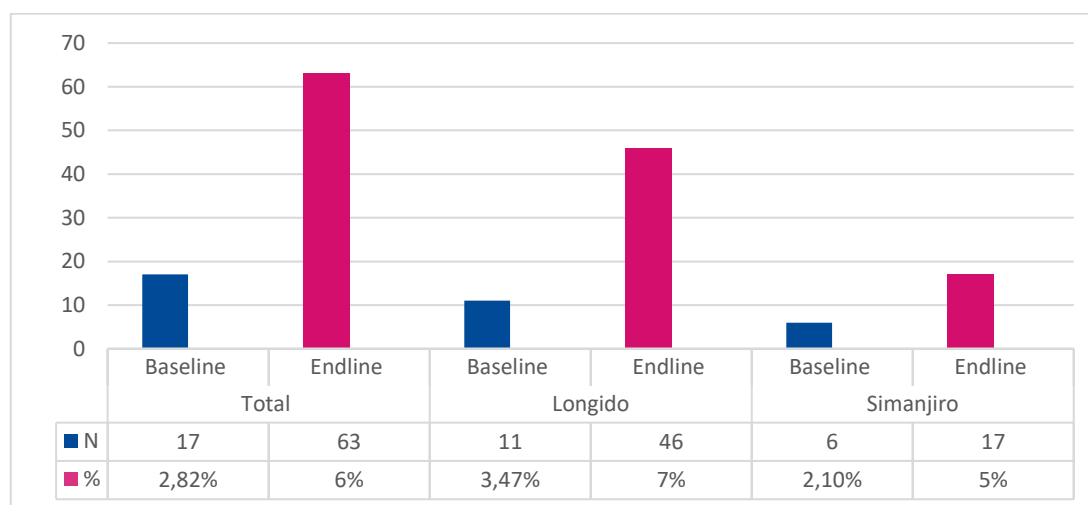


Figure 36: Comparison of proportion of HH with kitchen gardens at baseline and endline across districts

Majority of these gardens were established either in 2019 (32%), 2-3 years ago (30%) or one year ago (29%) while the only 10% were established more than 3 years ago⁵². Within the duration that the project has been in implementation, there has been the increase adoption of gardening practices seeking to increase the production of local vegetables within the communities especially in Longido. This was also meant to improve the consumption of diverse foods at the household level

⁵² These were proportions drawn from the 63 households which indicated they had a kitchen garden.

3.7.5 Nutrition status among children under 5 years

The nutrition status among children under 5 years was assessed through four key indicators: stunting, wasting, underweight and MUAC. The prevalence of acute malnutrition in children under 5 was assessed through wasting (weight for height) and MUAC measurements. Stunting assessed prevalence of chronic malnutrition while the changes in malnutrition over time was assessed through underweight. Figure 41 shows the comparison in three indicators – stunting, wasting and underweight (*MS=moderate stunting, SS=severe stunting; GM=global malnutrition, SM=severe malnutrition; GU=global underweight, SU=severe Underweight*).

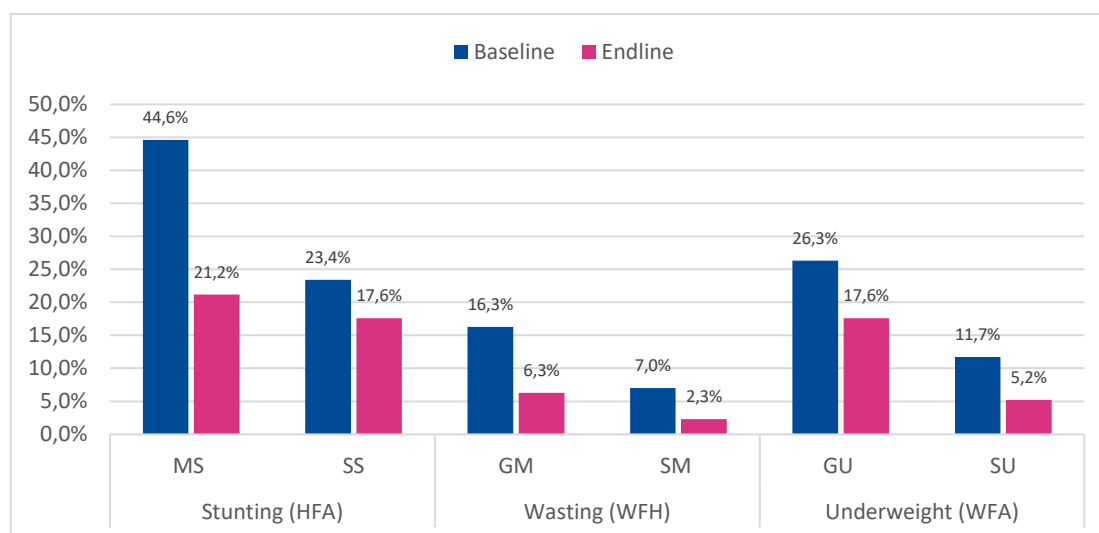


Figure 37: Comparison of stunting, wasting and underweight in U5 at baseline and endline

Compared to the baseline, the proportion of under 5 children with severe stunting and severe wasting has decreased by 61.3% and 67.1%. The proportion of under 5 children with severe underweight has also decreased by 55.6%.

In using MUAC measurements, there are only 2 children found with SAM from the total 307 measured as shown in Table 21. Compared to the baseline, the proportions seem the same since for approximately 900 children measured at baseline, there were 5 who were SAM and 25 who were MAM.

Table 21: MUAC for children under 5 for baseline and endline and across age and districts

	Total		Longido		Simanjiro		Age of child in months		
	BL	EL	BL	EL	BL	EL	< 6	7-24	25-60
SAM (< 11 cm)	5	2	1	1	4	1	0	1	1
MAM (11.1 - 12.5 cm)	25	6	18	3	7	3	1	3	2
Normal (>12.5 cm)	878	299	505	102	373	197	7	90	202

NOTE: EL=Endline and BL=Baseline

SAM and MAM were found to be prevalent mostly on children who were more than 7 months compared to those who were less than 6 months.

In addition to the MUAC scores, Table 22 tabulates the weight and height profile of children measured across the two districts and also compares to the baseline measures that were taken.

There is notable improvement in the average weight and height of children under 5 in the villages. This is further supported by the increased range in height and weight. That is, at endline, the minimum weight was 5 kg compared to baseline's 1.5 whereas the maximum weight was 25 kg compared to 20 kg at baseline. The minimum height measured was 59 cm compared to the baseline's 25 cm whereas the maximum height was 150 cm compared to 120 cm at baseline.

Table 22: Comparison of baseline and endline weight for Height scores across districts

		Weight (Kg)		Height (cm)	
		Baseline	Endline	Baseline	Endline
Total	Mean	11.22	11.80	83.18	85.62
	Range	1.5-20	5-25	25-120	59-150
	N	974	307	874	307
Longido	Mean	11.24	11.98	83.35	88.20
	Range	1.5-20	5-25	25-120	59-150
	N	563	106	563	106
Simanjiro	Mean	11.19	11.71	82.96	84.26
	Range	2-19	7-19	40-111.1	59-109
	N	411	201	411	201

3.7.6 Infant feeding practices

3.7.6.1 Breast feeding initiation

Compared to the baseline, there is an increase in the proportion of children who were ever breastfed as shown in Figure 42⁵³. Across the districts, 99% of children in both Simanjiro and Longido had ever been breastfed. Consequently, as shown in Figure 43, 98% were initiated into breastfeed (given colostrum or maziwa la kwanza) after birth.

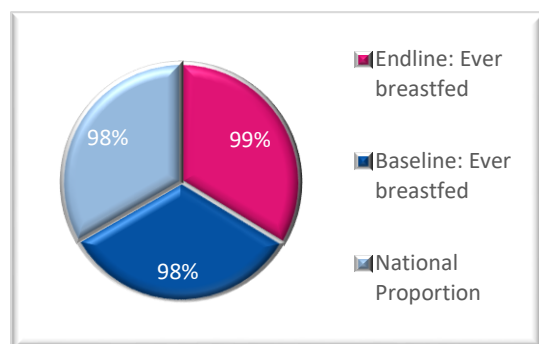


Figure 38: Figure 25: Comparison of the proportion of children who were ever breastfed

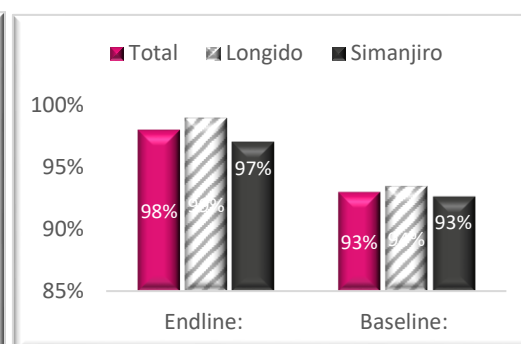


Figure 39: Comparison of proportion of children who were given colostrum after birth across the districts

The increase in the proportion of children breastfed at birth with colostrum cuts across the two district with a total increase of 5% compared to the baseline. The 2% who did not breastfeed their children immediately after birth cited tradition as the main reason. This is important in the child growth because it improves the child's immunity to diseases.

3.7.6.3 Continuation and stopping breastfeeding

⁵³ The 1% who were never breastfed were only 3 and the reason provided was that the mother was sick and could not breastfeed.

Only 144 children (47%) are currently breastfeeding out of the 307. Those who are currently not breastfeeding (53%) stopped at an average of 21 months (22 months in Longido and 21 in Simanjiro). This is an improvement from the baseline which had children being breastfed for an average of 19.43 months (19.67 months in Longido and 19.18 months in Simanjiro). Notably, 15 children stopped breastfeeding at 1 month.

Table 23: Comparison of children who are currently breastfeeding across the age groups

	Total		Age categories			
	N	%	7-24		25-60	
	N	%	N	%	N	%
Yes	144	46.9%	45	47%	99	47%
No	163	53.1%	51	53%	112	53%
Total	307	100.0%	96	100.0%	211	100.0%

Main reason cited for stopping breastfeeding was that the mother got pregnant again and the baby had to stop breastfeeding. Other reasons were: that the child was old enough to stop breastfeeding, the mother stopped the baby from breastfeeding without any reason and that the father ordered the mother to stop breastfeeding the baby. All these reasons are contrary to the baseline reason which was that the mother was not producing enough breast milk. Breastfeeding therefore significantly declines with age in the programme villages ($p=0.000$).

3.7.6.4 Introduction to solid foods

Majority of the children (137 out of 267) who were feeding had been introduced to solid foods apart from mother's milk at 6 months or older as recommended by WHO. This was also the case at baseline which had 312 of the 780 assessed as shown in Table 24.

Table 24: Comparison of age when feeding started at baseline and endline across districts

	Total		Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Less than a month	31	33	8	1	23	32
1-2 months	62	11	33	9	29	2
2-3 months	135	20	83	11	52	9
More than 3, less than 6 months	240	66	117	34	123	32
6 months or older	312	137	105	41	207	96
Total	780	267	346	96	434	171

Note: These are number of children and not percentages.

Simanjiro had more children who started feeding at 6 months or older compared to Longido which was also the case during baseline.

3.7.6.5 Dietary diversity

Without adequate dietary diversity, children are vulnerable to undernutrition, and to increased morbidity and mortality. Twenty-four hours to the survey, children in the sampled villages had fed on the following⁵⁴:

⁵⁴ This was out of a total of 277 children who were assessed on these questions

Carbohydrate foods: ugali (76%), Rice (21%), Porridge/uji (69%) and potatoes (10%). At baseline, ugali and porridge also had the highest frequency of responses.

Animal proteins: Milk (81%), beans/legumes (27%), goat products (17%) and eggs (8%). At baseline, milk, beans were the most mentioned proteins consumed.

Fruits and vegetables: tomatoes (18%), oranges (16%), greens (10%) and carrots (9%). At baseline, majority indicated there were no fruits nor vegetables consumed which was also the case at endline (65% of the 277). However, bananas, greens, oranges were mentioned at baseline, similar to endline.

These findings indicate that for the 227 children who were already feeding, there is an intake of the highly required proteins and energy giving foods in carbohydrates event though a small proportion of the children are consuming fruits and vegetables. This is consistent with the baseline findings.

3.7.7 Child illness, vaccinations and death

3.7.7.1 Child vaccinations

There is an increase in the proportion of children under 5 years who have undergone vaccinations – BCG, Polio, DPT and Measles – compared to the baseline as shown in Table 25. Vaccinations are critical in child growth as they protect the children against diseases.

Table 25: Comparison of vaccination rates for U5 at baseline and endline

Vaccinations	Total		Longido		Simanjiro	
	Endline	Baseline	Endline	Baseline	Endline	Baseline
BCG (tuberculosis)	99%	91%	97%	89%	100%	94%
Polio	99%	91%	97%	88%	100%	94%
DPT (diphtheria, pertussis, tetanus)	99%	67%	99%	63%	99%	71%
Measles	83%	62%	80%	59%	85%	65%

Almost all the children assessed (303 out of 307) had received BCG, DPT and Polio vaccinations which is an increase from the baseline. All children assessed in Simanjiro (201) had received BCG and Polio vaccinations compared to Longido's 97% of children assessed.

Only 232 children out of 307 (76%) had ever been given Vitamin A supplements. Ninety two percent were from Longido (97 children out of 106) whereas 67% (135 children out of 201) were from Simanjiro. This is an increase for Longido compared to the baseline (73.59%) and a decrease for Simanjiro compared to the baseline 82.45%. This shows that the children in these districts may not be intaking adequate Vitamin A in their diet, thus, they would require the supplementation. Vitamin A reduces child morbidity and mortality in the long term.

3.7.7.2 Child sickness

Table 26 tabulates the rates of child sickness across the districts at baseline and endline. Compared to the baseline, more children in the two districts (total of 147 out of 307) were frequently sick within the last 3 months as at the time of the survey.

Table 26: Comparison of proportion of children who have been sick the last 3 months at baseline and endline

	Total		Longido		Simanjiro	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Has not been sick in that period	96.02%	49%	96.13%	56%	95.91%	46%
Frequently sick	3.98%	48%	3.87%	44%	4.09%	50%

Within these three months, the common illnesses that the children were reported to have had were Fever (58%), Diarrhoea (25%) and Cough/flu (47%) as shown in Figure 44.

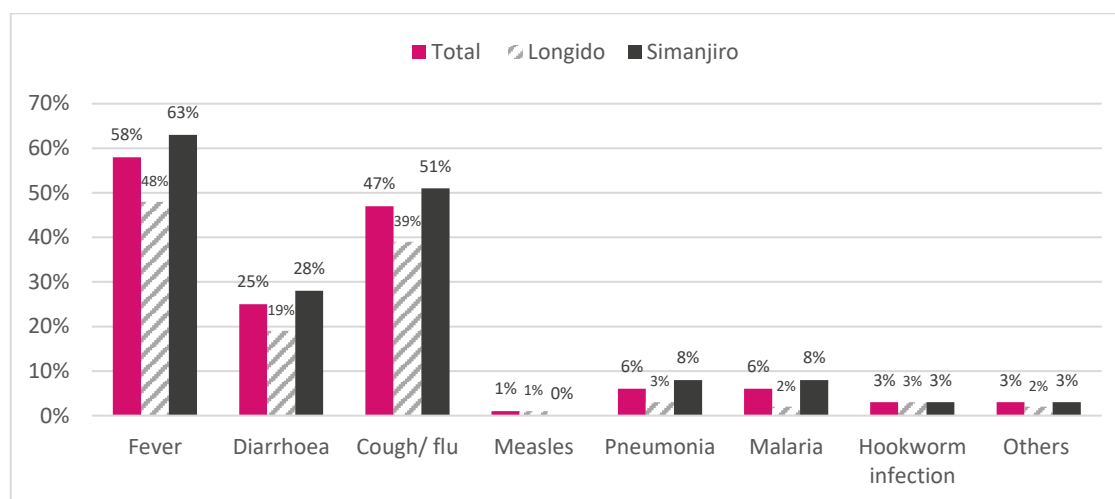


Figure 40: Common diseases for children in the last three months across the districts

Fever and cough/flu were experienced more in Simanjiro compared to Longido. The 3% children who had suffered from other illnesses included vomiting, lack of adequate blood and skin diseases.

3.7.7.3 Child deaths

The number of child deaths within the last two years reported at endline were only 4 compared to the baseline's 44 (over 90% decrease). These cases were only reported in Simanjiro compared to the baseline when there were 20 in Longido and 11 in Simanjiro. The 4 households that reported losing a child had only lost one child due to sickness – chest tightness. This may be explained by the increased proportion of children who got Vitamin A supplements across both districts and the proportion of children who have already been immunised, hence reducing the risk of child mortality⁵⁵

3.8 Diarrhoea prevention and treatment

The knowledge and awareness of the symptoms and sign of diarrhoea among mothers with children is still high compared to the baseline as shown in Table 27. Most common sign and symptom cited was the frequent, loose, water stools followed by abdominal pains, fever and abdominal pains which were also the signs and symptoms mentioned at baseline.

⁵⁵ Vitamin A supplementation is recommended in infants and children 6-59 months of age as a public health intervention,² and has been shown to reduce the risk of all-cause mortality by 24% (WHO)

Table 27: Knowledge of the symptoms of diarrhoea across the districts

Signs and symptoms N	Total 307	Longido 106	Simanjiro 201
Frequent, loose, watery stools	51%	74%	39%
Abdominal cramps	25%	23%	26%
Abdominal pain	37%	44%	33%
Fever	30%	45%	22%
Blood in the stool	1%	3%	0%
Other	5%	8%	3%
Don't know	29%	19%	35%

The incidences of children who had diarrhoea within the last two weeks at endline were more than those at baseline⁵⁶. Majority of these children were in Simanjiro as shown in Figure 45.

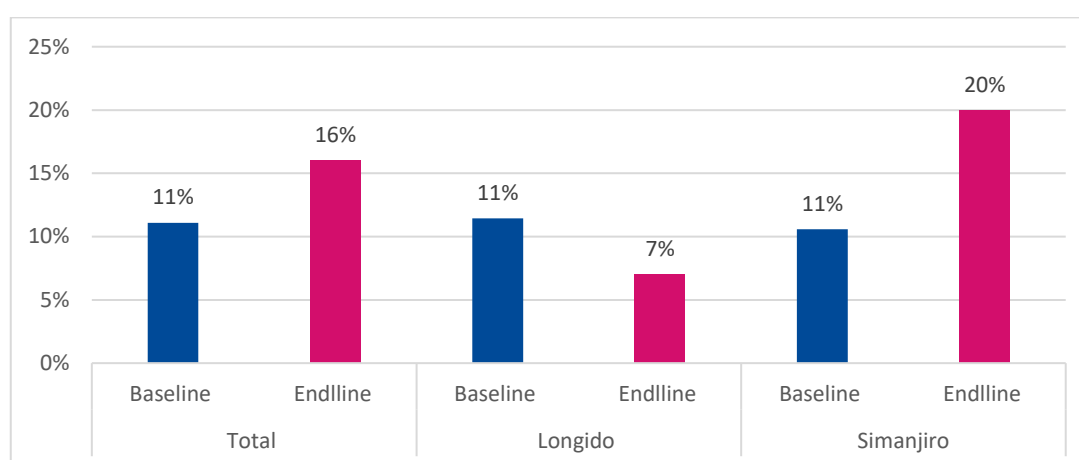


Figure 41: Comparison of children who suffered diarrhoea in the last 2 weeks at baseline and endline

The follow-up questions on what treatment the 48 parents gave the children who had suffered from diarrhoea indicated that 26 mothers (54%) took their children to hospital for treatment while 11 mothers (23%) made some homemade fluid solution for them. Notably, 7 mothers did nothing while the remaining 4 made a fluid from a special packet called ORS. Majority of these mothers were from Simanjiro. Compared to the responses given at baseline, there is a notable change in responses since ORS and homemade fluid solution were the most mentioned responses at baseline.

As shown in Figure 46, there was a 16% reduction in the proportion of mothers who had sought advice or treatment for their children's diarrhoea. Most of these mothers were from Longido compared to Simanjiro.

⁵⁶ The 16% total proportion of children denotes 48 children whereas the 7% and 20% denotes 7 and 41 children respectively across the districts.

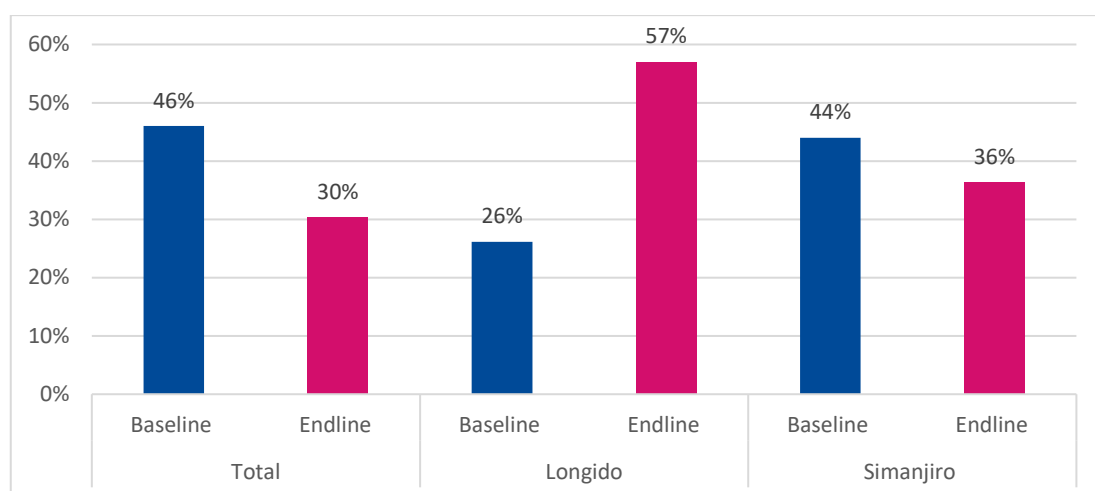


Figure 42: Proportion of mothers who sought advice or treatment and place where they sought it

Dispensaries and pharmacy were the main places cited by most mothers, where they went to seek advice or treatment at endline compared to the baseline where mothers had sought advice in dispensaries, health centres and from CBD workers.

3.9 HIV Awareness and Knowledge⁵⁷

Compared to the baseline, fewer respondents indicated that they had ever heard about HIV as shown in Figure 47. A total of 1,234 men and women were assessed on knowledge and awareness of HIV and only 590 indicated they had heard about HIV. The respondents in Simanjiro were however more aware of HIV compared to the ones in Longido.

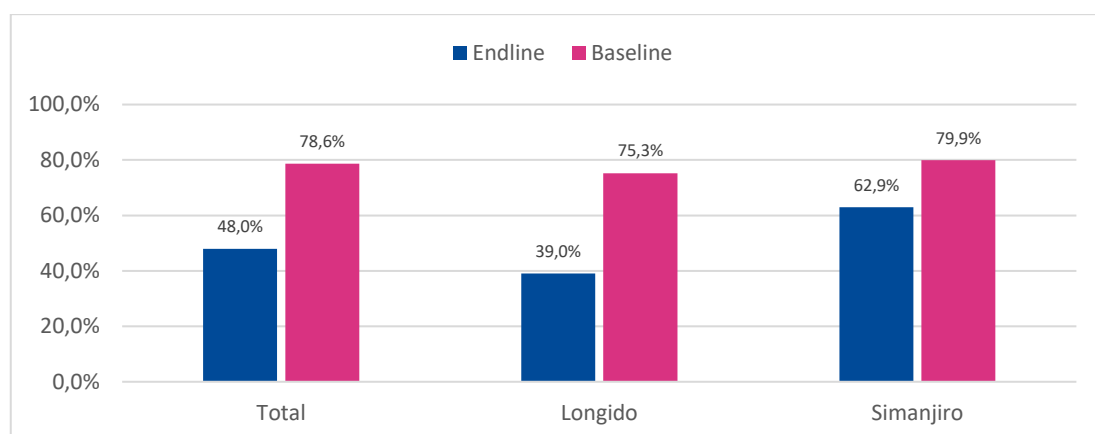


Figure 43: Comparison of the awareness of HIV (those who have ever heard of HIV) across the districts

Among this proportion that indicated they had heard about HIV (48%), more females (74%) compared to males (26%) were more aware of HIV.

The respondents who indicated they had heard about HIV were then assessed on their knowledge of the causes and preventive measures for HIV. As shown in the Table 28, there are

⁵⁷ It is important to note that the design and administration of this questions varied at baseline and endline. At baseline, those who indicated they were aware and not aware of HIV were also asked the successive questions on prevention and causes of HIV. Thus, at baseline, 724 indicated they were aware but 274 out of 921 did not know of any preventive measures as a follow-up question. At endline however, only those who indicated they were aware of HIV were asked successive questions on causes and preventive measures.

at least 19.6% (21.8% in Longido and 17.4% in Simanjiro) who don't know what the causes of HIV are even if they have ever heard about the disease. Majority of them were women.

Table 28: Comparison of the causes of HIV across the districts and gender at end line

Causes of HIV	Total	Longido	Simanjiro	Male	Female
A mosquito bite	.7%	1.1%	.2%	.8%	.6%
Sharing food with someone who is infected	4.5%	3.8%	5.1%	4.8%	4.3%
Having sex with an infected person without protection	35.7%	37.8%	33.7%	37.6%	35.0%
During blood transfusion	11.5%	9.6%	13.4%	15.2%	10.0%
Drug users during injection of drugs	6.8%	4.7%	8.9%	8.8%	6.0%
Kissing someone who is infected	2.1%	4.0%	.2%	1.6%	2.3%
During child birth	7.6%	7.1%	8.0%	6.8%	7.9%
Through witchcraft	.7%	1.1%	.2%	.4%	.8%
I don't know	19.6%	21.8%	17.4%	17.2%	20.5%
Other	10.9%	9.1%	12.7%	6.8%	12.5%

On assessment of knowledge of the prevention measures, just like at baseline, majority of the respondents seems to understand that abstinence, being faithful to one partner, using a condom during sex, avoiding sharing needles and sharp objects, safe sex and being cautious in blood transfusions are among the key prevention measures for HIV as shown in Table 29.

Table 29: Comparison of Knowledge on HIV prevention measures across baseline and endline

HIV preventive measures	Total		Longido		Simanjiro		Gender	
	BL	EL	BL	EL	BL	EL	Male	Female
Abstinence from sexual intercourse	341	146	172	74	169	72	45	101
"Being Faithful" or having only one HIV-negative partner	203	192	105	117	98	75	49	143
Using a condom every time you have vaginal, anal or oral intercourse	150	85	81	47	69	38	31	54
Avoiding sharing needles, syringes and other injecting equipment	49	73	37	38	12	35	25	48
Taking HIV treatment if you are an expectant mother living with HIV	6	36	5	18	0	18	10	26
Taking precautions if you are a healthcare worker	8	36	6	15	2	21	14	22
If you're receiving a blood transfusion: asking your health	1	39	1	18	0	21	16	23
Avoid sex with prostitutes	61	101	35	37	26	64	40	61
Avoid sex with persons who have many partners	61	96	30	37	31	59	38	58
Avoid sex with persons who inject drugs intravenously	15	42	6	12	9	30	18	24
Avoid (unsafe) blood transfusions	28	49	15	19	13	30	23	26
Avoid unsafe injections	34	47	17	17	17	30	22	25
Avoid sharing sharps instruments like razors/blades	69	90	34	43	35	47	35	55
I don't know	273		127		146		61	212

Female respondents seem to have more knowledge on preventive measures compared to the male respondents. Consequently, there was a large proportion of respondents who indicated they don't know of any preventive measures. Majority were also women and came from Simanjiro.

3.10 Water, sanitation and hygiene knowledge, awareness and practices

3.10.1 Availability and use of soap

The availability and use of soap in households has increased compared to the baseline situation as shown in Figure 48. For those women who indicated they had soap in their households, a larger proportion (93%) compared to baseline (58%) indicated they had used soap on the day of the survey or the day before (today or yesterday).

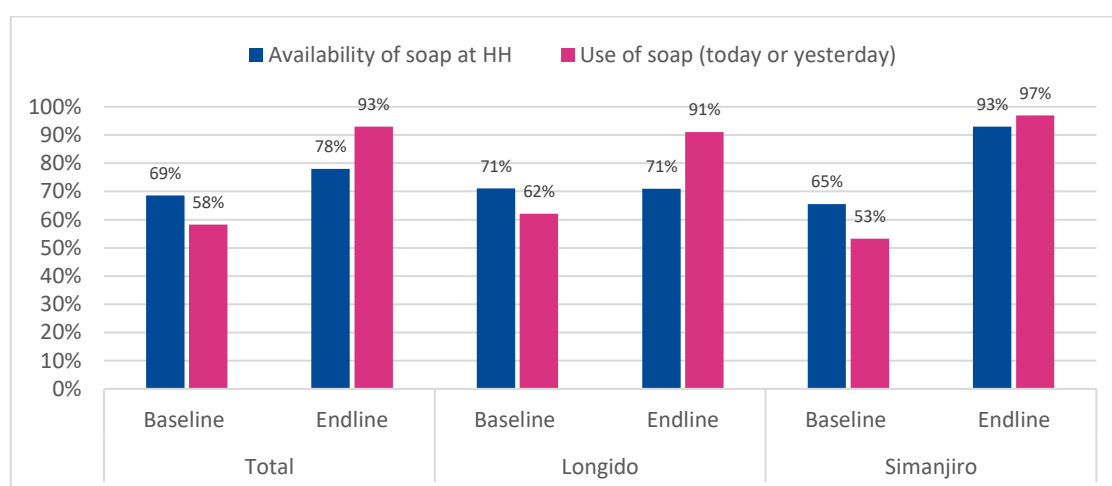


Figure 44: Comparison of soap availability and use at baseline and endline and across districts

However, the availability of soap in households only increased slightly (9%) but there was a large increase in proportion of women who used the soap (35%).

The women who had used soap were further asked what they had used the soap for. Most common uses of soap that were mentioned included: washing clothes (82%), washing my body (89%), washing my children (48%), washing hands before eating (37%), washing hands before preparing food (28%), washing hands before feeding a child and washing my children's hands (25%). There was not changes in use of soap compared to baseline⁵⁸.

3.10.2 Water treatment before drinking

Water treatment before drinking is critical in ensuring water safety. When asked whether they do anything to water before drinking to make it safe, 346 women (35.3%) indicated they do something. Compared to the baseline (7.46%), this is a considerable increase in the proportion

⁵⁸ Most common uses mentioned at baseline include washing clothes, washing my body, washing children and washing children's hands.

of women who make water safe for drinking as shown in Figure 49. This might be as a result of an increase in the awareness and knowledge of importance of treating water before drinking.

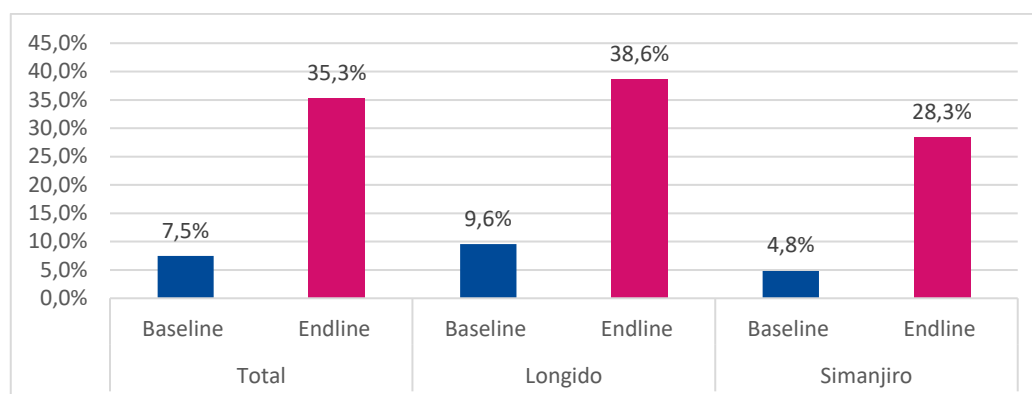


Figure 45: Comparison of the proportion of women who treat water before drinking at baseline and endline

Compared to the baseline, there is no difference in the methods used to treat water but the proportion of households using these methods has increased. Thus, boiling, adding a bleach, strain through cloth and using a water filter were the methods of water treatment cited at endline and baseline.

3.11 Household quality of life

The quality of life was assessed using 5 indicators - (i) overall quality of life, (ii) ability to pay school fees, (iii) ability to provide children with medical treatment, (iv) ability to eat well and (v) quality of housing. The rating was done on a 5 – point Likert scale. However, the figures were developed based on a combination of the proportion of households that gave their perceived satisfaction as slightly agree or strongly agree.

There is a notable improvement on the quality of life in the households which were visited. As shown in Figure 50, there is an increment in satisfaction with their own life, their quality of house, ability to provide medical care for children and proper feeding of the family.

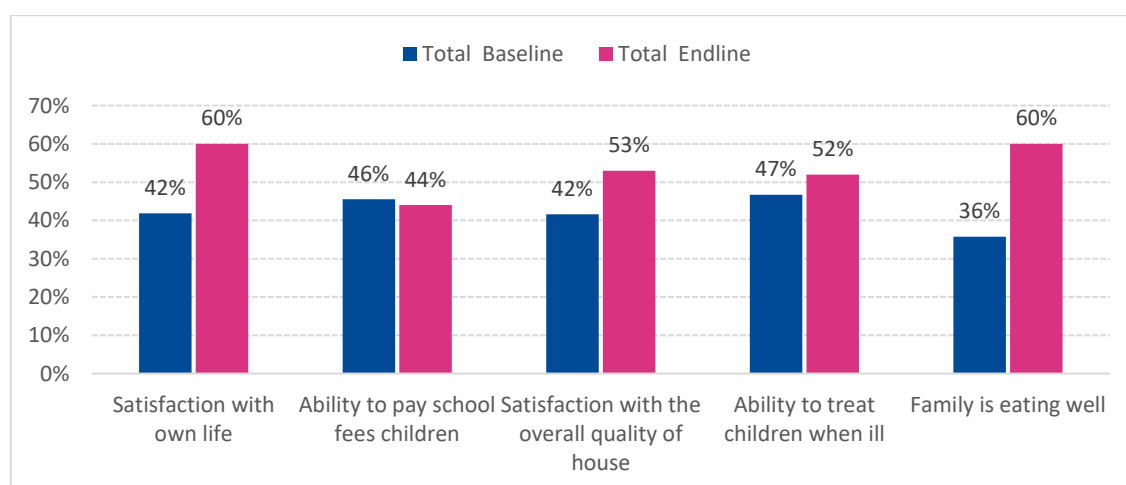


Figure 46: Overall satisfaction with the quality of life indicators

There is still a perceived difficulty in the ability to pay schools fees for children as shown by the rating by 44% of responses who were in agreement.

Across the districts as shown in Figure 51, there is perceived difficulties across all key indicators in Simanjiro except on ability to feed the family well when compared to the baseline status.

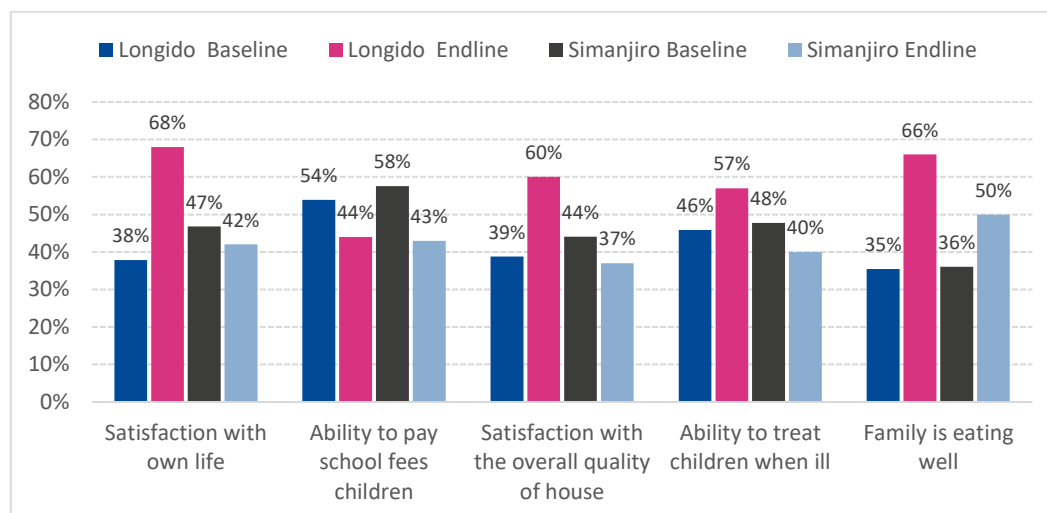


Figure 47: Overall satisfaction rating with the quality of life indicators across the districts

Longido on the other hand has improved on all indicators compared to the baseline status except for the perceived ability to pay school fees for children indicator. Generally, compared to Longido, Simanjiro has a bigger proportion of households with perceived difficulties on their quality of life. This is in agreement with the Household Budget Survey 2017-2018 which highlights that the more the number of household members in a household, the higher the food poverty index and the poverty incidence in that household⁵⁹. This is the case for Simanjiro which has 23% and 9% of the households having more than 6 members and five who are above 18 respectively. This is higher than Longido where majority of the households have either two or three members who are over 18 years.

⁵⁹ The report indicates that households with at least 6 members has a high poverty incidence of 28.5 and a high food poverty of 10.2. Both districts had an average household size of 6 members

4 Findings Outcome Harvest

This chapter summarises the main findings of the outcome harvest. It is built up into five sections, that follow the outcome harvest questions developed. The first section, findings are presented and analysed in terms of ‘what changed’ and the comparison with what the programme expected (4.1). Thereafter a specific analysis is added to answer the question ‘who changed’ (4.2). This mainly describes which social actors were found in the outcome statements and which expected social actors appear to be missing (no changes were found for them). The section thereafter highlights ‘where the change took place’ (4.3). This shows the differences in levels of change between communities in Longido and Simanjiro. In section 4.4, the question is answered whether the outcomes show linkages and synergy between the partners and components of the Maisha Bora programme. Finally, a section is dedicated to ‘how did the change came about’ (4.5). In that part, the contribution analysis is presented for the four outcome statements that were substantiated in the field. This give an impression on what interventions by the change agents (Maisha Bora partners) had the most effect on the changes that were achieved. Overall, the findings in this chapter represent trends and patterns that were detected in the outcome statements that were substantiated. Examples of the outcome statements are used to illustrate the findings.

4.1 To what extent do the outcomes represent the strategic objectives?

The various interventions of the Maisha Bora programme have been coordinated in separate components but were intended to form an integrated programme with commonly shared objectives. The outcomes harvested were analysed against three major outcome areas that were formulated after the Mid Term Review, and as being part of the Theory of Change. The question that this section will answer is; *To what extent do the outcomes represent patterns of progress towards the strategic objectives of the Maisha Bora programme?* The findings show interesting proof for parts of the Theory of Change, while some other result areas are underrepresented.

The table below gives an indication on how many times information was reported on these different three outcomes by partners in the documentation provided to the harvesters.⁶⁰

Table 30: Number ⁶¹of coded segments per outcome area

Outcome areas as formulated after the MTR	Number of coded segments	% of total segments coded
Outcome 1: people have sufficient and diverse sources of income	130	60%
Outcome 2: households consume an adequate and diverse diet and safe drinking water	65	30%
Outcome 3: Communities manage the land and natural resources sustainably and harmoniously	22	10%
Total	217	100%

⁶⁰ See chapter on methodology for the detailed description on how the coding of qualitative data was done.

⁶¹ Coded segments are outcomes that have been reported in the desk review. If this is low it means not many outcomes were reported/found in the documentation, for a certain outcome area. Proportionally more was reported at output level.

All three outcome areas have been reported on by Maisha Bora partners in different documents (see list of documents consulted in annex 1). Most information was reported about outcomes that fall under Outcome Area 1 'people have sufficient and diverse sources of income' (60%).

The below table outlines how many coded segments were found per specific sub-results under each respective outcome area. It also shows how many draft statements the outcome harvester was able to derive from this information and how many final statements were validated by the partners in the outcome harvesting workshop. The draft statements are found in annex 5. The Final Statements can be found in annex 6.

Table 31: Number of Outcome Statements formulated per sub-result area

Strategic objectives of the programme (outcome and sub-outcome areas)	Number of coded segments	Number of draft statements	Number of final statements
Outcome 1: people have sufficient and diverse sources of income			
People engage in different viable business types providing income/employment (incl. VICOBA, MBOs, Poultry)	52	6	3
People have the skills and vision to upscale and understand the market for diversified businesses	35	5	1
People sell their livestock at favourable prices - sufficient quantity / quality (incl. CAHW)	39	3	2
LGAs create an enabling environment (taxes, regulations, market)	4	1	1
Outcome 2: households consume an adequate and diverse diet and safe drinking water			
HHs are willing and able to buy food (balanced diet)	19	2	1
Communities produce adequate food	18	2	1
Communities adopt healthy behaviour	13	5	2
Communities access safe drinking water	15	1	1
Outcome 3: Communities manage the land and natural resources sustainably and harmoniously			
Water management entities are implementing water management plans and enforcing rules (incl. COWSO)	7	2	1
Communities benefit from natural resources (incl. Land Use Planning)	9	2	2
Communities adapt to climate effect (incl. optimum herd size)	6	0	0
Coordination			
Focal persons, MB approach, synergies	40	3	3
TOTAL	257	32	18

The data in the table above gives an indication of the successfulness of the programme in achieving the outcomes envisioned.

Outcome 1 was most extensively reported upon. The desk review was able to identify a total of 15 draft and 7 final outcome statements. For Outcome 2, a substantial number of segments were able to be coded for this result area, to formulate a total of 10 draft and 5 final outcome statements. With regard to Outcome 3, considerably less information was documented, and only 4 statements were able to be derived from the coded segments. Nonetheless, out of the 4, in the end 3 final outcome statements were validated, meaning that what was reported has been confirmed.

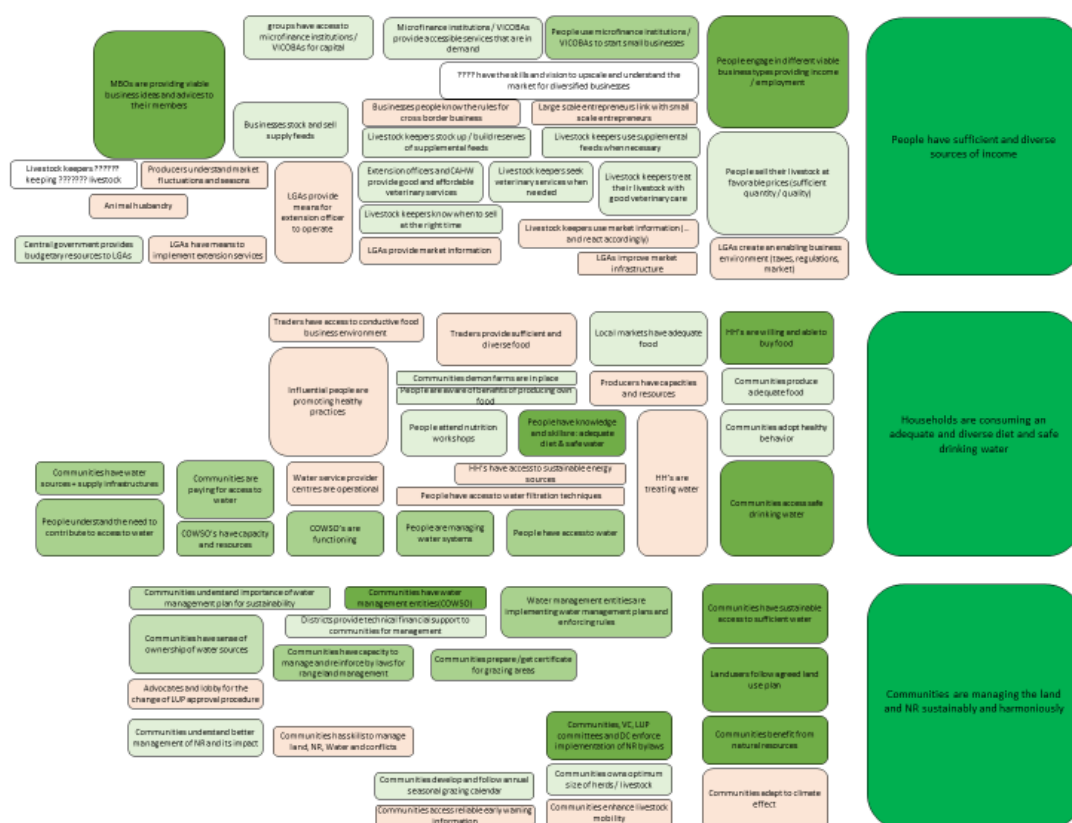


Figure 48: Colour coded Theory of Change

The data reported provided a wealth of information to back up the statements and to make the descriptions detailed. However, there were also outcomes reported that eventually were not considered to be substantial enough and hence they were dropped. For example, 'Honey production' was quoted in reports several times as a result, yet there was also contradicting evidence that due to the draught the honey harvest had been very low. Hence, the outcome was not significant enough to be further developed into a final statement.

In sum, the outcomes found show patterns of progress towards all three Strategic Objectives of the programme, be it in different levels, as will be explained into more detail the next part.

4.1.1 Analysis of outcome areas

In this part a more detailed description is provided on each outcome area and the strength of the achievement of specific sub-results. This analysis has been done in light of the Theory of Change (ToC), as the ToC provides details on the envisioned changes for the different social actors targeted in the Maisha Bora programme (See the picture below and the bigger picture in annex 4).

During the evaluation process, many result areas of the Theory of Change have been reported upon through either desk review, interviews with implementing partners, the OH workshop and the substantiation in the field. The harvesters developed a colour-coded version of the ToC to indicate the level of achievement of different areas in the ToC. Dark green boxes represent the results that were substantially reported upon and various sources were confirming change had actually taken place. The light green colour is used to indicate results that were found during the outcome harvest, however they are not substantial. They are mostly based on anecdotal evidence from one village or one source. The light pink boxes indicate the result areas for which hardly any information was found.

Outcome 1 People have sufficient and diverse sources of income

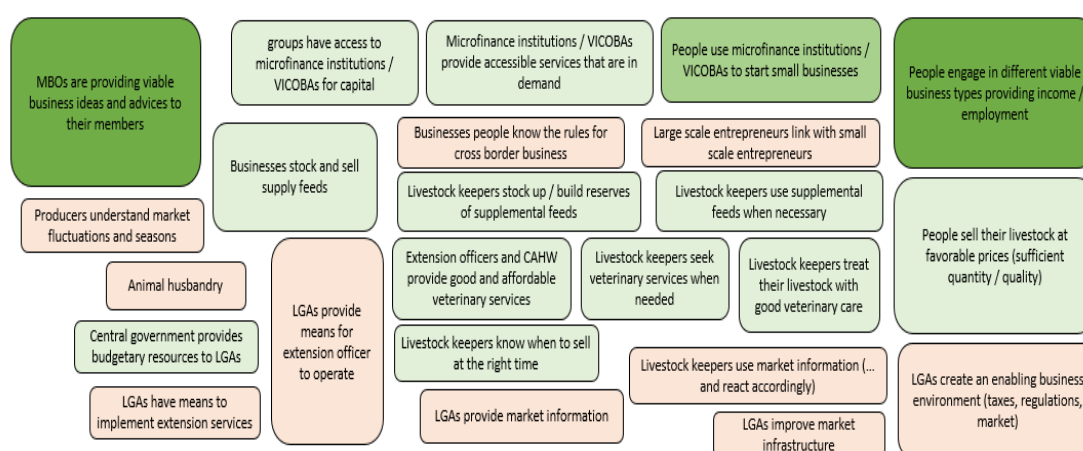


Figure 49: Outcome Area 1 - Coloured Theory of Change sub-results

The desk review found outcomes had been achieved in the sub-result area '*people engage in different viable business types providing income and employment*' (see dark green box on the right in the picture). The draft outcome statements formulated had to do with VICOBA groups and income generating activities that were started by women groups and youth, leather production, beading activities, honey production, poultry rearing and service provision (banking, mobile money). The final outcome statements trimmed down the list significantly, as some of the reported changes were not sufficiently significant (leather groups⁶², beading, honey). The final statements include substantial change in the way women engage in VICOBA and income generating activities; change in groups that get an income from poultry; and youth engaging in small businesses.

Outcome Statement: Viable Business & Income

Women are part of VICOBA groups. The groups are well organised; they have by-laws or a constitution and are formally registered. Women are saving and have taken loans and are able to pay back the loan. With these loans, they started or expanded small businesses and are selling products such as food and non-food items. Some others are selling petrol and/or spare parts for bodaboda (motorbike-taxis); buying & selling maasai fabric, school uniforms or sandals. When they were already in business, it was very small, now with the VICOBA they are able to expand or start an additional business activity. Through these business activities, they are no longer only depending on livestock, they have diversified their income base and make a profit. They are more food secure in times of economic hardship.

⁶² Leather processing did mostly happen in Kitumbeine.

Part of the Theory of Change further envisioned under outcome area 1 that *'people sell their livestock at favourable prices'* (see light green box on the right in the picture). In itself that specific change has not been documented well. Only one coded segment was found. During engagement with project partners it was mentioned, but was not considered a major change. There still are challenges to selling livestock. Prices are not very good or there is a delay in payment, distorting the trust between traders. There is not a well-established market, so livestock keepers still travel to Kenya. Besides that, the culture and way of living still influences the livestock owners to keep large herd as this provides status.

Nonetheless, there is anecdotal evidence that livestock keepers are willing to adopt a more commercial herd approach as to reduce the risk of mortality and ensure keeping the herd healthy. Livestock traders are said to have improved confidence and have better negotiation skills. They understand better on how to defend and sell their products and make better calculations. Before they used the informal and illegal ways. Now they are aware of the LGA rules on how to do business. There are now livestock herders who use the sale of livestock to pay for school fees, VICOBA contribution, or buy land plots.

Other envisioned changes that are linked to this sub-outcome (see smaller boxes on the left of that green box) have been achieved to some extent, according to the reported information. These include results such as *'livestock keepers treat their livestock by seeking good veterinary care services'*. These services are made available by extension workers and CAHW. This was included in one of the final outcome statements.

Outcome Statement: Livestock keepers – Cattle business

Several livestock groups expressed commitment to the commercial herd strategy, and there is anecdotal evidence that they sell more cattle at a time. This did not happen before. They think and talk about the balance between the size of their herd and the grazing land availability; how to manage the herd more sustainably. With the income from the sales, they are buying better feeding for the remainder of their cattle, to secure their health and strength. The livestock keepers are accessing services from community animal health workers (CAHW) and livestock extension services to take care of their cattle. They are using dip tanks to treat the animals.

Two other Final Outcome Statements that fall under Outcome Area 1 have to do with member based organisations (MBO) and microfinance institutions (MFI), who have built their capacity and are able to provide services to their members as well as engage in networking and advocacy activities with LGA as to improve an enabling business environment.

The ToC expected that *'LGAs create an enabling environment'*, *'LGAs improve market infrastructure'* and *'LGAs provide market information'* or *'means for extension officers to operate'*. An absence of evidence was perceived on the realisation of these outcomes in these areas (see picture; areas coloured light pink). What was found in the reports is that the MBOs provided market information, more so than the LGAs.⁶³ However, MBOs in actual fact obtained information from and through LGA, notably in Simanjiro for the benefit of their members.

⁶³ This is also how the outcome monitoring matrix emphasizes the envisioned changes; number of businesses registered by TCCIA. Hence, there seems to be a slight disconnect between the ToC and the monitoring plan. It was not investigated to what extent producers and livestock keepers and other entrepreneurs benefitted from the MBO information and support.

Outcome Statement: Business Environment

MBOs representatives are recognised as experts and professionals in their field. There is a pool of trainers, affiliated with the MBOs, who solicit their training services to communities with regard to VICOBA and business development. They are empowered and have confidence in their field. More clients are accessing business services such as info on business registration, taxation information, cross-border trade regulations, record keeping, business planning etc. and register their business. Sales of Certificates of Origin increased and this simplifies the cross-border business for traders. It is an active and sustainable business hub that has improved the business environment.

With regard to the business environment, what was found is that there were some changes in the Tanzanian context that influenced the business environment positively and negatively. This is however external to the Maisha Bora programme. On the one hand, fees for exporting cows and goat/sheep were largely reduced or even withdrawn, which was an interesting incentive from the government to the pastoralists. However, on the other hand, strict collection of revenues and control of livestock cross-border movement negatively influenced the business environment for livestock traders.⁶⁴

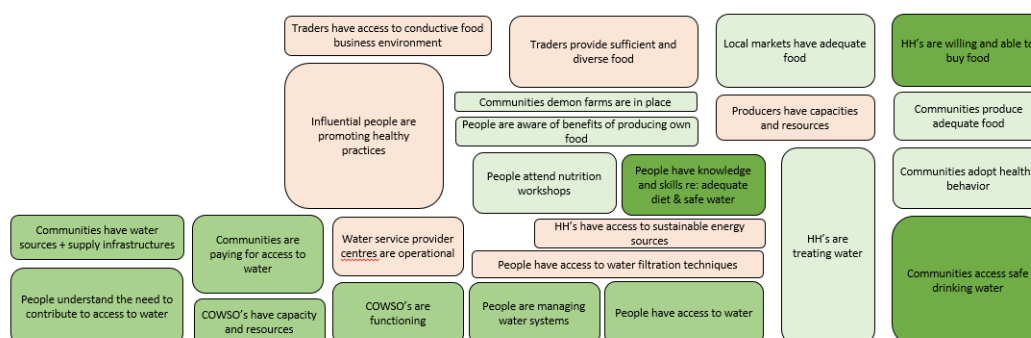
Outcome 2 Households are consuming an adequate and diverse diet and safe water

Figure 50: Outcome Area 2 - Coloured Theory of Change sub-results

Outcome level changes have been achieved related to the sub-result area 'Households are willing and able to buy food' (see first dark green box on the right top corner of the picture). It was substantiated that the communities are actually eating a more diverse diet and types of food. In other words, communities are not only willing and able, they are actually practicing better nutritious behaviour.

Outcome Statement: Balanced Diet

Knowledge on the importance of consuming dietary diversity has increased and as a result, community members, PLW and their children are eating a more diversified diet; instead of only maize porridge, milk and (cow/goat) meat, it now includes eggs & chicken, fish (dagaa), beans, sweet potatoes, cabbage, carrots, tomatoes, green leafy vegetables and fruits. People mix foods and per week they can eat up to 5 different types. The times of eating has increased, from once to up to 3 times per day

It has also been confirmed that '*households are aware of the benefits of producing their own food*'. However, with regard to '*communities producing adequate food*' (second box on the right, in light green), this change was not strongly present in the villages. Community members

⁶⁴ Reported in Annual progress reports of Maisha Bora, year 3 and year 4.

consulted mentioned that production of horticultural products (vegetables, orange sweet potatoes and fruits) has taken place, however only in wet season and through the help of seeds that were distributed. The level of success of the home gardens was disputed. The MB interventions at the level of schools have resulted in the establishment of horticulture plots, in horticultural production, mostly for use within the school, and in awareness of students. Current food supply in the villages still seems to come for a major part from outside the villages.

Results indicated in the ToC that have not been visible are related to the involvement of traders; *having capacities and resources, having access to conducive food business environment and providing sufficient food*. These social actors – traders/producers – have not been reported upon. There is only small anecdotal evidence from one village that traders bring in fruits and vegetables from outside the districts.⁶⁵ It might have been that Maisha Bora did not directly target these actors through the programme.

The descriptions of outcome level results in the documentation provided, with regard to *'communities adopting healthy behaviour'*, were less detailed. The changes reported are about children 'knowing' about hygiene, health clinics 'having access' to water and community members being 'more aware' of hygiene and available health services. These are somewhat lower level outcome changes, almost at the level of output, as compared to for example the actual changes in nutrition 'practices'.

The sub-outcome result area on healthy and hygienic behaviour was more elaborately described in the former Logframe, as it was envisioned that pregnant and lactating women and children under 5 would consume more diversified foods, use cleaner water, prevent and treat diarrhoea and have increased awareness on HIV prevention. The behavioural change in respect to nutrition of and care for pregnant and lactating women has been found substantially. Pregnant women more often deliver in hospital/clinic and men take their wives for pre-natal check-ups. In most villages, it was reported that there is increased awareness on the importance of good nutrition during pregnancy and of exclusively breast feeding their new-born babies for at least 6 months.

Outcome Statement: Balanced Diet - PLW

Communities have abandoned the practice that women get little food during pregnancy. Pregnant women used to not eat at all, or were force-vomiting, because they believed eating much would make it difficult to deliver the baby. Now they understand that it is important to eat well during pregnancy. Even men have understood it is important that their wives eat well when pregnant. As a result, they are healthier during pregnancy and start the delivery with more strength

Yet, no significant results were found with regard to effective diarrhoea prevention/ treatment, or awareness of HIV, except that in some of the villages people reported that they go to clinics to get tested. The findings of the household survey also show that in this field the programme has not been very strong.

Nevertheless, the improved use of clean water has been achieved, as well as improved food safety practices have been reported on to a large extent. People, especially school children, are using safe water by boiling it first and take care when preparing and storing food. Community members also wash their hands before and after milking the cows. However, there are no outcomes found on energy sources, water filtration or treating water in other ways than boiling (see ToC boxes in light pink).

⁶⁵ In Llerumo vegetables and fruits from Hedaru are being sold at the weekly market.

Outcome 3 communities are managing land and NR sustainably and harmoniously



Figure 51: Outcome Area 3 - Coloured Theory of Change sub-results

Outcomes were noticed with regard to water management and natural resource management (land use planning), as seen by the dark green boxes on the right in the figure above.

In a majority of the villages visited, positive outcome level changes have been verified related to ‘Communities have sustainable access to sufficient water’ and ‘Communities have water management entities (COWSO)’. It was substantiated that these COWSOs are implementing water management plans and enforcing rules and there is evidence that the district water department provide technical support in case of break-downs. While there is understanding in the community of the importance of water management, it remains a heavy duty for the COWSOs to collect the contributions.

Outcome Statement: Water Management

The COWSO and Dam committees have put in place rules and mechanisms for water use and management and make sure that the community members who use the water infrastructure are aware of the rules and actually follow the rules agreed upon. They pro-actively collaborate with village leaders to enforce water management rules and report to them. The COWSO collect fees from the community for the use of water and deposit the fees in a bank account. They meet often (at least monthly) and transparently keep records of income and expenditure and as such are accountable to the community for operations, maintenance and repair.

Besides water management, communities are also *managing their natural resources better through by-laws*. Building upon previous initiatives by national partners, Maisha Bora has greatly contributed towards communities acquiring land rights and institutionalizing the village land use plans, taking into consideration existing traditional land use arrangements. For example, in at least two villages of Simanjiro district, an area has been reserved for the hunter-gathering Akie tribe.

Outcome Statement: Village Land Use Planning

The village council is supervising the grazing calendar and oversees the boundaries – indicated by beacons. They inform their neighbours on their land use plans. As a result of these rules and regulations, pastoralists are practising better land use practices; they are moving around their livestock in a more sustainable way, using grazing patterns, based on the grazing calendar and CCRO. And by following the rules, no people have moved into the land of another village without permission, there is no encroachment of settlements and agriculture on grazing land, and conflicts between villages and between land uses/land users have been reduced.

Unfortunately, about the sub-result area *'Communities adapt to climate effect'* no clear information was provided to formulate outcomes. It however has to be noted that there are strong linkages between this area and natural resource management as well as synergies with the livestock results that fall under outcome area 1. For example; people have been forced to think and talk about balance livestock and grazing land availability. Droughts also help people reflect on how to manage the herd sustainably. Hence, the commercial herd approach and the land use plan-grazing calendar are types of adaptations to the climate effects. Interactions with MB implementing partners, during Key Informant Interviews and the OH workshop, indicated that this change area will take a lot of time to mature.

Even though the harvester did not find any reports and the project partners did not formulate any draft outcomes with regard to climate change and the environment, when substantiating the VLUP outcome statement it was found that VLUP committee does work on raising awareness on natural resource management and conservation. They sensitise the *"village on environmental destruction (cutting trees, burning of charcoal and other bad practices, they remove harmful vegetation) The community has reduced these bad practices."* So, communities do understand better the importance of management of NR and its impact. However, it has not been substantiated to what extent this has led to actual adaptation strategies.

It is not really clear how well communities have developed skills to manage land and natural resources and what these skills were envisioned to be exactly. Furthermore, it is unclear who was supposed to *'Advocate and lobby for the change of LUP approval procedure'*. Moreover, the monitoring plan mentioned that the communities adapting to climate change result was to be further *"defined when the objectives of the action research will be clear"*.

In the theory of change it is mentioned as an intended result that *'communities enhance livestock mobility'* however it is found that the opposite happened; livestock mobility was reduced due to the land use plan, because of the restrictions of moving to certain areas, and because of the availability of water and pasture closer by. This can be adapted in the Theory of Change.

In sum, the outcomes show patterns of progress towards the following result areas:

- People engage in different viable business types providing income and employment.
- Livestock keepers treat their livestock by seeking good veterinary care services.
- Member based organisations have built their capacity and are able to provide services to their members as well as engage in networking and advocacy activities with LGA.
- Households are willing and able to buy food.
- Pregnant and lactating women and children under 5 would consume more diversified foods.
- Communities have sustainable access to sufficient water, use clean water and have water management entities.
- People are managing their natural resources better through by-laws/follow land use plans.

The programme has been mixed in its results with regard to:

- Households are aware of the benefits of producing their own food.
- Livestock keepers are willing to adopt a more commercial herd approach.
- Communities adopting healthy behaviour.

The outcomes do not show strong evidence for changes in the community with relation to:

- People sell their livestock at favourable prices.
- LGAs; create an enabling environment, improve market infrastructure, provide market information or means for extension officers to operate.
- Effective diarrhoea prevention/ treatment, and awareness of HIV.
- Communities adapt to climate effects.

4.1.2 Type of change

When analysing the outcome statements further, the harvesters looked at what type of change the social actors had gone through/shown. “Knowledge” outcomes involve a change in understanding or ability - what a person learns or is able to do. “Attitude” outcomes involve a change in thought, perception or feeling. “Behaviour” outcomes involve changes in actions, practices or habits, this includes *use* of outputs delivered by the programme. “Relationship” outcomes are related to changes in how social actors work together or have improved interactions and connections.

It can be seen that the majority of changes are related to changes in **behaviour**. Community members have started to behave differently, they have started saving, taking loans, invested in businesses, trying out new vegetables, going to the clinic for health checks, improving grazing practices, adopting a commercial herd strategy, washing their hands, using latrines, managing water points, etcetera.

Type of change	Number of draft outcomes
Knowledge	7
Attitude	3
Behaviour	28
Relationships	5

Social actors have also improved **knowledge**, youth have gone through vocational training on various types of trades, VICOBA women groups have learned how to save and manage their profits, livestock keepers know how to keep records and negotiate for better prices for their cows, children in schools (through clubs) gained skills in hygiene, health and nutrition. Finally, MBOs and National MB partners have improved capacities in leadership, resource mobilisation and project implementation modalities.

In terms of **attitude** change, there are three noticeable changes reported in the outcomes statements. First of all, community members in general opened up to eating chicken, eggs and other types of food to diversify their diets. More specifically, men have changed their attitude towards women engaging in business and in keeping poultry. They have seen the benefits and have started to support the activities. Secondly traders and livestock keepers committed to adopt a commercial livestock approach (Note: this does not mean they actually did). Another change in attitude is the community’s willingness to pay for water resources (and even pay contribution for construction of water points).

In some of the outcome statements it becomes clear that **relationships** have improved. Focal persons and LGA are working together to supervise and monitor developmental projects, they raise awareness in the community and mobilise them. Members’ level of trust in the leadership of SACCOs/MFIs has improved. MBOs have improved relationships with LGAs to be able

advocate and negotiate for the improvement of business environment. Women have fostered positive social bonds through VICOBA. Even the marital relationship between men and women has improved, with regard to making decisions about nutrition, health care and how to take care of the woman during pregnancy. Furthermore, community members work together in committees to manage their natural resources.

4.2 Which social actors are changing?

The table below lists the social actors that have been reported to have changed as a result of the Maisha Bora programme. These social actors are the ones that are included in the outcome statements. Outcome statements sometimes include multiple social actors.

Table 32: Social Actors represented in the Outcome Statements

Social actor	Final outcome statements	Draft outcome statements	Including specific groups/actors:
Women groups	2	5	VICOBA, IGG, chicken groups, beading
Youth	2	4	Leather groups, honey groups, service providers, vocational training beneficiaries
Community members	4	12	PLW, women, men, children
CAHW	1	1	
Livestock keepers/traders	4	1	
MBOs	2	4	TCCIA, MFIs, SACCOs MB partners
Children	3	3	In schools
Community structures, institutions (committees/leadership)	4	2	COWSO, dam committees, local water operators, Land Use Planning/Grazing committee, District & Regional Focal Persons, local village leaders/ VEO, NLUPC/ task force, MoLF, District Multi-Sector Steering Committees

The draft statements were quite particularly formulated with regard to changes in unique social actors. The number of draft outcomes related to community members was large (12). These community members are benefitting from general changes applicable to all, 'they' have a diversified diet, produce vegetables, have behaviour change towards nutrition, have access to water, visit health centres, etc. These are changes that are not specific to a certain sub-group in the community. Of course, livestock keepers, women groups and youth are also considered community members, however since they had additional, more specific changes reported, they are considered as social actors in their own right in this list.

The numbers in the table for the social actors in the final outcome statements do not correspond with the exact number of outcome statements because after review and substantiation it was found that in several statements multiple social actors are benefitting from the change. For example, changes in doing business by VICOBA members is a change that affects both youth and women. Another example is that livestock keepers benefit from both improvements in cattle business as well as from the grazing practices established in and promoted through the Land Use Plan.

What can be analysed from the above table is that a large range of social actors are experiencing meaningful changes in their lives. The Maisha Bora programme therefore can be said to have a wide reach. The changes are also holistic as several groups benefitted from multiple changes at the same time.

However, another observation is that some social actors, previously described during the inception mapping, were not mentioned as having experienced change. These are for example:

- Value chain actors
- BDS trainers
- District technical departments
- District Water Department
- WASH centre
- Health centre
- Teachers
- Outreach workers

Some of these social actors are part of the implementation of the Maisha Bora interventions and might not have been directly considered when reporting about change (so outcomes could not be found in documentation/desk review) and they might not have been considered by the implementing partners as social actors when reporting, formulating or reviewing the outcome statements presented.

In the Theory of Change, several of the institutional actors are mentioned and changes for these actors have been formulated. It was already noticed in the analysis above (4.1.1) that changes in LGA behaviour and actions are not reported upon much. This does not mean change has not taken place, but that it was not captured adequately.

Even if it was not found in the documentation, the outcome harvest gave the chance to MB partners to add and improve on statements during the OH workshop. The Maisha Bora partners responsible for the nutrition component took the opportunity to formulate an additional outcomes statement: “District Multi-Sector Steering Committees plan and implement nutrition activities and have increased budget for these activities”. However, it has to be said that during substantiation in the villages this change has not been mentioned by the communities so it could not be verified. Due to limited time this was also not the focus of the substantiation visits.

4.2.1 Gender

The outcome harvesters looked at the outcome statements with a gender perspective. It was found that in several areas, the gender sensitivity has been present. First of all, the programme has tried to aim for gender balance in committees, secondly the programme has had an effect on the lives of women specifically and thirdly, the role of men has been taken into consideration in several components.

Gender balance in village and community committees

In the VLUP women are included, however in few numbers. On average, out of the 12 members around 3 members are female, the rest is male. In few villages, it was explained how youth and

women were represented in the development management and implementation of the VLUP.⁶⁶ In the COWSO groups a better gender balance was achieved. In most villages, it was reported that 50% of the members was female. It is noted that these community committees are selected by the village members. According to government regulations, both genders have to be represented in village sub committees. In the VICOPA FGD in Mairowa, the participants expressed how more women are currently being elected as leaders/representatives of sub-villages or as part of village committees.

Changes in the lives of women

Many women reported how being able to engage in income generating activities has changed their position in the community. Women are more aware of their rights; they claim them and their rights are more commonly upheld. Women have more ability to make decisions. Most women still depend on men to provide for their families but they are no longer completely dependent, as they bring in income as well.

Women also benefit from access to water; they have time to do other activities instead of walking far distances and waiting in line to fetch water. They can take care of their infants rather than leaving them at home for long periods or they have time to engage in business instead.

Another change in the lives of women is that are allowed to own and take care of livestock. VICOPA groups are buying cows and goats. Men have become convinced that it is a good activity for their wives to keep chicken as the production is positively received and the meat is eaten.⁶⁷ In at least 3 villages it was mentioned that women can now inherit and own cattle and land.⁶⁸ It was reported that some women have their own agricultural fields.

Behaviour change of men

In the beginning, husbands were hesitant for their wives taking up income generating activities, but this attitude has improved. Men are now appreciating the women's contribution to the household income. It was often reported men want to be closer to the women, since they have become successful in business and have access to loans. Some women are able to support their husbands in times of need. This has improved marital relationships.

In terms of health care, more men go to the clinic together with their wives, as to measure their health status, weight and also check for diseases. This builds trust between spouses as they know they are safe (less risk of STDs and HIV). In one location, it was explained that men had stopped going to visit other women.⁶⁹ This further improved marital relationships.

There is increased awareness that women need to be taken better care of when they are pregnant. The men join their wives to the clinic for testing and advice, they also have understood that women need to eat properly during pregnancy.

⁶⁶ 2 villages in Longido (Mairowa, Orkejuloongishu), 1 village in Simanjoro.

⁶⁷ Focal Point Field Report 2017

⁶⁸ Among which were Mairowa and Namalulu.

⁶⁹ Matale A

4.3 To what extent is the change locally rooted?

Changes in Simanjiro have been more strongly confirmed, as compared to Longido. The outcome statements were confirmed by 68% in Longido and by 78% in Simanjiro.

The VLUP was strong in Simanjiro with 89% of the outcome statements confirmed. In Longido the VLUP was also strong in Eworendeke, but below average in Matala A.

On average the COWSOs were slightly stronger in Longido (72%) than in Simanjiro (69%).

The nutrition groups confirmed the changes had taken place in their communities by 74% in Simanjiro and 65% in Longido. There were not much differences between the villages in Simanjiro (between 72% and 75%). Mairowa village in Longido scored the lowest with 56%.

The VICOPA FGD revealed significant differences between the districts, as on average 66% of the outcome statement was confirmed in Longido and 81% in Simanjiro. Kitwai A is an outlier in Simanjiro, with 69% of the changes confirmed as compared to between 81-89% of the other villages. In Longido the VICOPA in the villages were of more similar strength, with Eworendeke having the lowest score (53%).

The village that had the best scores overall was Kitwai B in Simanjiro (86% of the outcome statements confirmed) and the weakest score was for Matala A in Longido (58% of the outcome statements confirmed).

Table 33: Outcome statements confirmation according to villages/districts

	Longido				Simanjiro			
	Eworende ke	Mairowa	Matala A	Orkejuloo ngishu	Kitwai A	Kitwai B	Namalulu	Llerumo
VLUP	90%	73%	43%	77%	93%	90%	80%	93%
COWSO	94%	61%	56%	78%	92%	92%	72%	19% ⁷⁰
Nutrition	64%	56%	64%	75%	72%	72%	75%	75%
VICOPA	53%	69%	69%	72%	69%	89%	83%	81%
Average Village	75%	65%	58%	76%	82%	86%	78%	67%
Average District	68%				78%			
Average VLUP	71%				89%			
Average COWSO	72%				69%			
Average Nutrition	65%				74%			
Average VICOPA	66%				81%			

⁷⁰ In Llerumo MB implemented little in terms of water infrastructure due to the specific conditions. Therefore the COWSO operations in Llerumo have been limited with few responsibilities, since there are very few water sources in this village. Villagers depend on some small wells and water being brought in by lorry.

4.4 To what extent do the outcomes show synergy?

This chapter describes the analysis in various synergies between components and partners, not only in terms of results but notably in terms of outcomes on the level of users and beneficiaries.

Table 34: Outcome statements per component

Component	Number of draft statements reviewed online by partners	Number of statements after verification workshop	Number of statements substantiated
Water	5	2	1
Business	5	4	1
Livestock	6	5	1
Nutrition/hygiene/health	3	4	1
Coordination	5	3	1
TOTAL	24	18	5

4.4.1 Horizontal linkages between result areas

Land use planning leads to securing livestock resources

Horizontal linkages exist between Outcome Areas 1 and 3. The outcome statement that has been substantially validated under Outcome Area 3⁷¹ was that *Village Councils and VLUP committees are actively managing land and natural resources in a sustainable manner*. The Theory of Change was confirmed in that communities have the ‘capacity to manage and reinforce by-laws for rangeland management’, ‘got a certificate for grazing areas’ (CCRO) and ‘Land users are following an agreed land use plan’.

The change in Land Use Planning showed synergies with the (former) logframe results ‘household livestock resources are secured’, and the ‘initiation of a more progressive form of pastoralism’ (After MTR falling more under Outcome Area 1). As a result of the land use plan livestock is moving less – being restricted to grazing areas – and therefore the grass has the time to regenerate, ensuring pasture is available in the lean season. The pastoralists have also learned to sell and to fatten their herd. As an indirect result, livestock is said to be in better health and thus livestock resources are secured.

Another interesting link between the Land Use Plan and changes in Livestock management is the other way around. Having access to a cattle dip/chemical treatment for cows (sub-result under outcome area 1) is helpful as it kills the ticks, and therefore community members do no longer need to burn the grass to get rid of the ticks. In this way, livestock treatment is aiding the land use plan and preservation of natural resources.

Finally, when reviewing the Theory of Change, linkages have been confirmed by community members, mainly the VLUP committee, between the changes in Land Use (Outcome Area 3), and ‘livestock keepers know when to sell at the right time’ (Outcome Area 1). Namely, the VLUP

⁷¹ communities manage land and natural resources sustainably and harmoniously

committee has among its tasks; advising livestock keepers on how to sell livestock during the dry season to reduce mortality.⁷² There is anecdotal evidence that livestock keepers are actually selling their cattle before dry season.⁷³ Nonetheless, as mentioned earlier, the evidence is not strong and there are also community members who contradict this change. The consultants therefore doubt whether the commercial livestock herd management strategies are really implemented widely. Beneficiaries still seem to consider themselves mostly as traditional pastoralist cattle-holders, not commercial cattle-raisers or traders. Hence, the linkages are not very strong between VLUP and livestock trading.

How income, water and health care lead to improved nutrition

Women groups have increased their incomes through engaging in diverse small and micro businesses. As envisioned, this increase in income is used to buy a diversity of food types to improve their diets. Since they do business, the women can afford to buy other types of food. They say that before joining VICOBA they could not afford to do this. There is thus a strong synergy between the results under outcome Area 1 (income) and Outcome Area 2 (diverse diet).

Changes in communities' practices around nutrition are furthermore strengthened through the poultry interventions, the availability of water for cultivation and the health centres that provided checks and information on nutrition.

- Poultry: The groups that received chicken are able to reproduce (as in raise chicks to full grown chicken) and sell eggs. This aids in diversifying the diet of community members.
- Water: Only in those areas where water access had been increased, production of vegetables seemed to be better. Hence, water is essential in enabling the community to cultivate and get access to diverse food sources (especially vegetables).
- Health: by visiting clinics, community members are being made aware of their health status and are advised on how to improve it through taking nutritious foods.

Synergies between improved access to water and improved income

The synergies between water access and income are two-way. First of all, if water is closer, women have more time to engage in business, which enables them to get income. The other way around, if women are engaging in a business and earn an income, they can hire a motorbike to fetch water from far away, thereby improving access to water.

Improved access to water leads to health and hygiene

In addition to water access and income, it was found that improved access to water also has linkages to other results. For example, households use water for hygiene improvement, they wash themselves and their clothes. Beneficiaries mention that their household environments are cleaner with less flies, hence again improving health of children.

How water, livestock and land use planning are interlinked

Synergies were further pointed out between water access for livestock and land use planning. Land use planning took access to water for livestock into consideration and even designated the areas for water points to be constructed. Calves were given access to land closer to the water

⁷² Anecdotal Evidence from Eworendeke and Kitwai B

⁷³ Anecdotal Evidence from Mairowa, Orkejuloongishu, Llerumo, Matala A.

sources and grazing land that in the dry season is close to permanently available water. In land use planning, grazing land indicated for use during rainy season is located further away. Finally, water is also used for the construction of buildings, improving people's live style and livelihoods.

4.4.2 Linkages between partners

Initially coordination between MB partners took place between the INGOs and up to district level, but not down to village level. It was found that local partners had no synergies, so the INGOs were asked to promote that. This had results as more synergies between component took place after that.

It was celebrated by the Village Executive Officers that each MB partner had implemented the work they were experienced in. The partners had worked together in good cooperation, having the same vision. One VEO mentioned that "if one NGO had had to do all that work, they would not have succeeded".

Outcome statement: Collaboration

MB partners worked effectively with each other in the same target communities and found synergies between components. The speed of delivery, the fact that all promised were fulfilled and that MB partners follow up after implementation, were highly appreciated by the village leadership. A lot of different interventions have taken place simultaneously, providing holistic support to the communities.

Some of the examples of MB partners organising interventions together are; Trias and Heifer/VSF worked on the Chicken Incubators together; IDP and WFP/ChildReach combined their strengths to focus on water provision in schools to improve food production, nutrition and hygiene; Trias and IDP collaborated in capacitating the Water Maintenance Centre; VSF and Trias joined forces to train Community Animal Health Workers. Nonetheless, synergies did not always work out as planned, for example with regard to poultry, partners had fundamental different idea about marketing and the order of interventions.

However, the claim that Maisha Bora partners identified themselves to the community as Maisha Bora, instead of as independent NGOs, was not confirmed in all the villages. The work of the local partners (MWEDO, UCRT, PWC, LCDO) was quoted a lot in the FGD and it appeared that the local partners preferred working under (or where known as) their own organisation's name instead of under the name of Maisha Bora. Most of the organisations were already working in the villages before Maisha Bora, hence were already known to the communities. Nonetheless, most of the beneficiaries understand the difference between the programme (Maisha Bora) and the implementing organisations (local partners).

4.5 How did the Maisha Bora Programme contribute to the outcomes?

This section highlights the contribution claims of the MB programme with regard to four specific outcome statements; water management; viable business and income; balanced diet; and village land use planning.

Out of the four contribution claims, two are strong contributions (water management and balanced diet – would not have happened without the project), one is a reasonable contribution (viable business) and one is moderate (VLUP)). Outcomes on levels of water management and balanced diet are emerged outcomes, they are results that did not exist before the programme. Outcomes related to business and VLUP are consolidating and sustaining, by working further on interventions, replicating and sustaining already established outcomes.

4.5.1 Water Management

It can be concluded that Maisha Bora project has certainly made a strong contribution to the 'effective management of water infrastructures by COWSO' in the villages in both Longido and Simanjiro. In some villages, there was a pre-existing village committee in charge of the management of water infrastructure but they were not established according to the national regulations, not registered and hence not recognised and they did not know their roles and responsibilities. MB organised specific trainings and study visits on water management to the benefit of District Water Department. In the project villages, Maisha Bora initiated the process of establishing the COWSO before it became compulsory for the Districts to do so. Maisha Bora supported the process of establishing by-laws and regulations for the COWSO and provided training/instruction on how to run the COWSO effectively. Especially the collection of fees was mentioned as a new task introduced well by the project, which is noticeable as in 75% of the villages this change is taking shape. Still, there are some contradicting signs that indicate the change is still at a low level, as it is challenging for most COWSO to collect (enough) fees from the community. The local government supports the effort to collect fees, hence Maisha Bora has to share the contribution to the results. This can be seen as a collaborative factor which was intentional and building upon the initial capacity building of the local governments by MB.

4.5.2 Balanced Diet

It can be concluded that MB project interventions have certainly made a strong contribution to the improvements in community practices and attitude change around nutrition. Divided into multiple sub-results, the contribution analysis was mainly focused on the 'diversified diet' change. This change was strongly supported by substantiation in the communities (all villages). There have been various primary factors that were mentioned as having contributed to the change, MB project education and awareness events, including the cooking demonstrations, community workers spreading messages, and interventions in schools. Rival factors have been rated as less significant.

For the improved maternal and infant feeding, it is clear that MB played a significant role, in collaboration with health centres. It is unclear how much weight World Vision has in its contribution towards the achieved change. It was only mentioned in one village.

4.5.3 Viable Business and Income

It can be concluded that the MB project has made a reasonable contribution to achieving the outcome; ‘women engaging in viable business types and having diversified their income base’. The project can largely be credited for the training of VICOBA groups and for providing the start-up capital. In one village, some groups were already established prior to the project. Some of MB partners have been active forming groups in the area for longer (as early as 2010). Moreover, some women had already existing business or income generating activities, mainly because the drought has forced them to rethink strategies of income generation beyond cattle keeping. Some groups started on their own. The added value of the MB project is that the strengthening of the groups has resulted in diversifying sources of income. With the start-up capital, groups could loan more money to members and as a result members have started additional businesses or expanded their existing activities. The groups have become stronger as they have been operational, as indicated by the increased amount that members need to contribute to the group on a weekly basis. It was reported that the amount has doubled or even tripled, indicating the success of the groups to generate income using the loans. In one village, another major player, World Vision, has contributed to the business skills of VICOBA members. Hence, MB has to share the achievement and therefore the contribution claim is less strong in this village.

4.5.4 Village Land Use Planning

It can be concluded that the contribution claim for Maisha Bora with regard to the outcome ‘Village Councils/VLUP committees are actively managing land and natural resources in a sustainable manner’ is reasonable. The contribution is seen in the fact that the partners invested in bringing the community together to agree on boundaries, rules and the land use plan. They also provided training on how to manage and conserve land and other natural resources. In some villages, the process of land use planning had started before the MB programme. Maisha Bora can be credited for assisting villages in obtaining the CCRO. In some villages, MB has to share the results in land use planning with previously USAID supported activities.

Also, local government authorities had an influence on starting the process and external factors had brought a sense of urge to put land use plans in place (climate change, government threats, overpopulation, new land use practices such as cultivation). Some villages actually already had land use plans, or they had leadership that were interested in establishing them. The strength of the Maisha Bora programme contribution is that while local leadership might have spoken about the importance, MB actually took action to get the CCROs.

The contribution claim is hence found to be mixed as there are some rival factors that are seen as equally significant as the primary factors. On top of that, some contradicting factors mentioned by the communities, mainly that some villages are still to receive the actual CCRO, some areas were not yet indicated with beacons.

The VLUP’s will need to prove its worth in the years to come, as the communities will deal with the effects of climate change, which translates into more extreme draught and heavy rains. In Simanjiro the short rains were favourable in 2019, hence it was easy for the villagers to stick to the VLUP, whereas in Longido, the situation was less favourable.

Both reasons make it hard to proof that the land use plan is the thing that causes the positive changes.

III Conclusions

5 Conclusions and lessons learned

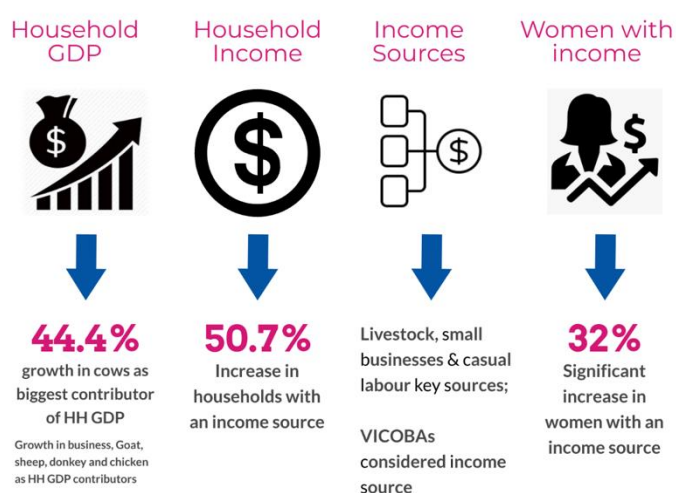
Based on the collective findings of the household survey and the outcome harvest and verified during the learning events, the following conclusions and lessons learned have been formulated.

5.1 Outcome 1: People have sufficient and diverse sources of income

Outcome 1: People have sufficient and diverse sources of income:
People engage in different viable business types providing income/employment (incl. VICOBA, MBOs, poultry)
People have the skills and vision to upscale and understand the market for diversified businesses
People sell their livestock at favourable prices - sufficient quantity / quality (incl CAHW)
LGAs create an enabling environment (taxes, regulations, market)

Overall, the monetary income of the beneficiaries has increased since the start of MB, as depicted by a 50.7% increase in the proportion of households that have an income source. Livestock remains the backbone of the economy in Longido and Simanjiro districts. Hence, the main source of income is still livestock, through selling of animals or animal products, followed by income through small businesses. Livestock produce is not being sold as much as anticipated but mostly consumed at household level. Income diversification has not yet

People have sufficient and diverse sources of income



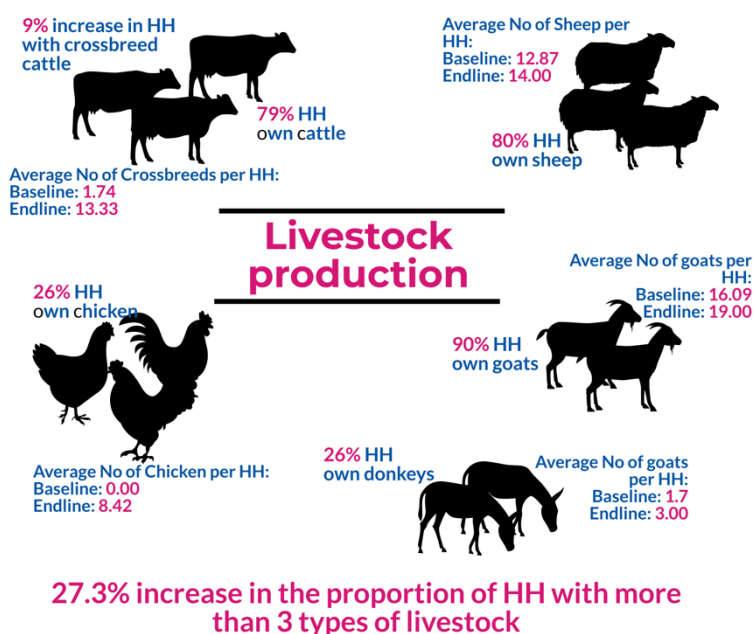
been achieved. Beneficiaries often re-invest additional income from livestock and business back in livestock and in businesses, or they spent it on food, daily consumables and small household assets, and also on building/improving homes and school fees for children. Notably, there is a 32% increase in the proportion of women with income throughout the year compared to 2015.

The approach to target women and youth in groups, and, following the MTR recommendations, to specifically include poor community members in the approach, has proven to be effective, as well as the approach of 'Passing on the Gift'. Women and youth confirm that they are successfully engaged in different forms of small businesses and income generating activities through joining a VICOBA under the MB programme through the support by local partner organisations.

By engaging in VICOBAAs women improved their self-esteem and the inter household relations, as their husbands appreciate their contribution to the family income. Women reported that this has also led to less gender based violence.

The collective approach towards reaching out to the community for business development and running training and awareness activities has been effective. People that join the VICOBA run their businesses individually rather than running businesses collectively.

During the programme, households have invested in livestock by both increasing the types and number of livestock they own. Herd sizes increased despite increased proportional mortality rates in the recent drought stricken years. Respondents partially link livestock mortality to lack of pasture which brings implications towards outcome 3. There is notable increase in the proportion of livestock keepers who are keeping cross breeds. Livestock keepers are slowly adopting a more commercial herd approach, often investing in smaller (poultry, goats) livestock for commercial purposes and paying for veterinary services.



The emerging commercial approach to livestock and capacity building of livestock traders leads to better economic environment within the district, as appreciated by the district officials.

As a result of organisational development, TCCIA and MVIWATA increased trust amongst their members, they increased their membership base, services to members, and achieved more savings and loans. However, many people are not ready for bigger loans and livestock traders still have a tendency to avoid saving at SACCOs. Government plays a big role in collection of business information. LGAs improved market infrastructure and access which is echoed by the increased satisfaction of livestock keepers for the markets. Bureaucratic processes often make doing business difficult, e.g. tedious process to register groups or companies.

5.2 Outcome 2: Households consume an adequate and diverse diet and safe drinking water

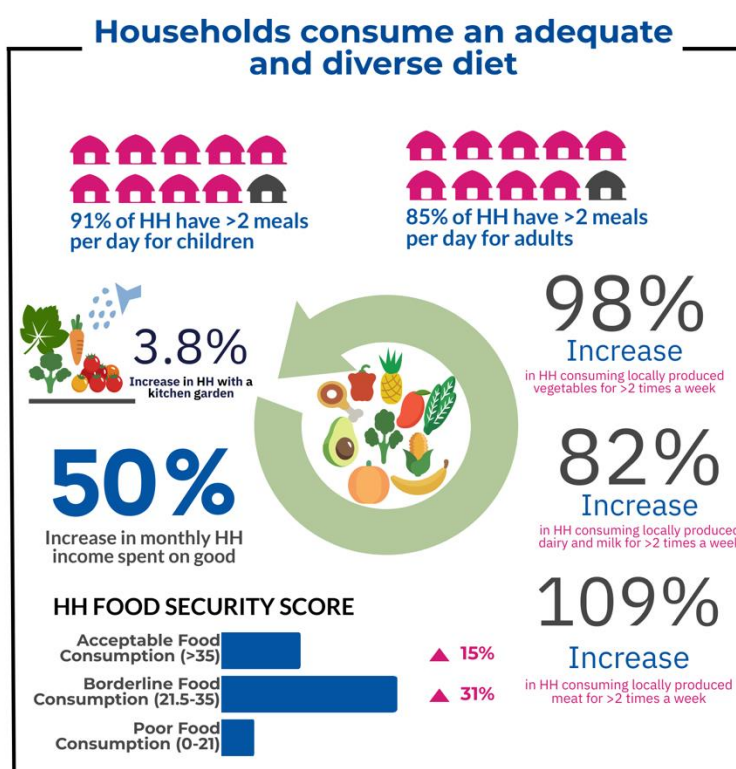
Outcome 2: Households consume an adequate and diverse diet and safe drinking water
HHs are willing and able to buy food
Communities produce adequate food
Communities adopt healthy behaviour
Communities access safe drinking water

While it was anticipated that changing the eating habits would be difficult in the pastoralist culture, there has been significant improvement in the diet, in terms of diversity, frequency of meals and readiness to buy foods. Foods such as fruits, vegetables, eggs, chicken have become more common as households increased their consumption of locally produced vegetable and locally produced animal products compared to the baseline. Households are spending more income on foods, either locally produced or brought into the district as indicated by the 50% increase in household spending on food. However, household food security as measured through FCS

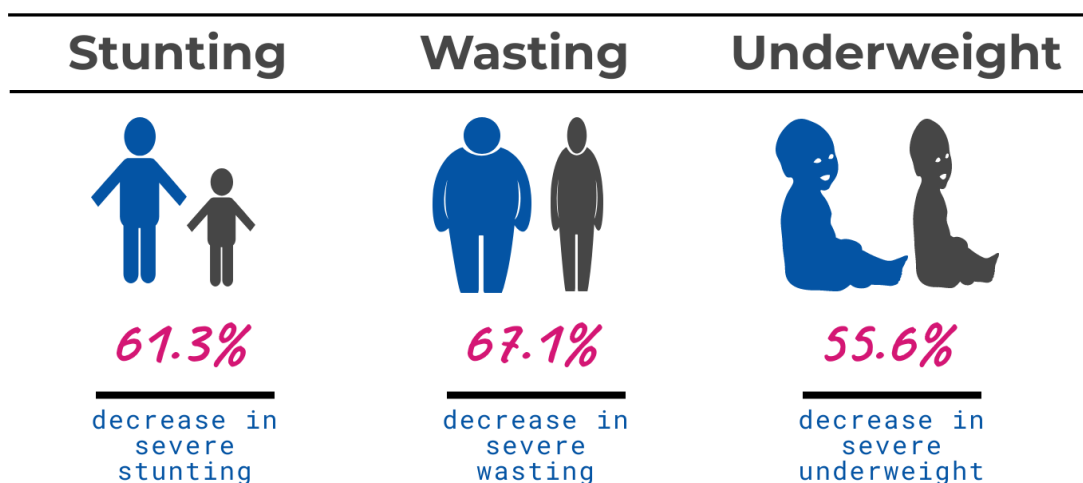
remains a concern. While there is little difference in infant feeding practices, there is a slight improvement in the dietary diversity for small children but it is still at low levels with a majority of food being 'empty' carbs. The approach to target both men and women in the households for dietary awareness has been successful and men are more involved in decisions regarding nutrition compared to before.

Horticultural production in the districts has increased by 11.3% albeit depending on water availability. MB promoted this on a small scale through communal kitchen gardens and school gardens. While HHs understand benefits of producing their own food, erratic rainfall due to climate change is a major challenge in horticultural production as well as the limited support from district extension services.

There are changes positive changes in malnutrition as depicted by a 55.6% decrease in the proportion of under 5 children with severe underweight. Specifically, acute malnutrition among children under 5 years has decreased as shown by a 67.1% decrease in the proportion of under 5 children with severe wasting. Chronic malnutrition has also decreased as depicted by 61.3% decrease in the proportion of under 5 children with severe stunting.



Nutrition Status of children under 5 years



The malnutrition status among pregnant and lactating women has not improved, as there are cases of pregnant women with Severe Acute Malnutrition (SAM), which was higher than in 2015 when the HHS reported no SAM cases.

Morbidity of children under 5 years has also not changed. According to the HHS, more children were recently sick (fever, flu or cough) or suffered from diarrhoea as compared to the baseline. However, the proportion of children who have been vaccinated (BCG, polio, DPT and measles) has increased compared to when the project started as almost all children have undergone full vaccination. The mortality of children under 5 years has decreased by 90%. This may be as a result of the improved behaviour and practices towards health, hygiene and sanitation. Using schools and (peer) groups to change behaviour has been effective to reach out towards the communities. There is more awareness on good practices regarding maternal health, infant and young child nutrition practices. More people have and use soap. Notably women have changed their behaviour in hygiene when handling livestock.

Beneficiaries have greatly increased practices of treating water before drinking as depicted by a 27.8% increase in the proportion of households that indicated they treat water. Generally, households' access to drinking water improved as well. The distance and duration to the closest water source has reduced by 18% during the dry season compared to the baseline situation and more water is available. This has enabled improved hygiene and has resulted in more time available to engage in other activities, including business.

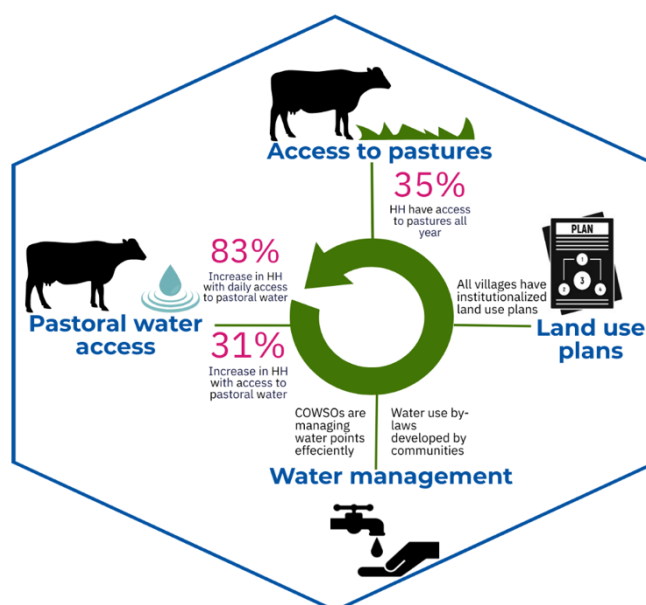
5.3 Outcome 3: Communities manage the land and natural resources sustainably and harmoniously

Outcome 3: Communities manage the land and natural resources sustainably and harmoniously
Communities have sustainable access to sufficient water
Land users follow agreed land use plan
Communities benefit from natural resources (incl. Land Use Plan)
Communities adapt to climate effect (incl. optimum herd size)

All MB villages went through a VLUP process and have institutionalised village land use plans and governing bodies. Traditional land use practices were considered whilst developing the land use plans. The programme deserves praise for considering the rights of all the different groups, pastoralists, more recent settlers and a minority group namely the Akie tribe in Kitwai ward. Through adapting to CCRO, land is secured for specific uses and notably for pastoralist land practices. This is a considerable achievement given the traditional precedence in the Tanzanian society to agricultural over pastoral land use.

The governing bodies deal with ensuring adherence of land users from inside, and at times outside the villages, to the planned land use. Some land conflicts are complex and not yet solved, e.g. boundary issues in Matala B., Wosiwosi and Londreskes.

In the MB villages, access to clean water for pastoral use throughout the year has improved. The number of households that have access to pastoral water throughout the year has increased by 30.5%, but the average number of months with insufficient access to water varies depending on the weather. The distances to pastoral water sources has also decreased as indicated by a 25% increase in the proportion of households that can access pastoral water in less than one hour during the dry season. Overall, the proportion of households reporting that they have daily access to pastoral water increased by 83.3% compared to 2015.



The access to pastures varies between the villages. There is sufficient pasture during the rainy season but during the dry season it can be problematic. Access to pasture has improved more in Simanjiro than Longido, but in some villages, it has deteriorated. Availability of pasture is affected by several factors. Shifting weather patterns due to climate change is resulting in unpredictability of the rainy season. The number of cattle increases and, in time of need, pastoralists from neighbouring districts enter the villages with their cattle. The programme did not manage to introduce additional measures to improve pasture during times of draught.

According to the HHS, the access to livestock extension services improved compared to the baseline and proportionally more so in Simanjiro. The services are by governmental extension

officers, NGOs and private extension officers, and, notably in Simanjiro, by CAHW. For many people affordability is a challenge, but satisfaction with the services is high. Notably, beneficiaries reported a high satisfaction with the services provided by the CAHWs.

Communities have increased their awareness on natural resource management and there is a growing understanding on the relation between livestock numbers, livestock mobility and grazing availability. The extent to which pastoralists in the MB villages are adopting to the impact of climate change is debated. While there is a growing understanding, there is also the reality that the number of cattle increased, cattle mortality increased (though not proportionate to the numbers) and availability of pasture at certain times and places decreased.

The communities have and use by-laws governing water use. With the MB support, COWSOs have become functional entities. Communities understand the importance of water management and paying for water. Fees collected from water use are deposited to the bank account and used appropriately. The districts support communities and COWSOs on water management and they respond to the COWSO (community) in case of water breakdown. There is a slight improvement in the time taken to repair the water points.

5.4 Overall conclusions and lessons learned

Patterns of progress towards the strategic objectives

The outcomes found by the outcome assessment show results and achievements of MB and they also give indications as to where reporting during the programme did not capture certain achievements. It should be noted that the Theory of Change was developed during the lifetime of the programme, and not at the start, hence reporting towards the outcomes envisaged in the ToC could only start once it was established.

The outcomes show patterns of progress towards many of the intended result areas. Most strongly represented are change in business, income, balanced diet, and natural resource management. Proof of progress was also found, though to a lesser extent, for result areas such as food production, healthy behaviour/treatment, livestock trading and adaptation to climate effects.

For the four specific outcome statements of the OH, the respective contribution claims are that two are strong contributions (water management and balanced diet - would not have happened without the project), one is a reasonable contribution (viable business) and one is moderate (VLUP). Outcomes on levels of water management and balanced diet are emerged outcomes, namely results that did not exist before the programme. Outcomes related to business and VLUP are consolidating, sustaining and expanding by (partly) working further on prior interventions, replicating and expanding outcomes established or achieved on a small scale before MB.

Social actors

A large range of social actors are experiencing meaningful changes in their lives. Maisha Bora therefore can be said to have a wide reach. The changes are also holistic as several groups benefitted from multiple changes at the same time. Both genders were intentionally and effectively reached and impacted. The pro-poor strategy that was adopted has proven to be effective. Gender sensitivity has been present. First of all, the programme has tried to aim for gender balance in committees, secondly the programme has had an effect on the lives of women

specifically and thirdly, the role of men has been taken into consideration in several components.

Interventions targeting traders and producers were not deliberately designed at the time of inception, nor when developing the ToC or during the MTR. While they are not primary beneficiaries, the programme realised that they play an important role in achieving some of the project results, hence MB appreciates the need to capacitate them. Collaboration of the programme with and between government and private sector has delivered good results. The assessment did not find explicit evidence for change of some envisioned social actors. Social actors such as district staff, teachers and outreach workers are part of the implementation of the Maisha Bora interventions and might not have been directly considered when reporting about change. However, during various conversations, it was clear that e.g. district extension staff and outreach workers are strengthened and inspired through their involvement with MB and committed to their work within MB and beyond.

Type of change

The majority of the changes on outcome level as observed during the OH are related to changes in behaviour. The evaluators also witnessed examples of changes related to improvements in knowledge, attitude and relationships.

Changing the attitude, behaviours and practice among communities takes time: The programme had envisioned to change the food production and consumption, livestock keeping practices, income diversity and child feeding practices among others. These are high level results on the level of outcome and impact, which are anchored on behavioural changes. The programme implementers experienced that achieving behavioural change within communities takes time as it entails changing the mind-set of communities who have deeply rooted culture and value systems.

Quality of life

Both through the HHS and the OH, the evaluators observed that the quality of life as perceived by the interviewees has on average improved. However, the ability to pay school fees has gone down everywhere. In Longido, there is an increased satisfaction with own life, with quality of the house, ability to treat children when ill. In Simanjiro, the HH survey recorded a higher proportion of households that perceive difficulties on their quality of life. This is in agreement with the Household Budget Survey 2017-2018 which highlights that the more household members in a household, the higher the food poverty index and the poverty incidence in that household.

The Maisha Bora approach

In a programme with five integrated components, collaboration among implementers is critical to achieving results: The synergy among actors, collaboration and coordination were critical in achieving results. The holistic multi-actor and multi-sector programme approach has been well received by all involved actors and the beneficiaries and has proven to be successful in achieving the anticipated results. Relevant stakeholders consider the collaboration on the level of the Steering Committee to be strategic and cooperative. The outcome harvest appreciates the adequate communication between village and district level about MB through the MB project committees.

The evaluation confirms that government focal points were positively engaged in performing their role to do development planning and oversight. They have become pro-active in raising awareness in the communities on participation, ownership and mutual accountability and took a problem-solving approach instead of a more traditional control role. Through this they were able to fulfil their missions and support the project in achieving results.

The approach to work in a synergetic way has generated multiple benefits on outcome level, between the three different outcome areas of the ToC.

Synergies between outcome areas 1 and 3: Land use planning (outcome 3) leads to securing income from livestock resources (outcome 1). The VLUP restricts livestock movement, hence enabling regeneration of grass and as an indirect result, livestock is said to be in better health and thus livestock resources are secured. The other way around, veterinary treatment of cattle (outcome 1) helps with protecting the grass lands (outcome area 3), as community members do no longer burn the grass to get rid of the ticks and other diseases. Linkages between the role of VLUP committee and livestock numbers (commercial herd strategy and promotion of livestock trading for managing more sustainable size herds) are not yet very strong.

Synergies between income (outcome 1) and nutrition (outcome 2): Women increased their incomes by engaging in diverse small and micro businesses through the VICOBA. As envisioned, this increase in income is used to buy a diversity of food types to improve their diets, or livestock produce (e.g. eggs) directly contributing to improved diet. Changes in communities' practices around nutrition are furthermore strengthened through the poultry interventions, the availability of water for cultivation and the health centres that provided checks and information on nutrition.

Water management (outcome 3) has strong linkages with all MB interventions, namely income, health, diet and nutrition, livestock and land use planning and the synergies are interlinked. New water sources have been constructed in the dry season grazing area as defined in the land use planning in order to link seasonable availability of pasture with availability of water and land use planning.

Lessons learned on the evaluation approach

Replicating baseline HHS and Endline HHS can be limited to certain external and methodological factors: The HHS at endline was supposed to replicate the exact HHS done at baseline. However, key challenges hindered the exact replication. For example, replication of simple random sampling was not possible and thus, systematic random sampling was adopted. In addition, differences in formulation and administration of questions was another factor. Some questions at baseline were formulated and administered in a process that did not give the values anticipated in informing the indicators. Thus, the endline HHS had to revise some questions to inform the revised indicators. This means that one-on-one comparison was not possible in some cases. Seasonality and weather affected results and thus, comparing these results with the baseline gives very contradictory or outlying results. The baseline was undertaken in December 2015 whereas the endline was undertaken in October 2019. It would have been more accurate to undertake the endline at exactly the same period the baseline was undertaken to limit the external factors' influence on responses and results.

Collection of reliable data on some indicators is a challenge among Maasai community due to cultural and contextual factors: When collecting household data in a community setting (especially Maasai) key considerations are to be made to ensure reliable data is collected. For example, in undertaking anthropometric measurements on women, their attires and beads affected the accurateness of the measurements yet it would be unethical (and impossible) to have them remove them. In addition, Maasai are against counting of livestock and thus, getting accurate livestock can be a challenge as the numbers can be prone to overestimation or underestimation. Household power dynamics are the key issue where the wife cannot discuss some issues without consent from the husband which may also provide biasness to responses as the wife had to say what is correct according to the husband.

6 Recommendations and strategic questions

Based on the findings of the household survey and the outcome harvest, while incorporating the insights of the learning events, the evaluators of Outcome Assessment formulated the following recommendations and strategic questions clustered according to the five MB components.

6.1 Livestock component

Recommendations

Future interventions targeting livestock improvement and management of natural resources in the pastoralist setting should consider the following recommendations:

- 6.1.1 In order to be successful and have impact, VLUPs and CCROs need to build on traditional land use practices and leadership and they need to consider herd size versus rangeland management. Setting up VLUPs benefit from a participatory approach, therefore it is recommended to establish PVLUP.
- 6.1.2 Implementing and maintaining VLUPs, CCROs and grazing plans is demanding for the respective involved institutions and needs continuous monitoring. Village bodies working around livestock improvement need intensive coaching.
- 6.1.3 To enhance the pastoralists livelihoods, it is crucial to keep a focus on improving livestock breeds by further introducing bulls of appropriate breeds.
- 6.1.4 Implementing partners recommend to intentionally focus on the synergy between VLUP committees and livestock numbers (commercial herd strategy) and on the link between livestock numbers and ecology/available resources, rather than only on the link with business.
- 6.1.5 To successfully and sustainably develop the livestock value chain, all relevant actors within the chain need to be involved, including government authorities, private sector (traders, MBOs) and livestock producers.
- 6.1.6 Small livestock notably poultry is still relatively new and needs to be further promoted using both a group approach and individual support.
- 6.1.7 To empower women, it is recommendable to combine small livestock (poultry), small businesses and gardening.

Strategic questions

Further exploration is required to find approaches towards management systems that consider livestock on the one hand and natural resources on the other hand. This includes livestock numbers, productivity and movement, pastoralist habits, management of land and water resources, improvement of rangeland productivity, adaption of communities towards the effects of climate change, controlling invasive species, scaling up PVLUP to full landscape planning.

6.2 Water component

Recommendations

Learning from the findings related to the water component, future interventions in the pastoralist setting should consider the following recommendations:

- 6.2.1 An integrated approach between water resource management, land use, including management of grazing areas and livestock movement is crucial.
- 6.2.2 It is further recommended to promote landscape resource e-mapping, which should include outlining how natural resources can be shared between different villages.
- 6.2.3 To achieve greater sustainability and improved accountability, NGOs and different government authorities best collaborate to jointly implement water interventions.
- 6.2.4 Water interventions should integrate and utilise community management and backstopping mechanism such as RUWASA or private operators.
- 6.2.5 To capitalise on the approach used in establishing, registering and training the COWSOs, it should be documented and shared with relevant actors.
- 6.2.6 Requirements for regular monitoring and coaching of the water management entities should be tallied with the specific needs of the community.
- 6.2.7 While and because livestock are the priority use of water resources, interventions targeting water benefit to consider the different uses of water resources from the start of a project implementation. They should also include water for domestic use and include sanitation.

Strategic questions

While in the pastoralist context, priority of water use lies with livestock, interventions should include water treatment and other purposes namely domestic use, horticulture, hygiene and sanitation. It needs to be explored with the community how to balance the uses and priorities.

6.3 Business development component

Recommendations

Related to the business development component, future interventions should consider the following recommendations:

- 6.3.1 As VICOBAAs have proven successful, introducing and supporting VICOBAAs is a recommended approach and a good starting point for business development in communities, including in rural and pastoralist settings.
- 6.3.2 Business development interventions should combine microfinance and business development. They require a tailor-made methodology and tools suitable for the specific context and beneficiaries.
- 6.3.3 Interventions working towards business development need to link and work with the private sector, including traders as they know the markets.
- 6.3.4 Linking with and adding to 6.1.5.: to achieve better results for livestock production, a combined livestock intervention strategy is required that includes providing market information, veterinary services, market linkages as well as awareness raising on commercial herds and livestock numbers.
- 6.3.5 To specifically target disadvantaged groups, it is recommended to establish and/or support pro-poor groups that have income generating activities.

- 6.3.6 To ensure sustainability of BDS, LGAs should take over business development support.
- 6.3.7 Production should be anchored on demand: in implementing production related interventions, the production should be based on the demand for the produce. Linked to MB, this specifically applies to livestock and horticultural production. This is because demand inspires production as the ready market motivates more production.

Strategic questions

- The business environment is dynamic and often unstable or unpredictable, which can be linked with new regulations. Compliance with cross border regulation can be challenging for business development as well as governmental bureaucracy.
- Business development interventions have the predicament between implementing microfinance initiatives with MBOs or collaborating with other partners.
- It is difficult to monitor the link between BDS training and actual results, such as establishment and success of businesses. Moreover, sustainability of results of business development is influenced by various factors, many external to project interventions.
- How to navigate the dilemma between economy and environment, between development and conservation? Linked with the livestock component, strengthening of livestock sector can have environmental consequences.

6.4 Nutrition component

Recommendations

- 6.4.1 Any development intervention towards pastoralist communities should integrate and mainstream nutrition as the impact of improved nutrition is paramount.
- 6.4.2 Nutrition interventions need to promote healthy diets by combining both traditional foods and non-traditional food varieties.
- 6.4.3 Nutrition intervention need to link with the private sector to achieve sustainability results. This includes strengthening food producers, involving food processors (local mills) and traders.
- 6.4.4 It is recommendable to link nutrition with agricultural and horticultural interventions by supporting households to produce for own consumption or for additional income. Given the climate challenges, capacity development, inputs and infrastructure will be needed.
- 6.4.5 Considering the population increase, the link between food security, better livelihoods and family sizes and the effect of population on climate change ^[1]_[SEP]resilience, it is recommended to incorporate a family planning component appropriate to and considering the local ^[1]_[SEP]context.
- 6.4.6 Nutrition is a good impact indicator and should be part of any intervention monitoring.

Strategic questions

- More avenues need to explore the sustainability and scaling up of nutrition interventions.
- How can school feeding and adolescent nutrition be developed or supported?
- How can interventions that target nutrition, hygiene and health also target challenges around reproductive health (HIV, STDs, FGM, family planning) and other health issues (e.g. diarrhoea)?

6.5 Coordination component

This paragraph reflects recommendations and strategic questions related to coordination of multi-actor, multi-sector interventions as well as recommendations relevant to all components.

Recommendations

- 6.5.1 The holistic multi-actor and multi-sector programme approach is strongly recommended, with intentional synergy between components, actors and activities.
- 6.5.2 The holistic approach needs to build upon prior achievements and expertise of implementing partners. It needs to be complimented with cooperation and involvement from the government with the aim for LGAs to take over programme initiatives for sustainability.
- 6.5.3 On village level, it is crucial to understand power, social and political dynamics and subsequently to share the findings with all stakeholders involved in a project or intervention.
- 6.5.4 Involvement of women and youth is central to project/programme success.
- 6.5.5 Methodologies and tools need to be tailored to the beneficiaries, but demonstrations should be integrated in the interventions to impart knowledge and achieve behaviour change.

Strategic questions

A cross-cutting recommendation is the support from LGAs during and beyond the timeline of development initiatives. The challenge is to which extent districts are able to enhance their extension services and keep up the support towards maintaining the initiatives in the reality of the available resources?

IV Annexes

Annex 1 References and Documentation

References

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- Dictionary_under five
- Dictionary_women
- Final BTC_ Social economic Dictionary
- Final Underfive Dictionary
- Final women dictionary
- Maisha Bora HHS Report
- Merged data_SE&Women-em 16 Jan 2016

Annual reports

- Y1 Maisha Bora Annual Narrative Progress Report FINAL
- Y2 Maisha Bora Annual Narrative Progress Report Final Id
- Y2 Part2 Detailed component report SMALL
- Y3 Maisha Bora Annual Narrative Progress Report 2018 Final_annexes
- Y3 Maisha Bora Annual Narrative Progress Report 2018 Final_wo annexes
- Y3 Part2 Detailed component report
- Y4 Maisha Bora Annual Narrative Progress Report 2019 Final_annexes
- Y4 Maisha Bora Annual Narrative Progress Report 2018 Final_wo annex

Minutes of Annual Steering Committee

- Maisha Bora_minutes 1st steering committee
- Maisha Bora_minutes 2nd steering committee
- Maisha Bora_minutes 3rd steering committee
- Maisha Bora_minutes 4th steering committee
- Maisha Bora_minutes 5th steering committee

Field Visit Reports from Focal Persons

- 160423 Village Committee
- 160623 Operational Committee n02 Simanjiro minutes
- 160815 back to office Arnold
- 160826 back to office report FP Manyara
- 160901 Debriefing supervision missions
- 160905 FPLong
- 160923 Operational committee n02 Longido_minutes
- 160926 Operational committee n03 Simanjiro_minutes
- 161212 back to office Longido
- 170112 back to office report Simanjiro
- 170401 field visit MALF details
- 170401 field visit MALF synthesis
- 170502 back to office report Longido
- 171019 Focal Persons meeting Minutes (Maisha Bora) at Arusha
- 180704 field visit FP Longido Simanjiro
- 180704 field visit FP Longido Simanjiro_attachment
- 180802 meeting FP
- 180813 field visit FP Longido Simanjiro
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 - M&E_global_tender
- Additional documents
 - 020_Maisha Bora programme BFFS_TFD
 - 021_Maisha Bora VSF_TFD
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 - 170328 Budgeted action plan for BFFS
 - 170328 Updated monitoring matrix
- New documents after kickoff
 - Baseline HHS
 - BFFS_Context study
 - BFFS_Strategy_papter_EN
 - contact list MB
 - IDP_Annual Report_Maisha Bora_2018_v190328
 - IDP_MB TOC Workshop
 - Time distance
- Videos

Annex 2 HHS Data Collection Tools

A separate document attached to this outcome assessment report contains the 3 questionnaires of the household survey.

Annex 2.1 Socio-Economic Survey Questionnaire

Annex 2.2 Women Survey Questionnaire

Annex 2.3 Under 5 Survey Questionnaire

Annex 3 Lessons learned and strategic questions identified by the participants during the learning events

Livestock component

- VLUPs and CCROs need to build on traditional land use practices and leadership and need to consider herd size versus rangeland management.
- Monitor and coach village institutions with implementing VLUPs and CCROs.
- Improve livestock breeds by further introducing bulls of appropriate breeds.
- Focus on the synergy between VLUP committees and livestock numbers (commercial herd strategy) and on the link between livestock numbers and ecology/available resources.
- All relevant actors within the livestock value chain need to be involved in its development.
- Further promote small livestock notably poultry.
- To empower women, combine small livestock (poultry), small businesses and gardening.

Further exploration is required to find approaches towards management systems that combine livestock development and natural resource management.

Water component

- Integrate water resource management, land use and livestock movement.
- Promote landscape resource e-mapping, including sharing of natural resources between villages.
- NGOs and different government authorities to jointly implement water interventions.
- Integrate community management and backstopping mechanism such as RUWASA and private operators.
- Document and share the approach used in establishing, registering and training the COWSOs.
- Monitor and coach water management entities tallied to the specific needs of the community.
- Consider the different uses of water resources from the start of a project implementation, including water for domestic use and include sanitation.

It needs to be explored with the community how to balance the uses and priorities of water for different purposes including and beyond livestock.

Business development component

- Introduce and support VICOBAs as a starting point for business development in communities.
- Combine microfinance and business development.
- Link and work with the private sector, including traders.
- Combine livestock intervention strategies namely provide market information, veterinary services, market linkages as well as awareness on **commercial** herds and livestock numbers.
- Establish and/or support pro-poor groups that have income generating activities.

- LGAs should take over business development support.
- Anchor production with demand.

The business environment is dynamic and often unstable or unpredictable. Compliance with regulation and governmental bureaucracy can be challenging for business development.

It is difficult to monitor the link between BDS and actual results. Sustainability of results of business development is influenced by various factors, many external to project interventions. How to navigate the dilemma between economy and environment, between development and conservation?

Nutrition component

- Integrate nutrition in any development intervention towards pastoralist communities.
- Promote healthy diets by combining traditional and non-traditional foods.
- Link with the private sector including food producers, food processors and traders.
- Link nutrition with agricultural and horticultural interventions by supporting households to produce for own consumption or for additional income.
- Incorporate a family planning component appropriate to and considering the local context to respond to the link between food security, better livelihoods and family sizes and the effect of population on climate change resilience.
- Nutrition is a good impact indicator and should be part of any intervention monitoring.

More avenues need to explore the sustainability and scaling up of nutrition interventions, possibly including feeding and adolescent nutrition. Consider how nutrition, health and hygiene interventions can target challenges around reproductive health and other health issues.

Coordination component

- The holistic multi-actor and multi-sector programme approach is strongly recommended, with intentional synergy between components, actors and activities.
- Build upon prior achievements and expertise of implementing partners. Compliment with government involvement for sustainability.
- Understand power, social and political dynamics on village level and share the findings with all stakeholders involved.
- Involve women and youth.
- Tailor methodologies and tools to the beneficiaries. Use demonstrations to impart knowledge and achieve behaviour change.

A cross-cutting recommendation is the support from LGAs during and beyond the timeline of development initiatives.

Annex 4 HH Food Consumption Tables

Food consumption frequency in last 7 days

Food Item	No days of	Longido N	%	Simanjiro N	%	Total N	%
Cereals and grains	1	91	15.9%	3	1.8%	94	12.7%
	2	70	12.2%	10	6.0%	80	10.8%
	3	56	9.8%	16	9.6%	72	9.7%
	>4	357	62.2%	137	82.5%	494	66.8%
Roots and Tubers	1	170	45.0%	36	20.7%	206	37.3%
	2	109	28.8%	69	39.7%	178	32.2%
	3	55	14.6%	43	24.7%	98	17.8%
	>4	44	11.6%	26	14.9%	70	12.7%
Legumes and nuts	1	150	28.5%	25	9.5%	175	22.2%
	2	150	28.5%	68	25.9%	218	27.6%
	3	85	16.1%	93	35.4%	178	22.5%
	>4	142	26.9%	77	29.3%	219	27.7%
Locally produced Vegetables	1	168	41.4%	23	10.7%	191	30.8%
	2	104	25.6%	81	37.9%	185	29.8%
	3	55	13.5%	73	34.1%	128	20.6%
	>4	79	19.5%	37	17.3%	116	18.7%
Orange Vegetables & Fruits	1	129	44.5%	27	25.7%	156	39.5%
	2	58	20.0%	41	39.0%	99	25.1%
	3	42	14.5%	17	16.2%	59	14.9%
	>4	61	21.0%	20	19.0%	81	20.5%
Other fruits and vegetables	1	107	22.0%	29	14.0%	136	19.6%
	2	49	10.1%	56	27.1%	105	15.1%
	3	40	8.2%	38	18.4%	78	11.2%
	>4	291	59.8%	84	40.6%	375	54.0%
Meat	1	191	51.5%	42	20.9%	233	40.7%
	2	113	30.5%	43	21.4%	156	27.3%
	3	32	8.6%	25	12.4%	57	10.0%
	>4	35	9.4%	91	45.3%	126	22.0%
Fish/shell fish	1	7	53.8%	5	45.5%	12	50.0%
	2	4	30.8%	4	36.4%	8	33.3%
	3	1	7.7%	1	9.1%	2	8.3%
	>4	1	7.7%	1	9.1%	2	8.3%
Milk and Dairy products	1	64	19.9%	2	.7%	66	10.7%
	2	34	10.6%	4	1.4%	38	6.2%
	3	23	7.1%	9	3.1%	32	5.2%
	>4	201	62.4%	279	94.9%	480	77.9%
Oil, Fat and butter	1	101	20.8%	35	13.9%	136	18.5%
	2	16	3.3%	49	19.5%	65	8.8%

Food Item	No days	of	Longido N	%	Simanjiro N	%	Total N	%
	3		19	3.9%	31	12.4%	50	6.8%
	>4		349	72.0%	136	54.2%	485	65.9%



Annex 6 Initial Draft Outcome Statements per result area

The thirty-two statements that were drafted are specified below:

Outcome 1: people have sufficient and diverse sources of income

- People engage in different viable business types providing income/employment
 1. **Leather groups:** started production such as sandals. Leather processing units are established and functional (reported in progress reports Y2+3)
 2. **Beading:** Sidai buys the products of women who make beads (reported in progress report Y2)
 3. **IGA:** Women own restaurants, maandazi and other retail business, make turnover on market days. Some women changed approach/business strategy; from selling snuff-tobacco to selling sugar and tea, with a higher profit. Families are less dependent on livestock. As a result, they can keep livestock, take children to school, build house, pay hospital bills. Buy food for family. Are more flexible in monetary terms (reported in progress report Y4, MTR).
 4. **Chicken Groups:** group members are able to sell eggs and get money for domestic and personal use. Mostly the peri-urban groups are profitable and pass on the chicken to their members. Live chicken sales are still limited as priority was distribution to individuals. Some few people however reported they can also sell their chicken and are able to buy a goat in exchange. (reported in progress reports Y2, FP18 and MTR).
 5. **Honey** is sold by bee-keeping groups for example at the Namanga youth Business Centre (y2) but mostly drought affected the poor colonisation and the harvest was low.
 6. **Services:** after being exposed to vocational training young people have started working successfully with money banking, others are selling mobile phone vouchers, providing the service of charging cell phones, or running a milling machine. These diversified businesses also provide services to the wider population, that improve the general quality of life, even if it does not affect their food security. (FP18, MTR)
- People have the skills and vision to upscale and understand the market for diversified businesses
 7. **VICOBA** groups benefit from profit, interest paid by borrowers, higher value of shares and at end of a loan cycle the group shares out. Savings are being put to work. Average savings amount per group and loan cycle increased. Outstanding loans size also increased (progress report Y2+3) Group members contribute to the social fund, functions as an insurance mechanism (progress report Y3)
 8. **Access to loans:** Groups take loans from PWC Englishon fund limited. For example, the livestock groups in Longido (progress report Y2)

9. **Membership of MBOs/SACCOs:** increased, and as a result they provide bigger loans to their members and potential entrepreneurs. Members increased savings. Which indicates a good sense of trust in the leadership of the SACCOs. Economic situation of MBOs has advanced, confirmed by the improvements in increased total assets and institutional capital assets. Gross loan portfolio grew. Portfolio at risk reduced. (progress reports Y2+3).
 10. **Clients visit the BIC:** to access business services, and certificates of origin have been issued. People registered their businesses. Issuing of COOs simplified doing cross-border business for traders (progress reports Y2+3).
 11. **Mobile money services:** M-Pesa service of TCCIA Longido transacted more, enabling people to do business more easily (progress reports Y3)
- People sell their livestock at favourable prices (sufficient quantity / quality)
12. **Community Animal Health Workers:** have submitted a loan application, and received this way they could stock medicine equipment and have money for transport to go to clients. CAHW have proved themselves sustainable through running shops and veterinary drug services. They are recommended by the community or they are able to promote themselves (progress report Y2, MTR17, FP18)
 13. **Commercial herd approach:** traders and livestock groups were exposed to knowledge about market and record keeping, profit calculations, intensive livestock keeping, market linkages and climate change. The result is that they started to keep proper records of their sales. Traders, livestock groups and also some middle men: groups committed to adopt the livestock commercial herd approach. Some of them have made changes to keeping commercial herds, they have seen their income increase, by selling their livestock in time and saved or invested the proceeds in other businesses not or less vulnerable to the dry season. Some invested in VICOBA shared and maize business. Others waited for another season to buy bulls and started fattening. These groups Livestock groups were linked to traders and sold their livestock at a good price (progress report Y3) Reduced livestock mortality (progress report Y2+3)
 14. **Livestock improvement breeds:** Breeding bulls are doing well and have started to mount. Goats have given birth (PF18).
- LGAs create an enabling environment (taxes, regulations, market)
15. **Advocacy:** TCCIA successfully negotiated with district authorities the lifting of the maize export ban. TCCIA provided advocacy channels across the business sector, including the livestock value chain (MTR, progress report Y3)

Outcome 2: households consume and adequate and diverse diet and safe drinking water

- HHs are willing and able to buy food
16. **Business:** community members invest the profit from business into providing for basic needs and keeping food stock at home. (y4)
 17. **Diversified diet:** Communities have learned to and are willing to eat chicken and eggs. They are eating vegetables. They understand the importance of eating different types of

food. They remember how to cook vegetables; they report to have changed their cooking practices. (MALF 17, FP18, MTR)

- **Communities produce adequate food**

18. **School gardens:** School gardens seems to be delivering some vegetables for school feeding. Doing crop rotation inside the greenhouses, tomatoes and green leafy vegetables. Students get to eat vegetables at school. Surplus vegetables and fruits have been used as source of income generating activity and promote the consumption of a diversified diet (progress reports Y3+4, MTR).

19. **Community gardens:** Community members are producing vegetables for sales to other families. They started their own vegetables gardens, though still limited production, only producing during rainy season. (MALF 17, progress report Y3)

- **Communities adopt healthy behaviour**

20. **Nutrition:** Positive attitude change in food and nutrition has been observed, through involving males to nutrition activities (y3)

21. **Hygiene:** water is closer and better available so women and men and children are bathing now. As a result, people are looking more smart and neat. They feel stronger and more fit body (progress report Y3).

22. **Handwashing** facilities are being used at primary schools (FP18).

23. **Health centres** have water tanks to get water easier. People visit the clinics.

24. **School clubs** are playing an important role in imparting relevant skills, debating and encouraging good behaviour.

- **Communities (have sustainable) access (to sufficient) safe drinking water (merged with outcome 3 water access)**

25. **Water:** Wells/boreholes and dams have been rehabilitated and volume of water has increased, safe to drink, no salt. This is useful during drought. Community is using the water and they are happy. Water is available and connected to the greenhouse for vegetable production. Livestock has access to water (FP18).

Outcome 3: Communities manage the land and natural resources sustainably and harmoniously

- **Water management entities are implementing water management plans and enforcing rules**

26. **COWSO:** Communities are more conscious regarding their roles in the management and maintenance of water resources. Sense of ownership. COWSO is formally established in officially recognised to manage the infrastructure. The government is making COWSO approach mandatory.

27. **Payment:** People have started to understand the importance of paying for access to water. COWSO are collecting fees for O&M of water systems. COWSO are depositing the

money collected in bank account so they can track income and expenditure, for transparency. Community has also the power to mobilise financial contribution (reported in MTR, progress report Y2, IDP 18).

- Communities benefit from natural resources

28. **Land use planning** process has been appreciated, the areas are demarcated. Conflicts between Matale B and Wosiwosi were settled. Establishment of pasture plots is working well. (MTR, FP18)

29. **Pasture:** seeds have been harvested and preserved for the next season (FP18).

- Communities adapt to climate effect / Communities own optimum size of herds / livestock

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Coordination

30. **District focal persons** are capacitated and their support is appreciated by all partners, they are able to fulfil their missions with a clear result oriented and problem solving-approach (instead of a more traditional control role).

31. **Synergies:** MB partners work effectively with other organisations in the same target communities and coordinate with LGAs.

32. **Capacity:** National MB partners have improved capacities in implementation approaches as well as skills in leadership, resource mobilisation, project management, communication, financial systems.

Annex 7 Final Outcome Statements

Outcome statement: Balanced Diet

Who changed (social actors):

Community members, PLW and children (under five)

What changed (outcomes):

Change in diet

- Knowledge on the importance of consuming dietary diversity has increased and as a result, community members, PLW and their children are eating a more diversified diet; instead of only maize porridge, milk and (cow/goat) meat, it now includes eggs & chicken, fish (dagaa), beans, sweet potatoes, cabbage, carrots, tomatoes, green leafy vegetables and fruits. People mix foods and per week they can eat up to 5 different types. The times of eating has increased, from once to up to 3 times per day.
- Communities are preparing, sorting and cooking vegetables properly, different recipes. They have added to their abilities cooking ugali, pilau, chapati and rice. Communities have improved the preparation of the staple complementary food (changing from eating a thin watery type of porridge to a thicker and enriched porridge) The porridge is made with milk, oil, eggs, peanut butter. [L] [SEP]
- Food safety practices; people and especially children in school, are taking safe water by boiling it first and take care when preparing and storing food. People also wash their hands before milking the cows.

Synergies/linkages [L] [SEP]

- Poultry: Some community members have been given chicken and are benefiting from the eggs and meat. [L] [SEP]
- VICOBA: the groups are empowering women to earn an income and spend it on food. [L] [SEP]
- Health: PLW and their families visit clinics for overall nutrition checks, getting advice to [L] [SEP] improve nutrition, for example if blood pressure is low. [L] [SEP]

Substantiation field visit; additional outcome statements [L] [SEP]

Improved practices in maternal and infant feeding [L] [SEP]

- Communities have abandoned the practice that women get little food during pregnancy. Pregnant women used to not eat at all, or were force-vomiting, because they believed eating much would make it difficult to deliver the baby. Now they understand that it is important to eat well during pregnancy. Even men have understood it is important that their wives eat well when pregnant. As a result, they are healthier during pregnancy and start the delivery with more strength. [L] [SEP]
- Women are now exclusively breast feeding their new-born babies for at least 6 months, up to 2 years, instead of giving the new-born butter cream from cow milk. They only start complementary feeding practices from 6 months. [L] [SEP]
- Pregnant women more often deliver in hospital/clinic and men take their wives for pre-natal check-ups. [L] [SEP]

Decision making and ability to buy food [L] [SEP]

- Communities are financially empowered to buy different varieties of food. Women are more

often able to make the decision on planning and buying food. Men still mostly provide the money to buy, but women have joined VICOBA groups and also started businesses like shops and as such they can use their money to buy food.

- Male involvement in nutrition has improved as men have changed their behaviour; they advise the women on buying different food types. Men also do not wait for livestock to die before they eat meat, they can now buy at the butchery.

Substantiation HHS

- There is an increase in the proportion of children who were ever breastfed and the average number of months being breastfed has increased, however not fully exclusively.
- One of the reasons for stopping breastfeeding at baseline was because of not producing enough milk, this was no longer a reason at endline. ^[L]_[SEP]
- The newly introduced types of food indicate an improved dietary diversity, through mainly potatoes and eggs ^[L]_[SEP]
- The proportion of mean monthly income spent on food has increased considerably (50%)

Where: ^[L]_[SEP]

Villages in Simanjoro seem to be slightly more progressive in the uptake of the nutrition practices (72-75% of the scores) as compared to the villages in Longido (56-64%). ^[L]_[SEP]

Evidence:

Testimonies from community members, MB film, data on quantities through surveys (baseline, MTR and hopefully end line HHS) ^[L]_[SEP]

Significance:

^[L]_[SEP] The changes are significant because Maasai communities accept to eat different types of food than what they were used to is a huge step. It is not easy to achieve this behaviour and attitude change. For example, children did not want to eat greens as they argued it is food for goats. So, the fact that there has been a change in people attitude and behaviour towards nutritious food is significant. Diversifying diet has furthermore long term benefits for individual health. ^[L]_[SEP]

Outcome Statement: Business Advocacy

Who changed (social actors):

MBOs and District (LGA)

What changed (outcome):

Local Government Authorities and MBOs are actively engaging with each other and this has improved trust between them. MBOs such as TCCIA Arusha and Manyara have learned how to go about a thorough lobby & advocacy process, from member consultation (gathering facts and figures), expert research (validation) and involvement of the government in all stages. The MBOs are now recognised by the government as important stakeholders in the business sectors, such as the livestock, dairy and meat industries. As a result, the MBOs have been able to realise lobby successes for the benefit of the private sector. The strategy and action points are creating an information flow from district to regional, and even national level.

Some of the successes are that:

- Simanjiro district was able to secure an increased budget allocation from the national level to ^[1]_{SEP} implement projects. Since the business development strategy had already identified priority topics, this informed how the projects were chosen. For example, a project on meat is put as a priority. (Terrat Meat processing facility in Simanjiro). ^[1]_{SEP}
- TCCIA successfully negotiated the lifting of the maize export ban with district authorities and successfully lobbied to increase the import duty on milk to protect the Tanzanian dairy industry.

Evidence:

Testimonies from MBOs and districts. ^[1]_{SEP}

Significant: ^[1]_{SEP}

Jointly solving business challenges, so that things can move, private sector and government. ^[1]_{SEP} One of the main challenges in Tanzania is the “not-optimal” business environment which is holding back local businesses and deterring foreign investment and therefore has a huge impact on the poverty levels in the country. Improving the business environment is a slow process with not always immediate tangible effects but with potential huge effects. E.g. the increase of import taxes on milk to support Tanzanian dairy businesses. The effect is that now almost no foreign milk is available in the country and local businesses are getting bigger market shares (although prices have increased, so less beneficial for urban residents). ^[1]_{SEP}

Outcome Statement: Focal Points

Who changed (social actor)

Focal Persons in the Districts, Region and Ministry of Livestock and Fisheries

What changed (outcome)

The government focal points in the Maisha Bora programme are positively engaged in performing their role to do development planning and oversight. Coming from the Districts, Region and Ministry of Livestock and Fisheries, they have a positive attitude in supervision and monitoring. They are acting as catalysts and brokers between the MB partners and the communities as well as between the DO and RO. They also have become more pro-active in raising awareness in the communities on participation, ownership and mutual accountability. They are applying skills in communication; they take responsibility to steer meetings and facilitate the discussion by encouraging participants to speak. Whenever there are challenges or problems in the villages they take a problem-solving approach instead of a more traditional control role. Through this they are able to fulfil their missions and support the project in achieving results.

The focal points express that they appreciate the approach, how they are informed and involved, and they wish other projects would replicate the collaboration approach from the MB project. Programme implementers rated their satisfaction with the FP on a yearly basis. The satisfaction levels went up (from neutral to satisfied). Hence, the support of the FP is appreciated by all partners. The FP ensure there no longer is duplication between projects and they help with coordination. This result has to be nuanced by the fact that several VEOs found that MBs approach in working with Focal Points/through the government representatives was not unique. They said that other NGOs implement through the same approach. (Matale A, Orkejuloongishu).

Examples of FP actions:

- They managed to convince the villages to provide financial contribution for construction of water facilities
- 2 years ago, one village in Longido refused to receive the bulls, FP negotiated and solved issue through a letter to the DED [L] [SEP]
- FP instilled ownership of water issues, especially in a case of broken water pipes in Keitumbene.
- FP found a solution to water shortage by shifting a greenhouse to a better location [L] [SEP]
- In Simanjiro FP solved an issue with sand for construction, and the contractor was replaced
- When the first round of bulls proved to be facing problems, the FP found a solution for the [L] [SEP] Second round [L] [SEP]
- FPs assisted in returning the solar incubators which were not being used by the groups / [L] [SEP] individuals that had received them.

Evidence [L] [SEP]

- Annual plans of the programme following template of the district, mission reports, field visit reports from PF [L] [SEP]
- Mails and letters regarding the situation with the bulls in Longido.
- Online questionnaire with members of the MB steering committee

Outcome Statement: Food production & availability

Who changed (social actor)

Communities

What changed (outcome)

Communities are now growing vegetables in kitchen and community gardens. People have knowledge on how to cultivate, mainly only during rainy season. After harvest, they sell and eat vegetables. As a result, there is increase availability of vegetables in the market. It often comes from Arusha or other areas, however not so much is actually produced locally.

Synergies

- WATER: has a clear link to cultivation, in those areas where water was provided there were better results in the ability of the community to cultivate.

Substantiation field visit

- How successful the home gardens were, was disputed (different stories from beneficiaries in different FGD within the same village). [SEP]
- Most of the boma's who are not successful do not have sufficient access to water to grow vegetables throughout the year. [SEP]
- Another challenge is the sustainability of where to get the seeds for next planting season.

Substantiation HHS [SEP]

- Compared to the baseline, there has been an increase in the proportion of households that have a kitchen garden, where they produce their own food/vegetables; increase from 2.83% to 6% of the households.

Evidence

Testimonies from community members, outreach workers, and observation in the villages, HHS data

Significance

Low significance. The fact that some community members have started food production is positive. However, as the change is still small and not widespread among community, it does not yet lead to trickle down effects/ noticeable linkages to changes in access to food or improved nutrition. It is also not clear if the change will be sustainable.

Outcome statement: Health services

Who changed (social actors):

Community members; men and women, PLW, children

What changed (outcome):

Community members are more aware of health and nutrition services available to them through the clinics and they are actively seeking such services at village and district levels. Men are now going to health facilities and have conversations with the nurses regarding health issues. Especially pregnant women have started going to clinics/hospitals for pre-natal checks and also for delivery.

Before the project, the mind-set was that HIV was only a problem of the “waswahili” (everyone outside the Maasai culture). Now the community members check their health status (blood, STD’s, HIV). So, there is a shift in what they ask for, and they will go easier for check-ups. They go for eye treatment and deworming.

Evidence:

An increase in mobile clinic attendance, records Testimonies^[1] HHS data^[2]

Significant:

Early detection of cases of malnutrition minimises the adverse effects on the individuals. When people visit health providers, this poses an opportunity to provide comprehensive health services.

Outcome Statement: Land use advocacy

Who changed (social actors):

National land use planning commission (NLUPC) & task force

What changed (outcome):

NLUPC is actively collaborating with other actors working on land use in Tanzania. Through their advocacy work, they managed to secure an increased budget for their work (from 900 million in 2017-18 to 5 billion TZS in 2018-19). They are also working more efficiently and approve legal documents in time. They signed Memorandums of Understanding with partners like UCRT. They also formed a task force with a variety of stakeholders to develop a National strategy to address the challenges facing the land sector in Tanzania, which has been developed and handed over to the responsible Minister of lands for implementation.

The taskforce reviewed the guidelines on land use planning at village level, to simplify the document and procedures. MB partner UCRT was called upon for meetings, for review of the guidelines, and the task force took a substantial part of the input.^[1]^[SEP] The districts have included pasture and land use in the local strategies and reform programmes.

Evidence:

Minutes are available

Significance:

Slightly significant. Because we still need to work more, to see the important outcomes of this intervention on the beneficiaries of this process

Outcome Statement: Livestock keepers – cattle business

Who changed (social actors):

Livestock keepers

What changed (outcome):

Livestock keepers are taking better care of their cattle. Through the breeding scheme they have accessed improved bulls that are currently producing quality offspring. These calves are bigger, grow faster, provide more milk and can be sold for a higher price. The livestock keepers are accessing services from community animal health workers (CAHW) and livestock extension services to take care of their cattle. They are using dip tanks to treat the animals.

Moreover, some have started to demonstrate a gradual change in attitude on selling cattle. Several livestock groups expressed commitment to the commercial herd strategy, and there is anecdotal evidence that they sell more cattle at a time. This did not happen before. They think and talk about the balance between the size of their herd and the grazing land availability; how to manage the herd more sustainably. With the income from the sales, they are buying better feeding for the remainder of their cattle, to secure their health and strength.

Synergies:

- VICOBA: the groups also are able to buy cows [L][SEP]
- Water: availability helps with taking good care of cattle [L][SEP]
- Land use plan: helps with reducing overgrazing and good practices in movement, to ensure [L][SEP] there is enough grass, for healthy cows to sell [L][SEP]
- Business: strengthening CAHWs micro businesses, they are recommended by the community [L][SEP] Or promote themselves (not mentioned much in FGD)

Substantiation field visit: [L][SEP]

- Community is fattening livestock by providing grass / feeding [L][SEP]
- Community is selling livestock before dry season [L][SEP]
- Community now understands the commercial herd strategy [L][SEP]
- Control of ticks is now done through dipping or sprayers [L][SEP]
- Breeding takes time to improve gene pool [L][SEP]
- Lot of challenges with the draught

Substantiation via household survey [L][SEP]

- Average herd size per household has increased, especially the number of cross breed cattle has increased [L][SEP]
- 50% of respondents report to sell their cows [L][SEP]
- Animal health care providers that are sought after most are government extension officers
- livestock mortality rates for cows, goat and chicken per household per year has increased [L][SEP] compared to the baseline values [L][SEP]
- Mortality is caused by the lack of pasture (63%) - especially in Longido -, diseases (29%) – [L][SEP] especially in Simanjiro -, wild animals (28%) and by lack of water (27%).

[L][SEP]

Where:

All villages, especially in Namalulu (not confirmed), Losokonoi (not visited), Matala (confirmed), Mairowa (confirmed) [L][SEP]

Outcome Statement: Livestock traders

Who changed (social actors):

Livestock traders

What changed (outcome):

Livestock traders used loans to fatten cattle or increased their herd, and as such they are more reliable and managed to secure linkages, for example with buyers from Kenya. They are keen on keeping records. They have improved confidence and have better negotiation skills. They have knowledge on selling, understand better on how to defend and sell products, make better calculations. Therefore, they are no longer dependent on middle men. They are open minded to new opportunities and linkages and sell to other value chain partners like meat king. Before they used the informal and illegal ways. Now they are aware of the rules on how to do the business.

Evidence:

Video on sustainable pastoralism, testimonies

Significant:

In the face of climate change, land alienation and population growth, pastoralism cannot continue in its current form without serious consequences on food (in)security and poverty levels. Alternative forms of pastoralism (with lower numbers of livestock, more sales and investment in alternative sources of income) are crucial for the survival of pastoralism.

Outcome Statement: MB approach

Who changed (social actors):

Steering Committee members
Focal points from district and region
Maisha Bora Committees in villages
Other development partners

What changed (outcome):

1. **The steering committee (SC)** of the MB project has changed how stakeholders work together. It brought together government stakeholders from all levels (region, district, national) development partners and the Embassy of the Kingdom of Belgium. Recommendations provided by the SC were followed up on and implemented. The steering discussions took place at a strategic level. The SC was addressing problems together. [SEP]
2. **The Maisha Bora committees** that were created in the villages were seen as very helpful in managing the project interventions. While the MTR found that MB committees were complaining that they are not informed about what different components are doing in the village, as the real first point of contact on most issues was the VEO and sometimes the Village Council chairperson. The endline outcome harvest found that there is good and continuous communication between village and district level about MB through these committees. The government is well aware of what is happening on the ground and go directly to the committee to get updates. [SEP]
3. **MB approach got exposure** among other development partners and villages. These actors want to know more about the MB coordination with the government. The Nature Conservancy (TNC) – and Northern Tanzania Rangeland Initiative (NTRI), funded through USAID, are said to have replicated the steering committee set up and they took example of Maisha Bora to put in place their own coordination forum with Government and other stakeholders. [SEP]
Villages have become known for their progress in certain areas, for example Kitwai B is known beyond the district for its good performance in Land Use Planning. They received visitors from Arusha, Meru and Same to learn about the approach. Also Mairowa was visited by stakeholders interested in LUP.

Primary Evidence:

- IDP has reused at least some of the elements of the design (focal person, close relation with the District) in its new DGD programme. [SEP]
- WFP also reported the interest in the MB approach. [SEP]
- VSF expressed how they appreciated MB partner meetings, the MB village committee, and [SEP]the way of reporting to districts. They also noted that findings synergies had been beneficial, for example between the water and land use components, as well as between the business and livestock components. [SEP]
- TRIAS said communication and mutual respect between SC/MB members improved. They appreciated that they could focus on business component, while other partners focused on other components. [SEP]
- KII with VEO in 7 out of the 8 villages visited for substantiation.
- Online questionnaire with members of the MB Steering Committee

Secondary evidence: ^L_{SEP}

- Documented Steering committee meetings, feedback from members of the SC. ^L_{SEP}
- MTR report ^L_{SEP}
- Report of the evaluation of the BFFS ^L_{SEP}
- Online surveys with programme implementers – three years ^L_{SEP}
- Report from TNC-NTRI: the assistant RAS from Arusha was quoted appreciating the Maisha Bora approach during a field visit and a stakeholder's forum in Longido and Arusha, paid by USAID.

Outcome Statement: MBO institutional capacity & improved business environment

Who changed (social actors):

Member Based Organisations (MBOs) like TCCIA, PWC, MWEDO, MVIWATA, and LCDO, and their members, general public (business owners)

What changed (outcome):

MBOs have improved technical skills (formation and strengthening of VICOBA, entrepreneurship trainings, environmental training skills / sustainable pastoralism skills, vocational training etc.) and their leadership and financial management of MFIs (PWC), SACCOS (TCCIA, MVIWATA). They have increased their membership base, grown savings from members (from 0 in 2015 to 35 million in 2019 for both Simanjiro and Longido districts), increased number of loan packages (livestock loan, motorcycle loan) and total assets. Some of the MBOs have even attracted new partnerships with development actors to expand their work in the districts (DGD, KOIKA, NORAD, UN Women, IDP, WWI).

As a result of their organisational/ institutional development, the MBOs have managed to improve membership satisfaction. Members of the MBOs have access to better quality services:

- Farming information, farm inputs, [L]
[SEP]
- advice on sales and tax and other financial issues, [L]
[SEP]
- learning: business training, training on microfinance, profit calculations, VICOBA/loans, [L]
[SEP] Specific skills for business such as livestock keeping & health (fattening), beekeeping, [L]
[SEP] beadwork, leather. [L]
[SEP]
- Networking; public relations, exchange visits, seminars, workshops for entrepreneurs, [L]
[SEP]
- Access to markets: for example beadwork

The members appreciate the quality.⁷⁴

MBOs representatives are recognised as experts and professionals in their field. There is a pool of trainers, affiliated with the MBOs, who solicit their training services to communities with regard to VICOBA and business development. They are empowered and have confidence in their field.

A specific example is the Business Information Centre of TCCIA in Longido. More clients are accessing business services (such as info on business registration, taxation information, cross-border trade regulations, record keeping, business planning etc.) and register their business. Sales of Certificates of Origin increased and this simplifies the cross-border business for traders. It is an active and sustainable business hub that has improved the business environment. [L]
[SEP]

An improved business environment is also visible through improved trust and cooperation between private sector and government. For example, livestock traders come to the district/government offices to find out about regulations with regard to cross-border trade. [L]
[SEP]

⁷⁴ 191112 MSS final report – TRIAS report on the members' satisfaction survey of 8 MBOs in Arusha, Manyara and Zanzibar (MVIWATA, TCCIA, PWC, MWEDO, LCDO) [L]
[SEP]

Another improvement of the business environment is the accessibility the MBOs provide to the members and general population to use newly available financial services such as Airtel money, Tigo pesa. As a result, people do no longer need to travel far to deposit or withdraw money. This benefits the businesses they operate.

Evidence:

Existing packages and loans statistics, membership fee and numbers, visit the business information centre, Spider capacity tool for MBOs, Membership satisfaction survey, Audit reports. New donor contracts, training manuals.

Significant:

Sustainability of the MBOs is significant, they also provide reliable and affordable loans and services to their members and even the general public, they improve saving behaviour of their members.

The significance lies mainly in the sustainability of the programme. Maisha Bora may end, but the MBOs will stay and will continue to deliver services to their members, also in other geographical areas. The new skills have helped to attract new funding from other donors.

Outcome Statement: Livestock – poultry and goats

Who changed (social actors):

Women groups

What changed (outcome):

The members of women groups are improving their livelihood through the management of poultry and goat breeding. The women have considerably increased chicken and egg production. The women are preventing diseases. Goat offspring is also being born and distributed among group members. The women sell eggs to get income. It does not bring in a lot of money, but it is a steady source of income nonetheless. The chicken and eggs are also consumed, which provides a protein rich diet for children and their families. There is increased demand for chicken eggs and meat in the community.

Where:

More successful in the bigger towns, Mairowa, Orkejuloongishu and Namalulu. In the remote areas, the groups are less effective as the community's mobility is higher, making it difficult to manage poultry.

Evidence:

Records available through Heifer, districts and extension officers. Testimonies through interviews with groups, FFS facilitators

Significant

This is significant because poultry keeping is normally not practiced among the Maasai community. Chicken were previously also not used in the households as a food item.

Outcome statement: School food production and use of vegetables to feed children

Who changed (social actors):

Students and club teachers

What changed (outcome):

Students and club teachers grow vegetables in school vegetable gardens and green houses. A variety of vegetables are being grown. The vegetables are either used as food for students (eating 2x a week) or for the school to sell them, from which the profit helps in buying other food for the school children such as meat. Now students and teachers are aware that it is possible to diversify school meals by just dedicating a fraction of their time to school gardens and clubs. In some schools, they have also realised that surplus vegetables can be used as income generating activities. This attitude was not there before MB programme.

Substantiation field visit

- The horticulture interventions have limited impact at this moment. There is doubt about the sustainability of the greenhouses at school level. But there is exposure and growing interest.
[L]
[SEP]
- Main challenge is water access and broken tools and irrigation systems, not being fixed by the schools.

[L] [SEP]Evidence: [L] [SEP]

Testimonies from children, teachers, outreach workers, and influential leaders, school competition messages, reports.

[L] [SEP]Significant:

[L]
[SEP]Significant, as the increased access to and availability of nutritious food is essential for children to develop and grow. This is important for sustainability and generation growing up with good nutrition practices. School drop-out is said to have gone down because of food provision in school and enrolment has increased. [L]
[SEP]

Outcome Statement: Synergies and collaboration

Who changed (social actor)

MB partners

What changed (outcome)

The way MB partners worked together effectively with each other in the same target communities and found synergies between components. This was particularly appreciated by the Village Executive Officers (VEO). They specifically mentioned the speed of delivery, the fact that all promised were fulfilled and that MB partners follow up after implementation. The VEO had also noted that MB INGOs had built upon the expertise and experience of the local partners. It was celebrated that each partner had implemented the work they were experienced in, and that meanwhile a lot of different interventions had taken place simultaneously, providing holistic support to the communities. The partners had worked together in good cooperation, having the same vision. One VEO mentioned that “if one NGO had had to do all that work, they would not have succeeded”. They got involved into organising interventions together, and identifying themselves to the community as Maisha Bora, not as independent NGOs.

Examples of synergies between components

- There is synergy between the siting of new water infrastructure and the land use plan. [SEP]
- There is synergy between the introduction of chickens and nutrition outreach about egg consumption [SEP]
- There is synergy between the chicken/goat groups and VICOBAs – this is sensible as the VICOBA can provide the mechanism and discipline for managing the money. [SEP]
- The water component in the initial design was only focused on livestock. This was changed as [SEP] to also include water for people. This meant extending water points to schools and health centres, creating synergy with nutrition and health. Rain water harvesting and tanks were built for schools for farms.

Examples of collaboration between partners

- Chicken incubators (Trias + Heifer/VSF) [SEP]
- Schools health (IDP + WFP/Child reach) [SEP]
- Water maintenance centre (Trias + IDP) [SEP]
- CAHW training (TRIAS + VSF)

Substantiation field visit:

- Initially coordination took place up to district level, but not down to village level. At Mid Term it was found that the local partners had not created synergies, so the INGOs were asked to promote that. This had results as more synergies between component took place after that. [SEP]
- Synergies did not always work out as planned, for example with regard to poultry, partners had fundamental different idea about marketing and the order of interventions. [SEP]
- The claim that Maisha Bora is known as a programme is not confirmed in all the villages, the work of the local partners was quoted a lot (MWEDO, UCRT, PWC, LCDO). It appears that the local partners prefer working under their own organisation’s name instead of under the name of Maisha Bora.

Evidence

- KII with VEO in 7 out of the 8 villages visited for substantiation.

Outcome Statement: Viable Business & Income

Who changed (social actors):

Women

What changed (outcome):

Women are part of VICOBA groups. The groups are well organised; they have by-laws or a constitution and are formally registered. Women are saving and have taken loans and are able to pay back the loan. With these loans, they started or expanded small businesses and are selling products such as food and non-food items. Some others are selling petrol and/or spare parts for bodaboda (motorbike-taxis); buying & selling Maasai fabric, school uniforms or sandals. When they were already in business, it was very small, now with the VICOBA they are able to expand or start an additional business activity. Through these business activities, they are no longer only depending on livestock, they have diversified their income base and make a profit. They are more food secure in times of economic hardship.

Synergies:

- Livestock: groups buy their own chicken and some received from the project. They sell eggs to get a stable income. Other got a goat that reproduced. Conflicting info: keeping chicken is very hard, no knowledge. Passing on the Gift. Women learned that they can benefit from livestock. Some groups bought a cow together. [SEP]
- Nutrition: community has added food items to their diet to diversify, improved porridge, sweet potato and vegetables. Since they do business the women can afford to buy other types of food. Before VICOBA they could not afford. [SEP]
- Food production: some group individuals were also given seeds and were taught how to produce vegetables during rainy season. Now the women are able to buy the seeds themselves. They have small gardens, there is water to grow vegetables. [SEP]
- Some youth related to the women of VICOBA were chosen for vocational training (////) [SEP]
- Water: since water is closer, women have more time to do business. / Or the other way around, since they are having a business and some money, they can hire a motorbike to fetch water from them far away/ [SEP]

Substantiation field visit [SEP]

Profit and loans are used for [SEP]

- Investing in business (new, additional, or expand existing) [SEP]
- Paying school fees and supplies (without having to sell livestock for it) [SEP]
- Provide for needs of children and family, including buying food [SEP]
- Buy livestock (goats, chicken, cow) – (88%) [SEP]
- Building houses (buy Iron sheet for roof) [SEP]
- Take sick people for treatment [SEP]
- Buy clothes [SEP]
- Pay off old debts. [SEP]
- Buy medicine for livestock [SEP]
- Buy seeds for cultivation [SEP]

Living standards have improved

- Women are able to take care of household tasks and business, feel responsibility, and are no longer idle. [L] [SEP]
- Social relations have improved between the women because they are together and care for each other. [L] [SEP]
- Groups have a social protection fund for times of hardship; funds can be borrowed for immediate necessities. This makes the women feel safe, they don't need to beg in the community in case of emergency. [L] [SEP]
- People look healthy and more presentable. [L] [SEP]
- Children are better off, they are in school and learn life skills. [L] [SEP]

Gender [L] [SEP]

Women are more valued and respected by men than before. Women now are also bread-winners; they are no longer waiting for/depending on men to bring money or food. Marital relations have improved. The men support the work of their wives. Some women are even able to support their husbands in times of need⁷⁵ [L] [SEP] Women take livestock to the market, they sell and have bargaining power. They can speak in front of and challenge men. They are contesting for leadership positions, many have leadership positions in the VICOBA and some were selected as representatives of sub-villages in community committees (Maiowa).

Substantiation HHS

- The proportion of women (18 years and above) who have monetary income every month of the year has increased as compared to the baseline [L] [SEP]
- However, 80% of the respondents had only one income source. So no real sign of income diversification.

Evidence: [L] [SEP]

Group records in MIS-Savix system, physical visit women in their groups, videos, minutes of meetings of the village, reports of surveys/research conducted. [L] [SEP]

Significant: [L] [SEP]

Women are now eligible to get loans through the VICOBA, which is a significant change, as it can be the starting point for a chain of positive changes; economic empowerment & social empowerment, more gender equality etc. [L] [SEP]

⁷⁵ 1 A story of a woman whose husband had left her, she joined a VICOBA and became successful, after the draught the husband wanted to buy new livestock, he came back to the woman to ask for forgiveness, he apologised, the women provided money for the husband to buy new livestock. Now their relationship is good again.

Outcome Statement: Village Land Use Planning

Who changed (social actors):

Village government/council / Community members of the Village Land Use Management Committee and/or community Certificate of Customary Rights of Occupancy (CCRO) committee
Livestock keepers/pastoralists

What changed (outcome):

1. Village councils are actively managing land and natural resources in a sustainable manner. They are implementing skills and knowledge about land rights and are using tools such as the VLUP (Village Land Use Plan) and the CCRO (communal title deeds that establish the boundaries where the village can graze their cows). The Council has by-laws. They meet often (at least monthly) and keep minutes of meetings.
2. The village council is supervising the grazing calendar and oversees the boundaries – indicated by beacons. They inform their neighbours on their land use plans. As a result of these rules and regulations, pastoralists are practising better land use practices; they are moving around their livestock in a more sustainable way, using grazing patterns, based on the grazing calendar and CCRO. [L] [SEP]
3. And by following the rules, no people have moved into the land of another village without permission, there is no encroachment of settlements and agriculture on grazing land, and conflicts between villages and between land uses/land users have been reduced. [L] [SEP]

Synergies

- Livestock:
 - VLUP Committee advises people to sell livestock during dry season to reduce mortality
 - Livestock is moving less [L] [SEP]
 - Livestock is dying less/ are in better health [L] [SEP]
 - The dip/chemical treatment for cows helps, it kills the ticks, and therefore we do not [L] [SEP] need to burn the grass anymore [L] [SEP]
- Water: water sources were identified in the land use plan process [L] [SEP]
- Gender: women can inherit land (mentioned in one village; Namalulu)

[L] [SEP] **Substantiation from field visit** [L] [SEP]

- In meetings, the committee members discuss livestock movement/calendar, they patrol the area and supervise implementation of the rules. [L] [SEP]
- They bring community members together during neighbourhood meetings to discuss land use and rules. [L] [SEP]
- They discuss and inspect the village on environmental destruction (cutting trees, burning of charcoal and other bad practices, they remove harmful vegetation). The community has reduced these bad practices and are aware of climate change + precautions to take through VLUP. [L] [SEP]
- Now there is enough grass, as people learned how to preserve grass, and avoid overgrazing/destroying grassland. They understand the importance of grass seeds and no longer burn grass land. As such grass has the chance to regenerate. [L] [SEP]
- All committees have put in place a system for fines. This helps in deterring people from

breaking the VLUP rules (including the environmental conservation laws).

Substantiation via HHS

- Thirty-five percent of the households have access to pastures throughout the year [L] [SEP]
- Satisfaction with access to pastures during dry season was rated as “catastrophic” and [L] [SEP] “difficult” by 83% of the households [L] [SEP]
- Access to pastures during the wet season was highly rated at “good” by 64% of the [L] [SEP] households. [L] [SEP]

Where:

All MB villages, good examples; Mairowa, Orkejuloongishu, Namalulu, Kitwai B, Eworendeke, Kitwai A, Llerumo, Gelai Lumbwa (not visited), Londolo (not visited).

Village that seems less strong in this field: Matale A. [L] [SEP]

Evidence:

- Village Natural Resource governing bylaws. (Payments of fines due to failure to abide to rules in managing natural resources). [L] [SEP]
- A joint rangelands’ management signed Memorandum of Understanding between several villages.
- Clear defined roles and responsibilities of rangelands/CCRO management committees/ Joint rangelands’ management committees.
- Minutes of various meetings that had addressed land issues. [L] [SEP]
- List of different committees required to implement village land Act No. 5 of 1999 [L] [SEP] (Village councils, Village Land Councils, Village Land Use Management Committees, [L] [SEP] VLUM, and ward tribunals).
- Village Land Use Planning Map showing grazing seasons/patterns. [L] [SEP]
- Physical demarcated beacons/marks. [L] [SEP]
- Grazing calendars. [L] [SEP]
- Success story telling of how the pastoralists are practicing better land use [L] [SEP] management according to approved plans and bylaws.

Significance: [L] [SEP]

As a result of the work of the village councils, the grazing land is protected. This ensures that pasture is available for livestock, so that the livelihood of pastoralists is secured. [L] [SEP]

Certificate of Customary Rights of Occupancy is an important tool for strengthening community land rights. Pastoralist communities are particularly vulnerable to land lose and expropriation. The CCRO promotes equality by protecting the interests of an entire group. [L] [SEP]

Outcome Statement: Water access and use

Who changed (social actors):

Community members; livestock keepers, women, children

What changed (outcome):

The water sources are closer to home than before, the amount of available water is bigger than before and the water distribution systems are more efficient and effective. This reduces the time for collecting (distance to walk), for queueing, the congestion around water points and it prolongs the period of water availability throughout the year. As a result, people can focus on more important activities. For children, especially girls, this means that they are no longer missing classes in school. For women, they can invest time in businesses. People are using clean water for small activities at home, such as vegetables gardens, regular bathing and for laundry, improving both nutrition and general hygiene.

The cattle drinking places are separated from those for human consumption. This reduces water contamination and allows people to fetch water at the same time as cattle (before they were obliged to wait until cattle were satisfied). The cattle troughs for livestock provide enough water for cattle to drink, there is less congestion at the water points, and the cows are safe as they no longer slide and break their legs. As a result, livestock keepers do not need to migrate as much anymore to find water.

Substantiation field visit

- Nuance: During rainy season, some communities move to natural water resources instead of using the water infrastructure developed. This is a coping strategy from pastoralists to keep water in constructed water sources for the dry season and to allow a recharge of the water table.

Synergies

- Gender & business: since water is close by, women can quickly fetch water and go back to do other work, such as engage in business. [L] [SEP]
- Hygiene: the households use water for hygiene improvement, they wash themselves and their clothes. [L] [SEP]
- Livelihood: Water is used for the construction of buildings. [L] [SEP]
- Food production: Water available for schools is sometimes used for food production [L] [SEP]
- Health: there are allegedly less water borne diseases [L] [SEP]

Substantiation HHS [L] [SEP]

- The duration to fetch water from the closest water source has reduced. Sources of water are closer to most households compared to the baseline situation. The HHS confirms this as during the dry season the average time for women to fetch water (walking, waiting, collecting) reduced from [L] [SEP] 298 to 190 minutes during the dry season, and during the rainy season it reduced by 37 minutes, so that the task would only take 30 minutes.
- The proportion of households reporting access to pastoral water throughout the year has [L] [SEP] increased from 49% at baseline to 64% at endline [L] [SEP]
- There has been a 10% increase in the number of households that access pastoral water every

^L_{SEP} day compared to the baseline.

Where: ^L_{SEP}

Namalulu, Kitwai A, Kitwai B, Gelai, Matale A, Gelai Esokmoi, Eworendeke.

Evidence: ^L_{SEP}

End line HHS, Physical observation, interviews with livestock keepers and community members

Significant: ^L_{SEP}

The better water coverage and infrastructure is an important change for communities, because water is life. ^L_{SEP}

Outcome Statement: Water Management

Who changed (social actors):

COWSOs, dam committees, local operators, village leaders (chairs, VEO), community members

What changed (outcome):

COWSO and local operators are managing better village water resources in Simanjiro and Longido. As a result, the Maasai communities and their livestock have better and sustained access to water.

The COWSO and Dam committees have put in place rules and mechanisms for water use and management and make sure that the community members who use the water infrastructure are aware of the rules and actually follow the rules agreed upon (including paying for water). They pro-actively collaborate with village leaders to enforce water management rules and report to them. At the same time, village leaders do not interfere with COWSO responsibilities. The COWSO collect fees from the community for the use of water and deposit the fees in a bank account. They meet often (at least monthly) and transparently keep records of income and expenditure and as such are accountable to the community for operations, maintenance and repair.

Local operators, run the water points properly on daily basis. They maintain and repair the water infrastructures in timely and competent manner when there is a breakdown. They report to the COWSO about functionality and problems of the water systems.

Communities are aware of the rules and actually follow the rules agreed upon. They understand and accept the importance of paying on regular basis for water use and O&M of systems.

Synergies

- No synergies mentioned directly linked to water management (but there are many linkages to the other water outcomes statement on access to water)

Substantiation field visit:

- COWSO manages the equal distribution of water to the communities, depending on the shortage/rain season fluctuations. ^[1]_[SEP]
- The contribution is used to pay the operator, to buy diesel or electricity for a pump (if present) and to make minor repairs. ^[1]_[SEP]
- Nuance: Communities are paying, but sometimes the contribution the COWSO collects is not enough for the repairs to be done. Many people move away during dry season and hence do not consume water at the village, thus do not pay contribution.

Substantiation HHS ^[1]_[SEP]

- At baseline, 34% of the households indicated it takes over 3 days to repair the water points when broken. This proportion has decreased to 29% at endline.

Where:

- Specific villages are doing well: Eworendeke, Namalulu, Orkejuloongishu, Kitwai A, Kitwai B,

Gelai Lumbwa (not visited) ^[1]_{SEP}

- Mairowa and Matala A are doing ok but not exceptional ^[1]_{SEP}
- The OH statement was not confirmed for one village visited; Llerumo, in Simanjoro

Evidence

- bank statements, check books, financial record books, record forms, income and expenditure reports, copies of receipts for fee collection, and ledger books for use of generators. ^[1]_{SEP}
- Testimonies of COWSO members, village leaders, local operators and community members
- Physical observation: Functionality of the water systems, running of the water systems

Significance

Through the work of the COWSO, the community now see importance of paying for water use and O&M of systems. This is something they were not used to before. It is also significant for sustainability and transparency, the COWSO can account for money collected and spent. Previously money was spent on other uses. The improved management should ensure continued access to water for communities and livestock. ^[1]_{SEP}

Outcome Statement: Youth business

Who changed (social actors):

Youth 18-35 years old, male and female

What changed (outcome):

Youth, who previously were vulnerable and unemployed, opened new businesses. They are improving their business operations and are using their business and negotiation skills. They access loans and all engaged youth in Longido district were able to pay back their loans. This has improved the youth's livelihood, increased their income and reduced unemployment.

For example, a youth in <> went to driving school, from the loan he bought a bodaboda and now he is providing transportation services to his village. Another youth learned about electricity and currently is hired by villagers to help with the installation of electric items. Youth started tailoring businesses are providing clothes to the Maasai which reduces the time for people to travel to Arusha and Namanga to find clothes. After being engaged by the project, eight youth in Longido district unexpectedly decided to further their studies. And one youth that was supported to become a mobile money agents was approached unexpectedly by NMB to add a bank service to his shop.

Evidence:

BDS reports, microfinance system, loan repayment reports (loan portfolio), factsheets, observation, testimonies.

Significance:

Improved social economic development and business services and products that are provided to the community.^[1] It should be noted that for youth specifically it is very hard to get loans because they cannot offer collateral (usually). Girls usually do not get the opportunity to further their studies so even though the scale is small, these successful youths are great role models for others.

Note: In Simanjiro there were more challenges, especially with regard to repayment.

Annex 8 Final OH Statements substantiation matrixes

	Longido				Simanjiro					
VLUP	Eworendeke	Mairowa	Matale A	Orkeju loongishu	Kitwai A	Kitwai B	Namalulu	Llerumo	score	
village council/VUP committee active	3	3	1	3	3	3	3	3	22	92%
have by-laws	3	3	2	3	3	3	3	2	22	92%
have CCRO	3	0	1	0	3	3	3	3	16	67%
meet often (monthly)	3	3	0	2	3	2	2	3	18	75%
keep minutes of meetings	2	1	2	2	2	2	1	3	15	63%
supervise grazing patterns/calendar	3	3	2	2	3	3	2	3	21	88%
inform neighbours of plans	1	1	2	3	3	3	2	3	18	75%
pastoralists move livestock in sustainable way	3	2	2	3	3	3	3	3	22	92%
no village invaded/less conflicts	3	3	0	3	3	3	3	3	21	88%
discuss and work on environment conservation	3	3	1	2	2	2	2	2	17	71%
score	27	22	13	23	28	27	24	28		
	90%	73%	43%	77%	93%	90%	80%	93%		

Viable Business & Income (VICOPA) Outcome Statement Substantiation Matrix

	Longido				Simanjiro					
VICOPA	Eworendeke	Mairowa	Matale A	Orkeju loongishu	Kitwai A	Kitwai B	Namalulu	Llerumo	score	
have by-laws/constitution	3	1	2	1	2	2	2	3	16	67%
women are saving, taking loans	2	1	3	3	3	3	3	3	21	88%
women start business or expand	2	3	3	3	3	3	3	3	23	96%
diversified sources of income	0	3	1	3	2	3	3	3	18	75%
more food secure	1	2	3	3	2	2	2	3	18	75%
got loan from government or other provider	0	0	2	3	0	2	0	0	7	29%
formally registered	2	1	2	2	2	3	3	3	18	75%
women are valued and respected by men	3	3	2	2	2	3	3	2	20	83%
women take leadership positions	1	3	1	1	2	2	3	2	15	63%
marital relations improved	1	3	1	1	2	2	3	2	15	63%
social relations are good	2	2	2	1	2	3	3	2	17	71%
social protection fund	3	2	2	1	2	3	2	3	18	75%
take care of chicken/goat/cows	2	2	3	3	3	3	2	3	21	88%
	19	25	25	26	25	32	30	29		
	53%	69%	69%	72%	69%	89%	83%	81%		

Balanced Diet (Nutrition) Outcome Statement Substantiation Matrix

Nutrition	Longido				Simanjiro				score	
	Eworendeke	Mairowa	Matale A	Orkeju loongishu	Kitwai A	Kitwai B	Namalulu	Llerumo		
eating more diverse diet	3	3	3	3	3	3	3	3	24	100%
communities grow own vegetables	2	2	2	2	2	2	2	2	16	67%
increased availability of food	1	2	3	2	1	2	2	2	15	63%
ability to buy different varieties of food	1	2	3	3	2	2	2	2	17	71%
benefit from chicken/eggs	2	2	1	3	2	1	1	2	14	58%
cooking improved	2	1	1	2	2	2	3	2	15	63%
improved porridge	2	1	1	2	2	3	3	2	16	67%
decision making on food	2	1	1	1	2	3	3	2	15	63%
improved maternal and infant feeding	3	2	2	3	3	3	3	3	22	92%
male involvement in nutrition	1	3	2	3	2	2	2	2	17	71%
influential leaders involvement in nutrition	2	0	2	1	2	1	1	2	11	46%
food safety hygiene	2	1	2	2	3	2	2	3	17	71%
	23	20	23	27	26	26	27	27		
	64%	56%	64%	75%	72%	72%	75%	75%		

Water Management (COWSO) Outcome Statement Substantiation Matrix

COWSO	Longido				Simanjiro				score	
	Eworendeke	Mairowa	Matale A	Orkeju loongishu	Kitwai A	Kitwai B	Namalulu	Llerumo		
managing improved water sources	3	2	3	2	3	3	2	2	20	83%
communities have better access to water	3	2	2	3	3	3	3	1	20	83%
livestock has better access to water	3	2	2	2	3	3	3	1	19	79%
put in place rules	3	3	3	2	2	3	2	1	19	79%
meet often (monthly)	3	3	0	3	3	3	2	1	18	75%
collects contribution	3	2	2	3	3	3	2	0	18	75%
put money in a bank account	3	2	2	2	3	3	2	0	17	71%
keep records	3	0	2	2	3	2	1	0	13	54%
collaborate with local government to enforce	3	1	1	3	2	2	2	0	14	58%
manage conflicts	1	3	1	1	2	2	2	0	12	50%
local operators repair and maintain	3	0	0	2	3	3	3	0	14	58%
community respects the rules	3	2	2	3	3	3	2	1	19	79%
score	34	22	20	28	33	33	26	7		
	94%	61%	56%	78%	92%	92%	72%	19%		

Annex 9 Final OH Statements contribution analyses

Outcome Statement Contribution Analysis

VLUP

Viable business & income (VICOBA)

Balanced Diet (Nutrition)

Water Management (COWSO)

Additional Contribution Analysis

Water access

Livestock keepers

Pastoralists land use practices

VLUP Outcome Statement Contribution Analysis

CHANGE	FACTOR	TYPE	SIGNIFICANCE ⁷⁶	LOCATION/EVIDENCE
Village Councils/VLUP committees are actively managing land and natural resources in a sustainable manner	Maisha Bora supported a long process for VLUP, investigation of land, training on how to manage and conserve land, put beacons/demarcations. Brought community together to agree on boundaries, rules and land use plan.	Primary	4	Eworendeke Mairowa Matale A Orkejuloongishu Namalulu
	UCRT with support of USAID in 2014 made the village map with land uses and detailed calendar of land use, before MB. Setting borders in collaboration with neighbouring villages.	Rival	4	Kitwai B Kitwai A Llerumo
	UCRT with support of MB, in 2016 certificates were obtained (CCRO)	Primary	4	Kitwai B Kitwai A Llerumo
	Sub-villages already had by-laws before NGO came / the plan is based on customary laws and practices / traditional grazing arrangements	Precondition	4	Matale A Namalulu Kitwai B Llerumo
	Sub-villages did not have any land use plans before intervention	Precondition	1	Orkejuloongishu
	Village leadership/chiefs decided it was important to create the by-laws/get the CCRO/land use plan (chair district council, village chair, ward executive officer) / supported the approach	Precondition	4	Matale A Orkejuloongishu Namalulu Llerumo
	Commitment of the VLUP committee members, good management, communication and collaboration + being recognised formally	Precondition	1	Kitwai B Llerumo
	Government threatens to take away land, forces us to secure it. For example, government asked all villages to declare 'open land' so they could give it to investors or miners	Rival	4	Mairowa Orkejuloongishu
	Overpopulation causes issues in the community, hence making land use planning important	Rival	3	Mairowa
	Community has started cultivating, which is a new land use type that requires planning	Rival	2	Mairowa
	Household expenditures have increased, it has become more expensive to take care of family (school, food)	Rival	1	Mairowa
	Conflicts between villages urged us to make a plan.	Rival	1	Orkejuloongishu

⁷⁶ (4=very high, 3=high, 2=average, 1=low)

CHANGE	FACTOR	TYPE	SIGNIFICANCE ⁷⁶	LOCATION/EVIDENCE
	Drought causes people to adjust, need new strategies for our source of livelihood to survive. Livestock size is too big, overgrazing, this forces the community to start thinking about organising land use better, to reduce herd size to the land available	Rival	1	Mairowa Matale A Orkejuloongishu
	MP at national level explained it is important to get land use plan and CCRO	Rival	1	Orkejuloongishu
	2019 was a good year, rain enough, it needs to be proven that the land use plan is the thing that causes the positive changes	Contradicting	2	Namalulu Llerumo
	We have not yet received the CCRO	Contradicting	2	Mairowa Orkejuloongishu
	Majority of the villages in this area do not have land use plans yet	Contradicting	1	Mairowa
	Some areas still lack beacons	Contradicting	1	Mairowa
	It is hard to see the results of the VLUP as of now. We still have drought, climate change hampers us in moving around in accordance with the established grazing calendar. If we plan to move to the rain season area in March, but it is not raining, we can't move.	Contradicting	2	Orkejuloongishu Llerumo

Viable business & income (VICOPA) Outcome Statement Contribution Analysis

Change	FACTOR	TYPE	SIGNIFICANCE	LOCATION/EVIDENCE
Women engage in viable business types and have diversified their income base	Groups were already existing	Precondition	2	Eworendeke Matale A (formed by PWC before MB, and a government youth group) Orkejuloongishu Namalulu (formed by Mwedo before MB) <i>Said to be less significant than MB support because now more effective</i>
	Could join VICOPA because they had livestock to sell and pay for the initial contributions (others who did not have cattle, did casual work to raise the initial contribution)	Precondition	1	Matale A
	Some individuals already had an existing business (When the draught came and cows died, people realised they needed to start other businesses to get an income)	Precondition	1	Eworendeke Mairowa Llerumo <i>(in Orkejuloongishu, Matale A, Kitwai B women expressly stated they did not yet have businesses before joining)</i>
	Groups receive village recognition	Precondition	2	Namalulu

Change	FACTOR	TYPE	SIGNIFICANCE	LOCATION/EVIDENCE
	MB organised VICOBA and trained the groups	Primary	4	All villages visited, education is seen as most important for the groups to function effectively
	MB provided a 2 million start-up capital for the groups	Primary	3	All villages visited
	Enkishon loan from PWC SACCO FINCA loan	Primary	2	Matale A Orkejuloongishu Kitwai B
	Got chicken from MB	Primary	2	Mairowa (successful) Matale A (ok) Orkejuloongishu (challenging) Namalulu (not successful) Kitwai B (challenging) Kitwai A (challenging) Llerumo (ok)
	Draught causes people to adjust their livelihood strategies, livestock died, so started businesses	Rival		Mairowa
	Household expenditure increased, children school fees, starting to eat a more diverse diet, requires more income, so started a business/IGA	Rival		Mairowa
	Villages are developing, hence they need money to invest, for example in better housing, so they need income, so start a business/IGA – or some sell their cattle to pay for expenses	Rival		Mairowa
	Members bought their own chicken	Rival	1	Eworendeke (challenging) Orkejuloongishu (challenging) Kitwai A Llerumo (challenging)
	Groups were trained on business skills by World Vision in 2016+17 several times per year (also education on livestock, nutrition, HIV)	Rival	4	Orkejuloongishu, <i>was seen as equally significant in strengthening the VICOBA as the MB contribution</i>
	Some women have received support from TASAF, government	Rival		Mairowa
	Some men have given their wives capital to start IGA	Rival		Eworendeke
	Individuals saw the success of other VICOBA groups and wanted to start something similar on their own – without support of NGO	Rival		Orkejuloongishu Matale A
	Trainers capacitated and continued to support groups that started on their own	Rival / collaborative		Orkejuloongishu

Change	FACTOR	TYPE	SIGNIFICANCE	LOCATION/EVIDENCE
	The groups that do well are those who are committed and have good collaboration and leadership, this is built through time and experience	Precondition	2	Orkejuloongishu, <i>this is seen as more important than being able to set a high contribution fee</i>
	External factors make the business not go well; drought, theft, fire, bad paying customers, diseases (chicken)	Contradicting	3	Matale A Kitwai B Kitwai A Llerumo

Balanced Diet (Nutrition) Outcome Statement Contribution Analysis

Change	FACTORS	TYPE	SIGNIFICANCE	Location/evidence	
Community members are eating a more balanced and diversified diet	MB education and awareness; instructions to eat different food types, cook demonstrations for entire community	Primary	4	Eworendeke Mairowa Matale A Orkejuloongishu	Namalulu Kitwai B Kitwai A Llerumo
	Teachers/community workers pass by bomas to spread nutrition messages. They are instructed by MB partners.	Primary	3	Matale A Orkejuloongishu	Kitwai A
	Community members got chicken from the MB project and therefore eat eggs and the meat	Primary	3	Orkejuloongishu	
	People bought their own chicken (not project)	Rival	1	Orkejuloongishu	
	Students get knowledge in school and pass this on to parents	Primary	2	Mairowa Matale A Orkejuloongishu	
	At schools clubs are formed to raise awareness on diet	Primary	4	Kitwai A Kitwai B Llerumo	
	Government messages, local village council, leaders have influence they tell about importance of nutrition	Rival / collaborative	3	Eworendeke Matale A	Kitwai A Llerumo
	Men give women money for buying different types of food, or they bring food home themselves	Rival / collaborative	1	Eworendeke Matale A	
	People get exposed to new nutrition practices when they visit neighbours and see the benefits	Rival	2	Matale A	
	Market has more vegetables available	Rival	2	Matale A Mairowa A Orkejuloongishu	Namalulu Llerumo

Change	FACTORS	TYPE	SIGNIFICANCE	Location/evidence
	Radio, tv, magazine information	Rival	1	Eworendeke Mairowa Radio Arusha has daily advert on consuming mixed food, for past 6 months Radio Free Africa from Mwanza also had radio advert twice a day. Only accessible to those with radio.
Improved maternal and infant feeding	PLW were trained/ educated by MB	Primary	4	Eworendeke Orkejuloongishu Namalulu Kitwai B
	World Vision gave training on nutrition for PLW and babies and on HIV	Rival		Orkejuloongishu
	The health centres provide information about nutrition, health and PLW	Collaborative		Mairowa Matale A
Food production & availability	People can produce food because they have access to seeds from MB project	Primary		Mairowa Matale A
	Households were instructed to start small gardens by MB project	Primary		Orkejuloongishu Llerumo
	Locations that do well in food production/cultivation are the ones that got access to water tanks constructed/rehabilitated by the MB project	Primary		Orkejuloongishu Namalulu Kitwai A
	Demo-plots by MB project with vegetables, green leafs, orange sweet potato	Primary		Kitwai A
Decision making and ability to buy food	Women can afford to buy food because they are part of VICOBA	Primary		Eworendeke Mairowa Matale A
	Some women are part of the TASAF, supported by government. This gives them the chance to buy food	Rival		Mairowa

Water Management (COWSO) Outcome Statement Contribution Analysis

Change	FACTORS	TYPE	SIGNIFICANCE	Location/evidence
Management of water infrastructure by COWSO is effective	MB provided training/instruction on how to run the COWSO, drafted constitution/ by-laws	Primary	4	Eworendeke Mairowa
			3	Orkejuloongishu Namalulu Kitwai B Kitwai A Llerumo
	Government initiative created the COWSO and by-laws	Precondition	4	Namalulu
	COWSO was already in place before project came	Precondition	1	Llerumo
	MB trained the COWSO but it was not enough	Primary	1	Matale A
	MB train plumbers and gave tools for maintenance	Primary	2	Mairowa Orkejuloongishu Kitwai B
	MB trained operator but this was not enough to enable him to fix the problem that arose, had to get another plumber to do the repair (via LCDO)	Primary	1	Matale A
	COWSO members are committed		3	Namalulu
	Village government and general assembly fully authorised our operations/gave us the task to execute our roles and deal with money + maintenance	Rival / collaborative		Eworendeke Kitwai B
	Government is helping in case of misuse, we report any problem to them/helping with collection of fees	Rival / collaborative	3	Eworendeke Mairowa Orkejuloongishu Kitwai B
	Government is providing security and experts to measure water quality	Rival / collaborative	2	Eworendeke
	We report problems to the NGOs who come and help with maintenance	Primary	4	Eworendeke Mairowa
	When we want to repair, we do not have enough money, we need to request extra money from community	Contradicting		Mairowa
	We do not have enough people paying for the water	Contradicting		Mairowa
	Bank account was opened in 2013, but had not been in use, as there was no contribution collected. They started collecting in 2017 after MB support	Precondition + primary		Orkejuloongishu

Additional Contribution Analyses

Water access – Additional contribution analysis

Change	FACTORS	TYPE	SIGNIFICANCE	Location/ evidence
Access to water	MB provided water systems (drilled borehole/tanks, motor for pump, fence)	Primary	4	Eworendeke Matale A Orkejuloongishu Namalulu Kitwai A (not functional/no water/no pump) Llerumo (constructed rain water collection tank at dispensary)
	MB rehabilitated existing water system	Primary	4	Orkejuloongishu Kitwai B Llerumo (rehabilitate 1 out of 7 charco dams, but no water in dam)
	No other NGOs are working in this area on water	Primary	1	Eworendeke
	Community contributed to the construction/rehabilitation	Rival	2	Eworendeke Orkejuloongishu
	Water infrastructure was installed by the World Bank, they did not focus on management (between 2015-2018)	Rival	2	Mairowa (so MB no claim to access to water, only management?)
	A new borehole is being drilled by an NGO from Arusha/American lady, 2019	Rival	1	Mairowa
	NMB had already established 3 tanks, under their CSR policy, in 2016	Rival	3	Orkejuloongishu
	Church constructed a small water tank for water community gardens	Rival	1	Orkejuloongishu
	People tried digging their own wells on own initiative and expense, but found little water	Rival	1	Kitwai A
	Current water comes from a small well, or a lorry brings water, village hopes to get connection to a pipeline from Ruvu, but not yet.	Rival	2	Llerumo
	There were 13 existing cattle troughs that had been established long time ago, 6 were broken	Precondition	1	Orkejuloongishu
	There was already one existing water tank in town, build 80 years ago	Precondition	1	Orkejuloongishu
	Borehole was already existing (from 1961) and various charco dams already in place	Precondition	4	Kitwai A
	There were 7 existing charco dams	Precondition	3	Llerumo

Change	FACTORS	TYPE	SIGNIFICANCE	Location/ evidence
Humans and cattle get water at different places	During rainy season people collect water from their houses or the natural sources (river, dams)	Contradicting		Eworendeke Mairowa
	There is not enough water for irrigation of the greenhouse in the school, the water is only for drinking, cooking and washing	Contradicting		Mairowa
	MB build or repaired cattle troughs	Primary	4	Eworendeke Matale A Orkejuloongishu Kitwai A (2 existing repaired and 2 new ones)

Contribution claim:

Following the above, it can be concluded that the Maisha Bora project has made a contribution to the access to water in the villages. It has to be said that in many areas there already were existing water tanks or water infrastructure available (pre-conditions). As is more, in several villages, other development partners had constructed in the same time as the Maisha Bora programme (between 2015-2018) or are currently constructing, additional water sources (2019). Hence these are some rival factors that slightly reduce Maisha Bora's contribution claim to the outcome level results. Yet, several of these existing infrastructures had broken down and Maisha Bora's contribution has been significant in re-establishing the important access to water. Moreover, the community mentioned that they found Maisha Bora's contribution more significant as the approach was more sustainable -focused on management- and community-friendly - continued engagement and follow up.

Livestock keepers - Additional contribution analysis (without weighing significance)

Change	FACTOR	TYPE	SIGNIFICANCE	LOCATION/EVIDENCE
Livestock owners secure livestock resources reduce the size of their herd / sell livestock at favourable prices	Maisha Bora gave knowledge on how to fatten and sell	Primary		Maiowa Orkejuloongishu Llerumo
	Through MB support the VLUP committee advises livestock keepers to sell livestock during dry season; meetings, trainings and exchange visits	Primary		Eworendeke Kitwai B
	Livestock size is too big, overgrazing, forces community to rethink land use and reduce herd size	Rival / Primary (if taught by MB)		Maiowa Matale A
	Climate change and draught forces livestock keepers to sell their cattle	Rival		Eworendeke Maiowa Matale A
	Community is developing so need money to invest (in better housing/school fees) so sell their cattle	Rival		Maiowa
	Business for livestock is good: there is a new moving permit introduced this year. We can buy in market and sell in other market, in Kenya	Rival		Matale A
	No change in livestock trade or business environment in the area because high competition from other areas, all bring cattle to Kenya to sell, this brings price down, making it less attractive to sell	Contradicting		Maiowa
	I am not convinced that livestock is considered more as a business. Beneficiaries still seem to consider themselves mostly as traditional pastoralist cattle-holders. I did not hear proof that beneficiaries will consider keeping less cattle but in a more profitable way	Contradicting		Consultant observations in Simanjiro
Benefit from livestock diversification	We got improved bulls, goats from MB	Primary		Maiowa Matale A Orkejuloongishu Llerumo
	We bought our own improved breeds in Kenya	Rival		Matale A Llerumo
	The breeding bulls are too young to see any effects as of now	Contradicting		Eworendeke Orkejuloongishu
Water for livestock	Water is available for livestock, so cattle does not need to walk far to drink	Primary		Eworendeke Maiowa Matale A

Change	FACTOR	TYPE	SIGNIFICANCE	LOCATION/EVIDENCE
				Namalulu Kitwai A
Treat livestock with veterinary care	26 of the 42 CAHW had already been trained by previous programmes	Rival		MTR Maisha Bora report
	CAHW are available (government extension workers) to help treat diseases when they break out	Rival/Collaborative		Mairowa Matale A
	There are no veterinary services, no vaccinations available	Contradicting		Mairowa Matale A
	Dip available for cows to treat against ticks and diseases			Eworendeke Namalulu Llerumo
	Livestock food is available in the market now	Rival		Matale A

Pastoralists are practising better land use practices - Additional contribution analysis (without weighing significance)

CHANGE	FACTOR	TYPE	SIGNIFICANCE	LOCATION/EVIDENCE
Pastoralists are practising better land use practices	Villagers embrace the approach	Precondition		Kitwai A Llerumo
	The by-laws are in place/VLUP	Primary		All villages
	There is a fine system, people are scared to be fined or put in jail, so they follow the rules, approved by the district council	Primary / collaborative		All villages
	Signboards are visible throughout the villages indicating the land use plans/rules	Primary		Namalulu Kitwai B Kitwai A Llerumo
	Beacons demarcate the land use areas	Primary		Eworendeke Mairowa Orkejuloongishu
	MB organises meetings training and exchange visits with the villagers about grazing arrangements + together with VLUP committee creates awareness and training to cattle owners	Collaborative		Namalulu Kitwai B
	VLUP committee patrols the area / community members report wrong-do-ers	Collaborative		Mairowa Matale A Orkejuloongishu

Annex 10 Agenda learning events

Household Survey Learning Event 12th December 2019, Arusha, Tanzania

08:30 – 09:00	Welcome, introduction of agenda, objectives and expectations
09:00-10:30	Presentation of Household Survey findings
10:30-11:00	Tea/Coffee Break
11:00-12:00	Q&A; validation facts and figures
12:00 – 01:00	<p><i>Reflection Café: (Groups of 6/8 depending on total participants)</i></p> <ul style="list-style-type: none"> • Table 1: What findings are unexpected? • Table 2: What findings were expected but are missing? • Table 3: What findings do you consider exceptional? • Table 4: What findings are contradictory? • Table 5: What were the key lessons based on the findings?
1.00 – 2.00	Lunch break
2:00 -2:30	Presentations/Plenary Discussions from the group hosts <i>30 min discussions / 30 min presentations + plenary</i>
2:30 -3:00	Group work: Recommendations <ul style="list-style-type: none"> • <i>Key recommendations based on findings</i>
3:00 – 3:20	Rounding up. Closing.
3.30 pm	Tea/coffee: Participants leave thereafter

Outcome Harvesting Learning Event January 2020, Arusha, Tanzania

Objectives

Bringing together the key managers of the Maisha Bora partners, the learning event will check understanding, recognition, and acceptance of outcome assessment findings and eventually make its report meaningful and practical to use. This does not mean that all stakeholders have to be in agreement with the findings, only that participants are willing to consider these findings as a sensible and legitimate basis for further reflection and learning.

This second workshop will build upon the results of the first workshop in December 2019, which focused on the household survey. It will focus on the findings of the outcome harvesting and link findings of household survey and outcome harvesting.

The key aim is that participants agree on what should be done with the findings of the assessment. Therefore, participants will co-create a set of conclusions & lessons learned, and recommendations for future action. This learning process will also result in the development of strategic questions or dilemmas that require further attention.

Agenda

Time	Agenda item
Morning	Welcome and introductions of participants
	Introduction of agenda, objectives and expectations
	<u>Presentation of Outcome Assessment findings</u> <i>Focus on substantiated outcome statements, linking with household survey.</i> <i>Q&A after each outcome statement</i>
	<u>Session 1</u> For each outcome statement: 1. <i>Short discussion (15') on findings: what findings do you consider exceptional? What findings are unexpected? Why?</i> 2. <i>Based on the findings, formulate conclusions and key lessons learned</i>
	Tea/Coffee Break during the Café
Afternoon	Presentations of conclusions and lessons learned
	Lunch break
	<u>Session 2</u> For each component: <i>Formulating recommendations</i> <i>Formulating strategic questions/dilemmas</i>
	Tea/coffee with gallery walk of session 2
	Rounding up. Closing.

