

AFRICAN DEVELOPMENT BANK
THE UNITED REPUBLIC OF TANZANIA



**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK**

FOR

THE FOOD SYSTEMS SUPPORT

IN

TANZANIA MAINLAND AND ZANZIBAR

FINAL REPORT

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DATE OF SUBMISSION: **20th January, 2023**

EXECUTIVE SUMMARY**1. Brief Project Description**

The project will be implemented in Tanzania Mainland (Morogoro and Njombe regions) and Zanzibar in Kasikazini Unguja Region. The Food Systems Support Project (FSSP) is consisted and well aligned with National, Regional and Global strategies related to agricultural and economic development. This project, for example is aligned with the FYDP III, the Agricultural Sector development program II (ASDP II); the 2030 Sustainable Development Goals (SDGs) - particularly SDG1 (no poverty), SDG2 (zero hunger), SDG 10 (Reduced inequalities) and SDG 13 (climate action). Other initiatives to which this project is well aligned are Africa Agenda 2063 as well as the East African Development Vision 2030, the AfDB's Ten-Year Strategy (2013-2022). FYDP III aims to steer Tanzania to a middle-income economy with a high level of human development. Specifically, this plan focuses in increasing agriculture productivity, value, income, employment creation and diversification of products. The Second Agriculture Sector Development Programme (ASDP II) of 2017/18-2022/23) aims at transforming the agriculture sector towards higher productivity, commercialization and increasing smallholder farmer income for improved livelihood, food and nutrition security and contribution to the GDP. The ASDP II is also aligned to the National Climate Change Response Strategy 2021-2026.

When implemented, this project will help to achieve one of the High 5s agenda, namely Feed Africa. The Project will also help achieve the Bank's policy commitments under Pillar I of ADF-15 regarding: (i) technologies for agriculture; (ii) climate smart agriculture; and (iii) promoting gender inclusivity. Additionally, the Project is aligned to the Bank's Gender Strategy 2021-2025 and the Bank's Climate Change and Green Growth Action Plan (2021 - 2025), which aims at boosting climate resilience and adaptation to climate change. It is also in line with the Bank's current Country Strategy Paper for Tanzania (CSP 2021-2025), particularly its second priority area Improved private sector business environment for job creation.

The Project will be implemented by MVIWATA through a dedicated Project Steering Committee (PSC), Technical Advisory Committee (TAC) and Project Implementation Team (PIT). Other institutions to participate will be Tanzania Bureau of Standards (TBS), Small-scale Industry Development Organization (SIDO), TanTrade, Ministry of Agriculture, Livestock, Fisheries and Natural Resources (MANR), Zanzibar; Representative of the President's Office Regional Administration and Local Governments (PO-RALG); and one representative of local farmers groups as deem necessary by MVIWATA.

The Objective of developing this project is to increase smallholder farmers' horticultural productivity. Specifically, the project aims to (i) increase productivity and production of horticulture and food crops; (ii) enhance value addition and marketing of horticultural crops grown by smallholder farmers, particularly women and youth; and (iii) promote technologies to mitigate the impact of climate change on smallholder farming systems.

The development model or theory of change (TOC) of this project is improved extension services will improve adoption rate of improved technologies and ultimately lead to increased production and productivity. Also, improved farmers' institutional capacity, value addition, marketing efficiency, supply services on horticultural produce value chains will increase profitability on horticultural crops, and thus, sustainable household incomes. In totality, the combined effects of increased production, productivity and household income will enhance availability, accessibility and affordability of food at household level, and ultimately mitigate the negative impacts of COVID-19 pandemic and other calamities (AfDB, 2022).

2. Project Components and Activities

The project has three components, namely: (i) Scaling up production and productivity; (ii) Strengthening value addition and marketing; and (iii) management and coordination of the project. Activities for each component are presented below:

Component 1: Scaling up Production and Productivity

This component has a budget of UA 0.262million which is 13 percent of the total cost.

This component will

- i) promote sustainable agricultural practices and techniques, agro-ecological practices, biodiversity and landscape management strategies¹.
- ii) improve production advisory services and post-harvest management;

¹Including promotion of the use of climatic resilient varieties to cope with climatic changes.

- iii) build the capacity of smallholder farmers on climate resilience, good agricultural practices and integrated pest management systems to help address the existing and emerging crop pests and diseases;
- iv) Facilitate acquisition of critical agricultural inputs to increase the production and productivity of vegetables and spices; train about 10,000 small holder farmers (at least 30% women): on-farm training and application of technology;
- v) Facilitate knowledge exchanges on best practices and address critical post-production constraints, including handling and storage of farm produce;
- vi) support to village land development and field expansion; and
- vii) facilitate acquisition of suitable seeds, particularly of tomatoes based on the market needs and agro-ecological requirements.

Component 2: Enhancing Value Addition and Marketing

This component which has a budget of UA1.035million, 51.0% of total cost will do the following:

- (i) support construction of at least 5 postharvest and bulking infrastructure for bulking and packaging;
- (ii) support MVIWATA Marketing Company to undertake aggregation from smallholder farmer groups and cooperatives, particularly bulking of essential spices for value addition;
- (iii) establish one multi-purpose spice processing facility in Morogoro district to process spices for local and regional markets;
- (iv) build the capacity of MVIWATA to manage the processing facility;
- (v) support in developing improved packaging materials, labeling, and branding of spices;
- (vi) work closely with the Small-scale Industry Development Organization (SIDO) for further product development, the Tanzania Bureau of Standards (TBS) for quality assurance and certification to meet market requirements in the spice industry and Tan Trade for export markets;
- (vii) Develop information Communication technology (ICT) platform for promoting and marketing of horticulture produces;
- (viii) Develop aggregation/ bulking, processing and storage facilities to address post-harvest losses; and
- (ix) Enhance the capacity of MVIWATA in ensuring institutional growth as well as the project delivery and sustainability of the Project outcomes.

Component 3: Project Management and Coordination

This component has a budget of UA0.206 million which is 10% of total cost and will be used for the following activities: (i) support coordination and management of the Project including planning, budgeting, monitoring and evaluation, reporting, financial

management, audits, procurement, and documentation and communication of Project results and impact to ensure Project visibility.

3. Project Geographical Locations

This project will be implemented in Tanzania mainland and Zanzibar in the Regions of Morogoro, Njombe and Unguja respectively. In Morogoro Region, the project will be implemented in Morogoro and Mvomero District Councils while in Njombe Region it will be implemented in Wanging'ombe District Council. In Zanzibar, the project will be implemented in Unguja Region in the two Districts of Kaskazini 'A' and Kaskazini 'B'².

Value chain crops to be developed per area are summarized below: Morogoro DC Mvomero DC-Garlic, Green Peas, Beans, and Tomatoes; Wanging'ombe-Potatoes; Kaskazini 'B' - Cloves, Cinnamon, Ginger, Black pepper; Kaskazini 'A' - Cloves, Tomatoes, Cinnamon, Ginger and Black pepper.

4. Overview of Major Environmental and Social Risks and Stakes

During the project implementation major environmental and social risks and stakes are as follows:

As the project entails different value chain namely; potatoes, tomatoes, cinnamon, garlic, green peas, beans and cloves the major impacts will be in the production of potatoes, tomatoes and processing of spices.

- Soil contamination resulting from increased use of industrial chemicals in the increasing productivity of potatoes and tomatoes.
- Over water abstraction for increased irrigation for tomatoes production in Zanzibar.
- Pressure of water use for irrigation especially for the case of tomatoes and potatoes.
- Market failure was also raised in Zanzibar because the production of tomatoes has exceeded demand hence farm loss as there are no adequate processing facility for the same
- Wastes will be generated during the processing of spices in Morogoro and Zanzibar.
- Underground water contamination resulting from poor handling of chemical containers,
- Risks related with the pest invasion if pest management plan is not well implemented.
- Social risks are related to the market failure in the production of tomatoes in Zanzibar, the market is already flooded as there is an inadequate tomato processing facility.

5. Institutional and Legal framework,

This project is guided by various laws, regulations and guidelines including the African Development Bank safeguards policy requirements that the ESMF is complying with.

6. Risks and Generic Potential Impacts of each Type of Eligible Sub-Project;

²Kaskazini means North note that there are two Districts known as A and B

Eligible sub-projects are the construction and operation of 5 post harvest and bulking infrastructure also known as aggregation centers and a Multi-Purpose Spice Processing Facility in Morogoro District. The risks and potential impacts are presented based on the phases of each sub-project.

Mobilization Phase

Socio-Economic Impacts – are likely to include employment opportunity for transporters of required building materials; experts in various skills such as engineers, masonry, plumbers etc; drivers of equipment machineries. Others to be get employment will be food vendors who will prepare food and drinks for workers during preparation of sites for each of the proposed sub-projects.

Construction Phase

Socio-economic impacts—there will be creation of employment to various individuals of semi and skilled levels. Increase of Income of local communities due to sell of products to workers. It is anticipated that the Governments will get revenue resulting from income tax and levies and VAT for materials to be procured during the construction of each of the sub-projects. Local Government Authorities will also collect service levies from procured contractors/force account operators during the construction.

It is anticipated that persons both skilled and semi-skilled persons will be employed during the construction of aggregation centres or the processing facility. Skilled persons to benefit will include architects, Civil and environmental engineers, quantity surveyors, drivers, food vendors, procurement and logistics experts, electrical engineers, local masonry etc.

Operation Phase

Socio-economic impacts

The operation phase of the processing facility will contribute to the Local and National Economy - Increased revenue to the government local and national such as industrial cess, income tax, VAT, export duty -Increased foreign currency through export of value-added products of the spices;

There will employment opportunities for those to be engaged in transportation of targeted products from farms to the bulking centres. There will be jobs for unskilled laborers women, girls and youth dealing with sorting and parking. There will be temporary or permanent employments for skilled and semi-skilled persons from surrounding communities.

Increased income to enhance food security – as smallholder farmers will be able to sell their produce to raise income which they will use to have secure food for their families.

Increased markets for raw materials near the community – this will happen as small holder farmers of targeted crops in the project areas will have secure markets for their crops. During the consultation in Zanzibar, there was a serious concern on the overproduction of tomatoes hence requiring processing facility.

The implementation of this project and in particular the operationalization of these sub-projects will act as learning opportunities for smallholder farmers, local communities on spice processing technology and marketing strategies to be done by the MVIWATA. Private entrepreneurs such as Food vendors, private warehouse owners, transporters, agro-inputs sellers will generate income through selling of their products.

Risks and Potential Negative Impacts

The Mobilization Phase of the construction of these sub-projects is likely to

- a) Influx of people especially youth searching for jobs which can result into spread of diseases such as HIV/AIDS, COVID-19;
- b) Sense of insecurity for local community where the proposed sub-project will be constructed for example in Morogoro District for the processing facility. New faces are likely to arrive with different culture, norms and values from other areas other than Morogoro, Njombe or Zanzibar;
- c) Transportation of materials to the site can result into air pollution depending on the season of mobilization
- d) Accidents can also occur as some vehicle can be moving to and from the site bring materials

Construction Phase of Sub-Projects

Environmental Impacts

- a) Erosion caused by removal of top soils during site clearing, leveling and exaction works;
- b) Impacts on surface water resources existing around the site due to uncontrolled release of solid and liquid wastes;
- c) Risks to the environment and public health due to construction waste consisting of excavation cart away material, construction in packaging materials and debris and other domestic solid waste generated by workers;
- d) Air pollution due to increased particulate and gaseous concentrations caused by the movement of heavy duty machineries, vehicles and other equipment.

Socio-economic impacts

- a) Impacts on public safety and security.
- b) Impacts on Community health- increased HIV/AIDS and communicable diseases – create awareness among the community and workers and provide preventive measures.

- c) Impact of noise to residential receptors resulting from movement of heavy duty machineries, vehicles and other equipment nuisance along the site route and boundary;

Improvement of Productivity of Potatoes and Tomatoes

- a) Impacts on underground aquifer due to increased use of chemicals in the production of potatoes and tomatoes;
- b) Encroachment of protected or reserved areas to increase production of selected crops especially potatoes, tomatoes,
- c) Impacts on environment and social health to smallholder farmers due to the use pesticides so as to increase production.

Operation Phase of Spice Processing Facility

Risks and Negative Environmental Impacts

- a) *Surface water resources* existing around the site could be affected due to uncontrolled release of solid and liquid wastes;
- b) Impacts on environment and social health for smallholder farmers due to the use pesticides so as to increase production of spices needed as raw materials needed by the Spice Processing Facility
- c) Impacts associated with the generation of solid waste during spice processing,
- d) *Risks associated with inadequate supply of targeted spices* for processing at the facility.
- e) Air pollution due to dust caused by spices being processed; solid wastes resulting from spices remains during the processing.
- f) *Occupational safety and health impacts* such as fire outbreak; accidents caused by running processing machines;

Socio-economic impacts

- a) *Health hazards* caused by inhaling and contamination – provide protective gears such as face masks, proper packing and labeling;
- b) *Increased HIV/AIDS* and communicable diseases Impacts on public safety and security and on Community health;
- c) Pressure on needed land for further expansion of farms so as to increase production;
- d) Impacts associated with inadequate supply of crops needed for the functionality of the processing facility.
- e) *Incidence of child labour* for working in small farms, aggregation and bulking of needed crops products and at the processing facility;
- f) Impacts associated with the supply of agro-raw materials of low qualities and of different species;

- g) *Loss of Income* – can result from the closure of the spice processing facility due to inadequate supply of types of targeted spices.

7. Public consultation during the preparation of the ESMF

From 17th November to 25th November, 2022 the Consultant had meeting with the group of smallholder farmers alongside the Annual General Meeting of MVIWATA in Morogoro Region followed by the meeting with Morogoro Regional Administrative Secretariat (RAS) on issues related to the environmental and social impacts, risks associated with the proposed project. On the same date, we consulted with the Mvomero District Council where we discussed the proposed interventions in the District.

On 21st and 22nd November 2022 we had consultation meeting with the Njombe Regional Commissioner and his Senior Agricultural Advisor, the Member of Parliament for Njombe Urban raised issues of concern of potatoes value chain in the region and the targeted district in particular. On the 22nd November, 2022 the team visited Wanging'ombe District and met with the Senior Management led by the District Executive Director (DED and Senior Officials responsible for agricultural development and environmental safeguards.

On 25th November, 2022, the team held a focus group discussion with the MVIWATA Senior Management Team to have a clear understanding of their actual intention of the project as per their original proposal. MVIWATA, as implementing entity, is an umbrella for smallholder farmers therefore they have documented concerns, expectations, challenges and proposals of famers in the selected value chain.

On 29th November, 2022 we travelled and held Meetings with the Senior Officials in the Districts of Kaskazini Unguja A and Kaskazini Unguja B at Kaskazini B District Commisioner's Office.

8. Framework Environmental and Social Management Plan (Framework ESMP)

The following are generic environmental and social measures to ensure that the anticipated impacts are handled adequately by ensuring:

- On the construction of spice processing facility the project management will ensure that impacts related to the selected sites are mitigated adequately by screening the site based on the criteria provided in the EIA and Audits Regulations,2005 and the Amended regulations of 2018. This will apply for the construction of mini-warehouse for aggregation of selected spices or storage facility.
- Proper training and capacity to building to farmers on proper use of chemicals during the production and improvement of productivity.
- Wise use of water through issuance of water abstraction rights as per the laws and regulations. In Zanzibar abstraction of water is very high as almost all farmers have water pumps.

- proper support of the functionality of the markets by engaging with other Government actors in Zanzibar on production of tomatoes has exceeded demand hence farm loss as there are no adequate processing facility for the same
- Proper handling of Wastes will be generated during the processing of spices in Morogoro and Zanzibar.
- guidance on proper handling of empty containers resulting from the use of chemical containers,
- Effective implementation of the pest management plan so as to mitigate risks associated with the pest invasion if pest management plan is not well implemented.

Sub-Projects Environmental and Social Management Procedure

The PIE using the E&S Consultant will prepare detailed description of the Sub-project guided by Environmental Management Act (EMA) and her EIA and Audits Regulations, 2005 and submit the same to NEMC using online portal. Registered EIA Expert knows the procedure. This will be done after a site has been assessed for its suitability in terms of zoning, ownership.

A checklist of screening criteria is provided under the Environmental Management Act (EMA) and her EIA and Audits Regulations, 2005 and the AFDB Safeguards Policy.

The Consultant upon on completing the EIA Application Form will share the same with AfDB for review and approval before submitting the Document to NEMC for Approval. NEMC has established a very effective online portal such that project EIA Clearance is very fast provided mandatory fee is paid in time.

Tanzania mainland and Zanzibar have more or less similar procedure in the registration and approval of Environmental and Social Impacts Statement: Tanzania Procedure for screening requires

1. Sub-Project registration and screening – here MVIWATA will prepare a project brief as per EIA and Audit regulations (using a Registered Environmental Expert) and submit it online to NEMC for screening and determination of the risks and associated impacts.
2. Environmental Management Act(EMA) and her EIA and Audits Regulations,2005 has list of types of projects categorised as Type A – project that require a mandatory EIA and Type B – project requiring Preliminary Environmental Assessment. As per FSSP Concept Note – the intended subprojects falls under category B – hence requiring registration with NEMC because of being of small scale activities- horticulture and floriculture.
3. Zanzibar Environmental Management Authority (ZEMA) enforces the Zanzibar Environmental Management Act No.3, 2015 whereby procedure for screening and approvals of development projects are provided.

Specific and Target Capacity Building,

Groups of small scale farmers in the targeted value chain will be trained on issues of best practices in the use of industrials chemicals (potatoes and tomatoes), handling of empty containers with hazardous wastes, sustainable use of water for irrigation and protection of environmental sensitive areas such as water catchment areas. For cloves the training will be more on sensitization and awareness rising of planting more cloves as the tree has implication of environmental conservation besides economic benefits. In the processing of spices more training will be on procedure for harvesting so as to maintain quality, drying technics, and packaging before transportation to the proposed processing facilities.

Grievance Mechanism (GM)

For the sub-projects of the construction of spice processing facility and the mini-warehouses for aggregating selected crops the PIE will collaborate with the relevant local government authorities (Mvomero, Morogoro rural, Wanging'ombe, Kaskazini Unguja A and Kaskazini Unguja B to ensure that any anticipated, and handling the project environmental and social related complaints and conflicts. Local Designated Leaders will be trained on how to receive and document any raised complaints; record the same and submit them to the Representative of PIE for quick action including feedbacks. Significantly, this project will not have critical issues related to labour as is the case with many other projects. PIE will recruit on call basis an environmental and social safeguards specialist to support the project on issues related to grievance handling.

Performance Indicators

These will be for monitoring the implementation of the Framework ESMP.

The performance indicators will be based on the baseline information collected per value chain crops under the project. FSSP Concept Note shows absence of baseline information.

Decrease of the occurrences of the misuse of industrial chemicals.

Farmers participating in the project understand adequately handling of industrial chemicals and disposals. Number of farmers engaged in the production of selected value chain crops increases

(not more than 5) for the monitoring of the implementation of the Framework ESMP (F-ESMP);

Comprehensive Institutional Arrangement

Institutional arrangement for the implementation of the Framework ESMP

As per Project Concept Note the institutions to engage in the implementation of this project are summarised below:

- *Project Steering Committee (PSC)* –will comprise of 9 MVIWATA Board Members – tasks to provide the strategic guidance and oversight on the Project.
- *Technical Advisory Committee (TAC)* – this will advise the project on technical areas and ensure synergy.
- *Project Implementation Entity (PIE)* is MVIWATA which will use her staff members to from the Project Implementation Team (PIT). PIT will be responsible for day to day implementation of the project. MVIWATA existing staff members and others to be recruited will make up the PIT.
- *Participating Local Government Authorities (LGAs)*: these will provide advises and policy positions on agriculture matters, environment, land use and project construction based approvals such as issuance of building permits, village authority approvals of land use and development. The LGAs are Morogoro, Mvomero, Wanging'ombe, Kaskazini Unguja A and Kaskazini Unguja B. Middle and Local levels Networks formed by MVIWATA will engage with the project effectively.

Implementation of the Framework ESMP

This will be done by the PIT to be established within the PIE. The roles and responsibilities of each member in the PIT as presented below:

- *Project Coordinator* lead the PIT to ensure all project activities are implemented as planned. Ensure development of sub-project specific ESMPs by facilitating the process through funding, field visits. Liase with regional coordinators on all issues related to environmental and social safeguards by facilitating the ESSS-PIE
- *Project Accountant (PA-PIE)* responsible for all financial management matters by keeping proper accounts on finance, expenditure by abiding to the AfDB financial management rules and those of the Governments of Tanzania and Zanzibar,
- *Agronomist* –will advice on agriculture and business focusing on the selected crop value chain in this project.
- *Value Chain and Marketing Officer (VCMO-PIE)*-follow up and sensitization on value chain for the targeted crops and marketing of the same after processing.
- Regional Coordinators (RCs) for Njombe, Morogoro and Kaskazini Unguja –guide implementation of the planned activities in their respective regions.
- *Environmental and Social Safeguards Specialist (ESSS-PIE)* ensure compliance to the Tanzania and Zanzibar laws, regulations and AfDB policies on environment and social matters as per risk levels. Will facilitate environmental clearance with the NEMC and ZEMA through preparing recommended environmental instruments, sites verification visits and follow up for approvals;
- *Procurement specialist (PS-PIE)*-ensure procurement of goods and services are done according to the policies of the Bank and those established by the PIE; the Governments of Tanzania and Zanzibar;
- *Monitoring and Evaluation specialist (M&E- PIE)*-monitor implementation of the project by collecting data on progress made, expenditure, indicators based on the log-frame and theory of change for the project. The Project M&E Plan that is aligned with the Bank’s Results Measurement Framework and the M&E framework for ASDPII will be used to ensure that everything is recorded and reported accordingly.

Summary of Roles and Responsibilities for Project Implementation

No	Steps/Activities	Responsible	Collaboration	Service Provider
1.	Identification and/or siting of the Multipurpose Processing Plant for Spices and The Rehabilitation of the Fresh Foods Transformation Centre.	PIE	• District Local Government where the sub-project has been proposed to be located, Land Officer for land tenure issue, land use and land valuation in case of acquisition.	District Land Office.
2.	Screening, categorization and identification of the	PIE- Environmental Specialist.	• Relevant Local Authority, Beneficiary;	NEMC Zone Office. ZEMA

	required instrument (national EIA procedure)		Social Safeguards Specialist (SSS) on the PIE; District Environmental Officer, Land Officer, Land Use Planner, Agriculture Officer.	
3.	Approval of the classification and the selected instrument by the Public EA Agency	PIE Coordinator	<ul style="list-style-type: none"> • ESS-PIE; SSS-PIE; District Environmental Officers. 	<ul style="list-style-type: none"> • NEMC • ZEMA • The Bank
4.	Preparation of the safeguard document/instrument (ESIA, Env. Audit, simple ESMP, etc.) in accordance with the Tanzania and Zanzibar environmental clearance procedure including requirements of AfDB policies.			
	Preparation and approval of the Sub-Project Brief as per EIA Procedure in Tanzania/Zanzibar	ESS-PIE	E&S consultant at PIE	<ul style="list-style-type: none"> • NEMC • ZEMA • The Bank
	Preparation of the report		<ul style="list-style-type: none"> • Procurement specialist (PS-PIE); SSS-PIE; Relevant District Authority- depending on where the project is to locate. 	<ul style="list-style-type: none"> • Consultant • NEMC/ZEMA
	Approval of Application for Environmental Clearance of a Sub-project.		<ul style="list-style-type: none"> • Procurement specialist (PS-PIE); SSS-PIE; Local authority 	<ul style="list-style-type: none"> • NEMC; ZEMA • The Bank
	Disclosure of the document		Project Coordinator	<ul style="list-style-type: none"> • PIE-Media; The Bank; supervising engineer.
5.	Integrating the construction phase mitigation measures and E&S clauses in the bidding document prior they're advertised; (ii) ensuring that the constructor prepares his ESMP (C-ESMP), gets it approved and	Technical staff in charge of the sub-project (TS-PIE)	<ul style="list-style-type: none"> • ESS-PIE; PS-PIE; Supervision Consultant (if any) 	Contractor. NEMC ZEMA

	integrates the relevant measures in the works breakdown structure (WBS) or execution plan.			
6.	Implementation of the other safeguards measures, including environmental monitoring (when relevant) and sensitization activities	ESS-PIE	<ul style="list-style-type: none"> • SSS-PIE, PS-PIE; TS-PIE; Financial Staff (FS-PIE); Local authority 	<ul style="list-style-type: none"> • Consultant; National specialized laboratories;
7.	Oversight of safeguards implementation (internal)	SSES	<ul style="list-style-type: none"> • Monitoring and Evaluation specialist (M&E-PIE); FS-PIE; Relevant Local Government Authorities in Tanzania and Zanzibar. 	<ul style="list-style-type: none"> • NEMC, ZEMA
	Reporting on project safeguards performance and disclosure	Coordinator	<ul style="list-style-type: none"> • M&E-PIE; ESS-PIE; SSS-PIE 	NEMC, ZEMA
	External oversight of the project safeguards compliance/performance	PEA	<ul style="list-style-type: none"> • M&E-PIE; ESS-PIE; SSS-PIE; PS-PIE; Supervisor 	NEMC,ZEMA
8.	Building stakeholders' capacity in safeguards management	ESS-PIE	<ul style="list-style-type: none"> • SSS-PIE; PS-PIE 	<ul style="list-style-type: none"> • Consultant • NEMC,ZEMA or any qualified public institutions
9.	Independent evaluation of the safeguards performance (Audit)	ESS-PIE	SSS-PIE; PS-PIE	Consultant

Budget for ESMF Implementation

This project has a total cost, including price and physical contingencies, is estimated at USD2.62 (UA2.01) million over a period of three years (2023 – 2025). The Global Agricultural and Food Security Program (GAFSP) will provide a grant of USD2.50 Million (UA 2,010,887.4) which is 95.5% of total Project costs. MVIWATA will supplement these

resources through their in-kind contribution estimated at UA 0.089 million (USD0.117 million, or 4.5%).

The budget for implementation of ESMF is tentatively estimated at USD 25,090 which will be 21% of MVIWATA in-kind contribution to the project.

#	Item	Unit	Unit Cost		Total		Source of financing
			Local	US\$	Local	US\$	
1	Preparation of specific ESIA	2	5,000,000	2126	10,000,000	4252	MVIWATA
2	Capacity Building	4	7,500,000	3190	30,000,000	12760	MVIWATA
3	Implementation of specific ESMP	2	6,500,000	2764	13,000,000	5528	MVIWATA
4	Mid-term audit of ES performance	1	3,500,000	1488	3,500,000	1488	MVIWATA
5	Completion audit of ES performance	1	2,500,000	1062	2,500,000	1062	MVIWATA
TOTAL					59,000,000	25090	

Proposed construction sub-project will have to be registered online at the National Environmental Management Council (NEMC) where a fee of USD 85.11 will have to be paid by PIE. Upon receipt of the document, NEMC will screen the project using screening criteria in the EIA and Audits Regulations, 2005 and the Amended Regulations, 2018 to determine the extent of risks. The cost of reviewing and approval (CRA) of the project (issuance of Certificate of EIA) will depend on the sub-project Cost as done in the Bills of Quantities (BOQ) for the sub-project in question. CRA entails field verification visits by the representatives of the Technical Advisory Committee (TAC) from the NEMC. Later on, annual monitoring will be done by NEMC using E&S experts in Morogoro NEMC Zone. More or less similar procedure will be done in Zanzibar for approval of the sub-projects.

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ACKNOWLEDGEMENTS

I thank the AfDB for awarding me contract to execute this study. Guidance provided by AfDB Team through Mr Salum Ramadhan of AfDB Tanzania Country Office was useful. The AfDB Safeguards team in particular Emmanuel Muligirwa deserve thanks for their constructive comments on the draft and final report; to me the comments were a learning platform as they were educative, constructive and empowering.

I thank the guidance provided by MVIWATA CEO Mr Stephen A. Ruvuga and his team on the genesis of the project and the implementation strategy were very useful. Documents such as feasibility study and others made this assignment ease to prepare and thus prepare the inception report. I appreciate for the commissioning meeting (virtual) through which critical issues were cemented out hence take off of this study.

We thank Regional Administrative Offices of Morogoro and Njombe for providing adequate views and expectations on this project, The focus group discussions that we had with these officials and made this assignment successful. Njombe Regional Commissioner deserves a special appreciation for being ready to meet with me on a Sunday he was planning to travel to other region for other duties on the following Monday.

The Executive Directors of Mvomero, Morogoro and Wanging'ombe District Councils and their Senior Agricultural and Environmental Officers deserve thanks for availing themselves for a meeting to discuss the project. Several farmers who raised their critical concerns during the AGM MVIWATA simplified understanding of the issues that they face in their value chains.

The MVIWATA representatives in Zanzibar deserve thanks for organizing successful meeting with key informants at the Ministry of Agriculture and in the North Unguja Regional Commissioner's Office and at the Districts of North Unguja A and North Unguja B.

The MVIWATA representatives in Zanzibar deserve thanks for organizing successful meeting with key informants at the Ministry of Agriculture and other stakeholders,

Acronyms and Abbreviations

AfDB	African Development Bank
AGM	Annual General Meeting
AMSDP	Agricultural Marketing Systems Development Program
ASDP	Agricultural Sector Development Program
CEO	Chief Executive Officer
COVID-19	Corona virus Disease 2019
CSP	Country Strategy Paper for Tanzania
DADO	District Agricultural Development Officer
DADP	District Agricultural Development Plan
DC	District Councils
DoE	Department of Environment
DRSLP	Drought Resilience and Sustainable Livelihoods Project
EIA	Environmental Impact Assessment
EMA	Tanzania Environmental Management Act
EMOs	Environmental Management Officers
ERPP	Expanding Rice Production Project
ESIA	Environmental and Social Impact Assessment
ESM&MP	Environmental and Social Management and Monitoring Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FAO	Food and Agricultural Organization of the United Nations
FGD	Focus Group Discussions
FPAs	Forest Protected Areas
FSSP	Food Systems Support Project
FYDP	Five Year Development Plan
GAFSP	Global Agricultural and Food Security Program
GBV	Gender Based Violence
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HOA	Horn of Africa
ICT	Information Communication Technology
ISS	Integrated Safeguards System
LCBC	Lake Chad Basin Commission
LGAs	Local Government Authorities
LTA	Lake Tanganyika Authority
MANR	Ministry of Agriculture and Natural Resource in Zanzibar
MIVARF	Marketing Infrastructure, Value Addition and Rural Finance
MKUZA	Zanzibar Strategy for Growth and Reduction of Poverty (ZSGRP)
MVIWATA	Mtandao wa Vikundi Vya Wakulima Tanzania
NBS	National Bureau of Statistics
NEMC	National Environment Management Council
NFRA	National Food Reserve Agency
NGO	Non-Government Organization

NLUPC	National Land Use Planning Commission
NSSF	National Social Security Fund
OSHA	Occupation Safety and Health Agency
PEIAs	Public Employees Insurance Agencies
PMO	Prime Minister's Office
PO-RALG	President Office-Regional Administration and Local Government
PPE	Person Protective Equipment
RAS	Regional Administrative Secretary
RSS	Regional Stabilization Strategy
SAPZ	Special Agro-Industrial Processing Zone
SDGs	Sustainable Development Goals
SMEs	Small, Medium Enterprises
SSA	Sub Sahara Africa
TACTICs	Tanzania Cities Transforming Infrastructure and Competitiveness
TANAPA	Tanzania National Parks Authority
TANIPAC	Tanzania Initiative for Preventing Aflatoxin Contamination
TANROADS	Tanzania National Roads Agency
TARURA	Tanzania Rural and Urban Roads Agency
TBS	Tanzania Bureau of Standards
TFDA	Tanzania Food and Drug Authority
TOC	Theory of Change
ToR	Terms of Reference
TRA	Tanzania Revenue Authority
UA	Official currency for the AfDB projects
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organizations
URT	United Republic of Tanzania
USD	United States Dollar
VAT	Value-Added Tax
VAW	Violence against Women
VPO	Vice President Office
ZATI	Zanzibar Association of Tourism Investors
ZCCFSP	Zanzibar Cash Crop Farming System Project
ZEAP	Zanzibar Environment Action Plan
ZEMA	Zanzibar Environmental Management Authority
ZIPA	Zanzibar Investment Promotion Authority

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1. INTRODUCTION

1.1 Project Background

In 2021, MVIWATA submitted a proposal to the Global Agriculture and Food Security Program (GAFSP) to seek finance to provide support to the food systems in Tanzania under the Food Systems Support Project (FSSP). The project will be implemented in Tanzania Mainland (Morogoro and Njombe regions) and Zanzibar in Kasikazini Unguja Region. The FSSP is consistent and well aligned with National, Regional and Global strategies related to agricultural and economic development. This project, for example is aligned with the FYDP III, the Agricultural Sector development program II (ASDP II); the 2030 Sustainable Development Goals (SDGs) - particularly SDG1 (no poverty), SDG2 (zero hunger), SDG 10 (Reduced inequalities) and SDG 13 (climate action). Other initiatives to which this project is well aligned are Africa Agenda 2063 as well as the East African Development Vision 2030, the AfDB's Ten-Year Strategy (2013-2022). FYDP III aims to steer Tanzania to a middle-income economy with a high level of human development. Specifically, this plan focuses on increasing agriculture productivity, value, income, employment creation and diversification of products. The Second Agriculture Sector Development Programme (ASDP II) of 2017/18–2022/23 aims at transforming the agriculture sector towards higher productivity, commercialization and increasing smallholder farmer income for improved livelihood, food and nutrition security and contribution to the GDP. The ASDP II is also aligned to the National Climate Change Response Strategy 2021-2026.

When implemented, this project will help to achieve one of the High 5s agenda, namely Feed Africa. The Project will also help achieve the Bank's policy commitments under Pillar I of ADF-15 regarding: (i) technologies for agriculture; (ii) climate smart agriculture; and (iii) promoting gender inclusivity. Additionally, the Project is aligned to the Bank's Gender Strategy 2021-2025 and the Bank's Climate Change and Green Growth Action Plan (2021 – 2025), which aims at boosting climate resilience and adaptation to climate change. It is also in line with the Bank's current Country Strategy Paper (CSP) for Tanzania (CSP 2021-2025), particularly its second priority area Improved private sector business environment for job creation.

In Tanzania, more than 70% of its population lives in rural areas. Majority of these people depend on agriculture hence 80% of the country's labor force is employed in this sector. The sector is said to contribute to 27% of its GDP. Horticulture, a sub-sector of agriculture is recognized as labor intensive and offering multiple employment opportunities throughout the value chain, particularly in the rural areas. It employs 450,000 farmers composed of small, medium, and large scale and mostly comprised of women and youths. Generally, its value chain provides employment to around 4.5 million

Tanzanians³. Tanzania has witnessed increases in foreign exchange from horticulture subsector from USD46.7 million to USD779 million from 2006/2007 to in 2019/2020 respectively. This achievement placed Tanzania among the top 20 leading countries in horticulture exports in the World. The government intends to increase the horticulture export value from the current USD779 million to USD3 billion by 2025.

Save for efforts made by Government on Horticulture, the sub sector value chain has faces challenges related to ineffective market logistics for its products from farm to the gate; inadequate storage facilities; market strategy and information gaps and awareness on the international standards mainly by smallholder farmers. Besides, there have been inadequacies in harmonization of different institutions that deal with the horticulture subsector; digitalization of the marketing channels; extension and advisory services; availability of inputs, credit facilities and irrigation schemes(critical for crops that require water throughout the year).

Actors in the sub-sector have experienced post-harvest losses caused mainly by inadequate handling techniques; limited packaging facilities; poor transport and storage infrastructures, market processing; The agricultural produce markets challenges have also been exacerbated by the outbreak of COVID-19, which afflicted agricultural trade and supply chain causing domestic producers to receive low farm produce prices.

Globally and in Tanzania in particular, the emergence of COVID-19 disrupted produce marketing systems, family labor, production patterns and yields and consumer behavior. Therefore, strategies and actions are needed to minimize the impact of COVID-19 and its spillover effects on general citizens particularly smallholder rural producers, consumers (urban and peri-urban) areas. Besides, theses strategies will contribute to the national food systems and build the resilience of crop and food production to other stresses related to climate variations.FSSP seeks to improve the local horticultural produce supply and unlock market failures emanating from COVID-19 pandemic and long-term climate change effects by improving on-farm horticultural commodities, markets of food supply services and building capacity of rural market companies and small and medium enterprises (SMEs).

1.2 Project Description

1.2.1 Project Development Objective

The Objective of developing this project is to increase smallholder farmers' horticultural productivity. Specifically, the project aims to (i) increase productivity and production of horticulture and food crops; (ii) enhance value addition and marketing of horticultural

³ Pilot 4 Research and Dialogue Policy Brief, November 2021

crops grown by smallholder farmers, particularly women and youth; and (iii) promote technologies to mitigate the impact of climate change on smallholder farming systems.

The development model or theory of change (TOC) of this project is improved extension services will improve adoption rate of improved technologies and ultimately lead to increased production and productivity. Also, improved farmers' institutional capacity, value addition, marketing efficiency, supply services on horticultural produce value chains will increase profitability on horticultural crops, and thus, sustainable household incomes. In totality, the combined effects of increased production, productivity and household income will enhance availability, accessibility and affordability of food at household level, and ultimately mitigate the negative impacts of COVID-19 pandemic and other calamities (AfDB, 2022).

1.2.2 Project Components and Activities

The project has three components, namely: (i) Scaling up production and productivity; (ii) Strengthening value addition and marketing; and (iii) management and coordination of the project. Activities for each component are presented below:

Component 1: Scaling up Production and Productivity

This component has a budget of UA 0.262million which is 13 percent of the total cost.

This component will

- viii) promote sustainable agricultural practices and techniques, agro-ecological practices, biodiversity and landscape management strategies⁴.
- ix) improve production advisory services and post-harvest management;
- x) build the capacity of smallholder farmers on climate resilience, good agricultural practices and integrated pest management systems to help address the existing and emerging crop pests and diseases;
- xi) Facilitate acquisition of critical agricultural inputs to increase the production and productivity of vegetables and spices; train about 10,000 small holder farmers (at least 30% women): on-farm training and application of technology;
- xii) Facilitate knowledge exchanges on best practices and address critical post-production constraints, including handling and storage of farm produce;
- xiii) support to village land development and field expansion; and
- xiv) facilitate acquisition of suitable seeds, particularly of tomatoes based on the market needs and agro-ecological requirements.

Component 2: Enhancing Value Addition and Marketing

⁴Including promotion of the use of climatic resilient varieties to cope with climatic changes.

This component which has a budget of UA1.035million, 51.0% of total cost will do the following:

- (x) support construction of at least 5 postharvest and bulking infrastructure for bulking and packaging;
- (xi) support MVIWATA Marketing Company to undertake aggregation from smallholder farmer groups and cooperatives, particularly bulking of essential spices for value addition;
- (xii) establish one multi-purpose spice processing facility in Morogoro district to process spices for local and regional markets;
- (xiii) build the capacity of MVIWATA to manage the processing facility;
- (xiv) support in developing improved packaging materials, labeling, and branding of spices;
- (xv) work closely with the Small-scale Industry Development Organization (SIDO) for further product development, the Tanzania Bureau of Standards (TBS) for quality assurance and certification to meet market requirements in the spice industry and Tan Trade for export markets;
- (xvi) Develop information Communication technology (ICT) platform for promoting and marketing of horticulture produces;
- (xvii) Develop aggregation/ bulking, processing and storage facilities to address post-harvest losses; and
- (xviii) Enhance the capacity of MVIWATA in ensuring institutional growth as well as the project delivery and sustainability of the Project outcomes.

Component 3: Project Management and Coordination

This component has a budget ofUA0.206 million which is 10% of total cost and will be used for the following activities: (i) support coordination and management of the Project including planning, budgeting, monitoring and evaluation, reporting, financial management, audits, procurement, and documentation and communication of Project results and impact to ensure Project visibility.

1.2.3 Project Geographical Locations

This project will be implemented in Tanzania mainland and Zanzibar in the Regions of Morogoro, Njombe and Unguja respectively. In Morogoro Region, the project will be implemented in Morogoro and Mvomero District Councils while in Njombe Region it will be implemented in Wanging'ombe District Council. In Zanzibar, the project will be implemented in Unguja Region in the two Districts of Kaskazini 'A' and Kaskazini 'B'⁵. Table 1 below shows the prioritized crops by each selected region. Table 1 presents the target areas and types of crops value chain to be supported under this project.

⁵Kaskazini means North note that there are two Districts known as A and B

Table 1: Target Districts by Value Chains

Region	Districts	Value Chain Crop Types
Morogoro	Morogoro DC	Cloves, Cinnamon, Ginger, Black pepper
	Mvomero DC	Garlic, Green Peas, Beans, Tomatoes
Njombe	Wanging'ombe	Potatoes
Unguja	Kaskazini 'A'	Cloves, Tomatoes, Cinnamon, Ginger, Black pepper
	Kaskazini 'B'	Cloves, Cinnamon, Ginger, Black pepper

Source: AfDB Project Concept Note, 2022.

1.2.4 Project Beneficiaries

The FSSP is expected to directly benefit about 10,000 smallholder value chain actors in the crops presented in Table 1 above. Of these at least 30% will be women who cultivate less than 5 acres of cloves, cinnamon, ginger, black paper, tomatoes, garlic, green peas, beans and potatoes. Other beneficiaries will be unemployed youth who engage in various horticulture value chain activities such as buying and packing, transportation from farms gate to markets, processing etc. It is anticipated that a total of about 25,000 smallholder actors engaged in horticulture value chains will indirectly benefit from the implementation of this project.

1.2.5 Environmental and Social Management Framework

This framework has been prepared in line with the AfDB's E&S Policy detailed in this report. Since the intended locations of sub-projects have not been identified, it is apparent that any sub-project or intervention to be done will obviously have adverse environmental and social impacts which need to be identified and necessary measures to address them taken as part of the FSSP approval and implementation. Therefore, this ESMF has been prepared as an appropriate instrument that establishes an environmental and social management process, and defines roles and responsibilities for addressing environmental and social issues for subprojects from preparation, through review and approval, to implementation consistent with National and AfDB's Environmental and Social Requirements relevant to the FSSP.

This instrument (ESMF) provides guidance to the FSSP Implementing Agency (MVIWATA) to identify and mitigate potential risks and negative environmental and social impacts during all stages of the project implementation, planning, designing, implementation and operation as well as decommissioning.

1.2.6 Project Cost

The total Project cost, including price and physical contingencies, is estimated at USD2.62 (UA2.01) million over a period of three years (2023 – 2025).

The Global Agricultural and Food Security Program (GAFSP) will provide a grant of USD2.50 Million (UA 2,010,887.4) which is 95.5% of total Project costs. MVIWATA will supplement these resources through their in-kind contribution estimated at UA 0.089 million (USD0.117 million, or 4.5%).

Component Number and Description	Total (UAMillion)	Cost	% of the Total Cost
1. Scaling up production and productivity	0.262		13
2. Enhancing Value Addition and Marketing	1.035		51
3. Project Management and Coordination	0.206		10

1.2.7 Identities of Associated Projects

African Development Bank (AfDB) has experience of supporting projects in the sector of agricultural development including but not limited to the Special Agro-Industrial Processing Zone (SAPZ), Tanzania Initiative for Preventing Aflatoxin Contamination (TANIPAC), Marketing Infrastructure, Value Addition and Rural Finance (MIVARF) Program, and Agricultural Marketing Systems Development Program (AMSDP). TANIPAC is still ongoing while SAPZ is under preparation while AMSDP and MIVARF have already been closed.

1.3 Objectives of the ESMF

This framework establishes a process of environmental and social screening which will permit MVIWATA to identify, assess and mitigate the environmental and social impacts of the sub-projects per value chains targeted in this project. It also aim to identify potential impacts of the FSSP-GASP project and to prepare a generic Environmental and Social Management Plan for the direct impacts and indirect impacts, as well as incremental impacts as they relate to land use changes, soil erosion, dust emissions, noise pollution, loss of trees, liquid and solid wastes from the activities among others.

Specifically, this instrument aims to formulate the Environmental and Social Management Framework (ESMF) standards and procedures, specifying how unidentified subprojects whose location are unknown will systematically address environmental and social issues in the screening for environmental and social impacts and categorization, site selection criteria, mitigation measures, design, implementation and operational phases as well as maintenance of the subproject lifecycle. Last but not least, it formulates Environmental and Social Rules for construction contractors. The rules shall be recommended for incorporation in construction contractor's bids and contract documents. Specifically, this instrument puts in place clear procedures and

methodologies for screening sub-projects, undertaking required level of environmental and social assessment.

1.4 Study Methodology

1.4.1 Sampling Technique

In selecting which region or district to visit for fieldwork, we used purposeful sampling based on the value chain to be covered in the project. Morogoro DC and Kaskazini A had similar crops value chain therefore; we opted to select the former so as to balance representation. Since, Mvomero DC had value chain we consulted Key informants in the District and the meeting consulted the Regional Administrative Secretary (RAS) key officials who provided details about the value chain and environmental challenges in Mvomero DC. For Njombe Region it was only one District of Wanging'ombe which we visited and had consultation with the Regional and District Senior Officials.

1.4.2 Data Types and Collection Methods

This study employed a mixed approach for collect primary and secondary data.

Primary Data We used interviews (face to face and telephone) and focus group discussion (FGD) with stakeholders and beneficiaries to collect primary data. We had opportunity to attend the Annual General Meeting (AGM) of the Implementing agency, MVIWATA on 17th November, 2022 whereby details of the general concerns of groups of small farmers were collected. All beneficiaries from all regions, districts and villages had gathered in Morogoro, hence, this enabled us to consult those from the regions where this project is to be implemented. A field visit to regions was conducted from 16th November to 25th November, 2022 covering Morogoro(Mvomero District) Njombe (Wanging'ombe District) and Unguja. In each region, we also consulted Government Officials at the Region and District levels in the participating region to gather their views and concerns concerning the environmental and social matters related to targeted value chains in this project.

The signed Consultation Form is attached. The Stakeholders' major views and concerns are incorporated into this report (ESMF).

Secondary Data -we employed desk top review of various documents such as the FSSP Concept Note (it was rich in information concerning the project details). We visited the website of the AfDB and the Government of Tanzania to collect baseline information related to environment for each region participating in the project. Data was also collected on the value chains of each of the targeted crops for the purpose of understanding their characteristics in terms of needs of land and water and chemical utilization. Other sources of information were National Policies, Legislations and prior ESMF studies conducted in Tanzania.

We used qualitative content analysis to reach get meaning from the gathered data from multiple sources.

2. RELEVANT POLICIES, LEGAL, ADMINISTRATIVE AND INSTITUTIONAL FRAMEWORK AND BANK SAFEGUARDS RELATED TO THIS PROJECT

2.1 AN OVERVIEW

This chapter provides policy, legal, administrative and institutional framework for the management of environmental and social aspects in relation to the proposed project Tanzania and Zanzibar. Section 2.2 presents details for Tanzania Mainland while section 2.3 is for Zanzibar. AfDB Integrated Safeguards Systems (ISS) crafted under Safeguards and Sustainability Series are presented under section 3.7 with the description of Operation Safeguards that are likely to be triggered by the implementation of sub-projects under this project in Tanzania.

2.2 TANZANIA MAINLAND

Here National Policies, legal and institutional framework that apply in the Tanzania Mainland are presented. Besides, there are Legislations, regulations and guidelines on environmental and social issues relevant to sub-projects under the FSSP. Below we present some of the policies, laws and regulations that are relevant to the management of activities under this project.

2.2.1 Policy Framework

Table 2 presents in summary relevant policies and their relevant statements related to this project.

Table 2: Tanzania Mainland Relevant National Policies

S/N	Policy	Relevant Provisions
1.	National Environment Policy, 1997	The National Environment Policy of 1997 provides a framework for mainstreaming environmental considerations in decision-making in Tanzania. It aims to ensure sustainable and equitable use of resources without degrading the environment or risking health or safety; to prevent and control degradation of land, water, vegetation, and air which constitute the essential life support systems; to conserve and enhance natural and man-made heritage, including the biological diversity of the unique ecosystems of Tanzania. It emphasizes the importance of EIA as a planning tool in development projects and requires the study to be done so as to ensure that unnecessary damage to the environment

		is avoided. The policy applies to all development projects that are likely to impact the environment.
2.	National Land Policy, 1997	<p>This policy (reviewed) deals with matters of land administration, development and management. All land uses must be coherent with the existing plans. The proposed building project is located in the vicinity of residential area as such it is compatible with the land use in the project area as required by the National Land Policy.</p> <p>The policy recognizes the need for protecting environmentally sensitive areas. It stresses protecting the environment and natural ecosystem from pollution; degradation and physical destruction.</p> <p>It aims at promote and ensure a secure land tenure system in Tanzania that protects the rights in land for all its citizens. The policy provides government position on land rights issues such as equitable distribution of land to all citizens. Besides, the policy emphasizes the protection of sensitive environmental areas through land use planning. FSSP as a project has to be guided by this policy to ensure that beneficiaries of this project follow requirements of this policy as translated in various legislations.</p>
3.	Construction Industry Policy, 2002	<p>Among the major objectives of the policy, which support sustainable construction include: to promote application of cost effective and innovative technologies and practices to support socio-economic development activities such as road-works, water supply, sanitation, shelter delivery and income generating activities and to ensure application of practices, technologies and products which are not harmful to both the environment and human health. The implementation of this project will make use of cost effective and environmentally friendly</p>

		technologies to minimize wastage of resources especially building materials, water and energy.
4	National Gender Policy, 1999	The key objective of the policy is to provide guidelines that will ensure that gender sensitive plans and strategies in all sectors and institutions are developed. While the policy aims at establishing strategies to eradicate poverty, it puts emphasis on gender equality and equal opportunity of both men and women to participate in development undertakings and to value the role-played by each member of the society. This project shall also ensure that women will be adequately involved at all levels of project implementation.
5.	National Strategy on Climate Change, 2012	National Strategy on Climate Change for the United Republic of Tanzania, 2012 focuses on enhancing climate resilience in Tanzania while reducing vulnerability on natural and social systems. This can be attained by establishing efficient and effective mechanism to address climate change adaption and achieve sustainable national development through mitigation actions with enhanced international cooperation. The strategy objectives among others include building the capacity for Tanzania to adapt to climate change impacts, and also enhancing resilience of ecosystems to the challenges posed by climate change.
6.	Small, Medium Enterprise Development Policy 2003	This policy specifically acknowledged the special role of SMEs in the context of Tanzania industrialization. It aimed to address the constraints to industrialization and to tap the full potential of Tanzania's SME sector. The policy had a beneficial impact on SME performance, but many constraints it aimed to address still exist to this day.
7.	Tanzania Integrated Industrial Development Strategy 2025	Formulated and adopted in 2010 with a view to provide concrete strategies to implement SIDP 2020 and build a competitive industry by putting in place a competitive business environment. The strategy was adopted four

		years after the SIDP 2020 has been created, to promote the efforts of achieving the SIDP goal of bringing an economy to a state of accelerating industrialization and to provide concrete strategies to implement SIDP 2020. The strategy target six sub-sectors: agro-processing, textiles, leather, fertilizer and chemicals, light machinery and iron and steel.
8.	Tanzania Vision 2025	Is for Tanzania to develop a strong, diversified resilient and competitive economy which can effectively cope with the challenges of development and which can also easily and confidently adapt to the changing market and technological conditions in the regional and global economy.
9.	Kilimo Kwanza Policy,2009	It emphasizes industrialization to address the needs of agricultural producers. Industrialization is considered to lead to both increased supply of fertilizers and agricultural machinery and improved seeds as well as adding value to agricultural produce.
10.	National trade Policy 2003	It follows principles stated in the Vision 2025 by focusing on private sector led export growth. It emphasizes stimulation and encouragement of value addition as one its chief objectives.
11.	National Water Policy of 2002	It emphasizes sustainable utilization of water resources including protection of accidental pollution of water sources. Protection of riparian biodiversity, wetland systems, and the freshwater-seawater balance in deltas and estuaries. It has put in place Water basin offices to ensure sustainable water rights.
12.	Mini-Tiger Plan 2020	In 2005 the government created the Tanzania Mini-Tiger Plan 2020 to fast-track the implementation of Vision 2025, by imitating the Asian Tigers model in Tanzania. The Mini-Tiger Plan emphasizes the introduction of Special Economic Zones and Export Processing Zones.

Source: Consultant from Various Reports,2022

2.2.2 Legal Framework

The FSSP is positioned within the context of various local and national legislations related to the management of human behavior on natural environment and social matters. The relevant legislations and regulations are summarized in Table 3 below.

Table 3: Critical Legislations for FSSP Implementation in Tanzania

S/N	Law/Regulations	Legal Requirements
1.	The Environmental Management Act (Cap.191), 2004	<p>The act is a framework environmental law which provides for legal and institutional framework for sustainable management of the environment and natural resources in the country. It provides institutional roles and responsibilities with regard to environment management; environment impact assessments; strategic environmental assessment; pollution prevention and control; waste management; environmental standards. It has various regulations and screening procedure for all categories of projects.</p> <p>The Act has Regulations relevant to industrial establishment such as EIA and Audit Regulations 2005, EIA and Audit Amendment Regulations 2018, Bio-safety Regulations 2009; Waste Management Regulations 2009; Strategic Environmental Assessment Regulations 2009; Solid Waste Management Regulations 2009; Environmental Inspectors Regulations, 2011; and Hazardous Waste Management regulations, 2009. This law and her regulations will be used in the management of the FSSP.</p>
2.	Agriculture Sector Environmental Impact Assessment Guidelines, 2013	<p>These were prepared by the Ministry of Agriculture as a compliance requirement of EMA, 2004 for each sector to have specific guidelines.</p> <p>It aimed to provide to agricultural projects developers and other stakeholders engaged in the sector to ensure that they formulate and implement sound projects that reduce adverse environmental, social and health impacts. Farmers in the targeted value chain under FSSP</p>

		will have to abide to these guidelines to ensure they harvest healthy products. It proposes ESMP for handling agro based impacts per phases.
	Local Government (District Authorities) Act of 1982	This law establishes the local government authorities in Tanzania. FSSP will be implemented in the jurisdiction of Districts Councils (DC) such as Mvomero, Morogoro DC, Wanging'ombe and those in Zanzibar. As such all guidance such as permissions, agro-based information, identification of genuine workers, health services, security, in relation to project implementation will be accessed from leaders of these authorities. There are Departments responsible for agriculture, cooperatives, environment, land, works etc. These have authorities and guidance related to engagement with farmers.
	Water Resources Management Act, 2009	The law was enacted to govern management of water resources in Tanzania mainland. It requires any development project within a water basin to be authorized by the respective water basin officer to abstract water. It also protects water sources from pollution by prohibiting unauthorized discharges into water bodies. It puts in place Water Basin Offices where a project promoter can apply for water use rights such as abstraction. FSSP activities related to productivity improvement means more water consumption.
	Land Use Planning Act, 2007(Cap 116)	This law replaced the National Land Use Planning Commission Act, 1984. The former law established the National Land Use Planning Commission (NLUPC) with the aim of facilitating effective planning and management of land use planning in Tanzania. Some of the responsibilities of the NLUPC are: <ul style="list-style-type: none"> • Coordinate, advise and inspect all sectors on common standards and advise the minister to set acceptable standards to oversee the planning and development of towns and villages;

		<ul style="list-style-type: none"> • Assist all land use planning authorities and prepare land use planning, monitor its implementation and evaluate it regularly. • Coordinate all activities of all agencies involved in land use planning matters and serve as a means of communication between these Institutions and the Government; <p>FSSP will have to ensure that horticultural activities are done in areas designated for the use.</p>
	Employment and Labour Relations Act No 6 of 2004	The Act provides broad protection against discrimination. It requires that employers promote equal opportunity in employment and strive to eliminate discrimination in any employment policy or practice". It prohibits direct or indirect discrimination by employers, trade unions and employers' associations on a number of grounds, including gender, pregnancy, marital status or family responsibility, disability HIV/AIDS and age. Harassment of an employee on any of these grounds is equally prohibited. The Act also requires employers to take "positive steps" to guarantee women and men the right to a safe and healthy environment. Should FSSP Implementer decide to employ anyone in the implementation of this project then provision of this law will have to be followed.
	Village Land Act No.5, 1999	The law provides procedure for ownership of land within villages. Within villages there are areas categorised by villages as hazardous such as wetlands, land within 60 meter from the highest water marks of water bodies, village forests, water catchment etc. FSSP Implementer will have consult Village Councils for clarifications on issues related to land use at the village.
	The Plant Protection Act No.13 of 1997	It prevent the introduction and spread of harmful organisms, to ensure sustainable plant and environmental protection, to control the

		importation and use of plant protection substances, to regulate export and imports of plants and plant products and ensure the fulfilment of international commitments, to entrust all plant protection regulatory functions to the Government, and for matters incidental thereto or connected therewith. FSSP will have to comply with the provision of this law.
	The Occupational Health and Safety Act No. 5 of 2003	The law requires employers to provide a good working environment to workers in order to safeguard their health and ensure safety at the workplace. The employers need to perform medical examinations to determine fitness before engaging employees. Employers must also ensure that the equipment used by employees is safe and shall also provide personal protective equipment (PPE) as appropriate. Whoever that will be engaged with FSSP activities will have to adhere to the provisions of this law. During implementation of FSSP any contractor or a group of local contractors through Force Account will be required to strictly adhere to this law to ensure that no accident or fatality occur.
	Industrial and Consumer Chemicals (Management and Control) Act of 2003	This Act introduces measures for the control of production, importation, exportation, transportation, storage, handling and placing on the market of industrial or consumer chemicals or chemical products and provides for the carrying out of such control. It empowers the Chief Government Chemist to oversee registration of all chemicals in Tanzania. The FSSP may entail activities and processes that may require use of chemicals of different types during the processing of agro-products. The Proponent to this project will have to consult the relevant authority especially the Office of the Chief Government Chemist for guidance.
	Environmental Impact Assessment and Audit	These regulations are made under EMA, 2004. They provide procedures and requirements for undertaking Environmental and Social

Regulations of 2005 and its amendments of 2018	Assessment (ESIA) for different types of projects. They also provide screening criteria for various projects including those that require full ESIA studies and those that do not. Though not categorised already, FSSP sub-projects are ones that require registration only.
Environmental Management (Hazardous Waste Management) Regulations, 2009	These regulations provide categories of controllable wastes and a list of hazardous and nonhazardous wastes. In relation to FSSP, there will be a need to review the list and determine if there will be waste as a result of improving productivity. MVIWATA will have to abide to these regulations.

2.2.3 Administrative and Institutional Framework of ESMP

As per Project Concept Note the institutions to engage in the implementation of this project are summarised below:

- *Project Steering Committee (PSC)* –will comprise of 9 MVIWATA Board Members – tasks to provide the strategic guidance and oversight on the Project.
- *Technical Advisory Committee (TAC)* – this will advise the project on technical areas and ensure synergy.
- *Project Implementation Entity (PIE)* is MVIWATA which will use her staff members to from the Project Implementation Team (PIT). PIT will be responsible for day to day implementation of the project. MVIWATA existing staff members and others to be recruited will make up the PIT.
- *Participating Local Government Authorities(LGAs)*: these will provide advises and policy positions on agriculture matters, environment, land use and project construction based approvals such as issuance of building permits, village authority approvals of land use and development. The LGAs are Morogoro, Mvomero, Wanging’ombe, Kaskazini Unguja A and Kaskazini Unguja B. Middle and Local levels Networks formed by MVIWATA will engage with the project effectively.

Implementation of the Framework ESMP

This will be done by the PIT to be established within the PIE. The roles and responsibilities of each member in the PIT as presented below:

- *Project Coordinator* lead the PIT to ensure all project activities are implemented as planned. Ensure development of sub-project specific ESMPs by facilitating the process through funding, field visits. Liase with regional coordinators on all issues related to environmental and social safeguards by facilitating the ESSS-PIE
- *Project Accountant (PA-PIE)* responsible for all financial management matters by keeping proper accounts on finance, expenditure by abiding to the AfDB financial management rules and those of the Governments of Tanzania and Zanzibar,
- *Agronomist* –will advice on agriculture and business focusing on the selected crop

value chain in this project.

- *Value Chain and Marketing Officer (VCMO-PIE)*-follow up and sensitization on value chain for the targeted crops and marketing of the same after processing.
- Regional Coordinators (RCs) for Njombe, Morogoro and Kaskazini Unguja –guide implementation of the planned activities in their respective regions.
- *Environmental and Social Safeguards Specialist (ESSS-PIE)* ensure compliance to the Tanzania and Zanzibar laws, regulations and AfDB policies on environment and social matters as per risk levels. Will facilitate environmental clearance with the NEMC and ZEMA through preparing recommended environmental instruments, sites verification visits and follow up for approvals;
- *Procurement specialist (PS-PIE)*-ensure procurement of goods and services are done according to the policies of the Bank and those established by the PIE; the Governments of Tanzania and Zanzibar;
- *Monitoring and Evaluation specialist (M&E- PIE)*-monitor implementation of the project by collecting data on progress made, expenditure, indicators based on the log-frame and theory of change for the project. The Project M&E Plan that is aligned with the Bank’s Results Measurement Framework and the M&E framework for ASDPII will be used to ensure that everything is recorded and reported accordingly.

The Matrix of roles and Responsibilities for the project is presented as **Annex 5**

2.3 TANZANIA - ZANZIBAR

2.3.1 Policies and Legal Framework

Table 4 presents relevant policies and legal framework in relation to the project.

Table 4: Key Policies and Laws Relating to Environmental Management in Zanzibar

Policy	Key Elements	Relevance in the Project
Zanzibar Development vision 2050	It provides development agenda for Zanzibar aiming at improving economic growth. It emphasizes economic transformation, human capital and social services, governance and resilience and infrastructure linkages.	FSSP is based on this policy and will guide implementation
Zanzibar Environmental Policy,2013	It provides framework for protection, conservation, restoration and management of resources to avoid destruction for sustainability.	FSSP will ensure that the activities implemented are in line with the requirements of the policy.

The Energy Sector Policy,2009	It recognizes the modern and secure access to clean forms of energy to sustain the development of the economy.	FSSP sub-projects need energy to for them to be sustainable in processing of fresh food such as tomatoes.
Zanzibar Forest Policy 2012 (revised)	The Policy continues to recognize the important role of forests in the maintenance of the environment, the provision of forestry products and the protection of watersheds and biodiversity, and climate change issues.	FSSP will ensure that productivity that is promoted under the project does not affect forestry areas
Zanzibar Water Policy,2004	The policy emphasizes the achieving resources efficiency and sustainability as well as facilitating sustainable use of water in urban and rural areas of Zanzibar. It recognizes ground water as a primary source of water in Unguja and Pemba.	FSSP crop value chain especially tomatoes production uses water for irrigation hence controlling over abstraction of underground water will be monitored.
Zanzibar Agricultural Policy	The policy recognizes that environmental protection is a prerequisite management tool for maximum achievement of sustainable agricultural production. It states that the Government would establish a special unit to co-ordinate proper mainstreaming of environmental norms into agricultural development activities.	FSSP will comply according with the provision of this policy.
Local Government Policy, Zanzibar	The policy recognizes essential linkages between	Local Authorities, Zanzibar

	the local communities and environmental protection and ensures sustainable use of the country's limited carrying capacity in the exploitation of natural resources. The policy outlines the roles and mandate of local authority and community relating to the protection and conservation of environment and natural resources.	
Plant Protection Act 1997, Zanzibar	It prohibits importation of any plant material, pests, beneficial organism or soil into Zanzibar except under the provisions provided by the act and the entry points declared by the act.	FSSP will follow the law provisions in supply of agricultural inputs
Food Security and Nutrition Policy (2008),	It provides government commitments on the issue of security of food and nutrition among Zanzibaries.	FSSP activities are in line with the provisions of this policy.
The Zanzibar Environmental Management Act, no 3 of 2015	Establishes the main part of the legal and regulatory framework.	FSSP will comply to the provision of the law in the environmental clearance process for sub-project to be developed in Zanzibar
Zanzibar Land Acts, Land Tenure (Amendment) Act (2003)	They provide legal requirement for land ownership in Zanzibar	FSSP deals with small farmers who complain much about land ownership of farms that they use.
The Occupational Safety and Health Act No.8, 2005,	The law provides legal requirements related to working place, safety and	FSSP will have workers and farmers who may be required to use

		health through use appropriate personal protective equipments etc, etc	appropriate safety gears while using chemicals in farms.
Zanzibar Environmental Impact Procedures(regulations,2002),	Assessment	They provide regulations guiding environmental assessment in Zanzibar hence enabling investors and project proponents to comply with the regulations.	FSSP through the PIE will ensure that provided procedures are followed adequately while preparing sub-project specific assessment and ESMPs.
Regional Administration Act,2014 and local Government Act No 7/2014		It puts in place functionality of the Regional, District, and Shehia Government administrators. All matters related to social, economic, and environmental governance from top to grassroots are elaborated.	FSSP through PIE will collaborate closely with these institutions and this was done during the preparation of this report

Source: various sources.

2.3.2 Administrative and Institutional Framework

As per Project Concept Note the institutions to engage in the implementation of this project are summarised below:

- *Project Steering Committee (PSC)* –will comprise of 9 MVIWATA Board Members – tasks to provide the strategic guidance and oversight on the Project.
- *Technical Advisory Committee (TAC)* – this will advise the project on technical areas and ensure synergy.
- *Project Implementation Entity (PIE)* is MVIWATA which will use her staff members to from the Project Implementation Team (PIT). PIT will be responsible for day to day implementation of the project. MVIWATA existing staff members and others to be recruited will make up the PIT.
- *Participating Districts in Zanzibar* these will provide advises and policy positions on agriculture matters, environment, and land use and project construction based approvals such as issuance of building permits, village authority approvals of land use and development. These are Kaskazini Unguja A and Kaskazini Unguja B. Middle and Local levels Networks formed by MVIWATA will engage with the project effectively.

Implementation of the Framework ESMP

This will be done by the PIT to be established within the PIE. The roles and responsibilities of each member in the PIT as presented below:

- *Project Coordinator* lead the PIT to ensure all project activities are implemented as planned. Ensure development of sub-project specific ESMPs by facilitating the process through funding, field visits. Liaise with regional coordinators on all issues related to environmental and social safeguards by facilitating the ESSS-PIE
- *Project Accountant (PA-PIE)* responsible for all financial management matters by keeping proper accounts on finance, expenditure by abiding to the AfDB financial management rules and those of the Revolutionary Government of Zanzibar,
- *Agronomist* –will advice on agriculture and business focusing on the selected crop value chain in this project.
- *Value Chain and Marketing Officer (VCMO-PIE)*-follow up and sensitization on value chain for the targeted crops and marketing of the same after processing.
- *Regional Coordinator for Kaskazini Unguja* –guide implementation of the planned activities in their respective regions.
- *Environmental and Social Safeguards Specialist (ESSS-PIE)* ensure compliance to the Zanzibar laws, regulations and AfDB policies on environment and social matters as per risk levels. Will facilitate environmental clearance with ZEMA through preparing recommended environmental instruments, sites verification visits and follow up for approvals;
- *Procurement specialist (PS-PIE)*-ensure procurement of goods and services are done according to the policies of the Bank and those established by the PIE; the Governments of Zanzibar;
- *Monitoring and Evaluation specialist (M&E- PIE)*-monitor implementation of the project by collecting data on progress made, expenditure, indicators based on the log-frame and theory of change for the project. The Project M&E Plan that is aligned with the Bank’s Results Measurement Framework and the M&E framework for ASDPII will be used to ensure that everything is recorded and reported accordingly.

2.4 International Conventions

Tanzania is a party to many international agreements on Biodiversity, Climate Change, Desertification, Endangered Species, Ozone layer protection, Marine Life Conservation, wetlands etc. Examples are:

- Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal (1989)
- Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris (1972)
- Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and their Destruction, London (1972)
- Convention on Biological Diversity Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)

- Convention on the Ban of the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes Within Africa, Bamako, Mali (1991)
- UN Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification particularly in Africa (1994)
- Lusaka Agreement on Co-operative Enforcement Operations Directed at illegal Trade in Wild Fauna and Flora (1994)
- Montreal Protocol on Substances that Deplete the Ozone Layer (1987)
- Phyto-sanitary Convention for Africa, Kinshasa (1967) UN Convention on the Law of the Sea (1982)
- UN Framework Convention on Climate Change (UNFCCC) adopted in May, 1992; signed by Tanzania on 12 June, 1992, ratified by Tanzania on 1 March 1996
- Vienna Convention for the Protection of the Ozone Layer, adopted on 16 September 1987. Acceded to by Tanzania on 16 April 1993
- Ramsar convention on Wetlands (1971)
- United Nations Framework Convention on Climate Change (1994)

2.5 AfDB's Integrated Safeguards System

According to the FSSP Concept Note this project poses low to moderate environmental and social risks and impacts. It will trigger three Operational Safeguards⁶. This project has been classified as Category 2 in terms of Environmental and Social risk. This project will not entail Involuntary Resettlement that can result in the acquisition of land for Project implementation.

Table 5 presents the operational safeguards that will trigger during the implementation of the proposed FSSP in Tanzania. Reasons or descriptions for decisions are also presented.

Table 5: Applicable AfDB's Operational Safeguards Policies in the FSSP in Tanzania

Operational Safeguards(OS)	Triggered?	Description
OS.1: Environmental and Social Assessment.	YES	FSSP through initiatives to improve productivity in the crop value chains is likely to cause environmental and social impacts that will need mitigations. Site Specific ESMPs will be required once sites have been identified.

⁶The three operational safeguards are (i) OS1 E&S Assessment; (ii) OS4: Pollution Prevention and Control, Hazardous Materials; and (iii) OS5: Labour Conditions, Health and Safety.

OS.2: Involuntary Resettlement, Land Acquisition, Population Displacement and Compensation.	No	No land take will be required.
OS3: Biodiversity and Ecosystem Services.	YES	FSSP will implement activities in different environmental setting such as valleys, near water sources and critical habitats.
OS.4: Pollution prevention and control, hazardous materials and resource efficiency.	YES	The residual impacts of activities under FSSP may have the potential impacts to the surrounding environment and health if applicable environmental standards are not met during the phases of the FSSP.
OS.5: Labour conditions, health and safety.	YES	FSSP will have activities requiring recruitments of temporary workers, skilled and semi-skilled. Therefore, compliance to occupational, health and safety issues is critical to the project.

Source: Adopted from FSSP Concept Note.

On Climate Change and Green Growth –this project has been screened and classified as Category 2 on the Bank’s climate safeguards system. This, meaning it is moderately vulnerable to climate risk. Main climate risks include reduced rainfall, delayed and changing rainy seasons and crop pests and diseases, all of which may reduce productivity of the selected crops.

2.6 Comparing AfDB Policies, Tanzania Mainland and Zanzibar

Table 6 shows the comparison of policies between the AfDB’s Policies and those of Tanzania and Zanzibar. There are no significant difference among the policies and laws enforceable by AfDB, Tanzania Mainland and Tanzania Zanzibar is as far as this project is concerned.

Table 6: Relationship of Policies among AfDB’s Policies Tanzania and Zanzibar

Operational Safeguards(OS)	Triggered?	Tanzania	Zanzibar
OS.1: Environmental and Social Assessment.	YES	Policies and Laws emphasize conduct of Environmental and Social Assessment	ZEMA,2015 emphasizes conduct of EIA for these projects.

OS3: Biodiversity and Ecosystem Services.	YES	Emphasis is made in policies on protection biodiversity and ecosystems development.	Emphasis is made in policies on protection biodiversity and ecosystems development.
OS.4: Pollution prevention and control, hazardous materials and resource efficiency.	YES	EMA,2004 has regulations for overseeing issues of pollution, hazardous materials and resources efficiency.	ZEMA,2015 clearly emphasizes prevention and control of hazardous materials.
OS.5: Labour conditions, health and safety.	YES	Occupational safety and Health law is in place with a dedicated agency for enforcement and monitoring.	Occupational safety and Health law is in place with a dedicated agency for enforcement and monitoring.

3. DESCRIPTION OF THE ENVIRONMENTAL SETTING

3.1. Baseline Environmental Conditions of TANZANIA

3.1.1 Geographical Location

Tanzania lies between 29°30'E and 40°30'E and 1°00'S and 11°48'S. It is a land of contrasts, being the home of Africa's highest mountain (Kilimanjaro, at 5,895meters[m]ams) and its lowest point (the floor of Lake Tanganyika, which is 1,470 m deep). Located on the east coast of Africa, it covers an area of approximately 945,000 square kilometers (km²), of which the Zanzibar Islands covers 2,400km². The islands of Mafia, Pemba, and Zanzibar are included in this area. Of this area, 61,495km² is covered by the inland waters of the Great Lakes (Victoria, Nyasa, and Tanganyika). The country is bordered by Uganda to the north for 396km; Rwanda and Burundi to the northwest for 217km and 451km respectively; the Democratic Republic of Congo to the west for 459km (a water border on Lake Tanganyika); Zambia and Malawi to the southwest for about 338km and 475km, respectively; Mozambique to the south for 756km; and Kenya to the northeast for 769km. The India Ocean, with shores characterized by coral reefs and small

islands, lies to the east. The continental shelf within the 200m depth contour varies from 4-60km from the shore.

3.1.2 Climatic Conditions

Tanzania experiences a variety of climatic conditions, ranging from the alpine deserts on the top slopes of Mount Kilimanjaro that are permanently covered by snow, to the tropical coastal areas that are under the influence of two monsoon winds. The northeast monsoon wind, which blows southwards from December to March, brings the hottest weather, while the southeast monsoon winds that blow northwards from March to September bring intermittent rains. The main rainy season on the coast is from March to May (the long rains) with a second season between October and December (the short rains). Mean annual rainfall varies from 400 mm in the central regions to over 2,500 mm in the highlands and the western side of Lake Victoria. Mean annual temperatures are influenced by altitude, ranging from 21°C in high mountain areas to 29°C at sea level.

Except for the coastal belt and islands, most of the country is part of the Central African Plateau (1,000 – 1,500 m above sea level) and characterized by gently sloping plains and plateaus, broken by scattered hills and low-lying wetlands. The Central African Plateau is deeply incised by two arms of the Rift Valley: the eastern arm, which includes lakes Natron and Manyara, and the deeper western arm, which contains Lake Tanganyika. Both arms of the rift coverage in the south of the country near the northern end of Lake Nyasa/Malawi.

There are seven agro-ecological zones in Tanzania based on climate, physical geography, soils, vegetation, land use and tsetse fly occurrence, which are the main physical factors that influence opportunities and constraints for crop and livestock production.

3.1.3 Water Bodies

Apart from the Indian Ocean, the largest water body that lies to the country, Tanzania shares three major lakes (Nyasa/Malawi, Tanganyika and Victoria) with other countries in the region. Other lakes in the country include Manyara, Natron, Eyasi, and Rukwa. Tanzania also has permanent and seasonal rivers. Main rivers include the Kilombero, Mara, Pangani, Ruaha, Rufiji, Ruvu and Ruvuma.

Tanzanian's wetlands cover about 10 percent of the country. They are classified as marine and coastal wetlands, inland wetland systems, rivers and inland flood plains, and artificial wetlands. The marine and coastal wetlands include the mangrove estuary swamps, coral reefs, seaweed and grasses, and intertidal mudflats. The inland wetlands include the Rift Valley lakes (Balangida, Eyasi, Manyara, Natron, Nyasa, Rukwa and Tanganyika), some depression swamps (Bahi and Wembere), and Lake Victoria. The shores of the Rift Valley lakes provide a habitat for birds, while Lake Natron serves as the

largest flamingo breeding ground in Africa. The soda lakes (Eyasi, Manyara, Natron and Ngorongoro) are their feeding grounds. The waters of these lakes and the adjacent land are often inhabited by wildlife, which is a major tourist attraction in Tanzania.

Some swamps are important breeding sites for fish. Lake Tanganyika is home to about 217 endemic fish species, while Lake Nyasa/Malawi has the most diverse fish species population (over 600 species). Both lakes are world famous for their variety of aquarium fish. Lake Tanganyika is important nationally for sardine, while Lake Victoria has a naturally rich and diverse indigenous fish fauna (178-208 species). However, the introduction of Nile perch has led to the disappearance of several indigenous species.

3.1.4 Groundwater Resources

Groundwater availability is mainly controlled by geology and climate, and is unevenly distributed across the country. The groundwater has huge potential for complementing the surface water sources, it accounts for 97% of the accessible global freshwater resource. In many countries, Tanzania included groundwater is often the main source for domestic water supply apart from widely being used for irrigated agriculture and industry (NBS, 2017).

As of 2017, there are 65 registered groundwater drilling companies and 13 registered groundwater exploration companies (MoWI, Jan 2018). The main persistent challenge, which continues to be a hindrance to groundwater utilization and development, is paucity of data. More efforts are needed in order to get relevant information on available and minable groundwater resources (NBS, 2017).

3.1.5 International Water Issues

Tanzania shares six international lakes and five international rivers including three of the largest African rivers basins – Nile, Congo and Zambezi, and seven international aquifers. This is more than any other nation in Africa in comparison. A larger part of the country's international borders are water bodies. The Ruvuma River form a border with Mozambique, Lake Tanganyika with the Democratic Republic of Congo, Zambia and Burundi, Lake Nyasa and the Songwe River with Malawi, the Kagera River with Rwanda and Uganda and lake Victoria with Uganda and Kenya. As a result, the United Republic of Tanzania is part of numerous trans-boundary institutions and agreements for management of these shared water resources (NBS, 2017). Some important international agreements on the use of water resources are :- the SADC's Shared Water Course Systems Protocol, Lake Tanganyika Authority (LTA), the Joint Water Commission Agreement between Tanzania and Mozambique in 2007, the Lake Victoria Tripartite Agreement, Cooperative Framework Agreement for the River Nile Basin ratified in 2015 (NBS, 2017 in URT 2014)

3.1.6 Biodiversity and Protected Areas

Throughout the country, a network of freshwater rivers and lakes provides drinking water, sustains agriculture and provides hydropower. Lake Victoria, the largest lake in Africa and recognized for its high levels of endemic fish species, supports a large fishing industry and provides food security and jobs for surrounding residents. Tanzania's coastlines host numerous fringing and patch reefs, important both ecologically and socio-economically as major fishing grounds and tourist attractions. These resources are key to maintaining healthy and productive landscapes, and are intricately linked with energy generation, agriculture, and human consumption.

The country's biodiversity and unparalleled wildlife are globally renowned. Tanzania hosts diverse, distinct, and iconic ecosystems and species. About a third of the country's total land area is officially under protection, one of the world's highest ratios. Tanzania boasts 19 national parks including the Ruaha National Park – the largest national park in East Africa (with an area of 20,226 km²), the famous Kilimanjaro National Park, and the Serengeti National Park. The latter is well-known for its large herds of wildebeest, and their annual migration, one of Africa's most spectacular natural events. Tanzania also hosts 25 game reserves including the Selous game reserve, a UNESCO World Heritage Site and Africa's largest game reserve (with an area of over 50,000km²). The country has three marine parks, 15 marine reserves, and multiple forest reserves and woodlands (World Bank, 2019).

3.2. Baseline Socio-Economic Conditions of Tanzania

3.2.1 Population

The national population, as per 2022 census results is 59.8 million in Tanzania Mainland and 1.9 Million in the Zanzibar Islands. Majority of this population (65 percent) which is about eight million households are involved in agricultural activities especially crop farming while 33 percent were active in both crops and livestock keeping (www.statista.com).

3.2.2 Agricultural Development

Tanzania has a total road network of 36,258 km comprising of trunk roads, regional roads and district roads as summarized in the table 7 below.

Table 7 Tanzania's Road Network

Sn.	Type of road	Distance (Km)
1	Trunk roads	
	Paved trunk roads	8,211
	Unpaved trunk roads	4,011
	Total trunk roads	12,222
2	Regional Roads	

	Paved regional roads	1,508
	Unpaved regional roads	22,004
	Total regional roads	23,512
3	District Designated Roads	
	Paved district designated roads	33
	Unpaved district designated roads	491
	Total district designated roads	524
	Total Road Network	36,258

Source: PO – RALG (ESMF Report), March 2022

3.2.3 Poverty

The poverty rate in Tanzania has been declining gradually. The national poverty headcount has improved from 34.4 percent of population in 2007 to 28.2 percent in 2012 and further to 26.4 percent in 2018. Despite Tanzania’s impressive GDP growth between 2012 and 2018, poverty reduction slowed, and growth has become less inclusive. Inequality has also risen during this period. The international poverty headcount (US\$1.90 per day at 2011 purchasing power parity) remained high and unchanged during this period at 49 percent (TACTIC’s PAD, 2021).

3.2.4 COVID-19 Pandemic

Corona virus Disease 2019 (COVID-19) has negatively impacted Tanzania’s macroeconomic performance-decelerating GDP growth in 2020-although Tanzania is one of the few economies in the region that avoided recession⁷. The global economic slowdown adversely affected Tanzania’s export-oriented industries, especially tourism and traditional exports, and has caused a drop in foreign investment. The exception is gold mining which has benefitted from rising prices since the onset of the pandemic. Although the government did not impose a lockdown, the pandemic initially spurred precautionary behaviors that slowed down domestics’ economic activity.

3.2.5 Gender Based Violence

Gender Based Violence (GBV) has been defined as “any harmful act that is perpetrated against a person’s will and that is socially ascribed (gender) differences between males and females. GBV has a greater impact on women and girls, as they are most of often the survivors and suffer of great physical damage than men when victimized (Odunga, 2021). The term GBV⁸ is often used interchangeably with the term “Violence against Women” (VAW). Literature has revealed that the major root cause of gender based

⁷World Bank, 2021. Tanzania Economic Update, 15th Edition

⁸.

violence is discrimination perpetuated by customs, cultural and traditional setting that place women and girl child at lower level of social relations. According to the Global 2015 Human Development Report, 35% of women globally have experienced physical or sexual intimate partner violence, which impacts on women’s empowerment.

From a situation analysis of National Plan of action to End Violence Against women and Children in Tanzania 2017/18 – 2021/22 (URT, 2016), violence is a daily reality for large numbers of women and children in Tanzania. In Tanzania, almost four in ten women have experienced physical violence, and one in five women report experiencing sexual violence in their lifetime (from the age of 15). 16 Spouse abuse, both sexual and physical, is even higher (44%) for married women. According to the 2010 Demographic Health Survey, 39% of women aged 15-49 have ever experienced physical violence since 15 and almost one-third of women (33%) aged 15-49 experienced physical violence in the 12 month prior to the survey.

3.3 MOROGORO REGION

3.3.1 Environmental Baseline Conditions

3.3.1.1 Geographical Location

Morogoro Region is one of the high potential agricultural regions in Tanzania Mainland that is located on the eastern side of the country. The Region lies between latitudes 5°58’ and 10°00’ South of the Equator and longitudes 35°25’ and 38°30’ East of Greenwich. It is bordered by seven regions. In the north are Tanga and Manyara while in the eastern side are the Coast Region and Lindi regions. On the western there are Dodoma and Iringa Regions while Ruvuma is located in the southern side of the Region.



Figure 1: Tanzania Administrative Map Showing Morogoro Region

3.3.1.2 Land Area

Morogoro Region has a total area of 73,039 km² out of which 2,240 km² is covered by water. This area makes it the second largest region in Tanzania (the largest is Tabora). The Region covers about 7.7 percent of the total area of Tanzania (Table 8) indicates that most of the land of Morogoro Region is covered by land (96.9 percent) and water bodies cover only a small part of the Region (3.1 percent). Out of six district councils of the Region, only three districts of Kilombero, Ulanga and Morogoro Rural have significant water bodies.

Table 8: Morogoro: Land and Water Surface Area By 2006

District name	Land area KM2	Water area KM2	Total area
Kilosa	14,245.00	Insignificant	14,245.00
Kilombero	13,577.00	1,341.00	14,918.00
Ulanga	23,681.00	879.00	24,560.00
Morogoro Rural	11,711.00	20.00	11,731.00
Mvomero	7,325.00	Insignificant	11,711.00
Morogoro Urban	260.00	Insignificant	260.00
Total	70,799.00	2,240.00	77,425.00

Source: Morogoro Regional Commissioner's Office, 2006 in URT 2014.

3.3.1.3 Climate and Soils

Morogoro Region experiences climate of moderate temperature and rainfall. The average annual temperatures vary between 180C to 300C in the lowlands. The Region experiences moderate temperature of around 250C almost throughout the year. The warm season normally runs from July to September.

Generally, the region experiences two major rainfall seasons: with long rains between November and May, and short rains between January and February. The average annual rainfall varies between 600mm and 1800mm. However, the average annual rainfall varies from year to year and between ecological zones. Moreover, the mountainous topographical nature of the Region affects the patterns of the rainfall. The eastern parts of Uluguru Mountains receive very high rainfall of up to 2,850mm annually while the leeward sides of these mountains are generally dry receiving rains of less than 600mm per annum. The areas experiencing the lowest rains include Gairo and Mamboya divisions in the North of Kilosa District, and Ngerengere division in Morogoro Rural District. Also, the Region's climate especially that of Ulanga and Kilombero Districts in the southern parts is greatly influenced by the Mahenge and Udzungwa mountain ranges which have high altitude and harbour dense forest reserves.

Soils in the Region vary according to topographical and ecological zones. In the mountainous and hilly areas the common type of soils found are mainly oxisols which are generally low in nitrogen and phosphorus. Valley and low lands are generally characterized by alluvial soils which are fertile in nature. Sandy and clay soils are common in woodlands and grasslands.

3.3.1.4 Topography

The topography of Morogoro Region is characterized by two remarkable natural features. First are the mountainous and hilly areas which include the Ukaguru Mountains, and the Uluguru and Nguru mountain ranges. Others include Mahenge and Udzungwa mountain ranges which extend to the Njombe Highlands in Iringa Region. These mountains form the eastern and southern part of the “Eastern Arc Mountains” which extend from southern Kenya to southern Tanzania. These mountains are part of an ancient crystalline block- faulted mountain range in the eastern part of Africa stretching from the Taita hills in Kenya to the Drakensberg in South Africa. The second feature that characterizes the Region’s topography is the lowlands especially the Kilombero valley and the northern parts of the Region. The Region’s drainage is formed by many rivers that flow from highlands to lowlands in the valleys. The major rivers include the Kilombero, Ruaha, Wami, Luwegu, Ruvu, Ngerengere, Mkata, Mkondoa and Mkindo

3.3.1.5 Agro-Ecological Zones and Water Bodies

Morogoro Region can broadly be divided into four Agro-Ecological Zones, which include the mountain zone, the intermediate zone, and the Kilombero river valleys and basins.

(i) The Mountain Zone

The mountainous agricultural zone receive the highest amount of rains with average annual precipitation ranging from 800mm-2500mm in the windward side of mountains and lowest rains in the leeward side at an annual average rains of less than 600mm. The zone has an altitude ranging from 600m to over 1250m above sea level. The zone experiences the coolest temperature in the Region with an annual average of 18°C. The zone is densely populated in the eastern side due to its windward nature which brings high rainfall. On the other hand the western side is sparsely populated as it experiences dry climate due to its leeward location.

A variety of crops are grown in this zone. Food crops are mainly maize, Irish potatoes, banana, peas, yams, beans, groundnuts, wheat, cassava and horticultural crops. Major cash crops include coffee, oil seeds, vegetables and fruits such as pineapple and oranges. Due to its mountainous nature, the zone is limited to small stock such as goats, sheep and pigs.

The zone experiences a number of problems including deforestation which has culminated in serious soil erosion. Deforestation is caused by residents who

excessively cut forests while clearing for farming. Roads and transport infrastructure are poor especially in the mountainous areas of the Region.

(ii) The Intermediate Zone

This zone covers most of the southern parts of Morogoro District, and greater part of Kilosa District in Mikumi, Ulanga, Magubike, Magole and Chakwale wards. The altitude of this area ranges from 300m to 600m above sea level, with an average rainfall between 700mm and 1200mm per annum. The temperatures in this zone average 18°C annually.

Crops grown for food in this zone include maize, millet, cassava, sorghum, paddy and legumes. Major cash crops raised include cotton, sisal and oilseeds. The zone is densely populated due to its suitability to agriculture and livestock keeping.

(iii) The River Valleys and Basins

This zone is constituted by the Mgeta, Kafa, Ruvu, Wami, Msongozzi, Mbulumi and Ngerengere river valleys in Morogoro and Mvomero District; the Wami-Mkata plains and Mkondoa valley in Kilosa District, and the Luhombero Plains in Ulanga District. The topography of these areas is predominantly plain with rainfall ranging between 900mm and 1400mm annually. Temperatures in this zone are high with an average of 30°C due to its lowland nature. The zone is densely populated in the upper parts of the valleys, and sparsely populated in the inner parts of the valleys.

Major food crops grown in this zone include maize, paddy, sorghum, beans, cassava, fruits and vegetables. Cash crops are cotton, sisal, oil seeds, sugar cane and coconuts.

Livestock raised in this zone include cattle, sheep and goats in the areas with no tsetse fly problem. Roads, transport and communication infrastructure in this area face problems due to frequent flooding during the rainy season.

(iv) Kilombero River Valley

This valley encompasses 39,990 km², about 23% of the total area, and contributes about 65% of the flow to the Rufiji River. An important feature of the Kilombero basin is the great fertile Kilombero valley below the eastern scarp of the Udzungwa Mountains. There are rivers that follow in this valley, namely, Ruhudji, Kihansi, Luhombero, Kigogo-Ruaha and Mpanga.

The Rufiji basin is large with differing rainfall and catchment characteristics. The area in the north of Poroto and Udzungwa Mountain is under semi-arid conditions with mean annual rainfall of 500 mm. Rainfall increases southward and larger falls of 1800 mm per year are observed on the slopes at the Udzungwa and Kipengere range.

The area witnesses' rainy season (mid-November to May) and one dry season. This pattern is the same all over the basin with the exception of coastal areas where there is

slight tendency to bimodal rain pattern. There is a tendency for the dry season to set earlier in the Great Ruaha basin than the Kilombero basin. The Kilombero floods occur at the end of April or the beginning of May. Runoff pattern is closely related to the rainfall pattern. Rivers start rising in December with a peak in March-April (URT, 2014).

3.3.1.6 Irrigation Potential

Table 9 shows the potential irrigation areas in Morogoro Region. There is a potential for irrigation of 434,390 hectares. Only 274,243 hectares was under irrigation by the year 2008/2009. Roughly 60 percent of the potential area for irrigation is yet to be utilized.

Table 9: Potential Areas for Irrigation in Morogoro Region, 2006

	RIVER BASIN	POTENTIAL AREA (HA) FOR IRRIGATION
I	Kilombero river basin	
	1. Luri, Mchilipa and Lwasesa plains	17,960
	2. Lufupa and Sofi plains	36,740
	3. Ruhuji, Mnyera and Mpanga plain	134,700
	4. Kihansi, Mugeta, Ruipa and Lumemo plain	146,940
	Sub total	336,340
II	Luwengu river basin	
	1. Luhombero and Luwengu plain	16,500
	2. Ruaha and Chilombola plain	10,450
	Sub total	26,950
III	Wami river basin	
	1. Wami – Dakawa plain	10,500
	2. Mkindo and Mgongola plain	15,600
	Sub total	26,100
IV	Great Ruaha river basin	
	1. Kibegere plain	15,000
	2. Kidatu and Msolwa plain	30,000
	Sub total	45,000
	GRAND TOTAL	434,390

Source: Morogoro Regional Commissioners Office, 2006 in URT 2014.

Kilombero with irrigation schemes covering 17,606 hectares is the district with the largest irrigated area in the Region. Morogoro District having three irrigation schemes has a total of 2,140 hectares which are developed and used. The crops which are mainly serviced by these irrigation schemes are sugar cane, paddy, maize, vegetables and pulses.

3.3.2 Socio-Economic Conditions

3.3.2.1 Population

The Tanzania 2022 Preliminary Census results show that Morogoro Region has a population of 3,197,104 whereby 1,579,869 are male and the rest being female.

3.3.2.2 Administrative Units

Administratively, Morogoro Region is divided into six (6) districts, namely Kilosa, Kilombero, Ulanga, Mvomero, Morogoro Rural, and Morogoro Urban. The Districts are subdivided into divisions, wards villages and streets (for urban wards)/vitongoji (for rural wards). As indicated in Table 10, the Region has a total of 30 divisions, 141 wards, 540 villages, 275 streets and 3,204 vitongoji/hamlets (Table 10).

Table 10: **Distribution of Administrative Units by District in the Region, 200**

District Name	Divisions	Wards	Villages	Streets	Vitongoji/Harmlets
Kilosa	9	37	161	-	1,030
Kilombero	5	19	81	-	355
Ulanga	5	24	65	-	605
Mvomero	4	17	101	-	577
Morogoro (Urban)	1	19	Mitaa	275	-
Morogoro	6	25	132	-	657
Total	30	141	540	275	3,204

Source: Morogoro Regional Commissioners Office, 2006in URT 2014.

3.3.2.3 Local communities

Most of the groups in the region are farmers. There are also pastoralists and agro-pastoralists. These groups have moved in and settled in the districts in search of grazing lands for their cattle. These new settlers have occasionally clashed with existing ethnic groups. The conflicts are always based over the land use and occupancy rights.

Table 11: Economic activities within Morogoro region.

Zone	Area covered	Crops	Livestock raised
HIGHLANDS 600	Nguru, Mahenge, Rubeho, Udzungwa and the Ubena mountains	Maize, Vegetables, Fruits, Coffee, Cocoa, Citrus	Poultry, Pigs, Goats, Sheep
PLATEAU 300-600m	Major part of Kilosa District and part of the middle of Morogoro South	Maize, sorghum, sweet potatoes, cotton, sunflower, simsim, citrus, paddy, cassava and banana	Cattle, sheep, chicken
LOWLAND and River valleys	Kilombero Wami, Mkindo, Ngerengere, Mgeta,	Paddy, maize, sugarcane, bananas,	Mainly poultry

	Luwegu Luhomberovalleys	and	cocoyams, cassava and sweet potatoes.	
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Source: Morogoro Regional Office, 2006 in URT 2014.

3.3.2.4 Regional Economy

Morogoro Region is one of the Regions in Tanzania with great potential of economic development and prosperity. The Region has a very good climate and land favorable for agriculture and other economic investments. The Region contains Morogoro Urban centre which is its headquarters. The urban centre is strategically located at the junction point of major roads from Dodoma and Iringa to Dar es Salaam and Arusha. The economy of the Region is dominated by agriculture and the allied activities.

The major activities include:

- (i) Small Scale farming (food and cash crops production)
- (ii) Cattle keeping (mainly indigenous livestock)
- (iii) Plantations and estates (sisal, sugar).
- (iv) Small capital intensive urban sector whose main activities include:
 - Manufacturing and
 - Provision of services - offices, hotels, petty trading etc.
- (v) Traditional fishing is practiced along the Kilombero and Wami rivers as well as Mindu dam.
- (vi) Some mining is carried out at Lukande village in Ulanga District and at Matombo in Morogoro rural district. The region is rich in three types of minerals, gemstones; construction minerals (such as sand, gravel and stones) and industrial minerals (including reticule lime stone, mica and graphite).

The major economic activity in this region is agriculture which engages about 80 to 90 percent of the region's labor force. Agriculture involves both small and large-scale farmers. Large-scale farms include the Kilombero and Mtibwa sugar estates, sisal estates, and paddy farms in Dakawa in Morogoro Rural District, Mngeta in Kilombero District and Kilangali in Kilosa District.

The major staple food crops are maize and paddy followed by sorghum, sweet potatoes, beans, cassava, millet, groundnuts, tomatoes, fruits and vegetables. The main cash crops in the Region are cotton, coffee, sisal, onions, oil seeds (such as sesame, sunflower and some cocoa along the mountain slopes (URT, 2014).

(a) Livestock Production and population

Data collected in 2006 across Morogoro Region shows that chicken occupy the largest proportion (55.5 %) of all livestock kept, followed by cattle (22.6 %), goats (18.6 %), sheep (2.9 %), pigs (0.9 %) and donkeys (0.1 %) (See Table 12 below).

Table 12: Estimated Livestock population in Morogoro Region by District, 2006

District Name	Cattle	Goats	Sheep	Donkey	Pigs	Chicken	Total/district	%
Kilosa	215,040	93,737	25,098	2,930	5,097	500,612	842,514	32.1
Kilombero	68,106	10,090	5,806	157	6,902	365,670	455,446	17.4
Ulanga	97,263	16,714	18,084	262	495	346,219	479,037	18.3
Mvomero	172,827	51,161	20,121	385	6,243	192,325	383,584	16.9
Morogoro Urban	4,170	4,300	180	3	3,130	25,640	37,423	1.4
Morogoro	35,935	295,404	5,467	55	2,543	25,804	364,908	13.9
Region Total	593,341	441,406	74,756	3,792	24,410	1,456,270	2,562,912	
% livestock type	22.6	18.0	2.9	0.1	0.9	55.5		100

Source: Morogoro Regional Commissioners Office, 2006 in URT 2014

Kilosa District has been found to contains the largest share of livestock kept (32.1 %), followed by Ulanga (18.3 %), Kilombero (17.4 %), Mvomero (16.9 %), Morogoro (13.9 %) and Morogoro Urban (1.4 %). Most cattle are indigenous beef followed by dairy cattle, and lastly improved beef cattle. There is an average of 2 dairy cattle kept by each dairy cattle keeper.

Although dairy cattle are fewer than indigenous cattle in Morogoro, there has been a considerable increase in dairy cross cattle in the region since 1990. One of the factors limiting livestock keeping is the limited grazing land due to villagers allocating land for other uses and un-demarcated land for crop and livestock production in the region.

(b) Natural Resources

The natural resources sector in Morogoro Region is comprised of various sub-sectors including forestry, fisheries, bee-keeping and wildlife. The sector is vital for the social and economic development of the Region and the nation in general. According to the 2012 Population and Housing Census, the sector employs a total of 29,753 people which is about 3.4 percent of the Region's labor force. Over the period of 2005-2010, the sector

contributed around 7 percent to the country's Gross Domestic Product (GDP) on average.

The sector also plays an important role in the maintenance of climate stability, protection of water sources, and soil fertility; controlling land erosion; and providing a source of wood fuel, industrial raw materials and hydro-electric power. The Region is very rich in natural resources which include perennial streams, springs and rivers such as the great Ruaha; wildlife areas such as Selous Game Reserve, the Mikumi National Park, Kilombero Nature Reserve, the Ramsar site and Udzungwa Mountains National Park.

3.1.7.5 Forestry

The 1974 survey on the extent of forest cover in the Region of Morogoro indicated that forests covered about 88 percent of the Region's total area. The area covered by forests was estimated at 64,000km². However, since that period tremendous changes have taken place in terms of population and economic activities that have significantly contributed to the depletion of this valuable resource. In particular, the Region's forest cover has been under serious pressure from agricultural and livestock activities as well as excessive tree cutting for fuel wood and other domestic uses.

Most of the forest reserves in the Region are found in four districts, namely Kilombero, Kilosa, Ulanga and Morogoro Rural. Most of the reserves cover mountainous areas under a high rainfall and so are the important catchments. The main mountain ranges include the Uluguru and Nguru in Morogoro and Mvomero Districts, Udzungwa in Kilombero District, Mahenge in Ulanga District and Ukaguru and Rubeho in Kilosa District. Table 13 shows the number, and size of forest reserves in the districts of the Morogoro Region.

Table 13: Forest Reserves by District in Morogoro Region, 2006

District Name	No. Reserved Forests	Total Area (Ha)	Encroached Area (Ha)
Kilombero	13	127,364	2,547
Ulanga	8	7,692	1,430
Mvomero	20	80,662	3,496
Morogoro	17	112,444	Not available
Morogoro (Urban)	3	14,255	-
Total	61	342,417	7,473

Source: Morogoro Regional Commissioners Office, 2006

(c) Environmental Conservation

Morogoro Region is one of the Regions in Tanzania, which has succeeded in environmental conservation. The Region has undertaken remarkable efforts in addressing environmental degradation through afforestation. In these efforts the

Region has been involving various stakeholders in planting trees in order to offset deforestation which has occurred in the past.

Stakeholders involved include the Government Forest Division, villages, primary schools, NGOs, individuals and other institutions such as prisons and army camps. Normally seedlings are raised and distributed to schools, villages, institutions and individuals for transplanting. Up to the year 2005 there were over 20 NGOs involved in environmental conservation activities. The activities include tree seedlings production, water catchments conservation schemes, bee keeping, and wildlife conservation.

(d) Bee-Keeping

Bee-keeping is a well suited economic activity in the Region due to its extensive forest cover and well-watered lands. However, this important activity is handicapped by low technical know-how in modern bee-keeping techniques. As such the potentials in this sub-sector have not been adequately exploited.

Table 15 shows the number of traditional and modern beehives in the Region. It shows that Kilosa District is leading in terms of traditional and modern beehives in the Region. The District is followed by Kilombero, Ulanga, and Morogoro Districts in this aspect. All districts have relatively fewer modern beehives as compared to traditional beehives. Morogoro Urban District has no traditional beehives and has fewer modern beehives. Its low performance in this sub-sector is attributed to lack of adequate forest resources because of its urban nature.

Table 14: Number of Traditional and Modern Beehives by District in the Region 2006.

District Name	Traditional Beehives	Modern Beehives	Total
Kilosa	19,189	705	19,894
Kilombero	3,500	350	3,850
Ulanga	2,242	282	2,524
Mvomero	880	10	890
Morogoro	2,212	571	2,783
Morogoro (Urban)	-	45	45
Total	28,023	1,963	29,986

Source: Morogoro Regional Commissioners Office, 2006

Table 15 shows the estimated production of bee products by district in the Region by the year 2005. As shown in the Table, Kilosa had been the major producer of bee products producing 82.6 % and 63.3 % of the Region's bee wax and honey. Following Kilosa in bee products production are Kilombero and Ulanga, respectively. However, in terms of beeswax production Ulanga is not featuring well as it produced only 400 Kgs in 2006.

Table 15: Estimated Production Levels of Bee-Products by District in the Region 2005/06

District Name	Bee-wax (Kgs)	District % to total	Honey (Kgs)	District % to total %
Kilombero	29,919.0	82.6	199,460.0	63.3
Ulanga	2,775.0	7.6	41,625.0	13.3
Mvomero	400.0	1.1	18,026.0	5.8
Morogoro(Rural)	387.0	1.1	1,204.0	0.1
Morogoro (Urban)	2,746.0	7.5	54,910.0	17.4
Total	13.0	0.1	460.0	0.1
	36,240.0	100.0	315,685.0	100.0

Source: Morogoro Regional Commissioners Office, 2006

(e) Fisheries

Fishing activities in the Region are mainly carried out in rivers as it has no large water bodies such as lakes or ocean. The rivers on which fishing activities are carried out originate from within and outside the Region. Mountain ranges that are found in the Region are the sources of these rivers. The rivers include Kilombero, Ruaha, Kihanzi Luwegu, Ruvu, Wami, Ngerengere, Mkondoa and Mkindo. Fishing in the Region is also carried out on man-made dams which are mainly found in Kilosa, Kilombero and Morogoro Rural District. In Morogoro Urban District there is one man-made dam, the Mindu, which gets its water from Ngerengere River. The size of the dam is 320 hectares.

Fishing is particularly important in the Ulanga District. The district enjoys the presence of abundant natural fisheries resources. These include rivers such as Kilombero, Ruaha, Mwasisi, Mnyera, Ruhoji, Luhombero, Furua, Fuli, Lukanda, Luwegu, Mafinji, Pitu, Isaka, Mselesi, Mtipa, Mbalu and many other tributaries. The resources also include 40 natural dams and man-made small dams which have been locally made by the community purposely for fishing activity.

Caritas-Mahenge is the NGO currently operating in Ulanga District. Together with other activities in the District, it has a fishing project which provides training on effective fish farming. The project also provides improved fish fingerlings free of charge to the participating members of the villages in which it is operating. The villages in which the NGO is operating include Makanga, Mdindo, Msogezi, Ruaha and Isongo.

Fishing is also an established economic activity in Morogoro and Mvomero Districts. The rivers used for this purpose in these districts include Wami, Mgeta and Divue. The districts have a total of 249 man-made and natural dams.

(f) Wildlife and Tourism

Wildlife conservation, protected area management and game hunting have long been well established in Tanzania, dating back to German hunting laws in 1901-1920. The "Protected Area Network" now covers about 28 percent of the country (19 percent is high protection where farming and residence are not allowed). In Tanzania the responsibility for managing wildlife and protected areas is split between National and Local/District Governments, and then between Government Ministries and Parastatals, such as Tanzania National Parks Authority (TANAPA).

Morogoro has two famous National Parks in the country, namely Mikumi and Udzungwa. Also, part of famous the Selous Game Reserve (the largest game reserve in Africa) is in this region. Due to its unique ecological importance, this Game reserve was designated by UNESCO as a United Nations World Heritage Site in 1981. It covers a wide variety of wildlife habitats, and a variety of animals including elephants, buffalos, wild-dogs and hippos. Other animals of tourist status include the lion, bush buck, impala, giraffe, baboon and zebra.

Mikumi National Park is located in the North of the Selous Game Reserve and shares borders with the Uluguru Mountains in the north and Rubeho Mountains in the south-east. The park which was gazetted in 1964, shares the eco-system with Selous Game Reserve and Kilombero Game Controlled Area. With 3,230 km² coverage, the park is famous for its large population of elephants, giraffes, buffalos, zebra, elands, greater kudu, and wildebeest, roan and sable antelope. Predators include the tree climbing lion, leopard, wild hunting dogs and black-backed jackals. The park has more than 400 species of birds which include Shelley's double colored sun bird, pale billed hornbill and violet-crested Turaco as well as violet-backed starling. The surrounding mountains and hills bring compelling natural beauty making them highly attractive to wildlife tourists.

A variety of animal species can be found in the Udzungwa Mountains National Park. These include water buffalo, elephants, leopards and a number of reptiles, such as chameleons and snakes. Other animals include rare primates such as red colobus, Sanje crested mangabey, monkeys, black and yellow baboon, which live in the slopes of the mountains all sharing the same habitat. The Park is also one of the top ten forests for bird conservation in Africa. Recent discoveries of animal species in the Park include a single skins Lowe's servaline genet, the highland Mangabey which is a long tailed medium-sized primate with tree-dwelling life style. Another famous discovery is the three toed frog which gives live-births instead of eggs. This type of frog-species is not found elsewhere in the world.

Road Network Development

Because of the location of Morogoro Region there is an elaborate connection of road networks. This position makes the Region a centre for the national roads network - to

Dar es Salaam and the ocean coast in the East, Dodoma in the West and Iringa in the South. All the roads connecting all these regions are tarmac roads. The region is also served by inter-district links by regional roads, district roads and feeder roads. The roads are important as they link different parts of the region, and facilitate transportation of produce to the market.

Table 16 shows the distribution of road networks by type in various districts of the Region.

Table 16: Road Distribution in Morogoro Region

District Name	Type (Km)				
	Truck	Regional	District	Feeder	Total
Kilosa	290.00	129.00	446.00	470.00	1,335.00
Kilombero	75.00	210.00	88.70	141.40	515.10
Ulanga	70.00	152.00	453.10	113.50	788.60
Mvomero	112.00	232.89	80.90	214.90	640.69
Morogoro DC	31.50	144.00	348.00	262.00	785.50
Morogoro MC					376.00
Total	578.50	867.89	1,146.70	12,201.80	4,440.89

Source: Morogoro Regional Commissioners Office, 2006

3.4 NJOMBE REGION

3.4.1 Environmental Baseline Conditions

3.4.1.1 Geographical Location

The region is located in Southern Highlands Zone which comprises of Ruvuma, Iringa, Mbeya, Rukwa, Katavi and Njombe Regions. It borders Iringa Region in the north, Morogoro Region in the east and Ruvuma region in the south. The Republic of Malawi via Lake Nyasa and part of Mbeya Region borders Njombe Region in the south-west, while in the west the borders are shared with Mbeya Region again. The region lies between latitude 08o 50' and 10o 30' south of the equator and between longitude 33o 45' and 35o 45' east of Greenwich. Njombe region has an area of 24,994 km² and is divided into four Administrative Districts (Makete, Njombe, Ludewa and Wanging'ombe) and six Local Government Authorities (Njombe DC, Njombe TC, Makambako TC, Makete DC, Ludewa DC and Wanging'ombe DC).



Figure 2: Administrative Boundary of Njombe Region

Source: URT,2020

3.4.1.2 Climate and Soils

Two key features that describe *climate* of this region are temperature and rainfall. Njombe region falls in the Southern Highlands that include Iringa and Mbeya regions. The Southern Highlands experience long rainfall and short dry seasons which more often are cool with fairly moderate wind (URT, 2020a). Total *rainfall* ranges from 600mm to 1,600mm per annum with high geographical, seasonal and annual variations. There is one rather well defined rain season starting from November through May followed by a dry and cold season which lasts from May to September (URT, *ibid*). Altitude, topography and vegetation influence the climate resulting in micro climates in specific areas and macro climate in larger areas. *Temperature* range from 0°C in May/June to about 20°C to 24°C during the month of October/November (*ibid*).

Soil in the region entails three major superficial geological deposits which are the red/yellow, well drained and highly weathered and the leached clay soils in the high altitude areas (URT, *ibid*). Intermediate gravel sandy soils which are characterized by being moderately drained and leached are found in the midlands while the lowlands are occupied dominantly by red brown and acidic loams which are highly fertile. Most of the farmlands are on red brown sandy loams with some red soils which characteristically host Acacia woodland (*ibid*).

3.4.1.3 Topography

This region occupies the southern part of the southern plateau of Tanzania which has elevations ranging from 600m to 3,000m above sea level (URT, 2020a). The region is surrounded on all sides by a major scarp of up to 800 meters high which is the eastern part of the Kipengere Ranges. A prominent feature of the land escarpment in Makete and Ludewa DCs is the massive outcrops escarpments and metamorphic rocks known as inselbergs. The region is generally dominated by the Kipengere and Livingstone Mountains separating Njombe and Mbeya regions in the west. The northern parts of the region are relatively flat, high plains cut by the eastern arm of the Great Rift Valley in which the tributaries of the Great Ruaha River flows. The region is further characterized by the presence of a big plateau portion which forms the common landform of the region. The only permanent and big rivers in the region are the Ruhuji, Hagafilo, Ruaha, Mbarali and Ruhuhu (URT, ibid).

3.4.1.4 Agro-ecological zones and Water bodies

Climatic conditions as well as geological features have been the base of identifying different agro-ecological zones. Three distinctive agro-ecological zones are highlands,

Highlands Zone is characterized by moderately high rainfall with annual mean precipitation ranging from 1,000mm to 1,600mm falling in single season from November through April or sometimes May. The dry and cold season occurs after the rain season and lasts from May to October. It is generally mountainous with plains dissected by many seasonal streams. The zone covers the central and eastern parts of Njombe DC and Wanging'ombe DC, the Western parts of Ludewa DC and most parts of Makete DC. The soils are red/yellow, well drained and highly weathered and leached clay soils. Crops grown are mainly maize, bananas, peas, tea, wheat, sweet and Irish potatoes, temperate fruits and beans. Livestock keeping is largely practiced and includes cattle, pigs, goats and sheep.

According to the Regional Profile (URT, 2020a), *The Midlands Zone* lies at an altitude of 1,200 to 1,600 meters above sea level. The temperatures range from 10^o C to 20^o C. The zone enjoys moderate rainfall with annual precipitation from 600mm to 1,000mm. The area is characterized by a gently undulating plateau with isolated hills, rocky outcrops and dissected by many streams in the central parts of Njombe region covering parts of Wanging'ombe and Ludewa DCs and Makambako TC. Areas in this zone are occupied of intermediate clay soils, which are characterized by being moderately drained and leached. Crops grown: maize, cowpeas, sweet potatoes, beans, and fruits. Livestock keeping includes cattle and dairy farming, sheep, pigs and goats.

The Lowlands zone is predominantly undulating, flat and broken by occasional small hills and has a fair rainfall regime ranging between 600mm and 1000mm annually. It has an altitude of 600 meters to 1,400 above sea level. It covers the low lying western parts of

the Njombe DC, western parts of Wanging’ombe DC and most parts of Makambako TC. It also includes the southern lowlands of Ludewa DC along Lake Nyasa belt.

The temperatures in this zone vary between 15⁰ C to 28⁰ C. The Lowlands are dominated by red/brown loams and are highly fertile. There is considerable soil erosion. The zone is suitable for growing drought resistant crops like sorghum, millet and cassava; groundnuts, paddy, bananas, vegetables and fruits. The zone is free from tsetse flies and hence livestock keeping (cattle, goats, sheep and donkeys) is taking place in the zone.

3.4.2 Socio-Economic Baseline Conditions

3.4.2.1 Population

As per 2012 population census, the regional population stood at 702,097 out of which, females account for 53.1 percent (372,738) while males account for 46.9 percent (329,359) of the total population. The Tanzania 2022 Preliminary Census results show that Morogoro Region has a population of 3,197,104 whereby 1,579,869 are male and the rest being female.

3.4.2.2 Land and Administrative Boundaries

The Region has a total surface area of 24,994 sq.km. Land covers 21,172 sq km while 3,822 sq km is covered by water.

Administratively, it is divided into four Districts namely Njombe, Wanging’ombe, Makete and Ludewa. There are six Local Government Authorities (LGAs) with two urban LGAs of Njombe and Makambako Town Councils and District Councils of Njombe, Makete, Wanging’ombe and Ludewa. Each of these LGAs is also subdivided into divisions, wards, villages, Streets and Hamlets are as summarized in Table 17 below.

Table 17: Distribution of Administrative Units

District/Councils	Division	Wards	Villages	Sub-Villages
Njombe TC	2	13	44	26
Njombe DC	2	12	45	219
Ludewa DC	5	25	77	337
Makete DC	6	22	97	467
Wanging’ombe DC	3	21	108	446
Makambako DC	1	12	14	54
Total	19	105	385	1,549

Source: Njombe Regional Commissioner’s Office, 2016.

3.4.2.3 Regional Economy

The regional economy by council grew from TZS 2,132,154 Million (2016) to TZS. 3,157,746 million in 2019 at current prices (URT, 2020a). *Agriculture sector* contributed a big share of the GDP in all the four years. In 2016 the sector contributed 42.3 and 48.4 percent in 2017, 47.4 percent in 2018 and 45.2 percent in 2019. *Services sector* was the second contributing 33.6 percent of the GDP in 2016, 30 percent in 2017, 29.6 percent in 2018

and 32.6 percent in 2019. The Industry and Construction sector contributed less share of the GDP in all the four years (ibid).

Agriculture is the back born of the Njombe economy and about 80 percent of its residents depend on it as their main source of livelihood. Maize, beans, Irish potatoes, wheat, cassava, round potatoes and cow peas are the major food crops in the region. Round potatoes and Cowpeas were planted in small area with an annual average of 1,581 ha (1.3 percent) and 4,133 ha (1.2 percent) respectively.

3.4.2.4 Local Communities

The indigenous ethnic groups are the Bena, Kinga, Pangwa, Manda, Nyakyusa, Wanji, Magoma, Mahanji, and Kisi.

3.4.2.5 Potatoes Production in Njombe

Potatoes crop is the second after maize in terms of food and cash crop in this region (URT, 2016). Table 18 presents production in each district for the season of 2014/2015. The common seed potato variety used is called CIP although the recommended one is KIKONDO which was recommended in 1987 by Uyole Agricultural Research Institute (ARI). In 2012, Mtanga Food based in Iringa in collaboration with the Government brought new varieties called Meru, Tengeru, Sherekea and Asante (URT, 2016).

Table 18: Njombe Potatoes Production Status-2014/2015

Na	District/Councils	Area Under Production (Ha)	Yield (Million Tons)
1.	Njombe TC	14,116	243,504
2.	Njombe DC	840	12600
3.	Ludewa DC	4,636	35,257
4.	Makete DC	12,757	118,370
5.	Wanging'ombe DC	12,641.6	93,224.84
6.	Makambako DC	408	4,896
	Total	45,399	507,852

Source:URT, 2016 with Author's Amendments,2022.

Farm implements utilization include hand holes, OX ploughs and tractors for preparation. Average potatoes yield per hectares ranges between 6 to 10 tones. As presented in Table 19 the potatoes yield per hectare stood at 11.19 tons. Storage in potatoes business is a challenge resulting into significant losses.

Potatoes marketing – there are internal and international markets. Internal market is dominated by traders who buy directly from farmers or through agents and then transport the products to various locations within the country.

External markets are in Kenya, Zambia, Democratic Republic of Congo (DRC) and Arab Countries (URT, 2016). In the chain, there are middle men and blockers that participate in the business. Prices at the farm gate fluctuate regularly.

Challenges associated with the potatoes value chain include but not limited to climate change vagaries; diseases outbreak; unstable prices; lack of common measurements and standards; inadequate packaging materials and inadequate potatoes seeds for use by farmers(URT,*ibid*).

3.5 TANZANIA ZANZIBAR

Much of the literature presented in this section was drawn from the ESMF prepared in 2014 for rice production in Tanzania. However, amendments have been done. The region where this project will be implemented in North Unguja or Mkoa wa Kaskazini Unguja.

3.5.1 Environmental Baseline Conditions

3.5.1.1 Geographical Location

Zanzibar consists of two main islands, Unguja and Pemba, and several other smaller islands some of which are uninhabited. Zanzibar is located in the Western Indian Ocean, about 30 kilometers off the East Coast of Africa between latitudes 5 and 7 degrees south of the Equator. The Isles has a total area of 2,654 square kilometers; out of this, Unguja, which is the largest, has an area of 1,666 square kilometers while Pemba has an area of 988 square kilometers with a population density of 370 persons per sq km, making it the most densely populated area in East Africa.



Figure 3: Map of Zanzibar

Source: URT 2014

3.5.1.2 Natural Resources

The importance of forestry in reducing poverty is highlighted in MKUZA with the aim of increasing access to affordable and sustainable energy by 2010. The forestry sub sector and natural resources has been tasked with managing and developing forest resources in a sustainable manner. To achieve the goals set out in MKUZA the forestry sub sector and natural resources is set to promote research on sustainable use of natural resources, integrating principles of sustainable development into policies and programmes and projects, promoting integrated bio-diversity conservation, enhancing the capacity of actors and stakeholders of natural resources management and enhancing wood-fuel production and management. Currently the subsector is

comprised of six sections; Mangroves Conservation, Coral Rag Forest Conservation, Forest Protected Areas, Farm Forest and Wild Animals.

Mangroves Conservation

Mangroves are one of the most important forest resources that provide high quality construction materials and wood fuel. They provide protection for seashores against waves and help the sedimentary stability of the coast, provide important breeding sites for fish and other marine animals. They provide a valuable ecosystem function that extends to coral reef. According to Zanzibar Wood Biomass Survey of 2013, there are 16,488 ha in Zanzibar of which 5274ha can be found in Unguja whilst the corresponding number for Pemba is 11214,ha. However despite their ecological importance, mangroves are under great utilisation pressures that threaten their existence. Overcutting of mangroves for salt making negatively affected the mangroves ecosystem.

Beekeeping

Beekeeping has gained extra focus from 2010. The importance of this subsector was highlighted in ZATI, which emphasized promoting investment from both the public and private sector in order to transform beekeeping into a profitable commercial sector. ZATI also stressed the importance of promoting research, training and extension services in this sector. In 2011, Zanzibar had 1237 bee hives operated by different individuals and groups. Between 2006 and 2008 the Kiwengwa-Pongwe Project helped the local community by distributing 46 beehives.

Coral rag Conservation

The coral rag forest is a typical coastal forest eco-system comprising of ever green thicker with dense woody vegetation mostly found along the eastern belt of Zanzibar and south of Unguja Island. There are about 86,842ha of coral rag forest in Zanzibar, it is the most important source of forest products such as fruits/food, building materials, medicinal and handcrafting materials. Coral rag forest form

Forest

Based on the 1997 Zanzibar Wood Biomass Survey, Forest vegetation in Zanzibar covers about 63,908 ha equivalent to 23.7% of the total land area. This involve bush and tall trees in coral rag areas (6,964ha), mangroves (19,748ha), high forest and forest plantations (9,505ha), coconut plantation (6,958ha) and mixed wood vegetation (19,733ha) (Ali and Leskinen, 1997). Zanzibar Forest Protected Areas (FPAs) under government administration are totaling approximately 12,476 ha (Department of Commercial Crops, Fruits and Forestry, 2009). If added to the proposed Jambiani – Muyuni Forest reserve (4,000ha) it reaches about 16,000ha as presented below.

Zanzibar's forests, which form part of the East Africa Coastal Forests Eco-Region, are one of the world's 200 biodiversity hotspots. They are an important part of Zanzibar natural heritage which represents remnants of high forest that once covered Zanzibar. They play important roles in water catchments, soil stabilization, environmental protection and act as a refuge to many animal species some of which are endemic to the area. In terms of

employment, out of the 70,000 people employed by the private sector, 10,000 are estimated to be engaging in forestry activities. Of the rural population, 80% are thought to derive at least part of their daily livelihoods from market or non-market (i.e., subsistence) forest activities.

Plantation Forest

There are a number of state owned forest plantations in Zanzibar; these include Kibele, Chaani, Dunga, Jendele and Unguja Ukuu in Unguja and Kiuyu Maziwa Ngombe in Pemba which cover a total area of 2,788 ha. However, limited financial resources have resulted in poor management of state plantations.

Clove plantations are the most significant vegetation in Zanzibar; particularly in Pemba where the clove tree cover 15,326ha islands vegetative cover was dominated by cloves to about 80%. Apart from their economic role, clove trees play an equally significant role in provision of quality wood fuel, building poles and soil stabilization. However in recent years there has been an increase in the cutting of clove trees because of increased demand of wood-fuel in Unguja and Pemba.

Coconut is another important cash crop grown in Zanzibar. The dominant species is the East African Tall and is widely distributed in deep soil areas and along the coastal fringes. Coconut trees are versatile in use; they are used for wood energy and timber, roofing materials for tourist hotels, medicine and food. The coconut production has declined significantly over the years due to a number of reasons including ageing of many coconut trees, massive cutting of trees for various uses such as construction and carpentry and increased use of non matured fruit (madafu) particularly due to the expanding tourism sector and improved income of certain segment of people and poor planting exercises of new trees.

Wild Life

Zanzibar has rich and diverse spectrum of wild animals including birds, small mammals, reptiles, amphibians and insects some of which are endemic and under severe threats due to indiscriminating hunting and habitat destruction. These animals are in particular danger during the national hunting day which is done in the pretext of vermin control. This results in the decline of the population of wild animals such as Zanzibar leopards and wild pigs. Other important species of wild animals include red colobus monkey, Ader's duicker, Pemba flying fox and various species of birds. There has been a considerable pressure for resources uses which have affected negatively most of these species of wild animals. A lot need to be done to estimate to what extent these impacts have affected each of these important species and measures to restore their populations.

Protected Areas

There are a number of protected areas in Zanzibar. These include patches of high forests at Jozani-Chwaka Bay National Park, Ngezi-Vumawimbi Nature Forest Reserve, Masingini catchment area, Msitu Mkuu Forest, Ras Kiuyu Forest and Kiwegwa-Pongwe Forest Reserve (table xxx below). These protected areas are endowed with quality ecosystems of high and unique bio-diversity values. These include endemic species and subspecies

such as red colobus monkeys, Ader’s duicker, Cassina Jozani and many others. There are also a number of small patches of high forest in some community managed areas. These high forest areas play an important role in water catchments; soil stabilization and act as a refuge to many animal species (see Table 19).

Table 19: Forest Protected Areas of Zanzibar (2009)

No	Name of the Forest Protected Area	Area(ha)
1	Jozani-Chwaka Bay National Park	5,000
2	Kiwengwa-Pongwe Forest Reserve	3,481
3	Ngezi-Vumawimbi Nature Forest Reserve	2,900
4	Ras Kiuyu Forest Reserve	270
5	Masingini Forest Reserve	285
6	Msitu Mkuu Forest Reserve	180
7	Jambiani-Muyuni Forest Reserve (Newly proposed)	4,000
	Total	16,476

Source: URT,2014

Zanzibar has rich and diverse spectrum of wild animals including birds, small mammals, reptiles, amphibians and insects some of which are endemic and under severe threats due to indiscriminating hunting and habitat destruction. These animals are in particular danger during the national hunting day which is done in the pretext of vermin control. This results in the decline of the population of wild animals such as Zanzibar leopards and wild pigs. Other important species of wild animals include red colobus monkey, Ader’s duicker, Pemba flying fox and various species of birds. There has been a considerable pressure for resources uses which have affected negatively most of these species of wild animals. A lot need to be done to estimate to what extent these impacts have affected each of these important species and measures to restore their populations.

Fisheries

Fishing is the second most important economic activity (next to crop production) in the rural areas. The activity is mostly done by man while women are concentrated with seaweed farming and fetching of seashells. Fisheries contribute to about 7.1% of GDP. Fish is main source of animal protein in Zanzibar. Over the last five years (between 2009 and 2013), the average annual fish catch in Zanzibar is about 22,112.46 tons per year (MFL). About 99 percent of the catches are consumed locally. Annual per capita fish consumption is estimated at 12 kg. Fish contribute 100 percent of the animal protein supplies for lower income families and about 22 percent of average family expenditure on food. In view of this important role, further exploitation of small-scale coastal fisheries and offshore fishing is considered an important untapped potential area for sectoral investment.

Seaweed Farming

Seaweed farming in Zanzibar is predominantly women activity. It has been the most important economic opportunity that provides self-employment to thousands of rural coastal women and enables them to earn independent income apart from that of their husbands. This farming activity increases purchasing power of women and brings about

their social and economic empowerment. Seaweed farmers in Zanzibar sell their raw produces to seaweed companies existing in Zanzibar. These companies provide materials to farmers free of charge and farmers sell the product to that companies that have provided them the materials for farm establishment. Over the last six years the average annual seaweed production has been 12,118 metric tons of dry seaweed per year. Currently, local seaweed companies buy from farmers and export 7,500 metric tons of dry annually. This is only 62% of the total annual local production.

3.5.1.3 Climate

Zanzibar experiences a lowland tropical humid type of climate with a bimodal pattern of rainfall influenced by the prevailing monsoon trade winds. There are two main rain seasons which occur between March and June; and Vuli rain which starting from October to December. Rainfall through Zanzibar varies within the range of 1000 to 2500 mm/yr. Mean annual rainfall for Unguja is 1700 mm, whilst that for Pemba is 1800 mm. The mean maximum temperature is 32°C and 27°C.

3.5.1.4 Land-use and Agro-ecological Zones

Zanzibar comprises of two major agro-ecological zones namely the plantation zone and the coral rag zone. These zones have different characteristics in terms of soils, resources and social economic patterns. The pattern of land-use in Zanzibar generally follows the distribution of the different soil classes; the permanent, settled agricultural activities are concentrated on the deep and fertile soils areas with good moisture content, while the coral rag area is characterized by shallow and stony soils with moisture stresses. It is popular for root and other drought tolerant or seasonal crops, and activities such as production of charcoal and firewood, shifting cultivation and grazing.

The Woody Biomass Survey of 2013 indicates that 36 percent of land in Unguja Island is used for agricultural production whilst the corresponding area for Pemba is 58 percent. This is slightly lower than the one reported by the National Coconut Development Program in 1982. The Woody Biomass Survey of 2013 indicates that, native forest in Zanzibar covers 86,182ha; mangrove forest occupies 16,488ha; while forest plantations cover 3,788ha. The Zanzibar Cash Crops Farming System Project (ZCCFSP, 1995) has divided the land area into ten farming system zones. Five of these zones are in Unguja and the other five are in Pemba. These zones were identified taking into consideration agro-ecological characteristics, soils and socio-economic characteristics of the islands.

3.5.1.5 Topography and Soils

Topographically, Zanzibar is relatively flat with some hilly areas particularly in the western part of Pemba. The soils in Zanzibar can be categorized as deep and coral rag soils. The deep and fertile soils occur in the western part of Islands where most of permanent agriculture is practiced. These soils occupy about 45% (74,000 ha) of Unguja, whereas on Pemba they occupy 85% (94,633 ha) of the total land area. The coral rag soils occupy the eastern side of the Islands and are characterized by a thin layer of soil pockets in coral outcrops. Coral rag accounts for 55% (90,458 ha) and occupy 15% (14,195 ha) of the total land area of Unguja and Pemba, respectively. Due to the scarcity of land, most of the forestry activities are carried out in the coral rag areas while most of the agricultural activities are being carried out in deep soils. However, there has been new

developments where agriculture and settlements expand to coral rag areas as reported by the Zanzibar Wood Biomass Survey of 2013.

3.5.1.6 Water Resources

Ground water is the main source of water for both Agriculture and domestic consumption in Zanzibar. There are only few natural rivers and ponds. Most of them get dried during summer's season. With exception of Mtwango, Kianga, Mwera, Makombeni, Saninga, Tibirinzi and Machigini, all remaining irrigation schemes in Zanzibar use underground water from boreholes. Water resources are compelled with varying demands by different sectors of the economy. Water is needed in food production, domestic and industrial uses. While there have been different sources of water such as boreholes, springs, caves, local wells and small rivers the ground water source remain to be an important source of water in Zanzibar.

There have been significant developments in water resources sector at policy and institutional level aiming at improving the quality of services and instituting costs sharing element to domestic and industrial water users. In agriculture sector food production depends on appropriate and efficient water use and conservation practices. Achieving food security is a high priority and agriculture must not only provide food for rising populations but also conserve water for other uses. The challenge is to develop and apply water saving technologies and management methods to enable communities to participate in food production. Some efforts were observed in this area such as using drip irrigation technologies and other practices in agriculture that promote moisture retention in the soils including promotion of water harvesting technology. Despite some studies done to establish the ground water reservoir more need to be done to update the situation. Collaborations between the sector on irrigation and water harvesting and the water sector are important in ensuring that the agriculture sector goals are met.

3.5.1.5 Environmental issues

Environmental impacts have been observed to be caused by a number of factors such as increased population, global trends on climatic changes, increased traffic in land and sea causing increased emissions into the surroundings. Human activities land and sea based such as irresponsible fisheries, poor agricultural practices, deforestations and encroachment of water catchments areas and poor drainage system are among the important activities on environmental destruction in Zanzibar. There are have been some efforts at national and sector levels that were taken to minimize the environmental impacts including policy and regulatory frameworks which have witnessed a tremendous institutional changes to address adequately environmental issues as a cross sectoral issue which have shown certain success on the area. The promotion of organic agriculture reduces the use of chemicals that could contaminate water and soil. Maintaining biodiversity which could influences a huge range of ecosystem processes that contribute to the sustainability of life on earth. Soil organisms maintain critical processes such as carbon storage, nutrient cycling and plant species diversity. Soil biodiversity plays a role in soil fertility, nutrient uptake by plants, formation of soil

organic matter, nitrogen fixation, the biodegradation of dead plant and animal materials.

3.5.2 Socio-Economic Baseline Conditions

3.5.2.1 Population

According to the Tanzania 2022 Preliminary Census results Zanzibar has population of 1,889,773 people whereby 915,492(48%) are male while female are 974,281(52%).

For Kaskazini Unguja (Unguja North Region) where this project is to be implemented, there is a population of 257,290 whereby 126,341 are male and the rest being female.

3.5.2.2 Administrative Units

Zanzibar is part of the United Republic of Tanzania and consists of the two main islands, Unguja and Pemba and a number of small islets. Administratively, Zanzibar is divided into five regions, three of which are in Unguja Island namely, North Unguja, South Unguja and Urban West). The remaining two regions are in Pemba, namely North and South Regions.

In each region there are two districts. Overall, there are 331 Shehias in Zanzibar. Based on the 2012 National Census is estimated to have a population of 1.3 million with a population density of 370 people per km². Zanzibar has five regions and ten districts. Unguja Island, has three regions (Urban West, North and South) with six districts. Pemba Island has two regions (North and South) with four districts as indicated in Table 20 below.

Table 20: Population Distribution by Districts and number of Shehia, Zanzibar

Districts	Population	Number of Shehia
North Unguja "A"	105,780	36
North Unguja "B"	81,127	29
Central	76,346	40
South	39,242	21
West	370,645	39
Urban	223,033	45
Total Unguja	896,173	210
Wete	107,916	32
Micheweni	103,816	27
Chake Chale	97,249	29
Mkoani	97,867	33
Total Pemba	406,848	121
Total Zanzibar	1,303,021	331

Source: National Census (2012 in URT 2014)

3.5.2.3 Ethnicity

Zanzibar is composed of cosmopolitan society with rich mixture of African, Arabs and Hindus. Islam is the dominant religion practiced by over 90%. The Zanzibar has not experience any clashes associated with land use and occupancy rights.

3.5.2.4 Overview of Agriculture Sector in Zanzibar

Agriculture is the second most important sectors in the economy and was identified as one of the main drivers of growth. Agriculture contributes to 30.2% to the GDP (in 2012) with annual growth of about 1.3%. The service sector is the biggest contributors to the GDP. Currently this sector account to about 45.3% to the GDP with annual growth rate of 8.7 %. The sector also accounts for an average of 82% of foreign exchange earnings and approximately 70 percent of the population derives their livelihoods directly or indirectly from the sector.

The main export crops grown in Zanzibar include: cloves and spice (such as chilies, black pepper, and cinnamon, cardamom, ginger, nutmeg and lemon grass. However the main export cash crop is cloves, which is mainly grown in Pemba amounting to 60 percent of cultivated land on the island), and seaweed. Whereas, rice, banana, cassava, sweet potato, yams, are the main food crops grown in Zanzibar. Cereals such as maize, millet and sorghum are also grown although not widely. The agricultural sector has two major zones; the plantations and the coral rag zones. Total cultivated land is estimated at 370,645 acres with very small landholdings ranging from 1 and 1.5 hectares.

The Zanzibar agriculture sector is dominated by small scale subsistence farming characterized with low use of production enhancing technologies and heavily dependence on rain fed agriculture. There is also lack of relevant marketing system. Most of farmers practice intercropping of different annual and permanent crops in complex association.

(a) Agriculture production

Agriculture production in Zanzibar is dominated by small-scale subsistence farmers characterized with low use of modern production inputs. The most important crops grown in Zanzibar includes: rice, cassava, sweet potatoes, bananas, plantains, and yams. Cereals such as sorghum, maize and millet are also grown although not widely (in the 2002/3 agricultural season sorghum, maize and millet together formed only 13 percent of the total cereal production in Zanzibar, with rice constituting 87 percent of total cereal production). In Zanzibar rice is considered as a major staple food. The government maintains the objective of increasing self-sufficiency level in rice from 20% (currently) to 60% by 2015. Currently, a large proportion (80%) of rice consumed in Zanzibar is imported. In general, paddy yields are low with production levels far below potential yields. According to 2013 statistics average yields of rainfed rice is only 1.4 tons/ha, against a potential of 2.4 tons/ha, while productivity of paddy (irrigated rice) was 4.0 tons/ha, as compared to a potential of over 8 tons/ha. Domestic grain supplies are also undermined by high levels of post-harvest losses due to poor handling, inadequate processing and poor storage technology. It is estimated that the average wastage of rice is 13% per year (ATI, 2010).

The production of different crops from the period of five years (2008 to 2012) is depicted in the Table 21 below.

Table 21: Annual productions of selected food crops in tons between 2008 and 2012

Crops	2008	2009	2010	2011	2012*
Maize	1,933	2,063	3,112	3,281	857
Sorghum	615	457	572	512	484
Paddy	20,889	26,980	21,014	23,702	6,372
Cassava	153,136	195,674	229,284	273,342	192,073
Banana	103,145	100,873	102,258	110,250	97,935
Sweet potatoes	55,305	53,596	58,953	92,715	31,768
Yams	3,516	11,373	7,487	4,212	3,564
Tania	8,459	5,883	6,443	4,940	4,092
Groundnuts	465	320	432	401	407
Pigeon peas	1,682	2,292	510	1,026	641
Cowpeas/ Green gram	1,719	1,394	1,103	1,177	317

Source: Socio – Economic Survey 2013; Statistical Report- Preliminary Results Office of the Chief Government Statistician Zanzibar (NB. * Data in this year are projections)

(b) Irrigation Potential

Zanzibar agriculture relies highly on the incidence of seasonal rainfall and this makes production vulnerable to adverse rainfall events. While aggregate levels of rainfall are high, this may be poorly timed relative to crop requirements. Opportunities are high for expanding irrigation. According to Zanzibar Irrigation Master Plan the potential land for irrigation farming in Zanzibar is 8,521ha. Currently less than 700ha are under irrigation. Irrigation development is constrained low efficiency of schemes due to improper canal construction and poor water management. According to the agricultural census 2002/03 only 7 percent of the agricultural households in Zanzibar practice irrigation (of which the majority live in Unguja).

Paddy is the major irrigated crop. However, there are few farmers who grow vegetables and fruits under irrigation system. Improving rain water harvesting systems could be an ideal way of enhancing irrigation farming. There is also a high potential for surface irrigation using existing rivers, streams and water catchments particularly for vegetable and rice production. Given the seasonality in crop production and persistence climate change investment in expansion of land under irrigated agriculture and water harvesting techniques would be the most reasonable option for stable and higher agricultural productivity. The existing area for irrigation paddy farming in different districts is as shown in the Table 22 below:

Table 22: Existing area for Irrigation in different districts in Zanzibar

District	S/N	Scheme	Existing Area(ha)	Households	Beneficiaries	Paddy Yield t/ha)
West	1	Mtwango**	108	300	1500	4
	2	Bumbwisudi	150	1500	7500	3.8
	3	Mwera	12	100	500	3.6
	4	Kianga	15	150	750	4.5
Central	5	Koani**	25	250	1250	1.2
	6	Cheju	64	640	3200	3.3
	7	Mchangani**	20	200	1000	2
	8	Uzini	19	190	950	3
North A	9	Bandamaji**	15	150	765	1.2
	10	Kibokwa	52	520	2652	3
South	11	Muyuni	10	100	500	2.2
Wete	12	Kwalempona* *	15	150	780	2
	13	Mangwena	10	87	452	3.5
	14	Weni	16	93	484	3.5
	16	Tungamaa	5.6	32	166	3.5
	17	Saninga	16	321	1670	3
Micheweni	18	Kinyakuzi	7.2	72	374	3.3
	19	Dobi1	3	30	156	3
Chakechake	20	Dodi 2	25	250	1300	2.2
	21	Tibirinzi	6	60	312	3
	22	Machigini	22.3	223	1160	2
Mkoani	23	Kimbuni	4	40	208	2.5
	24	Makombeni	14	169	879	1.5
Total			634.1	5627	28508	

Source: URT, 2014.

3.5.1.5 Poverty and Inequality Levels

Broadly, food security in Zanzibar is premised on the flow of incomes to the household for the purchase of food. Monetary income is low in most areas of Zanzibar and the general level of poverty is high. According to Household Budget Survey (2009/10)⁹ the incidence of basic need poverty has declined from 49% in 2005 to 44% in 2010. This is about 1 percentage point decline annually. Apparently, the percentage point decline in basic need poverty is evenly shared between urban and rural areas.

The incidence of food poverty has only declined marginally from 13.18% in 2005 to 13.04% in 2010 (HBS, 2009/10). The insignificant decline in food poverty is partly due to increases in costs of food items globally, a phenomenon observed towards the end of

⁹ Zanzibar Household Budget Survey (2009/10).Final Report

the 2000s. Zanzibar, being a net food importer, such phenomenal increase in food price could have substantial loss in welfare. The lack of a decline in food poverty is reflected in the modest increase in food share in the total expenditure. The share of food expenditure in total expenditure increased from 55 percent in 2004/06 to 57 percent in 2009/10. In general the incidence of poverty is higher in rural areas compared to urban areas. Similarly, on average Pemba districts had higher incidences of both basic needs and food poverty than Unguja districts (HBS, 2009/10).

3.5.1.6 Spice Marketing in Zanzibar

The main activities for spices (cloves, cinnamon, ginger, black pepper and garlic) as per consultation.

4. SIGNIFICANT ENVIRONMENTAL AND SOCIAL IMPACTS

4.1 Potential Impacts from Priority Sub-projects

The overall objective of FSSP is to increase smallholder farmers' horticultural productivity. This will be achieved through (i) increasing productivity and production of horticulture and food crops; (ii) enhancing value addition and marketing of horticultural crops grown by smallholder farmers, particularly women and youth; and (iii) promoting technologies to mitigate the impact of climate change on smallholder farming systems. Crops to be involved are cloves, cinnamon, ginger, black pepper, garlic, tomatoes and potatoes. The main activities for spices (cloves, cinnamon, ginger, black pepper and garlic) as per FSSP Note supplemented with the Focus Group Discussion with MVIWATA Team will be on marketing strategies. The strategies will be in the form of digital platform, landing and packaging. Spice production and productivity will be done through construction of small or mid storage facilities with transformation activities in the form of moisture monitoring, cleaning, sorting and packaging. In Morogoro a Processing plant will be constructed while in Zanzibar a Building will be leased to cater for this activity (warehouses (MVIWATA Focus Group Discussion, 25/11/2022)). Tomatoes and potatoes production will attract inputs such as seeds and fertilizers. The production and productivity will be enhanced through promotion of agro-ecology whereby nature will be preserved with no use of inputs (MVIWATA Focus Group Discussion, 25/11/2022). This model is synonymous with the Agro transformation centre (ATC) promoted by AfDB under Feed Africa strategy.

Potential environmental and social impacts for the FSSP are expected from Component 1 especially acquisition of critical agricultural inputs to increase the production and productivity of vegetables and spices; acquisition of suitable seeds, particularly of tomatoes

Component 2: construction of at least 5 postharvest and bulking infrastructure for bulking and packaging; establish one multi-purpose spice processing facility in Morogoro district and Aggregation/ bulking, processing and storage facilities.

4.2. Potential Positive Impacts

In line with the guidelines provided by the Ministry of Agriculture (URT, 2013), views raised by stakeholders, expert judgement and results of review of literature the positive impacts accruing from supporting food systems through this project at different phases are as follows:

- Construction of 5 postharvest infrastructure will result into creation of employment to sellers of building materials, transporters of required building materials; experts in various skills such as engineers, masonry, plumbers etc; drivers of equipment machineries. Others to get employment will be food vendors who will prepare food and drinks for workers during preparation of sites.

- Job creation to local construction workforce through “Force Account” during the construction of small or mid storage facilities with transformation activities in the form of moisture monitoring, cleaning, sorting and packaging.
- Income generation to farmers as a result increased productivity following supply of suitable seeds especially tomatoes and potatoes.
- Socio-economic impacts–there will be creation of employment to various individuals of semi and skilled levels. Increase of Income of local communities due to sell of products to workers.
 - Revenue for Government will increase through income tax and levies.
- Impacts on the Local and National Economy - Increased revenue to the government local and national such as industrial cess, income tax, VAT, export duty -Increased foreign currency through export of value added products;
- Increased income to enhance food security – as sellers of agro-materials will raise income which they will use to have secure food for their families.
- Increased markets for targeted crops as farmers of targeted crops in the targeted regions will secure markets for their products. Of recent they had been a cry by farmers through the Parliament that the National Food Reserve Agency(NFRA) had inadequate budget to buy agro-products especially ginger;
- *Learning opportunities* for youth on the processing of spices by doing various processing.
- Private entrepreneurs such as transporters, mini warehouse owners will generate income through selling of their products.

4.3 Negative Environmental and Social Impacts

Save for the various socio economic and environmental benefits outlined, the project will also have some negative impacts. As regards the proposed FSSP, potential adverse environmental and social impacts on the natural and human environment are likely to arise from agro inputs such as seeds for potatoes and tomatoes productivity improvement; construction of warehouses for spice storage and bulking. Besides, the use of chemicals in the production of crop value chains of tomatoes, tomatoes will have negative impacts on the natural environment. Wastes to be generated during the processing of spices at a mini processing plant will have negative impacts. These are also not anticipated to be of large scale but could affect individual farmers. It is anticipated that most of the adverse effects, associated with the construction and operation will be reversible in nature and there are no impacts that will lead to irreversible negative permanent change. Some of the anticipated negative impacts are enumerated below:

- Erosion caused by removal of top soils during site clearing, leveling and exaction works;
- More production of crops under this project can result into the market failure.
- The Use of chemicals will be bringing inorganic products into the markets.

- Impacts on surface water resources existing due to the use of chemicals in potatoes and tomato farms;
- Risks to the environment and public health due to construction waste consisting of excavation cart away material, construction in packaging materials, debris and other domestic solid waste generated by workers;
- Air pollution due to increased particulate and gaseous concentrations caused by the movement of heavy duty machineries, vehicles and other equipment.
- Surface water resources existing around the site could be affected due to uncontrolled release of solid and liquid wastes;
- Impacts on underground aquifer due to increased use of water for irrigating tomatoes and potatoes;
- Impacts on environment and social health as farmers will use pesticides so as to increase production of targeted crops especially potatoes and tomatoes
- Impacts associated with the generation of solid waste during processing spices.
- Increased needs of land for production, needs of more water for irrigation hence underground water depletion, soil pollution due to use of chemicals,
- Natural environment, increased production hence income to households
- Health hazards caused by inhaling and contamination – provide protective gears such as face masks, proper packing and labeling.
- Increased HIV/IDS and communicable diseases Impacts on public safety and security and on Community health;
- Incidence of child labour for working in spice farms in Morogoro District Council and North Unguja Region in Zanzibar.

5. ANALYSIS OF ALTERNATIVES

In the planning and designing of the FSSP various alternatives were considered with the aim of achieving the objectives of this project as described in earlier. Initiatives had been made by comparing alternatives in terms of potential environmental and social impacts and monitoring requirements. According to the FSSP Concept Note the design of the project was guided by comparative and competitive advantages of the existing value chains in the identified project areas. Table 23 below presents the list of alternatives and the reasons for rejection.

Table 23: Technical Alternatives Considered and Reasons for Rejection

Alternative	Description	Reasons for Rejection
Alternative 1	Focusing on other crops like maize value chain, that equally thrives well in the project area.	<ul style="list-style-type: none"> • As opposed to maize, which could be planted only once per farming season, vegetable crops could be planted twice, thus more farm income earning. • Comparative and competitive advantage of vegetables over maize due to organic farming practices, thus, fetching better market prices. • Over time, prices of vegetables are relatively stable compared to those of maize. • Planting of cloves in hilly terrain could mitigate the effects of soil erosion in Eastern Uluguru Mountain.
Alternative 2	Focusing on cloves value chain in Zanzibar.	<ul style="list-style-type: none"> • The cloves value chain in Zanzibar is relatively well established compared to that of spices; and • High demand of spices from Zanzibar in the regional and international markets.

Source: AfDB FSSP Concept Note, 2022.

Adopted alternative is the one described in this report. The adoption of the current alternative included stability of prices for vegetables, mitigating effects of soil erosion through planting of cloves in Morogoro District Council – eastern Uluguru Mountain. In the case of Zanzibar focus on spices (cinnamon, ginger, black pepper, ginger) was motivated by the high demand at regional and international markets.

6. ENVIRONMENTAL AND SOCIAL MANAGEMENT

This chapter presents the institutional roles and responsibilities for the management of environmental and social safeguards during the implementation of this project. It starts with the description of significant steps required in the environmental assessment process and procedure leading to the review and approval of sub-projects under food systems support project (FSSP).

6.1 COMPREHENSIVE INSTITUTIONAL ARRANGEMENT

MVIWATA has a well established organizational setting as summarised in Table 24 below.

Table 24: MVIWATA Level of Operational Structure

Level	Composition and Responsibility
National Level Network	<ul style="list-style-type: none"> • All members of the network as represented by the Annual General Meeting (AGM), the Council, the Board of Directors (BDs) and the Management Team (MT). • Roles and Responsibilities of BDs and MT

	<ul style="list-style-type: none"> • Oversee that the overall mission and strategic orientations of the network are adhered to and that services are provided to members. • Facilitates technical support and mobilization of resources. • The BDs has 9 elected members and Headed by the Chairperson. • The Council composes of BD Members and Leaders of Middle Level Networks. MT is headed by the Executive Director. It composes of Staffs with various disciplines.
Middle Level Networks	<ul style="list-style-type: none"> • Compose of farmers' networks at regional or district level. • A Steering Committee is responsible for mobilizing members in its area. • A Middle Level management is responsible for providing technical support to member and resource mobilization. • It liaises with the national level and local networks.
Local Networks	<ul style="list-style-type: none"> • These are farmers groups organized in networks at village and ward levels. • They are building blocks of the middle level and national networks.

Source: <https://www.mviwata.or.tz/about-us-2/> accessed 16/11/2022.

6.1.1 Institutional arrangement for the implementation of the Framework ESMP

As per Project Concept Note the institutions to engage in the implementation of this project are summarised below:

- *Project Steering Committee (PSC)* –will comprise of 9 MVIWATA Board Members – tasks to provide the strategic guidance and oversight on the Project.
- *Technical Advisory Committee (TAC)* – this will advise the project on technical areas and ensure synergy.
- *Project Implementation Entity (PIE)* is MVIWATA which will use her staff members to from the Project Implementation Team (PIT). PIT will be responsible for day to day implementation of the project. MVIWATA existing staff members and others to be recruited will make up the PIT.
- *Participating Local Government Authorities(LGAs)*: these will provide advises and policy positions on agriculture matters, environment, land use and project construction based approvals such as issuance of building permits, village authority approvals of land use and development. The LGAs are Morogoro, Mvomero, Wanging'ombe, Kaskazini Unguja A and Kaskazini Unguja B. Middle and Local levels Networks formed by MVIWATA will engage with the project effectively.

6.1.2 Implementation of the Framework ESMP

This will be done by the PIT to be established within the PIE. The roles and responsibilities of each member in the PIT as presented below:

- *Project Coordinator* lead the PIT to ensure all project activities are implemented as planned. Ensure development of sub-project specific ESMPs by facilitating the process through funding, field visits. Liase with regional coordinators on all issues related to environmental and social safeguards by facilitating the ESSS-PIE
- *Project Accountant (PA-PIE)* responsible for all financial management matters by keeping proper accounts on finance, expenditure by abiding to the AfDB financial management rules and those of the Governments of Tanzania and Zanzibar,
- *Agronomist* –will advice on agriculture and business focusing on the selected crop value chain in this project.
- *Value Chain and Marketing Officer (VCMO-PIE)*-follow up and sensitization on value chain for the targeted crops and marketing of the same after processing.
- *Regional Coordinators (RCs)* for Njombe, Morogoro and Kaskazini Unguja –guide implementation of the planned activities in their respective regions.
- *Environmental and Social Safeguards Specialist (ESSS-PIE)* ensure compliance to the Tanzania and Zanzibar laws, regulations and AfDB policies on environment and social matters as per risk levels. Will facilitate environmental clearance with the NEMC and ZEMA through preparing recommended environmental instruments, sites verification visits and follow up for approvals;
- *Procurement specialist (PS-PIE)*-ensure procurement of goods and services are done according to the policies of the Bank and those established by the PIE; the Governments of Tanzania and Zanzibar;
- *Monitoring and Evaluation specialist (M&E- PIE)*-monitor implementation of the project by collecting data on progress made, expenditure, indicators based on the log-frame and theory of change for the project. The Project M&E Plan that is aligned with the Bank's Results Measurement Framework and the M&E framework for ASDPII will be used to ensure that everything is recorded and reported accordingly.

NB: For details in the Implementation see **Annex 5** to this report.

6.2 Roles and Responsibilities in the FSSP

The main institutions with key responsibilities for environmental and social management besides the implementing agency are:

6.2.1 Tanzania Mainland

a) *The National Environment Management Council (NEMC)*

The NEMC is responsible for ensuring that all development projects in Tanzania comply with all relevant environmental laws. Environment Management Act, 2004, specifically states that NEMC's role, among many other others is to review and recommend for approval/clear PESIAs. Therefore, the overall role of the NEMC will be to review PESIAs for all ERPP activities. Specifically NEMC will:

- Review project registration forms and the project brief in order to undertake project screening;

- Review and approve the TOR for the preparation of the PESIA;
- Provide relevant information on policies and other administrative requirements;
- Review PESIA/AUDIT reports; and
- Periodic oversight monitoring of the project performance in terms of environmental compliances.

b) MAFC - Environment Management Unit (EMU)

This unit provides guidance for agriculture related projects. EMU collaborates with other line ministries to address the same issues sector wise. For FSSP this unit can be consulted to assist in the following:

- Ensure that the project complies with the requirements of this ESMF;
- Supervise preparation of project brief and registration forms;
- Monitoring and follow up on the implementation of the project environmental and social mitigation measures;
- Collaborate with LGAs to train participating farmers on proper use of fertilizer and agro chemicals; and
- Collaborate with LGAs to train farmers on proper disposal of used pesticide cans and bags.

c) District Environmental Coordinator (DEC)

All three participating districts, namely, Morogoro and Mvomero and Wanging'ombe in Morogoro and Njombe Regions respectively, have dedicated environmental officers. These officers will assist MVIWATA team in the implementation of the project. DEC will carry out the following tasks:

- Oversee the preparation of TOR for PESIA and PMP if applicable;
- Supervise the public consultation process for PESIAs;
- Review and approve sub-projects environmental and social management plan (ESMP);
- Ensuring that mitigation measures in the sub-projects ESMP contained in the cleared project design package is being sufficiently implemented.

d) Farmers Network

- Oversee water management within the farming areas;
- Collaborate with other water users associations in the protection of water catchment areas;
- Comply to effective use of chemicals and handling of solid waste;
- Adhere to the comprehensive guidelines on irrigation operation and maintenance;
- Adhere to proper use of fertilizers and other agro chemical; and

6.2.2 Zanzibar

The Zanzibar Environment Management Authority (ZEMA)

The ZEMA is responsible for ensuring that all development projects in Zanzibar comply with all relevant environmental laws. Environment Management Act, 2015, specifically states that ZEMA's role, among many other others is to review and recommend for

approval/clear PESIAs. Therefore, the overall role of the ZEMA will be to review PESIAs for all FSSP activities.

Specifically ZEMA will:

- Review project registration forms and the project brief in order to undertake project screening;
- Review and approve the TOR for the preparation of the ESIA;
- Provide relevant information on policies and other administrative requirements;
- Review monitoring reports; and
- Periodic oversight monitoring of the project performance in terms of environmental compliances.

Ministry of Agriculture and Natural Resources (MANR)

The Ministry is responsible to ensure social and environment management are adhered to during the implementation of FSSP activities. In this context, its institutions (i) Zanzibar Agricultural Institute Research (ZARI) will collaborate with District Authorities and Extension staff to train participating farmers on proper use of fertilizer and agro chemicals so that in the course of use do not harm farmers and environment; (ii) Department of Irrigation is responsible in training farmers on water borne diseases associated with irrigation water use and (iii) Plant Protection Division (PPD) will collaborate with District Authorities and Extension staff to train farmers on proper disposal of used pesticide cans and bags, and train participating farmers on environmental and social safeguard issues and mitigation measures.

The Region and Local Government Authorities

These are North Unguja A and North Unguja B. The LGA policy recognizes essential linkages between the local communities and environmental protection to ensure sustainable use in the exploitation of natural resources.

Section 106(2) of the Environment Management for Sustainable Development Act No. 2 of 1996 gives District Environmental Officers an authority to enforce legislation related to the environment. Besides, the Agricultural Development Officers (DADO) have the role to enforce implementation of environmental legislation while supporting and or implementing strategic plans from their sectors including related project implemented in their districts. The DADOs and their counterparts in the course of implementing FSSP for the identified value chain will:

- i) Complying with all national laws regarding the environment and with all social/poverty guidelines, parameters and targets set by the GoZ and of all triggered World Bank Safeguards policies,
- ii) to implement their sectoral sub project activities according to and consistent with the provisions of this ESMF,
- iii) implementing, inter-alia, all appropriate mitigation measures identified in their completed ESIA and/or environmental and social management plan (ESMF),
- iv) to ensure that these mitigation measures are complied with during construction and post construction (i.e. operations) stages of their activities, by self-monitoring of their activities and by periodically reporting to their respective Regional

- Agriculture Development Officer or respective project leader,
- v) to ensure relevant mitigation measures identified and/or environmental and social management plan (ESMP) are implemented and sustained in their operation, and
 - vi) to comply with any directives that may be issued from time to time from the DoE, ERPP , MANR, PSC and Regional authorities.

Shehia Level Authorities

The project will be implemented in rural areas where some Shehias have formulated community forestry management agreement (CoFMA) with the Central Government. For those Shehias with CoFMA Shehia governments through their Councils are responsible in enforcing environment management by-laws using Shehia Conservation Committees in order to enhance sustainable management of natural resources and rural environment. For those Shehias with no environmental management plans, the Shehia governments are responsible to ensure the Shehia and or scheme has environmental management plan. At the Shehia level, there will be also farmers and or water user's organizations. The farmers and water user organizations under the leadership of Shehia government and DADOs would have the following responsibilities:

- i) Protect water catchment areas,
- ii) Ensure irrigation committee perform its work effectively,
- iii) Adhere to the guidelines of environmental and social safeguard issues,
- iv) Adhere to proper use of fertilizers and other agro chemical,
- v) Follow mitigation measures advises

6.3 Environmental and Social Assessment Process

6.3.1 Screening Criteria and Forms

FSSP has physical based sub-projects that will entail identification of sites for development. During the Consultation with MVIWATA Management, it was made clear that development processing plant in Morogoro Region and construction of 5 post harvest bulking infrastructures for aggregations and packaging are ones whose specific sites will have to be identified and acquired.

6.3.2 Procedure for Screening of Sub-Projects

FSSP has six sub-projects which are 1. The Construction and Operation of a Multi-purpose spice processing facility to be in Morogoro District. The site has not been identified.

The Construction and Operation of 5 post harvest and bulking infrastructure in various locations in Wanging'ombe, Morogoro Rural, Mvomero and North Unguja. Locations have not been identified.

Submission of a Sub-Project Brief

Proponent being assisted by a Registered Environmental Expert will prepare a sub-project brief (using standard form provided under EIA and Audit Regulations,2005 and the Amended ones of 2018).The brief will detail out the description of the proposed

subproject and the Environmental Management Plan(EMP) and submit it on line to NEMC portal or if the site is in Zanzibar consult with ZEMA for guidance on environmental clearance.

Screening Criteria and Methods

NEMC/ZEMA is the one to do the screening of the project using criteria stipulated in the law and regulations. A Registered Environmental Expert recruited by PIE can access these criteria as he/she prepares the Project brief for each of the sub-projects to ensure the sites are appropriate for the intended activities.

Screen Methods to be used in screening include but not limited to

- i) Looking at the Checklist of activities that the subproject will undertake hence determine the category of the project. As per EIA and Audit Regulations,2005 Amended in 2018
- ii) Environmental and social characteristics - characteristics of the intended post harvest and bulking infrastructure such as the receiving environment, capability of human/natural environment to cope with changes, confidence of predicted impacts, degree of public of interest, presence of planning and policy framework.
- iii) Ensure adequate *assessment of the proposed site and the surrounding areas* –check the ecological importance –presence of people, land use, wind direction, landscape and terrain, values and norms. Assess the condition and the likely potential impacts
- iv) *Main sub-project characteristics* – project type, size, location and sitting, required resources and technology of production methods, waste generation and management, labour requirements,
- v) *Significance of Impacts* – here a look should be on areas of influence, duration of disturbance, effluent/emission quality, resettlement requirements, cumulative effects, reversibility, and infringement of any laws, regulations or directives.
- vi) *Public Concerns, Views and Issues* – a need to assess if there is any controversial issues that can raise public concerns due to the development of the sub-project; sensitivity of the site, location, proposed technology, conflict of interest in land uses and any other social factor related to the sub-project.

6.3.3 Category of Projects

EIA and Audit Regulations (Amended) 2018 categorizes projects as summarized below:

Type 'A' Projects these are ones with adverse environmental impacts hence requiring an in-depth study to determine the scale, extent and significance of the impacts and to identify appropriate mitigation measures.

Type 'B1' Projects (Borderline projects) these are medium to high impact, therefore the process of screening the application shall be used to categorize the project as either Type "A" or "B2" project. A list of types of projects is provided under the EIA and Audit Amendments Regulation 2018, PIE will have to review the list as prepares to apply for environmental clearance of the sub-project in question. Construction and operation of a *multi-purpose spice processing facility* Category 9 Food and Beverage Industries (i) other agro-processing industries.

Type 'B2' projects are small-scale activities and enterprises that require registration (application for clearance) but shall not require Environmental Impact Assessment. These projects shall not require screening and scoping, rather, the Project Brief shall be examined and issued with an Environmental Impact Assessment Certificate.

Special Projects these are ones whose potential risks are uncertain thus require detail specialized study prior to EIA. They are treated as **Type "A"** projects.

NB: Screening of Category B1-Boarderline project can result into a project being categorised as type "B2" or Type "A" Specials.

6.3.4 Procedure for Conducting the ESA for Sub-Projects

Step 1: Identification of Sites

MVIWATA through the PIT guided by the recruited Environmental and Social Safeguards Specialist (ESSS) will visit Districts where the project proposes to construct the above mentioned sub-projects for the purpose of identifying appropriate sites guided by the principles such as the exclusion criteria explained below,

With the exclusion criteria the team will ensure the proposed sites do not:

- a) In a land that is prone to disaster unless it is meant to mitigate flood disasters;
- b) in protected areas or buffer zones of protected areas;
- c) converting or degrading natural habitats such as wetlands; and
- d) Involve land reclamation (i.e., drainage of wetlands or filling of water bodies to create land).
- e) In a land use not designated for other uses other than the intended one.

Steps after sites identification

Once the Sites have been selected the following steps will be followed by PIE using the dedicated SSSS. The sub-project upon passing the exclusion criteria will then be subjected to screening using a screening form whose template is attached as **Annex 4**. Depending on the Location of the Selected Site between Tanzania Mainland or Zanzibar: If a site will be in Zanzibar then provisions of

ZEMA 2015 will apply while if the site in Tanzania Mainland then EMA, 2004 provisions will apply.

PIE will recruit or procure a Registered Environmental Expert (ESSS-PIE) to assist in the Environmental Assessment studies for subprojects:

1. Register the sub-Project with the NEMC through online Project Management System which requires a registered expert to register himself and the developer of the project that he/she is providing service to. The registration is done by submitting a sub-project brief to NEMC or ZEMA. These authorities will scrutinize the submitted documents and the Environmental Management plan (EMP) to determine the types of the project and the extent of environmental assessment required. Four categories of project types exist: Category "A"- EIA mandatory; "B1" category for Borderline projects; "B2" for non mandatory projects and "Special Mandatory(EIA Amended Regulations, 2018). Figure 4 presents a summary of process based on regulations.

2. Approval Procedure for Type B2 Projects

Regulation 7(1) of the EMA (EIA and Audit) (Amendment) Regulations, 2018

1. Environmental expert to prepare a project brief and application form with a fee of USD 86
2. ZEMA/NEMC scrutinizes the form guided by the regulations and approves or disapproves the application
3. For Type B2 within 14 days NEMC gives decision about the project by examining EMP to determine if it gives sufficient information about impacts and proposed mitigation measures
4. If NEMC/ZEMA finds that the project will not have significant negative impacts on the environment and Application document (project brief) discloses sufficient mitigation measures, NEMC will recommend to Minister of Environment (Tanzania Mainland) to approve the project. For Zanzibar, ZEMA Director General Approves the Project.
5. The Minister of Environment (Tanzania Mainland) will within 14 days approve or disapprove the project and Issue a Certificate or communicate his decision. For Zanzibar, Director General, ZEMA will do the same.
6. For purpose of inspection or verification, NEMC or ZEMA may visit the project site at the cost to be borne by MVIWATA.

3. Approval Procedure for Type “A” Special Mandatory and “B1” Projects

Regulations 8-10 of the EMA (EIA and Audit) (Amendment) Regulations, 2018 provide procedure.

The ESSS-PIE will seek guidance from NEMC in Morogoro Zone in case there is a sub-project that will be categorized as Type B1. Procedure for Application for EIA Certificate, screening and preparation of scoping report and Terms of Reference for EIA study are detailed very well in the regulations 8-10. NB: Based on the review of the FSSP concept note and considering the nature of the sub-projects as described in the results framework these sub-projects do not fall under either A or B1.

4. Upon detailed review of the Submitted Application for Sub-project clearance, NEMC /ZEMA will determine about whether the sub-project is of which category among the four categories mentioned above. Online feedback will be given the Proponent (MVIWATA) through the log in account created by the Consultant (ESSS-PIE) <https://eia.nemc.or.tz/experts/web/>. Registration of the sub-project a fee amounting to TShs.200,000/= (USD 85.1) will have to be paid by PIE.
5. If NEMC/ZEMA screen and find that a sub-project falls under Category “B2” then ESSS-PIE will prepare An Application for EIA Certificate using the Format presented in Regulation 6(1) of the EIA and Audit Amended Regulations,2018. If decision is for other categories, then EIA preparation procedure will be followed. y may decide to send a Team of Experts to verify information provided in the submitted documents against the situation on the ground and local stakeholders. The cost of review of the documents including site verification visits is determined by the Sub- project Construction cost.

Pest Management: If the sub-project intends to introduce or expand the use of pesticides or other agrochemicals, the preparation of a Pest Management Plan (PMP) is required (as determined by the screening process). The PMP will include instructions for the handling, use, disposal of chemicals, and provisions to supply necessary safety equipment and training for their use, which will be reviewed and approved by the relevant environmental approving agency, namely, NEMC and or Department of Environment. The separate IPMP document prepared along with this ESMF includes more details on this.

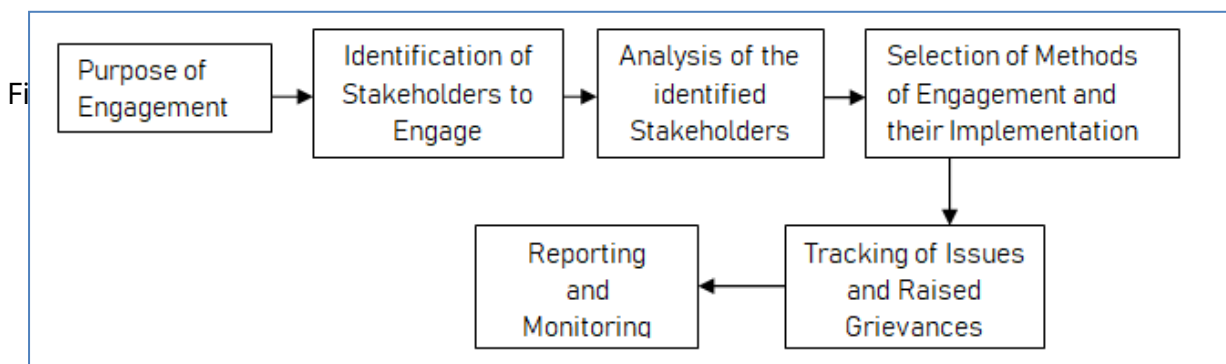
As Screened by AfDB, this project has sub-projects that pose moderate risks. MVIWATA will have to prepare a Pest Management Plan (PMP) to manage the E&S risks and impacts during implementation. The PMP will be cleared and disclosed both in-country

and by the Bank in line with Bank’s Integrated Safeguards System (ISS) and National information and disclosure requirements.

In the context of Climate Change and Green Growth the was screened and classified as Category 2 on the Bank’s climate safeguards system-meaning it is moderately vulnerable to climate risk. Main climate risks include reduced rainfall, delayed and changing rainy seasons and crop pests and diseases, all of which may reduce productivity of the selected crops.

6.3.5 Public Consultation

This project is to take place in two sides of the United Republic of Tanzania, namely, Tanzania mainland and Zanzibar. During the preparation of this report, we observed the existence of different categories of stakeholders ranging from the smallholders farmers in targeted value chain; the Implementing agency, the National, Regional, District, Wards Sheha, Villages to the households. Engaging Stakeholders is a participatory and inclusive process that is supposed to be conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive and responsive relationships that are important for successful management of a project’s environmental and social risks and impacts. To ensure a well coordinated stakeholder engagement plan(SEP), it is recommended that MVIWATA and her representatives follow a 6-step process (Figure 4 below) in the implementation of this project (FSSP).



Source: Adopted from URT 2022

6.3.6 Occupational Health and Safety

MVIWATA with the close support from the Contractor or the in-house environmental health and safety specialist will ensure regular training to permanent and temporary workers on occupational health and safety to workers and information relevant to health risk including malaria, yellow fever and pandemics like COVID-19 is provided to workers. During the construction period the contractor shall provide, equip and maintain adequate personal protective equipment (PPE), first-aid stations and sign boards directing where these services are situated and transport in case of emergency.

MVIWATA through their sites agents will ensure provision of appropriate protective gear including, but not limited to helmets, heavy duty gloves, safety vests and boots to site workers and visitors.

6.3.7 Developing ESMPs

PIE – Registered Environmental Expert will prepare ESMPs for each of the sub-projects as detailed below:

- a) For all negative significant impacts, the PIE-ESSS will prepare impact mitigation measures either by elimination, reduction or to remedy them;
- b) For all significant positive effects arising from each of the sub-project, PIE-ESSS will prepare enhancement measures for so as to increase the contribution from the project to social development and environmental conservation;
- c) Also PIE-ESSS will prepare Mitigation and Enhancement Plan for all significant negative impacts and positive effects, with details about institutional responsibilities and costs were appropriate; and
- d) A Monitoring Plan and Environmental and Social Management Plan will be prepared with details about institutional responsibilities, monitoring framework, parameters, indicators for monitoring, and costs of monitoring were appropriate.

6.4 Project Monitoring

The Project's M&E Plan will be aligned with the Bank's and GAFSP Results Measurement Framework. The Project M&E Plan will also be aligned with the overall M&E framework for ASDP II and specifically with the Agricultural Routine Data System (ARDS), which is designed to provide district and regional level agricultural data quarterly. A Project Mid-term Review (MTR) will be undertaken at the midway of implementation, and an Outcome Report as well as Project Completion Report (PCR) in the last year of the Project.

6.5. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANS (ESMPs)

The purpose of the Environmental and Social Management Plan (ESMP) is to provide guidance during the implementation of the Proposed MVIWATA FSSP sub-projects regarding the institutional responsibilities and cost estimates for effective environmental and social management.

Therefore, ESMP will:

- a) Ensure that proper appraisals on the effects of projects takes place and that proper measure are put in place to mitigate the effects;

- b) Set out the basis for compliance and enforcement of terms and conditions for approval;
- c) Design compliance strategies; and
- d) Monitor compliance and managing of the environment.

Whilst detailed mitigation will be defined through the impact assessment process, international guidance is available that defines indicative mitigation measures that should be considered as Good International Industry Practice. Table 25 summarises.

Table 25: Environmental and Social Management Plans for FSSP Sub-Projects

Sub-Project	Potential Environmental and Social Impacts	Mitigation Measures	Responsible Agency
Construction of Construction of Multi-purpose spice processing facility – Morogoro.	<ul style="list-style-type: none"> • Soil disturbance during excavation • Dust depending on the season during transportation of materials • Accidents during construction • Wastes generation during construction and operation • Wastes from fresh crops gathered for sorting, packaging. 	<ul style="list-style-type: none"> Rehabilitate areas Use water to minimize dust Use proper PPE to workers 	MVIWATA, MAFC/MANR-LGAs
Improving productivity of targeted crops value chains- tomatoes, potatoes.	<ul style="list-style-type: none"> • Water extraction in relation to permits and rights of downstream users; • Water pollution and water quality; • Waste management during construction; • Water borne diseases due to poor management of irrigation water • Agro-chemical usage by small scale farmers(see below) 	<ul style="list-style-type: none"> • Confirm permits; monitor drainage in sensitive ecologies • Monitor inflow and outflow • provision of adequate waste disposal services. Proper disposal of chemicals and other hazardous materials; dust control by water, appropriate design and siting, restrict construction to certain times; and, appropriate and suitable storage of building materials on site. 	<p>MVIWATA, MAFC/MANR-DPPR</p> <p>MAFC/MANR/MOL</p> <p>MAFC/MANR</p>

		<ul style="list-style-type: none"> Farmer training on management of irrigation water 	
Construction of 5 post harvest warehouses	land take for sites for warehouses(minor) site management during construction;	Local land take using land offices and village offices Waste Management Plan (see above)	MAFC/MANR/MOL MAFC/MANR
Agro-chemical usage			
Use of inorganic fertilizers and pesticides (herbicides, insecticides, fungicides, rodenticides)	<ul style="list-style-type: none"> Water contamination with agro-chemical residues (fertilizer, residues) Human health impacts if unsafe application/usage and handling (transportation, storage, disposal) 	<ul style="list-style-type: none"> Training of farmers in the safe use, handling and disposal of inorganic fertilizer and pesticides (esp. insecticide and herbicide) and Integrated Pest Management Conduct refresher training for village level extension agents on safe use of agro chemicals Monitor quality of water runoff from tomatoes and potatoes farm. 	<ul style="list-style-type: none"> DITS, EMU and LGAs/DADO SMS-Env. & DADO/ EMU, DITS, LGAs DITS, EMU and LGAs/DADA

7.0 STAKEHOLDERS CONSULTATION AND PUBLIC PARTICIPATION

7.1 INTRODUCTION

This chapter presents results of the consultation with stakeholders on the proposed FSSP in the regions of Morogoro, Njombe and North Unguja. It is a result of the field visit that we conducted from the 16th November to 25th November 2022 in Morogoro and Njombe Regions and from 29th November to 30th November, 2022 in North Unguja Region in Zanzibar. For evidence of some consulted stakeholders with signature and photo (see **Annex 6** and **Annex 7**).

7.2 OBJECTIVES OF THE CONSULTATION AND PUBLIC PARTICIPATION

The objective of the consultation and public participation was to:

- a) Disseminate and inform the stakeholders about the project with special reference to its key components and location;
- b) Gather comments, suggestions and concerns of the interested and affected parties on the proposed project;
- c) The establishment of a communication channel between the general public and the team of consultants, the project proponents and the Government; and
- d) The document stakeholders concerns and communicate them to Proponent and other interested parties.

7.3 PARTICIPATION OF STAKEHOLDERS

7.3.1 Identification of Stakeholders

Stakeholders were identified based on their roles and relevance to the proposed project. We have categorized them into three as follows:

- a) Those who have mandate to ensure the project is implemented as planned – the Government through President Office Regional Administration and Local Government(PO-RALG)- Morogoro,Njombe and North Unguja Regions; Ministries of Agriculture, Cooperatives - through respective Departments of Agricultural , Vice President Office - NEMC – the Environmental Management Advisor in Regional and Districts Offices and finally MVIWATA the implementing Entity.
- b) Those who are likely to be affected (positively or negatively) by the introduction of the project – they include farmers of targeted crops, agro-industry processors, transporters, owners of warehouses, Farmers in the selected regions.

7.3.2 Sampling technique

We used non-random sampling methods (convenience and purposive) to identify representative of stakeholders to be consulted. Those who were easily available were consulted. As response to COVID -19 we minimized direct contact during the fieldwork, so we requested contacts of key experts of absent key informants.

7.3.3 Data Collection Methods

Stakeholder Consultation Plan-On 17th November, 2022 we made reported to MVIWATA Office in morogoro Municipal Council to introduce ourselves to the Management Team. On the date, MVIWATA was conducting an Annual General Meeting (AGM) whereby all Members from the entire country where attending the meeting. This enabled us to hold side consultations with key farmers from the targeted regions.

Thereafter, we made a Courtesy call to the Morogoro Regional Commissioner's Office and hold a Consultation Meeting with two Senior Officials responsible for Agricultural Development and Environment. We visited Mvomero District Council and met with the District Executive Director and Head of the Department of Agriculture who gave us phone number for future consultation as on the date they had a meeting with other officials from the Higher Government level. We travelled to Njombe Region where we held a Consultative meeting the Regional Commissioner, the Regional Agricultural Advisor, the Member of Parliament for Njombe Urban. We travelled to Wanging'ombe District Council where we held a focus group discussion with the Senior District Officials lead by DED, District Agricultural Officer and the Environmental and Social Advisor. We travelled back to Morogoro and held a focus group discussion with the Senior Management team of MVIWATA on number issues related to the project including the scope, strategy and expected outcomes and anticipated impacts.

From 29th November, 2022 to 30th November, 2022 we travelled to Zanzibar. We had Consultation with the Permanent Secretary and his Senior Agricultural Advisor in the Ministry of Agriculture. We travelled North Unguja Region to meet with the Senior Officials. We then held a focus group discussion with Senior Officials in the Districts of North Unguja A and North Unguja B. They had gathered at the Headquarters of North District A for the meeting. We employed three methods, interviews, discussions and transact walk to some farms to get feeling of the situation.

Sources of primary data were household farmers, observed owners of storage facilities, local transporters, village leaders, and experts at the Regional Secretariats in the sectors of agriculture, livestock and fisheries.

Data Collection Tools had questions aimed at getting extent of awareness about the project, expected benefits to the nation at large. Depending on the category of stakeholders – each was asked to explain what he or she perceived as negative or positive impacts of the intended project.

7.3.4 Data Analysis

Analysis of the collected data was done by using qualitative content analysis (conventional approach). Conventional approach is by coding categories of responses

from text data. All concerns raised by each category of stakeholders were coded so as to get patterns of concerns.

7.4 SUMMARY OF THE STAKEHOLDERS' VIEWS AND CONCERNS

Stakeholders were consulted during the preparation of this report so as to get their awareness of the project, perceptions, concerns and proposals for effective implementation of this project. Generally, consulted stakeholders are aware of the performance of MVIWATA in the context of supporting smallholder farmers in Tanzania and Zanzibar. Upon being informed of the targeted crop value chains in their respective areas they raised environmental, social and economical issues as narrated below: Issue of the use of industrial chemicals; Economic empowerments, contamination of underground water, handling of containers with industrials chemicals especially for tomatoes and potatoes. Also, there was concern on risks related to market failure due to increased productivity especially for tomatoes in Zanzibar; Cloves not privately trade-able as the Government administers the market. Besides, the destruction of reserve land due to increased land clearance for more farming and production was also raised. Also, land rights were raised as critical to smallholder farmers (peasants) as raised during the MVIWATA Annual General Meeting.

Table 26 presents summary of the concerns, views, and perceptions of consulted stakeholders concerning the proposed FSSP in Tanzania.

Table 26: Stakeholders Views and Concerns in Relation to the Proposed FSSP

Stakeholders	Views/ Concerns
Morogoro Regional Commissioner's Office – Regional Administrative Secretariat (RAS).; Mvomero and Morogoro Districts Councils.	<ul style="list-style-type: none"> • The project is known as MVIWATA engaged the office to handle issues of spices –garlic, green peas, cinnamon, ginger, black pepper. • Use of industrial chemicals (solvents, insecticides, herbicides, fungicides, fertilizers) is high so issue of handling of empty containers is critical, hence promote use of PPEs etc • Protection of water bodies and underground water resources through control of contamination, • Marketing of spices is still a challenge hence development of aggregation centres and mini-processing for the products could be meaningful. • Morogoro rural has introduced cloves production to protect the hilly areas so there is a need to enhance this practice

Stakeholders	Views/ Concerns
	<ul style="list-style-type: none"> • Destruction of biodiversity due to use of fire when preparing farms ready for farming. • The issue of adding values to these products is vital in the form of processing, cleaning and sorting so handling of wastes, through little is vital. • Risks in Mvomero due to interventions of wild animals and cattle from livestock keepers.
<p>Njombe Regional Commissioner's Office; Regional Agricultural Advisor – Wanging'ombe District Council (WDC)-District Agricultural Officer, Environmental Management Officer.</p>	<ul style="list-style-type: none"> • Project highly needed as potatoes is for both food and business; • Wanging'ombe is dry so irrigation is needed; • There is significant use of chemicals for weeds and growth so contamination of soils and waste from containers • They accepted the intervention on the potato value chain citing market as critical as there are reliable market hence price determined and controlled by buyers • Inputs currently supported by the Government. • Positive impacts of the project will be increase in income to beneficiaries • Storage facility for potatoes can increase value. • Negative impacts include destruction of reserved land due to expansion of farms. • Underground pollution, forest and water sources due further irrigation and clearing of land; • Further conversion of farms for potatoes production will reduce land needed for other crops. • Potatoes production needs support in the form of water use which is intensive; planting technology, seeds and infrastructure for storage and harvesting. • Handling chemical containers due to the intensive use of industrial chemicals from planting to harvesting.

Stakeholders	Views/ Concerns
MVIWATA	<ul style="list-style-type: none"> • Environmental degradation of the area during the construction and operation. • It will assist the provision of social services through private sector engagement; • Risk of inadequate supply of some types of raw materials that the APH will required, - operating factories such as SANICO and Ji-Long are facing inadequate supply of sunflower seeds from farmers. • Unreliable productivity by farmers can affect continuity of the operation of some processing units within the HP - when farmers are disappointed by low prices or delays in payments they tend to stop from farming of the affected crop hence reduced production.
Ministry of Agriculture – ZANZIBAR with Senior Officials.	<ul style="list-style-type: none"> • We are aware of and accept the intended activity by MVIWATA in Zanzibar • Training on finance and post harvest handling very important • Contract farming can increase productivity especially for those with processing facility such as MTULE AMCOS which can process but not capable of buying raw materials. • Inputs for horticulture and spices very high no subsidies • There is significant loss of tomatoes because there is production season so a market is a challenge • CLOVES has no market challenge the Government handles the matter and the price stands between TSHs. 12,000-14,000/=Challenge is to support the development of seedlings and nurseries. • Water abstraction in Zanzibar is very high due to existence of wells; • Electricity is highly needed to migrate from diesel run generators-critical to climate change; • Risks are related to increased productivity which results into market failure.

Stakeholders	Views/ Concerns
	<ul style="list-style-type: none"> Promotion of use of industrial chemicals results into production of inorganic products hence market failure.
<p>Focus Group Discussion with Senior Officials from Districts of Kaskazini Unguja A and Kaskazini Unguja B.</p>	<ul style="list-style-type: none"> The Project is good and MVIWATA is known for assisting farmers in these Districts Cinnamon and ginger not farmed by many; Cloves is controlled by the Government Tomatoes – has many farmers but the market is flooded therefore processing is important; - it uses chemicals that need handling to protect the environment especially underground water MVIWATA can establish Farm Model on best practices Benefits: increased productivity of tomatoes; knowledge of use of inputs; farm gate loss reduction; income for households to increase. Negative- productivity increase means more use of chemicals hence environmental pollution. Risks- inadequate control of chemicals. Generally: cinnamon is produced by one farmer with 200 acres leased from famers – it needs sensitization; Ginger and Black pepper – need promotion in the value chain of farming, husbandry. Cloves: government intervention to increase productivity through provision of free inputs – it takes 5 years to harvest hence so land for cloves converted into other uses – extensions services and motivation highly needed.

Source: Field Data, November, 2022.

8.0 GRIEVANCES REDRESS MECHANISM

8.1 The Needs of GRM

The appraisals conducted concerning this project has shown that there are will be rare requirements of land for the intended some projects such as the processing facility in Morogoro and in Zanzibar as the facility for the later will be in a leased land. However,

when a project activities start, individuals, households and other actors come forward with concerns or grievances about their long ownership or use of land on which sub-projects are proposed to be implemented. Significantly, this project does not trigger issues related to land and resettlement as much of its activities are logistical in nature supporting aggregation of agro-products, transportation, processing and branding.

However, the implementation of sub-projects under FSSP will entail recruitments of various semi skilled staffs, which, under the Labour and Employment relations, require a grievance redress mechanism to handle labour affairs. As MVIWATA and the Concept note for this project, a little number of staff is likely to recruit during the implementation of this short terms project. MVIWATA may prepare a GRM Manual to guide this.

8.2 Implementation

MVIWATA, the Project implementation Entity (PIE) will be responsible for developing appropriate formats for complaints and redress as well as disseminating information about the GRS during the construction and operation.

PIE will consult the Ministries responsible for Agriculture in both Tanzania Mainland and Zanzibar through the Regional Administrative Secretariats (RAS) where Senior Advisors are stationed including the Sokoine University of Agriculture (SUA) to ensure that grievances raised can be addressed well. MVIWATA has a well set network of its small farmers who are beneficiaries to this project, hence, the effective connectivity in handling grievances.

MVIWATA through her administrative set up will engage with a officer responsible for Environmental and Social Safeguards who will work closely with Government at the Regions of Morogoro, Njombe and North Unguja to ensure smooth handling grievances that may arise.

Any person grieved with the Project activity from any village where FSSP subprojects will be implemented will be advised to lodge his claim to Village Executive Officers (GROs) who will record the complaint and forward the same to MVIWATA coordinator at the Local Government Authority. GROs are to keep a record of grievances, and monitor the details of cases lodged, resolved cases, pending cases and action taken.

As per Labour and Employment relations law, where a processing facility is established, there will be a grievance redress mechanism to enable likely employed workers to raise their grievances related to occupation, health and safety and getting opportunities to have Workers Unions. Considering the nature of this project, no critical labour related matters are anticipated.

Therefore, we propose that Village Council – to be Village Grievance Redress Committee, Village Leaders – Village Chairperson (VCh) and Village Executive Officers (VEO) to be the

Village Grievance Redress Officers (VGRO), in particular, the VEO who is an employee of the relevant local government authority such as Wanging'ombe; Mvomero or Morogoro District Councils. In Zanzibar, similar approach will be observed using Sheha and local communities.

It is proposed that at each District Council close consultation and engagement of community development officer to assist in the handling of likely grievance. Review of the FSSP documents and focus group discussion with the PIE made it clear that this project is purely too small to rise critical issues considering the networks that has been put in place by MVIWATA.

8.2.1 Submitting Grievances or Complaints

Complaints Forms will be made available at each local government office mainly the village councils where sub-projects will be implemented.

Any farmer or local community who will not be satisfied with the redress done to him will do the following:

- a) Go to the office of his/her Village Executive Officer who will be tasked as Village Grievance Redress Officer and request a Complaint Form;
- b) A person aggrieved with the project, will fill in a Complaint form and submit it to the VEO who will stamp it and sign one copy and give it to the complaint as evidence that the complain has been received.
- c) The filled in form will be submitted to the MVIWATA representative for detailed review and then provision of written feedback about the conclusion reached; If satisfied, this will be the end of the matter, however, if not satisfied, the Official will forward the matter to the PIU for further actions,
- d) The village Executive Officer (VEO) or any proper officer will assist him/her in filling it in or any clarifications.

8.2.2 Grievance Redress Report

We propose that VEOs of villages or locations where sub-projects will be implemented with the support of the District Community Development Officer will prepare the report, address and record grievances through the GRM. So these will act as grievance redress coordination with a contractor or civil workers and other experts at the selected site for sub-project.

Format of the Report will present details of cases received (date, names of complaint, address, Mobile Phone Numbers, description of a case, status about the case (solved, not solved), pending cases, actions taken, feedback date (ref letter, date), acknowledgement. This database will then be forwarded to the MVIWATA for record keeping and reporting.

It needs to be noted the FSSP does not trigger issues of land take and compensation. However, where a need will arise it needs to be noted that redress mechanism is set to

start from village to Court of Appeal. It starts from the Village Council to Ward Tribunal, District Land and housing Tribunal, High Court and Court of Appeal. The Project has a component for coordination and management amounting to 205,715.6 (UA), therefore, it will be the responsibility of the MVIWATA to assess adequately the adequate sum needed to assist in the implementation of the GRM. Consultation with the MVIWATA Team indicated categorically that valid budget would determine once the project receives finance.

8.3 Summary

What is presented above is summary of a guide for handling grievances during the construction and operation of the sub-project on processing unit. As pointed out earlier, this project is too small to attract critical issues related to land take and compensation.

Since we do not take thing for granted, we recommend to the MVIWATA and those who will be involved in the administration of this project to ensure they prepare a detailed Grievance Redress Mechanism Manual in English and Kiswahili languages. The Kiswahili version is important for ease use by all communities. Such a standalone Document will have details, procedure for lodging complaints, forms to fill in, roles of public officers, flow of complaints submission, and contacts phone numbers for responsible officers at MVIWATA and with the local networks and farmers.

As per FSSP Concept Note, the project will be implemented by MVIWATA through a dedicated Project Steering Committee (PSC), Technical Advisory Committee (TAC) and Project Implementation Team (PIT). Other institutions to participate will be Tanzania Bureau of Standards (TBS), Small-scale Industry Development Organization (SIDO), TanTrade, Ministry of Agriculture, Livestock, Fisheries and Natural Resources (MANR), Zanzibar; Representative of the President's Office Regional Administration and Local Governments (PO-RALG); and one representative of local farmers groups as deem necessary by MVIWATA.

9. CAPACITY BUILDING AND TRAINING FOR ENVIRONMENTAL MANAGEMENT

Effective implementation of the ESMF and E&S requirements for all MVIWATA sub-projects will require all responsible staff to be adequately equipped with knowledge and resources on issues related to handling of agro-industrial chemicals likely to be provided to farmers, handling solid wastes to be generated during the processing of spices.

Specifically training will be provided to the following

- Clearly define critical E&S roles and responsibilities to each of the appointed officials ;
- Define the E&S competency and training needs for E&S specific roles;
- Ensure that all new staff are informed of the ESMF as part of their induction training;

- Provide refresher training on the ESMF periodically during each phase of the Project;
- Inform staff of any significant updates of the ESMF and other aspects of E&S management; and
- Provide specific and relevant training on E&S risks, impacts and management to members of the Project Implementation Team (PIT) as well as members of staff of the Project Companies, as appropriate.

Table 27 presents some specific training and capacity building in the form of training that MVIWATA through its dedicated Management Team will have to provide to ensure successful safeguards management of FSSP sub-projects. Also, ESMF implementation training will be provided to key project stakeholders.

Table 27: Summary of Specific Training and Capacity Building

Training topics	Target Audience	Training Methods
Environmental laws and regulations on the risks of chemicals used in the farming; Handling and disposal of empty containers after chemical uses; use of PPE while using hazardous chemicals; Best practices in use of chemicals and promotion of traditional fertilizers. Effects of climate change on the abstraction of underground water in irrigation. Types of chemicals used and their effects on the environment and society. Pest Management practices. Handling waste generated during the processing of spices.	MVIWATA Networks at Middle and Local levels: farmers groups in the targeted value chains, Extension Officers, Suppliers of Industrial chemicals. Association of Farmers in the Value Chain mentioned.	Training Workshops/seminar with Video organized at respective centres or villages in clusters based on the types of value chain dealt with.

In the initial stage of project implementation two safeguards management start-up workshops (one in Mainland Tanzania and one in Zanzibar) for all implementing agencies will be held to discuss and confirm FSSP safeguards procedures, environmental and social management and monitoring arrangements as well as the ESMF work plan. These will be focused on the targeted value chain.

Moreover, training will be given to farmers on proper handling of various chemicals to be provided as part of this project so as to minimize incidence of underground water pollution and water borne diseases. The training program is to be implemented by the MAFC and MANR in collaboration with National Environment Management Council and Department of Environment in Zanzibar. Additional training activities related to pest management will be included in the PMP work plan.

The MVIWATA designated project team will have to work closely with likely procured contractors/force account construction workers to ensure they abide to environmental and social management practices. All recruited construction workers will receive required training using non-technical language and in Kiswahili language.

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ANNEXES

Annex 1: Environmental and Social Screening Form

The Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of sub-projects in the FSSP that are to be implemented under this project. The form is designed to place information in the hands of reviewers so that mitigation measures, if any, can be identified and/or that requirements for further environmental analysis be determined

The ESSF contains information that will allow reviewers to determine if endangered or threatened species or their habitat, protected areas or forest are likely to be present, and if further investigation is, therefore, required. The ESSF will also identify potential socio- economic impacts that will require mitigation measures.

Name of Sub project:

Location:

District: 1. North Unguja A 2.North Unguja B 3.Mvomero 4. Morogoro DC 5.Wangingombe []

Village Name:.....::

1. Description of Sub-project:

(FSSP has sub-project for construction of warehouse facilities 2.Supply of Inputs such as seeds).

.....
.....
.....
.....
.....
.....
.....

2. The Natural Environment

(a) Describe the vegetation/trees in/adjacent to the Sub project area

(b) Estimate and indicate where vegetation/trees might need to be cleared

(c) Are there any environmentally sensitive areas or threatened species (specify below)

that could be adversely affected by the sub project? 1. Yes 2. No

(i) Natural Forests Yes No

(v) Wetlands (swamps, polder areas, seasonally inundated areas) Yes No

(vi) Habitats of endangered species for which protection is required under Tanzania laws and/or international agreements. 1.Yes 2. No []

If

YES.....explain.....
.....
.....
.....
.....

3. River Ecology

Is there a possibility that, due to supply of agricultural inputs such as fertilizers or chemicals the river/stream ecology will be adversely affected? - Pay attention to water quality and quantity; the nature, productivity and use of aquatic habitats, and variations of these over time. 1. Yes 2. No []

If Answer is 1 please explain

.....
.....
.....
.....
.....
.....

4. Protected areas

Does the sub project area (or components of the sub project) occur within/adjacent to any protected areas designated by government (national park, national reserve, world heritage site etc.)

1. Yes 2. No []

If answer is 1 please

describe.....
.....
.....
.....
.....

5. If the site for FSSP facility near any protected area, is it likely to adversely affect the ecology within the protected area areas (e.g., interference with the migration routes of mammals or birds)? 1. Yes 2.No [].

If Answer is 1. Yes please explain

.....
.....
.....
.....
.....

6. Based upon visual inspection or available literature, are there areas that have risks of large scale increase in soil leaching and/or erosion? 1. Yes 2. No [].

7. Invasive plant species along feeder road routes

Is the sub project likely to result in the spread of invasive plant species within the agricultural area)?

1.Yes 2. No []

8. Noise pollution during Construction and Operations

Will the operating noise level exceed the allowable decibel level for that zone? 1. Yes 2. No

9. Will the project have adverse impacts on Natural Habitats that will not have acceptable mitigation measures according to OP 4.04 Natural Habitats.?

Yes..... No.....

Annex 2: Environmental and Social Rules for Contractors Under FSSP

1. General Introduction

This ESHS code of conduct shall be adopted and embodies the commitment of the Contractor (including Sub-Contractors and day workers) to conduct construction related activities in accordance with all applicable laws, rules and regulations with high ethical standards.

The Contractor and its subsidiaries shall comply with this Code of Conduct and in a manner consistent with high ethical standards. Failure to observe this Code of Conduct may subject you to disciplinary action by the firm, up to and including termination. Furthermore, violation of this Code may also be violation of the law and due result in civil and /or criminal penalties for you, your supervisors and/or the firm.

The Contractor employees, Managers and Directors shall take all responsible steps to prevent a violation of this Code, to identify and raise potential issues, and to seek additional guidance when necessary, if you have any question's regarding the best course of action in a particular situation on this Code you should therefore promptly contact the project proponent for assistance.

2. Minimum Requirement of these Rules

This Code of conduct identifies risks associated with: environmental and social management, resettlement, labor influx, spread of communicable diseases, sexual harassment, gender based violence, criminal behavior, crime, child labour, and safety. The Code of Conduct contains obligations to all project staff (including sub-Contractors and day workers) in minimum specific requirements as follows:

- (a) The Contractor and its subsidiaries shall comply with applicable Laws, Rules and Regulations of the jurisdiction;
- (b) The Contractor shall prepares specific Health and Safety Management Plan (HSMP), Specific Environmental and Social Management Plan (ESMP), HIV/AIDS awareness programme, Occupational Health and Safety Awareness Programme of the proposed sub-project prior to the actual execution of the construction works based on the Design and the Project Brief or E&S Assessment Reports;
- (c) The Contractor and its subsidiaries shall comply with applicable health and safety requirements (including wearing prescribed Personal Protective Equipment (PPE), preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment);
- (d) The Contractor and its subsidiaries shall provide temporary speed calming measures, temporary speed limit signs to the highly populated areas such as at road sections under construction, approach to trading centers, villages, school premises and health centers and ensure that drivers observe speed limits for safety of other road users;
- (e) The Contractor and subsidiaries are required to review the road levels before construction starts in order to blend aesthetically the horizontal and vertical alignment of the road with reference to the natural ground levels in order to allow communities to access their homes social amenities and businesses smoothly by providing proper access roads and crossing slabs to deep open drains to avoid storm water flowing into adjacent houses;
- (f) The Contractor and its subsidiaries are required to avoid unnecessary clearance of trees and vegetation, avoid conflicts of water resources use with respective communities.
- (g) The Contractor and its subsidiaries are required to make every effort to avoid water, air, soil pollution, land degradation and any related harmful that can damage the environment. Also all construction activities should strive to attain the high environmental standards;
- (h) The Contractor and its subsidiaries are required to ensure safety of its workers and experts by providing them the required Personal Protective Equipment (PPE) to ensure safety. The standard safety signs and road marking should be provided during and after completion of road construction activities to ensure safety for all road users;

- (i) The Contractor and its subsidiaries are required to provide sanitation facilities along the construction corridor (for example, to ensure workers use safe drinking water, specified decent sanitary services provided by their employer and not open areas);
- (j) The Contractor and its subsidiaries are prohibited to practice any kind of discrimination (for example to job seekers on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction);
- (k) The Contractor and its subsidiaries shall adhere to the labour laws during labour recruitment to ensure skilled and unskilled laborers are given specified work Contracts, registered with National Social Security Schemes and contribute to "Pay As You Earn (PAYEE)" tax;
- (l) The Contractor and its subsidiaries are required to interact with the community members (for example, to convey an attitude of respect and non-discrimination);
- (m) The Contractor and its subsidiaries are prohibited of the sexual harassment (for example, to prohibit the use of abusive language or filthy behavior, in particular towards women or children, that is sexually provocative, demeaning or culturally inappropriate);
- (n) The Contractor and its subsidiaries are prohibited to conduct any violence or exploitation (for example, the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliation, degrading or exploitative behavior);
- (o) The Contractor and its subsidiaries are required to protect children (including prohibitions against child labor, abuse, defilement, or otherwise unacceptable behaviors with children, and ensuring their safety in project areas);
- (p) The Contractor and its subsidiaries are required to avoid conflicts of interest (such that benefits, contracts, or employment or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection);
- (q) The Contractor and its subsidiaries are required to protect, provide safe equipment's and proper use of construction properties found along construction corridor and campsites (for example, to prohibit theft of construction equipment and material, carelessness or waste);
- (r) Non retaliation against workers who report violations of the Code, if that report is made in good faith; and
- (s) All workers and Contractor's Experts are responsible to read, accept and sign the requirements of this Code of Conduct as condition of employment and any violation of this Code can result to serious contractual measures to be taken including contract termination, dismissal, or referral to legal authorities.

CONTRACTOR CERTIFICATION:

I have read the rules. 1. I agree. 2. I do not Agree []

Name of an Authorized Person of the Company.....

Signature of an Authorized Person of the Company.....

Name of the Company.....

Address of the Company.....

Stamp of the Company

Witness's Name and Signature:

.....

For MVIWATA Executive Director:

Date:

Annex3: Checklist of environmental and social impacts for construction works

	Land Degradation	Water	Bio-diversity, Natural Habitats and Wetlands	People
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<p style="text-align: center;">Planning</p>	<p>Soil Erosion: (i) Training of Subsistence and Cash Crop Farmers and Pastoralists on soil conservation methods. (ii) Rehabilitate anti-erosion infrastructure such as, micro-basins, micro dams, hill side terracing, soil bunds etc. (iii) Construct new anti-erosion infrastructure as listed in(ii) above. (iv) Introduce crop rotation management, use of fertilizers, tree planting and soil drainage. (v) Control bush burning and fires. vi) Protection of roadsides by planting of vegetation. vii) Protection of outlet of drainage canals</p>	<p>i) Promote potable water and sanitation sub projects. ii) Promote environmental health measures and public health education. iii) Improve management of household and solid waste, including infrastructure for collection and treatment of liquid waste and waste water. iv) Review, update and enforce pollution control legislation. v) Strengthen enforcement capacity. vi) Develop and implement rural water supply and sanitation policy. vii) Locate sub projects at far/safe distances from water points and sources.</p>	<p>i) Consideration of alternative locations/siting of sub projects. ii) Reduce biomass use through provision of alternative energy sources and construction materials (cooking stoves, photovoltaics). iii) Strengthen natural resource management capacities iv) Promote agro forestry. v) Wetlands management and small irrigation development. vii) Protect sensitive ecosystems such as forests and wetlands, prevent further encroachment in protected areas. viii) Enforce existing laws.</p>	<p>i) Involuntary settlement due to land acquisition, denial or restriction of access to economic resources such as trees, buildings etc., used by members of communities should be avoided or, if not, properly compensated. ii) Provide social services in areas of : •Primary education •Primary health care •Water supply •Micro-finance •Feeder roads •Soil conservation and natural resources management</p>
<p style="text-align: center;">Construction</p>	<p>i) Construction in dry season. Protection of soil surfaces during construction. ii) Adequate protection from livestock entry by fencing the site perimeters. iii) Employ all unskilled labor from local districts and semi-skilled labor first from local districts when available there in. iv) Source goods and services from local districts first, when available. v) Control and daily cleaning at construction sites. vi) Provision of adequate waste disposal services. Proper disposal of chemicals and other hazardous materials. vii) Dust control by water, appropriate design and siting, restrict construction to certain times. viii) Appropriate and suitable storage of building materials on site. ix) Siting of Latrines at safe distances from wells and other water points and using closed systems for sewage drainage. x) Restrict construction to certain hours</p>			
<p style="text-align: center;">Day to Day Operations</p>	<p>i) Use facilities/infrastructure as designed and as intended. ii) Employ trained staff to man and secure facilities. iii) Log and report any damages done and repairs needed. xvi) Perform periodic monitoring of all aspects as contained in the sub project Environmental and Social Monitoring Plan.</p>			
<p style="text-align: center;">Maintenance</p>	<p>i) Prepare and adopt suitable maintenance plan. ii) Maintain appropriate budget necessary to implement maintenance plan. iii) Implement maintenance plan in two stages : for activities requiring day-to-to maintenance such as repairs to damages done, regular inspections etc and longer/periodic term maintenance. iv) Have suitably trained staff to carry out maintenance and access to materials/goods/equipment</p>			

Source: Adopted from URT 2014 with Amendments,2022..

Annex 4: Content of Site Specific Environmental and Social Management Plan (ESMP)

The ESMP is an integral part of the overall implementation of the sub-project. The sub-project ESMP must include a set of mitigation, monitoring and institutional measures to be undertaken during implementation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The ESMP is a sub-project specific action plan presented in table format, which must include the actions needed to implement these measures, including the following features (Adopted from URT, 2014):

1. Description of adverse impacts: The anticipated impacts are identified and listed.
2. Description of mitigation measure and implementation schedule: Based on the environmental and social impacts identified through the screening process and PESIA for category B sub-projects each measure should be described as well as the schedule for their implementation (timing, frequency, and duration).
3. Description of monitoring and reporting arrangements: A specific description and technical details of the monitoring method, including the indicators to be measured, how they will be measured and by whom, the sampling locations, the frequency of measurements, detection limits (where appropriate), and the definition of thresholds that will signal the need for corrective actions, e.g. the need for on-site construction supervision, or the need to test and have a water quality monitoring plan.
4. Description of responsibilities: The ESMP should include specific responsibilities for implementing the mitigation measures (i.e. who is responsible for implementing the mitigation measures and carrying out the monitoring regime for operations, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting and staff training.)
5. Cost estimates for mitigation and monitoring measures: Include an estimate of the costs of the implementation of the mitigation measures and monitoring activities as well as the source of funds.

Annex 5: Role and Responsibilities of the MVIWATA in Implementing the Project

No	Steps/Activities	Responsible	Collaboration	Service Provider
1.	Identification and/or sitting of the Multipurpose Processing Plant for Spices and The Rehabilitation of the Fresh Foods Transformation Centre.	PIE	<ul style="list-style-type: none"> • District Local Government where the sub-project has been proposed to be located, Land Officer for land tenure issue, land use and land valuation in case of acquisition. 	District Land Office.

2.	Screening, categorization and identification of the required instrument (national EIA procedure)	PIE-Environmental Specialist.	<ul style="list-style-type: none"> • Relevant Local Authority, Beneficiary; Social Safeguards Specialist (SSS) on the PIE; District Environmental Officer, Land Officer, Land Use Planner, Agriculture Officer. 	NEMC Zone Office. ZEMA
3.	Approval of the classification and the selected instrument by the Public EA Agency	PIE Coordinator	<ul style="list-style-type: none"> • ESS-PIE; SSS-PIE; District Environmental Officers. 	<ul style="list-style-type: none"> • NEMC • ZEMA • The Bank
4.	Preparation of the safeguard document/instrument (ESIA, Env. Audit, simple ESMP, etc.) in accordance with the Tanzania and Zanzibar environmental clearance procedure including requirements of AfDB policies.			
	Preparation and approval of the Sub-Project Brief as per EIA Procedure in Tanzania/Zanzibar	ESS-PIE	E&S consultant at PIE	<ul style="list-style-type: none"> • NEMC • ZEMA • The Bank
	Preparation of the report		<ul style="list-style-type: none"> • Procurement specialist (PS-PIE); SSS-PIE; Relevant District Authority- depending on where the project is to locate. 	<ul style="list-style-type: none"> • Consultant • NEMC/ZEMA
	Approval of Application for Environmental Clearance of a Sub-project.		<ul style="list-style-type: none"> • Procurement specialist (PS-PIE); SSS-PIE; Local authority 	<ul style="list-style-type: none"> • NEMC; ZEMA • The Bank
	Disclosure of the document		Project Coordinator	<ul style="list-style-type: none"> • PIE-Media; The Bank; supervising engineer.
5.	Integrating the construction phase mitigation measures and E&S clauses in the bidding document prior they're advertised; (ii) ensuring	Technical staff in charge of the sub-project (TS-PIE)	<ul style="list-style-type: none"> • ESS-PIE; PS-PIE; Supervision Consultant(if any) 	Contractor. NEMC ZEMA

	that the constructor prepares his ESMP (C-ESMP), gets it approved and integrates the relevant measures in the works breakdown structure (WBS) or execution plan.			
6.	Implementation of the other safeguards measures, including environmental monitoring (when relevant) and sensitization activities	ESS-PIE	<ul style="list-style-type: none"> • SSS-PIE, PS-PIE; TS-PIE; Financial Staff (FS-PIE); Local authority 	<ul style="list-style-type: none"> • Consultant; National specialized laboratories;
7.	Oversight of safeguards implementation (internal)	SSES	<ul style="list-style-type: none"> • Monitoring and Evaluation specialist (M&E-PIE); FS-PIE; Relevant Local Government Authorities in Tanzania and Zanzibar. 	<ul style="list-style-type: none"> • NEMC, ZEMA
	Reporting on project safeguards performance and disclosure	Coordinator	<ul style="list-style-type: none"> • M&E-PIE; ESS-PIE; SSS-PIE 	NEMC, ZEMA
	External oversight of the project safeguards compliance/performance	PEA	<ul style="list-style-type: none"> • M&E-PIE; ESS-PIE; SSS-PIE; PS-PIE; Supervisor 	NEMC,ZEMA
8.	Building stakeholders' capacity in safeguards management	ESS-PIE	<ul style="list-style-type: none"> • SSS-PIE; PS-PIE 	<ul style="list-style-type: none"> • Consultant • NEMC,ZEMA or any qualified public institutions
9.	Independent evaluation of the safeguards performance (Audit)	ESS-PIE	SSS-PIE; PS-PIE	Consultant

Annex 6: Some Pictures Showing Consulted Stakeholders



Zanzibar Meeting at Kaskazini Unguja



Meeting with Njombe Regional Commissioner.



Discussion with Njombe Region Agriculture Advisor (Left) and with Wanging'ombe Senior Officials in Agriculture and Environment (Right).

In



MEETING WITH MVIWATA
MANAGEMENT

Annex 7: Attendance Register for Consulted Stakeholders



THE UNITED REPUBLIC OF TANZANIA
 ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF) STUDY
 FOR FOOD SYSTEMS SUPPORT PROJECT (FSSP)
 LIST OF CONSULTED STAKEHOLDERS



S/N	Names/Jina	Institution/Faasisi	Title/Chao	Phone/Simu	Signature/Sahihi
1.	Stephan A Ruvugwa	MWIZATA	CEO	07887389247	[Signature]
2.	REMY URID	MWIZATA	PO (Market MFI)	0156980557	[Signature]
3.	Theodore Pius	MWIZATA	HEAD OF PROGRAM	0718 082020	[Signature]
4.	Dr. Rozalia C.A	RS - Morogoro	PHD - Ec	0782484211	[Signature]
5.	Vivance Segge	RS - Morogoro	Agri Manager	0786 - 480302	[Signature]
6.	Anthony Mtebe	LC - Njombe		0786414825	[Signature]
7.	DEO P Mwanuka	MP - Njombe	MP	0747555949	[Signature]
8.	Elvis S. Nyambika	MP - Njombe	MP	0655101205	[Signature]
9.	Wilson Joel	RS - Njombe	RAA - Njombe	0759976784	[Signature]
10.	Bernadeta Fivawo	DAICO	Wangigondede	0784 870409	[Signature]

S/N	Names/Jina	Institution/Oasisi	Title/Chuo	Phone/Simu	Signature/Sahiti
11.	MATHEM A. MURIDI	BSGD - WTC	BSGD	0767 140471	
12	KASUKU DAVID	WATERWELFARE	DEPUTY	0755 635234	
13	EVIDIA F. MURUGA	MVWATA	PRODUCER OFFICER (BANK BUSINESS DIV)	0769 0719 40	
14	LAMELA MLIHWA	Murukia	MRE OFFICER	076689286	
15	UKURUMU A. USU	ASFA MRAIB KAKI B'	MRAIBU 'B'	0792 959 993	
16	FATMA BAKAR RISHA	AFISA HABARI	KASKAZINI "B"	0799 74 1845	
17	KHAMUS FOUW KHAMUS	AMRIBU KASK A'	KASKAZINI 'A'	0777431831	
18	TUMA KOKA MASI	UJUMU	DADD 'K'	0777878337	
19	MUSUN P. JESSE	MVWATA	KASKAZINI 'A'	0792-421074	
20	MURUKU IMANI AU	AJILAUUKU	KASKAZINI 'A'	077165171	
21.	SULEIMAN A. HAWA	UKUMU - B	AFISA UTAFITI	0716 298161	
22	SEIF SITI MALIYI	UKUMU	KARIBU UKUMU	0772 268306	