



**MINISTRY OF FISHERIES AND LIVESTOCK
DEPARTMENT OF LIVESTOCK DEVELOPMENT
CLIMATE RESILIENT LIVESTOCK MANAGEMENT PROJECT (CRLMP)
TERMINAL SELF-EVALUATION REPORT (SER)**

1. Background

Country:	Zambia
Project Name	Climate Resilient Livestock Management Project (CRLMP)
Project Period	36 months
GEF ID:	P-ZM-AAZ-006
GEF Agency	African Development Bank
Project Executing Agency	Ministry of Fisheries and Livestock
Actual Agency Approval Date:	21 st September 2017
Actual Implementation Start Date	1 st June 2018
First Disbursement Date	1 st June 2018
Total Grant Amount	USD 6,210,000.00
Cumulative disbursement (GEF Grant)	USD 5,358,014.55 at 86.28 %
Cumulative disbursement (Government Counterpart)	USD 603,046.76
Closing date	30th June 2022
Financial Closure	30 th May 2022
Evaluation Team	Mr. Obright Hamungalu- Project Coordinator (SLIMP) Mrs. Ruth Milondwe- Project Accountant (CRLMP) Miss. Grace Chundama- M&E Specialist (CRLMP/SLIMP) Mr. Kenneth Zulu- Principal Engineer (MFL) Mr. Henry Sichone- Principal Livestock Research Officer (MFL) Mr. Moonga Ndulo- Senior Engineer (MFL)

Mr. Mathews Zulu-Procurement Specialist (MFL)
 Mr. Frazer Nkula- Focal Point Person (Northern Province)
 Ms. Monica Sanga- Gender Focal Point Person (Northern Province)
 Mr. Abraham Mulenga- Focal Point Person (Muchinga Province)
 Ms. Landanji Nakaponda- Gender Focal Point Person (Muchinga)
 Mr. Emmanuel Chilala- Assistant Accountant (MFL)
 Mr. Chintomfwa Mutale- District Accountant (Northern Province)
 Mr. Peter Michese - District Accountant (Muchinga Province)
 Mr. Nathan Sampa- Administrative Assistant (CRLMP)
 Ms. Chanda Mulenga (Procurement Assistant (MFL)

Timeframe - Main Milestones (expected)

GEF PIF approval	24 September 2013
Program approval	14 January 2016
Signing of Grant Agreement	June 2017
Effectiveness	July 2017
Mid-term Review	-
Last Disbursement	December 2019
Completion	June 2020
Last repayment	N/A

Project Location: Northern and Muchinga Provinces



2. Objectives and Scope

Project Objectives:

The LDCF-GEF financing of CRLMP sought to build climate resilience in the Livestock Infrastructure Support Project (LISP). The purpose of the LISP was to improve smallholder livestock production, productivity, market linkages and household income. The expected outcomes are decreased prevalence of the main diseases, improved livestock performance and improved income of livestock farmers including women/youth. The LISP was launched on 16 September 2013.

It incorporated climate change-related aspects into the initial LISP activities and ensure preservation of ecosystems. The CRLMP sought to address stakeholder concerns that the livestock activities under LISP might negatively affect the environment and contribute to climate change. Introduction of additional livestock into the two provinces through restocking and pass-on” schemes will over time increase the amount of solid manure dropped and add to greenhouse gas (GHG) emission. The CRLMP recognized the need to promote climate resilient investments and infrastructure. The CRLMP is primarily about adaptation by livestock farmers, to climate change impact, and how their farming practices and installed facilities could affect the environment and subsequently climate change.

Context of Project Design:

The CRLMP design underwent a participatory design approach and processes had extensive consultations with various stakeholders in the Government and Non-Government sectors both at national and local levels within the two effected provinces. Local leaders and beneficiary communities in the targeted districts were consulted during the preparation phase and the Ministry of Fisheries and Livestock were involved in the course of designing and in validation meetings. Consultations with the key stakeholders were also done during CRLMP design when defining key project activities, implementation and sustainability arrangements. As a community-based project, the beneficiaries were also part of project design, implementation, and monitoring and evaluation. There was large participation of livestock farmers, civil societies and Government staff during the Inception Workshop and Validation Workshop. Additionally, the Project design had in-built mechanisms for continued participation of beneficiaries and other key stakeholders such as the Zambia Environment Management Authority (ZEMA) who were engaged to ensure that all the infrastructure development under the CRLMP is sustainable and environmentally friendly.

In relevance to the design, the CRLMP facilitated both climate change adaptation and mitigation outlook to the recently ended LISP-supported activities such as the restocking and pass-on-scheme in Northern and Muchinga Provinces, which addresses stakeholder concerns that the increase in livestock population may overtime negatively affect the environment and contribute to climate change by the increase in the amount of solid manure dropped and add to greenhouse gas (GHG) emission and various preservation interventions such as rangeland management and pasture improvement to preserve the natural environment.

The CRLMP fostered economic diversification through enhancing livestock production and productivity, particularly livestock value chain, and natural resources management and climate change initiatives, ultimately improving the livestock sub-sector which is an important source of economic growth, job creation and fostered poverty reduction.

The activities carried out under CRLMP were packaged into three mutually re-enforcing components as listed and summarized below;

- a) Promoting Climate Resilient Livestock investments and increasing climate change adaptive capacity of livestock farmers;
- b) Capacity Building on climate change Adaptation for stakeholders;
- c) Knowledge, Monitoring and Evaluation.

Component 1: Promoting Climate Resilient Livestock investments and increasing climate change adaptive capacity of livestock farmers.

1.1 Livestock farmers able to cope with climate change through adoption of improved practices that enhance livelihoods;

Outputs

Activities

1.1.1 Livestock farmers acquire breeds resilient to climate change

1.1.1.1 Characterise and multiply existing known indigenous livestock species and breeds and breeding systems.

1.1.1.2 Scale up Livestock Pass-on Scheme

1.1.1.3 Train extension officers on GIS to assess carrying capacities.

1.1.2 Livestock farmers set up sustainable livestock pastures, fodder banks, rangeland and water harvesting systems

1.1.2.1 Set-up sustainable livestock pastures, fodder banks and rangelands.

1.1.2.2 Establish land use plans at village level using participatory GIS.

1.1.2.3 Plant fodder & fruit trees around homesteads and along the riverines.

1.1.2.4 Construct fire breaks around Rangelands.

1.1.2.5 Sustainable Management of existing water resources and develop alternative water sources for livestock (shallow wells, weirs, small dams, boreholes and wells).

1.1.3 Effective practises developed for the community to manage indigenous livestock

1.1.3.1 Raise awareness of the value of indigenous livestock species and breeds.

1.1.3.2 Improve Community management of indigenous livestock breeds (Best practice and development of breed management manual for farmers and extension workers in local language, train extension staff and farmers and conduct exchange visits for farmers).

1.1.4 Operationalise an index-based livestock insurance (IBLI) scheme.

1.1.5 Operationalise a Livestock Early Warning Information System (LEWIS).

1.2 Resilience of natural resources to climate change enhanced;

1.2.1 Restoration of degraded pasture and increased vegetation cover with different

1.2.1.1. Characterize rangelands

1.2.1.2 Carry out rangeland improvement interventions/strategies

drought tolerant (eg. planting of drought tolerant annual and perennial species).

1.3 Increased resilience of infrastructure to climate change threats

1.3.1 Climate resilient infrastructure designs in place 1.3.1.1 Review and modify LISP infrastructure designs.

1.3.1.2. Review and realign the locations of LISP infrastructure.

1.3.1.3 Establish and construct climate resilient interventions around infrastructure (eg. Contour ridging and vertiva grass promotion).

1.4 Reduced GHG emissions from LISP infrastructure.

1.4.1. LISP infrastructure designs for reduced GHG emissions in place 1.4.1.1 Use less emissions-intensive materials in livestock handling, abattoir and dairy infrastructure.

1.4.1.2 Minimise GHG emmision in Road construction.

1.4.1.3 Instal renewable energy sources like - solar and photovoltaic panels to produce renewable electricity.

1.4.2 LISP infrastructure fitted or constructed with GHG emissions reduction technologies 1.4.2.1 Construct more demonstration bio-digesters.

Component 2: Capacity Building on Climate Change Adaptation for Stakeholders

2.1 Increased knowledge and risk preparedness and adaptive capacity to climate variability at country and targeted community levels,

2.1.1 Government staff trained in climate risk assessment and adaptation skills for livestock farmers- 2.1.1.1 Train local stakeholders in CRiSTAL “Community-based Risk Screening Tool – Adaptation and Livelihoods”.

2.1.1.2 Strengthen capacity to develop and implement the index-based livestock insurance scheme and LEWIS.

2.1.2 Community level: Training artisans in 2.1.2.1 Prepare training materials for artisans in manufacturing livestock-

<p>manufacturing livestock-related material as a source of income diversification</p>	<p>related materials as a source of income diversification.</p> <p>2.1.2.2 Train artisans in manufacturing livestock-related materials as a source of income diversification.</p> <p>2.1.2.3 Develop evidence-based sensitization materials on climate risks.</p> <p>2.1.2.4 Conduct climate change awareness campaigns (community meetings, radio, TV).</p> <p>2.1.2.5 Exchange visits to affected communities.</p> <p>2.1.2.6 Create awareness among livestock farmers of existence of index-based livestock insurance providers.</p> <p>2.1.2.7 Link livestock farmers with index-based livestock insurance providers; and</p> <p>2.1.2.8 Create awareness among livestock farmers of existence of early warning systems and how to access it.</p>
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2.2 Diversification and strengthened livelihoods and source of incomes for rural populations.

<p>2.2.1 - Livestock farmers equipped with skills of feed conservation for dry season and for other adaptation measures autonomously implemented</p>	<p>2.2.1.1 Develop Livestock/ Mixed Crop-Livestock Systems.</p> <p>2.2.1.2 Promote Conservation Agriculture/Farming - fodder production, forage and cover crops, legume forages.</p> <p>2.2.1.3 Promote Good Agricultural Practices (GAPs) - manure use, use of crop residues for feeds and soil cover, animal draft power.</p> <p>2.2.1.4 Promote Fodder production and conservation for dry season feed.</p>
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2.2.2 – Strengthened adaptive capacity for sustainable land use management

2.2.2.1 Prepare training materials for sustainable agriculture land use management.

2.2.2.2 Conduct community campaigns to sensitize livestock farmers in sustainable land use management.

2.2.2.3. Train farmers on sustainable land use management.

2.2.3 – Technical and business capacity developed for construction of biogas plants for livestock farmers

2.2.3.1 Train farmers on the construction and maintenance of bio-gas digesters.

2.2.3.2. Create awareness on how to utilize bio-gas safely.

Component 3: Knowledge, Monitoring and Evaluation

3.1 Compile Knowledge Adaptation Products

3.1.1. Knowledge adaptation products compiled

3.1.1. Produce videos, fact sheets, training materials, and studies

3.2 Participation in Adaptation Practitioners Events

3.2.1 Participation in adaptation practitioners' events by project team

3.2.1.1 Participate in adaptation practitioners events by project team.

3.3 Monitoring and Evaluation Reports

3.3.1 Various Progress Reports produced

3.3.1.1 Produce Quarterly Progress Reports.

3.3.1.2 Produce Audit Reports.

3.3.1.3 Produce Annual Workplan and Budget.

3.3.1.4 Produce Baseline Survey Report.

3.3.1.5 Produce Beneficiary Impact Report.

3.3.1.6 Produce Mid-Term Review Report.

3.3.1.7 Produce Project Completion Report.

Intended long-term environmental impacts of the project:

Environment: The LISP Project was classified as Environment Category 2 according to the Bank's Environmental and Social Assessment Procedures (ESAP) which was validated by the Quality Assurance and Results Department (ORQR.3) on 8th May 2012. The infrastructure investments supported by the Project would generate site-specific and short-term negative environmental impacts which would mainly occur during the construction phase. During the operational phase the likely impacts would include solid waste and effluent from slaughter houses, milk collection centers, LSC and the markets, bio-medical waste from veterinary activities and hazards to workers. MFL prepared a Strategic Environmental and Social Assessment (SESA) report describing measures to mitigate the negative impacts which include re-vegetating cleared land, restoration of borrow-pits, appropriate drainage systems to control erosion, installation of systems for solid waste and effluent management and providing appropriate Personal Protective Equipment (PPE) to the workforce. The SESA (which includes the Environmental and Social Management Plan - ESMP) was cleared for disclosure, by ORQR.3, on 23rd April 2013. The cost of environmental activities including mitigation measures is UA 165,300 (from the ADF resources) in addition to amounts incorporated in the civil works and to be reflected in contractors' bidding documents.

Climate Change: The Project activities would promote climate change adaptation and foster livelihoods diversification which will ultimately enhance the climate change adaptive capacity of the pastoralists and the livestock production systems. The Project would support (i) sustainable management of rangeland and pasture, and (ii) adoption of biogas digesters that will promote use of livestock dung for generation of energy for lighting and cooking. In building capacity of the livestock farmers and the livestock production systems, this complementary LDCF-GEF project supports breeds that are resilient to climate change and develop models for community management of endemic livestock and habitat (pasture and grazing management techniques), strengthen adaptive capacity of communities through training and mounting of demonstration sites for feed conservation during the dry seasons, restoration of degraded pasture and increased vegetation cover with different drought tolerant plants.

The Economics and Financial analysis were carried out on the assumption that for any business to flourish, it requires incentives and conducive environment which will be provided by LISP. In this regard (i) facilities such dip tanks, spray races, crush pens for vaccination and other veterinary services, feeding and watering infrastructure will enable farmers to raise healthy animals, (ii) breeding centers will aid in the stocking programme resulting in increase in livestock numbers, (iii) marketing structures, slaughter facilities, milk collection centers and connecting feeder roads will give farmers incentive to keep livestock and feed them appropriately for high prices, while accessibility will encourage private traders for both inputs and livestock products to operate in the area, (iv) infrastructure facilities will also attract private operators such as health inspectors and veterinary officers to invest in livestock development in the area, (v) the animal pass-on scheme for youth and women will hasten livestock multiplication, (vi) capacity building will train farmers to raise healthy fattened animals. The Project will, through infrastructure for disease control, reduce livestock mortality resulting in higher livestock numbers. Improved animal growth rate through better feeding practices and breed improvement for growth and milk production will improve

carcass weight and also milk yields. All these aspects will, in the final analysis increase livestock production and productivity.

The project would also expect to generate a number of indirect economic benefits. They included (i) enhanced food security with overall increase in the supply of good livestock products, (ii) increased demands for livestock related services accruing to service providers, fostering the development of animal related business and job, and (iii) empowerment of livestock farmer organizations to provide adequate services to their members. The main assumptions underlying the calculations of EIRR and FIRR are: (i) cattle, goat and chickens' average annual population would increase from 6.3% to 10%, 12% to 15%, and 15% to 22% respectively; (ii) livestock off-take will increase from the current 12% to 16% for cattle and 31% to 38% for goat by year 6; (iii) average weight will increase from the current 126 kg to 168 kg for cattle and from 25 kg to 33 kg for goats; and (v) milk production from 1,500 to 2,500 litres per year (cow).

The implementation of the CRLMP, alongside the baseline project, LISP, was expected to increase the percentage of households owning livestock in the target area, as the "pass on scheme" would be scaled up for livestock restocking. This would increase the mean household per capita livestock incomes. Improvement in availability of feed resources from pastures, rangelands, and supplementary feeding from improved quality crop residues, and from improved veterinary care and services would raise productivity outcomes such as calving rates, milk yields and body weight gains in dams and calves. Improved access to livestock markets made possible by LISP markets and road infrastructure were expected to reduce marketing costs of livestock products, and hence increase profit margins of livestock farmers.

Sustainability: Implementation of the additional activities will involve all stakeholders, including the beneficiary communities to ensure a sense of ownership and commitment as well as sustainability of the improved infrastructure for livestock management, The CRLMP would follow the sustainability principles adopted for the LISP whereby the Bank adopted a participatory approach in identification and preparation of project. This is an important step towards ensuring the relevance of the investments made and the laying of an institutional capacity at the community level for the sustainability of the planned activities. The use of the provincial and district decentralized implementation system would ensure full community participation guided by district authorities. The Project would put much emphasis on developing the capacity of beneficiaries and strengthening their institutions like interest groups and cooperatives. The beneficiaries would be mobilised, organised into viable self-reliant entities, trained and empowered to view their activities as business rather than subsistence activity. Gender sensitisation training at the community and local administration levels would ensure that women continue to participate and benefit equally from all rural livestock development activities. Project sustainability would also be ensured by the proactive involvement of the beneficiaries, district/provincial staff in participatory M&E of activities. The Project beneficiaries would contribute towards the cost of acquiring livestock through the pass-on scheme which will show their commitment and cultivate sense of ownership. The skills training modules would include rangeland and livestock breeds management.

Theory of Change:

Strategies

- To provide MFL staff with a range of trainings related to livestock production, productivity, market linkages and provide them with adequate technical resources to enable them carry out the work effectively.
- To provide project beneficiaries with adequate training in livestock management, access to livestock infrastructures, market and other resources.
- To construct a number of new livestock infrastructures, and at the same time renovate some old livestock infrastructure.
- To integrate environmental, climate mitigation and social factors in the implementation of the project.

Assumptions

- Continued Govt Support to livestock industry
- Favourable macroeconomic conditions
- Favourable livestock & livestock products market prices
- Improved human skills and capacity to diversify
- The Govt continued restocking to improve the livestock population.
- PCT to be based in Kasama for improved project mgt.
- Competent contractors engaged through stringent & evaluation and follow-ups on contract execution
- Improved capacity for weather forecasting



Influential Factors

- The MFL has staff at National, Provincial, District and Camp level capable of providing technical support and sustainability.
- Good and adequate livestock infrastructure



Problems/Issues

- Inadequate Livestock infrastructure
- High incidence of livestock diseases
- Poor livestock service delivery
- Low livestock population
- Climate and Environmental effects



Desired Results (Impacts, Outcomes & Outputs)

- Contribute to poverty reduction
- Decreased prevalence/incidences of main diseases
- Improved livestock performance
- Improved income of livestock farmers including women/youth
- Rural community and public infrastructures improved.
- Farmers and staff empowered/trained
- Project properly managed/sustained results

M&E and implementation: The CRLMP monitoring and evaluation activities would be coordinated through the existing LISP M&E expert. To ensure the smooth implementation of M&E activities at the provincial level, the LISP provincial Focal Points would be assigned M&E duties over and above their provincial coordination duties. The Focal points would prepare provincial quarterly reports to the M&E Specialist. The M&E specialist will consolidate the provincial reports into a national report which will be submitted to the Ministry of Fisheries and Livestock. At the district level, the Subject Matter Specialists (SMSs) - livestock technicians or livestock production extension officers will be assigned M&E duties over and above their normal duties. The SMSs will be responsible for data collection and capturing at district level and for the production of district quarterly reports for submission to the provincial Focal Points.

Through the Project Steering Committee, the GRZ, the Bank and GEF will review and approve the CRLMP's annual work plan and budget, at least 3 months before the beginning of the fiscal year. The CRLMP's annual plan will be synchronized with the LISP's annual plan. As with the LISP, at the Provincial level, the responsibility for delivery rests with the existing institutional structures of MFL under coordination of the Provincial Livestock Production Officer. The Provincial and District Offices have technical officers who will spearhead Project implementation activities. The PDCCs and DDCCs will supervise and monitor the project.

Monitoring and Evaluation: M&E will be done to improve the programme implementation and impact. M&E will entail monitoring the project activities, outputs, outcomes, and the performance of implementing agencies against the specified targets, reviewing progress and constraints, and using the information for improved project management towards achieving the project goals and objectives.

Monitoring: Monitoring will be an important project management tool for the CRLMP. Monitoring will focus on the two lower levels of the results framework i.e. output and activity levels under each component which are the basis of the work plans and budgeting. The activity and output indicators will form the basis for routine data collection (i.e. monthly or quarterly) for the project. To capture financial progress, the monitoring of financial progress will be done by compiling accurate monthly summary information of management on expenditure per component, category, disbursement/contribution and status of accounts (balances) and review of use of programme facilities, allowances and other services.

Evaluation: CRLMP evaluation will involve examining the changes brought about by programme interventions and their significance in relation to achieving the programme objective. It will also involve assessing the efficiency (cost effectiveness), relevance (relevance of objective to priority needs and efforts), and programme impact. Based on the various evaluation activities, conclusions will be drawn about implementation progress, capacity, and efficiency in terms of the use of project resources. The CRLMP evaluation will mainly focus on the impact and outcome level indicators of the project results based framework. The project evaluation will require carrying out a **baseline survey** in Year 1 to establish the initial project situation, a **mid-term evaluation** in Year 2, and an **end of project beneficiary impact assessment** in Year 3. In order to establish the “with” and “without” project

scenarios to rigorously estimate the impact of the LISP / CRLMP intervention, evaluation data collection will be extended to include those districts in Muchinga and Northern provinces where the LISP and CRLMP interventions will not occur. In addition to the indicated standard periodic evaluations, the project will conduct annual performance evaluations which will form the basis for annual planning and budgeting. The M&E milestones are presented in Table 5.

Table 5: M&E Milestones Over the Five Year Implementation Period

Year and Quarter	Activity	Responsible Person(s) and/or Unit(s)
Year 1, 1 st Quarter	M&E Unit in Place	Project Coordinator
Year 1, 1 st Quarter	Year 1 AWPB	Project Coordinator, M&E Specialist
Year 1, 1 st Quarter	Quarterly review Meeting	PIU
Year 1, 2 nd Quarter	Project MIS	M&E Specialist and Short-Term Consultant
Year 1, 2 nd Quarter	Strategic Review Meeting	PIU
Year 1, 2 nd Quarter	AfDB / GEF Mission	PIU
Year 1, 3 rd Quarter	Project Baseline Study	M&E Specialist, Communities, Districts, Provinces, Short Term Consultant
Year 1, 3 rd Quarter	Quarterly review Meeting	PIU
Year 1, 3 rd Quarter	Year 2 AWPB	Project Coordinator, M&E Specialist
Year 1, 3 rd Quarter	Steering Committee Meeting	PIU
Year 1, 4 th Quarter	Quarterly review Meeting	PIU
Year 1, 4 th Quarter	AfDB / GEF Mission	PIU
Year 2, 1 st Quarter	Annual Report	M&E Specialist
Year 2, 1 st Quarter	Quarterly review Meeting	PIU
Year 2, 2 nd Quarter	Quarterly review Meeting	PIU
Year 2, 2 nd Quarter	Beneficiary Impact Assessment	M&E Specialist, Communities, Districts, Provinces, Short Term Consultant
Year 2, 3 rd Quarter	Mid-term review	M&E Specialist, Communities, Districts, Provinces, Short Term Consultant
Year 2, 4 th Quarter	Quarterly review Meeting	PIU
Year 3, 1 st Quarter	Annual Report	PIU

Year and Quarter	Activity	Responsible Person(s) and/or Unit(s)
Year 3, 2 nd Quarter	Quarterly review Meeting	PIU
Year 3, 3 rd Quarter	Project Completion Review	M&E Specialist, Communities, Districts, Provinces, Short Term Consultant
Year 3, 3 rd Quarter	Steering Committee Meeting	PIU
Years 3, 4 th Quarter	Completion Report and Financial Audit Reports	PIU, Auditor General / External Audit Firm (Annually)
Year 3, 4 th Quarter	AfDB / GEF Mission	PIU

The result based logical framework matrix will provide the basis for monitoring and evaluation. Monitoring of the Project activities will be done at community (beneficiary), District, Provincial and PIU levels. The M&E will be integrated through the MFL framework. One of the key monitorable indicator be awareness and actions taken by communities and farmers on climate change vulnerability and adaptation and their impact on improved livelihoods. One other outcome to be monitored will be knowledge management to ensure that lessons learned from the project's implementation are available for application to other adaptation projects that the Bank is developing with the Government. The M&E Specialist will facilitate the incorporation of the CRLMP M&E data into the established LISP Management Information System (MIS), during PY1. MIS will include the participatory monitoring and evaluation, data collection techniques, analysis and reporting tools. A short term consultancy will provide periodic backstopping to build a computerized web-based MIS that will be operational at district level and will be able to aggregate data from Household level to the National level. The project MIS will be interfaced with the project financial and procurement systems to ensure ease of reporting on both financial and physical progress.

The progress reports will be submitted to the Bank & GEF within two months after the end of the reporting period, whilst the annual progress report will be submitted within three months after the end of reporting period. The Bank & GEF will closely monitor the implementation of the Project through regular follow-up, review and Supervision Missions. The Supervision Missions will be undertaken at least twice a year, and will include, at least once a year, a climate change specialist and an M&E expert knowledgeable in climate change issues. These Missions will verify implementation progress and give guidance to the project to ensure that project results are achieved and reported on.

3. *Assessment of Project Results*

Overall Physical Output Progress for Component 1, Livestock infrastructure development and increasing adaptive capacity of livestock farmers stands at 95.83%, Physical Output Progress for Component 2, Capacity building stands at 146%, as trainings have been

concluded in Gender Climate Risk Assessment, CRiSTAL, Sustainable Land Use Management. Technical capacity development for biogas plants and expected end targets met. Output progress of Component 3, Knowledge, Monitoring and Evaluation at 120.7%, with the production of various knowledge adaptation products such as videos, brochures and a booklet produced. Output rating is satisfactory as overall progress is above average.

4. Outputs

Output indicators (as specified in the RLF)	Most Recent Value	End Target	Progress towards end of project target (% realized)	Assessment
<p>1.1.1 Livestock farmers acquire breeds resilient to climate change.</p> <p><i>Number of climate resilient livestock units procured and distributed</i></p>	5,640	3,450	163%	<p>A cumulative total of 60 Dairy Heifers were procured and distributed and in conjunction with E-SLIP another 54 Dairy Heifers and 94 Beef Cattle were distributed.</p> <p>100 Beef Heifers were procured and distributed.</p> <p>3000 Chickens were procured under CRLMP.</p> <p>8 Boran Bulls procured and distributed.</p> <p>38 Pigs (4 Male and 34 Female) were procured and have since produced a total number of 289.</p> <p>42 Pigs procured and distributed to Livestock Farmers.</p> <p>2000 Chickens,44 Beef Cattle 200 Goats were procured and distributed (10 Red Kalahari male and 190 improved Local breeds female) were procured and distributed to Livestock farmers in Nakonde district.</p> <p>Procurement of Livestock Units have been concluded under CRLMP and end targets have been achieved.</p>

<p>1.1.2 Livestock farmers set up sustainable livestock pastures, fodder banks, rangeland and water harvesting systems.</p> <p><i>(i) Number of village land use plans established.</i></p>	(i) 258	(i) 270	(i) 96%	<p>The final report and user guides were submitted to the Ministry.</p> <p>The project was yet to multiply the copies and distribute to all participating districts.</p>
<p><i>(ii) Ha under pastures, fodder banks, and rangeland.</i></p> <p><i>(iii) Km of fire breaks constructed around rangelands.</i></p>	(ii) 617	(ii) 550 <i>(revised. Original 2,250)</i>	(ii) 112%	<p>Indicator on track and activity was completed.</p> <p>112 km of fire breaks were constructed. The outstanding</p>

	(iii) 112	(iii) 230 <i>(revised. Original 600)</i>	(iii) 48.7%	firebreaks to be constructed under beneficiary contribution.
<i>(iv) Number of livestock water sources developed.</i>	(iv) 45	(iv) 45 <i>(revised. original 292)</i>	(iv) 100%	iv) Sinking and equipping of the 45 boreholes was completed.
1.1.3 Effective practices developed for the community to manage indigenous livestock. <i>Number of best practices identified and documented for the community to manage indigenous livestock.</i>	10	10	100%	Completed.
1.1.4 Operational livestock index-based insurance scheme. <i>Operational livestock index-based insurance scheme in place.</i>	1	1	100%	The Minister of Fisheries and Livestock officially launched Weather Insurance Livestock Index (WILI) on 6 th October 2020. 2,000 farmers have been enrolled on the scheme.
1.1.5 Operational Livestock Early Warning Info System. <i>Operational Livestock Early Warning Information System.</i>	1	1	100%	Indicator on track Final Report submitted.
1.2.1 Restoration of degraded pasture and increased vegetation cover with different drought tolerant perennials. <i>Rangeland area (ha) under improved interventions (e.g. drought tolerant annual and perennial species)</i>	3,763	2,500 <i>(revised Original target 4,500)</i>	100%	Indicator on track. Completed.

1.3.1 Climate resilient infrastructure designs in place. <i>No of infrastructure designs improved to be climate resilience.</i>	11	11	100%	11 designs were improved by adding features relating to 275, 120, and 25 cubic meters biogas digesters and solar powered boreholes.
1.3.2(a) Climate resilient infrastructure constructed. <i>Number of climate resilient infrastructure constructed.</i>	69	60 <i>(Revised. Original 217)</i>	115%	Indicator on track. Target of 217 was based on the original LISP Design. 15 Climate resilient LSC Tier 1 have been constructed with Bio kraals and 45 Hand Pump boreholes, 3 Spray races have been installed in Kasama, Mbala and Mpika and 6 biogas digestors.
1.4.1 LISP structure designs for reduced GHG emissions. <i>No. of LISP structure designs improved to reduce GHG emissions.</i>	11	11	100%	Completed. 11 designs were improved by adding features relating to 275, 120 and 25cubic meters biogas digesters and solar powered boreholes.
1.4.2 - LISP infrastructure fitted or constructed with GHG emissions reduction technologies. <i>No of LISP infrastructure designs constructed with GHG emissions reduction technologies.</i>	6	6	100%	6 Biogas digestors split in 2 Lots with the concentration on the 2 LSC Tier 3s, the 2 Livestock Market Centres and the 2 Slaughter Facilities are complete.
2.1.1 National technical staff trained in climate risk assessment and adaptation skills for livestock farmers. <i>No of staff trained on climate risk assessment and adaptation skills for livestock farmers.</i>	240	160	150%	Completed.
2.1.2 Community level artisans in manufacturing livestock-related material as a source of income diversification.	123	80	153.8%	Completed.

<i>Number of beneficiary cooperative members trained on manufacturing livestock-related material.</i>				
2.2.1 Livestock farmers (30% F) equipped with skills for livestock feed conservation for dry season <i>Number of livestock farmers equipped with skills of feed conservation for dry season</i>	391	180	217.2%	Completed
2.2.2: Strengthened adaptive capacity for sustainable land use management <i>Number of village committee members with capacity developed for sustainable land use</i>	200	180	111.1%	Completed
2.2.3: Technical and business capacity developed for construction of biogas plants for livestock farmers <i>Number of farmers trained on the technical and business capacity for construction of biogas plants</i>	180	180	100%	180 farmers were identified and trained in Technical and business development for biogas plants. These farmers were attached to the contractors.
3.1 Compile knowledge adaptation products <i>Knowledge adaptation products compiled (e.g. videos, fact sheets, project reports, training materials, books...)</i>	10	10	100%	A number of products have been developed. NAIS has just completed documentaries (Video) on pass-on and effects of climate change on livestock production. CRLMP Booklet, Brochures and training materials and fact sheets have been produced. A scientific study and report were produced to document fully the performance of the Chicken pass-on program.

				TV documentary ‘Transforming Dairy into daily business’ was produced by NAIS on the operationalisation of the MUSA Milk Collection Centre in Kasama.
3.2 Participate in adaptation practitioners’ events <i>Number of adaptation practitioners’ events attended</i>	9	10	90%	<p>Various departmental, PSC Meetings, National Agricultural and Commercial Shows.</p> <p>Project staff attended the handover ceremony of the COVID Relief Packages in February, 2021, Nakonde.</p> <p>Virtual Fiduciary Clinic hosted by the African Development Bank (AfDB) in collaboration with the Ministry of National Development Planning (MNDP) during project implementation.</p> <p>Physical AfDB supervision missions were conducted in Dec 2019 and June 2020.</p> <p>A Virtual Supervision Mission was held by the AfDB to deliberate on progress of LISP and GEF CRLMP from 28-29th September, 2021 in the third quarter.</p>
3.3 Produce monitoring and evaluation reports <i>No. of AWPB, Progress and Audit Reports submitted by PCT.</i>	19	11	172%	<p>3 AWPB & 3 PP 9 Progress reports 4 Audit reports</p>

5. *Outcomes*

A miniature survey in sampled project districts and a report writing workshop was conducted on the Updating of Outcome Indicators in 2021. There was a challenge of poor baseline reporting due to baseline indicator gaps.

However, optimal performance was sustainably achieved in providing water points to livestock farmers for their livestock through the sinking of the 45 boreholes in selected sites. A minor percentage of the targeted population experienced climate disasters except for a few households in Kasama and Mungwi in 2020. Determining the percentage (%) Change in GHG emissions due to livestock activities is yet to be established by an expert as the bio gas digestors were recently completed and handed over to the facilities. Various livelihood strategies have been adopted by the local farmers such as dairy milk production, poultry farming, the sale of meat and eggs products, feed conservation techniques for the dry season, sustainable land use and animal husbandry practices, which has helped in developing the yielding breeds by cross breeding and has increased the production of various products such as milk, eggs and meat for income generation. These farming practices have helped farmers to efficiently manage their livestock by providing them with good shelter and protection from various diseases. The decrease in the number of livestock diseases is attributed to the various capacity building trainings on disease management. Access to markets for livestock products has also improved through the establishment of Marketing center committees, improvement and maintenance of feeder roads to the Milk Collection and processing centers and farmer trainings in business and marketing skills that enhanced their capacity to market their products.

Increased knowledge and risk preparedness and adaptive capacity to climate variability at country and targeted community levels has improved with trainings in various sensitization and awareness campaigns on Climate risk preparedness conducted at community level through Radio programs and Training of Trainers at district level, however additional trainings on the tools to enhance knowledge and mitigation technics are still required. Additionally, climate awareness knowledge products in local languages should be produced and distributed to the local farmers

Livestock Beneficiary farmers have had an 88.7% increase in the availability of adequate water for livestock watering due to the sank 45 boreholes in Northern and Muchinga Provinces. Challenges associated with managing livestock such as disease control to reduce livestock mortality is being managed through the utilization of built LISP infrastructure such as dip tanks, spray races, crush pens for vaccination and other veterinary services which has lessened distances to far veterinary facilities. Market linkages have been strengthened through Climate resilient feeder roads construction for the livestock farmers at MUSA Dairy Scheme and Chiba Slaughter Facility to the market center and access to markets for livestock products has been enhanced with benefits extended to the Tanzanian market. The MUSA Dairy Cooperative and Mbala Dairy cooperative which are fully operational are already yielding income for 96.7 % of Households/farmers who have adopted the Dairy Milk production strategy through increased sales of milk and Ice cream production through which they are able to sustain their livelihoods and cater for school fees of their dependents and improving nutrition benefits in adults and

children. 122% Households are able to make hay from harvesting the pasture from seed from their fields. Farmers have adopted sustainable pasture cultivation and conservation for dry season feeding and climate resilient livestock breeds.

There has been an increase in knowledge and risk preparedness and adaptive capacity to climate variability at country and targeted community levels through Sensitization and awareness campaigns through radio programs and Training of Trainers at district level. Though The technologies developed are quite new and adoption rates are slow, 61.49 % of Households are now aware of climate change issues and the mitigation measures.

The CRLMP has yielded positive outcomes by providing more income and better livelihoods to participating communities. The CRLMP which focused on community/local beneficiaries was guided by a comprehensive and extensive participatory process. The Project has aided participating communities to diversify agricultural output in a sustainable manner. Other positive effects have been an improvement in nutritional and food safety status of the direct beneficiaries and other communities through consumption of wholesome meat and milk products rich in proteins and also supply of draught power for crop production. Livestock dung will also be used, as compost manure, to enhance crop production and also used to generate energy through biogas digesters. Rehabilitation of feeder roads has facilitated the sale of livestock and related agro-products which has generally improved trade. The increased economic activities significantly boosted local development. Value addition training also improved skills and provided employment to women and youth. The economic well-being resulting from higher family incomes has generated positive multiplier effects on social stability which will help curb rural exodus by retaining local population especially youth within the participating districts. Additionally, the Project mitigated the risk posed by HIV/AIDS, malaria and malnutrition through awareness campaigns.

Outcome indicators (as per RLF)	Baseline value	Most recent value	End target	Progress towards target (%)	Assessment	Core Sector Indicator (Yes/No)
Component 1: Livestock farmers able to cope with climate change through adoption of improved practices that enhance livelihoods.						
Outcome 1.1: Livestock farmers able to cope with climate change through adoption of improved practices that enhance livelihoods						
% of households with year-round access to adequate water for livestock watering	48	88.4	98	88.4	There has been an increase in the availability of adequate water for livestock watering due to the availability 40 boreholes and an additional 5 which were completed in Muchinga in Chinsali and Isoka in the 3rd Quarter 2021. The increase in the percentage is also attributed to the high demand for water due to the restocking and stocking exercise of livestock in the areas.	Yes

Emerging livestock disease incidences (% of livestock population) in non-endemic areas	15	14.21	5	14.21	<p>Prevalence of livestock disease incidences have decreased due to an improvement in animal husbandry management.</p> <p>The Veterinary department with support from the project has been carrying out Annual Mass Livestock Vaccinations for FMD and CBPP and have also conducted farmer trainings in disease control.</p> <p>Some of the dip tanks and Spray races constructed under are now operational and being utilised by the farmers such as that in Mbala to dip and perform frequent spraying of livestock to prevent tick-borne diseases.</p> <p>There has also been an improvement in nutrition benefits of animals due to the distribution of pasture seed.</p> <p>Lab Technicians have previously been trained in disease identification and are operating in some of the labs constructed.</p> <p>GPS devices have aided in the tracking of disease outbreak.</p>	Yes
% Change in GHG emissions due to livestock activities (estimated)	0	0	95	0	Yet to be established as it requires Expert Analysis.	Yes
% Households affected by climate related disasters	No data*	16.3	10	16.3	<p>Assumption at 100% baseline</p> <p>Kasama and Mungwi Districts experienced floods in Dec 2020 affecting 509 HH and 577 HH respectively. Flash Floods were experienced in early March,2022 but there have not been any reported cases of affected livestock keeping households.</p>	Yes
% Households adopting wider variety of livelihood strategies	No data*	75	75	75	<p>Farmers have benefitted from the Livestock Pass-on Scheme and have now adopted this as a livelihood strategy helping them sustain and improve household income generation and enhance their livelihoods.</p> <p>Farmers have benefitted from the Livestock Pass-on Scheme and have now adopted this as a livelihood strategy helping them sustain and improve household income generation and enhance their livelihoods.</p> <p>Northern:</p>	Yes

					<p>Dairy Cattle- 9 Dairy Cattle passed on 9 beneficiaries 4 Male and 5 female.</p> <p>Goats-59 Goats passed on to 24 beneficiaries, 17 Male and 7 Female.</p> <p>Chickens- 75 Chickens passed on to 15 beneficiaries, 5 male and 10 female.</p> <p>Muchinga:</p> <p>Dairy Cattle- 9 animals passed on to 5 Households 3 males and 2 females.</p> <p>Goats- 6 goats were passed on to Witikila and Chilonga Secondary School, while 221 goats were passed on 45 households ,25 Females and 20 Male.</p> <p>Chickens- 440 Chickens were passed on to 220 Households.</p> <p>Dairy Milk Production- 96.7 % of Households have adopted this strategy through milk production which has improved nutrition benefits in adults and children.</p> <p>Households are able to sell the excess milk to the processing centers to process into various dairy products such as ice cream and yoghurt etc. thereby enhancing value addition and earning extra income for other household needs.</p> <p>Feed Conservation- 122% Households are able to make hay and silage from harvesting the pasture from seed from their fields.</p>	
% Farmers with access to markets for livestock products	No data*	63	90	63	<p>Through the recent operationalization of the Mbala Milk Processing center in October 2021, farmers are able to sell their Milk products to the center.</p> <p>A Committee is currently running the Market Center, once fully operational they will help bring better bargaining for the cooperative to market their products and sell products in a centralized place.</p> <p>Improvement and maintenance of feeder roads has also improved access to Musa Milk Collection Center.</p> <p>Farmers were trained in business and marketing skills that has enhanced their capacity to market their products.</p> <p>Benefits have been extended to indirect beneficiaries including Tanzania.</p>	
Outcome 1.2: Increased resilience of infrastructure to climate change threats						
Percent LISP infrastructure made	0	80	100	80	LISP Infrastructure has been made climate resilient by planting of trees,	Yes

climate resilient to rapid-onset events (i.e. floods & storms surges, heat-waves)					Vertiva grass and sinking of boreholes for livestock watering as well as biogas digesters through conserving manure and therefore reducing GHG gas emission.	
Outcome 1.3: Reduced GHG emissions from LISP infrastructure						
Percent of LISP infrastructure with GHG emission reduction technology	0	0	100	0	Biogas digestors are still under construction and not yet being utilized.	Yes
Component 2: Capacity Building on climate change Adaptation for stakeholders						
Outcome 2.1: Increased knowledge and risk preparedness and adaptive capacity to climate variability at country and targeted community levels						
Percent households who are aware of climate change issues	No data*	61.49	90	61.49	Sensitization and awareness campaigns on Climate risk preparedness were conducted at community level through Radio programs and Training of Trainers at district level.	Yes
Outcome 2.2: Diversification and strengthened livelihoods and source of incomes for rural population (artisan and livestock farmers)						
% households adopting climate change resilient livestock management and resilient crop husbandry practices.	No data*	56.81	100	56.81	Increase in the adoption of sustainable pasture cultivation and conservation for dry season feeding and climate resilient livestock breeds is attributed to intensified trainings in crop and animal husbandry practices.	Yes
Component 3: Knowledge, Monitoring and Evaluation						
Outcome 3.1: M&E Management and lessons learnt are captured and appropriately disseminated						
Percent actual/budgeted expenditure achieved	0	86.89	100	86.89	The project is due for closure in May 2022. Physical completion of activities is underway.	No

Revised Output Indicators at MTR (2020):

Item Description	Quantity		Justification
	Original PAR	Revised at MTR	
1.1.2 (ii) Area under sustainable pasture, fodder banks and rangelands	2,250	550	Target has been revised to 550 based on available demand.
1.1.2 (iii) Kilometres of fire-breaks constructed around rangelands	600	230	Target has been revised to 230 due to the ploughing methods and conflict with other land use practices.
1.1.2 (iv) Number of livestock water sources improved or developed	292	45	Target has been revised to 45 due of change in priority.

Item Description	Quantity		Justification
	Original PAR	Revised at MTR	
1.2.1 Rangeland area (ha) under improvement interventions (e.g. drought tolerant annual and perennial species)	4,500	2,500	Target has been downsized due to budgetary constraints.
1.3.2 (i) Number of climate resilient infrastructure constructed	217	60	Target has been scaled down due to budgetary constraints.
1.3.2 (ii) Number of climate resilient infrastructure maintained	217	0	This activity is not applicable since most of them are new constructions.
3.1.1 Knowledge adaptation products compiled (e.g. videos, factsheets, project reports, training materials, books etc)	5	10	Target has been increased to improve visibility and knowledge dissemination.
3.2.1 Participation in Adaptation Practitioners Events by Project team	23	10	Target has been reduced due to budgetary constraints.

6. Outcome Ratings

- **Relevance:**

Relevance of Project Design is rated Highly Satisfactory (HS)

The Project remained in line with GRZ strategy of economic diversification. The livestock sub-sector is an important source of economic growth and job creation which greatly contributes to poverty reduction in Zambia. GRZ development agenda remains articulated in the National Vision 2030 which reflects Zambia's aspirations and determination to be a prosperous middle-income country by year 2030. The Project was designed in line with the Sixth National Development Plan (SNDP: 2011-2015), which aimed to increase production, productivity, value addition and promote commodity value chain development. CRLMP remained relevant to the Seventh National Development Plan since its design had clear link with the country's main development policy frameworks. CRLMP was designed in line with the Paris Declaration on Aid Effectiveness (2005) which was formulated around five central pillars namely, (a) Ownership, (b) Alignment, (c) Harmonisation, (d) Managing for Results, and (e) Mutual Accountability which were appropriate for delivering the expected outcomes. For alignment, the donors therefore utilised local/national institutions and systems.

Project Outcomes were in line with the GEF focal areas of biodiversity, (climate change and mitigation and adaptation) international waters, land degradation and sustainable forest management.

- **Effectiveness:**

Effectiveness is rated Satisfactory (S)

In general, although the progress was stalled due to the emergence of the Covid-19, the CRLMP generated outputs in a timely manner with physical implementation above 80%. It has contributed to strengthening capacity of staff and beneficiaries to analyse climate change, its causes and various

interventions required to mitigate its effects. Both adaptation and mitigation measures have been implemented. Measures to climate proof LISP infrastructure were identified and implemented. The sub-components that made the most progress are capacity building and training where targets were surpassed. The implementation of climate proofing civil works such as the construction of the biogas digestors was completed as well, yet to be fully utilised by the centres and communities at the selected LISP locations.

- ***Efficiency:***
Efficiency is rated Satisfactory (S)

The Project encountered fewer challenges in timely implementation of the procurement activities. This can be explained by a number of contracts that the project has successfully awarded. Most procurements of goods were been completed during the 2nd year of project implementation. The challenges faced related to financial capacity on the project suppliers, lengthy procurements and payment processes and delays in completion of contracts such as the Incomplete works by local contractors in Mbala and Isoka- Major concerns were raised on the unfinished works to construct the LSC Tier 2 in Isoka by VGlux, contract was cancelled and funds outsourced to complete the on-going works currently at 95% completion. Additionally, there occurred a delay in the distribution of the procurement of Veterinary Laboratory Equipment and Feed Laboratory Equipment.

The procurement of consultancy services for the management of livestock pass-on scheme delayed due to prolonged legal clearance which resulted into the cancellation of the tender. As at mid-term review, MFL had resolved to use already trained government staff to implement the assignment. Additional measures included the procurement of livestock units for distribution to livestock farmers under the pass-on scheme.

Based on the disbursement rate of about 86.89% and actual physical completion rate at 121.12%, CRLMP is moderately efficient in resource management. Some of the important activities like capacity building and training, civil works have been completed. Climate proofing infrastructure has also been initiated. However, the installation of efficient business models for better utilisation and management of infrastructure including linking the beneficiaries to appropriate markets can improve efficiency and generate more impacts.

7. Rating Scale for Outcomes

After taking into account, the relevance, effectiveness and efficiency of the project activities, the ***outcomes are rated overall to be Satisfactory (S).***

8. Sustainability

Possible Risks and Mitigations Measures for the Additional Activities

Risk	Risk Mitigation Measure
Alternating El Niño and La Niña episodes	Improved capacity for weather forecasting through weather stations and educating farmers about the weather patterns
High dependence on natural resources, weak coping mechanism	Improved human skills and capacity to diversify livelihoods
Weak farmer organizations	Capacity building and training on livestock production, community mobilization and formal registration
Weak contractors	Apply stringent evaluation methods to enforce quality and also contract monitoring and evaluation
Inadequate MFL technical staff	Government is recruiting and training field personnel. The project will provide and hire additional experts as consultants
Weak institutional arrangements and capacity for climate proofing of LISP	The Climate Adaptation Expert will be fused into LISP and work within a single Project Implementing Unit.

Sustainability Ratings: Moderately Likely (MS)

Risks are moderately likely to occur and there is a higher likelihood of sustainability given the current mitigation measures discussed below;

Financial Sustainability: The Project continues to strengthen the capacities of Provincial, District authorities and beneficiaries. The CRLMP mainstreamed climate change-related activities into livestock development planning by involving rural communities, public and private sectors. The trainings conducted have provided the communities the tools and approaches for continuous commitment and sustainability after closure of the project. Implementation of the CRLMP activities involved all stakeholders, including the beneficiary communities to ensure a sense of ownership and commitment as well as sustainability of the improved infrastructure for livestock management. The CRLMP enhanced the sustainability principles which focus on participatory approach in preparation of the Project. This is an important step towards ensuring the relevance of the investments made and laying of institutional capacity at the community level for the sustainability of the planned activities. Project sustainability will be ensured through strengthened and sustainable institutional framework based on the use of existing country systems. CRLMP also fully used the decentralized structure of MFL during implementation as it was a community-driven and Government facilitated project. The use of the provincial and district decentralized implementation system ensured full community participation guided by district authorities, which will continue after the CRLMP has phased out. For sustainability, the rural community infrastructures will be rehabilitated by the community, either using their own workforce (cooperatives) or recruiting an artisan, with full support from the Project. The Project will demonstrate that the livestock infrastructures can be ably managed by the community if given the

necessary support including start-up capital for the livestock pass-on scheme which will revolve with time. The process of community engagement and participation will be a learning pilot intervention point for the sustainability and also useful database for other potential development projects being planned by the Government.

Institutional sustainability and strengthening of capacities: For sustainability, the rural community infrastructures will be constructed or rehabilitated by the community, either using their own workforce (cooperatives) or recruiting an artisan, with full support from the Project. The Project will demonstrate that the livestock infrastructures can be ably managed by the community if given the necessary support including start-up capital for the livestock pass-on scheme which will revolve with time. Through the exchange visit initiative, farmers from Muchinga and Northern were oriented to already existing viable well managed milk processing ventures by members of the cooperatives. This was done with a view to ensure sustainability of investments in the communities under the project. The process of community engagement and participation will be a learning pilot intervention point for the sustainability and also useful database for other potential development projects being planned by the Government.

The Project continues to strengthen the capacities of provincial, district authorities and beneficiaries. The Project has adequate structures in place to promote sustainability, from national level up to the community level. However, there is need for Government to build and strengthen business oriented and management capacity for developed infrastructure under LISP.

Ownership and sustainability of partnerships: The project interventions were fully implemented by the Ministry of Fisheries and Livestock and targeted existing farmer groups and secondary schools. This contributed to building capacity among these target groups and also helped in establishing as well as strengthening synergies. Management of infrastructure was left in the hands of the individual districts with minimal support from the Ministry headquarters. The core project management team at district level therefore, comprised of the existing ministry structures that comprised; Livestock Production and Extension Officer (LPEO) being the project's focal point person at district level, the Livestock Technician (LT), Livestock Assistant (LA) and Veterinary Assistants (VA). The Monitoring team for infrastructure included; The District Fisheries and Livestock Coordinator, LPEO, Buildings Inspector, as well as the Technical Service Branch Officer in the Ministry of Agriculture. At community level, the livestock farmer cooperatives were fully engaged in the management of the project interventions. Trainings as part of capacity building at all levels of project interventions for all the partner institutions (staff, farmers, and school pupils) were done. Community Livestock Facilitators (CLFs) have been trained to compliment efforts of the veterinary assistants at community level and within livestock farmer cooperatives.

Environmental and social sustainability: The social impact of the CRLMP has provided more income and better livelihoods to participating communities. The CRLMP which focused on community/local beneficiaries and was guided by a comprehensive and extensive participatory process. The Project has helped participating communities to diversify agricultural output in a

sustainable manner. Other positive effects have included an improvement in nutritional and food safety status of the direct beneficiaries and other communities through consumption of wholesome meat and milk products rich in proteins and also supply of draught power for crop production. Livestock dung will also be used, as compost manure, to enhance crop production and also used to generate energy through biogas digesters. Rehabilitation of feeder roads have facilitated the sale of livestock and related agro-products have generally improved trade. The increased economic activities have significantly boost local development. Value addition training of the artisans in livestock related products have improved skills and provide employment to women and youth. The anticipated economic well-being resulting from higher family incomes have generated positive multiplier effects on social stability which will has helped curb rural exodus by retaining local population especially youth within the participating districts. The Project has mitigated the risk posed by HIV/AIDS, malaria and malnutrition through awareness campaigns.

The beneficiary targeting approach of farmer cooperatives and other livestock farmer groups contributed to strengthening the cohesion among farmers. The project interventions on the livestock restocking and income generation was largely based and aimed at not only improving livestock pastures, milk and meat but also other fundamental positive externalities and ecosystem services, such as conservation of genetic resources including the local livestock breeds, natural water resources, observed the principles of climate change mitigation as well as the existing cultural heritage.

9. *Progress to Impact*

Livestock farmers targeted under CRLMP/LISP have begun utilising infrastructure such as dip tanks, spray races, crush pens for vaccination and other veterinary services which has lessened distances and other challenges associated with managing livestock such as disease control to reduce livestock mortality. Market linkages have been strengthened through Climate resilient feeder roads construction for the livestock farmers at MUSA Dairy Scheme and Chiba Slaughter Facility to the market center. Chipompo Livestock Service Center is fully fledged offering trainings and livestock breeding services for Pigs, Cattle, Goats, Chickens and Rabbit Production. The initial 60 Dairy animals distributed to beneficiaries under CRLMP are already yielding income for farmers through increased sales of milk. Farmers received additional livestock under the pass-on scheme and capacity building activities were conducted, where artisans were engaged by the contractors to construct biogas digestors at Livestock Service Center Tier 3 at Chipompo and Mbesuma. The farmers were trained on how to construct the digestors and utilise them to reduce GHG emission while enhancing the management of manure for crop production. Farmers trained in pasture and fodder production for dry season, climate adaptation risk assessment tools, sustainable land and feed conservation are now utilising the knowledge acquired to improve animal growth rate. Determining the percentage (%) Change in GHG emissions due to livestock activities is yet to be established by an expert as the bio gas digestors were recently completed and handed over to the facilities.

The CRLMP has contributed substantially towards the enhancement of the Livestock industry in Northern and Muchinga Provinces as guided by the Livestock Development Policy. Broadly, the

Livestock Development Policy covers areas that are important in realising the potential of the fisheries and Livestock sector and was aligned with the country's medium to long term aspirations expressed in the 7th National Development Plan (7NDP).

The CRLMP promoted sustainable livestock development through the expansion of extension and advisory services in the sector. In addition, it enhanced livestock stocking and re-stocking by strengthening the livestock breeding and breed multiplication systems by actualisation of the “one livestock unit per rural household programme” and the “pass-on-the-gift scheme”.

Further, it has promoted animal welfare by ensuring countrywide rollout of awareness programmes on animal welfare and enhancement of enforcement mechanism. Deliberate measures were put in place to promote the application of indigenous knowledge and practices in the management of animal diseases through the development of various knowledge adaptation productions such as fact sheets on climate mitigation techniques and characterisation of indigenous livestock. Furthermore, mechanisms to strengthen the management of rangelands and livestock water resources through the promotion of extension services and good grazing practices as well as enhancement of appropriate technologies for forage conservation and utilisation have been piloted, which have improved nutrition and reduced poverty in the project areas.

The Project successfully completed the Training of Trainers (TOT) in Gender Sensitive Climate Risks Assessment (GCRA) and the use of a Community Based Risk Screening Tool-Adaptation and Livelihoods (CRiSTAL) in 7 Districts of Muchinga and 6 Districts of Northern Provinces. Subsequently, District staff and Extension officers conducted a training of livestock farmers risk assessments and climate change awareness campaigns in approximately 70 villages of the 13 Districts. An estimated 3,500 representing 1,512 females (43%) and 1988 (57%) men took part in the training and successfully produced various village vulnerability and resource maps. In addition, the project completed the drilling of 45 boreholes and pilot biogas digesters including promoting pasture and rangeland management, which have increased environmental sustainability.

10. Assessment of Monitoring & Evaluation Systems

The overall objective of this integrated Monitoring and Evaluation Plan was to ensure that the Livestock Infrastructure Support Project (LISP) and Climate Resilient Livestock Management Project (CRLMP), were implemented in a complementarity arrangement, are fully equipped so as, to systematically generate, capture, disseminate, and utilize information to ensure effective implementation of the projects. The proposed integrated M&E Plan responded to the requirements by LISP/CRLMP to track the achievements of the key results areas of the projects; preparing timely information to support decision-making and to resolve potential challenges pertaining to project implementation; Support the accountability function of the projects and meet the information needs of the project stakeholders.

The Integrated M&E Plan identified and defined the indicators appropriate for routine and periodic data collection and reporting. It also provided a plan for periodic strategic reviews (or evaluations), the conceptualization of data collection tools and a database for holding both routinely collected and periodic data.

The Integrated M&E plan assisted the LISP/CRLMP to work more effectively and efficiently towards achieving the project goals and objectives. The M&E Plan aimed at organizing and enhancing coordination of the numerous M&E related activities that took place at different levels of implementation which included: the Local Community partners, district govt staff, provincial staff, Project Implementing unit (PIU), MFL and the AfDB.

Implementation Arrangements for CRLMP M&E

The LISP/CRLMP M&E framework operated at four levels: at community or beneficiary level, District Level, Provincial Level, and National Level. All monitoring and evaluation activities and systems will be coordinated through the M&E Specialist. To ensure the smooth implementation of M&E activities at the provincial level, the Provincial Focal Points would be assigned M&E duties over and above their provincial coordination duties. The monitoring emphasis is at the district level with information being aggregated up to the Provincial, PIU and national level. Information will be kept at all these levels and aggregated at the PIU in a database developed and managed by the M&E Specialist. M&E data would be shared with all key CRLMP stakeholders through various avenues including the following; Quarterly and annually progress reports, supervision missions, and other special review meetings as and when needed. The data flow, reporting and feedback mechanism is discussed in two categories namely: (i) LISP Livestock Infrastructure support, (ii) CRLMP Capacity building and interventions.

LISP livestock Infrastructure support: Monitoring/Supervision of all livestock infrastructure works shall be conducted at different levels of project implementation. At Community level, especially for rural community infrastructures that include Tiers 1, 1+ & 2, Slaughter facilities, MCCs and LMCs. Community led Committees would be established and assigned a monitoring function, and will closely work together with the Four-man District task team (DTT) (consisting of 1 staff from Technical Services Branch/TSB, Buildings Department, Livestock Department and Veterinary Department) (See: Recommendations of MTR) and PIU to enhanced supervision of works. The DTTs shall visit all construction sites every fortnight. The fortnightly site visit report shall be submitted to the Project (Project Engineer, M&E Specialist, PFPs) and MFL (DFLCO). Additionally, the PIU, through the Project Engineer shall spearhead routine site visits and also hold monthly site (progress review) meetings at all sites involving contractors and supervisors (Government and Project staff). Minutes of such meetings shall be shared with the MoFL HQ, Provincial Administration and District. The Project engineer shall share a consolidated report on the status of all infrastructure contracts on a monthly and quarterly basis to PIU for further computation and inclusion in the overall report to the Bank and MFL HQ. The PIU, through the M&E specialist will then, disseminate the information through different avenues which include: Provincial quarterly review meetings, quarterly and annual reports, AfDB portfolio review workshops, updates. Etc. The data flow has a feedback loop embedded in the process.

CRLMP Capacity building:

The Capacity building dataflow and reporting would take the same arrangement as under infrastructure support, except that the data sources and the responsibility of collecting and reporting data from the source's changes from the construction sites to community level groups/cooperatives. The MFL Camp/District level assigned staff or subject matter Specialists (SMS) will work closely with the Community level structures (groups/committees) and will continuously collect data and provide report to the Provincial Focal points. The Provincial Focal Point will aggregate the reports from the districts where LISP is implemented and generate a quarterly report 15 days after the end of a quarter on the reporting template

The CRLMP monitoring and evaluation activities would be coordinated through the LISP M&E Specialist. To ensure the smooth implementation of M&E activities at the provincial level, the LISP provincial Focal Points will be assigned M&E duties over and above their provincial coordination duties. The Focal points will prepare and consolidate district quarterly reports to form the provincial quarterly reports for submission to the M&E Specialist. The M&E specialist will consolidate the provincial reports into a national report which will be submitted to the Ministry. At the district level, the Subject Matter Specialists (SMSs) - livestock technicians or livestock production extension officers - will be assigned M&E duties over and above their normal duties. The SMSs will be responsible for data collection and capturing at district level and for the production of district quarterly reports for submission to the provincial Focal Points.

Data Quality Review process:

The objective of data quality reviews (DQRs) was to verify the quality and the consistency of performance data over time, across different reporting sources/institutions.

Internal DQRs will be undertaken by the M&E unit on project process and output level indicators to ensure compliance to indicator definitions, manipulations and data collection procedures. DQRs include the following: (i) Quality of data, (ii) Data collection instruments, (iii) Survey sampling methodology, (iv) Data collection procedures, (v) Data entry, storage and retrieval processes, (vi) Data manipulation and analyses, (vii) Data dissemination.

Implementation of the M&E Plan

Indicators:

To effectively track performance and progress, the CRLMP results-based frameworks contained measurable indicators at different levels results, which specified clear targets and appropriate (SMART) indicators to track environmental, gender, and socio-economic results. provided a detailed definition of each key impact and outcome level indicator; unit of measurement, source of data, method of data collection, frequency of data collection, and the entity responsible for collecting the data. All Indicators presented in the log-frame were agreed with the AfDB.

M&E Budget: There occurred some revisions and modifications for some indicators due to budgetary constraints and budget overruns under Component 3: Knowledge Management,

Monitoring and Evaluation at MTR. The revision of LOGS was conducted as guided and in consultation with the AfDB.

Indicator Levels: Indicators were categories in four (4) different categories as follows;

- (i) Impact level Indicator: This indicator measure poverty reduction that occur during or after implementation of the project. In this, income will be measured using expenditure methods.
- (ii) Outcome Indicators: these indicators measure the intermediate effects of the interventions, and these effects are directly related to the project output indicators.
- (iii) Output Indicators: these indicators measure immediate results that arise from processes and the implementation of activities.
- (iv) Process Indicators: these indicators measure progress toward the completion of Project Activities. They are a pre-condition for the achievement of output indicators and a means to ascertain that the work plan is proceeding on time.

Data Sources:

Data sources were been identified and vetted for all the indicators and obtained from primary sources including implementing agency (Ministry of fisheries and livestock) at district and provincial level, project beneficiaries, Project Management Unit (PIU) and livestock infrastructure contractors. Higher level indicators (impact and outcome) will be obtained through the already established MFL livestock information management system (NAILEC). When appropriate, secondary data was also be obtained from government institutions such as Central Statistics Office (CSO) and research institutions.

Methods of Data Collection:

Both qualitative and quantitative data collection methods were used to collect data to use in assessing progress made towards the project objectives. Quantitative methods included surveys whereas focus group discussions, participatory and key informant interviews formed part of qualitative methods. Where appropriate, participatory methods such as observations were used to collect data. Qualitative methods will help to explain the presence or absence of outputs, outcomes and impacts, as well as to assess and explain the effectiveness of some of the institutional strengthening activities.

Evaluation:

Household surveys, periodical epidemiological surveys, Scorecards to measure climate change, Project M&E reports, formed part of the Mid-term review, beneficiary impact assessment and project completion review.

Frequency of data collection:

Data will be collected at multiple points during the LISP/GEF/CRLMP implementation period. Depending on the level of indicator, the standard cycle of data collection was collected quarterly, and annually and synchronized with the AfDB requirements so as to ensure efficiency.

GRZ assigned Focal point staff, Engineers, Procurement and Financial staff were required to report on project milestones and outputs on a quarterly basis.

Data Quality Standards:

CRLMP data quality adhered to the following Data quality standards of validity, reliability, timeliness, precision and integrity.

- (i) Validity: Data is valid or accurate to the extent that it clearly, directly and adequately represents the result to be measured. The data measure what they are intended to measure. Accurate data minimize error (e.g., recording or interviewer bias, transcription error, sampling error) to a point of being negligible.
- (ii) Reliability: Data should reflect stable and consistent data collection processes and analysis methods over time. The users of data should be confident that progress toward performance targets reflects real changes rather than variations in data collection methods. The data generated by a project's information system are based on procedures that do not change according to who is using them and when or how often they are used. The data are reliable because they are measured and collected consistently.
- (iii) Timeliness: Data should be available with enough frequency and should be sufficiently current to inform programmatic decision-making. Effective management decisions depend upon regular collection of up-to-date performance information.
- (v) Precision: This means that data should have sufficient detail to enable PIU and other stakeholders to make confident decisions. The expected change being measured should be greater than the margin of error.
- (vi) Integrity: Data that are collected, analysed and reported should have mechanisms in place to reduce the possibility that data are subject to erroneous or intentional alteration.

Baseline data:

A Baseline survey was conducted at the commencement of the project; however, the consultancy was poorly executed leading to insufficient information in the final baseline report. This systematically hindered the assessment of certain essential evaluation data.

Mid-Term Review:

The Mid-term review MTR assessment was conducted in October 2020 based on the terms of reference prepared by the Project implementation unit. Among other things, the MTR assessed the (i) the achievements of the project objectives against the established objectives; and (ii) identified key implementation issues and recommended solutions, including modifications to project design, scope and implementation arrangements required to ensure the achievement of project objectives.

Beneficiary Impact Assessment:

A final evaluation to assess project impacts will be carried out at the end of the project. The final evaluation will be conducted by an independent external evaluator.

Project Completion Review:

The PIU conducted the Project Completion Review and final report was submitted to the bank.

The key Project M&E milestones over the three-year implementation for CRLMP in the matrix.

Table: 1: Summary of M&E Milestones

CRLMP Monitoring and Evaluation Milestones 2019-2022			
Time Frame	Milestones	Monitoring Process	Status
Year	Preparation of AWPB	PIU	Completed
Year 1	Baseline Survey/PPF (Separate Activity)	MFL, Provinces, Districts, NALEIC Consulting Firm (short-term consultancy).	Completed
Years 1 to 4	Project Implementation	Communities, Districts, Provinces, PCT and MAL.	Completed
Years 1 to 4	Quarterly Progress and Annual Financial Audit Reports	PCT and External Audit Firm (Annually).	Completed
Year 3	Mid-Term Review	Communities, PIU	Completed
Year 4	Beneficiary-Impact Assessment	Beneficiaries, PCT, NALEIC and Consultant.	Not Completed
Year 4	Project Completion Report	Communities, Districts, Provinces, PCT and Consultant	Completed
Years 1 to 4	Quarterly Progress Reports and Annual Financial Audit Reports	PCT and External Audit Firm (Annually).	Completed
Year 1 and 2	Mission	AfDB/GEF Mission	Completed
Year 1 to 4	Steering Committee Meeting	MFL/PCT	Held in Year 2 only. Poor frequency of Steering

			Committee meetings
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M&E Implementation rating: Moderately Satisfactory (MS)

The Implementation of M&E activities is rated moderately satisfactory, due to some short comings on the delivery of baseline data, lack of M&E Personnel to lead the M&E Unit during the 1st and 2nd Quarter of Year 2 and quality of M&E design/implementation more or less meets expectations.

11. Assessment of Implementation and Execution

Performance of Executing Agency: Rated Satisfactory (S)

The Ministry of Fisheries and Livestock implementation of the project was generally slow but cost effective due to the impacts of the Covid-19 pandemic which stalled various procurement processes and contracting of goods and services. There were few challenges associated with Works Contracts such as the default on the completion of the Livestock Service Center Tier 2 in Isoka, Muchinga Province, which is currently in process of completion.

The project also experienced slow disbursement of funds due to delays in justification of expenditures, thereby slowing general project performance. The project implementation is rated satisfactory.

Performance of AfDB/GEF Unit: Rated Satisfactory

Performance by the Bank was generally satisfactory with timely disbursements throughout the project implementation timeframe, with a few delays of direct payments to contractors.

The Bank also ensured Virtual Fiduciary Clinics were held in collaboration with the Ministry of National Development Planning to ensure Project staff were affiliated with the banks strategies and approaches of project improvement through embracing the One-Bank Approach to Portfolio Management, Weekly and Monthly Portfolio Tracker, Enhanced Stakeholder Ownership and Leadership, Structured Dialogue Framework and Intensified Capacity Building in the areas of Finance, Procurement/Contract Management and Monitoring and Evaluation. The Performance is rated satisfactory.

12. Other Assessments

Follow-Up Actions:

Key issue	Key recommendation	Responsible	Deadline
Incomplete construction of infrastructure	There is need to complete pending infrastructure works	MFL	31st Dec, 2022

Vandalism/Theft at infrastructures	<p>Need for Infrastructure maintenance plans to be put in place.</p> <p>Work with provincial and district staff on determining how to safe guard these infrastructures</p> <p>Partial handovers to ensure ownership of the infrastructure by the community.</p>	MFL	31st Dec, 2022
Utilization of Biogas Digestors	<p>Focal Point Persons to engage contractor on how best to utilise biogas digestors at the infrastructures.</p> <p>Cost estimates are to be developed</p> <p>Procurement of Pipes and gas to be done by PSU to aid in the usage of these biogas digestors.</p>	MFL	31 st Dec, 2022

Materialisation of Co-Financing:

A total of USD 603,046.76 materialised as counterpart funding by the GRZ.

Counterpart Cash Contribution:

2019: 55,446.59 USD

2020: 294,171.11 USD

2021: 168,684.21 USD

2022: 89,744.85 USD

Challenges:

- Delayed funding resulting in delayed implementation of programs.
- Exchange Rate fluctuations of Kwacha against a Dollar as in the case of the previous CRLMP donor funding.
- Slow Justification of expenditures.

In-Kind Contribution:

Man Hours	No. Hours	Days/ Week	Days/ Monthly	Rate ZMW	Amount	Amount	USD Equiv. @17.07
Attached GRZ Staff					<i>Monthly Days in a month*Rate ZMW</i>	<i>Annually (Number of Months worked *Monthly)</i>	
Livestock Development							
Mr. Kabemba Mwambilwa	40.00	5.00	22.00	1,727.27	37,999.94	1,253,998.02	73,462.09
Mr. Obright Hamungalu	30.00	3.75	15.00	1,727.27	25,909.05	129,545.25	7,589.05
Mr. Frazer Nkula	30.00	3.75	15.00	1,727.27	25,909.05	854,998.65	50,087.79
Office Equipment	420.00		22.00	1.50	13,860.00	180,180.00	10,555.36
Subtotal					103,678.04	2,418,721.92	141,694.29
Procurement							
Mr. Matthews Zulu	25.00	3.125	12.50	1,136.36	14,204.55	468,750.15	27,460.46
Mr. Clement Mukuka	10.00	1.25	5.00	1,727.27	8,636.36	284,999.88	16,695.95
Office Equipment	150.00		22	1.50	4,950.00	163,350.00	9,569.42
Subtotal					27,790.91	917,100.03	53,725.83
Policy and Planning							
Ms. Grace Chundama	40.00	5.00	22.00	1,136.36	25,000.00	625,000.00	36,613.94
Office Equipment	420.00		22.00	1.50	13,860.00	346,500.00	20,298.77
Subtotal					38,860.00	971,500	56,912.71
Financial Management Unit							
Mr. Emmanuel Chilala	35	3.125	20	1,136.36	22,727.20	545,452.80	31,953.88
Mr. Chintomfwa Mutale	35	3.125	20	1,136.36	22,727.20	545,452.80	31,953.88
Office Equipment	450		20	1.50	13,500.00	324,000.00	18,980.67
SubTotal					58,954.40	1,414,905.60	82,888.43
Technical Services							
Mr. Charles Muthiya	15	1.875	7.50	1,727.27	12,954.55	427,500.00	25,043.95
Mr. Kenneth Zulu	20	2.5	10.00	1,727.27	17,272.73	570,000.09	33,391.92
Mr. Ndulo Moonga	30	3.75	15.00	1,727.27	25,909.09	595,909.07	34,909.72
Office Equipment		450.00	22.00	1.5	14,850.00	490,050.00	20,324.46
Subtotal					70,986.37	2,083,459.16	113,670.05
Total					300,269.71	7,805,686.71	448,891.31

Environmental and Social Safeguards

Through the implementation of various activities listed in the AWPB, the CRLMP restored degraded rangelands and cleared vegetation at LISP centers. Some districts reported having applied GCRA and CRiSTAL tools in risk assessment under the World Bank funded TRALAD Project. Furthermore, the district officials found the tools useful for engaging communities after heavy floods that affected project areas.

The Project trained both male and female 167 MFL staff in Gender Sensitive Climate Risk Assessment (GCRA) in the project areas. The training objective was to determine the vulnerability to the impacts of climate change on men, women and youths in the communities. This exercise focused on the productive and reproductive roles of men and women. The Project has continued to strengthen the involvement of men, women and youth as livestock farmers through sensitization and trainings. A total number of 391 farmers, of whom 148 were youths, 108 women and 135 men, were trained in pasture establishment and conservation, climate change adaptation. A further 203 were sensitized on HIV/AIDS, malnutrition and malaria in Kasama. The promoted through training and distribution of small ruminants and poultry, being gender-friendly adaptation enterprises.

CRLMP interventions took into consideration gender equality in all project activities. This is exhibited in the significant number of women groups that were targeted by the project especially the capacity building component. Particularly, women groups benefited in terms of trainings, climate resilient livestock restocking programmes through the Pass-On the Gift scheme approach. Women beneficiaries constituted more than 30% of the project target beneficiaries. Quarterly Reports included information on capacity building trainings activities which were disaggregated according to gender and age groups.

Stakeholder Engagement

Farmer Engagement

Farmers engagement was facilitated through Farmer groups and registered cooperatives for project implementation, which proved to be a useful approach which allows full ownership of infrastructures and related interventions such as the rangeland promoted through rangeland community committees. This is important in ensuring sustainability of the interventions after the project life.

Private sector involvement

- The MLF fulfilled all conditions precedent to entry into force of the GEF LDCF Grant. The LDCF Grant Protocol Agreement entered into force on the date of signature. Bank accounts in USD denominated Special Account and a local currency denominated Mirror Account in the Bank of Zambia have been opened. A sub-account managed by MFL in accordance with the Bank's financial regulations at Zanaco- a local commercial bank in Kasama District were opened.
- ZEMA regulated and coordinated various environmental aspects of the project.

Community based capacity building

Training of Community Livestock Facilitators (CLFs) to complement the efforts of camp officers was key for the sustainability of the livestock restocking programme, rangeland management as well as efficient utilization of disease control infrastructure at community level.

AfDB Fiduciary and CPPR Meetings

The Bank also ensured Virtual Fiduciary Clinics were held in collaboration with the Ministry of National Development Planning to ensure Project staff were affiliated with the banks strategies and approaches of project improvement through embracing the One-Bank Approach to Portfolio Management, Weekly and Monthly Portfolio Tracker, Enhanced Stakeholder Ownership and Leadership, Structured Dialogue Framework and Intensified Capacity Building in the areas of Finance, Procurement/Contract Management and Monitoring and Evaluation.

Lessons and Recommendations

Key issues	Key Lessons learned	Target audience	Need for Action
Farmer and public/private sector involvement	Engagement of key stakeholders in project implementation proved to be a useful approach which allows full ownership of infrastructures and related interventions such as the rangeland promotion. This is important in ensuring sustainability of the interventions after the project life.	Ministry of Fisheries and Livestock	Engage Private sector for sustainability
Decentralization	The approach of having Provincial Focal Person as well as the District Focal Person helped to system to be more effective in	Ministry of Fisheries and Livestock	Enhance decentralisation in follow up projects

	terms of timely execution of activities.		
Community-based Capacity building	Training of Community Livestock Facilitators (CLFs) to complement the efforts of camp officers is key for the sustainability of the livestock restocking programme, rangeland management as well as efficient utilization of disease control infrastructure at community level.	District Staff	Enhance Trainer of Trainers approach in follow up projects
Farmer Sensitization and Training	Awareness creation coupled with farmer training is critical in the sustainability of interventions promoted by the project. This is particularly important in livestock rangeland management, disease management as the success and sustainability of the livestock restocking programme is dependent on a well-trained cadre of livestock farmers	District Staff	MFL to enhance Farmer sensitisation and awareness campaigns
Lack of infrastructure	Establishment of management	Ministry of Fisheries and Livestock Cooperatives/Farmer Groups	Infrastructure management

management entities compromises sustainability.	entities has been included in Project design.		committees to be formed to manage the built facilities
Procurement	<p>The bureaucracy involved in the procurement of goods, services and works before conclusion takes quite a long period of time.</p> <p>The long process of procurement tends to reduce efficiency with which services are delivered if not adequately addressed at the beginning of the project.</p>	Ministry of Fisheries and Livestock Headquarters	All procurements should be done in the first year of the project implementation
Operationalization of infrastructure	Various livestock support infrastructures were constructed and enhanced by adding livestock climate smart technology initiatives to the original designs.	Ministry of Fisheries and Livestock (MFL). Livestock Farmer Groups/Cooperatives/	However, in order to fully operationalize these facilities, the Ministry should ensure that various business plans and models are developed and Public-Private Partnerships sought to fully operationalize the facilities.
GHG Emission Reduction/Manure Management	<p>The project embarked on mitigation measures to reduce the emission of GHG emissions due to the potential increase in manure droppings due to the stocking and restocking program in the project areas.</p> <p>In addition, 6 Biogas digestors at selected infrastructure sites</p>	Ministry of Fisheries and Livestock Livestock Farmer Groups/Cooperatives	In order to further develop the capacity of farmers and staff in the use of the biogas digestors, the Ministry should enhance capacity building activities on the usage of the digestors at community level and the construction of bio-digesters in

	<p>were constructed and various trainings on the use of the biogas digestors were conducted.</p>		<p>selected sites should be extended to household levels especially to farmers who received livestock under the stocking and restocking programme. This would increase the impact of reducing GHG associated with manure.</p>
<p>Climate Risk Assessments</p>	<p>The Project conducted various Climate adaptation community sensitization campaigns and staff trainings in CRiSTAL and GCRA to help the communities plan, mitigate and better adapt their farming practices to the impacts of climate change.</p>	<p>Ministry of Fisheries and Livestock Livestock Farmer Groups/Cooperatives/Communities</p>	<p>Enhancement on the use of planning tools by staff and the communities through additional trainings must further be conducted.</p>
<p>Procurement and distribution of Indigenous Breeds</p>	<p>The CRLMP procured and distributed local breeds of beef/ and dairy cattle, goats and chickens which were adapted to the environments helped in lowering disease vulnerability of the livestock species.</p> <p>The approach adopted by the project of using improved breeds of livestock species which are more productivity</p>	<p>Ministry of Fisheries and Livestock Livestock Farmer Groups/Cooperatives/Communities</p>	<p>The Ministry will continue to ensure climate resilient local livestock breeds are procured for livestock farmers as these breeds are cheaper to purchase and easier to manage as compared to the improved breeds.</p>

	<p>assisted in improving farmer's income since animals reach the targeted market weight quicker therefore allowing them to sell the animals earlier.</p>		
<p>Pass-On Gift Scheme Women/Youth</p>	<p>The Pass-On Gift Scheme was implemented through the project to empower women and youth through the distribution of livestock breeds to benefit 50% women and 30% youth.</p> <p>Furthermore, the farmer trainings played an important role in complimenting the livestock restocking programme as farmer cooperatives were key in facilitating farmer to farmer monitoring and diffusion of project benefits within the targeted communities.</p>	<p>Livestock farmer groups, Women and Youth</p>	<p>The Ministry should further enhance gender mainstreaming in all stocking and restocking programs to empower women and youth.</p>
<p>Resilience of natural resources and infrastructure to climate change</p>	<p>The CRLMP has promoted the resilience of natural resources and Livestock infrastructure through rangeland and pasture improvement, planting of riverines, fodder crops and planting</p>	<p>Ministry of Fisheries and Livestock</p> <p>Livestock Farmer Groups/Cooperatives</p>	<p>The Ministry should enhance capacity building programs on climate resilience for the communities and solar powered boreholes should be added to the existing designs to improve water</p>

	<p>of trees around infrastructure in order to preserve the natural environment for livestock grazing to improve livestock production and productivity. In addition, boreholes were sunk to improve water accessibility for the livestock in the community too.</p>		<p>accessibility to a wider spectrum of farmers in the communities.</p>
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ANNEX

Rating Scales

The main dimensions of project performance on which ratings are first provided in terminal evaluation are: outcomes, sustainability, quality of monitoring and evaluation, quality of implementation, and quality of execution.

A. Outcome Ratings

1. The overall ratings on the outcomes of the project will be based on performance on the following criteria:

- I. Relevance
- II. Effectiveness
- III. Efficiency

2. Project outcomes are rated based on the extent to which project objectives were achieved. A six-point rating scale is used to assess overall outcomes:

- *Highly satisfactory (HS)*: Level of outcomes achieved clearly exceeds expectations and/or there were no short comings.
- *Satisfactory (S)*: Level of outcomes achieved was as expected and/or there were no minor short comings.
- *Moderately Satisfactory (MS)*: Level of outcomes achieved more or less as expected and/or there were moderate short comings.
- *Moderately Unsatisfactory (MU)*: Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings.
- *Unsatisfactory (U)*: Level of outcomes achieved substantially lower than expected and/or there were major short comings.
- *Highly Unsatisfactory (HU)*: Only a negligible level of outcomes achieved and/or there were severe short comings.
- *Unable to Assess (UA)*: The available information does not allow an assessment of the level of outcome achievements.

3. The calculation of the overall outcomes rating of projects will consider all the three criteria, of which relevance and effectiveness are critical. The rating on relevance will determine whether the overall outcome rating will be in the unsatisfactory range (MU to HU = unsatisfactory range). If the relevance rating is in the unsatisfactory range, then the overall outcome will be in the unsatisfactory range as well. However, where the relevance rating is in the satisfactory range (HS to MS), the overall outcome rating could, depending on its effectiveness and efficiency rating, be either in the satisfactory range or in the unsatisfactory range.

4. The second constraint applied is that the overall outcome achievement rating may not be higher than the effectiveness rating.

5. During project implementation, the results framework of some projects may have been modified. In cases where modifications in the project impact, outcomes and outputs have not scaled down their overall scope, the evaluation report should assess outcome achievements based on the revised results framework. In instances where the scope of the project objectives and outcomes has been scaled down, the magnitude of and necessity for downscaling is taken into account and despite achievement of results as per the revised results framework, where appropriate, a lower outcome effectiveness rating may be given.

B. Sustainability Ratings

6. The sustainability will be assessed taking into account the risks related to financial, socio-political, institutional, and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a four-point scale.

- *Likely (L)*. There is little or no risks to sustainability.
- *Moderately Likely (ML)*. There are moderate risks to sustainability.
- *Moderately Unlikely (MU)*. There are significant risks to sustainability.
- *Unlikely (U)*. There are severe risks to sustainability.
- *Unable to Assess (UA)*. Unable to assess the expected incidence and magnitude of risks to sustainability.

C. Project M&E Ratings

7. Quality of project M&E will be assessed in terms of:

- Design
- Implementation

8. Quality of M&E on these two dimensions will be assessed on a six-point scale:

- *Highly satisfactory (HS)*: There were no short comings and quality of M&E design / implementation exceeded expectations.
- *Satisfactory (S)*: There were no or minor short comings and quality of M&E design / implementation meets expectations.
- *Moderately Satisfactory (MS)*: There were some short comings and quality of M&E design/implementation more or less meets expectations.
- *Moderately Unsatisfactory (MU)*: There were significant shortcomings and quality of M&E design / implementation somewhat lower than expected.
- *Unsatisfactory (U)*: There were major short comings and quality of M&E design/implementation substantially lower than expected.

- *Highly Unsatisfactory (HU)*: There were severe short comings in M&E design/ implementation.
- *Unable to Assess (UA)*: The available information does not allow an assessment of the quality of M&E design / implementation.

D. Implementation and Execution Rating

9. Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the AfDB-GEF unit that have direct access to GEF resources. Quality of Execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the AfDB-GEF unit and executed the funded activities on ground. The performance will be rated on a six-point scale.

- *Highly satisfactory (HS)*: There were no short comings and quality of implementation / execution exceeded expectations.
- *Satisfactory (S)*: There were no or minor short comings and quality of implementation / execution meets expectations.
- *Moderately Satisfactory (MS)*: There were some short comings and quality of implementation / execution more or less meets expectations.
- *Moderately Unsatisfactory (MU)*: There were significant shortcomings and quality of implementation / execution somewhat lower than expected.
- *Unsatisfactory (U)*: There were major short comings and quality of implementation / execution substantially lower than expected.
- *Highly Unsatisfactory (HU)*: There were severe short comings in quality of implementation / execution.
- *Unable to Assess (UA)*: The available information does not allow an assessment of the quality of implementation / execution.