AFRICAN DEVELOPMENT BANK GROUP

GOVERNMENT OF ZIMBABWE

MINISTRY OF LANDS, AGRICULTURE, FISHERIES, WATER AND RURAL DEVELOPMENT

THE ZIMBABWE AGRICULTURAL VALUE CHAIN SUPPORT PROJECT (ZAVaCEP) MATEBELELAND SOUTH PROVINCE.

Support to the Beef and Leather Value Chain Technical Assistance (TA) Pilot Project (SBLVCP) in Matabeleland South Province (MSP)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Project Name: THE ZIMBABWE AGRICULTURAL VALUE CHAIN DEVELOPMENTPROGRAMME (ZAVaCEP)
Project Title: Project Number: **P-ZW-AAG-008**
Country: ZIMBABWE
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ACRONYMS

ACBF	Africa Capacity Building Foundation (ACBF)
AfDB	African Development Bank
AGRITEX	Agriculture Technical and Extension Services
AIDS	Acquired Immunity Deficiency Syndrome
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources.
CAP	Chapter (in ACTs)
CBD	Convention on Biodiversity
CEDAW	Convention on Elimination of All Forms Of Discrimination Against Women
CFC	Chlorofluorocarbons
CITES	Convention on International Trade Against Endangered Species
CLFPA	Communal Lands Forest Produce Act
DPIU	District Project Implementation Unit
EA	Executing Agency
EIA	Environment Impact Assessment
EMA	Environmental Management Act/Agency
EMP	Environmental Management Plan
ESAP	Environmental and Social Assessment Procedures
ESIA	Environment and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
ESS	Environment and Social Safeguards
GBV	Gender Based Violence
GBVAP	Gender Based Violence Action Plan
GCHP	Grievance Complaints Handling Procedure
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GESI	Gender Equality and Social Inclusion
GHG	Greenhouse Gas
GMB	Grain Marketing Board
GRCs	Grievance Redress Committees
GRM	Grievance Redress Mechanism
H&S	Health and safety
HIV	Human Immunodeficiency Virus
IA	Implementing Agency
IAS	Invasive Alien Species
ILO	International Labour Organization
IPCC	Inter-governmental Panel on Climate Change
IPMP	Integrated Pest Management Plan
ISS	Integrated Safeguards System
ISS	AfDB Integrated Safeguards System
MIC	Ministry of Industry and Commerce
NAPF	National Agriculture Policy Framework
NDS1	Zimbabwe's National Development Strategy 1
PCU	Project Coordinating Unit
RDC	Rural District Council
RIDA	Rural infrastructure Development Agency
SADC	Southern Africa Development Community
SBLVCP	Beef and Leather Value Chain Technical Assistance Pilot Project
SMSE	Small and Medium Enterprises

ZAVaCEP	Zimbabwe Agricultural Value Chain Enhancement Project
ZINWA	Zimbabwe National Water Authority
ZRBF	Zimbabwe Resilient Building Fund

1. EXECUTIVE SUMMARY

1. INTRODUCTION

This is the Executive Summary of the Environmental and Social Management Plan (ESMP) developed for the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP), which covers the districts of Insiza and Beitbridge in Matabeleland South, Zimbabwe. The ZAVaCEP will be implemented over four years with financial support from the African Development Bank, Africa Development Fund.

1.1 Background & Context

Agriculture is a vital sector in Zimbabwe's economy, contributing approximately 16% to the total output but with limited value addition. It encompasses crops, livestock, and fisheries, playing a central role in employment, income generation, and poverty reduction. The sector contributes between 12% and 18% of GDP, employs 60-70% of the population, supplies 60% of raw materials for industry, and accounts for nearly 40% of export earnings. Livestock production is integral to this sector, contributing about 30% of agricultural GDP, mainly from small-scale farmers. The Zimbabwe Livestock Growth Plan (2021-2025) highlights its significance for food security, foreign currency earnings, and livelihoods for 67% of rural households.

The Government of Zimbabwe, with funding from the African Development Bank (AfDB), implemented a three-year pilot project, the Support to the Beef and Leather Value Chain Technical Assistance (SBLVCP), in Matabeleland North and Bulawayo Provinces. This project aimed to enhance economic growth through value addition, addressing bottlenecks in the beef and leather value chain. The project was successful due to robust implementation and support from government ministries, setting a foundation for replication in other regions. Following its success, the government requested AfDB financing for a successor project, the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP). This project aims to replicate and scale up SBLVCP activities, enhancing livestock productivity, value addition, and private sector development in Matabeleland South, Masvingo, and Bulawayo Metropolitan Provinces. ZAVaCEP aligns with Zimbabwe's National Development Strategy 1, Vision 2030, and the Leather Sector Strategy, and will also adhere to environmental legislative requirements and AfDB's Environmental and Social obligations.

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) will address the following challenges within the livestock sub-sector, building on the Support to the Beef and Leather Value Chain Technical Assistance (SBLVCP):

- **Low productivity:** Improving overall livestock productivity through better farming practices and support systems.
- **Poor animal genetics**: Enhancing animal breeding programs to improve the genetic quality of livestock.
- **Limited supply of water:** Providing reliable water sources for existing dip tanks and other livestock needs.
- **Climate change impacts:** Addressing the increased frequency of animal disease outbreaks, poverty deaths, droughts, and occasional cyclones due to climate change.
- **Disease control:** Implementing measures to control and prevent diseases in livestock.
- **Value addition:** Promoting value addition in the beef and leather sectors to enhance their competitiveness.

- **Capacity building:** Training farmers in animal husbandry to produce better hides and skins, and supporting fodder production, and livestock feed processing with the procurement of start-up packages and feed processing equipment.
- **Logistical support:** Coordinating stakeholders in the value chain for more effective operations.
- **Private sector development:** Encouraging private sector involvement to boost economic growth and create jobs.
- **Environmental and social management**: Ensuring compliance with environmental regulations and addressing social impacts through comprehensive management plans.

The development of the Environmental and Social Management Plan (ESMP) is in line with the requirements of the AfDB's Integrated Safeguards System (ISS).

1.2 Project site baseline conditions in Insiza and Beitbridge Districts

1.2.1 Insiza District

Insiza District (Figure 1) , with a population of 122,903, features a semi-arid climate and varied terrain, receiving crucial seasonal rainfall of 400-600 mm annually. The soil composition ranges from sandy loams to clay, influencing vegetation and agricultural practices. Water scarcity during the dry season poses significant challenges, with some residents relying on sand pits for water. Cattle dipping, requiring 15,000 litters per dip, is particularly difficult, necessitating long-distance water collection, particularly in dry seasons.

The district's flora includes drought-resistant vegetation such as acacia and mopane trees. The population, predominantly Ndebele, relies on subsistence crop and small-scale livestock production, with gold panning becoming significant in recent years. Resettled areas face underdeveloped infrastructure, impacting access to essential services. Environmental issues, including river pollution from gold mining and land degradation, exacerbate food security challenges. In Insiza and Beitbridge the ZAVaCEP will focus on rehabilitating four (4) dip tanks and drilling two (2) boreholes in Wards 17, 20, and 21 to improve animal health and water accessibility. The project will also restore and rehabilitate 150 hectares of pasture lands by installing soil conservation structures such a contour ridges and gabions.

1.2.2 Beitbridge District

Beitbridge District, located in southern Zimbabwe, experiences a semi-arid climate with high temperatures and minimal rainfall. The flat terrain is characterized by sparse vegetation suited to arid conditions, and the Limpopo River forms a natural boundary with South Africa. The district's population includes 94,001 in rural areas and 58,574 in Beitbridge town, with a notable youth demographic. The local economy relies on cross-border trade, subsistence farming, and livestock rearing. As a major border post in the SADC region, the district contends with social issues such as unemployment and drug abuse. Additionally, livestock and crop farming are frequently impacted by environmental shocks, including droughts, diseases, and periodic cyclones that have resulted in home losses and damaged infrastructure like bridges and weirs.

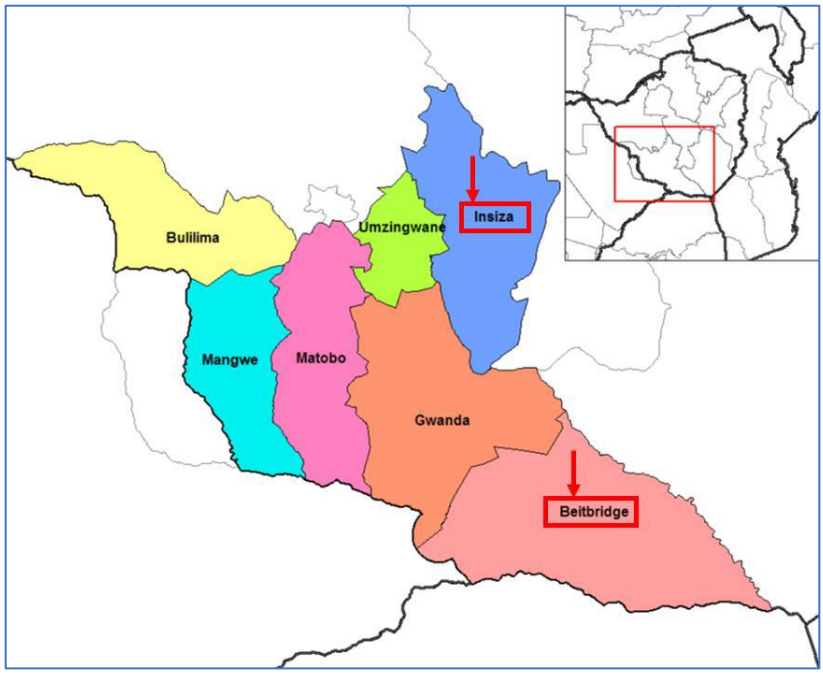


Figure 1. Map showing location of Beitbridge and Insiza Districts

ZAVaCEP in Beitbridge will focus on rehabilitating four dip tanks and installing two boreholes in Wards 13 and 14 to improve livestock health and water access. These wards, characterized by semi-arid conditions, rely on subsistence farming and livestock rearing, with Ward 13 also home to minority ethnic groups like the Venda, Shangani, and Suthu. Both wards face water scarcity and socio-economic challenges, with traditional knowledge and practices crucial for sustaining livelihoods.

1.3 POLICY LEGAL AND ADMINISTRATIVE FRAMEWORK

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) will operate within a comprehensive legal framework guided by several national and local laws and regulations. The Zimbabwe Constitution of 2013 is the supreme law that ensures the protection of various rights, including environmental rights, emphasizing sustainable development, citizen participation, and decentralization. Complementing this is the Environmental Management Act (EMA), Chapter 20:27, which mandates environmental impact assessments (EIAs) for significant projects to mitigate negative impacts, fostering public participation and compliance with environmental standards. The Animal Health Act regulates livestock health to prevent disease outbreaks, essential for the beef and leather value chains. The Water Act Chapter 20:24, governs water resource use, necessitating permits for significant water usage, critical for ZAVaCEP's reliance on water for livestock and processing activities. Additionally, the Forestry Act and Communal Lands Forestry Produce Act regulate the sustainable use of forest resources, essential for leather processing and agricultural activities.

ZAVaCEP must also adhere to the Hazardous Substances and Articles Control Act (Chapter 15:05), which mandates permits for handling hazardous materials, and the Parks and Wildlife Management Act, which protects wildlife and regulates hunting. The Labour Act ensures fair labour practices and safe working conditions, while the Public Health Act mandates health standards for community and worker safety. The Factory and Works Act (Chapter 14:08) enforces safety regulations in industrial settings, relevant to stock feed & leather processing facilities. The Rural District Councils Act (Chapter 29:13) and Communal Lands Act (Chapter 20:28), provide frameworks for local governance and land use, crucial for project approval and implementation. Additionally, local regulations such as the National Environmental Policy and Strategies (2009) and the National Climate Change Response Strategy (2014) guide sustainable environmental and climate-smart practices, aligning ZAVaCEP's initiatives with national development goals outlined in the Zimbabwe Vision 2030 and the Zimbabwe

Livestock Growth Plan (2021-2025). International treaties, such as the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), along with guidelines from the World Health Organization (WHO) and International Labour Organization (ILO), further shape the project's legal and operational landscape.

The African Development Bank (AfDB) has established a set of Operational Safeguards (OS) to ensure environmental and social sustainability in its financed projects. For the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP), the applicable safeguards include:

OS 1: Environmental and Social Assessment - Comprehensive assessments to identify and mitigate adverse effects related to the beef and leather value chains.

OS 3: Biodiversity and Ecosystem Services - Protection of biodiversity and sustainable management of natural resources, ensuring livestock farming and leather processing do not harm local ecosystems.

OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency - Measures to control emissions, waste, and hazardous materials from livestock and leather processing.

OS 5: Labour Conditions, Health and Safety - Ensuring fair labour practices, safe working conditions, and compliance with health and safety standards within the beef and leather value chains.

Noting the differences between Zimbabwe's legal framework and the AfDB OS requirements, with the latter being more robust, ZAVaCEP will adopt the more comprehensive framework to ensure compliance with both sets of legislation.

1.4 ANALYSIS OF ALTERNATIVES

The ESMP study for the beef and leather value chain development in Insiza and Beitbridge districts, Zimbabwe, considered several alternatives, including the "No Project" alternative, alternative locations, and alternative designs, to identify the best models with minimal environmental and social impacts. The "No Project" alternative would maintain the status quo, preserving environmental resources but forfeiting anticipated social and economic benefits. The project is expected to enhance cattle husbandry, pasture development, fodder production, and hide processing, leading to improved livestock health, reduced tick-borne diseases, better cattle nutrition, increased beef production, and value addition to the leather industry. Without the project, the ongoing issues of inadequate cattle health management, poor pasture quality, and lack of income from hides would continue, leading to missed opportunities for enhanced livelihoods and economic benefits.

Alternative locations were considered, but Insiza and Beitbridge were deemed suitable based on a 2010 feasibility study, existing cattle husbandry potential, and the strategic benefits of integrating improved practices and infrastructure. Alternative designs focused on site, technology, materials, and chemicals to balance effectiveness, cost, and minimal impacts. Selected sites will utilize land previously used for similar activities, minimizing changes in land use and reducing potential negative impacts. Chosen technologies will maintain the use of plunge dip pools for tick control, introduce local drought-resistant species for bulls, pasture development, and eco-friendly hide processing methods. The mitigation hierarchy (avoidance, minimization, restoration, and compensation) was applied to manage potential impacts. The selected alternatives and project designs/technologies aim to maximize

environmental, social, and economic benefits for the communities, making the project a suitable option for sustainable development in Insiza and Beitbridge districts.

1.5. BRIEF DESCRIPTION AND KEY COMPONENTS

The project will consist of four components namely, (i) Climate Smart Agricultural Productivity and Value Chain Enhancement (ii) Supporting Climate Resilient and community Level -Driven Infrastructure Development iii) Knowledge Management, Policy Development, Monitoring and Evaluation, and (iii) Project Management. This section describes components to be implemented in Insiza and Beitbridge.

Component 1: CLIMATE SMART AGRICULTURAL PRODUCTIVITY AND VALUE CHAIN ENHANCEMENT

The ZAVACEP will be intervening in the beef productions largely on enhancing disease control through dipping, improving the dipping infrastructure, facilitating climate smart rangeland, pasture development and improving the breeding stock.

Sub-component 1.1: Support to Sustainable Livestock Production and Productivity

Sub-component 1.1: Support to Sustainable Livestock Production and Productivity aims to rehabilitate 8 seasonal dip tanks and drill 8 solar-powered boreholes to enhance water availability for livestock. It includes constructing 8 water troughs near existing boreholes and implementing climate-smart rangeland management over 100 hectares. Conservation works and practices around dip tanks and boreholes will cover 40 ha and good conservation practices will be emphasized during community training, while pasture development and fodder conservation will cover 300 hectares (150 per district). Additionally, 16 bulls of superior genetics and 2 feed formulation equipment units (1 per district) will be procured and distributed to improve livestock production.

Sub-component 1.2: Support to Agri-Business and Value Chain Enhancement

Sub-component 1.2: Support to Agri-Business and Value Chain Enhancement aims to strengthen the leather value chain by offering six training courses on quality standards and market linkage, and six on product development and design, including mentorship. It will assess the value of cattle's fifth quarter, support three local and five regional exhibitions, and organize two knowledge-exchange visits to Ethiopia or Tunisia. Additionally, it will develop eight community feedlots, four aggregation centres, and create an online market platform for leather products. The component also aims to support five dairy farmer groups to enhance product quality, with a focus on involving women and youth.

Component 2: BUILDING RURAL COMMUNITIES RESILIENCE TO CLIMATE CHANGE

Sub-component 2.1: Supporting Climate Resilient and Community level-driven infrastructure Development.

Sub-component 2.1 aims to enhance the capacities of smallholder livestock farmers through several initiatives. Practical farmer training will focus on livestock identification and traceability, crucial for agricultural development. Product development and value addition training will be conducted for clusters such as beef, horns, hides, skins, footwear, and leather crafts, emphasizing quality standards and innovative designs through Leather studios. Equipment procurement for value addition will support these efforts by providing necessary tools to clusters. Additionally, the program includes a pass-on scheme providing 1400 female goats and 70 male goats to women and youth groups, promoting empowerment and sustainability. Staff training in low carbon livestock production and eco-

friendly leather tanning techniques will further empower rural farmers, with a focus on sustainability and resilience.

Sub-Component 2.2 focuses on **Reinforcing inclusive and diversified climate resilient livelihoods support.** This component focuses on reinforcing inclusive and diversified climate-resilient livelihoods aims to empower communities by providing sustainable agricultural practices and alternative income-generating activities. These efforts are designed to enhance food security and economic resilience in the face of climate change impacts.

Sub-component 3: Knowledge Management, Policy Development, Monitoring and Evaluation

This **sub-component** focuses on enhancing knowledge management, policy development, monitoring, and evaluation within the agriculture sector in Zimbabwe, with a budget allocation of UA 0.624 million (18.4% of total). Activities include reviewing key legislations and policies such as the Animal Health Act and various strategic plans like the Livestock Growth and Recovery Plan. The sub-component supports the creation of policy briefs on the leather and low carbon beef value chains, aimed at promoting best practices and international market access standards. It also involves the production of annual work plans, budgets, and procurement plans, alongside facilitating stakeholder dialogues and technical launches to improve sector effectiveness. Monitoring activities include regular field visits, quarterly and annual review meetings, and oversight through project steering and management committee gatherings, ensuring compliance with environmental and social safeguards throughout the project lifecycle.

Component 4: PROJECT MANAGEMENT

Sub-component 3.1: Project Management involves managing a budget allocation of UA 0.256 million, which constitutes 7.6% of the total. Responsibilities include covering operational costs for the MoFED Project Management Unit and Sector Project Coordination Units, encompassing office supplies, consumables, stationery, cartridges, and courier services. Support is provided to the African Capacity Building Foundation (ACBF) for managing the Project Special Account. The allocation also supports annual staff costs for a Project Officer within the MoFED Project Management Unit. Additionally, it entails conducting three combined audits annually for financial and procurement purposes. The allocation further supports the licensing of Pastel Accounting Software for two periods (PY1 and PY3), as well as facilitates various functions such as Bank Missions, Procurement, Financial Management, and fiduciary clinics. Operation and maintenance costs for one MoFED PMU vehicle, including fuel and servicing/repairs, are also covered under this sub-component.

1.6 MAJOR ENVIRONMENTAL, SOCIAL AND CLIMATE CHANGE RISKS

1.6.1 Expected Positive Impacts

The anticipated positive outcomes from the project interventions include:

Sub-component 1.1: Support to Sustainable Livestock Production and Productivity

- **Improved Animal Health and Productivity:** Rehabilitation of dip tanks and the drilling of solar-powered boreholes will ensure disease control and a consistent water supply, enhancing animal health and productivity.
- **Enhanced Rangeland Management:** Implementing climate-smart rangeland management over 40 hectares will improve pasture quality, soil health, and the overall sustainability of grazing areas.

- **Genetic Improvement**: Distributing 16 bulls of superior genetics will enhance livestock quality, leading to better meat and milk production.
- **Fodder Availability:** Developing 300 hectares of pasture and emphasizing fodder conservation will ensure livestock have adequate nutrition throughout the year.
- **Community Training**: Training communities on conservation practices will increase awareness and implementation of sustainable practices, benefiting both the environment and livestock.

Sub-component 1.2: Support to Agri-Business and Value Chain Enhancement

- **Enhanced Leather Value Chain**: Training on quality standards and market linkage will improve the quality of leather products, making them more competitive in the market.
- **Market Expansion:** Supporting exhibitions and knowledge-exchange visits will expose local producers to new markets and best practices, expanding their business opportunities.
- **Feedlot and Aggregation Centres:** Developing feedlots and aggregation centres will streamline livestock management and market access, improving efficiency and profitability for farmers.
- **Online Market Platform:** Creating an online platform for leather products will provide broader market access and direct sales opportunities, increasing revenues for producers.
- **Dairy Production:** Supporting dairy farmer groups will improve dairy product quality and production processes, particularly benefiting women and youth involved in these activities.

Sub-component 2.1: Supporting Climate Resilient and Community level-Driven Infrastructure Development.

- **Enhanced Skills and Knowledge:** Practical training in livestock identification, traceability, and value addition improves the technical skills of smallholder farmers, leading to better agricultural practices and higher quality products.
- **Economic Empowerment:** Training in product development and the provision of equipment support the growth of local industries related to beef, hides, and leather, potentially increasing income for smallholder farmers.
- **Gender and Youth Inclusion:** Distributing goats to women and youth groups promotes gender equality and youth involvement, fostering empowerment and sustainable development.
- **Sustainable Practices:** Training in low-carbon livestock production and eco-friendly leather tanning promotes environmentally friendly practices, contributing to long-term sustainability.

Sub-component 3.1: Knowledge Management, Policy Development, Monitoring and Evaluation

- **Improved Policy Framework:** Reviewing and updating key legislations and strategic plans supports better governance and policy development, enhancing the effectiveness of the agricultural sector.
- **Enhanced Sector Knowledge:** Creation of policy briefs and annual work plans fosters better understanding of value chains, best practices, and international standards.
- **Informed Decision-Making:** Regular monitoring and evaluation, along with stakeholder dialogues, improve project oversight and ensure compliance with environmental and social safeguards.

Sub-component 4.1: Project Management

- **Efficient Operations:** Proper management of operational costs ensures smooth functioning of the Project Management Unit (PMU) and effective coordination of project activities.
- **Financial Accountability:** Regular audits and financial management practices enhance transparency and accountability, reducing the risk of mismanagement.
- **Support for Capacity Building:** Funding for software and other resources supports the administrative and operational needs of the project, contributing to overall project efficiency.

1.6.2 Expected Negative Environmental Impacts

Sub-component 1.1: Support to Sustainable Livestock Production and Productivity

- **Environmental Degradation:** Increased livestock numbers could lead to overgrazing and degradation of rangelands if not managed properly.
- **Water Resource Strain**: Drilling boreholes might strain local water resources, potentially affecting other community water needs.
- **Disease Management Risks:** Over-reliance on chemical treatments for disease control can lead to resistance and environmental contamination.
- **Dependency on External Inputs:** Introducing superior genetics and feed formulation equipment could lead to dependency on external inputs, which might not be sustainable in the long term.

Sub-component 2.1: Supporting Climate Resilient and Community level-Driven Infrastructure

- **Resource Limitations:** The success of training programs and equipment provision depends on the availability of resources and the effectiveness of the pass-on scheme, which may face logistical or financial challenges.
- **Implementation Challenges:** The effectiveness of capacity-building efforts may be limited by local infrastructure, existing skill levels, or resistance to new practices.
- **Potential Gender Bias:** Despite efforts to include women and youth, there may be challenges in ensuring equitable access and participation in all activities.

Sub-component 3.1: Knowledge Management, Policy Development, Monitoring and Evaluation

- **Resource Allocation:** The budget allocation for knowledge management and policy development may be limited, potentially affecting the depth and breadth of policy reviews and stakeholder engagement.
- **Complexity of Implementation:** The process of policy development and monitoring can be complex and time-consuming, which may delay the implementation of project activities.
- **Potential Resistance:** Stakeholders may resist policy changes or new practices, impacting the overall effectiveness of knowledge management efforts.

Sub-component 4.1:: Project Management

- **Administrative Costs:** A significant portion of the budget is allocated to operational expenses, which might limit funds available for direct project activities and impact the overall budget balance.
- **Dependency on External Support:** Reliance on external organizations like ACBF for managing the Project Special Account may create dependencies and affect project control.
- **Potential Inefficiencies:** Operational and maintenance costs for the PMU vehicle and other administrative expenses may lead to inefficiencies if not managed effectively.

Specific Construction and Operational Phase Impacts

- **Impact on Vegetation:** Clearing vegetation for access roads, feed processing infrastructure and any other project, as well as planting new grass in proposed fodder fields, could lead to deforestation and biodiversity loss.
- **Pollution from Pesticides and Acaricides:** Increased use of fertilizers and pesticides could cause soil and surface water contamination.
- **Occupational Health and Safety Risks:** Use of pesticides may pose risks to farmers.
- **Pollution from Effluent Discharges**: Effluents from dip tanks can pollute water bodies.

- **Solid Waste Pollution:** Construction and operational activities will generate solid wastes, which could cause environmental and public health issues if not managed properly.
- **Air and Noise Pollution:** Dust, emissions from construction vehicles, and operational activities could affect air quality and health.
- **Odour:** Increased cattle population and dung production will contribute to bad odour if not properly managed.
- **Soil Compaction and Erosion:** Heavy machinery use during construction could lead to soil compaction and erosion.

1.6.3 Expected Negative Social Impacts from Construction and operation phases

- **Resource Allocation Inequalities:** Distributing resources such as goats might lead to disputes or dissatisfaction among community members due to perceived inequalities.
- **Training Accessibility:** Practical training sessions may not be easily accessible to all intended beneficiaries due to logistical issues, language barriers, or varying levels of prior knowledge among farmers.
- **Dependency on External Support:** The introduction of new equipment and techniques might create a dependency on external support and resources, which could be unsustainable in the long term if local capacity for maintenance and further training is not developed.
- **Public Health Risks:** The prevalence of HIV/AIDS could increase due to the influx of people during construction and market opportunities.
- **Increased Market Competition:** Enhanced market access for Micro, Small and Medium Enterprises (MSMEs) might lead to influx of outsiders, heightened competition, potentially disadvantaging less competitive producers.

1.6.4 Potential Cumulative Impacts

The project is not expected to contribute significantly to cumulative impacts in the project areas. However, mitigation actions are planned to prevent and minimize potential cumulative impacts, such as deforestation and water depletion. Site-specific Environmental and Social Management Plans (ESMPs) will be developed during the design and planning stages to address these issues and ensure monitoring and mitigation activities are implemented.

1.6.5 Projected Climate Change Risks

The ZAVaCEP is expected to deliver long-term positive environmental impacts by implementing climate-smart agricultural practices and soil and water conservation measures, which will enhance soil fertility and hydrological patterns. Given Zimbabwe's increasing temperatures and declining rainfall, the project targets the vulnerable districts of Insiza and Beitbridge, which face recurring droughts, water scarcity, and land degradation. To address these challenges, the ZAVaCEP will adopt climate-smart rangeland management, introduce solar-powered boreholes, and align with Zimbabwe's Climate Change Response Strategy to integrate adaptation and mitigation strategies. While there may be increased greenhouse gas emissions from beef production, these can be mitigated by recycling animal waste into organic fertilisers, ensuring the project ‘s sustainability and resilience.

1.7 ENHANCEMENT AND MITIGATION PROGRAM

Within this extended Environmental and Social Management Plan (ESMP) are highlighted recommended mitigation measures to correct, minimize or remedy the value chain specific negative impacts that may be associated with the implementation of ZAVaCEP for Zimbabwe Beef and leather Value Chain development sub-sectors.

The inclusion of mitigation and enhancement measures satisfies the stipulations of AfDB's ESMP. The overall goal of the ESMP is to ensure adherence to laws and regulations governing environmental management in Zimbabwe, eliminate unintended effects, and ensure sustainability. Each site-specific ESMP will include an environmental and social monitoring plan detailing how to implement and verify the effectiveness of the mitigation measures. Additionally, the AfDB requires the production of associated plans such as the Stakeholder Engagement Plan to ensure all stakeholders are engaged throughout the project, the Grievance Redress Mechanism to address project-related grievances, and the Pesticide Management Plan for managing pesticides within the project. In ZAVaCEP, the responsibility for implementing and monitoring the Environmental and Social Monitoring Scheme lies with the Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development and the Environmental Management Agency. Ultimately, the success of the ESMP will depend on the level of awareness, sensitization, and ownership of its content.

In order to mitigate impacts associated with construction or rehabilitation activities, the bidding documents for the award of the contract shall include specification of best environmental management practices (and by binding the contractor in the contract documents to ensure that impacts are avoided or minimized) as well as technical civil engineering measures.

1.7.1 Climate Change Adaptation Measures

Climate change adaptation initiatives for beef and leather chain development will focus on enhancing resilience and sustainability. One crucial approach is **improving pasture management and fodder production**. Implementing **rotational grazing systems and planting drought-resistant forage crops** can help maintain healthy pastures, ensuring that livestock have **access to nutritious feed throughout the year**. Additionally, establishing **water conservation** can mitigate the impacts of water scarcity. These measures not only protect the environment but also enhance livestock productivity and reduce vulnerability to climate variability.

Another significant adaptation initiative is the integration of climate-smart agricultural practices. For instance, using improved **livestock breeds that are more resilient to heat stress and diseases** can increase herd productivity and survival rates.

These initiatives collectively contribute to a more sustainable beef and leather value chain, ensuring long-term benefits for the communities involved.

1.7.2 Mitigation measures

The ZAVaCEP aims to significantly enhance its environmental and social performance within the beef and leather value chain, balancing substantial benefits with proactive mitigation strategies. Table 1 provides the summarised mitigation measures for the project in Insiza and Beitbridge districts.

Table 1. Mitigation Measures for the ZAVaCEP for Matebeleland South

Sub-component	Negative Impact	Mitigation measures	Responsibility
1.1: Support to Sustainable Livestock Production and Productivity	Environmental Degradation:	- Implement rotational grazing systems to prevent overgrazing. - Promote reforestation and rangeland rehabilitation programs. - Educate farmers on sustainable land management practices.	- E& S Specialist - DPIU, Rangeland Committees - Agritex Officer; Village heads
	Water Resource Strain:	- Conduct thorough water resource assessments before drilling boreholes.	- E& S Specialist

Sub-component	Negative Impact	Mitigation measures	Responsibility
		- Implement water-saving technologies and practices. - Monitor and manage water usage to ensure sustainable levels.	- DPIU, Water Committees - RIDA; E&M specialist
	Disease Management Risks:	- Promote integrated pest management practices to reduce chemical reliance. - Train farmers in the use of biological and organic disease control methods. - Regularly monitor and assess the impact of chemical treatments.	- E& S Specialist - District Vet officers (DVO) - District Animal Health officers
	Dependency on External Inputs:	- Develop local capacity for breeding superior livestock genetics. - Encourage the production of local feed resources to reduce dependency on external inputs. - Provide training on sustainable feed formulation techniques using locally available resources.	- -DVO - Animal Health Specialists - Agritex Officers
2.1: Capacity Building, Social Inclusion, and Smallholder Livestock Farmers Empowerment	Resource Limitations:	- Establish a robust pass-on scheme with clear guidelines and monitoring mechanisms. - Foster partnerships with local organizations for resource support.	VET Extension Officers (VEOs) Agritex Officer DPIUs
	Implementation Challenges:	- Customize training programs to match the existing skill levels of farmers. - Engage local leaders and influencers to encourage adoption of new practices	- E& S Specialist - Agritex - Trainers
	Potential Gender Bias:	- Design specific programs targeting women and youth to ensure their inclusion. - Monitor participation rates and make adjustments to improve equitable access. - Provide additional support and incentives for women and youth participation.	- DPIU - E& S Specialist - MWASCMED - district focal person - M&E specialist
2.2: Knowledge Management, Policy Development, Monitoring and Evaluation	Resource Allocation:	- Prioritize critical areas for policy review and stakeholder engagement. - Seek additional funding and support from international donors and NGOs. - Optimize resource use by focusing on high-impact activities.	PCs- all PCUs PM- PMU E & S Specialist
	Complexity of Implementation:	- Break down policy development and monitoring processes into manageable phases. - Allocate sufficient time and resources for comprehensive implementation. - Provide continuous training and support to those involved in policy development.	E& S Specialist PCs- all PCUs PM- PMU M& E specialists
	Potential Resistance:	- Conduct awareness campaigns to highlight the benefits of new policies and practices. - Involve stakeholders early in the decision-making process to gain their buy-in. - Provide incentives for the adoption of new practices and compliance with policies.	DPIU E& S Specialist M& E specialists Local leadership
3.1: Project Management	Administrative Costs:	- Optimize operational expenses by implementing cost-saving measures.	PM-PMU PCs-PCUs PSC

Sub-component	Negative Impact	Mitigation measures	Responsibility
		- Regularly review budget allocations to ensure funds are directed towards high-priority activities. - Seek additional funding sources to supplement administrative budgets.	
	Dependency on External Support:	- Build local capacity for project management and financial oversight. - Develop contingency plans to reduce dependency on external organizations. - Establish clear roles and responsibilities for local and external partners.	PM-PMU PCs-PCUs - PSC
	Potential Inefficiencies:	- Implement strict monitoring and evaluation systems to track efficiency. - Regularly review and adjust operational processes to improve effectiveness. - Train staff on efficient resource management practices.	- DPIU PM-PMU PCs-PCUs
Specific Construction and Operational Phase Impacts	Impact on Vegetation:	- Minimize vegetation clearance by optimizing land use planning. - Implement reforestation and afforestation programs. - Preserve areas of high biodiversity value during project planning.	Agritex Officer E& S specialist M&E specialist Contractor
	Pollution from Pesticides and Acaricides	- Promote the use of organic and environmentally friendly pest control methods. - Implement buffer zones to protect water bodies from contamination. - Educate farmers on the safe use and disposal of chemicals	- E& S Specialist - District VEO - District environmental Officer
	Occupational Health and Safety Risks:	- Provide adequate protective gear and training for farmers using pesticides. - Monitor health and safety practices regularly to ensure compliance. - Implement first aid and emergency response plans.	- DPIU - M&E specialist - Contractor - Relevant committees
	Pollution from Effluent Discharges:	- Construct proper effluent treatment facilities for dip tanks. - Regularly monitor water quality to detect and address contamination. - Educate farmers on proper effluent management practices.	E & S specialist Animal Health extension officers District Environmental Officer Dip Attendants
	Solid Waste Pollution:	- Develop and implement a solid waste management plan. - Promote recycling and safe disposal of construction and operational waste. - Conduct regular waste audits to ensure compliance with environmental standards	- E& S Specialist - District env officer
	Air and Noise Pollution:	- Use dust suppression techniques during construction. - Maintain equipment to reduce emissions and noise levels. - Monitor air quality and noise levels regularly.	- E & S specialist - M& E specialist -

Sub-component	Negative Impact	Mitigation measures	Responsibility
	Odour:	- Implement proper waste management practices to minimize odour. - Educate farmers on best practices for manure management.	District Environment Officer Agritex Officer
	Soil Compaction and Erosion:	- Limit the use of heavy machinery and use alternative methods where possible. - Implement soil conservation techniques such as contour ploughing and terracing. - Monitor and rehabilitate affected areas promptly.	- E&S Specialist - Agritex
Expected **Negative Social Impacts** from Construction and Operation Phases	Resource Allocation Inequalities:	- Develop transparent and equitable resource distribution plans. - Engage community leaders to mediate and resolve disputes. - Monitor resource allocation processes to ensure fairness.	- DPIU - E & S specialist - PCs
	Training Accessibility:	- Conduct training sessions in multiple locations to improve accessibility. - Provide training materials in local languages and adapt to varying knowledge levels. - Use multiple delivery methods, such as in-person, online, and radio broadcasts.	Agritex Officers DPIUs VEOs E&S Specialist
	Dependency on External Support:	- Focus on building local capacity for maintenance and further training. - Develop local supply chains for equipment and materials. - Provide continuous support and follow-up training to ensure sustainability.	- E& S Specialist - PMU - PCUs - DPIS
	Public Health Risks:	- Implement comprehensive health awareness and education programs. - Provide access to healthcare services and support for HIV/AIDS prevention. - Monitor public health indicators and respond promptly to emerging issues.	- E & S specialist - M&E specialist - DPIUs - Traditional Leaders
	Increased Market Competition:	- Support local MSMEs to improve their competitiveness. - Facilitate access to market information and training on business development. - Monitor market dynamics and provide support to disadvantaged producers.	MWASCMED E&M specialist MYAC

The specific monitoring plan and indicators are detailed below, in a Table 2. The included budget covers the implementation of the ESMP, encompassing training on understanding legal compliance, identifying impacts, and implementing mitigation measures, as well as monitoring ESMP activities.

1.7.3 ENVIRONMENTAL AND SOCIAL MONITORING PROGRAM

The ZAVaCEP aims to ensure that its environmental and social mitigation measures are effectively implemented, complying with both the Government of Zimbabwe's environmental provisions and the African Development Bank's standards. The Project Coordination Unit (PCU) at the Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development (MLAFWRD) will oversee the ESMP monitoring efforts, collaborating with district environmental implementation units and the Environmental Management Agency (EMA). Additionally, the Ministry of Women Affairs, Community, Small, and

Medium Enterprises Development (MWACSMED) will focus on social and gender issues, while the African Development Bank (AfDB) will supervise adherence to environmental and social safeguards during its missions.

The project's monitoring plan includes several key activities such as compliance monitoring, worksite management, and resolving emerging environmental issues. This involves regularly reviewing contractor worksite ESMP, ensuring negative impacts are mitigated, assessing the effectiveness of mitigation measures, and proposing remedies for significant impacts. The plan mandates frequent reporting—monthly, quarterly, biennially, or annually—depending on the monitored aspect, ensuring compliance with local environmental standards. By adhering to this comprehensive monitoring plan, the ZAVaCEP aims to minimize its environmental and social impact, fostering sustainable development in Matabeleland South.

TABLE 2. MONITORING PLAN AND COST FOR INSIZA AND BEITBRIDGE DISTRICTS					
Anticipated Environmental and Social Impacts	**Proposed Action/Measures and Objective of Management Measures**	**Monitoring and Reporting Indicators**	**Frequency of Monitoring (Timing)**	**Implementation Plan & Institutional Responsibilities**	**Cost Estimates (US$)**
PRE-CONSTRUCTION (PLANNING/DESIGN) PHASE					
Compliance with National environmental land and all applicable AfDB Environment and Social Safeguards Policies (PC1)	• Identify and assess the environmental and social impacts and risks including those related to gender, climate change and vulnerability (PC1MI) • Identify and address all pollution, biodiversity and occupational health and safety issues. (PC1M2)	- ESMPs prepared for each ZAVACEP Province with appropriate safeguards document developed and implemented	Once	Consultants/ EMA)	$20,000
Environment and Social Safeguards Training (PC2)	Safeguards training including AfDB operational safeguards for all District Agritex officers, Vet Services Department, District EMA Officers and MLAFWRD project implementing unit (PCU) PC22M1)	Project staff and district officers trained	Once	E & S Specialist EMA	Costs covered in Capacity building
Community mobilization and consultation (PC3)	Prepare and implement a stakeholder engagement plan (SEP), inform all communities affected by the project implementation schedule and their involvement (PC3M1)	No of farmers/community groups engaged/sensitized	Once-Before commencement of construction	District EMA	Cost included in SEP
Health and Safety Issues (PC4)	Preparation of a health and safety plan for workers and impacted communities addressing issues including education of workers and impacted communities on measures to prevent the spread of HIV/AIDs through awareness campaigns, provision of safety equipment for workers (PC4M1), Child labour prohibited (PC4M2)	-Health and Safety plan prepared - Workshop on HIV/AIDs held for workers and community	Monthly	Contractor, District EMA	$10,000
Anticipated Environmental and Social Impacts	**Proposed Action/Measures and Objective of Management Measures**	**Monitoring and Reporting Indicators**	**Frequency of Monitoring (Timing)**	**Implementation Plan & Institutional Responsibilities**	**Cost Estimates (US$)**
CONSTRUCTION PHASE					

Vegetation, habitat and biodiversity losses (may occur during re-grassing in pasture development and construction of meeting sheds and pasture nursery sheds) for each rangeland (C1)	• Clearing of vegetation should be done only where necessary.(C1M1) • Use of ripper tine to minimise clearing in grasslands (Total estimated clearing about 70 hectares (20% of 350 hectares) non continuous open ground (C1M2) • At least 50% of any indigenous trees removed during clearing will be replaced (C1M3). • Ensure clearing is undertaken with minimal disturbance to the surrounding environment within the approved work sites. (C1M4)	Area re-vegetated or restored. Conservation of at least 50% of indigenous trees.	Monthly during construction period and pasture development	Contractor (E&S , M&E -PCUs) and respective District Environmental Officers)	Provided in contractor bids
Soil erosion (may occur after clearing vegetation) (C2)	• Prompt backfilling and refrain from trenching in rain season. (C2M1) • Progressive rehabilitation will be done so that no trenches are left uncovered for more than 48 hours. (C2M2) • Stockpiles will be made not to exceed a height 1 metre. (C2M3) • Utilize excavated material for construction and restoration works (C2M4)	Excavated soil banked and backfilled. In pasture fields trenching by ripper tine interspaced with existing grass vegetation minimising soi loss	Monthly during construction period	Contractor, E& S Specialist, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids
Soil Contamination (from leakages from machinery) (C3)	• Machinery that will be used for the project will be properly serviced to minimize fuel leaks to the environment. (C3M1) • In cases of spillages, in-situ bio-remediation will be done. (C3M2)	Daily and weekly checklists completed. Machinery services as per specification of manufacturer	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids Oil spillage remediation Small area affected $2,000
Solid Wastes (C4)	• Provide waste collection receptacles (C4M1) • Acquire approvals/permits for waste disposal sites/utilize (C4M2) • Sensitization of workers on waste management practices. (C4M3) • Conduct waste segregation, recycle (C4M4)	Number of waste bins at camp sites Permit for waste disposal sites. No litter left at work site	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids Litter collection receivers *12 for Mat South - $6,000

Water Pollution (C5)	• Avoid improper disposal of empty containers of pesticides and acaricides into river channels (C5M1) • Treat the waste water from dips before disposal (C5M2) • Limit of fertilisers on rainy days (C5M3)	Water pollution prevention measures in place		Contractor, M&E -PCUs and respective District Environmental Officers	Provided in contractor bids
Air pollution (C6)	• Sprinkle water in construction yards, on dusty roads and soil heaps to keep down the dust produced. (C6M1) • The on-site burning of cleared vegetation will be mitigated by making it available to local communities for use as firewood. This will prevent burning large quantities of cleared vegetation during single events. (C6M2)	Air quality monitored. No complaints from affected parties	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in contactor bids Provision of 2 air quality meters $2,000
Occupational Health and Safety (C7)	• Develop, implement and disseminate occupational health and safety guidelines (C7M1) • First aid kits to be available on construction site for use by the workers (C7M2) • Provide Personal Protective Equipment (PPE) to employees. (C7M3) • Sensitize community about ongoing works through notice boards, reflective liners and detours (C8M4)	OHS guideline in place (% of contractor staff aware of OHS measures and trained - Documented qualifications of first aider and safety officer - PPE usage -Informed public and employees -Gender and HIV/AIDs mainstreamed	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids OHS guide printing PPE $5,000
Noise Pollution (C8)	• Installation of noise mufflers on equipment (C8M1) • Periodic measuring of noise levels (C8M2)	Equipment with noise reduction provision Noise levels kept at less than 65 decibels during the day and 55 decibels during the night (*EMA regulations*)	Monthly	Contractor, M&E -PCUs, respective District Environ mental Officers	Provided in Contractor bids Provision of 2 sound level meters purchased for $200

Dust (C9)	• Reduced speeds in dusty roads (C9M1) • Vehicles transporting raw materials especially soil should be covered or avoid overloading to reduce dust emissions (C9M2) • Use of wet excavations/damping of roads (C9M3) • Wearing of masks when ripping the ground or digging construction trenches (C9M4) • Avoiding using of ripper tine on windy days (C9M5)	Measured levels of dust particles (air pollution levels) No complaints from affected parties	Monthly	Contractor, M&E -PCUs and District Environmental Officers	Provided in Contractor bids
Employment Opportunities (C10)	• Implementing clear and transparent procedures for recruitment of labour and sourcing of goods and services will enhance the positive impact. (C10M1) • Preference will be given to residents of local communities, in the case of unskilled labour, and preference given to local suppliers in the case of goods and services (C10M2).	Number of local communities' employed and/or procured as part of project interventions	Once during construction phase (construction is short and temporal)	Contractor, M&E -PCUs, District Environmental Officers	Provided in Contractor bids
Strained social infrastructure due to increased population (C11)	Construction of public toilets and washing facilities at construction sites (C11M1)	- Number of public toilets and washing at each construction camp facilities constructed	Three month intervals	Contractor, M&E -PCUs and respective District Environmental Officers	Contractor's cost
Conflicts due to differences in social, cultural norms/values (C12)	• Sensitization of workers on respect for cultural norms and values (C12M1) • Develop grievance mechanisms to handle related grievances (C12M2)	Number of workers sensitized Grievance mechanism in place	Three month intervals	Contractor, M&E -PCUs, District Environmental Officers	Costs Covered in GRM

Spread of HIV/AIDS (C13)	• To complement existing initiatives in the community, HIV/AIDS awareness and sensitization will be provided to personnel as part of health and safety awareness. (C13M1) • Development of brochures and other materials that will convey information about diseases and infections, regular provision of adequate prevention measures such as condoms; (C13M2)	HIV/AIDS is included in regular Health, Safety and Environment awareness No of condoms distributed	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Costs for awareness Covered in SEP Condom provision $3,000
Increased traffic related impacts including strain on existing roads infrastructure and traffic accidents and congestion (C14)	(Type of infrastructure is small and should be completed at each site between a week to a month.) (C14M1) • Develop and implement a traffic management plan (C14M2) • Erect road safety features (C14M3) • Limit speed around shops and other public places/institutions(C14M4)	Traffic management plan prepared Safety signage Speed limits set	Weekly during construction	Contractor, M&E PCU	Provided in contractor bids
Temporary loss of livelihoods, social disruption and unrest amongst farming communities (C15)	• Sensitization of communities on how to cope with changes. (C15M1) • Scheduling/phasing of works to minimize disruption- e.g. when pasture lands will be ploughed. Appropriate time to rehabilitate dip tanks (C15M2) • Use of alternative dip methods such as pour-on during rehabilitation and construction(C15M3)	Number of farmers sensitized Schedule of works agreed with community	Monthly	Contractor, M&E -PCUs Vet officers	Engagement costs covered in SEP Cost of pour-on dip acaricides $10,000
Anticipated Environmental and Social Impacts	**Proposed Action/Measures and Objective of Management Measures**	**Monitoring and Reporting Indicators**	**Frequency of Monitoring (Timing)**	**Implementation Plan & Institutional Responsibilities**	**Cost Estimates (US$)**
OPERATION AND MAINTENANCE PHASE					

Improved water Supply for productive uses (OM1)	This positive impact will be enhanced by developing or strengthening Dip tank and water committees in the communities and raising awareness on water conservation and efficiency (OM1M1)	Water User Association developed. Training on water conservation and water use efficiency	Annually	DPIUs, M&E -PCUs, respective District Environmental Officers	$20,000
Employment Opportunities from pasture development, cattle restocking, Hide collection and processing (OM2)	This positive impact although limited in scope will be enhanced by: • Implementing clear and transparent procedures for recruitment of labour and sourcing of goods and services. (OM2M1) • Giving Preference to residents of local communities, in the case of unskilled labour, and preference given to local suppliers in the case of goods and services. (OM2M2)	Number of local communities' employed and/or procured as part of project interventions.	Three month interval	M&E -PCUs and respective District Officers	No direct cost to project
Improved Communication and enhanced capacity for livestock market (OM3)	This is positive impact will be enhanced by • Linking many farmers to the stock market platform (OM3) • Regular dissemination of market information by Agritex (OM3M1) • Training staff and farmers on communication skills (OM3M3)	• Number of farmers trained • Level of market information available to farmers • Level of communication competence among staff and farmers	Annual	District Agric Officer, M&E -PCUs, and respective District Environmental Officers, Local Leaders	Training $10,000 Information dissemination covered in SEP
Improved Farmers access to cattle breeds (OM4)	This positive impact will be enhanced by: • Accrediting distribution agents for seedlings and breeds (OM4M1) • Create awareness among farmers (OM4M2) • Multiply enough seedling and breeds for farmers use (OM4M3)	• Number of accredited distributors • % level of awareness in communities • Number of nurseries and improved seedlings and breeds • Number of farmers using improved species	Annual report and when needed	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$12,000
Increased production/yield of cattle, fodder and Income (OM5)	This positive impact will be enhanced by: • Wide dissemination of improved seedling and breeds (OM5M1) • Securing good improved breeding stocks (OM5M2) • Training of farmers and extension workers production and use of organic fertilisers (OM5M3)	•No of secured breed stock • Quantity of yield of carcass for cattle • Level of Improvement in income of farmers • Level of sales of organic fertilizers from cattle production system	Annual reports	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$10,000

Increased market access through export and Improved Food Quality in beef Value Chain (OM6)	• Increased market information and targeting premium prices (OM6M1)	• Level of market information among stakeholders • No of farmers accessing new markets (benefiting from market)	Annual	DPIUs, M&E -PCUs, and respective District VET officer	$15,000
Reduction in Diseases, Improved Nutritional Security and Reduced threat to public Health (OM7)	• Increase in distribution and use of improved cattle breeds (OM7M1) • Strengthening of existing biosecurity (OM7M2) • Training of vet practitioners (OM7M3) • Regular vaccination of cattle and application of preventive measures (OM7M4) • Regular disease surveillances (OM7M5) • Establish more quarantine centres (OM7M6) • Create more awareness (OM7M7)	• number of farmers owning improved cattle breeds • Number of trainings for vet personnel on new skills • Record of vaccinations and frequency of surveillance per year • Number of quarantine centres • Reduction in cattle disease incidences	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Dipping committees and rangeland committees	$20,000
Pollution of Air and Bad odour (from cattle production) (OM8)	• Prompt evacuation of waste and cleaning pens (OM8M1) • Train farmers on use of appropriate stocking density in pens (OM8M2) • Recycle waste to organic fertilizer (OM8M3) • Training of personnel on handling animal waste (OM8M4) • Monitoring by vet and district environmental technicians (OM8M5)	• Number of farmers trained • Schedule of monitoring provided	Annually	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$10,000
Solid waste at rangelands and dip tanks (OM9)	Provide waste collection receptacles (OM9M1)	• Number of waste bins at camp sites and dip tanks • No litter left at work site	Monthly	M&E -PCUs and respective District Environmental Officers	$4,000

Degradation of land due to poor agronomic practices (OM10)	• Sensitise farmers on adoption of improved livestock technologies. (OM10M1) • Promote soil conservation practices and labour saving technologies (OM10M2)	• Number of farmers trained in improved livestock practices • Soil conservation practices implemented	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$20,000
Soil and Water Pollution From feedlots also effluent water from dips tanks (OM11)	• Encourage use of environmentally friendly pesticides and Acaricides. Use PMP. (OM11M1) • Regulate use of fertilizers, pesticides and herbicides (OM11M2) • IPM training farmers on safe use and handling of agrochemicals (PMP). (OM11M3) • Recycle water (OM11M4) • Monitor surrounding water quality monitoring (OM11M4)	• Approved dip chemicals used • Byelaws on Agro-chemicals documented and disseminated • IPM Manual developed for farmers Number of IMP training conducted	Quarterly	DPIUs, E&S, M&E - PCUs, and respective District Environmental Officers, Local Leaders	Covered in PMP
Decline in volume of ground water because of over abstraction and Impact on water Users and Rivers, reservoirs (OM12)	• Establish and strengthen Water User Associations (OM12M1) • Train association on water conservation (OM12M2) • Monitor levels of borehole water (OM12M3)	• Number of Dip committees established and strengthened • Functional water scheduling protocol • Records of borehole water levels	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders, Farmers	$10,000
Accelerated or frequent breakdown of infrastructure and equipment (OM13)	•Training of farmers on maintenance and operation of water structures. (OM13M1) •Provision of equipment, tools and manuals. OM13M2) •Provision of incentives to maintain infrastructures OM13M3)	% Farmers trained on maintenance. Training manuals for Dip management; borehole maintenance, , O&M, equipment and tools maintenance.	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders, Farmers	$5,000 training $5,000 for tools and manuals

Genetic Losses in livestock due to external breeds	• Use of local breeds minimizes loss • Monitor calving performance • Change bulls every two years to avowing inbreeding • Collaborate and share information with breeding centre	Number Calving success Records of abnormalities Frequency of bull changes undertaken	Yearly	Animal Health Specialists, Farmers Researchers	$4000
Spread of HIV/AIDS (OM14)	• To complement existing initiatives in the community, HIV/AIDS awareness and sensitization will be provided to personnel as part of other health and safety awareness. (OM14M1) • Development of brochures and other materials that will convey information about diseases and infections, (OM14M2) • Regular provision of adequate prevention measures such as condoms; (OM14M3)	HIV/AIDS is included in regular Health, Safety and Environment awareness	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Costs covered in SEP
Occupational Health and Safety (OM15)	• Develop, implement and disseminate occupational health and safety guidelines (OM15M1) • First aid kits to be available on site for use by the farmers , (OM15M2) • Provide Personal Protective Equipment (PPE) to farmers at dip tank sites and at rangelands . (OM15M3) • Sensitize community about ongoing works through notice boards, reflective liners and detours (OM15M4)	OHS guideline in place Documented qualifications of first aider and safety officer PPE usage -Informed public and employees Gender and HIV/AIDs mainstreamed	Monthly	M&E -PCUs and respective District Environmental Officers	$6,000
TOTAL amount for MONITORING					**$209,200**

1.7.4 PUBLIC CONSULTATIONS AND DISCLOSURE REQUIREMENTS

Both the Zimbabwean environmental legal framework and the AfDB safeguards require comprehensive stakeholder consultations and disclosures to minimize project negative impacts and ensure projects are acceptable to beneficiaries while being socially and environmentally sustainable. These efforts are critical for implementing effective mitigation and enhancement measures throughout the project's lifecycle.

The ESMP for ZAVaCEP prioritizes transparent and inclusive stakeholder engagement as a legal and ethical necessity. Consultations started during the field appraisal visits for the ESMP preparation and will continue throughout project implementation. These consultations targeted primary and secondary stakeholders, affected communities, and district local institutions, aiming to create a stakeholder register and secure local support. The purpose of those consultations included providing clear project information, gathering views and concerns, allowing suggestions for mitigation, and incorporating stakeholder input to enhance project design and transparency.

Initial consultations informed stakeholders about the project's scope, objectives, and potential impacts, with ongoing consultations planned to refine mitigation strategies and incorporate feedback. Further engagements are outlined in an associated document the Stakeholder Engagement Plan and the plan aims to provides clear information, gather community and other stakeholder views, continue to enhance transparency, resolve disputes using local structures and following the Grievance Redress mechanism, and incorporates stakeholder input to improve project relevance and sustainability. Various participatory methods, including public meetings, key informant interviews, focus group discussions and site visits, will be used to ensure inclusivity, capturing diverse perspectives from women, youth, the elderly, and persons with disabilities.

Initial consultations across Insiza and Beitbridge districts (Table 3) adhered to guidelines for comprehensive engagement, conducted in local languages within community settings. Key issues discussed included protecting ecologically sensitive sites, respecting cultural sites, addressing environmental and biodiversity impacts, and focusing on socio-economic considerations. Stakeholders highlighted the importance of gender mainstreaming and youth empowerment due to high employment rates.

Table 3. Engagement meeting held In Matebeleland South

Date	Place visited	Number attended (Males , Females)		Issues raised /Raised
		F	M	
31st May 2024	Insiza District local Government	5	7	• Welcome and support required for their farmers due to droughts
31st May 2024	Nkonjeni Dip Tank	8	12	• Drought, lack of fodder, tick disease • Non cattle owners disappointed as there is no help with stocking
01 June 2024	Bolo Dip Tank	6	8	• Fetching water from the dam or pool for the dip tank • Insufficient water for livestock and dipping • Dilapidated dip dank structures
3rd June 2024	Beitbridge District Local Government	3	6	• Outbreak of diseases e.g. January disease which resulted in high mortality • Inadequate water supply for both livestock and human use
3rd June 2024	Lusenga	4	11	• Water challenges, water is being collected from a very far water source, about 5km

3rd June 2024	Tschikuati	8	3	• Low supply of livestock feed, pastures from the range

Stakeholder engagement has revealed several key issues. Ecologically sensitive sites and important cultural locations were identified and confirmed not to be impacted by the project. Socio-economic considerations included discussions on livestock value addition, employment opportunities, and overall quality of life improvements. Issues related to water scarcity due to recurring droughts, infrastructure deterioration, disease outbreaks, and social exclusion were prominently raised. The project aims to address these through market access facilitation, infrastructure rehabilitation, comprehensive disease management, and inclusive community support initiatives.

Local mechanisms for resolving conflicts were discussed, and communities indicated general satisfaction with using local structures. However, in some previous community-based projects, some members withdrew because they couldn't commit to the cash contributions or were dissatisfied with the project objectives or demands.

The implementation and success of mitigation and enhancement measures within the ZAVaCEP relies significantly on robust consultation and engagement with stakeholders. The project intends to use this aspect effectively to balance community needs and expectations.

1.7.5 INSTITUTIONAL ARRANGEMENTS AND CAPACITY BUILDING

The ZAVaCEP success will primarily be shaped by its complex and collaborative implementation structure, involving multiple government ministries and specialized units. Effective coordination among these institutions will involve regular communication, joint planning sessions, and alignment of strategies to ensure that the ZAVaCEP achieves its goals.

1.7.5.1 Government Ministries and agencies involved in ZAVaCEP

The main Executing Agency for the project is the Ministry of Finance and Economic Development (MoFED). The MOFED will leverage its Programme Management Unit (PMU) to oversee project execution, financial management, and procurement ensuring adherence to national development plans and strategies like the National Development Strategy 1 (NDS1). They have experience of having worked with AfDB projects before.

The implementation is supported by the Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development (MLAFWRD), the Ministry of Industry and Commerce (MIC), the Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED), and the Ministry of Youth, Arts, and Culture. These ministries form the Project Coordinating Units (PCUs) at national, provincial, and district levels to handle day-to-day project activities, ensure compliance with sector policies, and facilitate smooth operations.

The MLAFWRD will play a pivotal role in coordinating the interventions and providing technical expertise in beef and fodder production, and managing livestock diseases through its various departments. MLAFWRD is crucial in formulating and implementing agricultural policies that support the beef and leather value chain development. They will work on strategies for food security, agricultural sustainability, and mechanization in a changing climate. They will form the Lead coordinating unit among the other two PCUs.

Ministry of Industry and Commerce (MIC) role will be to facilitate and promote commercial enterprises within the beef and leather sectors, ensuring competitiveness and sustainability. They will create an enabling environment for businesses to thrive and contribute to economic growth.

Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED) will focus on supporting micro, small, and medium enterprises (MSMEs) within the value chains, fostering entrepreneurship, and creating policies that benefit local communities and cooperatives. Likewise , the Ministry of Youth, Arts, and Culture will be responsible for fostering youth empowerment and inclusion in project activities.

Local Government and Regulatory Bodies entities; Rural District Councils (RDCs)), Environmental Management Agency (EMA), Forestry Commission, Zimbabwe National Water Authority (ZINWA), Ministry of Health and Child welfare, Rural Infrastructure Development Agency (RIDA)) will provide regulatory oversight, environmental stewardship, and infrastructure support essential for sustainable development within the value chain. The will form the District Project Implementation Units (DPIUs) for each district.

1.7.5.2 Project Responsibilities and Roles.

The responsibilities and institutional arrangements for the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) are structured to ensure effective implementation, monitoring, and reporting. Key roles include:

Responsibilities Clarification: The Borrower (Government of Zimbabwe) is accountable for monitoring and reporting project outcomes. Implementation support may come from the project team and external consultants as needed. The ESMP identifies roles for the Bank, Borrower, implementing agencies, and stakeholders, emphasizing support for capacity building where necessary.

Project Management Structure: Over a four-year period, the Ministry of Finance and Economic Development (MoFED) will serve as the Executing Agency (EA) through its Programme Management Unit (PMU). Implementing agencies like the Ministry of Industry and Commerce (MIC), Ministry of Lands, Agriculture, Fisheries, Water and Rural Development (MLAFWRD), and Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED) will establish Project Coordinating Units (PCUs) at national, provincial, and district levels to oversee day-to-day activities.

Procurement Arrangements: Procurement follows the Bank's guidelines, with the MoFED PMU coordinating procurement activities across ministries and ensuring compliance with local and project-specific requirements. Memoranda of Understanding (MoUs) will formalize partnerships with external service providers.

Financial Management and Audit: The MoFED PMU will manages financial aspects using the PASTEL system, with oversight from the African Capacity Building Foundation (ACBF) for the project's Special Account. Implementing agencies (PCUs) will manage finances at the component level, ensuring adherence to approved budgets and reporting requirements.

Monitoring and Evaluation (E&S): A dedicated E&S Specialist at the national level, supported by district units and technical specialists, will monitors ESMP implementation and other management plans. The E&S will be supported by the M&E specialists from each PCU. Regular field visits and progress reports ensure compliance and corrective actions as needed.

Overall, the project's success hinges on clear delineation of roles, effective coordination among ministries, adherence to procurement and financial protocols, and robust monitoring and evaluation practices at all levels of implementation.

The project's financial management and procurement processes are meticulously structured, with the African Capacity Building Fund (ACBF) managing the special account. The PMU, experienced in handling AfDB-funded projects, will maintain financial oversight, prepare reports, and ensure adherence to procurement policies. The implementation of the Environmental and Social Management Plan (ESMP) is crucial, involving designated specialists across the PCUs. These specialists, including social and environmental, technical, and M&E experts, will work collaboratively to monitor project progress, implement mitigation measures, and ensure compliance with the ESMP, the Stakeholder Engagement Plan (SEP), the Pest Management Plan (PMP), and the Grievance Redress Mechanism (GRM). This structured approach aims to enhance project efficacy, ensure sustainable development, and achieve the desired socio-economic impacts.

1.7.5.2 Capacity Strengthening

The ZAVaCEP aims to enhance environmental and social management through comprehensive capacity building and training. Successful implementation of the Environmental and Social Management Plan (ESMP) hinges on strengthening institutional capacities at the national, district, and community levels. Key training areas include Environmental and Social Impact Assessment (ESIA), ESMP development and mitigation measures, health and safety protocols, community engagement, monitoring techniques, data analysis, and performance reporting. Additionally, gender and social inclusion, conflict resolution, and effective documentation and knowledge transfer are essential cross-cutting training needs. The Project Steering Committee (PSC) and Project Management Unit (PMU) are responsible for planning, budgeting, and executing these training programs, with support from local NGOs and government agencies such as EMA and the Department of Gender and Women's Affairs from the MWACSMED. Training staff from various implementing units and divisions is crucial to enhance their skills in handling specific environmental and social issues. This capacity building will enable staff to effectively review and monitor environmental issues within the project and its sub-projects, ensuring compliance with national policies and AfDB safeguard policies.

The project also involves the procurement of technical assistance and specialized contractors for tasks like solar panel installation, civil works, mid-term evaluations, environmental audits and monitoring of grievance redress mechanisms (GRM) and pest management plans (PMP). These tasks require expertise that may be sourced through bids and MOUs with relevant ministries and departments. The PMU, with help from the Project Coordination Units (PCUs), will oversee the procurement process for contractors and technical experts , ensuring that all technical inputs are effectively integrated into the project. The PCUs in particular the lead PCU from MLAFWRD will spearhead collaboration with local institutions such as the **Research Institutions** (Matopos Research Centre, Makoholi Research Centre, Grasslands Research Institute, International Livestock Research Institute, CIMMYT), **Zimbabwe Agricultural Colleges and Technical Colleges (**Masvingo and Matebeleland South**)** to contribute knowledge and technical expertise to improve productivity and sustainability within the value chains and build youth skills capacity. Additionally the **Institute of Agricultural Engineering, Mechanisation and Soil Conservation** will be engaged to focus on strengthening community skills and knowledge on mechanization and soil conservation practices that are integral to sustainable agriculture and livestock management.

1.8 ESTIMATED COSTS FOR THE ESMP

The Environmental and Social Management Plan (ESMP) encompasses a budget covering all costs associated with executing the plan's requirements and recommendations, including the Stakeholder

Engagement Plan (SEP), Pest Management Plan (PMP), and Grievance Mechanism. The budget covers the two district in Matebeleland South, and is estimated at US$0.615 Million over the four year period. The detailed breakdown is provided in the ESMP and is summarized in Table 4 below.

Table 4. Budget Estimate for ESM for Insiza and Beitbridge Districts.

Phase	Year 1	Year 2	Year 3	Year 4	Total
Preconstruction Phase mitigation measures	28000				28000
Construction phase Measures	24200				24200
Operation and maintenance phase awareness and Monitoring activities	$ 26 000,00	$33 000,00	$33 000,00	$27 000,00	$119 000,00
Capacity Building	$ 29 000,00	$ 9 000,00	$ -	$ 8 000,00	$ 46 000,00
Stakeholder Management plan	$ 20 000,00	$20 000,00	$20 000,00	$10 000,00	$ 70 000,00
Grievance redress Mechanism	$ 20 000,00	$10 000,00	$10 000,00	$10 000,00	$ 50 000,00
Pest management	$ 30 000,00	$20 000,00	$20 000,00	$20 000,00	$120 000,00
Decommissioning					$129 000,00
SUB total					$ 586 200,00
Contingency 5%					$ 29 310,00
GRAND TOTAL					$ 615 510,00

1.9 IMPLEMENTATION SCHEDULE AND REPORTING

The ZAVaCEP aims to integrate environmental and social considerations into its implementation to promote sustainability across its components.. Key focus areas within the ESMP include its implementation and management, preparation of site-specific plans, training and capacity building for staff and farmers, supervision, and review and monitoring mechanisms.

Timeframes for implementing key components are detailed in the ESMP, emphasizing the importance of thorough supervision and continuous capacity building to ensure the project's sustainability. Table 5 shows the implementation of the key components of the ESMP.

Table 5. ZAVaCEP ESMP Timeframe And Responsibility

	ACTIVITY	Timeframe	Responsibility
1	Preparation of site-specific ESMPs	First 3 months of inception phase	PCU, EMA
2	Capacity Building -staff- ESMP components	Year 1 first 6 months	PMU, PMU, EMA

3	Capacity building farmers – ESMP components	Year 1 – 4 intense in the first 18 months	M&E-PCU
4	ESMP monitoring – Regular Supervision	Through Project Life	PCUs, PMU, DPIUs.
5	ESMP Monitoring Control Missions	Annually during Project period	PCU, AfDB
6	Institutional Capacity Strengthening	When needed	PCU, PMU
7	Stakeholder consultations and public awareness	Throughout project life and as when needed	PCU, DPIUs
8	GESI mainstreaming	Bi-annually workshops	MWACSMED
9	HIV/AIDS mainstreaming	Quarterly campaigns	Ministry of Health & Child Welfare

1.9.1 DECOMMISIONING

The decommissioning phase of the Zimbabwe Value Chain Enhancement Project (ZAVaCEP) will focus on dismantling and removing non-functional infrastructure while preserving and repurposing functional assets for community use. This process will involve minimal demolition, with an emphasis on assessing and addressing environmental impacts through soil and water testing, as well as rehabilitation of disturbed land. Proper disposal, recycling, and repurposing of materials will be prioritized to minimize waste and environmental contamination. Social considerations will include engaging local stakeholders to address concerns and ensure their needs are met, with a focus on developing a sustainable exit strategy that promotes long-term community resilience and environmental sustainability. Transparent documentation and reporting will ensure compliance with legal requirements and reinforce the project's positive legacy.

1.9.2 CONCLUSION

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) is expected to have several environmental and social impacts, which the Environmental and Social Management Plan (ESMP) aims to address comprehensively. Environmentally, the project could lead to land degradation, water resource depletion, and pollution due to fodder production, cattle dipping, and hide processing activities. To mitigate these effects, the project will promote sustainable practices, such as crop rotation, integrated pest management, and advanced wastewater treatment systems. Additionally, reforestation and energy-efficient technologies will help counteract greenhouse gas emissions and biodiversity loss. The pest management plan (PMP) has been developed to address potential pesticide and acaricide health risks and pollution of water and soils.

Socially, the project is anticipated to improve infrastructure and create employment opportunities, particularly benefiting local farmers, youth, and women. It aims to enhance market access, income diversification, and poverty alleviation. To address potential social issues, the ESMP emphasizes stakeholder engagement, capacity building, and robust grievance redress mechanisms. The project will also focus on social inclusion and gender equality by ensuring equal participation and addressing the needs of vulnerable groups. Overall, the ESMP outlines measures to maximize positive impacts while minimizing negative ones, ensuring the project's alignment with African Development Bank's safeguard requirements and contributing to sustainable development in Zimbabwe.

1.9.3 REFERENCES USED TO DEVELOP ESMP

AfCFTA Secretariat. (2021). [Trade Opportunities for Zimbabwe](https://au-afcfta.org/trade-opportunities-zimbabwe/). AU AfCFTA.

African Development Bank. (2023). Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) Preparatory Mission Report.

African Development Bank (AfDB). Safeguard Instruments.

Chigumira, G., & Matshe, I. (2018). [Challenges in the Beef Value Chain in Zimbabwe] (https://www.researchgate.net/publication/327414307ChallengesintheBeefValueChaininZimbabwe). Research Paper.

FAO. (2016). Developing gender-sensitive value chains: Guidelines for practitioners. Food and Agriculture Organization of the United Nations.

FAO. (2018). The State of Food Security and Nutrition in the World.

FAO. (2019). Climate Smart Agriculture in Zimbabwe. Retrieved from http://www.fao.org/climate-smart-agriculture-sourcebook/production.

FAO. (2020). Livestock and the Environment: What Have We Learned in the Past Decade?

FAO. (2022). [Zimbabwe Livestock Sector Analysis](https://www.fao.org/publications/card/en/c/CA0123EN/). FAO Publications. resources/module-b5-livestock/chapter-b5-4/en/

Government of Zimbabwe. (2021). National Development Strategy 1 (NDS1: 2021-2025).

Government of Zimbabwe. (2021). Zimbabwe Leather Sector Strategy (2021-2030).

Government of Zimbabwe. (2021). Zimbabwe Livestock Growth Plan (2021-2025).

Hanyani-Mlambo, B. T. (2019). [Infrastructure Deficiencies in Zimbabwe's Beef Sector] (https://www.africaportal.org/publications/infrastructure-deficiencies-zimbabwes-beef-sector/). Africa Portal.

Human Rights Watch. (2021). Reports on human rights issues in Zimbabwe. Retrieved from [Human Rights Watch](https://www.hrw.org/)

IFAD. (2018). Climate-Smart Livestock Production in Zimbabwe. Retrieved from https://www.ifad.org/documents/38714170/40253882/Climate-smart+livestock+production+in+Zimbabwe.pdf

IFAD. (2019). Creating opportunities for rural youth: 2019 Rural Development Report. International Fund for Agricultural Development.

IFC. (2018). Performance Standards on Environmental and Social Sustainability.

Institute for Security Studies (ISS). (2020). Study on social dynamics and development projects in Zimbabwe.

International Crisis Group. (2020). Reports on political challenges and governance issues in Zimbabwe.

IPCC. (2019). Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems. Retrieved from https://www.ipcc.ch/srccl/

Ministry of Agriculture, Zimbabwe. (2021). [Agricultural Sector's Contribution to GDP](http://www.agriculture.gov.zw/index.php/en/statistics/gdp-contribution). Government Report.

Ministry of Environment, Water and Climate (MEWC). (2016). Zimbabwe's National Climate Change Response Strategy. Retrieved from https://www4.unfccc.int/sites/NAPC/Documents%20NAP/ZimbabweNCCRS.pdf

Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement. (2018). National Agriculture Policy Framework (NAPF) 2018-2030. Government of Zimbabwe.

Moyo, S. (2019). Challenges and Opportunities in the Zimbabwean Beef and Leather Sector. Journal of Agribusiness in Developing and Emerging Economies, 9(2), 129-145.

Moyo, S., & Chambati, W. (Eds.). (2013). Land and Agrarian Reform in Zimbabwe: Beyond White-Settler Capitalism. African Books Collective.

Mudzengi, B. K., & Musemwa, L. (2016). [Foot-and-Mouth Disease Impacts on Zimbabwe's Beef Export](https://journals.sagepub.com/doi/full/10.1177/2158244016669527). SAGE Open.

Mugabe, P. (2020). Leather Processing Challenges in Zimbabwe](https://www.ajol.info/index.php/ajest/article/view/202483). African Journal of Environmental Science and Technology.
National Policies, Regulations, and Legislations.
Ndlovu, J., & Chifamba, E. (2020). Enhancing Value Addition in Zimbabwe's Leather Industry. African Journal of Business Management, 14(9), 293-303.
Project Proposal and Baseline Reports for the SBLVCP.
Transparency International. (2019). Studies on regulatory and bureaucratic inefficiencies in Zimbabwe.
UNDP. (2017). Climate Change Response Strategy and Action Plan for Zimbabwe. Retrieved from https://www.zw.undp.org/content/zimbabwe/en/home/library/environmentenergy/climate-change-response-strategy-and-action-plan.html
UNDP. (2018). Disability Inclusive Development in UNDP. United Nations Development Programme.
UNDP. (2020). [Public-Private Partnerships in Zimbabwe's Agricultural Sector](https://www.zw.undp.org/content/zimbabwe/en/home/library/publications/ppp-in-agriculture.html). UNDP Report.
UNEP. (2020). Guidance on Social Impact Assessment for Projects.
UNEP. (2020). Global Environment Outlook (GEO-6): Healthy Planet, Healthy People. Retrieved from https://www.unep.org/resources/global-environment-outlook-6
UNAIDS. (2020). Global HIV & AIDS statistics — 2020 fact sheet. Joint United Nations Programme on HIV/AIDS.
USAID. (2018). Climate Risk Profile: Zimbabwe. Retrieved from https://www.climatelinks.org/resources/climate-risk-profile-zimbabwe
World Bank. (2010). Indigenous Peoples and Climate Change in Africa. World Bank.
World Bank. (2019). Value Addition in Zimbabwe's Agro-Processing Sector](https://documents.worldbank.org/en/publication/documents-reports/documentdetail/573221560037028119/value-addition-in-zimbabwes-agro-processing-sector). World Bank Report.
World Bank. (2019). World Development Report.
World Bank. (2020). Economic Impacts of Agriculture.
World Bank. (2021). Reports on Zimbabwe's economic conditions, including the impacts of inflation and economic instability. Retrieved from https://www.worldbank.org/en/topic/environment/publication/sustainable-land-management-in-sub-saharan-africa
Zimbabwe Agriculture Investment Plan (ZAIP) 2017-2021. (2017). Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement.
Zimbabwe National Statistics Agency. (2021). GDP Contribution and Employment Statistics in Agriculture.
Zimbabwe National Statistics Agency (ZIMSTAT). (2019). Zimbabwe Demographic and Health Survey 2018.

2 THE ENVIRONMENTAL AND SOCAIL MANAGEMENT PLAN

2.1INTRODUCTION

The Zimbabwean government is seeking a grant from the African Development Bank Fund, amounting to UA 4.000 million (USD 5.310 million), to support the development of the beef and leather value chain under the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP). Additionally, the government of Zimbabwe will contribute AU 0.537 million (USD 0.713 million), with a small 1.5% contribution from beneficiaries. This document represents the Environmental and Social Management Plan for the ZAVaCEP project for the Matebeleland South Province. The project will be implemented in Insiza District and Beitbridge District.

The Environmental and Social Management Plan (ESMP) is designed to ensure that the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) aligns with the applicable national environmental and social legal requirements and the African Development Bank's (AfDB) safeguards policies and procedures. The primary objective of the ESMP is to ensure that the ZAVaCEP complies with all relevant environmental and social regulations and guidelines, mitigating any potential negative impacts while enhancing positive outcomes. In addition other objectives of the ESMP is to outline the necessary mitigating, enhancing, monitoring, consultative, and institutional measures required to prevent, minimize, mitigate, or compensate for adverse environmental and social impacts associated with the project, while enhancing its beneficial impacts. Furthermore, the ESMP addresses capacity-building requirements to bolster the grantee's ability to manage these safeguards effectively, ensuring that all environmental and social aspects are managed effectively throughout the project's lifecycle.

2.1 Background & Context

Agriculture is important for Zimbabwe's economy, contributing approximately 16% of the total output, yet it remains underdeveloped in terms of value addition. The sector, encompassing crops, livestock, and fisheries & aquaculture, is pivotal for employment, income generation, livelihoods, and poverty reduction. Contributing between 12 and 18% of GDP, agriculture provides employment and income for 60-70% of the population, supplies 60% of raw materials for industry, and accounts for nearly 40% of export earnings. Key crops include maize, tobacco, wheat, and sugarcane. Given that 67% of Zimbabwe's population resides in rural areas, predominantly relying on smallholder farming, enhancing agricultural productivity is crucial for reducing poverty, hunger, and malnutrition.

The Agriculture Transformation Strategy (2019) aims to develop a robust sector to drive Zimbabwe towards Vision 2030, addressing challenges such as population growth, low productivity, and climate change. The National Agriculture Policy Framework (2018-2030) provides a roadmap for sustainable investments to boost agricultural productivity and competitiveness, addressing crop and livestock production, marketing, and trade.

Livestock production is integral to Zimbabwe's agriculture, contributing about 30% of agricultural GDP, primarily from small-scale communal farmers. It is vital for livelihoods and inclusive growth, providing high-quality protein and essential nutrients for food and nutrition security. Challenges such as low productivity, poor genetics, water scarcity, and climate-induced animal diseases necessitate strategic interventions to enhance productivity and safe trade.

In response to the challenges aforementioned, the Government of Zimbabwe implemented the AfDB-funded Support to the Beef and Leather Value Chain Technical Assistance Pilot Project (SBLVCP) in Matabeleland North and Bulawayo Provinces. This project aimed to catalyse economic growth through value addition in the beef and leather sectors, addressing bottlenecks and involving all stakeholders for a holistic approach. The success of the SBLVCP prompted the Government to request a similar project for broader implementation.

The ZAVaCEP aims to replicate and expand the successful elements of the SBLVCP to Matabeleland South, Masvingo, and Bulawayo Provinces, focusing on capacity building, potable water provision, livestock productivity enhancement, value addition, and private sector development. This project aligns with Zimbabwe's National Development Strategy 1 (NDS1: 2021-2025), Vision 2030, and the Zimbabwe Leather Sector Strategy (2021-2030).

To ensure compliance with national environmental legislation and AfDB's E&S obligations, this ESMP has been developed in consultation with the Zimbabwe Environment Management Agency (EMA). In accordance to the Environment Management Act 20:27 Section 98 a prospectus highlighting potential

project impacts and mitigation measures was submitted to EMA's Director-General for consideration before development of this Social and environmental Management plan.

2.2 Project Category

According to Zimbabwe's EMA Schedule, ZAVaCEP corresponds to a Schedule 2 project under the Environmental Management Act (EMA). This classification aligns with the African Development Bank's (AfDB) Category 2 designation under the Environmental and Social Assessment Procedures (ESAP). This classification indicates that the project is likely to have site-specific environmental and/or social impacts that are less severe than those of Category 1 projects. These impacts can be minimized through appropriate management and mitigation measures or by incorporating internationally recognized design criteria and standards. Both categories involve projects with site-specific impacts that can be mitigated through proper management plans. Consequently, an AfDB Category 2 project in Zimbabwe would typically require an Environmental and Social Management Plan (ESMP) rather than a full Environmental Impact Assessment (EIA), ensuring that potential environmental impacts are adequately addressed and managed.

To ensure compliance with the Zimbabwe Environmental Management Act for projects classified as AfDB Category 2, the process begins with a screening phase to determine whether the project falls under Schedule 1 or Schedule 2 of the EMA. Given the acceptance of the prospectus by EMA, that confirmed that ZAVaCEP align with Schedule 2, necessitating the preparation of an ESMP. As required this ESMP will detail specific mitigation measures designed to address potential environmental impacts. Once crafted and approved by the AfDB, the ESMP will be submitted to the Environmental Management Agency (EMA) for review and approval. Upon receiving approval from the EMA, the next step is to implement the ESMP effectively, ensuring that all prescribed mitigation measures are put into practice. Continuous monitoring throughout the project lifecycle is essential to maintain compliance with environmental management requirements, thereby safeguarding the environment and adhering to regulatory standards.

2.3 Project Justification

Livestock production is crucial for Zimbabwe's agricultural sector, contributing about 30% of the agricultural GDP and a significant portion of cash flow from small-scale communal farmers. The Zimbabwe Livestock Growth Plan highlights the sector's importance to household and national food and nutrition security, foreign currency earnings, and rural livelihoods. However, challenges such as low productivity, water supply limitations for dip tanks, and climate change-induced issues need to be addressed to enhance livestock productivity and ensure safe trade.

The ZAVaCEP will support Zimbabwe's efforts through capacity building, provision of potable water, enhancement of plunge dipping infrastructure, enhancing livestock productivity, value addition, and promoting private sector development. This support will contribute to macroeconomic stability, job creation, and poverty reduction. The project aims to replicate and scale-up successful activities from the SBLVCP and introduce new interventions focusing on sustainable, climate-resilient livestock production. Activities will include livestock disease control, drilling community-level boreholes for potable water, rehabilitating dip tanks, training leather product manufacturers, and supporting farmers in animal husbandry.

2.4 Need and objectives of ESMP

To rejuvenate the leather sub-sector, the Zimbabwean government has introduced the Zimbabwe Leather Sector Strategy (2021-2030), a comprehensive plan designed to enhance the competitiveness

of the leather value chain. This ambitious strategy calls for significant investments aimed at supporting small-scale farmers within the livestock sub-sector. Central to the successful implementation of these initiatives is the need for Environmental and Social Management Plans (ESMP) for guiding the sustainable execution of projects under the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP).

The main objectives of the ESMP include to:

- identify and assess the potential environmental, climate change, and social impacts associated with the proposed development projects. By doing so, it ensures that any adverse effects are thoroughly understood and addressed.

- propose a range of measures to avoid, minimize, mitigate, compensate for, offset, and monitor these adverse impacts while simultaneously maximizing the development benefits adverse impacts while maximizing development benefits. This includes providing clear guidelines and strategies to integrate environmental and social due diligence into every aspect of project implementation.

- ensure that all project activities comply with national environmental legislation and adhere to international standards, including the African Development Bank's operational safeguards policies.

By achieving these objectives, the ESMP serves as a crucial framework for promoting sustainable and responsible development within Zimbabwe's beef and leather sector.

2.5 Scope of Work

The scope of work for developing the ESMPs includes:

- Conducting environmental and social analyses of the project portfolio and priority investments.
- Reviewing relevant documentation and conducting field visits to project sites to assess environmental and social conditions.
- Analysing potential direct, indirect, and cumulative impacts of project activities.
- Establishing institutional arrangements, roles, and responsibilities for ESMP adoption and implementation.
- Conducting gender analyses to address gender gaps and opportunities within the project.
- Developing a Grievance Redress Mechanism and recommending project design adjustments to optimize positive impacts and mitigate negative ones.
- Estimating budgetary requirements for implementing the ESMP during the project execution phase.
- Preparing comprehensive ESMP reports compliant with Zimbabwean regulatory requirements and the African Development Bank's guidelines.

This consultancy aims to ensure that the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) aligns with national development strategies, promotes sustainable livelihoods, and contributes to economic stability, job creation, and poverty reduction across targeted provinces.

2.6 Methodology

The development of the (SBLVCP) ESMP involved a comprehensive and structured approach from the initial document review to the final report compilation. The process included a desktop study, where relevant project documents such as the African Development Bank (AfDB) safeguard instruments, the

project proposal, baseline reports, and documentation from similar projects within Zimbabwe were reviewed. This was followed by an examination of various legal and policy documents, including national policies, regulations, legislations, and relevant international instruments and conventions.

In addition visits were conducted by a team of government experts and the consultant to selected intervention sites to observe and assess the existing environmental conditions. These visits informed the development of the environmental baseline for the Environmental and Social Management Plan (ESMP). During the impact assessment phase, a comprehensive literature review was performed to identify baseline receptors and understand the socio-economic and environmental characteristics of the project areas. Potential interactions between the project and current or future site conditions were then assessed, and the likely environmental impacts were predicted. This included analysing direct, indirect, secondary, cumulative, short-term, long-term, permanent, temporary, positive, and negative impacts. Mitigation measures were identified to avoid, reduce, or offset adverse impacts.

The significance of potential impacts was evaluated using professional judgment, field assessments, stakeholder consultations, and desktop analysis, considering the interaction between biophysical and socio-economic environments and the characteristics of the affected environment. The ESMP proposes specific mitigation measures to ensure environmental protection throughout the project lifecycle. Stakeholder consultations were integral parts of the process. Community engagement meetings were held to explain the project, gather concerns, and incorporated local inputs into the ESMP. The final ESMP includes identification of potential impacts, proposals for mitigation or enhancement measures, assignment of responsibilities, and an implementation timeline, along with a monitoring strategy to ensure effective implementation, complete with cost estimations for the monitoring plan.

3 PROJECT DESCRIPTION

2.1Introduction and context

The ZAVaCEP project aims to enhance the beef and leather value chain in Zimbabwe as a way to reduce poverty and increase income for the targeted communities. This aligns with the economic development goals of the country. Specifically, the National Agriculture Policy Framework (NAPF) 2018-2030 envisions transforming the Agriculture sector in Zimbabwe into a prosperous, productive, and sustainable industry that enhances food security and economic resilience through modernizing farming practices, promoting value addition, and integrating smallholder farmers into the mainstream economy.

The Sustainable Beef and Leather Value Chain Project (SBLVCP) aim to realise these goals and also address challenges such as disease outbreaks, infrastructure deficiencies, limited market access, and technological gaps. By embracing opportunities for growth such as expanding export markets, enhancing value addition, embracing technological innovations, and fostering public-private partnerships the project can increasing the sector's contribution to GDP and creating sustainable economic growth.

2.2The Project Components and Activities

The SBLVC project consists of 4 (4) components proposed to achieve the project objectives (Annex 2). The components are, (i) **Component 1 – Climate Smart Agricultural Productivity and Value Chain Enhancement, (ii) Component 2 – Supporting Climate Resilient and Community Level-driven Infrastructure Development (iii) Component 3 – Knowledge Management, Policy Development, Monitoring and Evaluation, (iv) Component 4- Project Management**. Environmental, Climate Change and Green Growth issues have been incorporated in the Project design. This section summarizes the three Project components, sub-components, major activities, and include associated costs for each sub-component.

Component 1: Climate Smart Agricultural Productivity and Value Chain Enhancement

The ZAVaCEP Project's Component 1 focuses on enhancing agricultural productivity and value chains through climate-smart practices. This component is divided into three sub-components, each targeting specific areas of improvement to support sustainable livestock production, agri-business development, and MSME agro-processing.

Sub-component 1.1: Support to Sustainable Livestock Production and Productivity

The project aims to enhance sustainable livestock production through comprehensive measures. These include rehabilitating 8 plunge pool dip tanks to ensure year-round functionality and installing 8 solar-powered boreholes with overhead tanks and reticulation systems to provide reliable water sources. Water troughs near boreholes will be constructed to improve livestock access to water, crucial for their health. Climate-smart rangeland management practices will cover 100 designated hectares, featuring water and soil conservation structures and integrated catchment management. Pasture development will be promoted across 600 hectares through the cultivation of legumes and grasses. Additionally, livestock productivity will be supported by distributing 8 bulls with superior genetics and providing feed formulation equipment to enhance feed quality. With a budget allocation of UA 0.869 million (25.7%), key activities include rehabilitating 8 seasonal dip tanks, drilling 4 multipurpose solar-powered boreholes, constructing water troughs near boreholes, implementing climate-smart practices across 40 hectares, and dedicating 300 hectares to pasture development, supplemented by the distribution of 8 genetically superior bulls and feed formulation equipment.

Sub-component 1.2: Support to Agri-Business and Value Chain Enhancement

In enhancing the agri-business and value chain, this project integrates various strategies. It includes conducting training courses focused on quality standards, market linkage, and product development, aimed at enhancing the competitiveness of MSMEs and clusters engaged in other agro-processing activities. Community-level stock feed processing plants feedlots be established to meet local demand, complemented by aggregation centres equipped with essential infrastructure and training to ensure sustainable operations. Women and youth led horticulture and poultry production projects will also be supported. Furthermore, the project will facilitate participation of 50 MSMEs with exhibiting quality products at local, regional and international markets, thereby promoting their products globally. This sub-component, funded with UA 0.834 million (24.6%), seeks to enhance the leather value chain and broader agri-business activities comprehensively.

Sub-component 1.3: Support to Women and Youth MSME Agro-Processing and Market Access

Managed by the Ministry of Women Affairs, Community, Small and Medium Enterprises Development, this sub-component focuses on empowering women and youth in agro-processing. It begins with community mobilization workshops to engage stakeholders and raise awareness through mass media campaigns and promotional materials. Technical training workshops will be conducted periodically to equip MSMEs with production, processing, packaging, and quality assurance skills, supplemented by onsite visits for practical support. Business management training will empower beneficiaries in planning, marketing, and cooperative building to enhance enterprise management. The project will invest in agro-processing machinery, preservation facilities, and drill solar-powered boreholes to strengthen the value chain. Additionally, it will facilitate market access through certification and participation in local, regional, and international trade platforms, supported by technical assistance, equipment provision, and a learning visit to a country with a robust agro-processing sector.

Component 2- Building Rural Communities Resilience to Climate Change: Component 2 enhances capacities and resilience of smallholder livestock farmers.

Sub-component 2.1-(Supporting Climate Resilient and Community level-driven Infrastructure Development) emphasizes the empowerment of smallholder livestock farmers through comprehensive training sessions. These sessions cover livestock identification, traceability, and product development across various clusters including beef, horns, hides, skins, and leather crafts. Equipment for leather value addition is procured and distributed to support these efforts. Additionally, a pass-on scheme for small stock (goats) benefits women and youth groups. Training is also provided on low carbon livestock production and eco-friendly sustainable leather tanning, promoting resilience, methane reduction, and environmental sustainability. Capacity building activities are central to social inclusion and smallholder empowerment, ensuring equitable access to training and economic opportunities. These initiatives strengthen community resilience by fostering sustainable livelihoods and enhancing income generation within the beef and leather value chains. **Sub-component 2.**2 focuses on *Reinforcing inclusive and diversified climate resilient livelihoods support*

Component 3-Knowledge Management, Policy Development, Monitoring and Evaluation Project Management : Knowledge Management, Policy Development, and Monitoring and Evaluation to enhance the regulatory framework supporting the beef and leather value chains. This includes updating legislation such as the Animal Health Act and the Livestock Growth and Recovery Plan, fostering a conducive environment. The project promotes best practices through policy briefs and climate action standardization, while facilitating annual work plans, budgets, and procurement strategies. Stakeholder engagement is sustained through various platforms, fostering dialogue between public and private sectors. Monitoring and evaluation activities ensure progress and impact

assessment through field visits and review meetings, enabling adaptive management for responsive interventions.

Component 4: Project Management

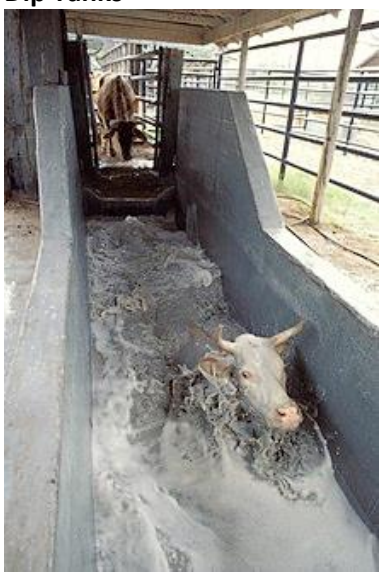
Effective project management is essential for ensuring the seamless implementation of activities across all project components. This involves strategic planning, budgeting, and resource allocation to achieve project objectives within specified timelines. Regular coordination meetings and transparent reporting mechanisms uphold accountability. Capacity building initiatives enhance the technical expertise and leadership skills of project personnel, facilitating efficient project delivery and maximizing impact on target beneficiaries.

This component aims to support the operational needs of the Ministry of Finance and Economic Development's (MoFED) Project Management Unit and Sector Project Coordination Units. It covers essential expenses such as office supplies and courier services. The funding includes support for the AU-African Capacity Building Foundation to manage the Project Special Account, annual staff costs for a Project Officer, and combined annual financial and procurement audits. Additionally, it encompasses expenses for Pastel Accounting Software licensing, bank missions, financial management functions, and the operation and maintenance of a PMU-MoFED vehicle.

Figure 2. A Plunge Pool Dip Tank

2.3 Description of Project Technologies and Works

Dip Tanks



The project aims to rehabilitate existing plunge pool dip tanks, which are narrow, deep channels (Figure 1) designed for animals to walk through, gradually immersing them in liquid containing pesticides or acaricides. The channel starts shallow, deepens to fully immerse the animal, and then gradually becomes shallow again as the animal exits. This method efficiently delivers treatments to large herds as multiple animals can pass through consecutively.

Periodically, the water is emptied and replaced with fresh water containing new pesticides. Many dipping structures in the visited areas require repairs to their concrete structures to reduce seepage. Additionally, improvements such as installing or repairing inlet and outlet pipes and constructing sheds to minimize evaporation are needed.

Furthermore, the pens or stables where animals gather for dipping require fence repairs, particularly replacing wood poles that frequently need maintenance. Requests also include the provision of toilets and meeting sheds for cattle owners at the dipping sites.

The rehabilitation of 8 seasonal dip tanks aims to enhance livestock health by reducing tick-borne diseases. The primary product of this activity will be fully rehabilitated and functional dip tanks. During this process, various by-products will emerge, such as debris from the old structures and remnants of old paint and coatings. Old fence poles and barbed wire will contribute to the waste generated when replacing the fence. Waste management will involve handling demolition chemicals if the old

structures are torn down, managing asbestos waste if it is present in the structures, and dealing with concrete waste from broken or removed concrete sections. Any waste that is non- hazardous and can be recycled or repurposed, such as wooden poles and wire, will be reused or given to communities for other uses.

Drilling and Installing a Solar-Powered Borehole and Drinking Water Troughs for a Community

The conventional methods of borehole siting and drilling will be employed, utilizing hired drilling rigs sourced for the purpose. Once drilled, the next phase involves installing overhead storage tanks and establishing the solar power system. A control system for managing pump operations is then integrated. Solar panels are mounted in a sunny location, typically on a raised platform, with an inverter and batteries installed to ensure continuous power supply, even during periods of low sunlight. Electrical wiring will connect the solar panels to the borehole submersible pump control system.

Drilling solar-powered boreholes will result in operational boreholes providing water for drinking, irrigation, and livestock. The drilling process will generate by-products like drill cuttings and slurry, along with packaging materials from the solar equipment. Waste management will primarily involve minimal demolition waste, mostly consisting of soil and rock, and potential chemical waste from the drilling fluids.

Concrete drinking water troughs will be constructed with a sturdy foundation to prevent sinking or tilting, and to maintain hygiene standards. Pipes will be laid from the storage tanks to the troughs, equipped with valves for controlling water flow. Additionally, repairs are needed for the fencing around the pens at the dip tanks where animals gather for dipping. Wood poles, which require frequent replacement, will be upgraded. There is also a request for toilets and meeting sheds for cattle owners at the dip sites.

The construction of 14 water troughs near the boreholes will facilitate enhanced water access for livestock. This activity will produce functional water troughs as the main product. By-products will include excess soil from excavation and general construction debris. Concrete waste may be generated from demolition of old trough structures. Waste generated will mainly be concrete waste from trough construction and minimal chemical waste associated with construction materials.

Establishing a rangeland management project and implementing soil and water conservation works

Grasslands totalling 300 hectares in Insiza and Beitbridge districts are targeted for rangeland management. The project will map and delineate these areas in agreement with local communities, focusing on rehabilitating and restoring existing rangelands. Technical experts will develop comprehensive plans that include grazing management, water conservation, and vegetation restoration strategies. Key interventions will involve soil conservation measures such as constructing contour ridges and gabions to prevent soil erosion. Practices like rotational grazing and reseeding will be implemented to improve soil health and biodiversity. Additionally, soil conservation structures will be built, and native grasses, shrubs, and trees will be planted to restore degraded areas, enhance soil structure, and promote biodiversity.

By-products and Waste Material
The primary by-products from these interventions will be plant biomass, such as grass cuttings. These cuttings can be used as fodder for livestock, composted to improve soil fertility, or processed into biofuel. Minimal waste is expected, consisting mainly of organic material such as small branches and leaves from shrubs and trees. This organic waste can be composted or left to decompose naturally,

contributing to soil health. Other potential by-products include seeds from reseeding activities, which can be harvested and reused for future restoration projects.

Description of works involved in Pasture development and fodder conservation

Pasture development is essential for sustainable livestock management. For ZAVaCEP, the project will utilize existing fields provided by beneficiaries, with approximately 40 hectares in total—20 hectares each for Insiza and Beitbridge. These fields will be developed into fodder fields. The project will supply input packages containing legume/grass forage seeds, basal dressing, and/or top dressing fertilizers. Farmers will access a ripper tine instead of conventional ploughs to minimize soil disturbance. This tool aerates the soil, improves water infiltration, and enhances root penetration by creating channels through compacted soil layers. Forage seeds and fertilizers are distributed along these channels, minimizing moisture loss and dust creation compared to conventional ploughing.

Sowing will commence at the beginning of the rainy season, with regular monitoring, reseeding, and pest management crucial for maintaining pasture health and productivity. Harvested forage will be processed at district-level feed hubs. Machinery such as mowers will harvest the forage at its peak nutritional stage, followed by drying or curing to prevent mould and spoilage. Fodder conservation ensures a year-round supply of nutritious feed.

Each district will have a feed processing hub equipped with a hammer mill, feed mixers, grinders, and pelletizers. This equipment is essential for producing balanced feed tailored to livestock needs, incorporating grains, proteins, vitamins, and minerals. The hubs will also feature storage facilities for long-term preservation, including hay baling or silage fermentation. Proper storage and regular checks for spoilage and pest infestations are crucial for maintaining fodder quality.

Implementing climate-smart fodder production practices across 40 hectares will enhance crop yield and soil health, increasing resilience to climate change. By-products include organic matter from mulching and crop residues, which can improve soil fertility. Effective waste management is essential to address the disposal of agricultural chemical containers, fertilizers, pesticides, and plastic waste from mulching sheets.

Distribution of 8 Genetically Superior Bulls and Feed Formulation Equipment

The distribution of genetically superior bulls involves a meticulous process aimed at enhancing livestock quality and productivity. The project will focus on local breeds such as the Tuli and the Nkuni, which are well-adapted to the local climate. These breeds will have undergone rigorous genetic evaluations to ensure they possess desirable traits like high growth rates, disease resistance, and superior meat or milk quality. Bulls will be sourced from reputable national breeding centres or research institutes, adhering to high standards of animal husbandry. Prior to distribution, the bulls will undergo comprehensive health screenings, including vaccinations and deworming, and may be quarantined to prevent disease spread. The transportation process is carefully planned to ensure the bulls' safety and comfort, with proper handling during loading, unloading, and acclimatization to new environments upon delivery to project farmers.

Feed for the bulls will be procured from the district feed processing hubs. Regular quality checks to ensure that the feed consistently meets the required standards will be conducted. Farmers will receive extensive training on managing the bulls, including feeding practices, health care, and breeding techniques. Ongoing technical support is necessary to address any issues with the bulls' performance or health. The project's impact will be monitored through performance assessments, and a feedback mechanism will be set up to refine and improve the distribution and support processes based on farmers' experiences.

Distributing 8 genetically superior bulls and feed formulation equipment will directly enhance livestock genetics and feed quality. The main by-product of this activity will be animal waste (manure). Waste management will involve handling packaging waste from the feed formulation equipment and any veterinary waste generated during health checks of the bulls.

2.4 Project Beneficiaries

The primary beneficiaries of the project will be livestock-keeping farmers, local entrepreneurs, and participants in the beef and leather value chains within the targeted districts. These participants include hides and skin collectors, livestock traders, meat processors, and tanning companies. The project will directly benefit 30 registered livestock-keeping groups, encompassing more than 30,000 households. Additionally, 50,000 livestock-keeping households will indirectly benefit from improvements in water supply, livestock infrastructure, and veterinary services. Approximately 100,000 people, including 60,000 women and 20,000 youths, will indirectly benefit and engage in businesses and activities along the commodity value chains.

LEGAL REVIEW

3.1 Zimbabwe Policy Framework, National and Local Laws and Regulations

Legal Instruments of Zimbabwe Relevant to the Beef and Leather Value Chain Project

Zimbabwe Constitution, 2013.

The Constitution of Zimbabwe, enacted in 2013, serves as the supreme law of the land, outlining the framework for governance, fundamental rights, and the responsibilities of the state and its citizens. It ensures the protection of a wide range of civil, political, social, economic, and cultural rights, including environmental rights that guarantee citizens access to a clean environment. The Constitution promotes principles of good governance, transparency, accountability, and sustainable development while emphasizing the importance of citizen participation. It also mandates the decentralization of governmental powers to local levels, fostering enhanced local governance and community involvement in decision-making processes. Furthermore, the Constitution addresses economic and social development, advocating for the eradication of poverty, equitable access to resources, and improved living standards, alongside regulations for the acquisition and sustainable use of agricultural land.

ZAVaCEP's initiatives in beef and leather value chains align closely with constitutional mandates, focusing on sustainable practices and environmental rights compliance. The project emphasizes job creation, value addition, and poverty reduction, in line with economic and social development objectives. Engaging communal landholders and ensuring transparency and accountability through decentralization are key strategies for fostering local acceptance and sustainable project implementation.

3.1.2 Environmental Management Act (EMA), Chapter 20:27

This Act is the primary legislation for environmental management in Zimbabwe. The Environmental Management Act (EMA) of Zimbabwe, enacted in 2002, is a legislative framework aimed at promoting sustainable environmental management and ensuring the protection, conservation, and sustainable use of natural resources. The Act mandates environmental impact assessments (EIAs) for any proposed projects that might significantly affect the environment, enforcing stringent regulations and standards to mitigate negative environmental impacts. It also emphasizes public participation, transparency, and accountability in environmental decision-making processes, thereby fostering community engagement and compliance.

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) aligns closely with the EMA Act to ensure its activities, including establishing hide collection centres and enhancing livestock production, adhere to sustainable practices without environmental harm. Through thorough this ESMP mandated by the EMA, the project minimizes environmental impacts, enhancing legal compliance, credibility, and local stakeholder acceptance while promoting sustainable agricultural practices for long-term environmental and economic benefits.

The project will need to obtain and Environmental Impact Assessment Certificate or letter from EMA the agency for the projects. In cases where waste need to be disposed additional permits such as the Waste Disposal License and Water Discharge Permit will be needed.

This Act is critical for livestock management within the beef and leather value chains. It is designed to regulate and control animal diseases to safeguard livestock health and public well-being. It mandates measures for the prevention, containment, and eradication of infectious diseases among animals, setting standards for veterinary practices and the handling of animal products.

In relation to the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP), the Animal Health Act is of paramount importance as the project focuses on enhancing the beef and leather value chains, where animal health is a cornerstone for ensuring productivity and product quality. Compliance with the Act ensures that the project's initiatives in livestock health management, such as

disease control and the improvement of animal husbandry practices, align with national standards, thereby reducing the risk of disease outbreaks that could jeopardize both local and export markets.

Under the **Animal Health Act, several permits and licenses** are required to operate within the legal framework. These include permits for the movement and transportation of livestock to prevent the spread of diseases (namely **Animal Movement Permits, Disease Control Certificates**), licenses for veterinary practitioners and animal health technicians, and **certifications for facilities** involved in the processing and handling of animal products. Additionally, the project must obtain **permits for the establishment and operation of new dip** tanks and other disease control facilities. These regulatory requirements ensure that ZAVaCEP's activities are conducted in a manner that upholds animal health standards, promotes sustainable livestock management, and supports the overall goal of improving the agricultural value chain in Zimbabwe.

Water Act, Chapter 20:24

This Act governs the use and management of water resources, crucial for livestock farming. The Water Act of Zimbabwe establishes guidelines for water rights, permits, and the responsibilities of water users. It mandates that any significant use or abstraction of water from natural sources, including rivers and dams, requires a permit issued by the Zimbabwe National Water Authority (ZINWA). Additionally, the Act outlines procedures for water quality management and the protection of water sources from pollution.

The significance of the Water Act in relation to the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) is critical, given the project's reliance on water resources for livestock and processing activities. ZAVaCEP must comply with the Water Act to ensure sustainable water use, especially in regions where water scarcity and quality are major concerns.

The project will need to secure appropriate permits for any water abstraction or usage (**i.e. the Water Abstraction Permits, Effluent Discharge Permits**), such as for livestock hydration, hide processing, and other related activities. These permits ensure that the project's water use is regulated, preventing over-extraction and pollution. Compliance with the Water Act also entails regular monitoring of water quality to prevent pollution and maintain a clean and safe environment, aligning with the project's objectives.

Forestry Act (Chapter 19:05)

The Forestry Act provides for the regulation and management of forest resources in Zimbabwe. It promotes the conservation of forests and the establishment of plantations and ensures the sustainable use of forest products, which includes timber used for fencing beef dip tanks, markets and fodder fields. Additionally it regulates the harvesting and sale of forest produce, impacting the availability of materials like tannins used in leather processing.

Communal Lands Forestry Produce Act (Chapter 19:07)

The Communal Lands Forestry Produce Act (Chapter 19:07) governs the utilization of forestry produce within communal lands in Zimbabwe. It regulates the harvesting of forestry resources to ensure sustainable use, including materials essential for leather tanning. The Act recognizes the rights of local communities to utilize forest resources while emphasizing conservation efforts. This support for sustainable resource management facilitates community participation in Zimbabwe's beef and leather value chain. The Act mandates licensing for the exploitation of forestry resources, influencing the availability of materials for fencing, construction that may be required for the project.

Hazardous Substances and Articles Control Act (Chapter 15:05)

The Hazardous Substances and Articles Act (Chapter 15:05) oversees the handling, storage, and disposal of hazardous substances across Zimbabwe. It establishes rigorous safety standards for managing hazardous substances used.

Various regulations, including the Environmental Management (EIA and Ecosystems Protection) Regulations, 2007, and the Environmental Management (Effluent and Solid Waste Disposal) Regulations, 2007, provide specific guidelines for waste disposal, hazardous substances handling, and atmospheric pollution control. These regulations ensure project activities align with environmental standards and safeguard community well-being.

Should the ZAVaCEP handle activities involving hazardous substances in Zimbabwe, several permits and licenses are required. These include the **Hazardous Substances License** issued by EMA, which ensures compliance with environmental standards. For importation and exportation, a license from the Ministry of Industry and Commerce is required.

Parks and Wildlife Management Act (Chapter 20:14)

The Parks and Wildlife Management Act (Chapter 20:14) is designed to safeguard wildlife and parks in Zimbabwe through protection, conservation, and sustainable management practices. The Act promotes wildlife conservation, encompassing animals that may stray into communal lands. It mandates permits for hunting and trade of wildlife products, thereby regulating the hunting of wildlife.

Labour Act, Chapter 28:01

The labour Act regulates employment conditions, health, and safety standards. The Labour Act of Zimbabwe is a critical piece of legislation that regulates labour relations and employment standards in the country. It encompasses a wide range of provisions related to the rights and obligations of employers and employees, including conditions of employment, contracts of employment, dispute resolution mechanisms, and the establishment of employment councils. The Act ensures fair labour practices, the protection of workers' rights, and promotes safe and healthy working conditions. In the context of the Zimbabwe

For ZAVaCEP, the Labour Act's significance lies in its role in governing the employment conditions of workers involved in the beef and leather value chains. The project must adhere to the Act's stipulations to ensure that labour practices are fair, equitable, and compliant with national standards, thus fostering a supportive and legally compliant working environment.

Regarding permits and licensing under the Labour Act, ZAVaCEP must ensure that all employment contracts are in accordance with the Act, including obtaining the necessary work permits for any foreign workers involved in the project. Important certificates include the **Labour Compliance Certificate and Occupational Health and Safety Certificates** that all project contractors should have.

Public Health Act, Chapter 15:09

The Public Health Act ensures the health and safety of communities and workers, relevant to the project activities. This Act outlines the responsibilities of the government in preventing and controlling diseases, managing public health risks, and ensuring the provision of health services. It mandates the establishment of health standards and regulations, particularly concerning sanitation, water quality, and waste management. The Act's significance in relation to the ZAVaCEP) involves activities that can impact community health, such as livestock management, hide processing, and the construction of sanitation facilities.

ZAVaCEP will need to obtain several permits and licenses under the Public Health Act among them the Health Inspection Certificates and Sanitary Permits, to ensure its activities align with public health regulations. These include permits for the construction and operation of sanitation facilities, **licenses for waste management practices** related to the project and hide processing, and approval for water quality standards at project sites. Additionally, any interventions involving the handling of livestock must comply with health and safety standards to prevent zoonotic diseases.

Factory and Works Act, Chapter 14:08

The Act regulates the safety and health conditions in factories, including those for leather processing. The Factory and Works Act of Zimbabwe is a legislative framework designed to regulate workplace safety, health, and welfare in factories and industrial sites across the country. It mandates stringent safety standards, requiring employers to ensure that their workplaces are free from hazards that could cause injury or illness to workers. This Act encompasses various provisions, including the need for regular safety inspections, proper maintenance of machinery, and the implementation of health and safety training programs for employees. In relation to the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP), the Factory and Works Act is significant as it ensures that all processing facilities, such as those involved in leather tanning and hide collection, adhere to the highest safety standards. This not only protects workers but also enhances operational efficiency and compliance with national regulations.

Under the Factory and Works Act, several permits and licenses are required to legally operate. These include a Factory Registration Certificate, which is mandatory for the establishment and operation of any factory. Additionally, specific permits may be needed for the installation and use of machinery, depending on the nature of the equipment. To ensure safe conditions a Workplace Safety Certification may be required. Annual safety audits and inspections are also a requirement, ensuring ongoing compliance with safety standards.

Rural District Councils Act (29:13)

The Rural District Councils Act of Zimbabwe, crucially overseen by the Minister in charge of Local Government and Social Amenities, serves as a vital link between the Central Government and Provincial Governments. This legislation confers legal entity status upon Rural District Councils (RDCs), empowering them to deliver services to local communities. Section 71 (First Schedule) enumerates the powers of RDCs, ranging from natural resource conservation to pollution control and waste management. Beyond these delegated powers, RDCs also function as the Development and Planning authorities in their respective jurisdictions, enabling them to strategically plan for the overall development of their districts.

The ZAVaCEP project will need to be officially approved the RDC before implementation.

The Communal Lands Act (Chapter 20:28),

The Communal Land Act serves as the legal foundation for land use planning, tenure, and management, addressing concerns related to agricultural land, communal land, and resettlement programs. Its goal is to strike a balance between economic development and sustainable land management practices. The President holds tenure rights and issues permits for land use, with Section 7 imposing restrictions on Communal Land occupation. Section 8 allows agricultural or residential use, requiring Traditional Leaders' consent based on customary law. Communities enjoy communal ownership and usage rights for agriculture, residence, grazing, woodland, and wildlife purposes. Despite lacking formal tenure security, communities find certainty through a "settlement permit" under Section 24, guaranteed by customary law.

3.2. Local Regulations National Environmental or Social Action Plans and Strategies

Local authorities may have additional regulations regarding land use, water management, and waste disposal that the project must adhere to. These regulations ensure that the project activities are compatible with local environmental and social standards.

3.2.1 National Environmental Policy and Strategies (2009)

Provides a framework for sustainable environmental management practices. It emphasizes the need for environmental impact assessments and sustainable resource management. The National Environmental Policy of Zimbabwe, established in 2009, provides a comprehensive framework for the sustainable management and protection of the country's environment. The policy emphasizes the integration of environmental considerations into all sectors of national development, recognizing the intrinsic value of natural resources and the need to conserve them for present and future generations. Key pillars of the policy include promoting sustainable land use, biodiversity conservation, pollution prevention, and the equitable distribution of environmental benefits and costs. Additionally, the policy advocates for the integration of environmental education and awareness-raising initiatives to foster a culture of environmental stewardship among Zimbabwean citizens.

ZAVaCEP's focus on sustainable environmental practices, including development of an ESMP to mitigate potential adverse effects aligns with the policy. It must adhere to land use regulations, promote biodiversity conservation, prevent pollution, and manage waste effectively.

3.2.2 National Climate Change Response Strategy (2014)

Outlines Zimbabwe's approach to addressing climate change impacts, crucial for sustainable livestock farming and leather processing. The National Climate Change Response Strategy of Zimbabwe, formulated in 2014, serves as a comprehensive framework to address the challenges posed by climate change and promote resilience-building efforts across various sectors of the economy. This strategy outlines key priorities, including mitigation and adaptation measures, capacity building, and institutional strengthening to address climate change impacts effectively. It emphasizes the need for sustainable development practices, incorporating climate change considerations into policy formulation and implementation processes. Additionally, the strategy promotes the adoption of climate-smart agricultural practices, enhancing the resilience of agricultural systems to climate variability and extremes.

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) integrates climate resilience measures, focusing on productivity and value addition in the beef and leather value chains. It promotes sustainable practices like water conservation and climate-smart technologies, aligning with the National Climate Change Response Strategy to enhance community and stakeholder resilience against climate impacts.

3.2.3 Zimbabwe Livestock Growth Plan (2021-2025)

Aims to improve livestock productivity and health, aligning with ZAVACEP's objectives to enhance the beef and leather value chains. The Zimbabwe Livestock Growth Plan (2021-2025) sets forth ambitious objectives aimed at revitalizing and enhancing the country's livestock sector. The primary goal of the plan is to significantly increase livestock productivity, improve animal health and genetics, and promote sustainable livestock production practices. It also seeks to enhance value addition and market access for livestock products, thereby boosting the sector's contribution to national food security, economic growth, and rural livelihoods. Through targeted interventions such as capacity building, infrastructure development, and policy support, the plan aims to address key challenges facing the livestock sub-sector, including low productivity, limited access to water resources, and the impacts of climate change.

The implementation of the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) stands to benefit significantly from the objectives and strategies outlined in the Livestock Growth Plan. ZAVaCEP can leverage existing initiatives and resources to enhance its impact and effectiveness.. Additionally, ZAVaCEP can collaborate with stakeholders involved in implementing the Livestock Growth Plan to ensure coordination and synergy, thereby maximizing the benefits for livestock farmers and communities in the targeted regions.

3.2.4 Zimbabwe Vision 2030

The Zimbabwe Vision 2030 is a development blueprint that includes goals for sustainable agricultural development and poverty reduction, directly relevant to ZAVACEP. The Zimbabwe Vision 2030 outlines the nation's aspirations for sustainable economic growth, social development, and prosperity over the next decade. It envisions Zimbabwe as an upper-middle-income economy characterized by inclusive growth, job creation, and improved living standards for all citizens. The vision emphasizes key pillars such as modernization and industrialization, agriculture transformation, infrastructure development, and social services delivery. The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) closely aligns with the goals of Vision 2030 by contributing to the transformation of the agricultural sector through, job creation, and poverty reduction, all of which are central to Vision 2030's objectives.

3.2.5 Biodiversity and Conservation Policy (2013)

This policy focuses on the conservation of biological diversity and sustainable use of natural resources. It aims to mainstream biodiversity considerations into various sectors, promote community-based natural resource management, and establish a comprehensive framework for the conservation of Zimbabwe's rich biodiversity.

3.2.6 The National Biodiversity Strategy and Action Plan (NBSAP)

In 1998, the Ministry of Environment and Tourism prepared its National Biodiversity Strategy and Action Plan (NBSAP). Based on consultations, a number of unmet needs in the conservation and sustainable use of Zimbabwe’s biodiversity (which included forestry, wildlife, aquatic life and agriculture) were identified and prioritized (MMET, 1998). The unmet needs included the absence of comprehensive and elaborate biodiversity inventory and monitoring programmes; limited appreciation of the importance and contribution of biodiversity to the national economy and to local communities by policy makers; and inadequate affordable livelihood alternatives to reduce high reliance on natural.

3.2.7 The National Gender Policy 2013-2017

The second iteration of Zimbabwe's National Gender Policy (NGP) supersedes the 2004 version and rectifies its deficiencies. While the 2004 NGP primarily concentrated on women's involvement in politics, the economy, education, and institutional mechanisms for their advancement, it fell short in achieving gender parity and addressing the escalating issue of gender-based violence. Despite accomplishments such as legislative changes, institutional reforms, gender mainstreaming, and constitutional provisions, women's representation remains below parity.

The updated NGP responds to evolving political, economic, and social contexts at local, regional, and global levels. Influenced by international and regional developments post-2004, including the CEDAW Report and the 2008 SADC Protocol on Gender and Development, among others, the new priorities align with national initiatives such as constitutional provisions, the Medium Term Plan (2012-2015), the Indigenization and Empowerment Policy, the Broad-Based Women’s Economic Empowerment Framework, and the Land Reform program, contributing to the evolving gender landscape. The second NGP aspires to create a gender-just society, striving for equality and equity in all aspects of life and development, with eight priority areas guiding policy objectives and strategies from 2013-2017, emphasizing principles of gender justice, equality, integration, and inclusiveness.

The significance of the gender policy is evident in its role in implementing ZAVaCEP initiatives. This policy advocates for gender equality and women's empowerment across various sectors, including agro-industry and MSME. Sub-component 1.3 of the project targets women and ensures that both women and youth benefit from the ZAVaCEP.

3.2.8 Legislation Governing WASH

Zimbabwe's WASH sector has key policies and strategies providing sector direction and clarification of roles, namely National Water Policy (2013), Water Act (Chapter 20:24), ZINWA Act (Chapter 20:25),

Rural District Act (Chapter 29:13), Urban Councils Act (Chapter 29:15), Public Health Act (Chapter 15:17) and the National Sanitation and Hygiene Strategy (2018–2022). The National Sanitation and Hygiene Policy and the National Water Resource Master Plan are still under development.

ZAVaCEP intends to provide water and sanitation facilities at all its intervention sites, e.g. dip tanks, pasture fields and cattle market places.

3.3 International Treaties and Agreements

Zimbabwe is a signatory to several international treaties that have implications for the beef and leather value chains:

3.3.1 Convention on Biological Diversity (CBD)

The Convention obligates Zimbabwe to conserve biodiversity, crucial for maintaining healthy ecosystems for livestock farming. The Convention on Biological Diversity (CBD) is a multilateral treaty aimed at promoting the conservation and sustainable use of biological diversity worldwide. It recognizes the intrinsic value of biodiversity and the vital role it plays in supporting ecosystems, livelihoods, and human well-being. For the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP), the CBD holds significant relevance as it underscores the importance of biodiversity conservation within agricultural practices. By promoting sustainable farming methods and protecting natural habitats, ZAVaCEP can contribute to the preservation of biodiversity in the targeted regions. Additionally, adherence to CBD principles can enhance the resilience of agricultural ecosystems, safeguarding against potential risks such as pests, diseases, and climate change impacts.

3.3.2 United Nations Framework Convention on Climate Change (UNFCCC)

The UNFCCC is a crucial convention that requires Zimbabwe to implement measures to mitigate climate change impacts, relevant to sustainable livestock management. The United Nations Framework Convention on Climate Change (UNFCCC) holds immense significance for the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) because climate change poses substantial challenges to livestock production, which is a vital component of Zimbabwe's agriculture

To align with UNFCCC objectives, ZAVaCEP will implement climate-smart strategies within the beef and leather value chain, such as sustainable land management practices, improved livestock husbandry techniques, and the adoption of renewable energy solutions. Moreover, going forward ZAVaCEP can leverage climate finance to access funds and technology transfer opportunities, facilitating the adoption of innovative solutions to reduce greenhouse gas emissions and enhance the sustainability of beef and leather production.

2.3.3 World Health Organization (WHO) Guidelines

The World Health Organization (WHO) guidelines hold profound significance for the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) by ensuring that public health standards are met in the processing and handling of livestock products. With a focus on ensuring food safety, hygiene standards, and disease control, WHO guidelines offer indispensable frameworks for enhancing the quality and safety of beef products and leather goods. By adhering to WHO standards, ZAVaCEP can mitigate the risks of foodborne illnesses and contamination along the production, processing, and distribution stages of the value chain. Additionally, WHO recommendations on animal health and welfare contribute to sustainable livestock management practices, reducing the prevalence of zoonotic diseases and ensuring the well-being of both animals and farmers.

2.3.4 International Labour Organization (ILO) Conventions

The International Labour Organization (ILO) conventions play a vital role in shaping labour standards and promoting decent work worldwide. Its provisions are applicable to the workers in the beef and leather value chains. Within the context ZAVaCEP adherence to ILO conventions holds significant importance for ensuring fair labour practices and improving working conditions especially for contracted work. By incorporating ILO standards into its initiatives, ZAVaCEP can contribute to

enhancing the rights and well-being of workers involved in all stages of beef and leather production, from farming and herding to processing and manufacturing.

3.4 Bank Operational Safeguards (OS) Applicable to Project Activities

The African Development Bank (AfDB) has established a set of Operational Safeguards (OS) designed to ensure that projects financed by the Bank are environmentally and socially sustainable. The following OS are applicable to the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP):

OS 1: Environmental and Social Assessment

- This safeguard requires comprehensive environmental and social impact assessments to identify and mitigate potential adverse effects. For ZAVaCEP, this includes assessments related to the beef and leather value chains, ensuring that all environmental and social risks are adequately addressed.

OS 2: Involuntary Resettlement: Land Acquisition, Population Displacement, and Compensation

- Activities that might involve land acquisition or affect local populations require careful planning and compensation strategies to avoid or minimize displacement impacts. For ZAVACEP, this may pertain to the expansion of livestock and leather processing facilities.

OS 3: Biodiversity and Ecosystem Services

- This safeguard emphasizes the protection of biodiversity and the sustainable management of natural resources. ZAVACEP must ensure that livestock farming and leather processing do not adversely affect local ecosystems and biodiversity.

OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency

- This safeguard addresses pollution control, efficient resource use, and the management of hazardous materials. The project must implement measures to control emissions and waste from livestock and leather processing activities.

OS 5: Labour Conditions, Health and Safety

- Ensures fair labour practices, safe working conditions, and compliance with health and safety standards. ZAVACEP must ensure that all activities within the beef and leather value chains comply with these requirements.

The African Development Bank (AfDB) operational safeguards are designed to ensure that projects financed by the bank adhere to environmental and social standards, thereby mitigating potential risks and promoting sustainable development outcomes. In the case of the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP), focusing on the beef and leather value chain, the following AfDB safeguards Table *2* would likely be triggered:

Table 2. Safeguards Triggered by the ZAVaCEP Project

AfDB Safeguards Instruments	**Triggered by ZAVaCEP**	**Remarks**
Integrated Safeguards Systems (ISS)	Yes	Overarching operational safeguard mainstreams environmental and social considerations in all Bank operations
Environmental Assessment (OS1)	Yes	As a Category II Project, environmental and social assessment is required. ZAVaCEP would likely require a comprehensive ESIA to identify and assess potential environmental and social risks associated with activities such as livestock farming, slaughterhouses, and waste

		management. This assessment would inform the project's design and implementation, ensuring that environmental and social considerations are adequately addressed.
Biodiversity and Ecosystem Services (OS3)	Yes	Reflects the objectives of the CBD: conservation of biodiversity, renewable resources and ecosystem services and promote the sustainable management and use of natural resources . Given the potential impact of livestock farming and leather production on biodiversity, AfDB's biodiversity policy would be relevant. ZAVaCEP would need to incorporate measures to minimize habitat destruction, preserve biodiversity, and promote sustainable land use practices within the project area.
Pollution Prevention and Control, Greenhouse gases, Hazardous Materials and Resource efficiency (OS4)	Yes	Policy intended to achieve high quality environmental performance, efficient and sustainable use of natural resources
Labour Conditions, Health and Safety (OS5)	Yes	Reflects appropriate labour conditions, health and safety that. AfDB's occupational health and safety requirements would be triggered to ensure that workers involved in the beef and leather value chain are protected from workplace hazards. ZAVaCEP would need to implement measures to prevent accidents, provide personal protective equipment, and promote a safe working environment for all workers.
Disclosure and Access to Information (DAI)	Yes	Reflects need for public information

Applicable Requirements under the AfDB OSs and ISS Guidance Notes

The AfDB Integrated Safeguards System (ISS) provides detailed guidance on how projects should comply with the Bank's OSs. ZAVACEP must follow these guidelines to ensure that all environmental and social risks are managed appropriately. The ISS Guidance Notes offer specific instructions on conducting environmental and social impact assessments, stakeholder engagement, and implementing mitigation measures.

3.5 Differences between Zimbabwe's Existing Framework and OS Requirements

While Zimbabwe has a robust legal framework for environmental and social management, there may be gaps when compared to AfDB's OS requirements. Key differences include:

- Both Zimbabwe's EMA Act Chapter 20:27 and AfDB OS 1 emphasize sustainable development, public participation, and rigorous environmental assessment processes. While the EMA Act focuses more on national regulatory frameworks and enforcement, AfDB OS 1 integrates environmental and social considerations into the project cycle with a stronger emphasis on stakeholder engagement and adaptive management.

- OS 4: Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency. OS 4 differs significantly from the Zimbabwe's EMA Act Sections 74-77. The EMA Act provides a detailed national framework focusing on the registration, control, licensing, and disposal of pesticides. In contrast, AfDB OS 4 offers a broader, project-based approach, emphasizing IPM, risk assessments, training, and ongoing monitoring to align with international best practices. The AfDB OS 4's focus on IPM and less hazardous alternatives highlights a more proactive approach to reducing pesticide reliance and mitigating risks.

- Labour Standards: OS 5 compared to Zimbabwe Labour Act15:09. Both frameworks emphasize worker rights and protections, but OS 5 places additional emphasis on the specific requirements for development projects, including rigorous health and safety standards and detailed grievance mechanisms.
-

3.6 Institutional Capabilities and Implementation

Zimbabwe has established institutions such as the Environmental Management Agency (EMA) and various ministries listed below (e.g., Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development) responsible for implementing environmental and social regulations.

Key Institutions in Zimbabwe Pertinent to the Beef and Leather Value Chain Project

3.6.1 Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development

This ministry oversees the overall agricultural policy framework, land management, and rural development strategies. It is crucial for implementing policies and programs related to livestock and crop production. It provides policy guidance, support for breeding programs, and management of veterinary services essential for disease control in the beef sector. This ministry has most of the technical staff needed for the project implementation at national, provincial and district levels.

3.6.2 Department of Veterinary Services

The department falls within the Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development and is responsible for animal health and welfare. It is responsible for managing disease control programs, such as vaccination and quarantine measures, critical for maintaining healthy livestock populations and ensuring the quality of beef products. It will play an important role in the project in terms of sourcing and distributing pesticides and acaracides and manging the dipping program, inspecting livestock, training and planning and preparing disease prevention on a seasonal basis.

3.6.3 Zimbabwe Leather Development Council (ZLDC)

The ZLDC promotes the development of the leather industry in Zimbabwe. It supports the leather value chain by providing industry standards, promoting technological upgrades, and facilitating training programs to improve the quality of leather products.

3.6.4 Livestock and Meat Advisory Council (LMAC)

LMAC is a private sector organization that represents the interests of livestock producers and meat processors. It provides advocacy, market research, and technical support to enhance productivity and efficiency in the livestock sector.

3.6.5 Zimbabwe Farmers Union (ZFU)

ZFU represents the interests of farmers, providing support and advocacy for agricultural development. Offers training for its members, including access to resources, and policy advocacy to support smallholder farmers involved in beef production.

3.6.6 Zimbabwe Investment and Development Agency (ZIDA)

ZIDA promotes and facilitates investment in Zimbabwe. Among other sectors , it attracts investment into the beef and leather sectors, supporting infrastructure development and modernization efforts.

These institutions collectively support the beef and leather value chain in Zimbabwe through policy implementation, infrastructure development, disease control, market regulation, and capacity building. Their collaboration is essential for addressing challenges and realizing the full potential of these sectors.

These institutions are critical for the effective implementation of the ESMP. However, capacity building may be necessary to ensure they can fully comply with the AfDB's safeguards requirements, particularly in areas such as advanced EIA procedures, resettlement planning, and monitoring and evaluation of environmental and social impacts.

Conclusion

The ESMP for the ZAVACEP must align with both national and international standards, incorporating the AfDB's stringent OS requirements. By addressing the legal, institutional, and capacity-building needs, the project can ensure sustainable development of the beef and leather value chains, contributing to Zimbabwe's broader economic and social goals.

4. PROJECT BASELINE INFORMATION

4.1 Introduction and context

This chapter provides the baseline information for the ZAVaCEP project sites in Matabeleland South, specifically in Insiza District and Beitbridge District. It offers a critical reference point by capturing the current socio-economic, environmental, and agricultural conditions in these regions before the project's implementation. Understanding these initial conditions establishes a benchmark for measuring the project's progress and effectiveness over time.

Although detailed analyses of all beneficiary villages was not possible during the preparation mission the description of the representative project sites provided in the annexes 3 and 4 gives a more or less indication of conditions at the ward levels. The baseline information includes data on economic activities, agricultural practices, and infrastructure status. It analyses existing cattle farming practices, pasture availability, market access, and pricing. Where possible, it also describes hide/leather processing practices. Additionally, environmental factors such as land use, water resources, and climatic conditions and their impact on agricultural productivity are described. This baseline forms the foundation for setting realistic targets and evaluating the project's impact on productivity, sustainability, and livelihoods in the districts.

4.1.1 Methods and Approach Used for Baseline Information Collection

Baseline information was obtained using various approaches. Data was gathered through a review of existing literature, reports, and relevant documents on the environmental and social conditions of Insiza and Beitbridge. Field visits to the project district offices were conducted for consultations with rural district officials and communities in most of the project-implementing wards. These visits provided information on vegetation types, topography, land use, income activities, socioeconomic conditions, and community perspectives. Stakeholders, including local communities, government agencies, NGOs, and other relevant parties, were engaged to understand their perspectives and concerns. A list of all those consulted is provided in Annex 1.

4.2 Project districts overview

4.2.1 Insiza District in Matabeleland South, Zimbabwe

Insiza District (Figure 3) has a semi-arid climate and a landscape of undulating terrain with occasional rocky outcrops and scattered hills. The district receives seasonal rainfall, primarily from November to March, averaging 400-600 mm annually, essential for agriculture. Soil types range from sandy loams to heavier clay soils, influencing the district's vegetation and agricultural practices. The district is traversed by seasonal rivers and streams that are vital for agriculture and provide water for both human and animal consumption. However, water scarcity is a significant issue during the dry season, leading to competition for limited resources.

The flora in Insiza District comprises mainly of drought-resistant vegetation such as acacia trees, mopane woodlands, and various grass species adapted to the semi-arid conditions. The region supports a variety of wildlife, though in lesser abundance compared to more fertile areas. Common animals include antelopes, zebras, and small mammals, while birdlife is diverse, with species adapted to both the wooded and open grassland areas. However, human activities such as agriculture and settlement expansion have impacted natural habitats, leading to some degree of biodiversity loss.

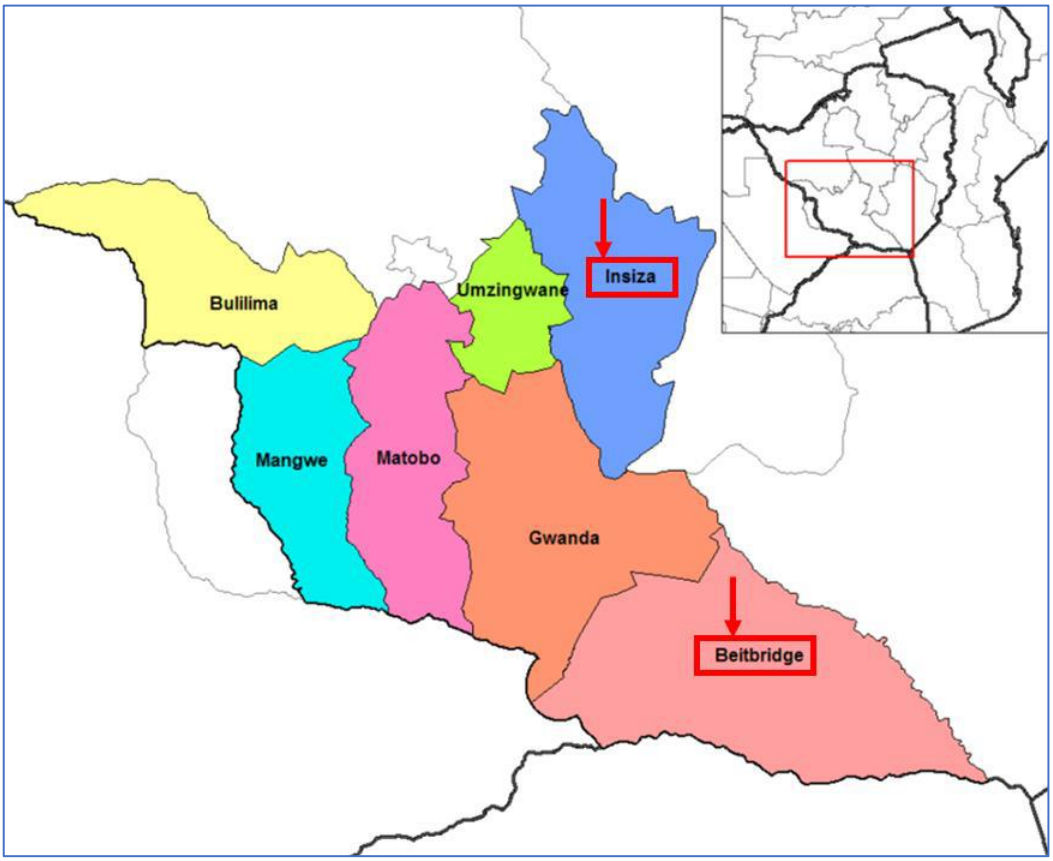


Figure 3. Map of Matebeleland South Showing the location Insiza and Beitbridge districts

The human environment in Insiza District combines traditional rural lifestyles with modern influences.. According to the 2022 Zimbabwe Census Report, Insiza District has a population of 122,903, with 61.2% male and 38.8% female, and a population density of 19.95/km². The district saw a 2.1% population growth between 2012 and 2022. There are approximately 30,374 households, with an average household size of 4.4. About 26.9% of households are elderly-headed, and none are child-headed. The Ndebele ethnic group predominantly populates the district, engaging in both small-scale subsistence farming and larger commercial farming enterprises. Settlements range from small villages to more densely populated areas like Filabusi, the administrative centre. Infrastructure, including roads, schools, and health facilities, is often underdeveloped, impacting the quality of life and access to services.

The population relies primarily on subsistence agriculture and livestock rearing for livelihoods. The district's main income-generating activities include animal husbandry, cereal production and sales, livestock sales, fish sales, and small-scale mining. Cereal production mainly involves rain-fed maize, sorghum, pulses, and sweet potatoes. Livestock rearing, including cattle, goats, and poultry. Many poor farmers depend on cash income from local and cross-border employment, beer brewing, or gold panning. However, economic development is hindered by limited market access, fluctuating weather patterns affecting crop yields, and inadequate infrastructure. Employment opportunities are scarce, leading to the migration of younger populations to urban areas. Remittances from outside the district are the primary income source for 20% of households, followed by casual labour (17%) and local remittances (8%) (ZIMVAC 2021).

Limited access to basic services such as healthcare, education, and infrastructure remains a significant concern, particularly in remote areas. Between 2021 and 2022, the accessibility of improved water in Insiza decreased slightly from 67% to 64%. About 48% of households have access to basic services, 16% have limited services, 24% have unimproved water services, and 12% rely on surface water services. Approximately 33% of households practice open defecation, 4% have unimproved sanitation

services, and 63% have improved sanitation services. Most households (92%) lack handwashing facilities.

Despite strong community ties and practice of cultural norms, some unacceptable social issues are on the increase in the district. These include crime and sexual related violence incidences. According to the ZimVAC report, 6.9% of people in Insiza have experienced physical abuse, while 91.2% have not. About 0.9% have faced sexual abuse. Regarding intimate partner violence, 4.3% of males and 3.9% of females have experienced sexual abuse, while physical abuse rates are 4.3% for males and 4.0% for females.

Vulnerability to climate change impacts, such as droughts and floods, poses additional challenges to agricultural productivity and food security. According to the 2022 Insiza District Food and Nutrition Security Profile, the district faces various challenges, including food insecurity, crop and animal pests, veld fires, mine collapses, and human-wildlife conflict. Drought affects all wards, particularly Insiza South, where water scarcity is exacerbated by silted or damaged dams. Livestock farmers face obstacles such as lack of public sales for cattle, livestock diseases, and the need to purchase acaricides.

Environmental issues include widespread gold mining, which has polluted rivers like Insiza and Umzingwane, causing siltation and reducing water availability. Veld fires, especially in northern Insiza, have degraded land and contributed to biodiversity loss and soil erosion.

The air quality in the district is characterized by its semi-arid climate, experiences relatively low levels of industrial pollution compared to urban areas. However, dust particles from unpaved roads and agricultural activities, particularly during the dry season, can contribute to localized air pollution. The district's reliance on biomass fuels for cooking and heating, coupled with periodic veld fires, further affects air quality by increasing the concentration of particulate matter (PM2.5 and PM10) in the atmosphere. These emissions can have adverse health impacts, particularly for vulnerable populations such as children and the elderly. Despite these challenges, the overall air quality in Matebeleland South is generally better than in more industrialized regions of Zimbabwe.

In Insiza District, Matabeleland South, Zimbabwe, water quality varies significantly across groundwater and surface water sources. Groundwater typically exhibits high salinity levels due to geological factors, rendering it unsuitable for direct consumption without treatment (UNICEF). Elevated fluoride concentrations are also common, posing risks of dental and skeletal fluorosis. Hardness, attributed to mineral-rich rocks, further affects water quality. Surface water, sourced from rivers and dams, faces challenges such as high turbidity during rainy seasons, microbial contamination from inadequate sanitation, and potential chemical pollutants from agricultural runoff and mining activities (ZimVAC, 2021).

4.2.2 Project locations in Insiza

In Insiza, the ZAVaCEP projects will be implemented in Wards 17, 20, and 21, which are briefly described in the following section. **Table *3*** below displays the number of dip tanks to be rehabilitated and their locations within Insiza District. Only two boreholes will be drilled, both of which will be situated at the dip tanks in Ward 20 (as shown in **Table *3***). Figure 4 presents a satellite image of the dip tank locations. A detailed description of some of the dip tanks implementation sites visited during the field mission is provided in ANNEX 3 SPECIFIC PROJECT SITES VISITED IN INSIZA –.

Table 3. Geographical Location of ZAVaCEP Dip Tanks and Boreholes, Insiza.

District	AHMC	WARD	DIP tank	LATITUDE	LONGITUDE	BOREHOLE
Insiza	Insimbithi	17	Bolo	-20.3670195	29.3689837	
	Lambamai	20	Pentagon	-20.1281299	29.5929268	BH

	Lambamai	20	Lambamai	-20.0928056	29.7048323	BH
	Mpalawani	21	Browns	-19.9708433	29.7912951	

Animal Health Management Centre

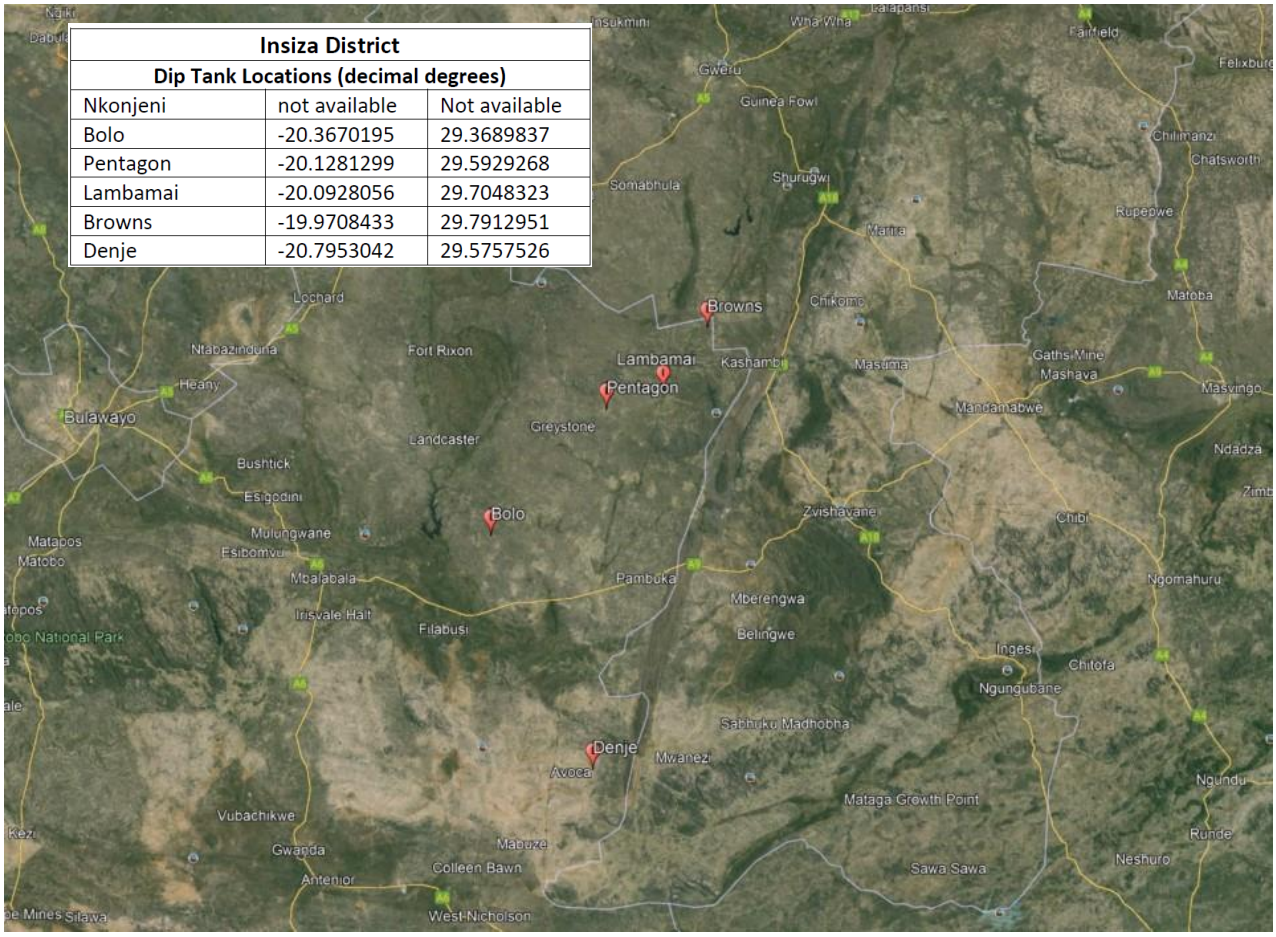


Figure 4. ZAVaCEP Dip Tank geographical locations in Insiza District

a) Ward 17 (Phumelela Ward) of Insiza District is characterized by a rural setting with a predominantly Ndebele-speaking population. The socio-economic conditions reflect a community engaged mainly in subsistence farming, with some small-scale mining activities. The area experiences semi-arid conditions, influencing agricultural activities that focus on drought-resistant crops and livestock farming. Key infrastructure includes schools, health centres, and business centres, supporting the basic needs of the residents.

b) Ward 20 (Sibasa Ward)'s population relies heavily on agricultural activities, particularly crop and livestock farming. The ward is part of the semi-arid region, which poses challenges for consistent agricultural productivity. Socio-economically, the ward has seen initiatives aimed at boosting income through projects funded by government and non-governmental organizations. The physical landscape is marked by boreholes and dams that are crucial for water supply in farming and daily use.

c) Ward 21 (Mahole Ward): Similar to the other wards in Insiza District, Ward 21 has a predominantly agrarian economy. The population engages in small-scale farming and cattle rearing, with some households participating in gold panning to supplement their income. The socio-economic environment is shaped by limited but vital infrastructure, including schools, health facilities, and dip tanks for livestock. The semi-arid climate necessitates reliance on boreholes and rain-fed agriculture, making the community vulnerable to droughts.

4.2.3 Cultural and Traditional practices in Insiza District.

Insiza District is predominantly inhabited by the Ndebele people, with a rich cultural heritage deeply rooted in traditional practices and beliefs. The Ndebele culture is characterized by its vibrant dances, music, and art forms, such as beadwork and pottery. Traditional ceremonies and rituals, including rainmaking ceremonies and ancestor worship, are integral to the community's cultural identity.

The social structure in Insiza is predominantly patriarchal, with extended families playing a significant role in social and economic activities. Respect for elders and communal living are core aspects of daily life. The community often engages in collective activities such as farming, cattle herding, and communal ceremonies.

Cultural festivals and celebrations are common in Insiza, where traditional music, dance, and dress play a crucial role. Important occasions include the Inxwala (harvest festival) and Umthontiso (initiation rites). These events are opportunities for reinforcing social bonds and cultural pride.
The villages around the project sites have been resettled by people from various parts of Matabeleland and even from the Midlands provinces, resulting in a lack of strong cultural cohesion, particularly in cultural activities. As a consequence, some traditional practices, such as initiation ceremonies for young boys, are no longer being observed. Cultural Environment in Beitbridge District.

4.2.4 Beitbridge District

Beitbridge District lies in southern Zimbabwe and is characterized by a semi-arid climate with high temperatures and minimal rainfall. The terrain is mostly flat, adorned with acacia trees and sparse vegetation, which is adapted to arid conditions. The fauna includes various species adapted to dry conditions, such as small mammals, reptiles, and birds. In the southern end the Limpopo River serves as a natural boundary to South Africa. Semi -arid flora and fauna thrive in the arid conditions, with the Limpopo River playing a crucial role in the district's geography and hydrology.

The 2022 Zimbabwe Census Report estimate Beitbridge Rural to have a population of 94,001 and 23,197 households and a population of 58,574 with 17,564 households in the Beitbridge Urban. The population is relatively young, with a significant proportion under the age of 30. The ZimVAC report estimated the average household sizes in the district to be 4.4. 55.4% of household heads were male, 44.6% were female. The average household head age was 49.4 years. Child-headed families were reported to be 1.6% while 22% were elderly headed families.

In terms of water access, 78% of households have improved water sources, down from 83% in 2021. The primary sources of drinking water include basic (68%), limited (11%), unimproved (19%), and surface water (3%). Adequate domestic water accessibility is estimated at 86%. Sanitation conditions vary, with 48% practicing open defecation, 49% having improved sanitation, and 4% using unimproved facilities. Hand washing services are notably lacking, with 89% of households having no access (ZIMVAC 2021).

The local economy is largely driven by cross-border trade and transport services due to its proximity to South Africa. Agriculture, although challenged by the arid climate, remains a key livelihood, for rural communities with residents engaging in subsistence farming and livestock rearing, particularly cattle, goats, and small-scale crop production. Sales of agricultural produce are major sources of income, supplemented by activities like sorghum cultivation, mopane worm sales, and gold panning. Informal trading and small-scale mining also contribute to the economic landscape (Dhliwayo et al., 2023).

Beitbridge District faces several social challenges, including high levels of youth unemployment (16%), general formal unemployment (89%), drug abuse (12%), and poverty (ZIMVAC, 2023). The district also

contends with issues related to border security, such as smuggling and illegal immigration. However, instances of physical abuse are low, with 97.4% reporting no abuse (ZIMVAC 2022). Spousal violence affects a small percentage, with men reporting 1.2% sexual abuse, 3.6% physical abuse, and 2.4% emotional abuse. Women primarily report emotional abuse at 2.0%.

The district is vulnerable to environmental and economic shocks. Prolonged droughts and erratic rainfall patterns threaten agricultural productivity and food security. The dependency on cross-border trade makes the local economy susceptible to policy changes and economic conditions. Additionally, the high prevalence of HIV/AIDS and other communicable diseases poses significant public health challenges, further straining the district's social and economic systems. Annex 1 provides details on the specific project sites in Beitbridge district.

In Beitbridge District, also in Matabeleland South, Zimbabwe, water quality reflects the semi-arid conditions and ongoing developmental efforts. Groundwater, crucial for domestic and agricultural purposes, frequently exhibits high salinity and fluoride levels, alongside concerns about heavy metals and bacterial contamination. Surface water, primarily sourced from the Mzingwane River and Zhovhe Dam, shows variable pH levels, high turbidity post-rains, and microbial contamination, including coliform bacteria from human and animal waste (Nyabeze & Hoko 2016).

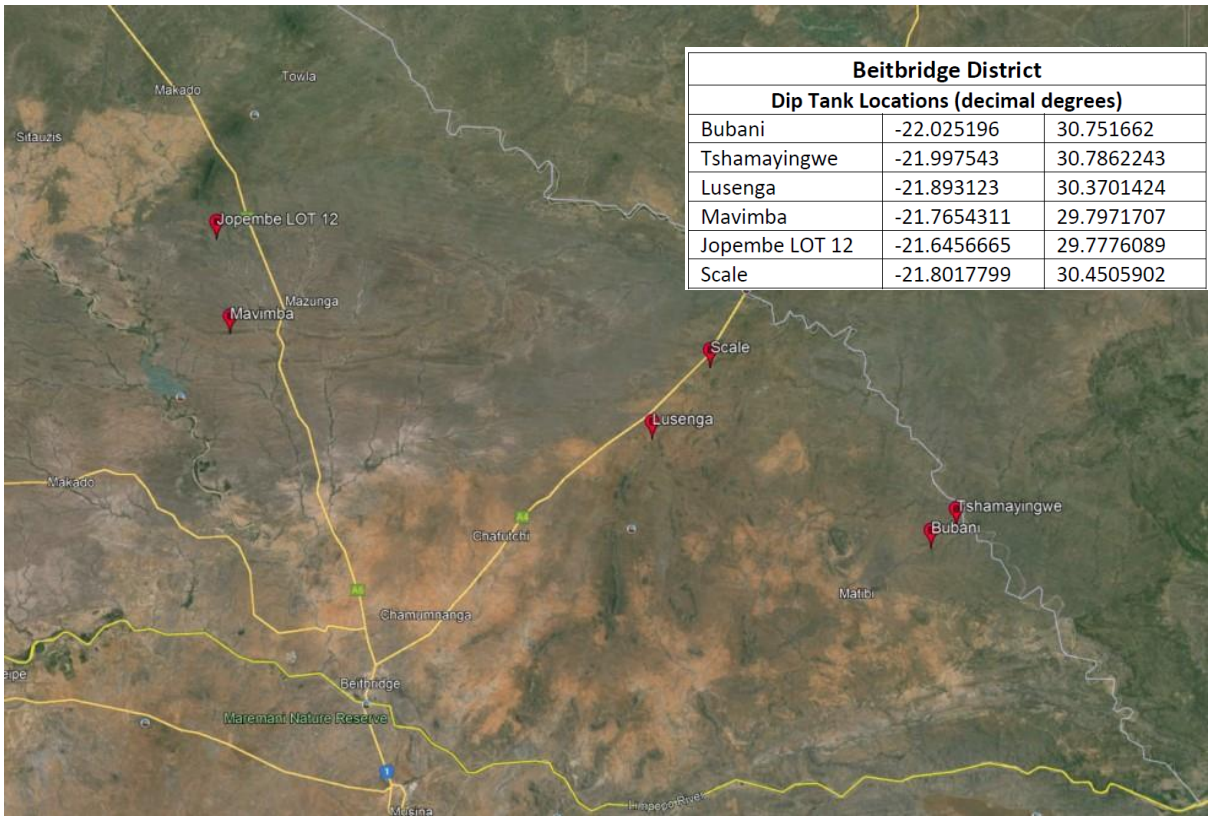
4.2.5 Project location in Beitbridge District

In Beitbridge, four dip tanks will undergo rehabilitation, along with the installation of two boreholes, as detailed in **Table *4***. Figure 5depicts the geographical locations of these dip tanks and boreholes on a satellite map. Further comprehensive descriptions of the implementation sites in Beitbridge can be found in Annex 4.

Table 4. ZAVaCEP Dip tanks and Borehole Coordinates, Beitbridge district.

District	AHMC	WARD	DIP tank	LATITUDE	LONGITUDE	BOREHOLE
Beitbridge	Tshitulipasi	13	Bubani	-22.25406	30.7517572	
	Lesanth	13	Scale	-21.84821	30.314792	
	Lesanth	13	Lusenga	-21.893252	30.370413	BH
	Mazunga	14	Jopembe Lot12	-21.646569	20.777666	BH

AHMC- Animal Health Management Centre



Beitbridge District		
Dip Tank Locations (decimal degrees)		
Bubani	-22.025196	30.751662
Tshamayingwe	-21.997543	30.7862243
Lusenga	-21.893123	30.3701424
Mavimba	-21.7654311	29.7971707
Jopembe LOT 12	-21.6456665	29.7776089
Scale	-21.8017799	30.4505902

Figure 5. ZAVaCEP Dip Tank Locations in Beitbridge District

a) Ward 13 (Masera) is characterized by a semi-arid climate with low rainfall and high temperatures, making agriculture challenging. The population of 8000 (ZIMSTATS) is predominantly composed of minority ethnic groups such as the Venda, Shangani, and Suthu. Socio-economic conditions are modest, with most residents engaging in subsistence farming and livestock rearing. The main crops include drought-tolerant varieties such as sorghum, millet, and rapoko, alongside cattle, goats, and sheep. The area's physical conditions feature diverse soil types, from deep, fertile soils to lighter, sandy soils, supporting a mix of savanna and shrub vegetation. Access to water resources is limited, with the Limpopo River and a few local dams providing essential irrigation and drinking water for very few villages.

b) Ward 14, known as Maramani, is similar in its semi-arid climate and socio-economic challenges. The population estimate is 7500 is also made up of ethnic groups like the Venda, Shangani, and Suthu, who rely heavily on pastoralism and small-scale farming. The agricultural activities focus on hardy crops and livestock suited to the arid environment. The physical landscape includes a mix of savanna and shrubland, with soils varying in fertility and texture. Despite the harsh conditions, the community has adapted traditional knowledge and practices to sustain their livelihoods. Maramani also faces issues with water scarcity, relying on the seasonal flows of rivers and a few artificial reservoirs for water supply.

4.2.6 Cultural and Traditional Practices and Beliefs in Beitbridge rural districts

In rural Beitbridge, traditional practices and beliefs are central to community life, with a strong emphasis on ancestral worship, traditional healing, and customary law. The Venda people, in particular, are renowned for their vibrant arts, crafts, and music. Cultural narratives, proverbs, and folklore are essential tools they use for teaching younger generations about their heritage and moral values.

Much like in Insiza, Beitbridge's social structure is largely patriarchal, with extended families forming the backbone of social organization. Families often live in multi-generational homesteads, where communal cooperation in agricultural and pastoral activities is common.

Beitbridge hosts a number of cultural festivals and celebrations that highlight its diverse heritage. The Domba dance, a traditional Venda ceremony, is particularly notable and is performed during initiation rites. Other cultural events feature traditional music, dance, and dress, providing platforms for cultural expression and community engagement.

5. PROJECT ALTERNATIVES

This ESMP study sought to consider possible alternatives to the proposed project for the beef and leather value chain development in Insiza and Beitbridge districts, Zimbabwe. These alternatives included, among other considerations, the "No Project Alternative," Alternative Locations, and Alternative Designs. This study aimed to identify and assess alternatives to the proposed developments to find the best working models that have minimal environmental and social impacts.

5.1 The "No Project" Alternative

The "No Project" alternative implies that the project does not proceed, thereby maintaining the status quo. The environmental resources remain unchanged as they are not interfered with. However, this alternative means foregoing all the environmental, social, and economic benefits anticipated from the project's implementation. The proposed project i.e. the development of the beef and leather value chain in Insiza and Beitbridge districts has been identified to bring significant social and economic benefits.

The targeted beneficiaries acknowledge that the project will enhance cattle husbandry, pasture development, fodder production, and hide processing. Improved cattle husbandry and pasture development will lead to better livestock health and productivity, while the rehabilitation of plunge dip pools will reduce tick-borne diseases. The availability of quality fodder will ensure cattle have sufficient nutrition, especially during dry seasons, thereby improving overall cattle health and reducing mortality rates and leading to increased beef production. Furthermore, the processing of hides will add value to the leather industry, creating employment opportunities and improving local economies. Thus the project has significant social and economic benefits for the targeted communities in Insiza and Beitbridge districts as it will enhance household incomes.

Beneficiaries acknowledge that the project will help improve their livelihoods. Currently, poor cattle husbandry practices and inadequate infrastructure for cattle dipping and fodder production and disease limit the productivity and health of livestock. By not implementing the project, it means the current challenges, such as inadequate cattle health management, poor pasture quality, and limited hide processing facilities, will persist. Additionally, the potential improvements in livestock productivity, income generation from better-quality hides, and overall community well-being will be lost.

The "No Project" alternative maintains the current inadequate water supply for cattle dipping, negatively impacting cattle health and productivity. It also means continued reliance on suboptimal cattle husbandry practices and insufficient fodder production, leading to lower cattle productivity and economic returns. Therefore, while this alternative may avoid immediate environmental impacts, it fails to address the long-term socio-economic needs and environmental sustainability goals of the region.

By foregoing the project, these potential benefits will not be realized, and the local communities will miss out on the opportunity to improve their socio-economic conditions and resilience to environmental challenges and continue to face challenges Therefore, the “No Project” alternative is not considered favourable due to the significant positive impacts the project is expected to bring.

5.2 Alternative Locations

The selected sites for the project were deemed suitable based on feasibility studies conducted in 2010, which identified them as principal production locations. The Insiza and Beitbridge districts face several environmental and non-environmental challenges, such as limited rainfall affecting agricultural production, poor infrastructure, lack of markets, and the impact of climate change on agricultural production. These factors highlight the need for targeted interventions in these areas, in these specific locations.

Alternative locations were considered, but they did not present better options. Insiza and Beitbridge districts has existing potential of for cattle husbandry and leather production. The current sites are strategically located to maximize the benefits of the project, including proximity to existing cattle farming activities, infrastructure and the potential for integrating improved cattle husbandry and pasture development. Moving the project to different locations would entail constructing new infrastructure facilities and likely incur higher costs and reduce the project's effectiveness in addressing the identified challenges. Additionally , it would be less beneficial in terms of social and economic impact.

5.3. Alternative Designs

Various design alternatives were analysed, focusing on site, technology, materials, and chemicals. The goal was to select designs that offer the best balance between effectiveness, cost, and minimal environmental and social impacts. The chosen designs for plunge dip pool rehabilitation, improved cattle husbandry practices, pasture development, fodder production, and hides processing were evaluated based on these criteria. The mitigation hierarchy was incorporated to avoid, minimize, and mitigate any potential negative impacts.

For instance, different cattle dipping technologies were considered, including spray races and pour-on treatments. However, plunge dip pools were selected due to their effectiveness in controlling tick infestations and their suitability for large-scale cattle operations (i.e. large number of cattle). The design incorporates sustainable materials and chemicals that minimize environmental harm while ensuring cattle health.

In pasture development and fodder production, various grass species and cultivation techniques were assessed. The selected options prioritize drought-resistant species and sustainable farming practices to enhance pasture quality and resilience to climate change.

The hides processing component evaluated several processing technologies, with a focus on eco-friendly methods that reduce water usage and chemical waste. The selected technologies aim to produce high-quality hides while mitigating environmental impacts.

Considering alternative designs for the project was deemed unfeasible in the current context. The proposed design, which includes the rehabilitation of plunge dip pools, improved cattle husbandry practices, pasture development, fodder production, and hides processing, is tailored to address the specific needs of Insiza and Beitbridge districts. This integrated approach is essential for achieving the desired outcomes of improved livestock health, enhanced productivity, and value addition in the beef and leather value chain.

Site Options: The chosen sites are existing locations selected based on their suitability for cattle husbandry and fodder production. These sites were assessed for environmental conditions, availability of water sources, and accessibility to ensure optimal project outcomes. Additionally, since these sites are already being used for similar purposes, this minimises the need for land acquisition and displacement.

Technology: Improved cattle husbandry techniques, such as rotational grazing and advanced veterinary care, were considered to enhance livestock health and productivity. The use of modern equipment for fodder production and hide processing was also evaluated to increase efficiency and product quality.

Design: The design of the plunge dip pools was carefully considered to ensure they are effective in reducing tick-borne diseases while being safe for both livestock and handlers. Pasture development designs focused on sustainable land management practices to prevent overgrazing and soil degradation.

Materials: Sustainable and locally available materials were prioritized for construction and rehabilitation activities. This not only reduces costs but also minimizes the environmental footprint of the project.

Chemicals: The use of chemicals in cattle dipping and fodder production was evaluated to ensure they are safe for the environment and livestock. Environmentally friendly and less toxic alternatives were selected to mitigate potential negative impacts.

5.4 Mitigation Hierarchy

The mitigation hierarchy was applied in selecting and designing project components. In impact management, a mitigation hierarchy serves as a structured approach to addressing and managing potential impacts on the environment, society, or any system due to various activities or projects. It typically consists of four steps i.e., **avoidance, minimization, restoration and offsetting or compensation Figure *6***.

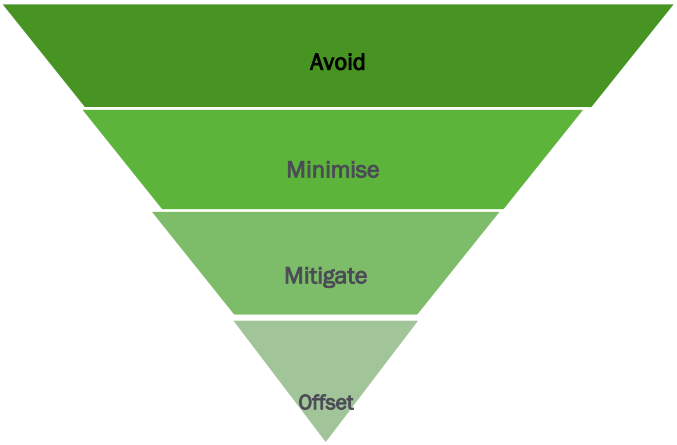


Figure 6. Mitigation Hierarchy

The mitigation hierarchy is a framework that guides the selection and implementation of projects and activities. In this case the hierarchy is designed to ensure that projects funded by the AfDB prioritize the most effective and sustainable approaches to reduce negative impacts and enhance project sustainability. The mitigation hierarchy consists of four key steps:

Avoidance

At the top of the hierarchy is the principle of "avoidance." This step emphasizes the importance of avoiding activities or projects that could lead to significant social and environmental impacts or exacerbate existing impacts. Avoidance includes examining alternative options and considering if the project is necessary in the first place.

Minimization

The next step in the hierarchy is "minimization." If avoidance is not possible, the focus shifts to minimizing negative environmental and social impacts. This involves designing projects and activities in a way that reduces environmental and social harm as much as possible.

Restoration and Rehabilitation

If emissions and impacts cannot be completely avoided or minimized, the mitigation hierarchy promotes "restoration and rehabilitation." This step involves restoring or rehabilitating ecosystems, natural resources, and affected areas to their original or a better condition. This can help offset negative impacts and enhance positive ones.

Compensation

The final step, "compensation," is considered only when avoidance, minimization, and restoration options have been exhausted. Compensation typically involves measures to offset the remaining impacts. This can include activities like afforestation and revegetation forestation, carbon capture and storage, and other carbon removal approaches.

It's important to note that the mitigation hierarchy encourages project developers and stakeholders to prioritize avoidance and minimization whenever possible. The emphasis is on preventing harm from the onset rather than relying solely on compensation and offset measures. The hierarchy promotes a holistic and sustainable approach to addressing project impacts and making decision on whether the project should go ahead or not.

This ESMP has considered and followed the mitigation hierarchy in assessing the project interventions in Insiza and Beitbridge district. And all the identified potential impacts can be avoided and or mitigated.

Conclusion

This ESMP has evaluated a range of feasible project alternatives, including the "No Project" alternative, alternative locations, and alternative designs. The “No Project” alternative, while maintaining the status quo, would result in missed opportunities for development and improvement in the local beef and leather industries. The selected alternatives project design and locations were chosen for their potential to meet the project's purpose and need while minimizing environmental and social impacts. The proposed were determined to be the most suitable for maximizing the environmental, social, and economic benefits for the communities in the two districts. Through stakeholder consultation and public participation, the project aims to achieve sustainable and inclusive development outcomes for the communities in Insiza and Beitbridge districts.

6. MAJOR ENVIRONMENTAL AND SOCIAL IMPACTS AND CLIMATE CHANGE RISK

6.1 Positive Environmental Impacts

Water availability for Livestock and Humans

One of the primary environmental challenges in Zimbabwe, similar to many regions in sub-Saharan Africa, is water scarcity and erratic rainfall patterns. The project tackles these issues through several key initiatives. First, it includes the rehabilitation and construction of multipurpose solar-powered boreholes and water troughs, which not only ensure reliable water supply for livestock but also contribute to improved water availability for domestic use and agriculture. By reducing the distance to water sources from 6-10 km to nearby facilities, the project significantly enhances water accessibility, thereby improving hygiene and health conditions in beneficiary households.

Enhance Rangeland Management and Biodiversity conservation

Furthermore, the project incorporates climate-smart agricultural practices such as climate-smart rangeland management and the development of 700 hectares of pastureland. These efforts aim to mitigate land degradation, control runoff and erosion, and improve soil fertility. By implementing conservation practices around dip tanks and borehole areas, covering a total of 42 hectares, the project promotes sustainable land use and agricultural productivity. Additionally, the introduction of agroforestry programs and the planting of fruit trees contribute to biodiversity conservation and enhanced water quality through improved percolation and groundwater recharge.

Efforts toward climate-smart agriculture and rangeland management can mitigate environmental degradation. Practices like soil conservation, water management, and sustainable pasture development contribute to biodiversity conservation and resilience to climate change.

Environmental Conservation

Implementation of sustainable practices such as rotational grazing, water conservation, and waste management can mitigate environmental degradation. The ZAVaCEP intervention integrating rotational grazing and water conservation practices significantly enhances environmental conservation efforts in Zimbabwe. By implementing rotational grazing, the project promotes sustainable land use practices that prevent overgrazing and soil degradation. This method allows pastures to recover and regenerate, improving soil fertility and reducing erosion risks. Concurrently, water conservation measures such as water harvesting and efficient irrigation systems optimize water use, particularly in arid regions, thereby safeguarding local water resources and enhancing resilience against drought. Together, these strategies under ZAVaCEP foster a balanced ecosystem, supporting biodiversity, carbon sequestration, and overall environmental health in the targeted areas. This can lead to the preservation of natural resources, biodiversity conservation, and improved ecosystem services (IUCN, 2017).

Improved Animal Health and Productivity

Rehabilitation of dip tanks and the drilling of solar-powered boreholes will ensure disease control and a consistent water supply, enhancing animal health and productivity. The ZAVaCEP intervention focusing on the rehabilitation of dip tanks and drilling of solar-powered boreholes significantly enhances animal health and productivity in Zimbabwe's beef and leather value chain. By rehabilitating dip tanks, the project ensures regular cattle dipping, crucial for controlling tick-borne diseases that can devastate livestock health and productivity. Additionally, the installation of solar-powered boreholes provides reliable access to clean water, mitigating the risk of waterborne illnesses and dehydration among livestock. These improvements not only promote better overall health for cattle but also increase productivity by reducing disease-related losses and ensuring sufficient water supply

for grazing and drinking, ultimately supporting sustainable growth within the local agricultural economy.

Genetic Improvement

Distributing 14 bulls of superior genetics will enhance livestock quality, leading to better meat and milk production. The ZAVaCEP intervention of distributing bulls with superior genetics significantly contributes to cattle genetic improvement by introducing superior breeding stock into local herds. These bulls are selected for traits such as disease resistance, growth rate, and meat quality, which are crucial for enhancing the productivity and resilience of cattle in Zimbabwe. By mating these bulls with local cows, the program aims to gradually enhance the overall genetic profile of the cattle population, leading to increased productivity, better adaptation to local environmental conditions, and ultimately improving the livelihoods of farmers through higher yields and more resilient livestock.

Fodder Availability

Developing 700 hectares of pasture and emphasizing fodder conservation will ensure livestock have adequate nutrition throughout the year. The ZAVaCEP intervention of developing 700 hectares of pasture and emphasizing fodder conservation is pivotal for ensuring year-round livestock nutrition in Zimbabwe. By expanding pastureland, the project addresses the critical need for sustainable grazing areas, reducing overgrazing pressures on existing land. Moreover, emphasizing fodder conservation techniques such as silage production and haymaking enhances feed availability during dry seasons when natural forage is scarce. This dual approach not only supports increased livestock productivity and resilience to climate variability but also promotes sustainable land use practices essential for long-term agricultural viability in the region.

Community Environmental Stewardship

Training communities on conservation practices will increase awareness and implementation of sustainable practices, benefiting both the environment and livestock. The community training program under ZAVaCEP focuses on imparting essential conservation practices within Zimbabwe's beef and leather value chain, yielding significant positive outcomes. By educating local stakeholders on sustainable land management, efficient water use, and integrated pest management, the project enhances agricultural productivity while safeguarding natural resources. This training fosters a deeper understanding of environmental stewardship, empowering communities to adopt practices that mitigate environmental degradation and promote biodiversity conservation. As participants apply these principles in cattle dipping, fodder production, and hide processing, they contribute to improved crop yields, healthier livestock, and enhanced livelihoods, thereby fostering sustainable development across the region.

6.2 Positive Social Impacts

Economic Development and Livelihoods

Socially, the project is expected to have transformative effects on local communities, particularly in the project districts where livelihoods are heavily reliant on rain-fed agriculture and livestock. Improved agricultural productivity not only ensures food security but also increases household incomes through surplus produce sales. This economic upliftment is crucial for poverty reduction and improving overall living standards. Increased production and export of beef and leather products can lead to a rise in GDP, job creation, and income generation for local communities (World Bank, 2020).

The project aims to enhance the beef and leather value chains, which can significantly boost local economies. By improving livestock productivity and the quality of leather products, it creates opportunities for income generation among farmers and small-scale entrepreneurs. Increased market

access and product competitiveness can lead to higher incomes and improved livelihoods, particularly for rural communities dependent on agriculture.

Poverty Alleviation: The project can alleviate poverty by providing livelihood opportunities to smallholder farmers and rural communities involved in cattle rearing and leather production. This can lead to improved standards of living and reduced dependency on subsistence agriculture (FAO, 2018).

Inclusivity

The project prioritizes gender equality and youth empowerment by ensuring that at least 35% of beneficiaries are female-headed households and that 50% of training efforts are directed towards women and youth. This approach not only addresses gender disparities but also enhances the capacity of marginalized groups to participate actively in economic activities and decision-making processes within their communities. Social Inclusion: The project can foster social inclusion by empowering marginalized groups such as women and youth. Providing equal access to resources, training, and market opportunities can promote gender equality and youth empowerment, contributing to social cohesion and community development (IFAD, 2021).

Employment opportunities

Moreover, the establishment of community-level demand-driven feedlots and aggregation centres creates employment opportunities and fosters local entrepreneurship. By supporting agri-business and value chain enhancement, including the development of an online market platform for leather products, the project facilitates market access and improves the competitiveness of small and medium enterprises (MSMEs) in the agricultural sector.

Infrastructure Development

Infrastructure improvements such as the rehabilitation of dip tanks, construction of water troughs, and installation of solar-powered boreholes contribute positively to local infrastructure. These enhancements not only benefit livestock management but also improve water access for communities, potentially reducing water-related diseases and improving overall health.

Knowledge Transfer and Skills Development

Training programs and knowledge exchanges, as part of the project's components, empower local communities with skills in sustainable agricultural practices, agri-business management, and product quality standards. This transfer of knowledge strengthens local capacities, enhances productivity, and fosters innovation within the agriculture sector. Investing in the beef and leather value chain can promote skill development among local communities. Training programs on modern farming techniques, leather processing, and business management can empower individuals with valuable skills, enhancing their employability and entrepreneurship (UNDP, 2019).

Enhanced beef and Leather Value Chain: Training on quality standards and market linkage will improve the quality of leather products, making them more competitive in the market. By equipping stakeholders with comprehensive knowledge on assessing and improving hide quality, the project not only ensures that Zimbabwean hides meet international standards but also enhances their market competitiveness globally. Concurrently, the development of feed lots under ZAVaCEP fosters improved cattle management practices, ensuring healthier livestock and higher-quality hides. Together, these efforts contribute synergistically to bolstering the entire beef and leather value chain in Zimbabwe, fostering sustainable economic growth and increased export potential for the country's agricultural sector.

Market Expansion: Supporting exhibitions and knowledge-exchange visits will expose local producers to new markets and best practices, expanding their business opportunities. By enhancing infrastructure, modernizing production practices, and improving market linkages, ZAVaCEP will create new avenues for local farmers and processors to access broader domestic and international markets.

This expansion will not only increase export potential but also stimulate local economies, improve livelihoods, and foster sustainable growth across Zimbabwe's beef and leather value chains. Creating an online platform for leather products will provide broader market access and direct sales opportunities, increasing revenues for producers.

Improved efficiency and profitability of cattle husbandry: Developing feedlots and aggregation centres will streamline livestock management and market access, improving efficiency and profitability for farmers. By implementing targeted strategies such as improved fodder production, cattle dipping to control diseases, and optimizing hide processing techniques, the project seeks to boost livestock health, productivity, and the quality of finished products. These initiatives not only aim to increase yields and reduce losses but also enhance market competitiveness and profitability for local farmers and stakeholders involved in the value chain. Through sustainable practices and technological advancements, ZAVaCEP aims to create a more resilient and profitable livestock sector, contributing to economic growth and stability in the region.

Improved Dairy Production: Supporting dairy farmer groups will improve dairy product quality and production processes, particularly benefiting women and youth involved in these activities. By providing training in modern farming practices, such as improved animal husbandry techniques and sustainable fodder production, ZAVaCEP empowers these groups to optimize milk production. Access to veterinary services and quality inputs ensures healthier livestock, resulting in higher milk yields with improved nutritional content. Moreover, capacity-building in milk handling and processing equips women and youth with the skills to produce dairy products of superior quality, meeting market standards and increasing their incomes. This comprehensive support not only enhances product quality but also fosters economic empowerment and social inclusion among marginalized groups within the dairy sector.

6.3 Climate Change Adaptation

In response to climate change challenges, ZAVaCEP will promote sustainable practices such as improved pasture management and water resource utilization, to bolster resilience against climate variability. Initiatives like integrated pest management and sustainable fodder production not only mitigate environmental impacts but also enhance productivity and income stability for farmers. Through these efforts, ZAVaCEP not only addresses immediate agricultural challenges but also fosters long-term adaptation strategies that are essential for safeguarding livelihoods amidst a changing climate. These facilities not only mitigate the effects of droughts and floods but also enhance the resilience of agricultural production systems.

Conclusion

The Beef and Leather Value Chain Enhancement Project represents a sustainable development approach, addressing environmental conservation, socio-economic empowerment, and climate change adaptation. By improving water management, enhancing agricultural productivity, and fostering inclusive growth, the project not only strengthens local economies but also builds resilience against future environmental and economic shocks. Through targeted interventions and community engagement, the project is poised to make a lasting positive impact on the lives and livelihoods of the targeted rural populations in Zimbabwe, paving the way for a more sustainable and prosperous future.

6.4 Environmental Negative Impacts

The Beef and Leather Value Chain Enhancement Project, encompasses a series of interventions aimed at revitalizing Zimbabwe's beef and leather industries. While the project intends to bolster economic

growth and livelihoods, it also carries significant negative social and environmental impacts that must be carefully considered.

Loss of Biodiversity: The rehabilitation of dip tanks and installation of solar-pumped boreholes often involve clearing of land and disruption of natural habitats. This can lead to fragmentation of ecosystems and loss of biodiversity, affecting local flora and fauna species dependent on these habitats potentially contributing to biodiversity loss through several pathways. Increased demand for cattle grazing areas might lead to habitat fragmentation and degradation, particularly in ecologically sensitive regions. Intensive livestock farming practices, if not managed sustainably, could result in soil erosion, water pollution from runoff containing agricultural chemicals, and overexploitation of natural resources such as water for irrigation or feed production. Furthermore, the expansion of agricultural land and infrastructure associated with the project could encroach upon natural habitats, displacing native species and disrupting local ecosystems. Effective environmental management strategies, including stringent land use planning and sustainable agricultural practices, are crucial to mitigate these potential impacts and promote biodiversity conservation alongside economic development.

Soil and Chemical Pollution: Agricultural intensification through pasture development and fodder conservation may require the use of chemical inputs such as fertilizers and pesticides. Improper application or runoff can result in soil degradation and contamination, impacting soil health and productivity in the long term. Increased agricultural activities such as intensified fodder production might involve the use of chemical fertilizers and pesticides, which, if improperly managed, can leach into the soil, affecting its fertility and contaminating groundwater. Additionally, practices like cattle dipping, essential for disease control but involving chemical treatments, could contribute to chemical residues entering the soil and nearby water bodies if not carefully monitored and disposed of. These interventions, while beneficial for agricultural productivity, necessitate stringent environmental management to mitigate the risks of soil and chemical pollution.

Air Quality: Intensive livestock farming, especially in concentrated feedlot areas, can lead to increased emissions of ammonia, methane, and other gases. These contribute to air pollution and greenhouse gas emissions, exacerbating climate change and affecting local air quality. Construction work, especially if not managed with proper dust control measures, can release particulate matter into the air, leading to respiratory issues and reduced air quality. Moreover, increased cattle production results in higher quantities of dung, which, if not appropriately managed through efficient waste disposal systems, can emit methane and ammonia gases. These gases contribute to air pollution and can exacerbate local air quality issues, posing health risks to both livestock and nearby communities. Effective environmental management practices, including dust suppression techniques and waste management protocols, are crucial to mitigate these impacts and ensure sustainable development under ZAVaCEP.

Environmental Degradation: Despite efforts towards sustainability, intensive agricultural practices in the beef and leather value chains can lead to environmental degradation. Soil erosion, loss of biodiversity due to land clearing, and chemical pollution from agrochemicals (e.g., pesticides, fertilizers) pose risks to ecosystems and wildlife habitats. Improper waste disposal and inadequate pollution control measures can exacerbate these impacts. Intensified cattle ranching and increased fodder production can lead to deforestation as land is cleared for grazing and cultivation. Moreover, improper management of cattle dipping facilities and waste disposal could contaminate water sources, affecting both aquatic ecosystems and local communities reliant on clean water. Additionally, if not carefully monitored, increased agricultural activity may contribute to soil erosion and degradation, reducing land fertility over time.

Water pollution

Increased water demand from livestock and agricultural activities, coupled with climate variability, can strain local water resources. Over-extraction from boreholes and surface water sources may lower water tables, impacting groundwater availability and quality. Contamination from agrochemical runoff poses risks to water quality, affecting both human consumption and ecosystem health. For instance, increased cattle dipping, a key component aimed at controlling tick-borne diseases, could introduce chemical residues from acaricides into water bodies if proper disposal and management practices are not strictly adhered to. Similarly, intensified fodder production might involve the use of fertilizers and pesticides, potentially leading to runoff into nearby water sources during rain events. Effective implementation of Environmental and Social Management Plans (ESMPs) is crucial to mitigate these risks, ensuring that agricultural practices under ZAVaCEP do not compromise water quality in the region.

The drilling of boreholes and construction of water troughs can alter local hydrology and groundwater systems. Increased sedimentation and chemical runoff from nearby agricultural activities can degrade water quality, affecting both human and animal consumption and potentially harming aquatic ecosystems.

Waste Generation: Large-scale hide processing and feedlot operations generate significant quantities of organic waste, including animal waste and processing by-products. Improper management of these wastes can lead to odour issues, soil contamination, and contribute to greenhouse gas emissions if not properly treated. By focusing on improving livestock management techniques such as proper cattle dipping and waste disposal strategies, ZAVaCEP aims to reduce environmental contamination from agricultural runoff and improper disposal of hides and other by-products. Through training programs and infrastructure development for efficient waste management, the project seeks to enhance local capacity to handle waste sustainably, thereby minimizing water and soil pollution while promoting cleaner production practices within the beef and leather value chain in Zimbabwe.

Loss of Flora and Fauna

The ZAVaCEP interventions, particularly in the beef and leather value chain, could potentially have adverse effects on local flora and fauna. Increased agricultural activities such as expanded fodder production might lead to habitat loss or fragmentation, impacting indigenous plant species and disrupting natural ecosystems. Additionally, intensive cattle dipping practices could introduce pollutants into local water sources, affecting aquatic life and biodiversity. The processing of hides, if not managed properly, could result in waste disposal issues, potentially contaminating soils and further disturbing local wildlife habitats. These activities necessitate careful planning and implementation of Environmental and Social Management Plans (ESMPs) to mitigate these potential negative impacts on the environment and biodiversity.

6.5 Negative Social Impacts

Social Exclusion and marginalization

The project's implementation may inadvertently exacerbate social inequalities within communities. In some cases, the project's benefits may not reach marginalized groups, including women and youth, leading to social exclusion and disparities in access to resources and opportunities. By focusing resources and support on specific sectors or groups involved in the value chain, there is a risk of marginalizing or neglecting other community members who may not directly benefit from these interventions. This selective assistance can lead to increased social stratification, where those connected to or benefiting from the project may experience improved economic status and social standing, while others could face exclusion or reduced opportunities, widening the gap between different segments of the community. Additionally, if the project inadvertently disrupts traditional livelihoods or community cohesion without adequate mitigation measures, it could further strain social dynamics and contribute to increased social tensions or inequalities.

Health and Safety Risks

Exposure to agrochemicals, inadequate sanitation, and poor hygiene practices can lead to health issues such as respiratory ailments, skin diseases, and waterborne illnesses. Rehabilitation activities around dip tanks could expose communities to physical harm during the construction phase, when the construction site is not properly secured. Additionally, the operation of feedlots might increase environmental pollution through waste disposal and potential water contamination, affecting local communities' access to clean water sources and posing risks to livestock and human health. The use of agrochemicals and handling of livestock in intensive farming operations pose risks to farmers. Exposure to pesticides, poor ergonomic practices, and zoonotic diseases can lead to chronic health issues among farmers. Proper training, safety protocols, and environmental management practices are crucial to mitigate these risks and ensure the sustainable development of the beef and leather value chain in Zimbabwe.

Occupational Health & Safety: Occupational health risks are prevalent among livestock farmers and workers in related infrastructure construction. Construction sites will generate noise, dust and machinery can harm workers' health. Unsecured structures and equipment pose risks of falling on the workers.

Animal Health and Genetic Loss: The genetic enhancement efforts under ZAVaCEP could significantly impact animal health positively by selectively breeding for traits that improve disease resistance, productivity, and overall resilience. However, there is a potential risk of genetic erosion if the focus narrows too sharply on a few desirable traits, potentially reducing overall genetic diversity within the livestock populations. In addition, reduced genetic diversity reduces animal resilience to diseases leading disease outbreaks and posing risks to livestock productivity and sustainability. This could leave animals more vulnerable to future diseases or environmental changes that were not anticipated during the breeding process. Therefore, while genetic enhancement holds promise for enhancing animal health and productivity, careful management and monitoring of genetic diversity are crucial to mitigate risks of genetic loss and ensure long-term sustainability of the livestock populations involved.

Aid Dependence: Dependence on external aid and market fluctuations can affect local economies and livelihoods. Dependency can lead to long-term sustainability challenges. Once funding ends, communities and stakeholders may struggle to maintain infrastructure and practices established under the project. Moreover, if not managed carefully, the influx of aid and development resources could foster a reliance on external assistance rather than sustainable local initiatives, perpetuating a cycle of dependency instead of fostering self-sufficiency and long-term economic stability within the affected communities.

HIV/AIDS and Social Dynamics: In communities heavily reliant on migrant labour, such as those involved in the leather and beef industries, the project can inadvertently contribute to the spread of HIV/AIDS. Movement of workers and associated social dynamics can increase vulnerability to disease transmission and strain local healthcare systems. Enhanced access to dip tanks may attract larger gatherings of cattle owners and workers, potentially increasing social interactions and mobility, which could inadvertently facilitate the spread of HIV/AIDS if proper health education and prevention measures are not implemented concurrently. Moreover, changes in community dynamics due to increased economic activities as a result of the project may disrupt traditional social structures and norms, potentially affecting local social cohesion and stability. As such, while the project aims to improve agricultural practices and economic outcomes, careful consideration of public health and social implications is crucial to mitigate unintended consequences.

Conclusion

The Beef and Leather Value Chain Enhancement Project presents a complex array of negative social and environmental impacts alongside its economic development objectives. From biodiversity loss and soil pollution to human health risks and social displacement, these impacts underscore the importance of robust environmental and social management and comprehensive mitigation strategies. Addressing these challenges requires careful planning, community engagement, and adherence to the ESMP to minimize adverse effects on both the environment and local communities.

6.6 Climate Change Impact on the Project Area

Climate change significantly impacts Insiza and Beitbridge, two districts located in the semi-arid region of Zimbabwe. These areas already experience variable and often insufficient rainfall, but climate change is exacerbating these conditions. Increased temperatures and further reductions in rainfall are becoming more common, which greatly affects water availability for livestock and agriculture (USAID, 2018). The changing climate patterns are making it increasingly difficult for farmers to maintain consistent crop yields and provide sufficient water for their cattle, which are crucial for the local economy.

The increased frequency and severity of droughts pose a major concern for Insiza and Beitbridge. Droughts reduce water levels in rivers, dams, and groundwater sources, severely impacting the availability of drinking water for cattle and irrigation for fodder crops (UNDP, 2017). Additionally, higher temperatures contribute to heat stress in livestock, leading to reduced productivity, slower growth rates, and increased mortality rates (FAO, 2019). These climate-related challenges directly affect the beef value chain by decreasing the number of healthy cattle available for both meat and leather production, thus threatening the livelihoods of many local farmers and the broader agricultural economy.

6.7 Project Contribution to Climate Change and Associated Risks

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) holds potential to significantly impact climate change dynamics in Insiza and Beitbridge districts. Through its focus on beef production and associated activities, such as cattle ranching and pastureland development, ZAVaCEP may exacerbate greenhouse gas emissions, particularly methane from enteric fermentation of livestock (IPCC, 2019)as well as from cow dung. The expansion of pasturelands, necessary for cattle grazing, could also contribute to deforestation, releasing stored carbon into the atmosphere as CO^2 emissions (UNEP, 2020). Moreover, the installation of boreholes for water access, while essential for livestock and community use, risks depleting groundwater resources, thus impacting local hydrology and water availability.

To address these climate-related risks, ZAVaCEP could integrate robust mitigation measures. Sustainable land management practices, such as rotational grazing and agroforestry, can enhance carbon sequestration, reduce soil erosion, and improve water retention (World Bank, 2021). Implementing improved livestock management techniques, including selective breeding for heat-tolerant cattle and optimizing animal nutrition, can help minimize methane emissions per unit of beef produced (IPCC, 2019). By prioritizing these sustainable practices, ZAVaCEP has the potential to mitigate its environmental footprint while fostering resilient agricultural systems in these vulnerable districts.

6.8 Identifying Vulnerable Groups

Through discussions with the communities and a review of literature, including the ZIMVAC Reports (2021), marginalised (vulnerable) groups were identified for Insiza and Beitbridge districts and these include the following:

- **Women and Women-Headed Households:** Women, especially those heading households, often face significant barriers in agricultural value chains due to gender roles, limited land ownership, and restricted access to resources and decision-making (FAO, 2016).
- **People Living with HIV/AIDS:** HIV/AIDS is prevalent in Beitbridge, and although individuals with the virus have faced discrimination in the past, the availability of antiretrovirals has improved their situation. However, they still face health-related challenges that affect their participation in the value chain (UNAIDS, 2020; ZIMSTAT, 2019).
- **Unemployed Youth:** Youth unemployment is particularly high in both districts, with Beitbridge reporting a rate of 16% and drug and substance abuse at 12% (Zim Vac, 2022). Young people may be marginalized due to limited access to education, training, and employment opportunities in the agriculture sector (IFAD, 2019).
- **People Living with Disabilities**: People with disabilities often experience social exclusion and lack of access to agricultural resources and opportunities (UNDP, 2018). In one instance, a disabled individual was part of the pasturelands management committee and noted that their community prioritizes disabled and vulnerable groups.
- **Elderly-Headed Households:** The 2022 ZimVAC Assessment of Matabeleland South Report estimated that 26.9% of households in Insiza are headed by the elderly, with an average household size of 4.4. In Beitbridge, 22% of households are elderly-headed, with an average household head age of 49.4 years.
- **Child-Headed Households:** In Beitbridge, 1.6% of households are child-headed.

Indigenous and ethnic minorities might face exclusion from mainstream economic activities and decision-making processes (World Bank, 2010). However, this did not appear to be a significant issue in Beitbridge or Insiza, possibly due to the lack of minorities in these areas or the migration patterns of the communities.

Obtaining disaggregated data on vulnerable people was challenging, as many reports do not provide this information. It is recommended that the project should ensure disaggregated reporting to meet milestones towards achieving gender equity. This will help ZAVaCEP comprehensively identify and address the needs of all vulnerable groups, promoting inclusivity and equity in the beef and leather value chain.

6.9 Potential Risks that could affect the ZAVaCEP Project

Political Instability and Governance Issues

- Zimbabwe has faced significant political instability over the years, impacting the implementation of development projects. Political tensions, especially surrounding elections and governance, can disrupt project activities and influence the prioritization and allocation of resources (International Crisis group 2020).

Economic Challenges and Inflation

- The country has experienced severe economic difficulties, including hyperinflation, currency instability, and a high unemployment rate. These economic challenges can affect the project's cost structure, funding availability, and overall financial sustainability.(World Bank 2021).

Regulatory Environment and Bureaucracy

- Complex regulatory requirements and bureaucratic delays can pose significant challenges to project implementation leading to project time and cost overruns. Compliance with local regulations, obtaining necessary permits, and navigating bureaucratic processes can be time-consuming and may hinder project timelines (Transparency International 2019).

. Social and Community Dynamics

- Social factors, including community cohesion, local power dynamics, and traditional leadership structures, play a significant role in project acceptance and success. Understanding and integrating local customs and practices are essential for gaining community support and avoiding conflicts (ISS, 2020).

Human Rights and Labour Issues

- Ensuring compliance with international human rights standards, particularly regarding labour practices in the beef and leather value chains, is crucial. There are risks related to child labour, unfair wages, and poor working conditions that need to be addressed (Human Rights Watch, 2021).

6.10 Activities that could contribute cumulative impacts on Project activities

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) could have cumulative effects on its impact. Here are the key areas of focus along with references to support this understanding:

In Insiza and Beitbridge, various ongoing development activities may have cumulative effects on the project impacts.

i. Current Agricultural Practices and Land Use:

- In Matabeleland South, particularly in livestock farming, current agricultural practices can contribute to poor soil health, exacerbate water scarcity, and lead to cumulative impacts on biodiversity loss. For instance, the development of boreholes at dip tanks could result in increased water usage by communities, leading to resource scarcity..

ii Climate Change and Environmental Policies:

- Zimbabwe's national policies on climate change and environmental protection are crucial for aligning the project with sustainable practices. These policies dictate how resources are managed and how agricultural projects must mitigate their environmental impact (Ministry of Environment, Water and Climate, 2016).

iii. Local Community and Economic Activities:

- Local economic activities, including small-scale mining and artisanal operations, can have significant environmental impacts (Mabhena, 2015). Additionally, the expansion of gold panning can result in increased land degradation, deforestation, and water pollution

iv. Complementary Projects:

- Some projects, such as the rangeland development project in Konjeni implemented by FAO, can have a positive cumulative effect on ZAVaCEP. This project complements ZAVaCEP by adding components that enhance the overall impact and sustainability of agricultural development efforts in the region.

ENHANCEMENT/MITIGATION MEASURES AND COMPLEMENTARY INITIATIVES

Improving the environmental and social performance of the ZAVaCEP project in Insiza and Beitbridge particularly in the beef and leather value chain, can yield significant quantitative benefits while mitigating adverse impacts. Let's delve into the beneficial impacts first:

7.1Beneficial Impact Enhancement Measures:

i **Economic Growth**: To enhance economic growth, the project can invest in modernizing the beef and leather value chain infrastructure. This includes upgrading beef marketing places, community slaughter shades and hide processing facilities. Additionally, establishing cooperatives or producer associations can improve market access and bargaining power for smallholder farmers. Establishing financial support mechanisms for purchasing quality breeds and inputs can boost production. Collaborating with export agencies to meet international quality standards will facilitate export and increase revenue.

ii **Poverty Alleviation:** Implementing targeted training programs for smallholder farmers and rural communities can enhance productivity and income. These programs should focus on sustainable farming practices, animal husbandry, and hide processing techniques. Microfinance schemes or revolving funds can provide financial assistance for purchasing livestock, equipment, or inputs. Facilitating access to markets through transportation infrastructure improvement and market linkages will ensure farmers receive fair prices for their products.

iii **Skill Development:** Collaborating with vocational institutions to establish training centres or extension services that offer practical training on farming techniques, hide/leather processing, and business management will empower local communities. These centres can provide hands-on training, demonstrations, and workshops. Partnering with vocational institutions or agricultural colleges can enhance the quality and reach of training programs. Providing certification for skilled individuals can enhance their employability and encourage entrepreneurship.

iv **Environmental Conservation**: Promoting sustainable farming practices such as rotational grazing, agroforestry, and organic farming will mitigate environmental degradation. Providing technical assistance and incentives for implementing these practices will encourage adoption. Setting up community-based natural resource management committees can oversee sustainable land use practices and monitor environmental impacts. Creating awareness campaigns on the importance of biodiversity conservation and ecosystem services will garner community support.

v **Social Inclusion:** Implementing affirmative action programs to ensure equal participation of marginalized groups in project activities is essential. This includes providing targeted training and capacity-building programs for women and youth. Establishing gender-sensitive policies and practices within project management structures will promote gender equality. Creating platforms for marginalized groups to voice their concerns and participate in decision-making processes will foster social cohesion.

7.2 Mitigation Measures for Adverse Environmental Impacts

Loss of Biodiversity- Flora and Fauna

To mitigate the loss of flora and fauna, the ZAVaCEP project should conduct comprehensive surveys to identify endangered species and sensitive habitats and species, allowing for the implementation of

measures such as habitat restoration, and strict adherence to zoning regulations to minimize habitat fragmentation. Implement strict habitat conservation measures, that minimise destruction of animal/bird habitats will helps preserve biodiversity. Avoiding construction or agricultural activities in sensitive ecosystems and adhering to land use planning that prioritizes biodiversity conservation are essential. Implementing mitigation hierarchy principles, including avoidance, minimization, and compensation, can offset unavoidable impacts on flora and fauna, ensuring long-term ecological sustainability. Should it be necessary, establish biodiversity offset programs can help compensate for any unavoidable impacts.

Soil Chemical Pollution

To mitigate soil chemical pollution, the ZAVaCEP project should prioritize the use of organic farming practices and integrated pest management techniques to minimize reliance on chemical inputs. Proper storage, handling, and disposal of agrochemicals should be strictly regulated to prevent leaching and runoff into soil and water systems. Regular soil testing and monitoring for contamination incidences should be conducted, with prompt remediation measures implemented if pollution is detected. Training local farmers on sustainable agricultural practices and promoting the use of eco-friendly alternatives can also significantly reduce chemical pollution.

Air Quality Environmental Degradation:

To mitigate air quality degradation, the project should enforce strict emission standards for machinery, vehicles, and livestock operations. Implementing dust suppression measures on unpaved roads and construction sites can minimize particulate matter emissions.

Water Pollution

To mitigate water pollution, the project should establish buffer zones along water bodies and implement riparian area management practices to prevent sedimentation and contamination from agricultural runoff. Implementing erosion control measures such as contour ploughing, vegetative buffer strips, and terracing can reduce soil erosion and nutrient runoff into waterways. Establishing appropriate grassed sites for disposal of dip effluent to minimize run-off into the nearby streams will reduce water pollution. The DVS and EMA recommend use of soakaways for dip effluent. Implementing best management practices for manure and waste management, such as composting and proper storage facilities, will minimize nutrient runoff. Proper waste management practices, including the safe disposal of agrochemical containers, are essential. Regular water quality monitoring and prompt remediation of pollution sources are necessary to safeguard aquatic ecosystems and drinking water sources.

Waste Generation

To mitigate waste generation, the project should prioritize waste reduction strategies such as promoting the use of recyclable materials and encouraging composting of organic waste. Implementing waste segregation at source and establishing community recycling programs can minimize the amount of waste sent to landfills. Proper management of hazardous wastes, including safe storage and disposal, ensures that pollutants do not enter the environment. Educating stakeholders on the importance of waste management and incentivizing sustainable practices can foster a culture of environmental responsibility. Contractor should follow their EMPs to manage waste generated from their activities.

Deforestation and Land Degradation

Implementing land-use planning measures such as zoning for agricultural and conservation purposes will regulate land use and prevent unplanned deforestation. Encouraging agroforestry practices, such as integrating trees into pasturelands, will restore degraded land while providing additional income

for farmers. Establishing community-managed reforestation projects with incentives for tree planting will restore forest cover and mitigate soil erosion.

These measures collectively aim to minimize environmental impacts associated with the ZAVaCEP project, promoting sustainable development and biodiversity conservation in the affected regions.

7.3 Mitigation measures for the Social Impacts

Exclusion and Marginalization
To mitigate the risk of exclusion and marginalization, the project will prioritize inclusive stakeholder engagement at all stages. This includes consulting with local communities, traditional leaders, and marginalized groups to ensure their concerns and needs are heard and integrated into project planning and implementation. Transparent decision-making processes and equitable distribution of project benefits will be emphasized to promote social cohesion and prevent marginalization. The project will capacitate all staff, traditional leadership and local NGOs to mainstream GESI principles and develop promotional materials to encourage inclusivity.

Social Conflicts
Facilitating multi-stakeholder dialogues and conflict resolution mechanisms will address grievances and promote peaceful coexistence. Engaging local communities in participatory decision-making processes and ensuring transparent communication about project activities will build trust and reduce tensions. Resolving land tenure disputes through legal frameworks or community consensus-building processes will provide clarity and security for land rights. The project will also implement the GRM (Appendix 1) from the project inception.

Community Health and Safety
The project will implement rigorous health and safety protocols to protect the community. This includes providing training on safe agricultural practices and handling of chemicals used in cattle dipping and pastures. Through implementation of PMP communities will be trained and encouraged place to promptly address any accidents or health emergencies by seeking help.

Occupational Health Risks
To address occupational health risks, the project will enforce strict adherence to occupational safety standards. This includes providing personal protective equipment (PPE) to workers involved in cattle dipping and hide processing activities. Regular training sessions on safe handling practices and health hazards associated with chemical exposure will be conducted. Monitoring of occupational health conditions and providing access to medical check-ups will ensure early detection and management of any occupational health risks among workers.

Animal Health and Genetic Loss:
The project will prioritize animal health through the implementation of robust disease prevention and control measures. This includes regular veterinary inspections, vaccination programs, and adherence to biosecurity protocols at cattle dipping and hide processing facilities. Genetic diversity will be safeguarded through sustainable breeding practices and the promotion of indigenous livestock breeds resilient to local environmental conditions. Collaborations with veterinary experts and local farmers will ensure continuous monitoring and management of animal health and genetic resources.

Aid Dependency:
Mitigating aid dependency will involve promoting sustainable economic development through capacity building and skills training programs. The project will support local entrepreneurship and value addition within the beef and leather value chain, enhancing income generation opportunities

for communities. Diversification of livelihoods and promoting self-sufficiency in agricultural practices will reduce dependency on external aid and foster long-term economic resilience.

HIV/AIDS and Social Dynamics:
The project will implement comprehensive HIV/AIDS awareness and prevention programs in collaboration with local health authorities and community organizations. This includes providing education on safe practices and promoting access to healthcare services, including testing and counselling. Sensitization campaigns will aim to reduce stigma associated with HIV/AIDS, fostering supportive social dynamics within the community. Gender-sensitive approaches will be integrated to address specific vulnerabilities and ensure equitable access to project benefits and resources. Regular monitoring and evaluation will track progress and adapt strategies to evolving social dynamics and health needs.

Table 5. ESMP Impacts & Mitigation Measures

Impacts Identified	Nature of impact (negative or Positive)	Duration of Impact	Scope of Impact	Level of Risk associated with Impact	Proposed mitigation measures	Capacity Building required	Reporting Frequency	Responsibility
CONSTRUCTION PHASE								
Vegetation, habitat and biodiversity losses (C1)	Negative	6-12 months	Localised	Moderate	Minimise unnecessary vegetation clearance Rehabilitate cleared sites and replant vegetation Vehicles & workers to use existing roads and tracks	Sensitization of workers and farmers	Monthly	Construction supervisor District PCU E&S,
Soil Erosion around dip tanks and feed processing hubs (C2)	Negative	6-12 months	Localised	moderate	Control drainage Cover up grub & cleared sites Compact borrow sites	Sensitization of workers		Construction supervisor E&S, District PCU
Soil pollution from vehicle oils and waste (C3)	Negative	6-12 months	Localised	Low	Have vehicles regularly serviced React when oil is detected	Worker /drivers sensitisation	Weekly	Construction supervisor E& S
Solid waste Increased waste generation, Dumping of construction waste (C4)	Negative	6-12 months	Localised	Moderate	Employ recycling where necessary Place litter bins at convenient places Use existing waste dumps Waste management protocols Use existing waste dumps	Educate and build awareness	Monthly	Construction Supervisor E&S District environmental officer
Water pollution (C5)	Negative	6-12 months	Can spread Beyond project site	Moderate to high	Waste water has to be contained at all sites Avoid dumping pesticide or anything into water ways	Prevention of water pollution	Monthly	Construction supervisor E & S District environmental officer
Dust, air quality at construction sites and fodder fields (C6)	Negative	6-12 months	Localised	Moderate - Significant	Establish & enforce speed limits for construction vehicles to avoid dust from the access roads	Display notices Sensitize workers		Construction supervisor EMA, District PCU

					Wet cleared sites & working area to reduce dust			
Occupational health and safety (C7)	Negative	6-12 months	Localised	Moderate	Workers trained on safety measures Safety gear for workers during construction Display construction notices and warnings in visible places Cordon off pits and trenches, construction site	Sensitize workers and nearby communities on safety issues	monthly	Construction supervisor E&S, District PCU District Environmental officers
Noise Pollution (C8)	Negative	6-12 moths	localised	Low to moderate	Have serviced vehicles and machinery to reduce noise Use mufflers on heavy machinery Limit noise to allowable levels 45-65 decibels	Awareness raising	monthly	Construction supervisor E&S, District PCU District Environmental officers
Social intrusion affecting harmony in community (C9)	Negative	6-12 months	Localised	Low	Educate workers Employ locals for unskilled labour to reduce number of outsiders	Awareness raising	quarterly	Traditional leadership and contractor E&S
Increase in HIV and AIDs infections (C10)	Negative	Life long	Local/Regional /national	Moderate-significant	Train on HIV and other communicable diseases Provide condoms at project sites Develop educational material Compliment on-going efforts by Ministry of health	Education and awareness	quarterly	Local Health institution/ traditional leadership E& S
Employment opportunity (C11)	Positive	6-12 months	Localised	Moderate Short term	No mitigation	GESI awareness education	Quarterly	PCU, MWACSMED Contractor E&S
Soil compaction on roads leading to and around construction site(C12)	Negative	6-12 months	Localised	moderate	Vehicle to remain on existing roads and	Sensitization of drivers and workers	Monthly	Construction supervisor

					designated parking at sites. Reduce movement on site revegetate			
OPERATIONAL PHASE								
Impacts Identified	**Nature of impact (negative or Positive)**	**Duration of Impact**	**Scope of Impact**	**Level of Risk associated with Impact**	**Proposed mitigation measures**	**Capacity Building required**	**Reporting Frequency**	**Responsibility**
Improved water supply for productive use (OM1)	Positive	Medium-long term	localised	Moderate	No mitigation	WASH awareness	Biannually	
Employment opportunities from fodder production, cattle restocking and hide processing (OM2)	Positive	Medium to long -term	localised	moderate	none	ANIMAL HUSBANDRY , fodder production	Quarterly	
Improved communication and enhanced capacity for livestock market (OM3)	Positive	Medium to long term	localised	significant	None	Pricing and marketing training	Bi annually	
Improved farmers access to cattle breeds (OM4)	Positive	Long-term	Local and regional	significant	None	Animal husbandry	quarterly	
Increased yield/production of cattle, fodder and income (OM5)	Positive	Medium to long-term	Local to national	Moderate - significant	None	Animal husbandry, fodder processing	Bi annually	
Increased market access through export and improved Food quality in beef value chain (OM6)	Positive	Long term	Localised	significant	No mitigation	Value chain training	Quarterly	
Reduction in Diseases, Improved Nutritional Security and reduced threat to public health (OM7)	positive	Medium to long term	Localised to regional	significant	Reinforcement of good husbandry practice	Animal husbandry	Every six months	Animal health department and Vet department
Pollution of air and bad odour (from cattle Production (OM8)	Negative	Medium term	localised	Low to moderate	Regular cleaning of pens and using manure for fertiliser Avoiding stock piling animal manue0-distributing frequently	Organic fertiliser production	quarterly	E & S District environmental officer

Solid Waste at fodder fields, feed processing hubs and dip tanks (OM9)	Negative	Low to medium	localised	low	Waste management practices Recycling	Waste management	quarterly	E & S District environmental officers
Degradation of land due to poor agronomic practices re fodder fields (OM10)	Negative	Medium to long term	localise	Moderate Significant	Practise soil conservation Rotational cropping Reduce fertiliser and pesticide use	Land management Us of organic fertilisers	yearly	
Soil and surface water Pollution from feed lots and from dip tanks (OM11)	Negative	Negative	Short/ medium	Localised	Avoid improper disposal of empty containers of pesticides and acaricides into river channels Treat the waste water from dips before disposal -Each dip tank will discharge approximately 10000 litres of wate water	Education and awareness	Monthly	
Depletion of underground water impacting water users and reservoirs recharge (OM12)	Negative	Medium to long term	Localised	Significant	Monitor water levels Install water schedules and water efficiency measures	Water monitoring	Biannually	
Accelerated or frequent breakdown of infrastructure and equipment (OM13)	Negative	Medium term	localised	significant	Put in place a maintenance plan Provide basic tools and manuals from day one Build incentive for maintaining infrastructure and equipment	Maintenance skills	quarterly	Relevant committees RIDA Department of mechanisation
Loss of genetics through inbreeding (OM14)	Negative	Medium to long term	Localised	Significant	Frequently change the bulls used Monitor breeds performance throughout	Animal breeding training	Yearly	Vet officers Researchers
Resistance to acaracides (OM15)	Negative	Medium to long term	Localised	Significant	Implement PMP	PMP training	Yearly	
Spread of HIV and AIDs (OM16)	Negative	Long term	Local to national	significant	Awareness, reinforcement of messages Condom provision Provision of periodic Counselling and testing	HIV campaign s	Every quarter	District health facilities staff , DPIC, Traditional Leadership

Occupational Health and Safety (OM17)	Negative				Health and safety guidelines at project facilities Availa first aid kits at facilities Sensitise communities on use of equipment Prohibit access to risky areas and equipment	Proper equipment use First aid skills	Yearly or every six months	E&S Relevant committees
CAPACITY BUILDING AND INSTITUTIONAL STRENGTHENING INITIATIVES								
Improved livestock value chain capacities	Positive	Medium to long term	Local/ regional	May require reinforcement	Put in place a skills refresher training	Technical skills	yearly	Department of livestock and animal health
Improved knowledge on animal husbandry	Positive	Long term	Local	None	None	Technical skills	yearly	
Improved market and entrepreneurial skills	Positive	Long term	Local/regional national	None	None	Technical skills	yearly	MoED
Inclusion of women and youth in the Value chain	Positive	Long term	Local	Needs reinforcement	Upscaling /reinforcement	GESI awareness	Yearly and when necessary	Ministry of women /PCU
Enhanced institutional management capacities	Positive	Medium – long term	Local and national	High turnover in Govt may result in loss of capacity	Establish systems and procedures manuals	Technical skills Management skills	Yearly and when necessary	PCUs M&Es
Improved environmental management and conservation skills	Positive	Long term	Local/regional /national	None	None	Technical skills, education & Awareness	Yearly	PCU/ E&S

7.4 Environmental and monitoring plan

The overall objective of environmental and social monitoring for the ZAVaCEP Project in Matabeleland South districts is to ensure that mitigation measures are effectively implemented. Environmental and social monitoring will also enable the project to respond to new and emerging issues during implementation, ensuring that project activities comply with environmental provisions and standards of the Bank and the Government of Zimbabwe.

The Project Implementation Unit (PCU) at the MLAFWRD will have the overall responsibility for environmental and social monitoring, working closely with district environmental management units and in collaboration with EMA. The project will rely on the MWACSMED specialized in social and gender issues to monitor the GESI elements of the project. The African Development Bank (AfDB) will also follow up to ensure adherence to environmental and social safeguards, particularly during supervision missions.

Environmental and social monitoring under the ZAVaCEP Project will include compliance monitoring, worksite management, execution of specific environmental and social tasks, and finding solutions to emerging environmental issues. The monitoring team will ensure regular reporting on a monthly, quarterly, biennially, or annually basis, depending on the aspects being monitored, to avoid serious environmental consequences. Key issues to be monitored include:

The monitoring programme will ensure compliance with local environmental standards as per Zimbabwean law. This involves:

- **Reviewing Contractor's Worksite ESMP or ESIA:** Ensuring detailed environmental and social management plans are in place and adhered to.
- **Mitigating Negative Impacts**: Confirming that all identified negative impacts are being effectively mitigated.
- **Assessing Effectiveness of Measures:** Evaluating the success of proposed mitigation measures.
- **Studying Applicability Conditions**: Ensuring the proposed measures are suitable for specific conditions.
- **Monitoring Implementation:** Regularly checking the implementation of environmental and social measures during project works.
- **Proposing Remedies:** Suggesting solutions in case of major impacts.
- **Environmental Compliance and Assessment:** Conducting a final environmental assessment at the end of the project to ensure all standards were met.

Table XX below provides the monitoring plan, which includes proposed mitigation measures, monitoring indicators, the frequency of monitoring and the responsible individual or institution. Through this monitoring plan, the ZAVaCEP Project aims to minimize its environmental and social footprint, promoting sustainable development in Matabeleland South districts.

Table 6. Monitoring Plan and Cost (Insiza and Beitbridge)

Anticipated Environmental and Social Impacts	Proposed Action/Measures and Objective of Management Measures	Monitoring and Reporting Indicators	Frequency of Monitoring (Timing)	Implementation Plan & Institutional Responsibilities	Cost Estimates (US$)
PRE-CONSTRUCTION (PLANNING/DESIGN) PHASE					
Compliance with National environmental land and all applicable AfDB Environment and Social Safeguards Policies (PC1)	• Identify and assess the environmental and social impacts and risks including those related to gender, climate change and vulnerability (PC1MI) • Identify and address all pollution, biodiversity and occupational health and safety issues. (PC1M2)	- ESMPs prepared for each ZAVACEP Province with appropriate safeguards document developed and implemented	Once	Consultants/ EMA)	$20,000
Environment and Social Safeguards Training (PC2)	Safeguards training including AfDB operational safeguards for all District Agritex officers, Vet Services Department, District EMA Officers and MLAFWRD project implementing unit (PCU) PC22M1)	Project staff and district officers trained	Once	E & S Specialist EMA	Costs covered in Capacity building **Table 9**.
Community mobilization and consultation (PC3)	Prepare and implement a stakeholder engagement plan (SEP), inform all communities affected by the project implementation schedule and their involvement (PC3M1)	No of farmers/community groups engaged/sensitized	Once-Before commencement of construction	District EMA	Cost included in SEP
Health and Safety Issues (PC4)	Preparation of a health and safety plan for workers and impacted communities addressing issues including education of workers and impacted communities on measures to prevent the spread of HIV/AIDs through awareness campaigns, provision of safety equipment for workers (PC4M1), Child labour prohibited (PC4M2)	-Health and Safety plan prepared - Workshop on HIV/AIDs held for workers and community	Monthly	Contractor, District EMA	$10,000
Anticipated Environmental and Social Impacts	**Proposed Action/Measures and Objective of Management Measures**	**Monitoring and Reporting Indicators**	**Frequency of Monitoring (Timing)**	**Implementation Plan & Institutional Responsibilities**	**Cost Estimates (US$)**
CONSTRUCTION PHASE					

Vegetation, habitat and biodiversity losses (may occur during re-grassing in pasture development and construction of meeting sheds and pasture nursery sheds) for each rangeland (C1)	• Clearing of vegetation should be done only where necessary.(C1M1) • Use of ripper tine to minimise clearing in grasslands (Total estimated clearing about 70 hectares (20% of 350 hectares) non continuous open ground (C1M2) • At least 50% of any indigenous trees removed during clearing will be replaced (C1M3). • Ensure clearing is undertaken with minimal disturbance to the surrounding environment within the approved work sites. (C1M4)	Area re-vegetated or restored. Conservation of at least 50% of indigenous trees.	Monthly during construction period and pasture development	Contractor (E&S , M&E -PCUs) and respective District Environmental Officers)	Provided in contractor bids
Soil erosion (may occur after clearing vegetation) (C2)	• Prompt backfilling and refrain from trenching in rain season. (C2M1) • Progressive rehabilitation will be done so that no trenches are left uncovered for more than 48 hours. (C2M2) • Stockpiles will be made not to exceed a height 1 metre. (C2M3) • Utilize excavated material for construction and restoration works (C2M4)	Excavated soil banked and backfilled. In pasture fields trenching by ripper tine interspaced with existing grass vegetation minimising soi loss	Monthly during construction period	Contractor, E& S Specialist, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids
Soil Contamination (from leakages from machinery) (C3)	• Machinery that will be used for the project will be properly serviced to minimize fuel leaks to the environment. (C3M1) • In cases of spillages, in-situ bio-remediation will be done. (C3M2)	Daily and weekly checklists completed. Machinery services as per specification of manufacturer	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids Oil spillage remediation Small area affected $2,000
Solid Wastes (C4)	• Provide waste collection receptacles (C4M1) • Acquire approvals/permits for waste disposal sites/utilize (C4M2) • Sensitization of workers on waste management practices. (C4M3) • Conduct waste segregation, recycle (C4M4)	Number of waste bins at camp sites Permit for waste disposal sites. No litter left at work site	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids Litter collection receivers *12 for Mat South - $6,000
Water Pollution (C5)	• Avoid improper disposal of empty containers of pesticides and acaricides into river channels (C5M1) • Treat the waste water from dips before disposal (C5M2) • Limit of fertilisers on rainy days (C5M3)	Water pollution prevention measures in place		Contractor, M&E -PCUs and respective District Environmental Officers	Provided in contractor bids

Air pollution (C6)	• Sprinkle water in construction yards, on dusty roads and soil heaps to keep down the dust produced. (C6M1) • The on-site burning of cleared vegetation will be mitigated by making it available to local communities for use as firewood. This will prevent burning large quantities of cleared vegetation during single events. (C6M2)	Air quality monitored. No complaints from affected parties	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in contactor bids Provision of 2 air quality meters $2,000
Occupational Health and Safety (C7)	• Develop, implement and disseminate occupational health and safety guidelines (C7M1) • First aid kits to be available on construction site for use by the workers (C7M2) • Provide Personal Protective Equipment (PPE) to employees. (C7M3) • Sensitize community about ongoing works through notice boards, reflective liners and detours (C8M4)	OHS guideline in place (% of contractor staff aware of OHS measures and trained - Documented qualifications of first aider and safety officer - PPE usage -Informed public and employees -Gender and HIV/AIDs mainstreamed	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Provided in Contractor bids OHS guide printing PPE $5,000
Noise Pollution (C8)	• Installation of noise mufflers on equipment (C8M1) • Periodic measuring of noise levels (C8M2)	Equipment with noise reduction provision Noise levels kept at less than 65 decibels during the day and 55 decibels during the night (*EMA regulations*)	Monthly	Contractor, M&E -PCUs, respective District Environ mental Officers	Provided in Contractor bids Provision of 2 sound level meters purchased for $200
Dust (C9)	• Reduced speeds in dusty roads (C9M1) • Vehicles transporting raw materials especially soil should be covered or avoid overloading to reduce dust emissions (C9M2) • Use of wet excavations/damping of roads (C9M3) • Wearing of masks when ripping the ground or digging construction trenches (C9M4) • Avoiding using of ripper tine on windy days (C9M5)	Measured levels of dust particles (air pollution levels) No complaints from affected parties	Monthly	Contractor, M&E -PCUs and District Environmental Officers	Provided in Contractor bids

Employment Opportunities (C10)	• Implementing clear and transparent procedures for recruitment of labour and sourcing of goods and services will enhance the positive impact. (C10M1) • Preference will be given to residents of local communities, in the case of unskilled labour, and preference given to local suppliers in the case of goods and services (C10M2).	Number of local communities' employed and/or procured as part of project interventions	Once during construction phase (construction is short and temporal)	Contractor, M&E -PCUs, District Environmental Officers	Provided in Contractor bids
Strained social infrastructure due to increased population (C11)	Construction of public toilets and washing facilities at construction sites (C11M1)	- Number of public toilets and washing at each construction camp facilities constructed	Three month intervals	Contractor, M&E -PCUs and respective District Environmental Officers	Contractor's cost
Conflicts due to differences in social, cultural norms/values (C12)	• Sensitization of workers on respect for cultural norms and values (C12M1) • Develop grievance mechanisms to handle related grievances (C12M2)	Number of workers sensitized Grievance mechanism in place	Three month intervals	Contractor, M&E -PCUs, District Environmental Officers	Costs Covered in GRM
Spread of HIV/AIDS (C13)	• To complement existing initiatives in the community, HIV/AIDS awareness and sensitization will be provided to personnel as part of health and safety awareness. (C13M1) • Development of brochures and other materials that will convey information about diseases and infections, regular provision of adequate prevention measures such as condoms; (C13M2)	HIV/AIDS is included in regular Health, Safety and Environment awareness No of condoms distributed	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Costs for awareness Covered in SEP Condom provision $3,000
Increased traffic related impacts including strain on existing roads infrastructure and traffic accidents and congestion (C14)	(Type of infrastructure is small and should be completed at each site between a week to a month.) (C14M1) • Develop and implement a traffic management plan (C14M2) • Erect road safety features (C14M3) • Limit speed around shops and other public places/institutions(C14M4)	Traffic management plan prepared Safety signage Speed limits set	Weekly during construction	Contractor, M&E PCU	Provided in contractor bids
Temporary loss of livelihoods, social disruption and unrest amongst farming communities (C15)	• Sensitization of communities on how to cope with changes. (C15M1) • Scheduling/phasing of works to minimize disruption- e.g. when pasture lands will be ploughed. Appropriate time to rehabilitate dip tanks (C15M2) • Use of alternative dip methods such as pour-on during rehabilitation and construction(C15M3)	Number of farmers sensitized Schedule of works agreed with community	Monthly	Contractor, M&E -PCUs Vet officers	Engagement costs covered in SEP Cost of pour-on dip acaricides $10,000

Anticipated Environmental and Social Impacts	Proposed Action/Measures and Objective of Management Measures	Monitoring and Reporting Indicators	Frequency of Monitoring (Timing)	Implementation Plan & Institutional Responsibilities	Cost Estimates (US$)
OPERATION AND MAINTENANCE PHASE					
Improved water Supply for productive uses (OM1)	This positive impact will be enhanced by developing or strengthening Dip tank and water committees in the communities and raising awareness on water conservation and efficiency (OM1M1)	Water User Association developed. Training on water conservation and water use efficiency	Annually	DPIUs, M&E -PCUs, respective District Environmental Officers	$20,000
Employment Opportunities from pasture development, cattle restocking, Hide collection and processing (OM2)	This positive impact although limited in scope will be enhanced by: • Implementing clear and transparent procedures for recruitment of labour and sourcing of goods and services. (OM2M1) • Giving Preference to residents of local communities, in the case of unskilled labour, and preference given to local suppliers in the case of goods and services. (OM2M2)	Number of local communities' employed and/or procured as part of project interventions.	Three month interval	M&E -PCUs and respective District Officers	No direct cost to project
Improved Communication and enhanced capacity for livestock market (OM3)	This is positive impact will be enhanced by • Linking many farmers to the stock market platform (OM3) • Regular dissemination of market information by Agritex (OM3M1) • Training staff and farmers on communication skills (OM3M3)	• Number of farmers trained • Level of market information available to farmers • Level of communication competence among staff and farmers	Annual	District Agric Officer, M&E -PCUs, and respective District Environmental Officers, Local Leaders	Training $10,000 Information dissemination covered in SEP
Improved Farmers access to cattle breeds (OM4)	This positive impact will be enhanced by: • Accrediting distribution agents for seedlings and breeds (OM4M1) • Create awareness among farmers (OM4M2) • Multiply enough seedling and breeds for farmers use (OM4M3)	• Number of accredited distributors • % level of awareness in communities • Number of nurseries and improved seedlings and breeds • Number of farmers using improved species	Annual report and when needed	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$12,000

Increased production/yield of cattle, fodder and Income (OM5)	This positive impact will be enhanced by: • Wide dissemination of improved seedling and breeds (OM5M1) • Securing good improved breeding stocks (OM5M2) • Training of farmers and extension workers production and use of organic fertilisers (OM5M3)	•No of secured breed stock • Quantity of yield of carcass for cattle • Level of Improvement in income of farmers • Level of sales of organic fertilizers from cattle production system	Annual reports	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$10,000
Increased market access through export and Improved Food Quality in beef Value Chain (OM6)	• Increased market information and targeting premium prices (OM6M1)	• Level of market information among stakeholders • No of farmers accessing new markets (benefiting from market)	Annual	DPIUs, M&E -PCUs, and respective District VET officer	$15,000
Reduction in Diseases, Improved Nutritional Security and Reduced threat to public Health (OM7)	• Increase in distribution and use of improved cattle breeds (OM7M1) • Strengthening of existing biosecurity (OM7M2) • Training of vet practitioners (OM7M3) • Regular vaccination of cattle and application of preventive measures (OM7M4) • Regular disease surveillances (OM7M5) • Establish more quarantine centres (OM7M6) • Create more awareness (OM7M7)	• number of farmers owning improved cattle breeds • Number of trainings for vet personnel on new skills • Record of vaccinations and frequency of surveillance per year • Number of quarantine centres • Reduction in cattle disease incidences	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Dipping committees and rangeland committees	$20,000
Pollution of Air and Bad odour (from cattle production) (OM8)	• Prompt evacuation of waste and cleaning pens (OM8M1) • Train farmers on use of appropriate stocking density in pens (OM8M2) • Recycle waste to organic fertilizer (OM8M3) • Training of personnel on handling animal waste (OM8M4) • Monitoring by vet and district environmental technicians (OM8M5)	• Number of farmers trained • Schedule of monitoring provided	Annually	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$10,000
Solid waste at rangelands and dip tanks (OM9)	Provide waste collection receptacles (OM9M1)	• Number of waste bins at camp sites and dip tanks • No litter left at work site	Monthly	M&E -PCUs and respective District Environmental Officers	$4,000

Degradation of land due to poor agronomic practices (OM10)	• Sensitise farmers on adoption of improved livestock technologies. (OM10M1) • Promote soil conservation practices and labour saving technologies (OM10M2)	• Number of farmers trained in improved livestock practices • Soil conservation practices implemented	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders	$20,000
Soil and Water Pollution From feedlots also effluent water from dips tanks (OM11)	• Encourage use of environmentally friendly pesticides and Acaricides. Use PMP. (OM11M1) • Regulate use of fertilizers, pesticides and herbicides (OM11M2) • IPM training farmers on safe use and handling of agrochemicals (PMP). (OM11M3) • Recycle water (OM11M4) • Monitor surrounding water quality monitoring (OM11M4)	• Approved dip chemicals used • Byelaws on Agro-chemicals documented and disseminated • IPM Manual developed for farmers Number of IMP training conducted	Quarterly	DPIUs, E&S, M&E - PCUs, and respective District Environmental Officers, Local Leaders	Covered in PMP
Decline in volume of ground water because of over abstraction and Impact on water Users and Rivers, reservoirs (OM12)	• Establish and strengthen Water User Associations (OM12M1) • Train association on water conservation (OM12M2) • Monitor levels of borehole water (OM12M3)	• Number of Dip committees established and strengthened • Functional water scheduling protocol • Records of borehole water levels	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders, Farmers	$10,000
Accelerated or frequent breakdown of infrastructure and equipment (OM13)	•Training of farmers on maintenance and operation of water structures. (OM13M1) •Provision of equipment, tools and manuals. OM13M2) •Provision of incentives to maintain infrastructures OM13M3)	% Farmers trained on maintenance. Training manuals for Dip management; borehole maintenance, , O&M, equipment and tools maintenance.	Quarterly	DPIUs, M&E -PCUs, and respective District Environmental Officers, Local Leaders, Farmers	$5,000 training $5,000 for tools and manuals
Genetic Losses in livestock due to external breeds	• Use of local breeds minimizes loss • Monitor calving performance • Change bulls every two years to avowing inbreeding • Collaborate and share information with breeding centre	Number Calving success Records of abnormalities Frequency of bull changes undertaken	Yearly	Animal Health Specialists, Farmers Researchers	$4000

Spread of HIV/AIDS (OM14)	• To complement existing initiatives in the community, HIV/AIDS awareness and sensitization will be provided to personnel as part of other health and safety awareness. (OM14M1) • Development of brochures and other materials that will convey information about diseases and infections, (OM14M2) • Regular provision of adequate prevention measures such as condoms; (OM14M3)	HIV/AIDS is included in regular Health, Safety and Environment awareness	Monthly	Contractor, M&E -PCUs and respective District Environmental Officers	Costs covered in SEP
Occupational Health and Safety (OM15)	• Develop, implement and disseminate occupational health and safety guidelines (OM15M1) • First aid kits to be available on site for use by the farmers , (OM15M2) • Provide Personal Protective Equipment (PPE) to farmers at dip tank sites and at rangelands . (OM15M3) • Sensitize community about ongoing works through notice boards, reflective liners and detours (OM15M4)	OHS guideline in place Documented qualifications of first aider and safety officer PPE usage -Informed public and employees Gender and HIV/AIDs mainstreamed	Monthly	M&E -PCUs and respective District Environmental Officers	$6,000
TOTAL amount for MONITORING					**$209,200**

8 CONSULTATIONS & ENGAGEMENT WITH STAKEHOLDER

The implementation and monitoring of some mitigation or enhancement measures require that consultative mechanisms be used. In such cases, the ESMP shall first identify for which measures consultations will be undertaken as well as the goals and expected outcomes of these consultations. Then the ESMP shall specify the target groups, appropriate consultative processes, consultation frequency, reporting methods and result disclosure procedures. Consultations began during the field visits for the preparation of this ESMP and should continue through the project implementation to ensure that mitigation and monitoring activities are well implemented. Consultations should be conducted with primary and secondary stakeholders, affected people, community leaders and civil society organizations in order to share information and obtain their views on the project activities. These consultations shall occur during the planning phase of the project to identify and confirm key environmental and social issues and impacts, and after completion to disclose the findings and obtain comments from stakeholders on the proposed mitigation/enhancement measures. In particular, the convenor will ensure that there is a safe and culturally appropriate space for the consultations with women and girls and other vulnerable groups. This includes the use of accessible participatory methods and target groups that have difficulties in getting information and voice, such as non-readers, women, children and youth, the elderly, and persons with disabilities. The consultations, especially those with women, should follow ethical considerations related to GBV data collection. No GBV prevalence data or data on individual GBV incidents should be collected.

An engagement report shall be prepared to adequately summarize the public consultations and the opinions expressed, including focus group discussions and document the consultations with agendas, photos, and/or signed meeting minutes, list of documents shared, and any comments or inputs provided.

8.1. Rationale for Consultation and Disclosure

Consultations and public participation are legally required to address concerns about the environmental impacts of any development project or programme. During the preparation of this ESMP, a number of consultations and public participation were conducted. Further consultations are anticipated during the subsequent parts of the project development process, particularly during the preparation of site-specific environmental and social management plans (ESMPs).

The public consultation and participation process serves as a crucial mechanism to inform the public, key stakeholders, interested parties, and those affected by the project about its purpose, aims, and key activities during the development and implementation phases. The objectives of stakeholder and public participation include:

Providing Clear Information: Ensuring that affected individuals receive clear, accurate, and comprehensive information about the proposed project and its anticipated environmental impacts.
Gathering Views and Concerns: Offering affected individuals a platform to express their views, raise concerns, and suggest alternative arrangements to mitigate environmental and social impacts.
Mitigation Suggestions: Allowing the public to suggest ways of avoiding, reducing, or mitigating negative impacts or enhancing positive impacts of the proposed project activities.
Incorporating Stakeholder Input: Enabling project proponents to incorporate the needs, preferences, and values of stakeholders into the proposed project.
Resolving Disputes: Providing opportunities to avoid and resolve disputes and reconcile conflicting interests among stakeholders.

Enhancing Transparency: Fostering transparency and accountability in decision-making processes.

Stakeholder consultations and public participation were carried out during the project preparation process and will continue during the implementation phase. This ongoing communication ensures regular updates and modifications based on stakeholder feedback, facilitating the implementation of proposed mitigation measures. Additional consultations will occur during the preparation of site-specific ESIAs and the ESMP implementation phase, including monitoring based on community concerns.

8.2. Methodology of Engaging Stakeholders

Stakeholders were engaged through various methods.

Public Consultative Meetings: These meetings involved communities and technical officials from relevant government ministries.
Key Informant Interviews: Interviews were conducted with key informants related to the proposed project.
Physical Site Visits and Inspections: These visits included discussions with community leaders and members.
Inclusive Participation: Consideration of gender and various age groups during consultative processes.

8.3 Consultative Meetings Held During the Preparation of this ESMP

Several consultative meetings were held during the project preparation mission. These consultations adhered to the updated AfDB's Integrated Environmental and Social Impact Assessment (IESIA) Guidance Notes on consultation, participation, and broad community support. Consultations were carried out with technical officers from various ministries at national, provincial and district levels. The rural district councils officials and executives were also engaged, briefed about the project and gave their consents. Public engagements were communities were then conducted at the project sites.

In Insiza district public consultations were held at Nkonjeni, Bolo and Nkangazi; in Beitbridge district communities gathered at Lusenga and Tschikuita Wards. Public consultations commenced with disclosure of adequate project information and environmental and social information to ensure participants were fully informed, understood and appreciated the project components and their involvement as a community and as individuals. Consultations were conducted using appropriate vernacular languages (Shona, Ndebele, English), and at the dip tank or pasture field sites.

The consultations were preceded by the disclosure of adequate project social and environmental information to ensure informed participation. The stakeholder engagement process will continue throughout the project lifecycle, as needed and defined in the Stakeholder Engagement Plan.

Given the project's Category 2 status, consultations primarily focused on issues necessary for drafting the ESMP. The objective was to ensure broad community support and endorsement of proposed mitigation and management measures.

8.4 Key Issues Considered During Stakeholder Engagements

Several key issues were identified during stakeholder engagements:
Identification of Ecologically Sensitive Sites: Stakeholder consultations identified areas protected by national laws and international conventions, such as forest reserves, Ramsar sites, migration routes, and world heritage sites. Initial assessments revealed that except for national parks areas and game reserves that were far from these project sites none were protected areas were located in the vicinity of project sites and thus would not affect these sites.

Identification of Important Cultural Sites: Consultations also included identifying lands set aside for cultural rituals, cemeteries, and special burial sites. The assessment revealed that the programme would not affect any of these areas.

Identification of Environmental Impacts: Environmental impacts, both negative and positive, were identified, covering issues such as pollution (water, air, oil spills), waste generation, and biodiversity destruction. Remedial measures were proposed to address these impacts.

Environmental/Biodiversity Issues: Issues such as destruction of natural environments, damage to vegetation, biodiversity loss, and the intensity of construction works were identified. Mitigation measures were proposed in this ESMP.

Socio-Economic Considerations for the Project: The programme's socio-economic impacts were discussed, including livestock potential for value addition, employment opportunities, and complementary initiatives. The impacts were identified and addressed in this ESMP.

Socio-Cultural Issues Regarding the Project: Considerations included gender mainstreaming, women and youth empowerment, vulnerable groups (e.g., poor women, elderly, disabled), disease spreading (HIV/AIDS, communicable and non-communicable diseases), and overall improvement in life quality and standards of living. Discussions included beneficiary selection and management arrangements at project site level.

Disruption of Normal Life: Analysis included the project's interference with daily economic activities, such as road closures and changes in normal routines.

Trans-Boundary Issues and Cumulative Impacts: Trans-boundary impacts and cumulative effects, such as contributions to climate change, were reviewed during consultations.

Occupational Health and Safety: Considerations included possible occupational health challenges and worker safety during both the development and operational phases of the project.

The list of people consulted is provided as annex 2 to this report.

8.5 Summary of key risks/impacts presented by stakeholders

a) Economic and Market Challenges
Stakeholders have raised concerns about the economic challenges faced by livestock farmers. These include low prices for livestock and hides, the high cost of hide processing chemicals, and the exploitation by buyers due to distant markets.

Responses and Registers:
The project's main objective is to ensure viability of livestock farming. It will address these issues by facilitating access to fair markets, providing pricing information, and supporting value addition for hides to enhance quality and marketability.

b) Water and Infrastructure Issues

Water scarcity and deteriorating infrastructure are critical issues impacting livestock production and community well-being. Stakeholders have highlighted the need for reliable water sources and rehabilitation of dip tank and livestock handling facilities. They indicated lack of access to clean water and having to travel long distances to fetch water .

Responses and Registers:
The project will prioritize the restoration and rehabilitating existing dip tanks and constructing boreholes and water toughs and implementing water conservation measures to ensure sustainability. Efforts will also focus on improving livestock handling facilities. Maintenance of infrastructure will be an integral part of the project to ensure there is sustainability beyond project funding.

c) Disease and Health Issues

Livestock health is severely affected by disease outbreaks, particularly January disease, and the lack of adequate fodder. These issues lead to high mortality rates and economic losses for farmers.

Responses and Registers:
The project will implement comprehensive disease management programs, including regular vaccination and treatment campaigns. Additionally, it will promote the cultivation of drought-resistant fodder crops to ensure a steady supply of livestock feed. The project will work closely with the farmers to ensure that their own practises such as "not dipping cattle", and moving cattle between different regions without full inspection, change in order to reduce spread of disease.

d) Social and Community Support Issues

Farmers frequently highlighted droughts as a significant risk. Additionally, non-cattle owners who attended the meetings felt excluded by the project. Stakeholders emphasized the need to include non-cattle owners in some of the project's interventions to promote social cohesion within the community.

Responses and Registers:
The project will extend support to all community members, potentially including them in fodder production or other related activities. The program will employ drought mitigation strategies through enhanced livestock production, the provision of solar-powered boreholes, and the diversification of livelihood programs targeting women and youth.

Conclusion
Stakeholders presented key risks and impacts related to economic challenges, water and infrastructure issues, disease and health problems, and the need for social support. The government will use these insights to design the ZAVaCEP project to address market access, improve water and infrastructure, enhance livestock health, and provide comprehensive community support.

Consultations that need to continues through the project life are listed in the table below;

Table 7. Consultation Topics and Goals

Issue	Goal	Expected Outcomes:	Target Groups:	Consultative Process:	Consultation Frequency:	Reporting Methods:	Result Disclosure:
Land Use Planning and Management	- Ensure sustainable land use practices that prevent deforestation and land degradation. - Mitigate conflicts over land use rights and ensure equitable access.	- Clear land tenure arrangements. - Enhanced land productivity without compromising natural ecosystems.	- Local communities, including smallholder farmers and pastoralists. - Traditional leaders and local government authorities.	- Hold participatory workshops and meetings to gather input on land use planning. - Facilitate stakeholder engagement sessions to discuss proposed land management strategies.	- Initial consultations during project planning. - Regular consultations annually or biannually to review and update land use plans	- Document outcomes and decisions from each consultation session. - Prepare progress reports on land use planning and management.	- Publish summaries of consultations and decisions in local languages. - Display information in community centres and local government offices.
Water Resource Management	Minimize water pollution from livestock farming activities. - Ensure sustainable water use and availability for both agriculture and community needs	Improved water quality and availability. - Enhanced water efficiency in agricultural practices.	- Local communities relying on water sources affected by agricultural activities. - Environmental NGOs, water management authorities, and agricultural extension officers.	Conduct public hearings and focus group discussions on water management practices. - Establish water user committees for ongoing consultation and management	- Initial consultations during project inception. - Regular consultations quarterly or semi-annually to assess water quality and usage.	Develop water quality monitoring reports. - Share updates through community meetings and newsletters.	Publish water quality assessment reports and management plans. - Distribute findings to stakeholders via accessible channels such as local radio or bulletin boards.
Livelihood Support and Alternative Income Generation	Mitigate socio-economic impacts of project activities, such as livelihood displacement. - Promote sustainable income sources and enhance community resilience.	Diversified income streams for affected communities. - Improved living standards and reduced dependency on agriculture.	Smallholder farmers, pastoralists, and other vulnerable groups. - Local cooperatives, NGOs working on livelihood development, and	Conduct needs assessments and focus group discussions on livelihood preferences. - Facilitate capacity-building workshops and skills training sessions.	- Initial consultations to identify needs and preferences. - Ongoing consultations semi-annually to review progress and adjust support strategies.	Track income generation activities and livelihood outcomes. - Prepare annual reports on livelihood support interventions.	- Share success stories and case studies through community meetings and social media platforms. - Provide feedback on the impact of livelihood support

			microfinance institutions				measures to stakeholders.
Mitigation Measure: Implementing Sustainable Grazing Practices	Ensure buy-in and participation of local communities and stakeholders in adopting sustainable grazing practices to reduce environmental impacts.	Improved understanding and acceptance of sustainable grazing practices, leading to reduced deforestation, soil erosion, and water pollution.	Local farmers, community leaders, environmental NGOs, government agencies	Hold community meetings, workshops, and focus group discussions to discuss the benefits and methods of sustainable grazing. Seek feedback and suggestions on implementation strategies	Initiate consultations during project planning and continue periodically (e.g., annually) to assess progress, address concerns, and adapt strategies as needed.	Document minutes of meetings, compile feedback and suggestions, and prepare progress reports on the adoption of sustainable grazing practices.	Share outcomes through community meetings, project newsletters, and online platforms accessible to stakeholders
Mitigation measure Establishing Waste Management Systems for Livestock Farming	Engage stakeholders in designing and implementing effective waste management systems to reduce water pollution and improve hygiene.	Adoption of best practices in waste management, reduction in pollutants discharged into water bodies, and improved community health.	Livestock farmers, local health authorities, environmental regulators, waste management experts.	Conduct technical workshops, site visits, and expert consultations to assess existing practices and propose sustainable waste management solutions. Seek consensus on implementation strategies and responsibilities.	Conduct initial consultations during project inception, followed by regular meetings (quarterly or bi-annually) to monitor compliance and address emerging issues.	Develop action plans based on consultation outcomes, monitor implementation progress through periodic reports, and conduct audits to ensure adherence to standards.	Share findings through public forums, stakeholder workshops, and annual sustainability reports.
Enhancement Measure: Training Programs for Skill Development	Identify training needs and preferences of local communities to enhance skills in agriculture, livestock management, and leather processing.	Improved employability, entrepreneurship, and income generation among community members	Youth, women's groups, agricultural cooperatives, vocational training centres.	Conduct needs assessments through surveys, interviews, and focus groups to tailor training programs. Collaborate with local educational institutions and vocational training providers to design curriculum and delivery methods.	Initiate consultations annually or bi-annually to evaluate training effectiveness, gather feedback on content relevance, and adapt programs to evolving needs.	Compile training evaluation reports, track participant progress, and document success stories showcasing skill development impacts.	Present outcomes at graduation ceremonies, publish success stories in local media, and share reports with funding partners and stakeholders.

9 RESPONSIBILITIES AND INSTITUTIONAL ARRANGEMENTS

The implementation of enhancement and mitigation measures and the completion of the monitoring program require to clearly establish responsibilities among the various organizations involved in project implementation and operation. Ultimately the Borrower is responsible for monitoring and reporting on achieved results, but it may need to be assisted in the implementation of the ESMP by the project team and external consultants. Consequently, the ESMP shall identify the responsibilities of the Bank, the Borrower, the implementing agencies and other stakeholders in applying the ESMP, particularly the monitoring program. In addition, the ESMP shall propose support to the organizations that may have insufficient capacities to fulfil their obligations. This support could be provided through various means including technical assistance, training and/or procurement.

Overview of the Ministries involved in ZAVACEP

The Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) will be implemented over a period of four (4) years with the involvement and participation of five government ministries namely, Ministry of Finance and Economic Development (MoFED); Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development (MLAFWRD); Ministry of Industry and Commerce (MIC); Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED); and Ministry of Youth, Arts, and Culture. Their mandates are described below.

Ministry of Finance and Economic Development (MoFED)

MoFED's mandate is to formulate, coordinate and monitor the implementation of national development plans, macro-economic policies, to effectively mobilise, allocate, manage and account for public resources. The MoFED also mobilizes domestic and international financial resources through the negotiation and conclusion of grant and loan agreements with private, bilateral and multilateral financial partners. The proposed project is a result of the mobilization function and contributes to the implementation of the National Development Strategy 1 (NDS1) through the promotion of new enterprise development, employment, job creation and the strengthening of social infrastructure and social safety nets.

Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development (MLAFWRD)

The Ministry of Lands, Agriculture, Fisheries, Water, and Rural Development (MLAFWRD) is dedicated to promoting and maintaining a viable, appropriately mechanized agriculture sector, especially in the context of a changing climate. Its functions include formulating, reviewing, and implementing effective agricultural policies, developing strategies to ensure food self-sufficiency and security as well as export capabilities, and designing strategies and guidelines for enterprise or industry-specific policy objectives. These efforts are executed through the Ministry's various technical departments and collaboration with key players in the agricultural sector

Ministry of Industry and Commerce (MIC)

The Ministry of Industry and Commerce (MIC) is committed to facilitating and promoting the development of sustainable, innovative, inclusive, and globally competitive commercial enterprises to drive economic growth. Its mandate encompasses fostering an environment where businesses can thrive and contribute to the overall economic advancement of the nation.

Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED)

The Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED) aims to create a conducive and enabling environment that supports vibrant micro, small, and medium enterprises (MSMEs) and cooperatives. The Ministry is responsible for formulating and implementing

policies for MSME and cooperative development, as well as developing a legal and regulatory framework to support these enterprises.

Ministry of Youth, Arts, and Culture (MYAC)
The Ministry of Youth, Arts, and Culture is tasked with formulating and establishing policy frameworks that promote the development of youth, sports, arts, and recreation. It also institutionalizes and enforces good corporate governance in youth, sports, and arts programs to attract and ensure the full participation of individuals and corporate entities.

9.1 Project Implementation And Management Structure

Figure 6 illustrates the institutional arrangement structure for the ZAVaCEP project.

The Ministry of Finance and Economic Development (MoFED) will be the project's Executing Agency (EA), through its existing Programme Management Unit (PMU). The existing PMU consists of

i Programme manager (PM),
ii M&E Specialist,
iii Procurement Specialist
iv (d)Budget and Finance Officer,
v Procurement Officer,
vi Programme Officer and
vii Programme Assistant Finance.

The Ministry of Industry and Commerce (MIC), Ministry of Lands, Agriculture, Fisheries, Water and Rural Development (MLAFWRD), the Ministry of Women Affairs, Community, Small and Medium Enterprises Development (MWACSMED) and the Ministry of Youth, Arts and Culture will be the Implementing Agencies (IAs). The three ministries of MIC, MLAFWRD and MWACSMED will each have a lean Project Coordinating Unit (PCU) that shall be responsible for coordination the day-to-day Project activities in the implementing Provinces and Districts. The ministry of Youth , Carts and Culture will have a focal person who will be responsible for representing the ministry at national coordination level. The three ministries aforementioned, will assign dedicated staff to implement the project and these will include a:

i Project Coordinator (PC)
ii Social and Environmental Specialist, (E&S at MLAFWRD PCU)
iii Accountant
iv Subject Matter (Technical) Specialist (TS)
v Monitoring and Evaluation (M&E) Officer, and
vi Procurement Officer.

The 3 project coordinators will report to the PM at the MFED for consolidation of project reports.

At Provincial and District level the responsibility for implementation rests with the respective heads in the implementing Ministries. A District Project Implementing Unit (DPIU), will be set up comprising of a focal person from the following MLAFWRD departments primarily , namely

i Department of livestock development (pastures and Feed processing),
ii Department of Veterinary Services (Animal Health, disease control)
iii Department of Agriculture Engineering (solarised boreholes)
iv Rural Infrastructure Development Agency (RIDA)
v MWACSMED focal person
vi MYAC focal person.

The Provincial and District Implementing Units will follow Government established structures and as such will be chaired as per the Government rules and regulations.

The existing SBLVP Project Steering Committee (PSC) will continue and provide oversight for the ZAVaCEP project. The PSC will be responsible for Project compliance with sub-sector National Policies and Strategies. The PSC will also approve annual work plans and budgets. The Project Manager shall be the Project Steering Committee secretary. The Project Steering Committee is chaired by the Permanent Secretary of the MLAFWRD.

The role of the Inter-ministerial Project Coordination Units is to ensure coordinated planning and harmonization of respective department activities. It will also ensure general execution of project activities, budgeting, reporting and ensuring that their decentralized sector offices at Province and Districts implement and report on their respective sector activities.

9.2Procurement Arrangements

Procurement of goods (including non-consultancy services), works and the acquisition of consulting services, financed by the Bank for the project, will be carried out in accordance with the "Procurement Policy and Methodology for Bank Group Funded Operations" (BPM), dated October 2015. The Borrower Procurement System (BPS) will serve as the main reference point for procurement activities. The Procurement Risk and Capacity Assessment (PRCA) was conducted to evaluate the risks associated with the use of the BPS, assess the sector capacity of the local industry, the project complexity and design, an d the procurement capacity of the Executing Agency in relation to the project. Based on the risk assessment it was determined that the existing PMU within the MoFED will provide overall project implementation support including procurement. The PMU has previous experience managing AfDB -funded project and including on-going projects. The procurement officers in the in the three ministries will be part of the Implementation teams at the ministry level and will work closely with the procurement officer at the PMU. It is noted that some of the identified activities will require that Memorandum of Understanding (MoU)s are adapted to engage the services of some of the project partners in Zimbabwe including research institutions and the details of these arrangements will also be clearly defined during project inception phase.

9.3Financial Management including Audit

The Financial Management (FM) of the ZAVaCEP project will be handled by the PMU within the MoFED. The African Capacity Building Fund (ACBF) will be responsible for manging the Special Account of the project. The PMU has extensive experience working with the ACBF on AfDB -funded projects. The PMU uses PASTEL financial a management system and will use the same for the ZAVaCEP project, including existing financial management system manual, budgeting processes approval and payments. The PMU will be responsible for preparing and submitting quarterly interim and annual financial reports to the Bank. The Directors of Finance in the Implementing Agencies will be responsible for the financial management of activities under the components under their Ministries. The IA's accountants will be responsible for the day-to-day financial management function for the project..

Disbursement Arrangements: The project will primarily make use of the Bank available disbursement methods (i.e. Reimbursement, Special Account, Direct Payment and Reimbursement Guarantee) in accordance with Bank rules and procedures. The Special Account will be managed by the Africa Capacity Building Foundation (ACBF) on behalf of the Government of Zimbabwe. The funds channelled by AfDB financing will be denominated in foreign currency and deposited at accredited commercial banks. The PMU will be responsible for processing Direct Payments and any Reimbursement payments.

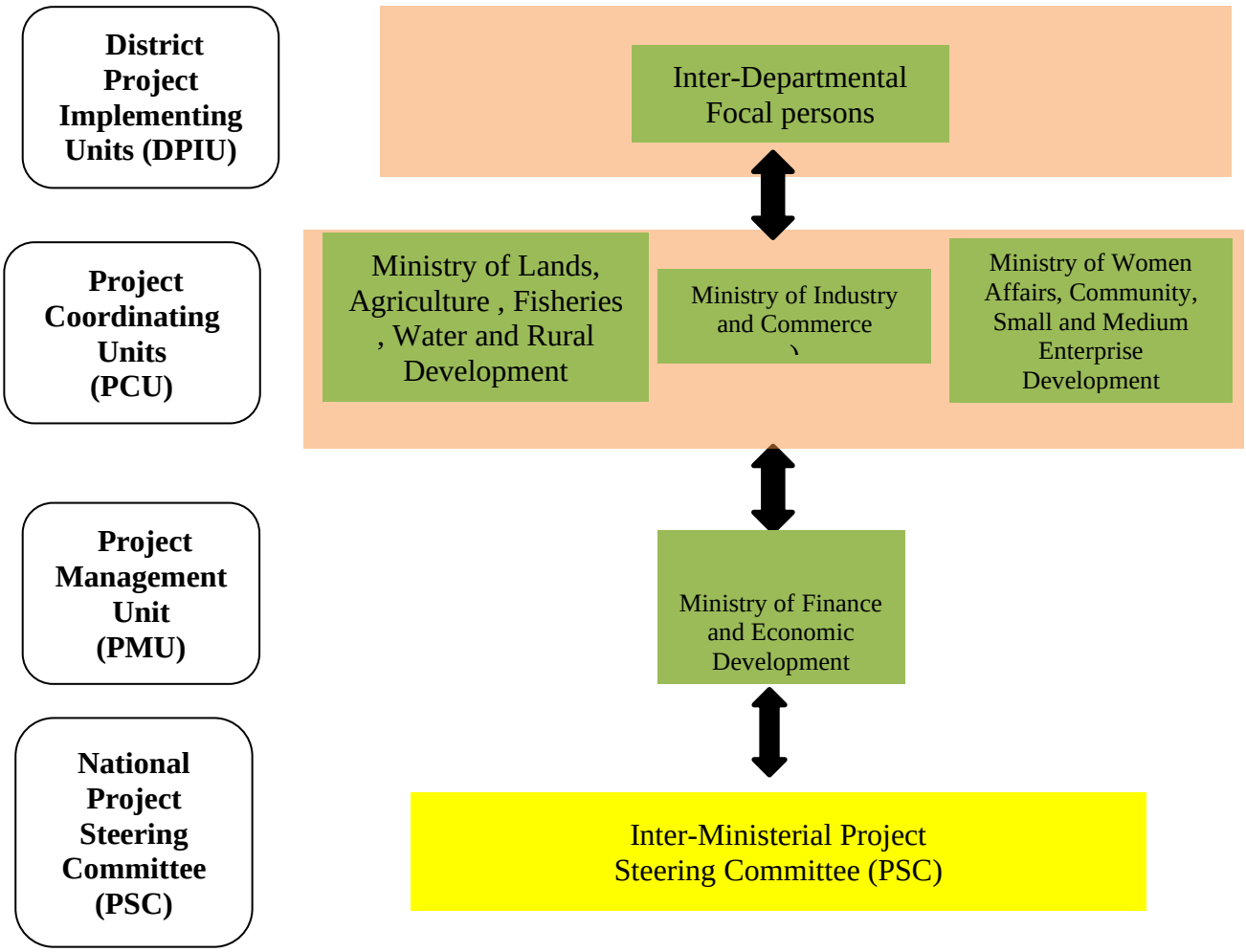


Figure 7. Proposed Institutional Structure for ZAVaCEP

9.4 Roles and Responsibilities for the implementation of the ESMP

Positions in the Project Coordinating Units at National Level

- Project Coordinator; (PC-PCU)
- Procurement specialist (PS-PCU);
- Technical specialist (TS – PCU):
- Project Accountant (PA – PCU):
- Monitoring and Evaluation specialist (M&E-PCU):
- Social and Environmental Specialist (E&S- MLAFWRD PCU).

Figure 6 shows the proposed institutional arrangements. The three IAs MLAFWRD, MIC and MWACSMED as the implementing agencies of ZAVaCEP will establish the Project Coordinating Units. Each ministry will staff the PCU and coordinate project activities at national level. The PCUs will be based in Harare. Given the overall responsibility of the MLAFWRD PCU for the ZAVaCEP, a Social and Environmental Specialist, will be recruited and he/she will assist the Project Coordinator to facilitate

development of all the various management plans, seek adoption and implementation of the plans in this ESMP. The E&S will work closely with the M&E specialists of all the PCUs as well as with the TS Specialist/s. Their main task of E&S is to facilitate implementation of the ESMP, PMP, SEP and GRM. M & E specialist is monitoring the implementation of the ESMP including the monitoring of the implementation of the SEP, PMP and GRM.

To ensure a smooth and effective implementation of the GRM, as well as the Stakeholder Engagement Plan (SEP), the E&S will work closely with the District Project Implementation Units and district technical specialists. The E&S and M&Es staff will receive monthly updates from District Project Implementation Units on project progress. They will conduct regular field supervision visits to ZAVaCEP project implementation sites.

For all infrastructure construction, site-specific EMPs will be developed and implemented by the hired project Contractors. The Office will thereby engage support from stakeholder ministries for various expertise or hire external consultants to avoid bottlenecks.

The M&Es will ensure that mitigation measures and monitoring frameworks are in place with respect to their sectors.

District Project Implementation Units and technical specialists will be responsible for direct implementation of their sub-components, and implementation of ESMP, ensuring compliance with proposed interventions. They will be supported by the PCUs technical Specialists, and will also send progress reports on a monthly/quarterly basis, to the E&S and M&Es. The E&S and PCU M&E specialists will be responsible for the detection of correctional activities required, on the basis of monitoring activities. They will report such to the PMU Project Manager.

Table *8*. Institutional Roles and responsibilities for implementing the ESMP describes the proposed Roles and Responsibilities for implementing ZAVaCEP.

Table 8. Institutional Roles and responsibilities for implementing the ESMP

Project stages	Activities	Responsible	Collaboration with	Service Provider
Pre-Implementation	**Mobilization and planning** - Formation of implementation unit - allocation of budgets resources, personnel	PMU PSC IAs	AfDB local	
	Training and Capacity building - Training staff and stakeholders on ESMP objectives and best practices - Capacity for monitoring	PCUs PMU SES	RDCs DPIUs Community leaders	Envi and Social safeguard consultant or EMA
	Stakeholder engagement - Informing and Consultations - Finalize grievance mechanism	SES DPIUs	Community leaders M&E-PCU	Consultant for GRM
Implementation Stage	**Compliance and enforcement** - ensuring compliance with E & S regulations - Implementing Mitigation measures	SES TS- DPIUs	EMA M&E- PMU M&E-PCU	Contractors and Sub-contractors And if needed consultant
	Monitoring and reporting - Regular monitoring - Documentation and reporting - Annual performance Audits	M&E-PCUs TS- DPIUs	EMA M&E- PMU	Independent E and S auditor for the annual performance A
	Corrective actions	E&S	PC-PCU	E&S

	- Identifying non-compliance or unexpected impacts - Adjusting mitigation measures		M&E-PCU	Consultant if required
Operational	**Ongoing monitoring and evaluation** - Continuous monitoring - Maintenance of env and social safeguards	E&S M&E-PCUs TS- DPIUs	EMA M&E- PMU	
	Stakeholder communication - Keeping stakeholders informed - Addressing stakeholder concerns	E&S M&E-PCU TS- DPIUs	Local Leadership PC- PCU	Community Liaison officers
Evaluation and feedback	**Performance evaluation** - Periodic Evaluation of ESMP outcomes - Comparing actual and predicted impacts	E&S M&E-PCU M&E -PMU TS-DPIU	PC-PCU PM-PMU	External reviewers/ Consultants
	Feedback and improvement - Incorporating feedback from evaluation - Revising ESMP as needed	E&S M&E- PCU M&E-PMU	PC-PCU PM-PMU	Consultant if needed
Closure Stage	**Final reporting** - Prepare final ESMP compliance report - - Document lessons and best practices	PC-PCU PM-PCU	AfDB Local office	PCU teams PMU team
Post-Closure Stage	**Post implementation Monitoring** - Post closure monitoring to ensure long-term stability - Address any residual impacts	SES	PC-PCU PM-PMU	PCU teams PMU team
	Stakeholder Engagements - Engage stakeholders to confirm satisfaction with project's closure - Maintain open communication for any future issues	SES TS- DPIUs	Local leadership M&E-PCU	PCU teams PMU team

Notes: <u>Explanation of additional roles</u>

Monitoring and Evaluation (M&E) specialists: *Collect, analyse, and report data on ESMP performance.*

Contractors and Subcontractors: *Implement specific mitigation measures as per the ESMP and ensure compliance on the ground.*

Liaison Officers: *Facilitate communication and engagement with local communities and other stakeholders.*

Local Government and Community Leaders: *Support capacity building, training, and local implementation efforts.*

Independent Auditors/External Consultants: *Conduct periodic reviews and audits to ensure compliance and recommend improvements.*

Each Stage in the table involves a cycle of planning, action monitoring and adjustment to ensure the ESMP effectively mitigates adverse impacts and enhances positive outcomes throughout the project's life cycle.

10 ENVIRONMENTAL AND SOCIAL AWARENESS, CAPACITY BUILDING AND TRAINING

Implementing an approved Environmental and Social Management Plan (ESMP) for the ZAVaCEP project in Zimbabwe involves several stages, each requiring specific capacity building and training. Here is an outline of the requirements for each stage and the responsible parties:

10.1General Requirements

Effective implementation of the OS instruments and this (ESMP) will require adequate capacity enhancement within institutions and stakeholders, especially regarding monitoring and evaluation. This calls for building the capacity of implementers at the Project Management Unit and project implementing structures including at the National, District and Community levels.

10.2 Environmental and Social Awareness, Capacity Building and Training

Effective execution of responsibilities for sub-project environmental and social risk management requires institutional strengthening. Capacity building will include all project staff at National and district level and, the relevant Implementing Departments and partners such as local NGOs where deemed necessary. As part of the ESMP, the PCUs will prepare raining needs and training schedules according the implementing stages. Capacity building will be carried out in liaison with EMA the agency and Department of Gender and Women's Affairs. Below are some of the envisaged capacity building training needs:

Capacity Building and Training Requirements:

a) *Environmental and Social Impact Assessment (ESIA) Training*: Training on identifying potential environmental and social impacts and understanding regulatory compliance i.e. Understanding national and international environmental regulations and standards.-

b) *ESMP Development Training*: Workshops on developing comprehensive ESMPs, including mitigation measures and monitoring plans.

c) *ESMP mitigation measures* – training on implementation of ESMP mitigation measures (e.g., sustainable fodder production, cattle dipping practices, hide processing techniques).

d) *Health and Safety Training*: Ensuring all project staff understand and adhere to health and safety protocols.

e) *Community Engagement Training*: Training on effectively engaging with local communities and addressing their concerns.

f) *ESMP monitoring training i*ncludes the three below
   - Monitoring Techniques Training: Training on environmental and social monitoring techniques and data collection methods.
   - Data Analysis Training: Workshops on analysing monitoring data to assess ESMP effectiveness.
   - Performance Reporting Training: Training on preparing regular environmental and social performance reports.

g) *Documentation and Knowledge Transfer:* Ensuring all knowledge and lessons learned are documented and transferred to relevant stakeholders.

h) Cross-Cutting Capacity Building and Training Requirements:

- Gender and Social Inclusion Training: Ensuring all project activities are inclusive and consider gender and social dynamics.
- Conflict Resolution Training: Training on managing and resolving conflicts that may arise during project implementation.

The overall responsibility for training lies with the PSC and PMU. Project Steering Committee: Provides oversight and ensures that all capacity-building and training activities are planned, budgeted for and implemented effectively. Project Management Unit (PMU): Day-to-day responsibility for coordinating and facilitating training programs across all stages.

10.3 Technical Assistance (TAs)/Contractors

For Specialized technical inputs into the projects for example installation for solar panels, civil works for various subprojects, soft components such as mid-term project evaluations, monitoring of aspects of the project such as GRM and PMP will require expertise which may be procured outside the implementation units. Procurement may be by request for Bids and MOUs with specialist ministries and their departments. The PMU will manage technical and contractor procurement with assistance from the PIUs

This schedule will be updated once site-specific ESMPs have been developed.

Table 9. Capacity Development And Training Schedule

Capacity building & training requirements	Project Stage	Method of delivery Target Group	Target group	Responsibility	Timeline	Cost
Development of project site ESMP	Planning/Design	Workshop	PIUs and DPIUs project staff	PMU / EMA or consultant if needed	1 day workshop	4000
Identification of Social and env impacts and regulatory compliance	Planning/Design	T**raining** on SEIA and basic national and international standards	PCU and DPIUs	PMU with PCUs/ E and S Consultant	2 day training (5 days with prep)	6000
ESMP mitigation measures implementation	Implementation	Training	PCU -TSs and District level -TS	PMU / EMA	2 days	6000
Health and safety protocols	Implementation	Training/workshop	All Project staff	PMU HSE specialists Contractors responsible for own personnel and costs	1 day	4000
Community engagement training	Implementation	Workshop	PCU TS and M&E DPIUs Local leaders Local NGO	PMU PCUs Community liaison officers	1 day	Covered in SEP
E & S monitoring methods	Operational phase	Workshop	M&E- PCU M&E-PMU	External E & S Auditors	2 days	12000
Data analyses to assess effectiveness	Operational phase	Training	M&E- PCU M&E-PMU	External E & S Auditors		

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Performance Report Training	Operational phase	Training	M&E- PCU M&E-PMU	External E & S Auditors		
Document and knowledge transfer	Post implementation	Workshop	M&E- PCU M&E-PMU PCs PM	E & S Specialist EMA	1 day	8000
GESI	Cross -cutting	Training	All staff including DPIUs	MW SMED	2 days	Covered in SEP
Conflict resolution /GRM	Cross-cutting	Training	Community leaders, local NGOs	Community liaison Officers	1 day	Covered in GRM
Long term Evaluation and audit	Implementation	training	All staff at PCUs and DPIUs	E&S specialist M&E specialist	2 days	6000
TOTAL COST FRO MONITORING						$46000

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11 IMPLEMENTATION SCHEDULE AND COST ESTIMATES

The ESMP implementation budget encompasses all costs associated with executing the requirements and recommendations outlined in this Environmental and Social Management Plan (ESMP) and the associated documents i.e. the SEP, PMP and Grievance Mechanism. The ESMP aims to ensure that the project's implementation integrates environmental and social considerations, thereby promoting the sustainability of the project and its various components and sub-components.

Key areas of focus within the ESMP include:
- Implementation and management of the ESMP
- Preparation of site-specific Environmental and Social management Plans
- Training and capacity building of Staff and farmers on ESMP aspects
- Supervision of ESMP
- Review and monitoring mechanisms

These areas are elaborated and clearly detailed within the ESMP. It is essential to train the staff involved in project implementation to enhance their skills in specific environmental and social issues. **Table *10*** provides an estimate of the timeframes for implementation of key components.

Building the capacity of staff from the implementing units, divisions, departments, and sections—particularly those directly involved in executing the project and its sub-projects, value chain systems, as well as management and finance—is crucial. This training will enable them to review and monitor environmental issues within the project and sub-projects, ensuring compliance with national policies, laws, and regulations, as well as African Development Bank (AfDB) safeguard policies.

Table 10. Key ESMP Activities And The Timeframes

	ACTIVITY	Timeframe	Responsibility
1	Preparation of site-specific ESMPs	First 3 months of inception phase	PCU, EMA
2	Capacity Building -staff- ESMP components	Year 1 first 6 months	PMU, PMU, EMA
3	Capacity building farmers – ESMP components	Year 1 – 4 intense in the first 18 months	M&E-PCU
4	ESMP monitoring – Regular Supervision	Through Project Life	PCUs, PMU, DPIUs.
5	ESMP Monitoring Control Missions	Annually during Project period	PCU, AfDB
6	Institutional Capacity Strengthening	When needed	PCU, PMU
7	Stakeholder consultations and public awareness	Throughout project life and as when needed	PCU, DPIUs
8	GESI mainstreaming	Bi-annually workshops	MWACSMED
9	HIV/AIDS mainstreaming	Quarterly campaigns	Ministry of Health & Child Welfare

11.2 The ESMP Budget

Table 10 below presents the detailed budget for the Environmental and Social Management Plan (ESMP) for the ZAVaCEP project, covering all its components over a four-year period in the Insiza and Beitbridge districts. Based on experience from similar projects, the estimated cost for implementing the ESMP's recommendations is approximately US$0.615 million.

Table 11. ESMP Budget for Insiza and Beitbridg Districts.

Activity	Year 1	Year 2	Year 3	Year 4	Total
1. PRECONSTRUCTION PHASE MITIGATION MEASURES					
ESMP development	$ 20 000,00				$ 20 000,00
Health and safety, HIV and Aids awareness	$ 8 000,00				$ 8 000,00
SUB-TOTAL	$ 28 000,00				**$ 28 000,00**
2. CONSTRUCTION PHASE – MITIGATION MEASURES NOT COVERED BY CONTRACTOR					
Oil spills remediation	$ 2 000,00				$ 2 000,00
Installation of waste receptacles at all project sites	$ 6 000,00				$ 6 000,00
Field Air quality meters (4)	$ 2 000,00				$ 2 000,00
OHS PPE and brochure printing	$ 5 000,00				$ 5 000,00
Sound measurement meters (2)	$ 200,00				$ 200,00
HIV and Aids Campaign and Condoms	$ 3 000,00				$ 3 000,00
Community sensitization and provision of pour-on dip acaracides during dip rehabilitations	$ 6 000,00				$ 6 000,00
SUB-TOTAL					**$ 24 200,00**
3. OPERATION AND MAINTENANCE PHASE					
Setting up and strengthening committees on the various projects	$ 5 000,00	$ 5 000,00	$ 4 000,00		$ 14 000,00
Livestock breeds awareness and monitoring	$ 2 000,00	$ 4 000,00	$ 4 000,00	$ 2 000,00	$ 12 000,00
Fodder production awareness and monitoring, reporting	$ 3 000,00	$ 3 000,00	$ 2 000,00	$ 1 000,00	$ 9 000,00
Market information, access (Exhibitions) and dissemination		$ 3 000,00	$ 6 000,00	$ 6 000,00	$ 15 000,00
Diseases surveillance and awareness	$ 5 000,00	$ 5 000,00	$ 5 000,00	$ 5 000,00	$ 20 000,00
Air pollution (response), monitoring and reporting	$ 2 000,00	$ 2 000,00	$ 2 000,00	$ 2 000,00	$ 8 000,00
Solid waste monitoring and reporting	$ 1 000,00	$ 1 000,00	$ 1 000,00	$ 1 000,00	$ 4 000,00
Land degradation and agronomic practices, sensitization and monitoring	$ 2 000,00	$ 2 000,00	$ 2 000,00	$ 2 000,00	$ 8 000,00
Ground water monitoring, training and field equipment	$ 3 000,00	$ 3 000,00	$ 3 000,00	$ 3 000,00	$ 12 000,00
Infrastructure maintenance and repairs-tools and training	$ 3 000,00	$ 2 000,00	$ 2 000,00	$ 3 000,00	$ 10 000,00
Breed performance monitoring and awareness		$ 2 000,00	$ 1 000,00	$ 1 000,00	$ 4 000,00
OHS monitoring , including first aid kits		$ 1 000,00	$ 1 000,00	$ 1 000,00	$ 3 000,00
SUB-TOTAL					**$119 000,00**
4. CAPACITY DEVELOPMENT					
ESMP workshop (Table 8)	$ 4 000,00				$ 4 000,00
Env and Social regulatory compliance	$ 6 000,00				$ 6 000,00
ESMP Mitigation measure implementation	$ 6 000,00				$ 6 000,00
OHS protocol	$ 4 000,00				$ 4 000,00
E & S monitoring methods and reporting	$ 6 000,00	$ 6 000,00			$ 12 000,00
Document and knowledge transfer				$ 8 000,00	$ 8 000,00
Long term evaluation and audit training	$ 3 000,00	$ 3 000,00			$ 6 000,00

SUB-TOTAL					**$ 46 000,00**
5. ASSOCIATED DOCUMENTS					
Stakeholder Engagement plan	$ 20 000,00	$20 000,00	$20 000,00	$10 000,00	$ 70 000,00
Grievance redress mechanism	$ 20 000,00	$10 000,00	$10 000,00	$10 000,00	$ 50 000,00
Pest Management Plan	$ 30 000,00	$20 000,00	$20 000,00	$20 000,00	$120 000,00
SUB-TOTAL					**$240 000,00**
6. DECOMMISSIONING					**$129 000,00**
SUB-TOTAL for ESMP					**$ 586 200,00**
Contingency 5%					$ 29 310,00
7. OVERALL PROJECT BUDGET FOR INSIZA AND BEITBRIDGE					**$ 615 510,00**

This budget provides an outline of key activities and costs associated with the ZAVaCEP project. Adjustments can be made during the project life based on specific needs, local costs, and project priorities.

12 PROJECT DECOMMISSION PLAN

Decommissioning for the Zimbabwe Value Chain Enhancement Project will involve developing a decommissioning plan that outlines the steps and procedures to be followed, ensuring compliance with legal requirements. It is assumed that the decommissioning will consider minimal demolition of infrastructure and will only demolish infrastructure that will no longer be in use. An assessment to identify infrastructure and areas to focus on will be carried out. Once identified the process will include the dismantling and removal of all non-functional project infrastructure, such as temporary facilities, equipment, and installations used during the project's implementation. Functional infrastructure will be handed over to the communities for continued use. All materials must be appropriately disposed of, recycled, or repurposed to reduce waste and environmental contamination. Additionally, any land disturbed by project activities will be rehabilitated to restore it to its original state or to a condition that supports its intended post-project use, whether for agriculture, conservation, or other community needs.

Environmental monitoring and assessment will be crucial throughout the decommissioning phase to identify any residual impacts and to ensure that all mitigation measures are effectively implemented. This includes soil and water testing to detect any contamination and subsequent remediation efforts if necessary. Social considerations are also paramount, involving the engagement of local stakeholders to address any concerns and to ensure that their needs are met during the transition period. The project will work closely with PMU, PCUs, local authorities and community members to develop a sustainable exit strategy that supports long-term community resilience and environmental sustainability. Proper documentation and reporting of the decommissioning activities will provide transparency and accountability, ensuring that all regulatory requirements are met and that the project's legacy is one of positive contribution to the region's sustainable development.

Cost Estimates for the Decommissioning Plan:

i Assessment and Planning:	**For the Two Districts**
- Infrastructure and site assessment:	$10,000
- Development of decommissioning plan:	$4,000
- Stakeholder engagement and consultation:	$4,000
ii. Dismantling and Removal:	
- Dismantling non-functional infrastructure:	$8,000
- Removal and transportation of materials:	$20,000
- Recycling and disposal of waste:	$10,000
iii. Site Rehabilitation:	
- Soil and water testing	$10,000
- Land rehabilitation and restoration:	$20,000
iv. Environmental Monitoring:	
- Continuous monitoring during decommissioning:	$10,000
- Post-decommissioning environmental assessment:	$10,000
5. Social Considerations:	
- Community engagement and support:	$10,000
- Development of exit strategy:	$5,000
6. Documentation and Reporting:	
- Documentation of decommissioning activities:	$4,000

- Final reporting and compliance verification:	$4,000
Total Estimated Cost	**$129,000**

This budget provides an estimate of the financial requirements for decommissioning ZAVaCEP, ensuring that all activities are conducted in an environmentally and socially responsible manner. This budget may not necessary be needed if the project has minimal demolitions.

13 CONCLUSION

The Environmental and Social Management Plan (ESMP) for the Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) is a comprehensive framework designed to ensure that the project meets the African Development Bank's (AfDB) safeguard requirements. This ESMP identifies the main expected environmental and social impacts of the project and outlines mitigation and enhancement measures to address these impacts. The successful implementation of these measures is crucial for promoting sustainable development and ensuring compliance with national and international standards.

The expected environmental impacts of the beef and leather value chain enhancement project primarily revolve around land degradation, water resource depletion, and pollution. Fodder production can lead to soil erosion and nutrient depletion if not managed sustainably. Cattle dipping, essential for controlling diseases, might result in the contamination of water sources with chemicals. Hide processing in the leather industry can generate significant wastewater and solid waste, contributing to pollution if not properly treated. Additionally, the expansion of these activities could lead to increased greenhouse gas emissions and loss of biodiversity due to deforestation and habitat disruption.

To mitigate these impacts, the project includes several key strategies. Sustainable fodder production practices, such as crop rotation and conservation tillage, will be promoted to maintain soil health. Integrated pest management and the use of environmentally friendly chemicals will be prioritized in cattle dipping to prevent water contamination. For hide processing, the project will implement wastewater treatment systems and promote the recycling and safe disposal of solid waste. Furthermore, reforestation initiatives and the adoption of energy-efficient technologies will help offset carbon emissions. Regular environmental monitoring and capacity-building programs for stakeholders will ensure compliance with best practices and national regulations, fostering long-term sustainability and minimizing negative environmental impacts.

Main Expected Social Impacts and Mitigation Measures

The implementation of the Beef and Leather Value Chain Enhancement Project is anticipated to bring about several significant social impacts within the communities it serves. Firstly, improved infrastructure and modernized practices across the value chain are expected to generate new employment opportunities, particularly benefiting local farmers, youth, and women. Enhanced market access and income diversification opportunities will contribute to poverty alleviation and economic empowerment, fostering social stability and resilience.

To mitigate potential adverse social impacts, the Environmental and Social Management Plan (ESMP) emphasizes comprehensive stakeholder engagement and capacity building programs. These initiatives aim to ensure inclusive participation, promote local knowledge sharing, and address any social inequalities that may arise. Additionally, the ESMP includes robust grievance redress mechanisms to promptly address community concerns, thereby fostering a supportive and harmonious environment conducive to sustainable development and long-term socio-economic benefits for all stakeholders involved.3. Social Inclusion and Gender Equality

Ensuring social inclusion and gender equality is a critical aspect of the project. The project will:

- Promote equal participation of men and women in all project activities.
- Ensure that vulnerable groups, such as the elderly and people with disabilities, benefit from the project.

- Conduct gender-sensitive assessments and tailor interventions to address specific needs.

Enhancement Measures

In addition to mitigating negative impacts, the ESMP includes measures to enhance the positive impacts of the ZAVaCEP project:

- *Capacity Building and Training*: Continuous training programs will be provided to all stakeholders to enhance their understanding of environmental and social issues and build their capacity to address these challenges effectively.
- *Community Engagement*: Regular consultations and participatory approaches will be employed to ensure that the views and needs of local communities are integrated into project planning and implementation.
- *Monitoring and Evaluation:* A robust monitoring and evaluation framework will be established to track the progress of ESMP implementation and ensure that the mitigation and enhancement measures are effective.

Conclusion

The ZAVaCEP project has the potential to significantly improve agricultural productivity and economic opportunities in Zimbabwe. However, it is essential to address the associated environmental and social impacts comprehensively. The ESMP provides a detailed plan for mitigating negative impacts and enhancing positive outcomes, ensuring that the project aligns with AfDB's safeguard requirements.

By implementing the ESMP, the ZAVaCEP project will promote sustainable development, protect natural resources, and improve the well-being of local communities. The commitment to environmental stewardship and social responsibility will ensure that the project contributes to the long-term prosperity of Zimbabwe's agricultural sector. Regular monitoring, capacity building, and community engagement will be key to the successful implementation of the ESMP, fostering a collaborative approach to achieving the project's objectives.

ANNEX 1: REFERENCES USED TO DEVELOP ESMP

AfCFTA Secretariat. (2021). [Trade Opportunities for Zimbabwe](https://au-afcfta.org/trade-opportunities-zimbabwe/). AU AfCFTA.

African Development Bank. (2023). Zimbabwe Agricultural Value Chain Enhancement Project (ZAVaCEP) Preparatory Mission Report.

African Development Bank (AfDB). Safeguard Instruments.

Chigumira, G., & Matshe, I. (2018). [Challenges in the Beef Value Chain in Zimbabwe](https://www.researchgate.net/publication/327414307ChallengesintheBeefValueChaininZimbabwe). Research Paper.

FAO. (2016). Developing gender-sensitive value chains: Guidelines for practitioners. Food and Agriculture Organization of the United Nations.

FAO. (2018). The State of Food Security and Nutrition in the World.

FAO. (2019). Climate Smart Agriculture in Zimbabwe. Retrieved from http://www.fao.org/climate-smart-agriculture-sourcebook/production.

FAO. (2020). Livestock and the Environment: What Have We Learned in the Past Decade?

FAO. (2022). [Zimbabwe Livestock Sector Analysis](https://www.fao.org/publications/card/en/c/CA0123EN/). FAO Publications. resources/module-b5-livestock/chapter-b5-4/en/

Government of Zimbabwe. (2021). National Development Strategy 1 (NDS1: 2021-2025).

Government of Zimbabwe. (2021). Zimbabwe Leather Sector Strategy (2021-2030).

Government of Zimbabwe. (2021). Zimbabwe Livestock Growth Plan (2021-2025).

Hanyani-Mlambo, B. T. (2019). [Infrastructure Deficiencies in Zimbabwe's Beef Sector](https://www.africaportal.org/publications/infrastructure-deficiencies-zimbabwes-beef-sector/). Africa Portal.

Human Rights Watch. (2021). Reports on human rights issues in Zimbabwe. Retrieved from [Human Rights Watch](https://www.hrw.org/)

IFAD. (2018). Climate-Smart Livestock Production in Zimbabwe. Retrieved from https://www.ifad.org/documents/38714170/40253882/Climate-smart+livestock+production+in+Zimbabwe.pdf

IFAD. (2019). Creating opportunities for rural youth: 2019 Rural Development Report. International Fund for Agricultural Development.

IFC. (2018). Performance Standards on Environmental and Social Sustainability.

Institute for Security Studies (ISS). (2020). Study on social dynamics and development projects in Zimbabwe.

International Crisis Group. (2020). Reports on political challenges and governance issues in Zimbabwe.

IPCC. (2019). Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems. Retrieved from https://www.ipcc.ch/srccl/

IUCN. (2017). Integrated Approach to Planning and Sustainable Development.

Ministry of Agriculture, Zimbabwe. (2021). [Agricultural Sector's Contribution to GDP](http://www.agriculture.gov.zw/index.php/en/statistics/gdp-contribution). Government Report.

Ministry of Environment, Water and Climate (MEWC). (2016). Zimbabwe's National Climate Change Response Strategy. Retrieved from https://www4.unfccc.int/sites/NAPC/Documents%20NAP/ZimbabweNCCRS.pdf

Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement. (2018). National Agriculture Policy Framework (NAPF) 2018-2030. Government of Zimbabwe.

Moyo, S. (2019). Challenges and Opportunities in the Zimbabwean Beef and Leather Sector. Journal of Agribusiness in Developing and Emerging Economies, 9(2), 129-145.

Moyo, S., & Chambati, W. (Eds.). (2013). Land and Agrarian Reform in Zimbabwe: Beyond White-Settler Capitalism. African Books Collective.
Mudzengi, B. K., & Musemwa, L. (2016). [Foot-and-Mouth Disease Impacts on Zimbabwe's Beef Export](https://journals.sagepub.com/doi/full/10.1177/2158244016669527). SAGE Open.
Mugabe, P. (2020). Leather Processing Challenges in Zimbabwe](https://www.ajol.info/index.php/ajest/article/view/202483). African Journal of Environmental Science and Technology.
National Policies, Regulations, and Legislations.
Ndlovu, J., & Chifamba, E. (2020). Enhancing Value Addition in Zimbabwe's Leather Industry. African Journal of Business Management, 14(9), 293-303.
Project Proposal and Baseline Reports for the SBLVCP.
Relevant International Instruments and Conventions.
Transparency International. (2019). Studies on regulatory and bureaucratic inefficiencies in Zimbabwe.
UNDP. (2017). Climate Change Response Strategy and Action Plan for Zimbabwe. Retrieved from https://www.zw.undp.org/content/zimbabwe/en/home/library/environmentenergy/climate-change-response-strategy-and-action-plan.html
UNDP. (2018). Disability Inclusive Development in UNDP. United Nations Development Programme.
UNDP. (2019). Human Development Report.
UNDP. (2020). [Public-Private Partnerships in Zimbabwe's Agricultural Sector](https://www.zw.undp.org/content/zimbabwe/en/home/library/publications/ppp-in-agriculture.html). UNDP Report.
UNEP. (2020). Guidance on Social Impact Assessment for Projects.
UNEP. (2020). Global Environment Outlook (GEO-6): Healthy Planet, Healthy People. Retrieved from https://www.unep.org/resources/global-environment-outlook-6
UNAIDS. (2020). Global HIV & AIDS statistics — 2020 fact sheet. Joint United Nations Programme on HIV/AIDS.
USAID. (2018). Climate Risk Profile: Zimbabwe. Retrieved from https://www.climatelinks.org/resources/climate-risk-profile-zimbabwe
World Bank. (2010). Indigenous Peoples and Climate Change in Africa. World Bank.
World Bank. (2019). Value Addition in Zimbabwe's Agro-Processing Sector](https://documents.worldbank.org/en/publication/documents-reports/documentdetail/573221560037028119/value-addition-in-zimbabwes-agro-processing-sector). World Bank Report.
World Bank. (2019). World Development Report.
World Bank. (2020). Economic Impacts of Agriculture.
World Bank. (2021). Reports on Zimbabwe's economic conditions, including the impacts of inflation and economic instability. Retrieved from https://www.worldbank.org/en/topic/environment/publication/sustainable-land-management-in-sub-saharan-africa
Zimbabwe Agriculture Investment Plan (ZAIP) 2017-2021. (2017). Ministry of Lands, Agriculture, Water, Climate and Rural Resettlement.
Zimbabwe National Statistics Agency. (2021). GDP Contribution and Employment Statistics in Agriculture.
Zimbabwe National Statistics Agency (ZIMSTAT). (2019). Zimbabwe Demographic and Health Survey 2018.

ANNEX 2: LIST OF STAKEHOLDERS INCLUDING FARMERS ENGAGED DURING THE ZIMBABWE Agriculture Value Chain (ZAVaCEP) Project Preparation Mission - 28 May to 7 June 2024

Date	Place visited	Number attended (Males , Females)		Issues raised /Raised
		F	M	
31st May 2024	Insiza District local Government	5	7	• Welcome and support required for their farmers due to droughts
31st May 2024	Nkonjeni Dip Tank	8	12	• Drought, lack of fodder, tick disease • Non cattle owners disappointed as there is no help with stocking
01 June 2024	Bolo Dip Tank	6	8	• Fetching water from the dam or pool for the dip tank • Insufficient water for livestock and dipping • Dilapidated dip dank structures
3rd June 2024	Beitbridge District Local Government	3	6	• Outbreak of diseases e.g. January disease which resulted in high mortality • Inadequate water supply for both livestock and human use
3rd June 2024	Lusenga	4	11	• Water challenges, water is being collected from a very far water source, about 5km
3rd June 2024	Tschikuati	8	3	• Low supply of livestock feed, pastures from the range

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ANNEX 3 SPECIFIC PROJECT SITES VISITED IN INSIZA –

3. INSIZA DISTRICT

3.1 NKONJENI DIP TANK

Nkonjeni Dip Tank is one of the targeted infrastructure rehabilitation sites, located at coordinates 20°33’51" S, 29°41’19" E in Insiza District. Planned interventions at Nkonjeni dip tank (Figure 7) site include deepening and equipping the existing borehole with solar pump and overhead storage tank, dip tank rehabilitation, construction of water troughs and toilets, and soil and water conservation works. This dip tank serves six villages: Nhlangano A, Nhlangano B, Malole B, Malole C, and Malole D. It provides services to up to 86 households with a total of 856 cattle.

Figure 8. Nkonjeni Dip Tank Condition

Dipping: The community dip their cattle every fortnight. There are penalties for not bringing cattle for dipping, with fines of $30 issued by the livestock extension officer. However, enforcement is lax, and many fines are ignored. Cattle roam freely in the forest rather than being penned and this contributes to some cattle not being collected for dipping -thus risking disease spread. The community assists elderly residents with labour and cattle dipping.

Human and Social situation

The area is falls under the traditional leadership of Chief Madhuma. The community using the dip tank have been resettled in the area from around year 2000. While the population and demographic structure of the villages was not established, Insiza district has a higher female population, with approximately 50 homes per resettled village, each homestead averaging around 300 square meters. The farmers who participated in the consultations stated that there is very minimal polygamy in the area but child marriages are increasing due to gold panning activities, which also lead to more violent conflicts.

There is no dominant religion, but 12 Apostles, Pentecost, and Zionist sects are present. The area is a resettlement zone, with residents arriving in phases in 2000, 2013, and 2016, resulting in diverse cultural practices. Wednesday is a sacred day when community leaders preside over reported cases. Chief Madhuma's strict stance against GBV results in low incidences.

This area lacks significant history of aid from NGOs or development agencies due to its status as a contested resettlement zone. Government agricultural extension services are the primary support. Community-driven projects, like the dip tank rehabilitation, faced challenges due to lack of interest from those without livestock. Initially, 40 households participated, but it dwindled to 15. Key village champions played a crucial role in mobilizing efforts.

Education: The area has one primary school (Mwele) and one secondary school (Mwele). High dropout rates are common after grade seven due to fees and distance, with some youths turning to gold panning. Children travel 3-7 km to school, facing issues like low enrollment, high teenage pregnancies, untrained teachers, and insufficient staffing.

Agriculture and Environment

The Mwele and Wanezi Rivers, tributaries of the Mwenezi River, flow through this hilly region. Dominant vegetation includes Isinga (*Combretum Molle*), umbondo (*Combretum sp*), and acacia species. The area experiences severe droughts and rarely floods. The last significant flood was during Cyclone Eline in 2017, which damaged small water weirs used during dry seasons.

Figure 9 Baseline vegetation & terrain around the Nkonjeni dip tank

During years of good rains the community grow finger millet, sorghum, and groundnuts as the main crops. However, recent poor rainfall seasons have led to crop failures and food insecurity, with yields sustaining families for only 2-3 months post-harvest. Women have turned to petty trading to cope, selling drinks, snacks, and groceries to gold panners mostly.

Challenges: Within the community, there is a lack of skills due to low educational attainment and the absence of NGOs working in the area, as it is classified as contested land. Youth unemployment is prevalent, leading many to turn to gold panning and drug use. Although the incidence of gender-based violence (GBV) may be low, early marriages and teenage pregnancies are common. To successfully manage a livestock value chain intervention, the community will require capacity building and skills development. Despite these challenges, there is a strong willingness to participate in projects aimed at enhancing their livelihoods, as demonstrated by their own efforts to rehabilitate the dip tank.

3.2 BOLO DIP TANK

The Bolo Dip Tank is located in Bolo C village within Insiza Ward 17, at coordinates 20°36.662'S, 29°36.861'E. It serves four villages: Bolo C, D Villages, Xalanga A, and part of Xalanga B. Situated 140 km from Bulawayo, it is accessible via a tarred road from Filabusi to Zvishavane, followed by a 10 km dirt road.

This dip tank Figure 9, supports 58 households, each owning up to 50 cattle. Currently, around 200 cattle use the dip tank, down from 400 due to a January disease outbreak that killed most of the stock. The community allows their cattle to roam freely in the forest.

Figure 10. Bolo Dip Tank

The dip tank is maintained by a barbed wire fence using local tree poles, which require frequent replacement. Dipping occurs fortnightly, though acaricide supply issues arise occasionally. Planned interventions include borehole drilling, dip tank rehabilitation, construction of water troughs and toilets, and soil and water conservation works.

Figure 11. Silted water Source for Bolo Dip Tank

Bio-Physical Environment and Agricultural Economy

The area features flat terrain with distant hills, and granite and dolomite rocks. Several ephemeral streams and channels traverse the area, including one near the dip tank. Annual rainfall averages 480 mm, with temperatures ranging from 20 to 33 degrees Celsius.

Water sources are limited, with no perennial sources available. A seasonal natural pool, 50 meters from the dip tank, is used to fill the dip tank but usually dries up around August. Additionally, a small heavily silted reservoir Figure 10 created behind an old weir, known locally as "Kariba," about 200 meters away, serves as a secondary water source but dries up in October due to a cyclone breach in 2017. At that point, the community travels 5 km to fetch water until the rains start filling the reservoir and pool again around December or January. The dip tank is scooped every six years but topped up weekly due to evaporation and cattle dipping.

There are no protected areas within the vicinity of the resettlement area except for the Mtata Conservancy, located approximately 30-50 km away. The project area has relatively dense vegetation dominated by thorny acacia species, *Strychnos pugens soler, Mimusops* z*eyheri*, and *Brachystegia.* Farmers report that on rare occasions, large wildlife such as impala, kudu, and zebra enter the villages. However, predators like hyenas pose threats to their cattle during droughts.

The local economy is driven by agriculture, gold panning, and the seasonal sale of mopani worms. The soils in the area are sandy loam, generally poor in fertility, and easily leached. Villagers grow groundnuts, sorghum, cowpeas, and sweet potatoes during the rainy season, but crop success is poor. Women play a significant role in agriculture.

Cattle are typically sold to Bhokhodho and Grilize Abattoirs, with prices ranging from $250 to $600. Attempts to grow fodder in the past have failed due to a lack of fertilizers and insufficient rain. Cattle theft is a significant issue, with about five cattle stolen per year. A goat project by ZIMPRO failed due to predation by jackals.

The area primarily faces droughts, with the last major flood in 2017 causing significant damage. There is no existing flood management infrastructure.

Human and Social Environment

The community is situated in a resettlement area characterized by communal land ownership, with local leadership overseeing the allocation of resources, sharing of infrastructure, and common grazing land. The land is primarily used for livestock grazing.

Settlement patterns are rural, with scattered and clustered villages. The population consists mainly of female-headed households and older individuals, with an average household size of three to four members. Employment rates are below 30%, with women playing a significant role.

Water and Sanitation: Drinking water is sourced from riverbeds by digging into the sand and is untreated. The community lacks adequate sanitation facilities. At the dip tank, there is no clean water source, no toilets, and the community resorts to open defecation.

Traditional gender norms persist, with men typically heading households. The population predominantly consists of female-headed households and older individuals, with the average household size being three to four members. Teenage pregnancies are common, though polygamy and gender-based violence are not prevalent.

Vulnerable groups include the elderly, women-headed households, child-headed households, people with disabilities, and the marginalized. Elderly residents receive assistance with daily tasks. These groups may be disproportionately affected by the project, particularly in terms of access to water if only a few boreholes are provided.

Crime is not prevalent, but occasional murder incidents and frequent serious physical assaults among artisanal miners occur.

Health and Education
The nearest health center is 17 km away at Nkangezi. Occupational health and safety risks are present, with bilharzia being a common hazard in the community. The community, consisting of three villages, is in the process of constructing a clinic to improve public health services. Children attend local primary and secondary schools within a 5-7 km radius, though low literacy levels and early pregnancies are prevalent. Few youths migrate to South Africa, with some often opting for gold panning.

Available skills in the community include builders and environmental helpers. Culturally, the community observes important traditions, such as groundbreaking ceremonies conducted by the chief and village heads for new projects and a weekly rest day from agricultural work on Wednesdays.

Dip Tank Committee
The dip tank committee, comprising six men and one woman, manages the tank, encourages dipping, maintains records, and organizes water-fetching schedules. Conflict resolution involves the committee, escalating to the kraal head if necessary. Farmers face challenges such as skill shortages, lack of fodder, water and sanitation issues, soil erosion, and siltation of water sources.

The primary challenges faced by farmers in this area include a shortage of skills, lack of fodder for their livestock, water availability and sanitation issues, soil erosion, and siltation of water sources. There is also high unemployment rates largely affecting the youths.

3.3 NKANKEZI RANGELAND

Overview
The Nkankezi Rangeland is located at coordinates S-20293 E-292250 in Ward 20, Insiza District, near Nkankezi village. The nearest towns are Gwanda and Bulawayo, approximately 150 kilometers away, with fair road conditions leading to the project site. ZAVaCEP plans to upscale the rangeland beyond the FAO demonstration project, improve cattle breeding, and install boreholes, toilets, and additional fencing.

Nkankezi village, established in 1992 under the "willing seller, willing buyer" land resettlement scheme, is home to 92 households arranged in an organized layout. This facilitates service provision, with most homesteads neatly fenced. Some households have home solar PV systems and private boreholes, enabling personal gardens.

Figure 12 . The new fencing poles being erected at Nkankezi rangeland

Figure 13. Nkankezi rangeland current vegetation type

Land tenure is communal, with shared infrastructure and local leadership responsible for resource allocation. The land is primarily used for livestock grazing, small grain production, residential purposes, and social infrastructure like clinics, shops, and schools.

Bio-Physical Environment

The Nkankezi Rangeland features a generally flat and hilly topography with predominantly sandy soil and granite rock formations, which exhibit poor fertility and a high tendency for leaching. The climate features average temperatures ranging from 20 to 33°C and an average annual rainfall of 480mm, with prevalent eastward winds.

Water resources are generally scarce, although surface water sources exist in nearby streams, which typically dry up in winter. The community relies on a communal borehole and individual boreholes for domestic water and livestock drinking. During dry periods, water for the dip tank is fetched from the Mbanya River, a considerable distance away.

Vegetation is dominated by Acacia species and dense grassland cover (Figure 13). Common fauna are not well-documented, and there are no noted endangered or endemic species in the area.

Human and Social Environment

The village has social governance structures, including a village committee headed by a female kraal head overseeing village issues, a water committee for the borehole, a dip tank committee, and a seven-member rangeland committee. These structures are also used for conflict resolution, escalating issues to village heads if needed. The village committee manages resource allocation, tree cutting, fines, and village funds. The community does not condone child marriages and encourages families to support pregnant girls and return them to school.

Children from the village attend Ngankesi Primary and Secondary School, which goes up to Form 4 and is within a 3 km radius of the village. For Forms 5 and 6, students go to Filabusi Secondary in town and rent accommodation.

Cultural practices include ground-breaking ceremonies by the chief and village heads and a cultural norm of not working in crop fields on Wednesdays. Vulnerable groups include seven community members with disabilities who face significant challenges accessing water from distant sources. Traditional gender norms dominate decision-making processes, but the ZAVaCEP project aims to empower women and challenge patriarchal systems. The predominant religions in the village include Apostolic, Seventh Day Adventist, Zion, ZCC, and Masungano.

Past successful community-led projects include the construction of a dip tank, recently rehabilitated with funds from the Zimbabwe Resilience Building Fund (ZRBF), which provided materials like cement while the community contributed bricks, builders, and sand.

Rangeland Rehabilitation

The Nkankezi Rangeland, covering 3.5 km by 5 km, is undergoing rehabilitation by the FAO. A 400m by 500m demonstration site is being set up. Originally covered with hypernea grasses and indigenous forests, the vegetation has changed to hardier, drought-resistant grasses interspersed with Acacia trees. FAO plans to provide seeds for the rain-fed demonstration site. At the time of the visit, fencing for the demonstration plot was in progress, with treated poles provided by FAO. The original fence was stolen in 2000. Given past issues with stolen fencing, the committee plans to set up security and possibly build a guard house.

Impact of January Disease on Cattle

Nkankezi was severely impacted by the January diseases in early 2024. The cattle population in the village significantly declined due to the disease, reducing from approximately 800 to 97. In response to the outbreak, farmers sold cattle to reduce risk, fetching prices between $100 and $150. Typically, cattle are sold at a stock market auction 30 km from the village, though villagers are dissatisfied with the prices. Additionally, the community reported that they do not process their hides when they slaughter cattle but instead discard or burn them.

In addition to cattle farming, some villagers raise chickens, particularly broilers, for sale. They also engage in market gardening, particularly those with boreholes at their homesteads. Villagers practice rain-fed agriculture, growing crops such as maize, groundnuts, round nuts, sweet potatoes, and sorghum.

Challenges

The main challenge in the village is inadequate water supply, limiting the ability of those without private boreholes to maintain nutrition gardens. During the rainy season, cattle are traditionally penned but are now left to roam due to reduced numbers. The village is primarily troubled by baboons, with no other significant wildlife presence.

ANNEX 4. SITES VISTED IN BEITBRIDGE DISTRICT

4.1 Lusenga Diptank

Overview

The Lusenga Diptank project is located in Lusenga village, Ward 9 of Beitbridge District, at coordinates

Figure 15. Collapsed water trough at Lusenga Dip Tank

Figure 14 Discussions at Lusenga Beitbridge

S 21 89 3325000, E 30 370115000. It serves 103 villagers who own a total of 409 cattle. The nearest town, Beitbridge, is 80 kilometres away, and the road conditions leading to the project site are fair.

ZAVaCEP interventions include:
- Drilling a solar-powered borehole
- Installing water troughs
- Constructing toilets
- Rehabilitating the dip tank
- Training farmers
- Implementing soil and water conservation works

Bio-Physical Environment

The area's topography is generally flat with some hilly regions. Notable features include rivers, streams, and small waterways. The soil is primarily sandy loam, which has poor fertility and is easily leached. The average temperature ranges from 23 to 35°C, with an annual rainfall of about 330 mm. The prevalent wind direction is southwards.

Lusenga Dam, located 10 km away, is the major water body but dries up during the rainy season. There are no perennial water sources or clean water sources for domestic use in the area, and the dip tank site lacks sanitation facilities like toilets.

The project site is 10 km from the CAMPFIRE area, Buffalo Range, and an aerodrome. The dominant plant species are fig trees and acacia species, with sparse vegetation cover. No commonly observed animal species or endangered/endemic species were reported by the community, and there are no critical habitats like wetlands. Dust from roads and smoke from charcoal production are notable air and water pollutants.

Human and Social Environment

The land is communally owned and primarily used for livestock grazing, small grain production, residential areas, and social services such as clinics, shops, and schools. The area features linear and scattered rural settlements with low density. Households typically consist of 2 to 3 members. There are two schools (primary and secondary) located about 10 km away and a clinic 20 km away.

The main economic activities are agriculture and selling mopani worms and women are primarily involved in economic activities. Due to low employment rate that is below 10% a significant male population form the area migrate to South Africa for work.

A significant cultural site is a sacred mountain. Polygamy and teenage marriages are common, leading to school dropouts due to financial constraints. Males dominate decision-making processes, reinforcing patriarchal systems. GBV issues are addressed by the Zimbabwe Republic Police's Victim Friendly Unit, village heads, and the elderly, but there are no community-based structures to handle GBV. Conflicts are managed by village heads and a dip tank committee of seven community members, with the assistance of an environmental monitor.

Past Projects
The community has previously collaborated with various government ministries and departments, such as MLAFWRD, MWASCMED, MIC, Local Government, on projects ranging from animal health to soil and water conservation. The community emphasized the need for consensus on site selection for projects to avoid conflicts.

The main challenges include skills shortages, water availability and sanitation issues, soil erosion, and siltation of water sources. Other prevalent issues are livestock theft, strong winds during cyclones, and human-wildlife conflicts.

4.2 Tschikuata Rangeland

Overview
Tschikuati village, located in Beitbridge District at coordinates S-202160, E-29227, is surrounded by expansive rangelands with flat terrain and scattered ephemeral streams. The community faces significant economic challenges due to climate change induced droughts and poverty. The area endures a harsh climate with temperatures ranging from 20°C to 35°C and an average annual rainfall of just 330mm. Prevailing winds from the south influence local weather patterns.

Primary interventions in Tschikuati focus on vital infrastructure, including borehole drilling, water trough installations, and constructing essential facilities such as toilets. These efforts address persistent issues like skills shortages, insufficient fodder, and the critical need for reliable water and sanitation services.

Bio-Physical Environment
Water scarcity is a major concern, exacerbated by the lack of perennial water sources. During the dry season, the community relies on a small depression that collects runoff, which dries up by May (Figure 16). Subsequently, villagers must travel 5km to access a borehole, highlighting the daily struggle for water.

Figure 16. Tschikuati typical vegetation cover

The area boasts of vegetation, dominated by Mopani and scattered fig trees. The area s overgrazed and there

is hardly any grasses for pastures (Figure 15). Wildlife sightings are minimal, with no endangered species reported. The nearby Bubi Conservancy, located 60km away, provides some conservation value despite its distance.

Figure 17. Tschikuati Rangeland Natural Pool -dried up.

Human and Social Environment

Land tenure in Tschikuati is communal, primarily used for livestock grazing and small-scale farming. The population is predominantly female-headed, with an average household size of two to three. Social infrastructure includes two schools—Lutumba Secondary and Primary Schools—both 7km away, alongside a clinic that serves the community's health needs. In 2017, the area faced floods due to cyclonic weather patterns, highlighting vulnerabilities in flood management infrastructure. Economic activities revolve around agriculture, with women playing a crucial role in sustaining local livelihoods. Cultural practices, such as communal decision-making led by male elders, underscore traditional gender norms that shape community dynamics.

Despite these challenges, Tschikuati holds promise for sustainable development initiatives aimed at improving local living conditions. By addressing water access, sanitation, and enhancing livestock productivity, ZAVaCEP seeks to bolster community resilience in the face of climate change.

ANNEX 5 - ZAVACEP PROJECT COMPONENTS AND ACTIVITIES

Component Name	Cost (UA million)	Sub-Component and Associated Activities
Component 1: Climate Smart Agricultural Productivity and Value Chain Enhancement		**Sub-component 1.1: Support to Sustainable Livestock Production and Productivity (UA 0.869 million, 25.7%):** • Rehabilitate 25 existing seasonal dip tanks/to make them fully functional (including start-up package **acaricides**, initial stock of medication and supplies, etc) and drilling of multipurpose solar-powered boreholes (with overhead tanks & reticulation system including water troughs etc). • Facilitate drilling of 4 multipurpose solar-powered boreholes (with overhead tanks & reticulation system including water troughs etc). • Facilitate construction of 14 water troughs (livestock-watering points) near existing boreholes. • Facilitate climate smart rangeland management, total 40 ha (construction of water and soil conservation works, integrated catchment management, etc). • BENEF - Carry out appropriate conservation practices around dip tanks and multi-purpose boreholes areas (total 42 ha), to be emphasised during community/beneficiaries training *(community in-kind contribution - labour, locally available materials).* • Support pasture development and fodder conservation, total 700ha (legumes & grass pastures). • Procure and distribute 14 bulls of superior genetics (managed by traditional leader). • Procure and distribute 14 feed formulation equipment. **Sub-component 1.2: Support to Agri-Business and Value Chain Enhancement (UA 0.834 million, 24.6%):** • Conduct 6 training courses on quality standards and market linkage in the Leather Value Chain (MSMEs and Clusters) – MIC • Facilitate 6 product development and design courses/sessions to enhance both quality and competitiveness utilizing both physical and virtual design studios for TOT designers and product developers including follow up mentorship sessions – MIC • GOVT - Establish the value of the fifth quarter for cattle (6 sessions*) (Government in-kind contribution - Stakeholders consultations)* – Agric • Support to 3 local exhibitions (MSMEs/clusters) – MIC • Support 5 Regional exhibitions (2 Zambia, 2 South Africa and 1 Tanzania)- MIC • Support total of 2 leather value chain development knowledge-exchange visits (to Ethiopia or Tunisia), participants 4 Govt/MIC and Agric4, 4 clusters & 2 MSMEs. • Support development of 8 community-level demand-driven feedlots (including minor construction/ maintenance, training-market linkages & start-up inputs) – Agric • BENEF - Support to 8 community-level demand-driven feedlots (including minor construction/maintenance labour and locally available materials) - *Beneficiaries/Community in-kind contribution.* • Establish 4 community-managed demand-driven aggregation centres (community center of excellence, holding pens, water trough, training), close to selected feedlots – Agric. • Establish 1 online market platform for leather finished products (National and International Markets) – MIC. • Support 5 **existing** dairy farmers groups (including women and youth) to sustainably improve quality of associated products.

Sub-component 1.3: Support to Women and Youth MSME Agro – Processing and Market Access

(To be managed by the Ministry of Women Affairs, Community, Small and Medium Enterprises Development)

Sensitization and Awareness

- Organise 5 community mobilisation workshops in each district of Chiredzi and Chivi.
- Engage mass media in disseminating the programme to portray project activities to make it known to communities and institutions that are involved in implementation.
- Produce and disseminate awareness and promotional materials including brochures, posters, and T shirts.
- Launch of the Project in each of the districts.

Capacity Building of MSMEs in Agro-processing

- Identification of MSMEs (clusters, private companies, groups, cooperatives, associations, individuals).
- Engage partners and consultants to capacitate MSMEs with technical skills in production, processing, harvesting, packaging, standardisation and quality assurance. At least 20 training workshops will be conducted.
- Conduct periodic visits to MSMEs to provide onsite training.
- Conduct at least 10 business management training workshops in each district. The capacity building workshops will be provided to groups of potential beneficiaries. Trainings will cover areas such as business planning, costing, record keeping, marketing, association building, business and cooperative registration among others.

Strengthening of the MSME Agro–processing Value Chain

- Acquisition of at least 100 Agro – processing machinery such as stock feed processing plant, peanut butter processing plant, tomato puree, honey processing plant and packaging machinery for each district.
- Acquisition of preservation facilities such as cold chain facilities, dryers, vacuum packaging.
- Installation and servicing of machinery.
- Drilling of 20 solar powered boreholes to improve access to water and also connection to perennial water bodies for increased output to compliment availability of processing machinery and handling facilities.

Market Access

- Certification of MSME products to access local, regional and international markets.
- Facilitate participation of MSMEs with quality products at local, regional and international market platforms.
- Provision of capacity building to MSMEs to produce products ready to be absorbed by the international market.
- Identification and secure lucrative markets for MSME products.

Support to the Ministry

- Facilitate technical support covering beneficiary assessments, guiding project activities through technical backstopping, stakeholder engagement, monitoring and compilation of reports.
- Procurement of a project vehicle, 2 laptops.
- Look and Learn visit to a country that has robust agro processing value chain such as Kenya.
- Funding of Project Focal person.

Component 2: Capacity Building, Gender, Social Inclusion, and Knowledge Management	1.426 (42.1%)	**Sub-component 2.1: Capacity Building, Social Inclusion, and Smallholder Livestock Farmers Empowerment (UA 0.802 million, 23.7%):** • Conduct farmer training (practical/hands-on) on livestock identification and traceability – Agric. • Conduct product development and value addition training (combined), for clusters (beef, horns, hides, skins, footwear, leather crafts, etc), including quality standards and leather designs though Leather studios to enhance competitiveness – MIC. • Procure equipment for leather-value addition (clusters/ 2 sets of equipment/tools per cluster), to support the value addition training. – MIC. • Support pass-on scheme for small stock (goats - total 1400 does/female + 70 bucks/male), for women and youth groups -Agric. • Conduct staff training (Training of Trainers/ToT) on low carbon livestock production (husbandry, inputs management for resilience and methane reduction, health management and animal welfare) – Agric. • Conduct training in eco-friendly sustainable leather tanning especially of goat and sheep skins targeting mainly rural livestock farmers including women and youth – Agric. • Conduct farmer training on low carbon livestock production (husbandry, inputs management for resilience and methane mitigation; health management and animal welfare, feed formulation etc) (4 sessions/year)- Agric. • GOVT - Provide Office Space, including utilities, for PMU & PCU Staff - *Government in-kind contribution.* • GOVT - Provide funds/counterpart contribution for various annual taxes/or waiver value - *Government in-kind contribution.* • GOVT - Provide PMU & PCU Office Furniture Sets - *Government in-kind contribution.* • GOVT - Provide PMU & PCU Office & ICT Equipment Sets (including desktops, laptops, printers) - *Government in-kind contribution.*

		Sub-component 2.2: Knowledge Management, Policy Development, Monitoring and Evaluation (UA 0.624 million, 18.4%): • Facilitate review of legislations/SI/Act (Animal Health Act, SI 182 Live Carcass Classification and Grading, SI 240 of 2001 Pigs) - Agric. • Facilitate review of policies, plans and strategies (Livestock Growth and Recovery Plan, and Gender Strategy in Agriculture) – Agric. • Support production of Policy Briefs on (i) Leather Value Chain, and (ii) Low carbon Beef Value Chain – Agric. • Support or build awareness of the Zimbabwe national standard body/Standard Association of Zimbabwe on best practices of standardization and guideline for climate actions in beef and leather value chain development and access to international markets. • Produce 3 Annual Work Plans and Budgets, and Procurement Plans (Set). • Support the Stakeholders' Platform (lumpsum, 1 per year) to enhance sustained facilitated dialogue at national level of all stakeholders (public and private) along the beef and leather value chain, and to improve the effectiveness of the value chain. • Facilitate 1 Project Technical Launch (PY1). • Facilitate Production of 1 Project Implementation Manual (PIM) - Consultancy (PY1). • Support Tender Advertising and Evaluation (Procurement) Activities (PY1 & PY2). • Support Information Education and Communication (IEC & Visibility) Activities (including promotional wear, airtime, data bundles, billboards, pamphlets etc). • Support 12 monitoring/supervisory field visits (quarterly)/HQ (max 5 people, 5 days/trip). • Support 36 monitoring/supervisory field visits (Provincial/District - monthly). • Conduct 3 quarterly and 3 annual review meetings (& produce Quarterly/Annual Progress Reports). • Facilitate 3 Annual Project Steering Committee (PSC) Meetings. • Facilitate 3 Annual Project Management Committee Meetings. • Procure 2 Sector-MIC and Agric-Livestock PCU Vehicles (twin/double cabs 4x4). • Conduct 1 Mid Term Review (MTR) - recruit consultant (fees & field trip DSA). • Conduct 1 Beneficiary Impact Assessment (BIA) - recruit consultant (fees & field trip DSA). • Conduct End of Project Implementation Report (PCR) - recruit consultant (fees & field trip DSA). • Facilitate E&S Audits, Environmental and Social Safe-guards compliance and Grievance Redress Mechanism (GRM) activities.
Component 3: Project Management	0.256 (7.6%)	**Sub-component 3.1: Project Management (UA 0.256 million, 7.6%):** • Contribute to annual MoFED Project Management Unit and Sector Project Coordination Units Operational Costs (Office supplies/consumables/stationery, cartridges, courier services etc). • Support Third Party (AU-African Capacity Building Foundation/ACBF) to manage Project Special Account. • MoFED PMU Annual Staff Costs – Project Officer (1). • Conduct Annual Financial and Procurement Audits (3, combined). • Support Pastel Accounting Software license (2, PY1 and PY3). • Support various Bank Missions, Procurement and Financial Management functions, including fiduciary clinics. • Support 1 PMU-MoFED Vehicle Operation (Fuel) and Maintenance (servicing/repairs).
Total		

ANNEX 6 - List of Associated REPORTs APPENDED

This ESMP is supported by the following report and plans

1. Project Grievance Redress Mechanism (GRM)
2. Project Stakeholder Engagement Plan (SEP)
3. Project Pest Management Plan (PMP)
    1.