AFB/PPRC.34/Inf.21
11 September 2024

Adaptation Fund Board
Project and Programme Review Committee
Thirty-fourth Meeting
Bonn, Germany, 8-9 October 2024

PROPOSAL FOR ESWATINI

ADAPTATION FUND BOARD SECRETARIAT TECHNICAL REVIEW OF PROJECT/PROGRAMME PROPOSAL

PROJECT/PROGRAMME CATEGORY: Regular-sized Project Concept

Country/Region: Eswatini
Project Title: Strengthening Agro-Ecosystem Adaptation for Sustainable Livelihoods within Landscapes (SEASL)
Thematic Focal Area: Ecosystem Based Adaptation
Implementing Entity: International Fund for Agricultural Development (IFAD)
Executing Entities: Food and Agriculture Organization (FAO)
AF Project ID: AF00000395
IE Project ID: **Requested Financing from Adaptation Fund (US Dollars): 10,000, 000**
Reviewer and contact person: Alpha Kalonga **Co-reviewer(s):** Neranda Maurice-George
IE Contact Person:

Technical Summary	The project "Strengthening Agro-Ecosystem Adaptation for Sustainable Livelihoods within Landscapes (SEASL)" aims to contribute towards reducing climate and human induced vulnerability of the agroecosystems of the Lubombo and Ngwempisi Landscape communities of Eswatini by increasing adaptive capacity of key local institutions and actors, through the deployment of good land, ecosystem management and climate resilient practices. This will be done through the four components below: Component 1: Participatory and gender sensitive Capacity development within landscapes and rangelands (USD 721,450); Component 2: Strengthen multi-stakeholder institutional collaboration (public, private & communities) for strategic implementation of agroecosystem-based adaptation (USD 550,000); Component 3: Stimulate climate-adaptive investments in integrated ecosystems (forest, wetlands and rangeland rehabilitation) (USD 4,068,250); Component 4: Upscale climate adaptive technologies for agroecosystems and sustainable alternative livelihoods (USD 2,770,000).

	Requested financing overview: Project/Programme Execution Cost: USD 940,800 Total Project/Programme Cost: USD 9,050,500 Implementing Fee: USD 949,500 Financing Requested: USD 10,000,000 The initial technical review raises several questions, such as the proposal of fully unidentified activities (USPs), the lack of duplication with existing projects, the project's cost-effectiveness, and compliance with the AF ESP, as is discussed in the number of Clarification Requests (CRs) and Corrective Action Requests (CARs) raised in the review. This second technical review finds most of the issues from the initial review have either been only partially addressed or not addressed including on cost-effectiveness, compliance with AF ESP etc. as reflected in the various CRs and CARs raised in the review.
Date:	August 27, 2024

Review Criteria	**Questions**	**First Technical Review Comments (July 18,2024)**	**Second Technical Review Comments (August 27, 2024)**
Country Eligibility	1. Is the country party to the Kyoto Protocol, or the Paris Agreement?	**Yes.**	**-**
	2. Is the country a developing country particularly vulnerable to the adverse effects of climate change?	**Yes**. Increases in temperatures and decreases in precipitation, leading to droughts, affect local agroecosystems and, thus, the population that depends on them.	**-**
Project Eligibility	1. Has the designated government authority for the Adaptation Fund endorsed the project/programme?	**Yes**. As per the Endorsement letter dated January 8th, 2024.	**-**
	2. Does the length of the proposal amount to no more than Fifty pages for the	**Yes.**	**-**

	project/programme concept, including its annexes?		
	3. Does the project / programme support concrete adaptation actions to assist the country in addressing adaptive capacity to the adverse effects of climate change and build in climate resilience?	**Unclear.** The project supports the restoration of wetlands, rangelands, and forests by investing in monitoring systems, supporting stakeholder coordination, promoting ecosystem-based adaptation interventions, and incentivizing climate-smart agriculture and alternative livelihoods. **CR1:** The project seeks to support ecosystem-based restoration infrastructure and incentivize climate-smart agriculture for improved productivity. However, it is unclear what kind of actions will be implemented and how would they address the climate risks that have been identified. There is a lack of information on where the activities will take place. Component 3 requires 4.2 million, while Component 4 requires 2.8 million; these are significant amounts of funds to finance activities that have not been sufficiently identified nor have a specific location where they can be implemented (USPs). Please be advised that fully unidentified activities are not allowed, and there is no justification for why it would not be possible to identify	**CR1: Mostly.** Please reflect the stated changes in tracked change in the document.

		these activities at the time of project formulation. Kindly refer to the Fund's revised guidance on USP available here: https://www.adaptation-fund.org/wp-content/uploads/2021/05/Updated-guidance-on-USPs-.pdf **CR2**: The concept note does not clearly state several of the project activities. For example, activity 4.2.2.2 states, "Support climate smart mechanization to promote adoption of conservation agriculture for agroecosystems recovery for improved resilience." It is unclear which actions will be taken. Kindly revise throughout the document. **CR3:** Kindly clarify which institutional arrangements and regulatory and policy frameworks will be supported (Activity 1.1.1.3) and how this will be achieved. **CR4:** Kindly clarify the participatory dimension of Component 1, as per its title. **CR5**: The concept note indicates that assessments will be carried out under component 1; kindly clarify how many. Also, will the assessments focus on particular	**CR2: Mostly.** Please reflect the changes in tracked changes in the document. **CR3: Mostly.** Please reflect the changes in tracked changes in the document. **CR4: Mostly.** Please reflect the changes in tracked changes in the document at para 40. Additionally, there is an updated in term of legislation. Please update the proposal to seek compliance with Environment Management Act, 2002 instead of

		regions, or will it be one national assessment? **CR6:** Output 3.2.1 seems to focus on GHG mitigation, with adaptation co-benefits. Kindly clarify. **CR7:** Please explain which is the grant mechanism in Component 3 (mentioned under Outcome 3.2). What exactly will it fund, what would be the size of the grants, and what conditionalities? **CR8:** Please explain what kind of water reservoir establishment will be promoted (Activity 3.2.22) and how this will be aligned with environmental concerns and adaptation benefits. Likewise, which nature-based solutions will be used for water protection infrastructure? **CR9:** Please provide further details on the grant mechanism of Output 4.2.2. Will this be a monetary or in-kind grant mechanism? How many grants will be granted? What will be the size of the grants? What will be the conditions?	Natural Resources Management Act 1957. The Environment Management Act, 2002 to provide and promote the enhancement, protection and conservation of the environment, sustainable management of natural resources and matters incidental thereto. **CR5: Mostly.** Please reflect the changes in tracked changes in the document at para 36. **CR6: Mostly.** Please reflect the changes in tracked changes in the document at para 57. **CR7: Mostly.** Please reflect the changes in tracked changes in the document at para 56. **CR8: Not cleared.** Please update the proposal document to reflect the change indicated in the review sheet that was made at para 56 related to this comment. **CR9: Mostly.** Please reflect the changes in tracked changes in the document at para 69.

	4. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Unclear.** The project aims to support rural subsistence farmers living in the buffer zone communities of the core protected areas of the Ngwempisi and Lubombo Landscapes of Eswatini. However, the proposal does not provide sufficient information regarding the beneficiaries of the project, the specific areas it aims to target (e.g., villages, communities), and how the project components directly contribute to the stated environmental, social, and economic benefits. The description of benefits offered in the concept is general and lacks specificity. The concept note includes an initial gender analysis. The project aims to empower women and youth by training them to develop their entrepreneurship skills. **CR10**: Please indicate the number of direct and indirect beneficiaries, disaggregated by gender. **CR11:** Kindly provide a more nuanced description of the	**CR10: Mostly.** Please indicate the information on the number of direct and indirect beneficiaries, which is currently in the response sheet at para 75 of the proposal document, under Part II Section B as well as at Annex 1 under the target information in row 1. **CR11: Not cleared.** While the proposal does provide some concrete figures, particularly for livestock and beekeeping, it lacks similar detail for other key activities. A more nuanced economic benefit description would include more comprehensive data, projections, and analysis across all proposed interventions and their potential economic impacts. Please provide additional information on the baseline economic data for comparison, the projected economic impacts at different scales (individual, household, community, landscape, the Cost-benefit analysis of the proposed interventions and the projected long-term economic impacts beyond the

		economic benefits claimed, providing quantifiable information, if possible. **CR12:** Please explain how wetland restoration will improve water portability. **CR13**: The concept note indicates that the adoption of short-maturing varieties of crops will enhance food security in the country. Please explain where and how will output 4.2.1 be implemented to support food security at the national scale. **CR14**: Please clarify how the project will ensure the equitable distribution of benefits to vulnerable communities, households, and individuals. **CR15**: The initial gender analysis provides a general understanding of women's role in agriculture and the challenges they face in Eswatini. Kindly include more details on gender dynamics in Ngwempisi & Lubombo, particularly insights based on the consultations carried out.	project timeframe (5-10 years post-project) **CR12: Not cleared.** Though, the proposal does explain the general mechanism by which wetland restoration can improve water portability, it could benefit from more detailed, scientifically backed information and specific plans for measuring and ensuring improved water quality. Please provide more information on specific scientific data or case studies to support these claims, quantifiable estimates of how much water quality might improve, details on the types of pollutants that would be filtered out and information on how the improved water quality would be measured or monitored. **CR13: Mostly.** Please reflect the response sheet information in the proposal in order to strengthen the proposal. **CR14: Partly.** The proposal demonstrates awareness of the need for equitable distribution and outlines some strategies to achieve this.

			However, the explanation of how equitable distribution will be ensured could be more comprehensive and specific. 1. Kindly provide more specific details on how beneficiaries will be selected. 2. Please also explain the exact mechanisms for ensuring participation of vulnerable groups in decision-making and clarify how conflicts or competition for benefits might be managed. 3. Please specify how the project will reach the most isolated or marginalized individuals within communities. **CR15: Partly.** The proposal does provide some insights on gender dynamics based on consultations, it could benefit from a more in-depth analysis and landscape-specific details to better inform the project's gender-responsive approach. To do so, kindly provide more detailed, landscape-specific gender dynamics, including more quantitative data on gender disparities in each landscape. Please provide more insight on how gender dynamics differ between Ngwempisi and Lubombo and explain how the project will address gender-specific climate vulnerabilities in each landscape.

	5. Is the project / programme cost effective?	**Unclear.** The concept note explains the project's cost-effectiveness in comparison to a baseline scenario; however, this needs to be compared to alternative adaptation actions. Further, the combination of USPs and unclear project benefits renders it impossible to appreciate the project's cost-effectiveness at this stage. **CR16:** Kindly explain the project's cost-effectiveness in comparison to alternative adaptation options to the proposed measures including costs. Please provide a detail account for this comparison.	**CR16: Partly.** Efforts have been made to address cost-effectiveness, however there are still significant gaps. For instance, the proposal does not clearly state which components or activities might be considered USPs. This makes it difficult to assess how the project will manage the risks associated with USPs. The proposal lacks the required justification for their use, as outlined in the USP guidance. Further the proposal mentions developing an Environmental and Social Management Plan (ESMP), but does not provide details on how this will address potential USPs. The same applies for how potential USPs will be monitored and reported on during project implementation. 1. Kindly clearly identify any intended USPs and provide justification for the use of USPs, if any. 2. Kindly explain how the ESMP will address potential USPs and outline monitoring and reporting procedures for USPs

			3. Please provide more detailed information to justify the cost effectiveness of the proposed measures. Explain why the proposed interventions represent the most cost-effective approach to achieving the desired adaptation outcomes and provide quantitative estimates, where possible, of the expected benefits of the project interventions compared to the baseline scenario. <u>Additionally, more detailed analyses including quantitative comparison of the cost-effectiveness of the proposed measures with alternative adaptation measures is needed in the fully developed proposal.</u>
	6. Is the project / programme consistent with national or sub-national sustainable development strategies, national or sub-national development plans, poverty reduction strategies, national communications and adaptation programs of action and other relevant instruments?	**Yes, but more information is needed.** The concept note states the project's alignment with Eswatini's national adaptation plan, the national development plan, and the national biodiversity strategy, it revised nationally determined contribution, and its food security policy, among others. **CR17:** The concept note indicates alignment with the national adaptation plan – NAP (kindly provide the link to the document as it is not accessible on the	**CR17: Cleared.** Based on information in the review sheet and in the amendment in the proposal document at para 87.

		UNFCCC website). Please also indicate the key dimensions of Eswatini's NAP that are related to the project, and describe how the project supports these.	
	7. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?	**Unclear.** The concept note includes a list of relevant Acts and explains how the project supports their goals. **CR18:** Please identify national technical standards that must be followed to implement project activities, and explain how the project will comply with them. Such standards may include Environmental Impact Assessments (EIAs), building codes, water quality regulations, agricultural and forest regulations, and any other sector-specific standard or regulation.	**CR18: Mostly.** Please reflect the changes in the section in tracked changes.
	8. Is there duplication of project / programme with other funding sources?	**Yes, but more information is needed.** **CR19:** The concept note has identified upcoming projects and clarified their complementarity and lack of overlap. However, a limited number of identified projects are under implementation or completed. Lessons and the lack	**CR19: Cleared.** Based on amendment to para 108. **CR20: Cleared.** Based on clarification in response sheet.

		of overlap should be identified with these projects too. **CR20**: Kindly also assess complementarity and lack of overlap with 1) GEF-FAO project concept: Catalyzing transformation to sustainable food systems in Eswatini; 2) GEF-IFAD project: Food-IAP: Climate-Smart Agriculture for Climate-Resilient Livelihoods (CSARL). **CR21:** Kindly explain how the project complements and avoids overlap with the Financial Inclusion and Cluster Development Project (FINCLUDE).	
	9. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	**Partially.** The project contains some knowledge management activities across project components to assess ecosystem vulnerabilities, raise awareness, and train stakeholders in climate adaptation. However, it is unclear what lessons the project intends to generate, what the unknowns are, and how it will identify and evaluate them. **CR22:** Kindly explain the specific activities that will take place to gather and disseminate lessons from the project itself. Also, clarify	**CR22: Not cleared.** Please outline specific activities for systematic lesson gathering (e.g., regular after-action reviews, case study development) and also kindly provide detail on the process for analyzing and synthesizing lessons. Please clarify how lessons will inform adaptive management of the project and explain how lessons will be shared with relevant stakeholders, including other projects and policymakers.

		which lessons the project intends to generate and how these will be valorised. Further, a more detailed explanation of the plans to learn from relevant projects, programs, initiatives, and evaluations is expected at the developed proposal stage.	
	10. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	**Partially.** The proponents have carried out an initial consultation process with some institutional stakeholders, and community members from the Ngwempisi and Lubombo landscapes. **CR23**: Kindly describe the main topics discussed during the consultations with ministries and stakeholders, including the working groups, and the issues raised per type of organization. **CAR1:** The images detailing the consultations' topics in Annex 2 are unreadable. Kindly revise.	**CR 23: Partly.** The proposal provides some information about consultations with ministries and stakeholders, including working groups. However, the level of detail varies, and it doesn't consistently describe the main topics discussed or issues raised per type of organization. 1. Please provide more specific information on how the issues raised were addressed in the project design, including a summary of any conflicting views or concerns that were expressed and how they were resolved. Kindly provide consistent detail on the main topics discussed and issues raised for each type of organization or stakeholder group. 2. Please provide a comprehensive overview of gender balance across all consultations, not just

			the landscape-level ones and kindly further explain any measures taken to ensure women's active participation in consultations. Please describe how women's perspectives have influenced the project design. **CAR1: Not addressed.** The pictures of the list of participants are still illegible. Please address.
	11. Is the requested financing justified on the basis of full cost of adaptation reasoning?	**Unclear.** The concept note provides a limited explanation of the full cost of adaptation compared to a baseline scenario but only focuses on certain project outputs. In addition, using USPs renders such considerations impossible at this stage. **CR24**: Please further explain the full cost of adaptation. The justification should provide details on the baseline scenario, the additionality by project component, and how the requested financing is justified from this perspective. Also, see **CR1**.	**CR24: Partly.** The proposal does not provide a comprehensive explanation of the full cost of adaptation as per the requirements. While it does touch on some aspects of the baseline scenario and potential benefits of the project, it lacks a detailed justification of the requested financing from the perspective of additionality by project component. As mean of example, the proposal does not clearly articulate the additionality for each project component. While it mentions some benefits of the project interventions, it doesn't explicitly compare these to the baseline scenario for each component. 1. Please provide a detailed justification of the requested financing from the perspective of

			additionality by project component.
	12. Is the project / program aligned with AF's results framework?	**Largely yes.** The project is aligned with AF outcomes 2, 3, 4, and 6. However, once the adaptation actions are detailed (see CR1), it will be clearer to assess.	**CAR2 (NEW): Partly.** At tables 9 and 10 please number the AF outputs and outcome and output indicators as required.
	13. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	**Partially.** **CR25**: Please clarify which land-related policies, legislation, and investments will be targeted to support sustainable land management and climate-smart agriculture. Which project component will ensure these changes? **CR26**: Given that the project will invest in nature-based infrastructure, what arrangements would be set to ensure its maintenance and operability after the project finishes? **CR27**: Kindly clarify how the need for grants will be addressed after the project finishes.	**CR25: Partly.** The project does mention some land-related policies and legislation, but it does not provide a clear and comprehensive explanation of which specific policies, legislation, and investments will be targeted to support sustainable land management and climate-smart agriculture. The information provided is somewhat scattered throughout the document. It also does not clearly articulate how these components will directly lead to changes in policies, legislation, or investments related to sustainable land management and climate-smart agriculture 1. Please list specific policies, legislation, and investments that will be targeted for change or improvement and explain which

			project components or activities will directly contribute to these policy and legislative changes. 2. Please also provide more details on how the project will support the implementation of existing policies related to sustainable land management and climate-smart agriculture. **CR26: Cleared for this stage**. In the fully developed proposal please ensure that a detailed maintenance plan for each type of nature-based infrastructure and define clear roles and responsibilities for post-project maintenance is provided. A plan for long-term monitoring and adaptive management and explain how maintenance will be integrated into existing government systems and budgets is provided. **CR27: Cleared.** Based on insertion of paragraph 119 in the concept note as well as clarification in response sheet on paragraph 48.
	14. Does the project / programme provide an overview of environmental	**Unclear.** The concept note indicates that the project is category B. The proponent has	**CR28:** The current version does not adequately explain or substantiate risks as per the AF ESP policy. It does not

	and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	provided a limited assessment of unnamed risks against the 15 AF principles. However, given the lack of specification of beneficiaries and the geographical scope of the proposal (USPs), the screening provided does not consider the possibility of risks. **CR28:** The proposal does not explain the risks per se; rather, it explains why there are no risks. Once project beneficiaries and sites are defined, please explain risks in detail and substantiate their grading—this applies to the 15 principles. This should follow the AF ESP policy.	adequately explain the risks per se for each of the 15 principles of the Adaptation Fund's Environmental and Social Policy (ESP). Instead, it tends to focus on why there are no risks or provides limited information on potential risks **1.** Please provide a detailed risk assessment - not just focusing on mitigation measures-. for each of the 15 principles, even if the risk is considered low and include a plan for conducting a more thorough risk assessment once project beneficiaries and sites are fully identified. **2.** Kindly provide a clear commitment to reassessing risks throughout the project lifecycle and also explain how stakeholders will be involved in the risk assessment and management process.
Resource Availability	1. Is the requested project / programme funding within the cap of the country?	**Yes.**	**-**
	2. Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?	**Yes.**	**-**

	3. Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?	**Yes, but further details are needed.** **CR29:** Please update the numbering Component 4 in Table 3. Also, in Total Activity Costs, it should be from Component 1 to 4.	**CR29: Cleared.**
Eligibility of IE	1. Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?	**Yes, but more information is needed.** **CAR2:** The IE certification has no signature. Please revise.	**CAR2: Not Cleared.** The IE certification has no signature. Please address.
Implementation Arrangements	1. Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?	n/a at concept stage	
	2. Are there measures for financial and project/programme risk management?	n/a at concept stage	
	3. Are there measures in place for the management of for environmental and social risks, in line with the Environmental and Social Policy and Gender Policy of the Fund?	n/a at concept stage	
	4. Is a budget on the Implementing Entity Management Fee use included?	n/a at concept stage	

	5. Is an explanation and a breakdown of the execution costs included?	n/a at concept stage	
	6. Is a detailed budget including budget notes included?	n/a at concept stage	
	7. Are arrangements for monitoring and evaluation clearly defined, including budgeted M&E plans and sex-disaggregated data, targets and indicators, in compliance with the Gender Policy of the Fund?	n/a at concept stage	
	8. Does the M&E Framework include a break-down of how implementing entity IE fees will be utilized in the supervision of the M&E function?	n/a at concept stage	
	9. Does the project/programme's results framework align with the AF's results framework? Does it include at least one core outcome indicator from the Fund's results framework?	n/a at concept stage	
	10. Is a disbursement schedule with time-bound milestones included?	n/a at concept stage	

CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project:	Strengthening Ecosystem-based adaptation for Sustainable Livelihoods within Landscapes (SEASL)
Country:	Eswatini
Thematic Focal Area:	Ecosystem Based Adaptation
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	International Fund for Agricultural Development
Executing Entities:	Food and Agriculture Organisation
Amount of Financing Requested:	US **10,000,000** (in U.S Dollars Equivalent)

Project Formulation Grant Request (<u>available to NIEs only</u>): Yes ☐ No ☐ ☒

Amount of Requested financing for PFG:

Letter of Endorsement (LOE) signed: Yes ☒ ☐ No ☐ ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☐ This concept has been submitted before

☐ This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: 12 January 2024

Please note that concept note documents should not exceed 50 pages, including annexes.

PROJECT / PROGRAMME BACKGROUND AND CONTEXT:

Location and Climate

1. The Kingdom of Eswatini, is a landlocked country situated in the south-eastern part of the African Continent, sharing borders with South Africa to the south, west and north and Mozambique to the east. The country is approximately 17, 364 km^2 in size located between the latitudes of 25º 43' and 27º 19'S and longitudes of 30º 47' and 32º 08' E (SOER). The mountainous country has varying landscapes, with a subtropical climate composed of wet summers and cool winters. There are four physiographic regions (Figure 1) in the country that extend longitudinally from north to south in coarsely parallel belts and from the east to west are the Lubombo escarpment, Lowveld, Middleveld and the Highveld (TNC). Weather conditions are generally cool and rainy in the Highveld, the Middleveld is warmer with rain, the Lowveld is hot and dry, and the Lubombo Plateau is warm and dry.

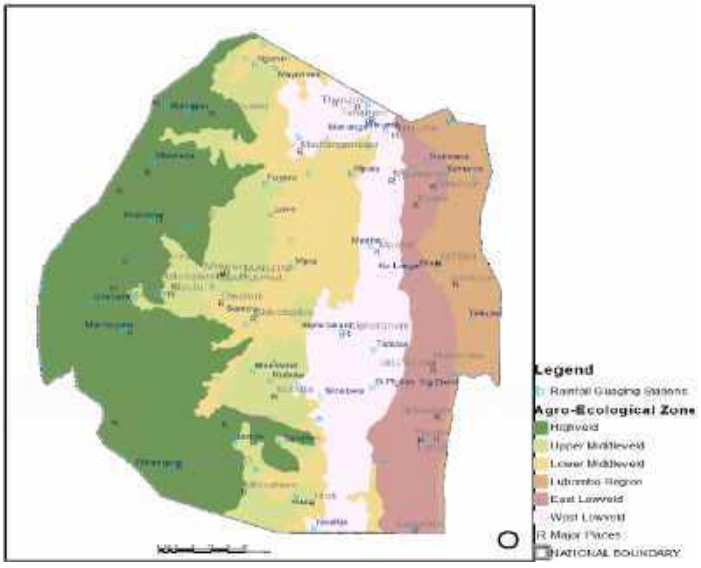

Figure 1: Eswatini Agroecological zones (TNC, 2016)

2. The altitude varies with each physiographic where the highest point is 1 862 m above sea level (in Bulembu), and the lowest point is at 21 m (where the Great Usutu River enters Mozambique) (NBSAP 2). The general climatic pattern of the country is wet hot summers (October to March) where about 75% of the annual rainfall is experienced during that period. Again, cold dry winters are experienced in April to September (TNC)[1].

3. Administratively, the country is divided into four regions namely, Hhohho, Manzini, Shiselweni and Lubombo. The Land tenure system in the country is classified into three categories as dictated by the country's history. The categories are Swazi Nation Land (SNL) which covers about 75% of the area, the Title Deed Land and Crown Land jointly cover the remaining 25% (NBSAP).

Biophysical Environment

4. The Kingdom of Eswatini is at the centre of the major climatic zone transition, which is caused by different air masses exhibiting different patterns of origin. The country's location is the equatorial convergence zone causing summer rains, again the subtropical eastern continental moist maritime causes onshore flow leading to occasional cyclones and the dry continental tropical and marine west Mediterranean conditions cause winter rains, with rare snow. The multi-scale interactions of weather producing systems and the country's varying topography leads to highly variable weather patterns at intra-seasonal to inter-annual timescales. The multi-scale interactions in Eswatini lead to distinct and regular weather characteristics such as droughts, floods, extreme temperatures, veld and forest fires, lightning, and hailstorms. Notably, over a decade the intensity and frequency of extreme weather events such as droughts and heat waves have been observed to be on the rise. The Highveld for instance, has high incidences of thunderstorms characterized by ground lightning flash densities of more than 12 flashes/km^2/year that occur during the austral summer.

[1] Swaziland's Third National Communication (TNC) to the United Nations Framework Convention on Climate Change (UNFCCC), 2016. https://unfccc.int/sites/default/files/resource/swznc3.pdf.

These intense thunderstorms are associated with weather systems of both tropical origin which at times include passages of tropical cyclones from the southwest Indian Ocean and extra-tropical origin and their interactions (TNC).

Temperature

5. Generally, the Lowveld region is hot and dry while the Highveld region is cool (Figure 2) and wet (TNC). An analysis of the temperature daily maximum and minimum ranging from 1961 to 2010 has revealed that the temperature extremes show patterns consistent with warming over most of the country in the last decade. Minimum temperatures have been found to have increased more rapidly when compared to the maximum temperatures. In general, the highest temperatures are experienced in the Lowveld region, which is in the low-lying areas in the eastern part of the country. In this region the diurnal cycle can be large, with extremely high daytime maximum temperatures exceeding 35°C. Over the last three decades from the 1990s, temperatures are higher when compared to the 1970s and 1980s. This is formed by data showing that in the 1970s, temperatures rarely exceeded 34°C in the Lowveld which is the hottest region in the country. However, in the past three decades, the frequency of very hot days exceeding 34°C has increased.

6. The lowest temperatures are found in the high-altitude areas of the Highveld region, which is mostly the western parts of the country, where temperatures do go below 0°C in winter. Worth noting is that the frequency of cold nights and frost has decreased, whilst the frequency of hot nights has increased. Places such as Mbabane in the Highveld have shown an increase in the number of hot nights where the frequency increased by 27% between 1960 and 2004 during the winter seasons.

   Climate change indicators in the country have shown upward trends in the annual mean, maximum and minimum temperatures across the different regions in recent decades (TNC). Weather pattern projections for the Kingdom of Eswatini illustrate it will continue to get warmer and shall be characterised by increased mean temperatures.
   a. Increased frequency of hot days; and,
   b. Decrease in cold days and nights (TNC).

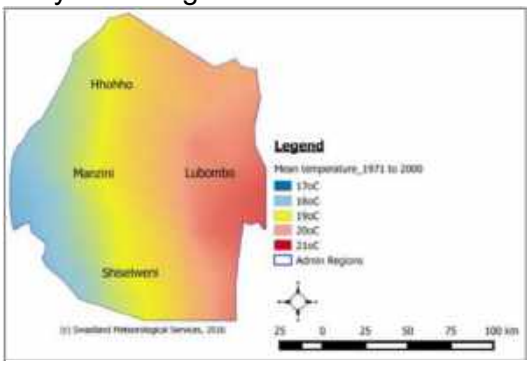

Figure 2: Eswatini Mean Temperatures

Precipitation

7. Most of the country's rainfall is received in the summer months, mainly between October and March. Evidently there is a large difference in the amount of rainfall experienced in the Lowveld (eastern) and Highveld (western) parts of the country. The mean annual rainfall of up to 1 500 mm is received in the northern Highveld and up to 500 mm in the southern Lowveld. This is directly influenced by the topography and the direction of the prevailing winds. It has been noted that precipitation varies considerably from year to year, which leads to an increased incidence of flash flooding or drought. The high recorded rainfall variation makes it difficult to identify trends with a high degree of certainty. Drought is an inherent feature of the current semi-arid climate and rainfall levels have consistently reduced over the last two decades (2000-2020) (TNC).

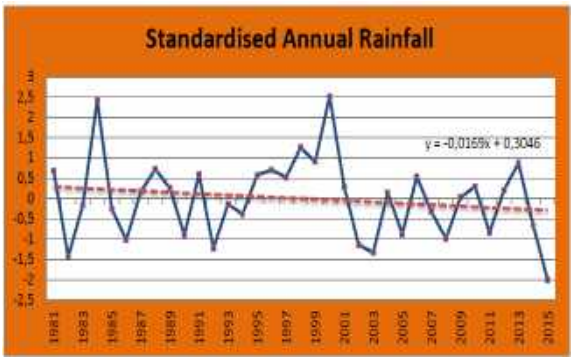

Figure 3: Standardised annual rainfall from 1981 to 2015

8. Rainfall trends in the country point towards a decrease in the number of rainy days, which has an implication on the intensity of rainfall events and dry spell duration. Apart from changes in total or mean summer rainfall, certain intra-seasonal characteristics of seasonal rainfall such as onset, duration, dry spell frequencies and rainfall intensity as well as delay of rainfall onset has changed over the country. The analysed available rainfall record for the country (1970 - 2010) indicates an increase in inter-annual rainfall variability in the post-1970 periods with an increase on average of dry spell length (TNC). Rainfall will continue to be uncertain and difficult to predict and projections show that it will exhibit characteristics of,
    1. An increased number and frequency of dry spells during the summer season especially between October and February (farming season).
    2. A decrease in the number of frost days in the Highveld region; and,
    3. An increase in the number of days with more than 20 mm of rainfall (TNC).

Ecosystems

9. Eswatini has four important ecosystems, these are the Montane grasslands, Savanna-woodland mosaic, Forests and Aquatic systems. The Montane grasslands are in the Highveld, the Savanna-woodland Mosaic is in the Middleveld and Lowveld while the Forests are mainly in the Highveld and the Lubombo mountains.

10. Climate change is projected to result in increased temperatures by 3 to 4 °C and reductions in precipitation within the next few decades. This will exacerbate the effects of all other pressures by reducing both terrestrial and aquatic ecosystems. In addition to contractions of suitable bio climates, shifts are also projected, either way these vegetation changes will most likely result in the creation of novel plant communities. This will have adverse effects for species existing under current bioclimates and will render protected areas with static boundaries inefficient in protecting species maintained within their boundaries.

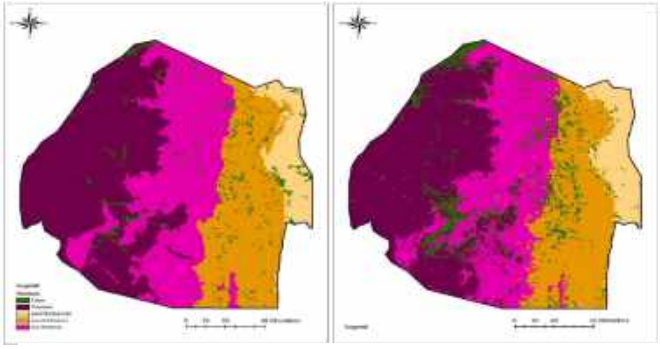

Figure 4: Baseline (left) and ecosystem assimilation.

11. Climate change is also expected to promote the proliferation of Alien and Invasive Species (AIPS) and increase the spread of bush encroachment adding to the pressures already facing the biodiversity of Eswatini (SOER)[2]. This will affect rural communities in Eswatini that directly depend on local ecosystems products for most of their basic needs such as food, energy, water, medicinal and livelihood requirements. Research predicts that these ecosystems will be highly vulnerable to biome change in the future (Matondo, 2012)[3]. Many of the important impacts of climate change on biodiversity will be indirect at community and ecosystem levels, exacerbating existing stressors. In Eswatini, land use and cover change are both the cause and a consequence of climate change and is the major driver of current ecosystems and biodiversity

[2] Review and Update of the State of Environment Report (SOER), 2020. https://eea.org.sz/wp-content/uploads/2021/12/SOER-FINAL-DRAFT-08.01.2021-ISBN-WEB.pdf

[3] Assessing the Vulnerability of the Sector of Water Resources in Swaziland Due to Climate Change, Matondo (2012). https://www.researchgate.net/publication/268588775_Assessing_the_Vulnerability_of_the_Sector_of_Water_Resources_in_Swaziland_Due_to_Climate_Change.

change and a key cause of changes in freshwater ecosystems.

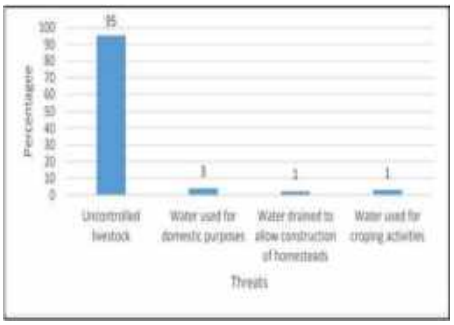

Figure 5: Threats to wetlands sustainability under Swazi nation land

12. The projected increase in the intensity and frequency of extreme weather events that relate to climate change, and its interaction with the patches of forest in the Lowveld will likely be depleted by the 2050s. This will be because of the increased temperatures and decrease in precipitation, which is coupled with the increasing human pressures. The grassland biome appears to be one of the biomes most at risk of significant climatic and human-induced change. Areas with a climate envelope suitable for grassland are projected to be greatly reduced and to persist only in the patches of highest altitude areas such as the western mountain peaks. The area with a climate envelope presently suitable for sour bushveld increases replacing some of the grassland climate envelope upslope albeit with uncertainty. It is highly likely though that the present ecosystem structure of the sour bushveld will shift towards more Lowveld bushveld structural characteristics as woodiness increases.

13. In the case of wetlands, the major threats of climate change are not the direct impacts on vulnerable species but rather due to changing fire regimes, overgrazing, increase in invasive species, farming, and overutilization (TNC). A large portion of the country's economy is heavily dependent on ecosystems services that are evidently degraded (grassland, savannah, forest, and aquatic) to support livestock ranching, horticulture and agriculture, use of medicinal plants and ecotourism (NBSAP)[4]. While there is still much to be done, Eswatini has taken strides towards better understanding challenges and setting the country to maintain species existences outside of current protected areas. Biodiversity and ecosystems are an interconnected system, the area and heterogeneity of available ecosystems determines the biodiversity (richness, abundance) an area can potentially sustain (SOER).

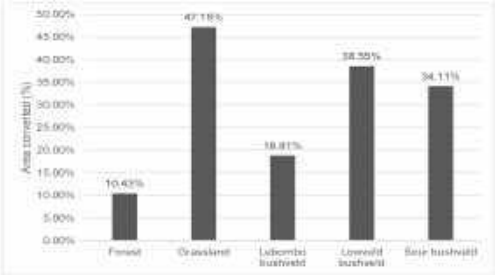

Figure 6: Ecosystems disturbance and conversion

14. The Aquatic ecosystem is made up of streams, rivers, and wetlands. Only a tiny fraction (just over 3%) of these ecosystems is legally protected highlighting the fact that these ecosystems and the biodiversity they harbour, are under threat. The threat includes the observed high grazing pressures, which when coupled with the effects of fire frequency tend to promote bush encroachment (SOER). The evidence shows that a lot of degradation that took place between 2000 and 2018 occurred within indigenous forests and woodlands. Cropland areas, specifically rain fed cropland, are also experiencing decline in productivity. This, however, should be attributed to the persistent periods of low rainfall in addition to other factors such as conversion of some cropland to settlements and other land uses.

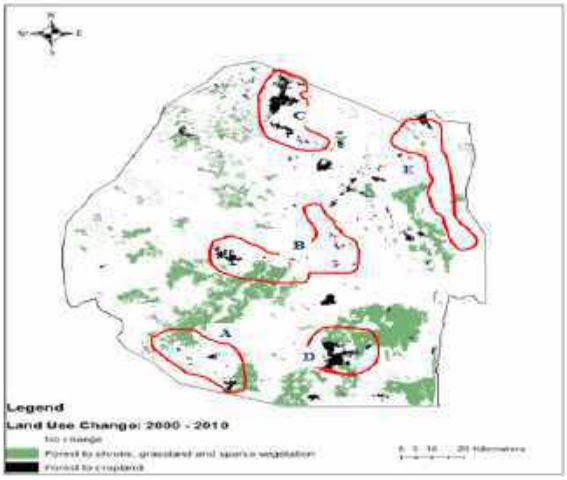

Figure 7: Five Land Degradation Hotspots for Eswatini

[4] Swaziland's Second National Biodiversity Strategy and Action Plan (NBSAP), 2016. https://www.cbd.int/doc/world/sz/sz-nbsap-v2-en.pdf

15. To some extent, grasslands are also declining (SOER). Studies conducted in Eswatini have revealed that potential drivers for land degradation mainly occur in land that is prone to desertification processes such as climate, relief, soil, and vegetation types. Land degradation in the form of deforestation is determined by an interaction of proximate and underlying factors primarily fuelwood use, human population density, human settlements, associated level of protection and land ownership status. Indeed, human activities can cause land degradation, and these include cultivation of fragile soils which are exposed to erosion, overgrazing, over exploitation of woody resources, uncontrolled fires, poor agricultural practices, irrigation schemes and irrigation of soils prone to salinization (SOER).

16. Wetlands are recognized as important features in the landscapes of Eswatini that provide numerous beneficial services for people and for fish and wildlife. Despite this value and benefits they remain threatened by several socio-economic activities. Several threats have endangered the wellbeing of the wetlands, and these include livestock trampling, climate change, overharvesting of resources, ecosystems conversion, alteration of stream flow, pollution, soil erosion, bush encroachment, uncontrolled grazing, uncontrolled grass fires, mismanagement of the wetlands (perpetuated by the absence of fencing) and the presence of alien invasive species. Fauna has mostly been affected by degradation of the wetlands because tortoises, snakes, ducks, and fish that were inhabitants of the wetlands, are not anymore. Again, the country is currently threatened by the decrease in the perennial surface drainage, which will have major impacts on river flows and soil-water content, with potential serious socio-economic repercussions in rural areas. The 2020 draft wetlands policy, strategy and action plan guide all national stakeholders on how to take action to conserve and wisely-use the country's precious wetlands.

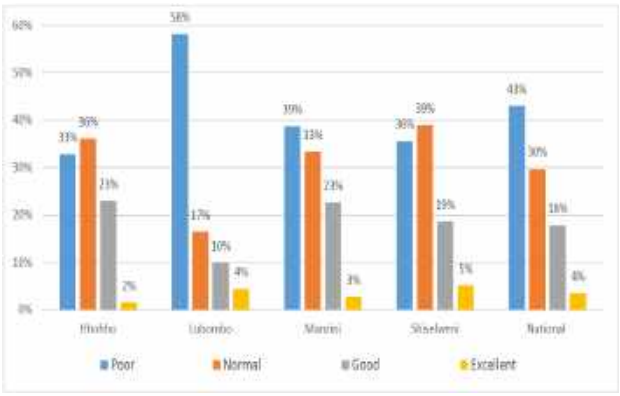

Figure 8: General national rangelands condition (VAC, 2017)

17. There is a necessity to advance actions towards protecting wetlands as soon as possible to restore the wetlands to their original state and functionality to harness and preserve all the wetlands' critical ecosystems services. There is also great interest from women groups who have expressed the desire to venture into handcraft projects that can be initiated by the availability of certain wetland plant species in

large amounts.

18. As a pilot, an initiative to cultivate climate change resilient communities, wetland rehabilitation and protection have been carried out in about 20 different communities in the country. Wetlands ecosystems were fenced and within 24 months they would return to their near optimal state. This offered an opportunity to generate alternative income for women through harvesting raw materials for handcraft, gardening, and traditional medicine (SNPAS 2018).

19. The project called strengthening national protected areas systems (SNPAS)[5] of Eswatini in 2020 established three integrated landscapes. Furthermore, the project developed the Lubombo Integrated Landscape Management Plan (LILMP), Ngwempisi Integrated Landscape Management Plan (NILMP) and Malolotja Integrated Landscape Management Plan (MILMP). To cement the implementation of the integrated landscapes they were registered as associations to manage affairs of ecosystems within the landscapes (SNPAS 2021).

Table 1: Aquatic ecosystems climatic change effects

MAJOR CHALLENGES WITHIN THE WATER SECTOR	ASSOCIATION TO CLIMATIC FACTORS
Decrease in ground water flows	Reduction in rainfall
Drying of small streams	Reduction in rainfall and extended drought
Decrease in ground water reserves therefore resulting in more dry boreholes	Intensity of rainfall in short space of time Lack of rainfall for the rest of the year
Decrease in water storage	Due to high intensity of rainfall in short space of time Inadequate management of springs , marshes , and wetlands as sources of water compromising their ability to filter and store water
Increase in water demand	Shortage of rainfall which has resulted in lower levels of water in dams and siltation Irrigation is the major user of water in the country and accounts for 96.6% of available supply. Irrigation is extensively used for growing sugarcane, citrus fruits, and vegetables. Due to climatic variables, most of the irrigation activities are located in the Lowveld region which also receives the lowest rainfall
Ground water recharge and quality	Decrease in rainfall and drought Groundwater recharge in the most critical areas of Swaziland is estimated at 2% in the Lowveld and 5% of annual rainfall in the Lubombo, however elsewhere going up to 20%. There is an increase in demand and use of the groundwater resources by communities in the rural and peri-urban areas.
Change in river morphology(fluvial geomorphology)	Flooding , Siltation ,drought Aquatic ecosystems are regulated by features and processes occurring at a range of spatial scales. At the largest scale, climate, geomorphology, and land use control channel morphology and stream hydrology, thermal regime and water chemistry, and biotic community structure. Climate changes influence anthropogenic activities causing environmental disturbances which result in : changes in the stream flow regime through dams or diversions non-point source runoff from agriculture, urban or mining areas alteration of channel characteristics via sedimentation or siltation removal of riparian zone vegetation introduction of exotic or alien species
Decrease water quality	Flooding and Siltation
Decreases in runoff and stream flow	Drought
Interference of water run-off and use of high volumes of water	Expansion of alien invasive species and bush encroachment

[5] Final Terminal Evaluation GEF 5 – Strengthening National Protected Areas System (SNAPAS) Project, 2021. https://erc.undp.org/evaluation/evaluations/detail/13302.

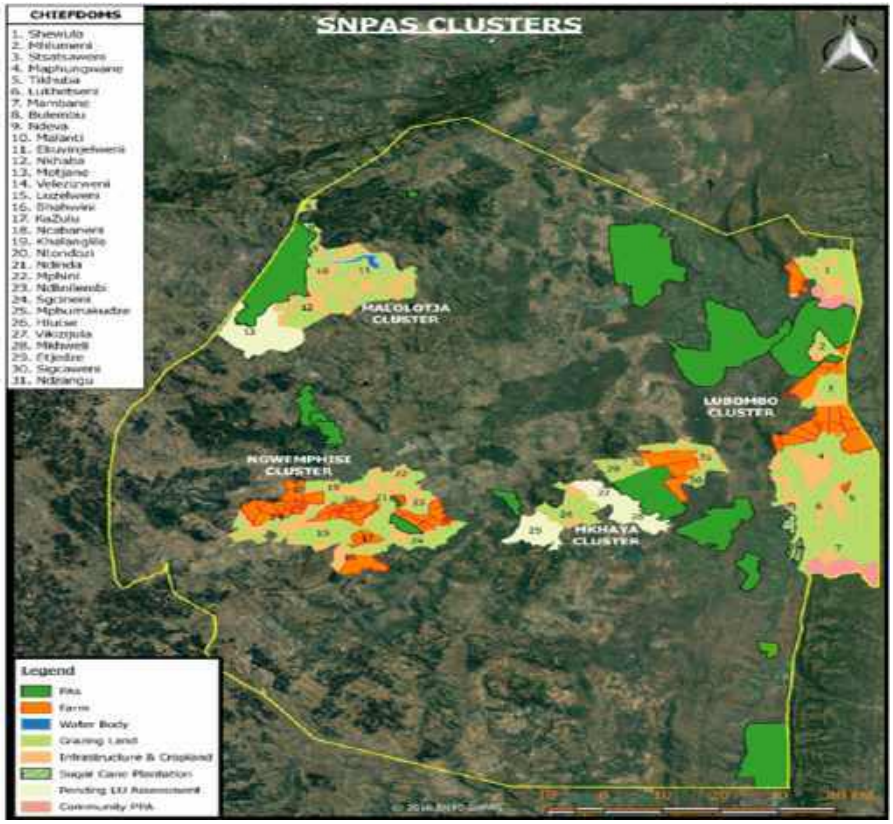

Figure 9: Landscape demarcations in Eswatini

Socio-economic context

20. According to the 2017 census report, the Eswatini population is estimated to be 1,106,451 and projections show that the population growth rate will be steady (1.2 per cent per annum) over the period from 2017 to 2038 (UNFPA, 2020)[6]. It is estimated that approximately 76% of the country's population lives in the rural areas (UNFPA, 2020). The situation is such that the country's development landscape is skewed, characterised by high inequality, unemployment, and poverty among the rural population. About 59% of the people live below the national poverty line and 20.1% live in extreme poverty (BTI, 2022). Approximately 70% of the population of which 60% of them are women, rely on subsistence farming in rural areas.

21. Gender roles and responsibilities especially in third world countries make women more vulnerable to environmental hardships. Changes in the environment may affect everyone but affect women and men differently (UNDP 2011). Men and women interact with the environment differently, and the perfect example is Eswatini. Like lower to middle-income states, women tend to be more involved in food preparation, which in essence requires resources from their environment including firewood and water. Wherein about 61% of Swazi National Land (SNL) farm holdings are less than one hectare in size, meaning that most farms are thus very small. The population increase is, in turn, exerting pressure on land availability for cropping and grazing, forcing households to produce crops on increasingly fragile lands (SOER).

22. Rural communities typically depend on climate sensitive sectors particularly agriculture as the basis for

[6] 2017 - 2038 POPULATION PROJECTION - Based on THE 2017 Eswatini Population and Housing Census, 2020. https://eswatini.unfpa.org/en/publications/eswatini-population-projections-report2017-2038.

their livelihoods. Apart from climate change, communities of this nature are exposed to various other challenges, notably the high prevalence of HIV/AIDS infections in the country. The unpredictability of climate change makes subsistence farming unreliable and about 58.9% of the population (in 2020) lives on less than the $1.90 poverty line, the majority of whom live in rural areas (BTI, 2022)[7]. In Eswatini, like many other developing countries, the percentage of women is higher than the percentage of men in the country (TNC). The overall socio-economic well-being of the people of Eswatini is dependent on the achievement of a balance between development and conservation, which involves sustainable use of biodiversity (NBSAP). Cattle are the main livestock in addition to other animal species such as goats, sheep, pigs and poultry. The contribution of the livestock sub-sector to the agricultural sector GDP is about 4%. Beef and other livestock products contribute about 1% to total exports.

23. Eswatini has two broad livestock production systems, namely the commercial system and the traditional system. A majority (86%) of the cattle and 95% of small stock are found on SNL (SOER). Eswatini has close economic ties to South Africa, where she depends on about 85% of its imports and about 60% of exports. Eswatini is a member of the Common Monetary Area (CMA). The country's economy rebounded in 2021, despite the continued COVID-19 pandemic. Real GDP growth was estimated at 2.1 percent in 2021 rising from a 1.9 percent contraction in 2020. The third and fourth COVID-19 wave containment measures were not as restrictive as those of earlier waves, allowing firms to ramp up production in 2021. Economic growth was supported by a strong performance in the manufacturing sector due to improved demand from key export markets following the easing of lockdown measures in key destination markets in the region. The vaccination campaign, which reached about 29.2 percent of the population at end March 2022, helped to contain the spread of the virus and eased uncertainties on both demand and supply prospects (https://www.worldbank.org/en/country/eswatini/overview#1).

24. The agriculture sector's contribution to the country's GDP dropped from 12.3% in 2000 to 8.8% in 2019, partly due to recurring climate change induced droughts. Eswatini has a relatively diverse economy dominated by the agriculture and manufacturing sectors. Agriculture, forestry, and mining account for about 13% of Eswatini's GDP whereas manufacturing (textile and related processing) accounts for about 37% of GDP (SOER). It is estimated that over 75% of smallholder farmers in Eswatini rely on rain-fed agriculture for their livelihoods, thus making them more vulnerable to climate change.

25. The exposure to droughts has resulted in the loss of both crop and livestock productivity in the country, highlighting the relationship between climate change and food insecurity. This indicates that climate change impacts in the agriculture sector are already being observed in the country and such trends are likely to persist in the future. Livestock and crops production under rain-fed conditions have declined by over 30% on average over the last years. This has been evident especially since 2011/2012 till date. This is mainly because of increase in temperatures and below normal rainfall which has seen the country experiencing recurrent droughts and prolonged dry spells over the last decade. This has resulted in the area under cultivation for various crops especially maize consistently decreasing. The country experienced the worst drought in 2015/16 season and area under cultivation reduced significantly further, by 64%, compared to the previous years. Eswatini's exposure to droughts and extreme temperatures has therefore resulted in the loss of both crop and livestock productivity, highlighting the relationship between climate change and food insecurity.

26. Efforts to understand and respond to climate change impacts in the agricultural sector have been made through regional and international pilot interventions, policy development and farm level adaptation strategies and programmes (TNC). Again, the country's forests and woodlands contribute to the economy and provide a range of goods to the country's population. For instance, a significant proportion (75%) of the country's population depend on firewood for energy (cooking and warmth), which is provided by the

[7] Bertelsmann Stiftung's Transformation Index (BTI) Country Report, 2022. https://bti-project.org/en/reports/country-dashboard/SWZ

country's forests. This dependence is widespread and only low in urban areas. This creates a lot of pressure on the forest resources, resulting in higher rates of consumption compared to the rate at which the forest can regenerate. Now Eswatini is experiencing a rural energy crisis where demand for household energy has outstripped supply. This combination of high demand aggravated by low end-use efficiency has contributed to forest degradation, rural poverty, and rural energy shortage. There are indications that fuelwood shortages exist in the Lowveld, Lubombo and parts of the Upper Middleveld as well as some parts of the Highveld, around dense settlements, and arable areas (SOER).

Human Development

27. According to the Human Development Report compiled by the United Nations Development Programme (2020), the Eswatini's Human Development Index value for 2019 was 0.611. This places the country in the medium human development category and positions it at 138 out of 189 countries and territories. The Kingdom of Eswatini has a gender inequality index (GII) value of 0.567, ranking it 143 out of 162 countries in the 2019 index. About 31.3% of adult women have reached at least a secondary level of education compared to 33.9% of their male counterparts, thus showing inequality in education (Table 2). Female participation in the labour market is 48.5% compared to 56.8% for men. About 19.2% of the population (218,000 people) are multi-dimensionally poor while an additional 20.9% are classified as vulnerable to multidimensional poverty (237,000 people).

Table 2: Inequality adjusted Human Development Index

	IHDI value	Overall loss (%)	Human inequality coefficient (%)	Inequality in life expectancy at birth (%)	Inequality in education (%)	Inequality in income (%)
Eswatini (Kingdom of)	0.432	29.3	29.0	25.1	24.1	37.9
Congo	0.430	25.1	24.9	22.8	20.9	31.0
Sub-Saharan Africa	0.380	30.5	30.5	29.7	34.1	27.6
Medium HDI	0.465	26.3	25.9	20.8	37.1	19.7

28. Notably, the country has made significant strides in human development concerning the review of environmental effects or developments brought about by anthropogenic activities. Humans need to interact with the environment to obtain food, water, fuel, medicines, building materials and many other things. Advances in science and technology have helped people to exploit the environment for their own benefit, but also introduced pollution and caused environmental damage. The impact of environmental problems on humans is significant, affecting all human activities, including health and socio-economic development (SOER). Notably, is that cattle and goats' population (the largest in rural area) have been on the decline (Figure 9) mainly due to the shrink in the country's grazing land because of allocation of more land to resettle rural households (TNC).

29. The country's vision for economic development is articulated in the National Development Strategy (NDS), which enunciates the country's vision 2022. The NDS is the country's overarching development framework, which promotes sustainable development and inclusive prosperity in the medium to long term. The nucleus of the vision is ensuring quality of life in the country whose critical dimensions are poverty eradication, employment creation, gender equity, social integration, and environmental protection. The vision fully supports community participation, inclusive participation, rural development, and empowerment. The attainment of this vision hinges on four thematic pillars namely, a) good governance, b) a vibrant and diverse climate resilient economy, c) environmental sustainability and d) highest human capital and social development. While environmental concerns have been mainstreamed (in the NDS) in the past few years, recently climate change has been considered a development priority. Increasing scientific evidence of climate change impacts on basic livelihood and infrastructure has brought about a general recognition that climate change should be incorporated into socio-economic development planning (TNC).

30. The NDS seeks to balance the needs of the Swazi people with the environment's carrying capacity. Various national strategies to address climate change (within the context of national development) are outlined, including:
    1. Mainstreaming climate change into national development, sectoral planning, and budgeting.
    2. Promote the development and implementation of adaptation and mitigation actions that contribute to sustainable development, poverty eradication and adaptive capacity.
    3. Pursue capacity building to improve understanding of climate change.
    4. Develop a legislative framework for climate change.
    5. Promote and facilitate climate research and establish a national climate research centre.
    6. Modernisation of meteorological, hydrological, and agricultural observation networks.
    7. Establish a national framework for climate services to strengthen availability, production, and application of science-based climate prediction services.
    8. Mobilize resources for implementation of climate change policy and strategy.
    9. Develop strategies for collecting sectoral data for modelling and inventory preparations.

31. Subsequently, the Eswatini's National Development Plan was developed with the aim of accelerating inclusive economic growth and sustainable development in the country, as outlined in the National Development Strategy. The plan proposes various climate related actions to address this national priority. Actions to raise awareness regarding environmental and climate change issues, notably in the education system, are also included, as are actions related to the development of climate smart and cost-effective agriculture technologies. The country's cabinet approved the National Climate Change Policy (2016), which supports the priorities outlined in the National Development Plan. The aim of the policy is to provide the enabling framework that will guide Eswatini in addressing the challenges posed by climate change, as per the relevant sectors in the country. The policy options are specifically aligned with the commitments found in the country's Nationally Determined Contribution and the actions prescribed to meet them (TNC).

Project Objectives:

Overall Objective:

32. The project objective is to contribute towards reducing climate and human induced vulnerability of the agroecosystems of the Lubombo and Ngwempisi Landscape communities of Eswatini by increasing adaptive capacity of key local institutions and actors, through the deployment of good land, ecosystem management and climate resilient practices.

Specific Objectives:

33. The project will have specific objectives that will inform the concrete climate change adaptation activities that aim to address the climate change risks and vulnerabilities that prevail in the communities. An integrated risk management approach will be adopted to address the interface between climate change, agriculture, and food security to fulfill the following specific outcomes articulated in the table below.
34. The project is expected to directly reach 19,600 smallholder households (HHs), equivalent to some 117,600 people (household members).40% of persons receiving project support are women 2) 60% of persons receiving project support are men 3)30 % of persons receiving project support are the youth (50% of them are women).

Table 3: Project Components and Financing

Project/Programme Components	Expected Outcomes	Expected Concrete Outputs	US$
1. Participatory and gender sensitive Capacity development within landscapes and rangelands.	**Outcome 1.1:** Improved landscapes and rangelands baselines, awareness and monitoring for agroecosystems resilience.	**1.1.1** Inclusive integrated agroecosystem assessment adopted to update biodiversity assessments done by the SNPAS project to inform adoption of climate smart technologies.	240,000
		1.1.2 Adopted use of information services Digital based knowledge and information management integrated for information sharing.	150,000
		1.1.3 Technology support for climate, weather early warning systems and advisories strengthened.	331,450
TOTAL FOR COMPONENT 1:			**721,450**
2. Strengthen multi-stakeholder institutional collaboration (public, private & communities) for strategic implementation of agroecosystem-based adaptation	**Outcome 2.1:** Improved coordination of landscapes by multi-stakeholders (Public, private and communities) for strategic frameworks of implementing the integrated agroecosystem approach.	**2.1.1** Training of trainer's modules developed to capacitate lead committees on ecosystem-based adaptation strategies.	150,000
		2.1.2 Institutional capacity building programs for committees to develop ecosystem-based management.	250,000
		2.1.3 Regional Consultative Observatory learning on landscapes coordination.	150,000
TOTAL FOR COMPONENT 2:			**550,000**
3. Stimulate climate-adaptive investments in integrated ecosystems (forest, wetlands and rangeland rehabilitation).	**Outcome 3.1:** Climate smart actions developed for integrated ecosystems adaptation.	**3.1.1** Pasture Management Plans developed and implemented to enhance restoration of pasture carrying capacities currently reduced by overstocking.	250,000
		3.1.2 Wetlands management plans developed and implemented to restore disturbed ecosystems due to livestock trampling and human over harvesting.	287,000
		3.1.3 Communal woodlots management plans developed and implemented to manage conflicting interests of keeping wattle IAPs for sale and domestic use..	150,000
	Outcome 3.2: Improved and catalysed ecosystem-based restoration infrastructure in community landscapes for sustainable increased ecosystem services to sustain livelihoods.	**3.2.1** Two community and two public nurseries strengthened to supply restored ecosystems.	705250
		3.2.2 Restored wetlands, water reservoirs and community ponds designed and established considering environmental safeguards.	2,000,500
		3.2.3 Technologies & practices adopted for Invasive Alien Species and soil erosion control in ecosystems.	500,000
		3.2.4 Agroforestry and silvopastoral technologies adopted as nature-based insurance for alternative livelihoods.	275,000
TOTAL FOR COMPONENT 3:			**4,167750**
4. Upscale climate adaptive technologies for agroecosystems and sustainable alternative livelihoods.	**Outcome 4.1:** Disadvantaged group's transformative entrepreneurship promoted.	**4.1.1** Program on sustainable natural resources harvesting for handicraft and other products to create economic value for protecting ecosystems..	180,000
		4.1.2 Apiary sites (honey production) developed on forest and wetlands ecosystems restored .	230,000
	Outcome 4.2: Incentivized climate smart agriculture for improved productivity.	**4.2.1** Drought tolerant, protein rich and early maturing crops promoted in rain fed agroecosystems to address socio-economic adversaries..	700,000
		4.2.2 Catalytic program to switch from conventional to climate smart technologies such as drip irrigation and solar pumping.	1,300,000
	Outcome 4.3: Improved and sustainable commodity compliance to market requirements.	**4.3.1** Value chains platform strengthened to promote market driven production and minimize mal-adaptation.	80,000
		4.3.2 Capacity building program for strengthened value addition.	280,000
TOTAL FOR COMPONENT 4:			**2,770,000**
Direct Programme costs			**8,209,200**
5 . Project/ Execution cost			940,800
6 . Total Project Cost			9,150 000
7. Project Cycle Management Fee charged by the Implementing Entity (if applicable)			850,000
Amount of Financing Requested			**10,000,000**

Table 4: Project Milestones Calendar

Milestones	Expected Dates
Start of Project Implementation	2025
Mid-term Review (if planned)	2027
Project/ Closing	2029
Terminal Evaluation	2030

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

35. The proposed project of Strengthening Ecosystem-based adaptation for Sustainable Livelihoods within Landscapes (SEASL) intends to promote an integrated ecosystems-based adaptation programme and will be complement Financial Inclusion and Cluster Development Project (FINCLUDE) IFAD financed, which promotes on-farm and non-farm enterprises with limited concrete adaptation interventions. The Adaptation Fund will support the adaptive capacity to climate change risks and vulnerabilities that prevail in the communities and support integrated risk management to address the interface between climate change, agriculture value chains of the FINCLUDE investments. The project will accomplish this through an integrated suite of interventions coming from the four interlinked components that tackle climate change vulnerabilities and risks to food security by rural subsistence farmers found in the buffer zone communities that are nearby the core protected areas of the Ngwempisi and Lubombo Landscapes of Eswatini. The project is designed to target these communities as a strategy to correct fragmented, silo and ad hoc approaches to project interventions, which normally do not have long-term impacts. Therefore, this project is to address gaps of livelihood activities building on the SNPAS project to attain a holistic approach that integrates from past interventions to deliver sustainable results and builds government systems for replication of project outcomes.

36. Another approach adopted by the project for increasing the resilience of community ecosystems is to incrementally build capacities of the poor and vulnerable smallholder farmers, through enhanced knowledge and skills (Component 1). This will be from the agroecological conditions assessments, in 17 communities in Lubombo and 10 in Ngwempisi landscapes, the target communities are under rural development areas namely Tikhuba, Ka-Langa, Siphofaneni, Sithobela, Nkilongo and Lubulini which will inform the appropriate technologies and sustainable practices for the utilisation of natural resources for improved livelihoods.

37. From the assessment, good practice action plans will be developed where concrete productive assets, climate-resilient and nutrition sensitive agricultural practices will be recommended for improved resilience, sustainable resource management and diversified livelihoods (Component 2).

38. The project will mainstream vulnerable or disadvantaged groups (women and youth) through an environmental and social safeguard assessment that will inform and concretise alternative entrepreneurial activities such as floral harvesting in wetlands for handicraft, establishment of apiaries in forest woodlots and wetlands to ensure diversification of livelihoods intending to reduce the risks of high utilisation pressure on one ecosystem over another, which will in turn enhance income streams for the rural poor (Component 4).

39. This will result in increased resilience to climate shock by the target groups and of the ecosystems on which they depend. The project will mainstream participatory and sustainable wetlands rehabilitation and protection, forests protection, utilisation and management and rangeland management for the stakeholders in the three landscapes (throughout the country) that were launched by the SNPAS project. The project is outlined such

that an integrated risk management package is developed for catalytic funding, micro insurance, adoptive conventional switch to climate smart technologies, and structured markets for climate resilient products to enhance community's capacity to alleviate poverty (Component 3).

Component 1: Participatory Capacity development within landscapes for improved knowledge management (US$ 721,450).

40. This component emphasises the approach of first mobilising communities to have a buy-in in the proposed interventions and they make their inputs. This is to stimulate ownership and full support in tackling any challenges that may arise during project implementation. All stakeholders' categories need to be consulted and these include Public, Communities, Private sector, and NGO's (development agencies) to form a landscape development association and have a platform to tackle adaptation and mitigation interventions.

Outcome 1.1: Improved landscapes and rangelands baselines, awareness and monitoring on agroecosystems resilience.

41. The expected outcome of this component links with the MoA strategic element of enhanced information sharing and awareness of evidence-based adaptation through the mainstreaming of integrated agroecosystem assessment to profile sources of mal-practise to update existing baselines. This will be done to improve the intervention design and monitoring systems of natural resources within landscapes. The focus under this component is to attain improved landscapes and rangelands baselines, awareness and monitoring on community agroecosystems resilience. This will generate information on prevailing practices and their degradation effects on specific ecosystems. The rationale of this component is that the data collection and processing will generate useful information to the public, private and community stakeholders and to inform national policy reforms. Furthermore, this component targets setting up a mechanism that will fill the knowledge gaps related to climate change and land degradation with relevance of promoting strategic developmental discussions including landscapes and rangelands planning.

Output 1.1.1: Integrated agroecosystem assessment adopted to update biodiversity assessments done by the SNPAS project to inform adoption of climate smart technologies.

42. The observation of limited project delivery success for some projects has been attributed to the lack of proper understanding of climate change impacts in different communities' contexts. This has resulted in the limited ability to make informed decisions on most appropriate adaptation options, and on how these adaptation options would influence food security and nutrition. To correct that the programme approach would be to first lay the foundation of the project by developing evidence-based and systematic resilience building and adaptation intervention, with locality context. Eswatini has conducted several vulnerability assessments (VA) which in their nature are too generic with limited evidence to address agroecological vulnerabilities to climate change. A localised climate change impact analysis for specific ecosystems, crops grown, and livestock species will be carried out in the project target areas. This is to understand, using the most up-to-date and suitable climate change projections, how these will be impacted in the near future. Lastly, coordination of information exchange across institutions is a bottleneck since the issue of natural resources lies with different Ministries and institutions.

Activities

1.1.1.1. Assess the localised climate change impacts to identify local ecosystems vulnerabilities and mal-adaptation activities.

1.1.1.2. Document baselines of community-based climate vulnerability, which will update management plans.

1.1.1.3. Support the development of multi institutional coordination arrangements with natural resources, land and environmental and regulators for ease of compliance with policy frameworks or implementing policy

reforms a

1.1.1.4. Develop participatory safeguards (environmental and social) by conducting interviews, qualitative and quantitative agroecological assets assessment.

1.1.1.5. Map project areas and highlight biodiversity and natural resources degradation hot spots.

Output 1.1.2: *Adopted use of information services, digital based knowledge and information management* integrated *for information sharing*.

43. The use of technological base for advancing knowledge management is critical. This will require the upgrade of the existing GIS portal with limited information on food systems and further expand the capacity of the land degradation observatory system. These will introduce advanced data collection, storage, management and communication through the use of computers and software for remote sensing, GIS, modelling and forecasting. In general, the tools will assist in consolidating hazard and risk maps and to analyse historical data.

Activities

1.1.2.1. Facilitate the integration of the existing GIS portal platform to include agroecological (food systems) assessments and upgrading of functions of the portal to accommodate new information and to conduct basic assessment.

1.1.2.2. Strengthen the land degradation observatory system for it to have a wider coverage of monitoring to gather more data that will also be published through the GIS portal.

1.1.2.3. Capacitate regulatory and mandated departments to monitor the land degradation processes induced by growing impacts of increased climate variability and change.

1.1.2.4. Facilitate the development and definition of user rights protocols, to define scope of system analysis and to determine equipment requirements, training needs, human resource development, and liaising with other government structures.

Output 1.1.3: Technology support for climate and weather information and early warning and advisories systems strengthened.

44. It has been observed that, the frequency and magnitude of drought, hailstorms, floods and incidents of destructive insect pests i.e., fall army worm has increased. This emphasizes the importance of monitoring agroecological vulnerabilities in near real-time to provide early warning information to stakeholders. A paradigm shift to a more risk reduction approach is required to ensure cost-effective and timely response to risks and disasters affecting livelihoods especially food systems.

Activities

1.1.3.1. Facilitate the development of harmonized criteria and indicators, as well as appropriate procedures for analysis, warning, dissemination of information for decision-making.

1.1.3.2. Strengthen a multidisciplinary and inter-institutional platform for information sharing to affected stakeholders.

1.1.3.3. Promote the generation of new and more complete information which must be properly disseminated to allow access to downscaled climate information systems, with a special emphasis on reaching the most vulnerable farmers, as well as providing training to turn this information management into actions in the field.

1.1.3.4. Conduct training for technicians and farmers on the tools required to manage a monitoring and early warning network and further engage participation in information dissemination for decision-makers and users of the system.

1.1.3.5. Facilitate development of a communications strategy for the project to define messaging modalities that are target group specific, cognizant of literacy, language, and access to ICT.

1.1.3.6. Facilitate a coordinated structure that will be put in place to develop weekly bulletin and radio spots and quarterly reports to share information of short and medium-term weather forecasts and long-term climate projections.

Component 2: Strengthen multi-stakeholder institutional collaboration (public, private & communities) for strategic implementation of agroecosystem-based adaptation (US$ 550,000.00).

45. Learning from the lessons of the Swaziland National Protected Areas Systems (SNAPAS) project, where working together with other partners including NGOs with experience working with communities in the various landscapes, and the University of Eswatini, was helpful. In some instances, the collaboration with other Government entities and departments has been less effective and more collaborative efforts are needed due to observed significant shortcomings as well as missed opportunities. Importantly, the newly established Landscape Associations (LAs) need further assistance to become truly operational and meaningful. Without such support, there is high risk that they will become forums without action.

Outcome 2.1: Improved coordination of landscapes by multi-stakeholders (Public, private and communities) for strategic frameworks of implementing the integrated agroecosystem approach.

46. The expected outcome of this component is to attain an improved coordination of landscapes by multi-stakeholders (Public, private and communities) for strategic frameworks of implementing the integrated agroecosystem approach. This will be done according to the provisions of the landscape forum, which has a management plan and according to the guidelines for community development plans as supported by the Tinkhundla Bill.

47. The landscape forum looks at underlying issues at a broader level and facilitates the mobilisation of resources to address agroecological vulnerabilities within the communities under the landscape. At the landscape level there is a committee comprising representatives of communities, public, private and NGO's that advocate for financial support to funding mechanisms for the communities. The multi-stakeholder forum works closely with chiefdom development committees (CDC) who oversee development aspects in their respective chiefdoms and its link with the landscape forum allows an opportunity for diverse skills use for resources mobilisation, to ensure continuity beyond the project by getting Chiefdom Leadership. The CDC works with natural resource management committees (NRMC) from different communities as enshrined in the Tinkhundla Bill. These NRMC spearhead development issues in their respective communities and report to CDC on progress made.

Output 2.1.1: Training of trainer's modules developed to capacitate lead committees on ecosystem-based adaptation strategies.

48. The landscape secretariat composed of representatives from communities, NGOs, private and public sector will be trained on governance and on climate change and systematic adaptation planning. This is to enable the secretariat to facilitate the local climate change adaptation planning process and to train other stakeholders in this process. A cadre of trainer of trainers on local climate change adaptation-planning will be put in place which will be able to scale up the approach in other localities even beyond the lifespan of the AF project. The training for the secretariat will include capacity assessment and project development skills, so that they can assist local communities to formulate simple concept notes for funding. The project will not design new funding mechanism but will strengthen and integrate with existing funds currently supported by government for utilization beyond the project. These can target funding from the Rural Development Fund (RDF), Agricultural Development Fund (ADF), Eswatini Environmental Fund EEF) and Small Grants from Global Environmental Facility (GEF) to address priority adaptation needs.

Activities

2.1.1.1. Mapping of potential coordination stakeholders at the landscape, chiefdom and community levels.

2.1.1.2. Analyse information gaps (conduct research on the lessons learned and best practices) on ecosystem-based adaptation.

2.1.1.3. Design training modules for lead community ambassadors to sustainably capacitate communities, chiefdoms and landscapes.

2.1.1.4. Train the leadership of landscapes as lead ambassadors

2.1.1.5. Produce tailored awareness raising messages and materials on agroecosystems mainstreaming climate change, food security and nutrition nexus.

2.1.1.6. Lead ambassadors to capacitate their communities on concrete adaptive interventions that recommend site specific adaptive technologies and assets as informed by identified evidence-based gaps.

Output 2.1.2: Institutional capacity building programs for committees to develop ecosystem-based management.

49. There is a need to expand the development or review of chiefdom development plans to ensure that the CDC adequately addresses issues of agroecosystems. Again, the establishment and revival of NRMC in communities to be strengthened to break the poverty cycle and dependency syndrome brought about by climate change impacts. These committees need to take ownership of climate change adaptation developmental initiatives required by respective communities. Relevance of the CDC and NRMC are to upscale community based natural resources management (CBNRM) activities, which now are happening in a few communities.

Activities

2.1.2.1. Technical support for reviewing and strengthening functional capacities of existing Landscape Associations, Chiefdom development Committees (CDC) and Natural Resources Management Committees (NRMC).

2.1.2.2. Chiefdoms without Chiefdom Development Plans (CDP's) shall be capacitated to have the CDC and NRMC coordination functions in place.

2.1.2.3. Upscale knowledge sharing on concrete adaptation interventions within new geographical areas.

2.1.2.4. Develop simple M&E systems for chiefdoms and landscape development plans, in order to enable local authorities to properly monitor their implementation.

2.1.2.5. Provide institutional and capacity building to local authorities to implement natural resources conservation and adaptive frameworks.

2.1.2.6. Organize participatory planning sessions (Gender balanced) to review and update Chiefdom and landscape development plans in the areas of intervention to mainstream climate change adaptation

Output 2.1.3: Regional Consultative Observatory learning on landscapes coordination.

50. Look and learn educational tours will be undertaken in the country and within the region to observe and take-home lessons that can be instituted by the learning landscapes. This is a networking platform where experiences could be shared, collaborative actions through agreements, can be undertaken and mentorship or support opportunities could be availed. This is to address poor coordination or participation in the landscape forum due to limited exposure and experience on what is expected to be done. The participatory nature of the look and learn is expected to increase related interest and engagement by ensuring that each stakeholder will be able to draw specific benefits of their participation.

Activities

2.1.3.1. Identify existing landscape approaches within the Region and establish cooperative and information sharing collaborations.

2.1.3.2. Develop cooperation partnership agreements through MoU, with advanced landscapes for technical and joint collaborative efforts towards climate change adaptive interventions.

2.1.3.3. Plan an exchange or look and learn programme for mentorship and learning from advanced landscape initiatives.

Component 3: Stimulate climate-adaptive investments in integrated ecosystems (forest, wetlands and rangeland) rehabilitation (US$ 4,231,250.00).

The baseline scenario includes a combination of climate change driven trends which have coincided to reduce the ability of ecosystems to provide ecosystem serves namely land Degradation at 25% over the past decade (SOER). Marshlands/wetlands are anticipated to be degradation by 40% by 2050 including drying up Alian Invasive species invade 80% of the country's area leading to dwindling community forests, degradation of rangelands 30% of the country's grasslands are irreversibly transformed with climate amongst other factors limiting potentials for water recharge. These underlying trends threaten the livelihoods and resilience of communities and their ecosystems to climate change epitomized through lack of water, loss of fertile soil for production, energy sources, lack of biodiversity, loss of grazing and rangelands. With this baseline scenario, a fundamental underlying principle in the proposal is the promotion of the adaptation to a changing climate by regenerating landscapes while meeting the social and economic needs of farmers and their communities. The proposal intends to use Adaptation funds to catalyze and rally communities towards regenerating their own landscapes, with benefits in the short, medium to long term that are highly apparent. Regenerative systems maintain positive reinforcing cycles of wellbeing within and beyond themselves, especially between humans and wider nature, such that "life begets life." Compared to other forms of adaptation such as bringing piped water to communities facing water shortages from longer distances in further away communities, purchasing feed (imported from South Africa) to feed animals, relying on main grid electricity which are forms of adaptation which could be implemented resources permitting this proposal instead intends to implement landscape self-regenerating activities including rallying the communities towards it. The proposal intends to support natural rehabilitation of landscapes through design and implementation of ecosystem catalytic self-regenerative activities (see Activities 3.1.1 to 3.1.3 and 3.2.1 to 3.2. 4 as well as all activities under Outcome 4) that will directly lead to self-regeneration of key ecological assets such as wetlands, woodlots, rangelands leading to more and better ecosystem services in the long term and sustainable livelihoods. Current research suggests that through the application of socio-ecological (SES) principles, focusing on active regeneration, as opposed to reactive resilience, have higher profitability and growth.

51. Taking the recommendations made from the SNAPAS project and advancing the great green wall national action plan, there is a need to assist each of the LAs to further refine their priority actions considering the collaborative efforts required between the various landowners in the landscape. In Ngwempisi Landscape, The revised planned actions will take place in communities falling under the rural development areas (RDAs) of Ngwempisi, Mahlangatsha, and Ludzeludze and in the case of Lubombo in Tikhuba, Ka-Langa, Siphofaneni, Lubulini and Sithobela in a bid to Velezizweni, Ka-Zulu and Mphini communities, while in Lubumbo in the Tikhuba, Mhlumeni, should facilitate access to more climate finance facilities or funds because concreate adaptive interventions are expensive (requiring multiple sources of funding) and take time (require cost mitigation strategies). The component should attract mobilisation of national resources (such as the Agricultural Development Fund (ADF), Rural Development Fund (RDF), Eswatini Environmental Fund EEF) towards concrete adaptation actions.

Outcome 3.1: Climate smart actions developed for integrated ecosystems adaptation.

52. This outcome will focus on the development of ecosystems resilience adaptation action plans across landscapes and chiefdoms. This will include schedules that will promote the maximising of efficiency and leveraging on other similar plans/programmes for joint efforts.

Output 3.1.1: Pasture Management Plans developed and implemented to enhance restoration of pasture carrying capacities currently reduced by overstocking.

53. The situational analysis of this ecosystem will be determined with remedial bankable actions required to restore rangeland grass to support profitable livestock production. This will be through multiple integrated climate smart efforts such as IAPs control, replanting adaptive palatable species, erosion controls, plan controlled burning, identify points of water sources aimed at increasing resilience to climate change of the natural resource, to support economic viable livestock productivity aiming at increasing income of community small scale farmers.

Activities

3.1.1.1. Community participation in identification of non-sustainable rangelands management practices such as overstocking, high IAPs densities, no planned control burning which leads to degraded ecosystems.

3.1.1.2. Technical support towards facilitating the generation of a SWOT analysis for the health of this ecosystem towards livestock productivity. Promote more heat and drought tolerant pasture crops and climate smart livestock management while providing better and nutritious pastures.

3.1.1.3. Conduct landowner's mobilization, especially engage community leadership and members on the development of the costed management plans for ownership and capacitation.

3.1.1.4. GIS mapping of rangelands degradation hotspots of chiefdoms and communities for adaptive interventions.

3.1.1.5. Provide technical support to the Department of Rangeland Management to lead awareness creation to stakeholders on how the rangelands natural assets could be better managed for improved resilience and ecosystem functioning. This includes the improvement of fodder management by establishing sowing areas of perennial plants such as Lucerne and sainfoin to create a sustainable base for fodder in winter and for soil nutrition.

3.1.1.6. Engagement of Tinkhundla, Ministry responsible for chiefdom governance, NGO's, private entities and relevant development partners operating in each community to also make inputs for sustained collaborative efforts.

3.1.1.7. Publication (as an awareness action) of management plans to attract more partnerships in advancing concrete adaptation efforts for improved livestock productivity.

Output 3.1.2: Wetlands management plans developed and implemented to restores disturbed ecosystems due to livestock trampling and human over harvesting.

54. The marshes ecosystem occurs within the rangelands (grassland) ecosystem and are normally degraded by cattle trembling since they are not protected to control access in both landscapes. Success stories have been recorded in several projects where marshes have been protected through fencing off and regeneration of wetlands flora and rise of water to surface flows. Again, marginalised groups such as women use wetland flora to develop handicraft products for income generation. In compliance with Environmental Assessment Regulations of Eswatini Category 1 interventions will be undertaken. Again, resurfaced water flows are used for human domestic uses, thus improving community and livestock health (through reduced distances to water sources).

Activities

3.1.2.1. Community participation in site assessments to identify degraded wetlands (marshes) within rangelands due to non-sustainable management practices.

3.1.2.2. Technical support towards facilitating the generation of a SWOT analysis and preliminary designs for a healthy wetland's ecosystem towards livestock productivity, alternative income sources, domestic uses and cultural benefits.

3.1.2.3. Conduct landowner's mobilization, especially engage community leadership and members on the development of the management plans and their management committees for ownership and capacitation.

3.1.2.4. Provide technical support to the landscape association to create awareness to stakeholders on how the wetlands natural assets could be better managed for improved resilience and ecosystem functioning.

3.1.2.5. Engagement of Ministry of Natural Resources and Energy and Environmental Authority (mandated public regulators) for ensured compliance towards managing and sustainable use of the natural resources.

3.1.2.6. Publication (as an awareness action) of management plans to attract more partnerships in advancing concrete adaptation efforts for improved livestock productivity and livelihoods.

Output 3.1.3: Communal woodlots management plans developed and implemented.

55. The objective of this output is to restore rangelands degraded by invasive alien tree species such as Wattle, Gum etc. as indicated in Forestry Act, which is prevalent in the Ngwempisi Landscape in the Ludzeludze, Ngwempisi and Mahlangatsha RDA's Expansive natural plants species such as *Dichrostachys cinerea* will be controlled in the Tikhuba, Siphofaneni, Sithobela, and Manyonyaneni RDA's that can be managed to sustainable woodlots. This will restore rangelands by limiting moisture and nutrients competition to natural grass species and thus promote shade tolerant non-nutritious species. Poor management of rangelands leads to changes in the natural ecosystem to another hence the need for integrated actions to restore them for improved grass biomass productivity to support higher stocking rates of livestock.

Activities

3.1.3.1. Community participation in site assessments to identify areas mostly threatened by encroachment and expansion of other ecosystems other than initial state such as tree dominances in rangelands.

3.1.3.2. Technical support (manual, biological) to communities towards managing invasive and expansive tree species in the agroecosystems and classify potentials for woodlots for energy and household needs.

3.1.3.3. Conduct community mobilization to agree on rangelands management plans.

3.1.3.4. Using GIS map, the extent of ecosystem change from grass to forest over time due to degradation will help to predict impact over years if restoration is not done. Then facilitate a participatory micro-zoning of woodlots in most environmentally sustainable sites for effective management .

3.1.3.5. Develop awareness materials and provide technical support to communities in partnership with the Forestry Department on how woodlots could be better managed for improved resilience and ecosystem functioning.

3.1.3.6. Engagement of environmental management mandated regulating public departments for ensured compliance towards managing and sustainable use of the natural resources.

3.1.3.7. Publication (as an awareness action) of management plans to attract more partnerships in advancing concrete adaptation efforts for improved livestock productivity and livelihoods.

Outcome 3.2: Improved and catalyzed ecosystem-based restoration infrastructure in community landscapes for sustainable increased ecosystem services to sustain livelihoods.

56. The outcomes' objective is to promote adoption of concrete climate change adaptation initiatives and assets to mitigate adverse effects of extreme weather patterns on natural resources sustainability through a competitive grant mechanism (through call for proposals capped at $10,000) mainstreamed within public structures(targeting Environmental Fund, Agricultural Development Fund and Youth Fund) for enhanced natural resources management (improved soil cover, IAs control, erosion control, water harvesting and rehabilitations), improved water use and mechanization technologies, improved agricultural livelihood capacity by supporting legume, horticulture, maize, cattle, goats and sheep adaptive production).

Output 3.2.1: Two communities and two public nurseries strengthened to supply restored ecosystems.

57. This output will advance the great green wall initiative by promoting carbon sequestration to reduce greenhouse gases in the atmosphere to improve air quality and to reduce heat islands. This is through propagation of native grasses and forests replaced by IAPs and leguminous shrubs to enrich rangelands protein supply. Community nurseries are targeted at Mhlumeni Khelekhele eco-lodges under Tikhuba and Ngwempisi RDAs, while public nurseries at Ludzeludze and Mafutseni areas are all under Ludzeludze RDA. Agroforestry activities will be supported by making it easier to procure quality tree saplings with the construction of four plant nurseries. These nurseries will provide for multiple benefits for ecosystem-based adaptation for erosion control, soil fertility improvement, and increased supply of tree-based foods for communities.

Activities

3.2.1.1. Assess proposals for candidate potential sites, set-up, rehabilitate or upgrade public nursery facilities.

3.2.1.2. Support development of manuals for managing nurseries and technical support towards training of beneficiaries on the maintenance of the nursery structures. The training will include site selection for nursery, planning of nursery's operational scheme, preparation of seeds / cuttings for planting, and norms and standards of seeds by species.

3.2.1.3. Conduct research on prevailing propagation techniques and capacitate beneficiaries on efficient propagation technologies applicable to different species.

3.2.1.4. Capacitate local community members to propagate plant species for sale to the project to complement supply and improve livelihoods at individual homestead level.

3.2.1.5. Facilitate a certification process for nurseries for improved recognition on good propagation practices.

3.2.1.6. Promote diversification of nursery products using native species for sustainable income generation.

3.2.1.7. Promote productivity of edible native species propagation with an economic viability for non-timber products (fruits, medicinal).

Output 3.2.2: Restored wetlands, water reservoirs and community ponds designed and established considering environmental safeguards.

58. This output intends to increase resilience on water supply in compliance with the Natural Resources Management Act 1957, while improving and livelihoods by adapting to detrimental effects of weather-related shocks (28.3%) (drought, irregular rains and prolonged dry spells) constitute a higher percentage (VAC, 2019). 50 Marshes will be fenced (30 Lubombo and 20 Ngwempisi), 5 scope dams (Ngwempisi) and small or medium earth dams (8 Lubombo and 5 Ngwempisi) rehabilitated or developed under Category 1 Environmental Assessment Regulations to prolong water availability. Again, this will increase livelihood resilience through promoting sustainable harvesting of natural resources.

Activities

3.2.2.1. Conduct participatory field surveys and water needs assessments based on availability and distance to nearest water sources for livestock in rangelands and for potential climate smart agricultural productivity such as fish and crops.

3.2.2.2. Water vulnerable sites ranked according to their significance towards community resilience and mapped using GIS.

3.2.2.3. Conduct environmental impact analyses and safeguards for water reservoirs establishments.

3.2.2.4. Design rainwater harvesting and cost-effective water protection infrastructures using nature-based solutions. Involve multiple stakeholders with interest in water resources management and utilization.

3.2.2.5. Train community NRMC on how to effectively manage water sources and monitor their sustainable use.

3.2.2.6. Access regained water recharge outflows and determined potential initiatives to promote sustainable utilization of water resources and their biological products (fish, biomass) for alternative livelihoods. Promote fishponds to reduce over harvesting of fish in natural riparian bodies.

3.2.2.7. Avail funding for reticulation of rangelands to provide water points in different locations.

3.2.2.8. Conduct quality assessment on water resources to establish water points for domestic use.

Output 3.2.3: Technologies & practices adopted for Invasive Alien Species and soil erosion control in ecosystems.

59. The objective of this output is to promote integrated and sustainable invasive alien species (IAs) control in multiple ecosystems (wetlands, grasslands and forests) interlinked with rangelands such as wetlands and forests as suggested in the National IAs Strategy. Long-term nature-based solutions will be promoted such as using natural species to control invasive alien species expansion.

Activities

3.2.3.1. Conduct landscapes biodiversity assessments to determine IAs infestation to and determine and update ecosystem degradation caused.

3.2.3.2. Conduct bio-physical and ecological research in innovative means to eradicate IAs and identify alternative uses replacing niches with native species.

3.2.3.3. Revegetate soils with poor ground cover to limit establishment and expansion of nonnative species.

3.2.3.4. Develop a participatory and costed IAs control programme for different landscapes.

3.2.3.5. Capacitate communities on tools, technologies and how to control IAs integrating nature-based solutions.

3.2.3.6. Manage pressures that make ecosystems susceptible to invasions.

Output 3.2.4: Agroforestry and silvo-pastoral technologies adopted as nature-based insurance for alternative livelihoods.

60. The objective of this output is to integrate tree production with livestock and crops management in the Lubombo and Ngwempisi Landscapes considering socio-economic outputs of environmental safeguards. This provides positive impacts on the environment, economy, and society. This will improve productivity in the short, medium, and long term based on a biologically diverse ecosystem that produces multiple products within the framework of sustainable land use. This will provide a diverse and healthy ecosystem that will enhance resilience in terms of climatic variations and related stress factors, including the reduction of local temperature leading to increased animal productivity.

Activities

3.2.4.1. Conduct site specific research on innovative agroforestry technologies.

3.2.4.2. Capacitate communities on how to improve agricultural micro-climate through the promotion, piloting and expansion of agroforestry systems even in degraded sloppy areas. This technology is applied to prevent soil erosion in slopes by the planting of water stress tolerant species.

3.2.4.3. Conduct forest restoration on degraded forest ecosystems within proximity of rangelands through planting about 25,000 trees from selected species that are adaptive to rising temperature, drought tolerant, and hailstorms to meet socio-economic resilience and livelihood needs of the local communities.

3.2.4.4. Promote commercial woodlots within wattle infested rangelands for diversified income generation to help cover costs of rangelands management and to control unwanted expansions and for improving management assets such as fences.

3.2.4.5. Improving nutrient source through leguminous shrubs palatable to livestock, especially in poor soils with less nutritious grass.

Component 4: Upscale climate adaptive technologies for agroecosystems and sustainable alternative livelihoods (US$3,070,000.00).

61. The expected outcome of this component is to strengthen resilience to climate change in the crop, livestock, forestry production systems and natural habitats in the target landscapes, chiefdoms and communities as informed by Environmental Safeguards and community development plans. This component aims to improve livelihoods through the establishment of demonstration sites to promote climate smart and good agricultural practices that also target vulnerable groups and communities.

Outcome 4.1: Disadvantaged group's transformative entrepreneurship promoted.

62. This outcome will focus on empowering women and youth groups and individuals will be identified and trained to develop their entrepreneurship skills and competitiveness through market links as guided by environmental social safeguards.. Since women constitute 70% of the farmers populace, they are critical change agents in their communities for climate resilience. Therefore, targeting and collaborating with the National Women's and Youth Councils (will incentivize women and youth.

Output 4.1.1: Program on sustainable natural resources harvesting for handicraft and other products to creates economic value for protecting ecosystems.

63. The objective of this output is to ensure that rehabilitated natural assets such as wetlands, rangelands and forests should be utilized in a sustainable manner because should these resources be underutilized, they might pose other environmental hazards. Therefore, non-timber products utilisation will be promoted to improve livelihoods.

Activities

4.1.1.1. Participatory identification of disturbed wetlands, wetland management plans developed and then capacitate communities to implement their plans, operationalize structures agreed upon and promote alternative livelihood products derived from the natural resources.

4.1.1.2. Capacitate NRMC to lead training of community members on how wetlands can be protected and sustainably utilized.

4.1.1.3. In the case of wetlands, resurfaced water will be naturally diverted for supporting crop production as informed by water volumes and recommended crop variety.

4.1.1.4. Sustainable harvesting of flora for handicraft products will be promoted and market linkages established

for the products developed from the natural resources.

4.1.1.5. Develop publication products to promote success stories of wetlands protection, resultant livelihoods and ecosystem benefits to raise awareness to multiple stakeholders.

Output 4.1.2: Apiary sites (honey production) developed on forest and wetlands ecosystems restored ecosystems.

64. The objective of this output is to promote species biodiversity to promote ecosystems health through setting up apiaries to stimulate flora health while deriving non-timber benefits such as honey in both landscapes

Activities

4.1.2.1. Development of community capacity building materials on the importance of restoring native flora communities such as forests and wetlands to derive economic and livelihood benefits.

4.1.2.2. Participatory site assessments for suitable site location for apiary fields viability will be undertaken to determine the most suitable sites. Communities will be trained on key indicators for determining viability.

4.1.2.3. Capacitate beneficiaries with skill development for making basic hives and procure safety/protective gear for managing honey production.

4.1.2.4. Support market linkages with potential markets and product handling and packaging.

4.1.2.5. Promote Youth and women to participate in initiatives of alternative livelihood opportunities to address limitation of access to land and ownership of livestock.

Outcome 4.2: Incentivized climate smart agriculture for improved productivity.

65. The objective of this outcome is to promote climate change adaptation and natural resources management in compliance with the Climate Smart Agricultural Policy and Climate Change Policy. The community-based pasture management techniques have led to the degradation of pastures through overgrazing. Pasture degradation is compounded by a changing climate with increasing temperatures, reducing access to water, increasing number of agricultural and hydrological drought events, changing precipitation patterns, reducing soil moisture levels causing increased plant stress and reducing the capacity of pastures to support ever-increasing numbers of cattle.

66. A catalytic grant mechanism will be established under the Agricultural Development Fund (ADF) and Eswatini Environmental Fund (EEF) to supplement financial instruments offered by FINCLUDE, where the ADF will provide incentives to de-risk agricultural productivity to enable sustainable resilience and adaptive capacity. This will be through commodity diversification and risk reduction in the form of micro insurance as a risk transfer scheme, which among other products will compensate for weather-related losses. The EEF will support land rehabilitation programmes to improve natural resources health and increase productivity.

Output 4.2.1: Drought tolerant, protein rich and early maturing crops promoted in rain fed agroecosystems to address socio-economic adversaries..

67. The objective of this output is to provide capacity development and technical support for sustainable and climate-resilient agricultural practices especially in 15 communities of the Lubombo landscape which is dry. Production will be enhanced, in the Lowveld, Middleveld, and Highveld regions, each of which has distinct climatic conditions and agricultural practices. By targeting these diverse regions, the project aims to maximize the impact of short-maturing crop varieties on food security and diversification will be supported for climate-resilient, nutritious value chains, including supporting the reduction of post-harvest losses (PHL), to enhance processing, and to increase access to markets.

68. Adaptation assets (such as shrubs for shade and mulching) to be considered are for reducing soil erosion and addressing related land degradation, which are increasingly required in the landscapes due to existing degradation problems, which are worsened by greater drying and more intensive rainfalls, which is linked to climate change. The Eswatini Environmental Fund (EEF) will facilitate natural resources management grants aimed at rehabilitations.

Activities

4.2.1.1. Conduct an assessment to update baseline information on adaptive agricultural production and sustainable land management practices in 15 communities with suggested technical, economical and socio-environmental feasibilities to avoid maladaptation to determine which legumes, fodder, shrubs and agroforestry practices to be adopted.

4.2.1.2. Capacity building and technical support on erosion control techniques that can be adopted in each landscape for agroecosystems recovery for improved resilience.

4.2.1.3. Provide technical support for growing plant material that has climate resilience properties to improve rural livelihoods. **4.2.1.4.** Promote growing of climate tolerant species (open pollinated varieties and fruit trees), especially to droughts, as well as diversification of cultivars and other products such as legume plants that contribute nitrogen to the soil.

4.2.1.5. Build climate-resilience of pastures by improving water reticulation and quality in 15 Lubombo communities and 10 Ngwempisi.

4.2.1.6. Improve fodder management through the establishment of sowing areas of perennial plants (lucerne) to create a sustainable base for fodder.

4.2.1.7. Promote sustainable grazing such as rotational grazing to provide defoliated pastures time to recover.

Output 4.2.2: Catalytic program to switch from conventional to climate smart technologies such as drip irrigation and solar pumping.

69. The objective of this output is to promote climate change adaptation and natural resources management in agroecosystems through grant mechanisms administered through the Agricultural Development Fund (ADF) for sustainable growth of agricultural enterprises. Communities will be required to make proposals or business plans that contribute to the outputs of climate smart technologies (livestock protein source, minimal tillage implements, mulching, drip irrigation, agro-ecological crop growing) by funding the switch from conventional means to more climate smart technologies. Eligibility criteria will include the presentation of community projects that will promote climate resilient infrastructure and renewable energy adoption.

Activities

4.2.2.1. Support upscale of drip irrigation for 15 communities in Lubombo and Ngwempisi landscapes for water use efficiency to address projected climate change induced reduction in water availability and make crop production systems less vulnerable to climate change impacts.

4.2.2.2. Determine suitable climate smart mechanization technology (minimum tillage implements and light weight equipments) for specific commodities to promote adoption of conservation agriculture for agroecosystems recovery for improved resilience.

4.2.2.3. Promote protected farming such as greenhouses and shade nets, 10 in Lubombo and 7 in Ngwempisi especially on hail hotspot areas, which mitigate against extreme weather incidents such as excessive heat and hailstorms.

4.2.2.4. Support development of 5 greenhouses in each landscape for breeding black soldier flies to promote the harnessing of nature-based protein sources for livestock from black soldier flies .

4.2.2.5. Support research of fertilizer tea trials on commodities and then conduct capacity building on the management and operation of other climate smart technologies such as solar energy.

Outcome 4.3: Improved and sustainable commodity compliance to market requirements.

70. The objective of this outcome is to strengthen the sustainability of nature based and alternative community livelihoods. Agricultural products will be linked with their potential markets to ensure sustainability in climate change adaptive interventions i.e., promotion of livestock off takes in rangelands to allow recovery from overgrazing. Again, agricultural crops (maize, legumes, vegetables, sweet potatoes, and horticulture) produced through climate smart technologies will be linked with sustainable markets for continued productivity beyond project life. A direct link with commodity clusters made by the FINCLUDE project will be done to strengthen aggregation volumes for efficiency. Other than agriculture products, in rehabilitated wetlands and indigenous forests within rangelands, there will be promotion of non-timber products (NTP) which have an economic viability and can improve community livelihoods.

Output 4.3.1: Value chains platform strengthened to promote market driven productivity.

71. The objective of this output is to promote market linkages to stimulate market driven production. To achieve this output, the project will carry out awareness raising activities, strengthen existing market linkages on different commodities and provide business training for several selected youth and other marginalized community groups with agroecosystems entrepreneurship interest.

Activities

4.3.1.1. Identify the different agroecosystems business niches that need market linkages strengthening such as livestock and vegetable production, black soldier fly and vegetable nurseries and non-timber products (honey, reeds etc.) and facilitate offtake agreements.

4.3.1.2. Conduct an analysis and diagnosis of the existing commodity producers, their organizations and cooperatives in the areas of intervention.

4.3.1.3. Create community awareness and mobilization on opportunities of agroecosystems, livestock, crops and NTP to address women's and youth's needs and priorities.

4.3.1.4. Provide training in economic aspects, business plans, leadership and entrepreneurship for selected young people and marginalized groups (women) on alternative livelihood from agroecosystem management.

4.3.1.5. Support the development of training tools such as the development of training curricula for farmers and community entrepreneurs.

4.3.1.6. Create markets for enhanced and diversified production, through linkages to the ongoing Home-Grown School Feeding (HGSF) programme of the GoE, which is supported by FAO and WFP.

4.3.1.7. Coaching of agroecosystems entrepreneurs in implementing their funded projects.

Output 4.3.2: Capacity-building program for strengthened value addition.

72. The objective of this output is to provide value chain support based upon a targeted and localized value chain analysis and marketing study for selected climate-resilient and nutrition sensitive crops and alternative livelihood NTP relevant to agroecosystems management. Value addition will be promoted to improve income generation and diversification of livelihoods. Sectoral assessment of prevailing value addition practices and technologies will inform approaches for the project interventions to build sustainable climate change resilience of crops/products that are likely to be selected during the AF project. The value addition will reduce post-harvest losses and attract more participation by communities therefore giving them more returns.

Activities

4.3.2.1. Promote aggregation models for value addition on agroecosystem products to be derived from the landscapes, such as crops, livestock and NTP.

4.3.2.2. Provide opportunities suitable to attract participation of marginalized groups (youth and women) such as storage facilities, and technology-oriented marketing actions.

4.3.2.3. Support and develop co-operatives and aggregation centers for farmer organisations or groups to allow for a more complete value chain that will ensure that smallholder farmers have more consistency in the market through value added supplies.

4.3.2.4. Provide farmers with climate sensitive market information and capacitate communities on value addition processes of specific commodities to inform business planning and facilitate structured market linkages.

4.3.2.5. Support in the acquisition of technologies, equipment's, and infrastructure for promoting post-harvest value addition.

4.3.2.6. Promoting post-harvest and market support to early-maturing climate-resilient cereal varieties, as mentioned above, as well as vegetables and small ruminants/poultry.

B. Describe how the project provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

73. The project has been screened for environmental and social risks as per the Environmental and Social Policy of the Adaptation Fund and was found to have limited adverse environmental or social impacts. Any potential negative impacts because of this project are believed to be small in scale, limited to the project area, reversible and can be either avoided, minimized or addressed using recognized good environmental and social management practices. To mitigate negative impacts, the project will adhere to environmental and social policies, including the Gender Policy of the Adaptation Fund. This involves conducting thorough environmental and social safeguard assessments to identify and address any potential adverse effects. The project will implement participatory safeguards and management plans, ensuring that interventions are designed and executed with minimal environmental disruption and social upheaval. By actively involving communities in planning and decision-making processes, the project ensures that interventions are culturally sensitive, socially acceptable, and environmentally sustainable. Additionally, the focus on capacity-building and awareness-raising helps communities understand the importance of environmental conservation and social equity, promoting sustainable practices that align with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

<u>Economic Benefits</u>

74. Improved income generation activities at community level: Through the improved pasture management plans, communities will be able to improve livestock productivity 20% thus consequently more 20% increase in livestock sales, translating to an estimated additional income of E10,000 (approximately USD 650) per household annually that will be generated from livestock sales. Wetlands management's plans will enable the production of biodiversity material which communities will benefit from harvesting to create and sell hand craft equipment for local and international markets native medicinal plants.
    Communal woodlots under management generate income through selling of firewood Communities will also generate income from sales of native plant seedlings from the two public nurseries for ecosystem restoration. Honey sales from local natural plants with medicinal properties will increase profits to communities. It is projected that each beekeeping household could produce 50 kilograms of honey per year, generating an income of E3,000 (approximately USD 200) annually from honey sales. With 300 households participating, this could amount to E900,000 (approximately USD 60,000) annually. The focus on developing alternative

income-generating activities, diversifies income sources, reducing reliance on a single ecosystem and thereby mitigating economic risks. Additional income generating activities are designed with a particular focus on women and youth, empowering these vulnerable groups through entrepreneurship and skill development, thereby fostering economic independence and resilience. Enhancing production, reducing post-harvest losses, increasing market driven products, usage of drought tolerant, protein rich and early maturing varieties, which are climate resilient will encourage economic benefits.

Social Benefits

75. The project is expected to directly reach 19,600 smallholder households (HHs), equivalent to some 117,600 people (household members).40% of persons receiving project support are women 2) 60% of persons receiving project support are men 3) 30 % of persons receiving project support are the youth (50% of them are women
76. Improved food security and nutrition: The food security and nutrition policies have the mandate to always increase food security in Eswatini and food available for all. In the past decades there has been a fluctuation in the significant number of populations, which is chronic food insecure, on average 20% of the population. This project aims to revive the native plants that are drought tolerant and climate resilient to improve the food security statues of the country.

77. The adaptation to short maturing varieties of crops for food production will enhance food security in the country. The income from hand craft materials, honey sales, firewood sales and medicinal plants will improve food security for communities. The establishment of management plans will result in the communities being able to manage the extraction of their natural resources in the ecosystem. Through the establishment of multi-stakeholder institutional collaboration, which is rooted in participation, communities will have ownership of their natural resources thus benefiting their communities.

78. The whole Lubombo region is faced with the issue of portable water, through this project from the restoration of wetlands there will be a possibility of portable water for human usage. Restoration of wetlands enhances natural filtration and purification, groundwater recharge, and water quality, making water more portable. In restored wetlands, vegetation and soil retain sediments and pollutants, while plants and microbes break them down, cleaning the water. For many towns in Eswatini, groundwater is a vital source of potable water, and wetlands help recharge it by gently percolating water through the soil. Wetlands improve water quality by lowering erosion and sedimentation. These regenerated habitats sustain various plant and animal species, improving water purification. This means more reliable clean water, decreasing the need for expensive water treatment equipment and ensuring safe drinking water, especially in remote areas of Eswatini.

79. SEASL will comply with the Adaptation Fund guidelines, which prioritise inclusivity, gender equality, and the involvement of marginalised groups, to guarantee that benefits are distributed equitably to vulnerable communities, households, and individuals. The initiative will implement comprehensive social assessments to identify vulnerable populations, such as women, youth, and individuals residing in extreme poverty. These groups will be targeted in capacity-building programs, their representation in decision-making processes will be guaranteed, and they will receive customised support to address their distinctive requirements. Activities such as training, resource provision, and access to climate-resilient technologies will be designed to be inclusive and accessible. Furthermore, the initiative will implement monitoring and evaluation mechanisms to monitor the participation and distribution of benefits among vulnerable groups, thereby guaranteeing transparency and accountability. The initiative will promote equitable access to its benefits by fostering community engagement and implementing safeguards to prevent exclusion, thereby enhancing the adaptive capacity and resilience of the most vulnerable.

80. Gender dynamics have a considerable impact on the roles of women in agriculture in Ngwempisi and Lubombo. Though they are primarily responsible for subsistence farming, they encounter significant challenges because of their limited access to resources, land, and decision-making power. The consultations with local communities revealed that women have limited access to credit and agricultural inputs, lower

educational attainment, and minimal involvement in decision-making processes. Additionally, they have restricted land ownership rights. Women emphasised the necessity of targeted capacity-building programs, support networks, health interventions, and equitable resource allocation. In response, the SEASL project will implement strategies to improve women's access to financial services and land, facilitate the establishment of women's cooperatives, provide gender-specific training, and incorporate health and well-being initiatives. The objective of these activities will enhance the food security and climate resilience of these regions by empowering women, improving their agricultural productivity, and ensuring the equitable distribution of project benefits.

Environmental Benefits

81. Enhanced natural resources, biodiversity, and ecosystem services in project target areas: The productive assets developed under Component 3 such as the resource management plans, agroforestry and silvo-pastoral technologies will improve the natural resource base upon which livelihoods depend. Erosion control measures will reduce soil loss from the project areas and promote sustainable land use practices, reducing degradation and promoting ecological balance. Sustainable natural resources harvesting provided through this project, such as agroforestry and silvo-pastoral, will increase soil fertility and soil structure, as well as prevent biodiversity loss from the use of inorganic chemicals. These efforts not only enhance biodiversity and ecosystem health but also provide crucial services such as water purification, soil stabilization, and carbon sequestration, which are vital in the context of climate change adaptation.

82. These initiatives to restoration and sustainable management of critical ecosystems such as forests, wetlands, and rangelands are complemented by efforts to educate and engage communities in environmental stewardship, ensuring long-term commitment to ecosystem preservation.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.

83. The cost effectiveness of the project is evident compared to the current statues of the country. Proceeding ignoring the current climate issues in the country will have a negative impact on the rural livelihoods more especially in the Lubombo region. The effects of climate have ripple effects on food security, availability of portable water, availability of arable land for cultivation and loss of biodiversity in the communities. This is evident in the fluctuations on crop production not meeting national foods requirements, hikes in food prices and increase in food imports. In the absence of effective adaptation in the rural communities of the country, extremely high costs are being accrued to address the effects of droughts. For example, the 2015/16 drought cost the country 7.01% of the country’s GDP or 18.58% of Government expenditure.

84. Eswatini State of Environment report 2021 shows that there is an increase in the less palatable grasses species because of land degradation, loss of productive land due to soil loss and erosion.
Crop lands adjacent to waterways and water bodies are used for production of maize and vegetables thus planting on the buffer zone of the water bodies. In providing sustainability of the aquatic bodies’ protection is necessary which can be enabled through this project. Through protection of these aquatic bodies soil erosion which is due to livestock movement can be managed. The adoption of the traditional structures in the communities to manage the natural resources through management plans provides a sense of sustainability and ownership by the communities whereby extraction rates of the resources can be monitored.

85. The third national communication to UNFCCC indicates that livestock and crops production under rain-fed conditions have declined by over 30% on average. Cost effective interventions such as fencing wetlands to recharge water table are less costly and from zero outflows in a disturbed wetlands as high as 4.99 Litres/s and 8.41 Litres/s are recorded in in Lubombo and Ngwempisi landscapes from SNPAS project much cheaper than water abstraction of water from rivers located kilometers away remedial action to curb livestock death and poor productivity due to less water availability. Controlled IAPs in rangelands will result in improved

pasture yield, as well as livestock health and productivity at less cost as opposed to loss and manufactured feed. The use of category 1 water reservoirs will help communities to adapt to water shortages in winter and in drought seasons at a far cheap cost of using clay to hold water as opposed to the use of very expensive cement and foreign materials into natural environment. The restoration of wetlands can supply portable water to help cut health care costs associated with water scarcity leading to poor sanitation which in turn can increase waterborne diseases. Another adaptation measure is in the use of plants fertilizer tea, which uses affordable and readily available material to communities.

86. Land and water conservation stimulates the sustainable use of Aquatic and terrestrial resources, which will ascertain the regulated and monitored use of the resources. Wetland management is of great importance since the unregulated cropping in wetland will result in constricted water availability and contaminated water resources through eutrophication thus compromising aquatic life and resources and effective fisheries sector. Sustainable rangeland management and effective stocking rates will benefit an agro pastoral community through the sustainable management practices, which will control the density of animals and stimulate off-takes through market linkages and conserved animal genetics that are resilient to climate change hazards. The support of plant and animal genetics that exhibit traits of resilience to the changing climate is envisaged to support the development of local gene diversity for increased trait exchanges for improved adapted local seed varieties that will be accessed by small holder farmers at lower cost to hybrids that are climate sensitive.

D. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

87. Eswatini NAP is under development and currently in the process of being evaluated by stakeholders, but the project is hinged on the initial Adaptation Communication and the third national communication to the United Nations Framework Convention on Climate Change (UNFCCC) (2021) and the Update of the Nationally Determined Contributions; The proposal aligns with the NDC, and adaptive measures proposed in the third national communication through
    1) scaling of up actions and investments in ecological infrastructure outlined in the Nationally Determined Contribution (NDC) including actions for:
    - Strengthening Regenerative Landscape Management of degraded lands/ecosystems of Eswatini
    - Improving conservation of genetic resources (indigenous trees and land races)
    - Restoring and protecting wetlands (areas of marshes, fens, peatlands, or water, including artificial, permanent, or temporary) and
    - Improving sustainable utilization of its resources for biodiversity and other benefits to communities.

    2) Establishment of long-term biodiversity conservation, landscape management and natural resources management through actions including increasing Protected Area Network and assess climate resilience of the protected areas to identify valuable ecosystem services.

88. The National Development Plan (NDP) 2023/24-2027/28 supports the improvement of livelihoods through poverty eradication, environmental protection, gender equality and employment creation through a complete integration of environmental management and enforcement in the Eswatini development trajectory. The NDP has also mainstreamed the critical environmental and climate change impacts that compromise livelihoods and income generating activities thus resulting in lower economic activity and compromised food and nutrition security. The NDP has aligned its initiatives towards a drive for the achievement of the SDGs through a nationally coordinated implementation and monitoring plan.

89. The review of the National biodiversity strategy (2016-2022), which recognizes environmental management and sustainable development and alignment objectives of integrated landscape management.
90. The project is in line with the National Determined Contributions (NDC) of 2021, which represents a progression beyond the 2015 NDC by adopting an economy wide GHG emissions reduction target of 5% by

2030 compared to the baseline scenario and help achieve a low carbon and climate resilient development. This economy wide emission reduction can increase to 14% with external financing and this translates to 1.04 million tons fewer GHG emissions in 2030 compared to a baseline scenario.

91. The Eswatini Environment Action Plan (SEAP) is a framework which the country will use to manage the environment in a sound and sustainable manner. The SEAP has the following objectives; provide a state-of-knowledge overview of the environmental conditions in the country; identify, prioritize and where possible quantify environmental problems; propose solutions to immediate environmental problems in the form of programmes and projects, and institutional and legislative reforms, together with details of their funding requirements and their human resource/capacity-building needs; establish a clear indication of government's priority areas with respect to the environment so as to guide and give proper orientation to donor intervention in this field; establish a framework which provides coherent direction for the process of environmental monitoring and action planning in the future; and provide a framework for continuous development and environmental policy dialogue within the country and with donor partners.

92. Eswatini National Irrigation Policy: This policy was established in July 2015 with the purpose to provide clear guidelines on adoption on how to increase national irrigated land and improve agricultural water management thus improving productivity of labour and environmental resources. The rationale that drove the establishment of the policy was the growing persistence of drought conditions in the country. The main objective of this policy is to ensure that the irrigated agriculture sub-sector in Eswatini contributes fully to economic growth and poverty alleviation in accordance with the Government's Stated Strategy; the National Development Goals, the Water Act of 2003 and the need to use the country's limited natural resources in a sustainable fashion. This policy was able to bring clean piped water to the rural areas of the country more especially the semi-arid and arid areas, which is commonly known as community water. The effects of droughts and aridity is mainly experienced in the water and sanitation sector due to the direct linkages.

93. Food Security Policy (2005) and Food Nutrition Policy (2010): All people in Swaziland always, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The project objectives are enshrined in the food and nutrition policy that seek to reduce poverty and improve food security through the ecosystem approach to terrestrial management, soil degradation and management. Therefore, the project in compliance with national environmental laws, categories and regulations will consider the social aspects of existing livelihoods in their various localities, avoid deterioration of existing livelihoods through assessment of sociological issues and predominant livelihoods.

94. Fisheries Policy (2011): The policy seeks to ensure access to sustainable use of aquatic resources for socio-economic development purposes. The project will contribute to the management and efficient use of the aquaculture and fisheries resources through the ecosystem approach to fisheries livelihoods development.

95. Livestock Development policy: The policy objectively seeks to improve and strengthen animal disease control, surveillance and diagnostic efficiency and the delivery of animal health care services to enhance the quality and reproductive performance of livestock and to ensure risk analysis efficiency, food safety and ensure access to sustainable food, nutrition and health security. Rangeland degradation control and management programs are part of the livestock policy objectives, and the project informs the management of the ecosystems that ensure the contribution to socio-economic development.

96. Comprehensive Africa Agriculture Development Programme (2010): CAADP is a multi-sectorial and continental Policy that guides social and economic matters in agricultural development. The policy ensures that the agriculture sector contributes fully to socio- economic development, poverty alleviation, food security and sustainable natural resources management. The policy objectively seeks to increase agricultural output and productivity, increase the earnings for those engaged in agriculture by promoting adoption of diversification and sustainable intensification and use of appropriate technology, enhance food security, ensure sustainable use and management of land and water resources.

97. Environmental Policy: The policy promotes the enhancement, protection and conservation of the environment and the attainment of sustainable development in Eswatini.

E. Describe how the project meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

98. The programme will comply with the Adaptation Fund standards and policies, such as the Social and Environmental Policy and Gender Policy of the Adaptation Fund and will align and adhere to the national laws and codes of the Government of Eswatini. IFAD's social, environmental and climate assessment procedures (SECAP) are fully aligned with AF related policies. The proposed project complies with the various laws related to the project's implementation, such as environmental, agricultural and water resource acts and laws. Related line Ministries in Eswatini will be instrumental in strengthening compliance and alignment with the laws and policies of the country. Relevant government Ministries will be further engaged during design to ensure that activities comply with relevant national standards. The relevant technical standards applicable to the project include EWS, water supply, water harvesting, irrigation systems, plant and animal production and selection, ecological infrastructure, construction will be further elaborated at full proposal development. A full detailed analysis, evaluations and consultations with the competent services will be carried out during the environmental and social impact study during the full proposal design.

99. An Environmental and Social Management Plan in line with the ISO 14001 Environmental Management System Standards and the Environmental and Social Policy of the Adaptation Fund, including a Risk Assessment for local interventions as Unidentified Sub-projects will be prepared during the proposal development stage.

100. The programme will also be aligned to IFAD's nine Environmental and Social standards under the SECAP. The includes biodiversity strategy, resource efficiency and pollution prevention, cultural heritage, indigenous peoples, Labour and working conditions, community health and safety, physical and economic resettlement, financial intermediaries and direct investments, and climate change. The priorities, as mentioned earlier, comply with the Fund and national policies and regulations for Eswatini.

101. The Environmental and Social Management Plan (ESMP) that will be articulated in this project will consider and track risks that have been identified at proposal stage; screen for any new risks during the implementation of the project and serve to monitor and report on the mitigation measures. The monitoring and reporting measures proposed in the ESMP will be fully integrated in the monitoring plan of the project. The ESMP will not allow the implementation of activities, including undefined sub-projects, with high risk. The proposed project will fully comply with national laws particularly the National Environmental Management Act, the Adaptation Fund's Environmental and Social Policy and the IFAD social and environmental standards. During implementation IFAD and partners will ensure effective coordination with the Eswatini Environmental Authority (EEA) to duly comply with the requirements established within the National Environmental Regulation and Guidelines. A screening form will be developed by EEA for each sub-project and reviewed before implementation starts.

National standards and compliance.

102. Eswatini's Environmental Management Act, 2002, mandates EIAs for projects likely to have significant environmental impacts. The project will conduct comprehensive EIAs for activities such as the construction of water reservoirs, wetlands restoration, and nursery establishment. These assessments will identify potential environmental risks and propose mitigation measures. The project will engage accredited environmental consultants and seek approval from the Eswatini Environmental Authority (EEA).

103. The National Building Regulations and Building Standards Act, 1968, outlines requirements for

construction to ensure safety and durability. All infrastructure development, including nurseries and rainwater harvesting structures, will comply with these building codes. SEASL will obtain necessary construction permits and ensure that all structures meet safety, durability, and environmental standards. Collaboration with local building authorities will be maintained throughout the construction process.

104. The Water Act, 2003, and associated regulations govern water quality standards to protect water resources. The project will adhere to water quality regulations in the establishment of water reservoirs and rainwater harvesting systems. Measures will be implemented to prevent contamination and ensure the provision of clean water for communities and ecosystems. Regular water quality monitoring will be conducted, and results will be reported to the relevant authorities.

105. The Ministry of Agriculture's guidelines and policies, including the National Agricultural Policy, provide standards for sustainable agricultural practices. The project will promote sustainable agricultural practices by following these guidelines. This includes the use of approved agricultural inputs, best practices in land use and soil management, and climate-smart agricultural techniques. Training will be provided to farmers to ensure adherence to these standards.

106. The Forests Act, 2000, and other related regulations govern forest management and conservation. The project will follow forest regulations to ensure sustainable forest management and restoration. This involves compliance with reforestation guidelines, protection of indigenous species, and control of invasive species. The project will collaborate with local forest authorities to align activities with national forest management plans in Eswatini.

107. Occupational Safety and Health Act, 2001, and Waste Regulations, 2000. The project will ensure workplace safety and proper waste management by adhering to these regulations. Safety training will be provided to project staff, and waste management plans will be developed and implemented in accordance with national standards.

F. Describe if there is duplication of project with other funding sources, if any.

108. Several climate change related projects and programmes are on-going while others are planned in Eswatini. It is acknowledged that some projects may look similar to this proposed project but with distinctive differences as articulated on Table 5 below. Numerous discussions with the developers of the other almost similar projects concept notes had been done, and clear unique distinctions were made. It is important to identify synergies and avoid duplications to maximize the use of scarce resources. This project will complement other projects like the SNPAS and FINCLUDE project. The Lower Usuthu Sustainable Land Management Project – LUSIP, no interventions were directed to improving grazing land management even though had been identified in the land use plan cases in CDPs and this project is to address that. The Small Holder Market Led Project – successfully involved smallholders in the production of sugarcane in a large irrigation command, realizing that food security and nutrition were insufficiently addressed but parts of the irrigated command were set aside for cultivation of crops, so this project can complement production under climate smart technologies. Water Harvesting, Small and Medium Dams Project (WHDP) WHDP contemplated the construction and rehabilitation of water storage structures especially in the highveld mostly the Malolotja landscape, yet this project targets Lubombo and Ngwempisi landscapes. The GEF-FAO project targets maize and beans value chains as an entry point towards the broader food system transformations, while the SEASL entry point focuses on ecosystem-based adaptation within specific landscapes Malolotja, Ngwempisi and Lubombo landscapes.

Table 5: Measures to avoid duplication of projects from other funding sources.

Project Name	Entity	Duration	Description	Alignment
Currently completed projects				
Lower Usuthu Sustainable Land Management Project - LUSIP	MOA /ESWADE	2010-2014	The specific project objectives are: 1) to promote development and mainstreaming of a harmonised, cross-sectoral approach to SLM at the national level. 2) to reduce land degradation, biodiversity loss and mitigate climate change in the Lower Usuthu River Basin area through the application of sustainable land management practices which will contribute to adaptation to climate change. 3) to improve the livelihood opportunities, resilience and food security of rural communities (men, women and children), including catalysing development of a range of alternative complementary livelihood opportunities, and 4) to manage the project effectively and disseminate results	This project introduced conservation agriculture and climate smart practices, chiefdom development planning, land rehabilitation and re-forestation. It also helped in the drafting of the Swazi Nation Land Commercialisation Bill. The Proposed "Strengthening Ecosystem based adaptation for Sustainable Livelihoods within Landscapes" will build on the lessons learnt from this project to ensure that best practices are up scaled to other communities. In addition, lessons from LUSIP's community engagement strategies and sustainable practices will be important to inform SEASL's implementation.
Active projects				
Small Holder Market Led Project	MoA/ ESWADE	2016-2023	The project outcomes are: Outcome 1: Chiefdom Development Planning process institutionalised in each of the four Regions. Outcome 2: Increased land area under diverse and resilient market-led production systems in all four Regions. Outcome 3: National capacity to establish, implement and promote policies and programmes to meet Swaziland's convention targets; and to share lessons nationally and regionally.	The project has upscaled the concept of Chiefdom Development Planning to 37 Chiefdoms out of a total of 365 Chiefdoms in the country. The Chiefdom Planning improves land use demarcation for various uses within the chiefdoms and preservation of the environment. The Proposed "Strengthening Ecosystem based adaptation for Sustainable Livelihoods within Landscapes" project will further upscale the ecosystems preservation within landscapes in other chiefdoms or communities with an approach of ensuring harmony between land uses.
Water Harvesting, Small and Medium Dams Project (WHDP)	MOA	2017-2023	The project purpose is the sustainable enhancement of smallholders' irrigated crops in project areas based on approaches that reduce vulnerability to climate risks, support improved water resource management and promote access to markets. The project results are: Result No. 1. Water storage capacity increased Result No. 2. Production capacity for smallholders enhanced. Result No. 3. Institutional capacity strengthened	This project is mainly focused on infrastructure development for increasing water harvesting and irrigation development to enhance commercialisation. The "Strengthening Ecosystem based adaptation for Sustainable Livelihoods within Landscapes" project will mainstream the Ecosystem adaptation approaches to the commercial approach of this project.
Pipeline projects				
Increasing the resilience of Eswatini's agro-pastoral communities through integrated ecosystem and watershed management	UNDP	TBC	The project proposed outcomes are: Outcome 1: Increased capacity of rural support institutions. Outcome 2: Increased food and nutrition security of rural households. Outcome 3: Increased access to water for rural communities. Outcome 4: Land productive capacity enhanced. Outcome 5: Diversified rural livelihoods. Outcome 6: Sustainable funding for watershed management. Outcome 7: Rural communities access credit and livestock value chains	This project is mainly concentrated on the water catchments of the Lubombo region, with the use of national policies as a way of governance. For knowledge management this project will use ecosystem accounting protocols at catchment level. Community based natural resource management catchment plans and rangeland management plans will be used for controlling IAPs with the approach of a regional integration on early warning systems. The "Strengthening Ecosystem based adaptation for Sustainable Livelihoods within Landscapes" project focuses on the landscapes of Ngwempisi and Lubombo region on the protected areas buffers. Coordination at landscape and community will be used for governance. Ecosystem habitat assessment at

				community level will be used for knowledge management. Community development plans, landscape plans, integrated ecosystem management plans will be used for IAPs control, while agriculture sector mainstreaming will be used for early warning systems.
Improving climate resilience in the Kingdom of eSwatini through the integrated management of mountain ecosystems	UNEP	TBC	The project proposes to build the climate change resilience of eSwatini's most vulnerable populations by introducing a bottom-up, integrated management approach in mountain ecosystems. The proposed outcomes are: Component 1. Strengthened institutional and technical capacity of the government, local authorities and communities for implementing integrated climate-resilient management of mountain ecosystems. Component 2. Enhanced climate resilience of communities and mountain ecosystems supported by innovative finance mechanisms. Component 3. Knowledge management to support the mainstreaming of the integrated climate-resilient catchment management approach.	This project is mainly concentrated on the Highveld mountains water catchment, with the use of national policies as a way of governance. For knowledge management this project will use natural resource accounting at catchment level. Community based natural resource management catchment plans and natural resource management plans will be used for controlling IAPs with the approach of water sector mainstreaming on early warning systems. The "Strengthening Ecosystem based adaptation for Sustainable Livelihoods within Landscapes" project focus on the landscapes of Ngwempisi and Lubombo region on the protected areas buffers. Coordination at landscape and community will be used for governance. Ecosystem habitat assessment at community level will be used for knowledge management. Community development plans, landscape plans, integrated ecosystem management plans will be used for IAPs control, while agriculture sector mainstreaming will be used for early warning systems.
Catalyzing Transformation to Sustainable Food Systems in Eswatini:-GEF-FAO	FAO	2025-2029	The GEF-FAO project's main objective is to catalyze the transformation of Eswatini's food systems to make them more sustainable and resilient to climate change. This project focuses on promoting sustainable agricultural practices, improving food security, enhancing nutritional outcomes, and building the capacity of local institutions and communities. Key activities include the adoption of climate-smart agriculture, development of sustainable value chains, and strengthening of policy frameworks to support sustainable food systems.	The two projects aim to promote sustainable food systems. SEASL focuses on ecosystem-based adaptation within specific landscapes, while the GEF-FAO project targets broader food system transformations. Through alignment of objectives, SEASL can leverage sustainable practices from the GEF-FAO project to enhance local food security and resilience. There is no overlap because SEASL's specific focus on ecosystem restoration and climate resilience ensures, and it does not duplicate the broader food system initiatives of the GEF-FAO project.
Climate-Smart Agriculture for Climate-Resilient Livelihoods (CSARL)	IFAD	2017-2024	The GEF-IFAD Food-IAP CSARL project aimed to enhance the climate resilience of smallholder farmers by promoting CSA practices. This project focused on integrating CSA into farming systems, improving agricultural productivity, and increasing the resilience of rural livelihoods to climate change. Key activities were the development of CSA technologies, capacity building for farmers, and the establishment of supportive policy and institutional frameworks.	The proposed project SEASL complements CSARL by incorporating climate-smart agriculture practices into its ecosystem-based adaptation framework. The two projects aim to enhance climate resilience among smallholder farmers. However, SEASL's main focus on ecosystem restoration and adaptive capacity building ensures distinct implementation areas and activities from CSARL's agricultural innovations.
Financial Inclusion and Cluster Development Project (FINCLUDE)	IFAD	2021-2026	FINCLUDE was designed to enhance financial inclusion and promote cluster development in Eswatini. The project focuses on providing financial services to underserved communities, fostering the development of business clusters, and supporting entrepreneurship and economic activities that can boost livelihoods. Key components of FINCLUDE include improving access to credit and savings, building the capacity of financial institutions, and facilitating the growth of small and medium enterprises (SMEs) through cluster development strategies. The project aims to create a more inclusive and dynamic economic environment, particularly for rural communities	The proposed project SEASL focuses on enhancing climate resilience and ecosystem restoration, which supports FINCLUDE's objectives of financial inclusion and cluster development by creating more stable and sustainable livelihoods for rural communities. However, SEASL's ecosystem-based adaptation activities (e.g., wetlands restoration, agroforestry, and rangeland management) provide a foundational basis of environmental sustainability, upon which FINCLUDE can build its financial and entrepreneurial initiatives. By addressing the root environmental challenges, SEASL ensures that FINCLUDE's efforts have a more resilient and more supportive context.

G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

109. The Government of Eswatini acknowledges the potential opportunities that the Adaptation Fund project presents to develop and improve, evidence-based and systematic approaches for coordination and enhanced implementation of climate change responses. These include ensuring comprehensive data collection and analysis, a harmonized criteria and indicators for early warning information analysis and dissemination will be developed, promote new climate information systems, and train local stakeholders on monitoring and early warning networks. Documentation of community-based climate vulnerability baselines to update management plans and develop participatory environmental and social safeguards through interviews and assessments to learn good agricultural practices that are climate resilient for lessons learnt from communities and knowledge management products will be used in sensitizing communities for more informed community-based planning. Products will be added to the GIS portal, the land degradation observatory system will be strengthened for data gathering, and user rights protocols will be established for optimal use of the enhanced services.

110. Climate change impact assessment will be conducted to identify local ecosystems vulnerabilities for learning and knowledge sharing. This assessment will strengthen the development of baselines, community-based climate vulnerability and capacity assessment, which will update management plans and the institutional, regulatory and policy frameworks. Stakeholder engagements will be done to ensure that assessment generates safeguards (environmental and social) by conducting interviews, qualitative and quantitative agroecological assets assessment. Workshops will be conducted to share with stakeholders results of assessment for their awareness and sensitizing for policy directives. Stakeholder engagements will be done to ensure that qualitative and quantitative agroecological assets assessments generate and share results. Lessons will be valued by leveraging data to impact national and regional climate adaptation and sustainable natural resource management policies, promoting best practices across regions and programs, and involving stakeholders in ongoing learning and adaptation. This will ensure that project findings are broadly shared, implemented, and scaled up to improve climate resilience and sustainable livelihoods in Eswatini.

111. In endorsing orderly learning and dissemination of this, the project will develop a digital based knowledge and information management under Component 1, which will stipulate the innovative approaches and activities of the project will be documented and shared. Dissemination of information through reports multimedia and sharing events like capacity building training. Organize workshops and dialogues to raise awareness on climate change adaptation, generate political will and integrate the vulnerability assessment outcome and stakeholders' input into the relevant strategic framework and investment plans. There will be training for technicians and farmers on the tools required to manage a monitoring and early warning network and further engage participation in information dissemination for decision-makers and users of the system. A coordinated structure will be put in place to develop weekly bulletin and radio spots and quarterly reports to share information of short- and medium-term weather forecasts and long-term climate projections.

H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

112. A technical working group, technical committee and steering committee were established through the advice of the Ministry of Agriculture and the Food and Agriculture Organization. There were three consultative meetings with the technical working group, three consultative meetings with the Technical Committee, one consultative meeting with Steering Committee and two consultative meetings with the National Designated Authority office. Additional information is provided in Annex 2.

113. Technical Working Group consultation: The Technical working group was established on the 17th of April 2022. The technical working group consisted of officers from the different departments of the Ministry of Agriculture. These departments included Department of Land Use Development and Planning, Department of Veterinary Service and Livestock, Crops department, fisheries unit, Department of Economic Planning Service. The first consultative meeting with this working group was held on the 18thMay 2022 where the initial concept note development was done following a presentation of climate change adaptation gaps in the agriculture and environment and natural resources management sectors. On the engagement each member of the group shared the adaptive needs and priorities from their subsectors; Lack of agroecosystems-based baseline for climate change vulnerability and adaptation needs, need for capacity building for operationalizing landscape management plans and chiefdom development plans, sustainable harvest of natural resources, mechanizing Climate Smart Agriculture, value addition and access to market, need for pasture management plans, need for wetlands management plans, innovative control of IAPS. Issues raised included: mitigation of land degradation (raised by Department of Land Use Development and Planning), adoption of climate smart technologies (raised by the Crop Department), rangeland management needs, silvopastorial technologies (raised by Department of Veterinary Service and Livestock); need for instruments for deploying finance to smallholder farmers (raised by Department of Economic Planning Service) which shaped the components of the concept note. Second consultative meeting was on the 15th of August 2022 where the technocrats narrowed down to come up with the specific activities under each component including assessments to be done, proposed, information and technology support, climate adaptive technologies and trainings and capacity building programmes, third meeting on the 21st of November 2022 validated the components of the concept note with further consultations and assessments done.

114. Technical Committee Consultation: This committee provides a forum for stakeholders to engage on pertinent developmental issues in the agriculture sector, and to provide technical guidance on proposed agricultural sector climate finance initiatives by making recommendations to the Steering Committee for its consideration. The composition of this committee includes the Ministry of Agriculture-Department of Land Use Development and Planning, Department of Economic Planning Service, Crops Department, Department of Veterinary Service and Livestock. Ministry of Tourism and Environmental Authority-Department of Forestry, Department of Meteorology (Climate Change). Ministry of Natural Resources and Energy-Department of Water Affairs. Ministry of Economic Planning and Development, National Disaster Management Agency, Coordinating Assembly of Non-Governmental Organization, Deputy Prime Ministers Office-Vulnerability Assessment Committee. The consultative meetings with the Technical Committee were held on the 29th of July 2022 where concept note was presented and TC made inputs on need for capacity building programs, 11th of August 2022 where TC advised that there were ongoing similar projects which PMU had to ensure there was no overlap and 23rd November 2022 where the TC validated the concept note.

115. Steering Committee consultation: This committee consists of principal secretaries from the Ministry of Agriculture, Principal from the Ministry of Tourism and Environmental affairs, and the Assistant Food and Agriculture Organization Representative Officer. 1.Building from a Green Climate Fund Readiness Project the project idea was presented to this committee once on the 3rd March 2022 for a go ahead to develop a concept note. The SC was happy with the climate adaptive interventions under the proposed project and gave a green light for development of the concept note.

116. National Designated Authority (NDA) office: The NDA is with the Principal Secretary of the Ministry of Tourism and Environmental Affairs and her officers. The NDAs office has the role of reviewing all concept notes to check for synergies, relevance, duplications from other previous and current developed concept notes. 1. The concept was presented to the NDA's office on the 24th of March 2022 where the NDA requested for project title to be revised, and 27th May 2022 where NDA gave a go ahead for the concept note development after confirming project title change and checking lack of project overlap.

117. Consultative meetings with other stakeholders (UNEP, UNDP): The Ministry of Agriculture and Food and Agriculture Organization held a discussion with the United Nation Development Programme (UNDP) on the 10th of August 2022 to articulate the synergies and alignments of their proposed projects. Also, with UNEP a similar consultation meeting was held on the 25th of August 2022. Table 6 clarifies the alignments from the three projects.

Table 6: Pipeline project initiatives reviewed for project initiative overlaps.

Organisation	**UNDP**	**UNEP**	**FAO/IFAD**
ASPECTS	**Integrated Watershed Management for Agro-pastoral Resilience**	**Improving climate resilience in the Kingdom of eSwatini**	**Strengthening Ecosystem-based adaptation for Sustainable Livelihoods within Landscapes (SEASL)**
Project area selection	Lubombo region,	Highveld Mountains	Landscapes (Ngwempisi & Lubombo)
	Water catchment	Water catchment	Protected areas buffers
Governance/ legislative frameworks	National Policies	National Policies	Coordination at landscape & community
Knowledge management/ Assessments	Ecosystem accounting protocols	Natural resources accounting	Ecosystem habitat assessment
	Catchment level	Catchment level	Community level
Community Based Natural Resource Management	Catchment Plan	Catchment Plan	Landscape plan
	Rangeland MP	NRMP	CDP, Integrated Ecosystem management
	IAPs control	IAPs control	IAPs control
Early warning system	Regional integration	Water sector mainstreaming	Agric sector mainstreaming

I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

118. The total funding required for this project includes project management and project implementation costs. Funding is being requested for the implementation of interventions to reduce the vulnerability and improve the resilience of the local communities to reduce the negative impacts of climate change including:
    - Mitigate the negative impacts of climate change on Eswatini's ecosystems and rural communities.
    - Promote sustainable land and water management practices that enhance resilience in Eswatini.
    - Address socio-economic vulnerabilities by supporting disadvantaged groups, particularly women and youth.
    - Create long-term ecosystem regeneration and sustainability through community-driven initiatives.

119. The adaptation measures are customised to address specific aspects of the baseline scenario, ensuring that they provide additional benefits that would not be realised without this targeted investment. The financing not only facilitates the immediate implementation of these measures but also establishes the necessary capacity and systems for ongoing adaptation initiatives that extend beyond the project's duration.

Component	**Baseline Scenario**	**Alternative benefits of the Adaptation Fund project**
1. Participatory and Gender-Sensitive Capacity Development	Limited understanding and monitoring of agroecosystem resilience. - Fragmented data and information sharing.	- Enhanced landscape and rangeland baseline awareness and monitoring. - Improved digital-based knowledge management for better information sharing. - Strengthened early warning systems and climate/weather advisories.
2. Strengthening Multi-Stakeholder Institutional Collaboration	Fragmented approaches to ecosystem management. - Limited stakeholder coordination and engagement in Eswatini.	- Improved coordination among public, private, and community stakeholders for strategic ecosystem management. - Capacity building for committees on ecosystem-based adaptation strategies. - Enhanced regional learning and collaboration through consultative observatories
3. Stimulating Climate-Adaptive Investments in Integrated Ecosystems	- Ongoing land degradation (25% over the past decades). - Predicted 40% degradation of wetlands by 2050. - Invasive species covering 80% of the country's area. - Decreased rangeland productivity and water recharge capacity.	Development and implementation of pasture management plans to restore rangelands. - Wetlands management plans to restore disturbed ecosystems and improve water availability. - Establishment of communal woodlots to manage invasive species and restore rangelands. - Improved ecosystem-based restoration infrastructure for sustainable ecosystem services.
4. Upscaling Climate Adaptive Technologies for Agroecosystems and Sustainable Livelihoods	- Low adoption of climate-smart agricultural practices in communities. - Limited alternative livelihood options. - High vulnerability to climate-induced shocks.	- Promotion of sustainable natural resource harvesting and handicraft production. - Development of apiary sites for honey production, enhancing biodiversity and livelihoods. - Catalytic programs for adopting climate-smart technologies (e.g., drip irrigation, solar pumping). - Improved agricultural productivity and market linkages through value chain support

J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.

120. The capacity building process of the project allows training local leaders who will be able to build capacity within the communities themselves.

121. The project management structure has been built into an existing national Agricultural Sector Climate Change Coordination Mechanism (ASCCCM) which was facilitated through the GCF Readiness and

Preparedness Project. This structure reviews proposed project initiatives and aligned them with country programming frameworks and ensure that mandated private and public entities are fully participating in the design, implementation and upscaling of project initiatives to realise long-term benefits. Key stakeholder representatives from different sub sectors of agriculture and related sectors form the coordination mechanism for agriculture related projects see Figure 11 below.

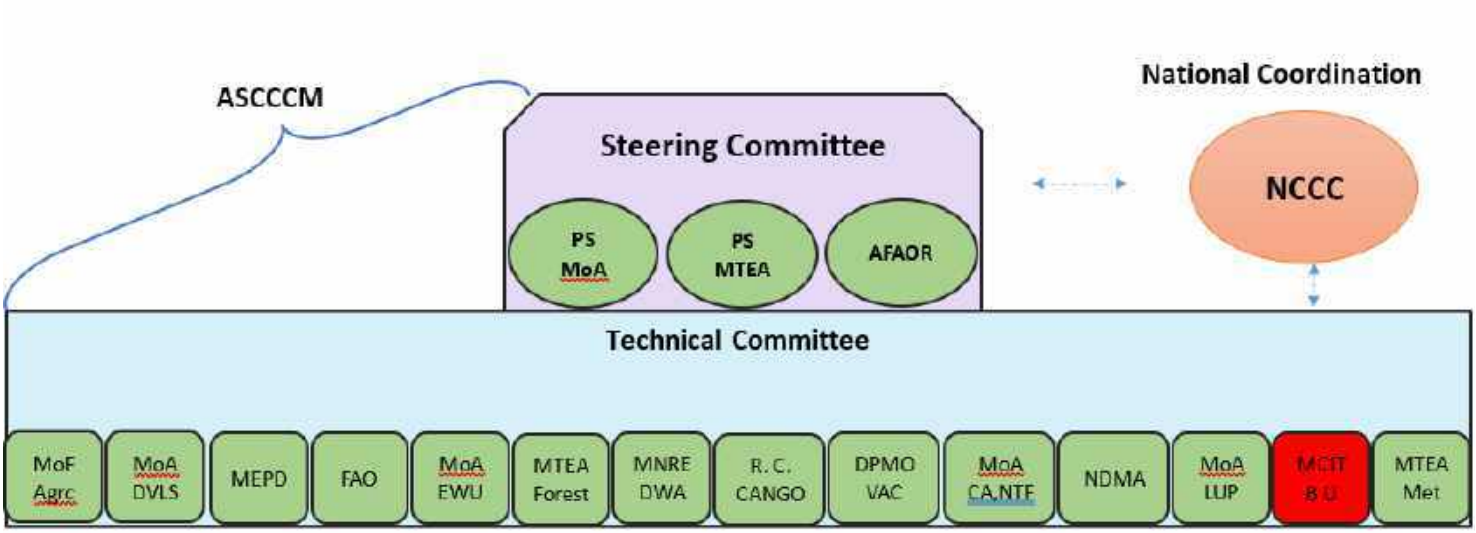

Figure 11: Agricultural Sector Climate Change Coordination Mechanism (ASCCCM)

122. With respect to sustainability after project closure, this project ensures delivery is through the natural/already existing community level institutions particularly the CDCs which work with natural resource management committees (NRMC) from different communities as enshrined in the Tinkhundla Bill. These constitutional institutions are naturally mandated to support Output 3.1.2: Wetlands management plan development and implementation, Output 3.1.1: Pasture Management Plan development and implementation through activities 2.1.2.1, 2.1.2.2, 2.1.2.3, and 2.1.2.4. These key institutions ensure sustainability beyond the project.

123. In the agricultural sector, the sustainability of the proposed project depends on the new knowledge provided by the adaptation initiatives, the use of innovative cost-effective technologies, and the monitoring of the effects of climate change and its variations. Efforts will be made to capture the long-term sustainability of the proposed sustainable land management and adaptation measures by supporting an adequate monitoring system.

124. The project promotes initiatives that will continue to provide results beyond the years of implementation. As an example, the rehabilitation of degraded landscape, the restoration and improvement of irrigation water systems, infrastructures, pastures have long-term lifespan. However, these initiatives require regular maintenance after the project implementation period. The participation of local organizations, community authorities, development partners and especially the commitment of local beneficiaries (individuals and organizations) make it possible to preserve and even continuously improve the initiatives.

125. Sustainability will be further supported through mainstreaming and cross-sectoral, multi-stakeholders increasing public awareness and knowledge to farmers, community leaders, and other relevant regional and national officers on climate change and alternate adaptation measures in agriculture and water management.

126. In line with the many activities including awareness raising on climate change, more measures will be undertaken to transform people of Eswatini's attitude and practices in sustainable adaptation to climate change. The project will furthermore strengthen the sustainability of the proposed interventions by supporting the land related policies and legislation and facilitating further investments in support of sustainable land management and climate smart agriculture.

127. In order to sustain project activities beyond the project implementation period Community management plans will be developed, which will clearly define the responsibilities of all actors engaged in the implementation of the project at community level. Agreements on the maintenance of the sustainability of project outcomes will be developed and signed with all stakeholders during the full project development phase.

128. Development of an Exit Strategy during the proposal development and initial implementation stages will be very vital in ensuring sustainability of the project. Lessons learnt from other projects may be positive while others are negative. These lessons learnt should also for a basis for the sustainability of the project. The sustainability of the outcomes is largely due to:

- Ensuring a participatory approach.
- The implementation of activities that are accessible and acceptable to large groups of population.
- Involvement of development partners.
- Capacity building of communities and different service provider.
- Close cooperation with community leaders and community members.
- Public awareness on progress and outcomes of the project.
- Raising population's awareness on the objective, results and maintenance benefits.
- The existence of a legally binding agreement with communities on the maintenance and sustainability of project results.

K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project/programme.

129. The proposed project concept is expected to be in **Category B** in accordance with the Adaptation Fund's ESP as it has very limited adverse environmental or social impacts. Agroforestry activities might result in unequal access for marginalized groups, mitigated by inclusive participation strategies. Rangeland management could impact biodiversity, addressed through conservation practices. Water harvesting and storage pose risks of pollution and inefficient resource use, controlled through pollution prevention measures. Community training risks excluding vulnerable groups, will be mitigated by targeted outreach and inclusive programs. Additionally, the project must ensure compliance with legal regulations, uphold human rights, promotion of gender equity, protect labour rights, engage indigenous peoples, avoid involuntary resettlement, conserve natural habitats and biodiversity, address climate change impacts, prevent pollution, safeguard public health, protect cultural heritage, and implement soil conservation techniques in all project sites. The project envisages application of new technologies and light constructions, during which the soil will not be damaged, and the environment will not be polluted. Activities will be identified during the preparation of the fully developed project proposal to allow for adequate risk identification and impact mitigation and prevention, as well Environmental and Social Management Framework (ESMF) and Environment and Social Management Plan will be developed. Site specific Environment Impact Analyses will be developed in line with national laws where required. The ESMPs will include monitoring and compliance considerations as well as the grievance redress mechanism.

Table 7: Risk Screening principles of adaptation fund

Checklist of Environmental and social principles	No further assessment required for compliance
Compliance with the Law	***Low Risk:*** *Potential noncompliance with the law* ***Mitigation****:* All activities of the project are in line with Eswatini laws there is no need for additional assessment of conformity. The project will ensure compliance with the relevant national laws.
Access and Equity	***Low risk:*** *Unequal access to project benefits* ***Mitigation:*** The project aims at practicing fair treatment and involvement of all people and communities regardless of race, gender or income level as inclusivity is accounted for by the country's constitution.
Marginalized and Vulnerable Groups	Project does not have negative impacts on Marginalized and Vulnerable Groups. The inclusion of marginalized and vulnerable groups will be ensured through the targeting and beneficiary selection criteria.
Human Rights	***Low Risk:*** *Potential infringement on human rights* **Mitigation:** The project will ensure that activities uphold human rights standards.
Gender Equality and Women's Empowerment	**Moderate risk:** Gender disparities in project participation **Mitigation**: The project will implement gender-sensitive approaches and ensure women's active participation. Section 20 of the Constitution recognizes women's equal status in the social, economic, political and cultural spheres of life. In addition, Section 28 specifically entrenches the rights and freedoms of women and the need for government to allocate resources to address the previous disparities between women and men in terms of their full advancement.40% of persons receiving project support are women 2) 60% men 3)30 % youth (50% of them are women)
Core Labour Rights	***Low risk:*** *Violation of labour rights* ***Mitigation:*** The project will observe core labour rights, and this will be included in the ESMP to be elaborated for the project. The project will also adhere to international labor standards and local labor laws.
Indigenous Peoples	This principle does not apply, as there are no communities in Eswatini that identify themselves as indigenous peoples. No further assessment of potential impacts and risks has been carried out
Involuntary Resettlement	***Low risk****: Forced relocation of communities* ***Mitigation:*** The project does not require or warrant any resettlement of communities. Any activities that may result in resettlement will not be financed by the project.
Protection of Natural Habitats	*Moderate risk: The project will not intervene on pastures in national parks and forestlands because of different land use objectives and management approaches* *Mitigation:* The project will concrete adaptation activities that will promote restoration or conservation of natural habitat.
Conservation of Biological Diversity	***Moderate Risk****: Loss of biodiversity* ***Mitigation:*** The project will promote biological diversity as most of the concrete adaptation activities will promote conservation of biodiversity.
Climate Change	*Low risk Increase in greenhouse gases* *Mitigation:* The project will promote climate-resilient and promote low-carbon solutions.
Pollution Prevention and Resource Efficiency	***Low risk:*** *Pollution and inefficient resource use* M**itigation**: There will be no emissions and effluent discharge that might pollute the land, water and air from all technologies and practices that will be adopted through the project. Where resources are used such as water and land, efficient use will be promoted and for any agrochemicals, safe handling, use and disposal will be promoted.
Public Health	***Moderate risk****: Negative impacts on public health* ***Mitigation****:* Project interventions will have a positive effect on public health through sustainable increased ecosystems services that will sustain livelihoods and indirectly impact human health. The project will also implement health and safety protocols on all activities.
Physical and Cultural Heritage	***Low risk****: Damage to cultural heritage sites* **Mitigation:** Low adoption of adaptation technologies and practices due to cultural heritage will be mitigated through capacity building. The project activities will not be implemented in areas with physical cultural heritage assets.
Lands and Soil Conservation	*Moderate risk: Soil erosion and degradation.* *M*itigation: The project will have a positive impact on vegetative cover, an introduce soil conservation measures, plant resilient and diverse native plant species and improve water management.

PART III: IMPLEMENTATION ARRANGEMENTS

130. The Government of Eswatini will receive AF resources through IFAD as the multilateral implementing entity, which will act as the custodian of the funds. IFAD will channel the resources received to FAO and monitor and provide oversight of the project implementation. FAO will house the Project Coordinating Unit (PCU), which is tasked with the overall coordination of the project planning, implementation, monitoring and reporting. FAO will implement the project in close collaboration with the Ministry of Agriculture and the Ministry of Tourism and Environment, which is the AF's National Designated Authority (NDA).

Figure 13: Agriculture sector multilevel coordination mechanism

Table 8 below outlines institutions and their roles and responsibilities in the implementation of the project.

Table 8: Implementation and execution roles and responsibilities

Institution	Roles and Responsibilities
IFAD	As the Implementing Entity will act as custodian for the AF, channel the resources from the AF to FAO and monitor and provide oversight of the project implementation
Food and Agriculture Organization of the United Nations (FAO)	FAO as an executing entity will carry out all fiduciary and financial management, procurement of goods and services, monitoring and reporting activities under the project in compliance with FAO's policies and procedures.
Ministry of Agriculture	Responsible for providing policy and technical support to all issues related to agriculture and its sub-sectors. The MoA provide technical strategic advice for the implementation of the project.
Ministry of Tourism and Environmental Affairs	The ministry will provide technical and strategic advice for the implementation of the project, will coordinate with other relevant ministries at the national level on climate change matters and oversee the implementation of the project with FAO
NGOs	As delivery partners who are community-based organizations have experience in delivering agroecosystems development initiatives. They will increase acceptability and efficiency of project initiatives.
Private Sector	Will support market linkages of project livelihood products such as handicraft, crops and livestock.

L. Demonstrate how the project/programme aligns with the Results Framework of the Adaptation Fund

Table 9: Project objectives' alignment with the results framework of the Adaptation Fund

Project Objective(s)[1]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. Facilitating capacity development in a participatory approach that is gender sensitive within landscape and rangelands as for improved knowledge management.	No. of participants	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	%% of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	721,450
2. Strengthening the institutional arrangements at the landscape and community-levels, with relevance to the national policies directive.	No. of functional institutions from landscape to community level	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic & environmental losses	No. of targeted institutions with increased capacity to minimize exposure to climate variability risks (by type, sector and scale)	550,000
3. Stimulating climate-adaptive investments in agroecosystems important	No. of nature-based interventions	Outcome 4 Increased adaptive capacity within relevant	Physical infrastructure improved to withstand climate change and variability-	4,231,250

	for adaptive livelihoods such as forest, wetlands and rangeland rehabilitations.		development sector services and infrastructure assets	induced stress	
4.	Upscaling of climate-adaptive technologies for agroecosystems and sustainable alternative livelihoods which will consider risk transfers through micro-insurance and other financial inclusion strategies.	No. of catalytic funding mechanisms	Outcome 8 Support the development and diffusion of innovative adaptation practices, tools and technologies	No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	3,070,000

Table 10: Project outcomes' alignment with the result framework of the Adaptation Fund

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Improved landscapes and rangelands baselines, awareness and monitoring on agroecosystems resilience.	No. and types of surveillance systems applied	Risk and vulnerability assessments conducted and updated	No. of projects/programmes that conduct and update risk and vulnerability assessments (by sector and scale) No. of early warning systems (by scale) and no. of beneficiaries covered	721,450
Improved coordination of landscapes by multi-stakeholders (Public, private and communities) for strategic frameworks of implementing the integrated agro-ecosystem approach.	No. of active landscape committees	Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	No. of technical committees/associations formed to ensure transfer of knowledge No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	550,000
Climate smart actions developed for integrated ecosystems adaptation.	Area under climate smart technologies	Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	No. of key findings on effective, efficient adaptation practices, products and technologies generated	750,000
Improved ecosystem-based restoration infrastructure in community landscapes for sustainable increased ecosystem services to sustain livelihoods.	No. of eco-entrepreneur projects and area restored	Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	3,481,250
Disadvantaged group's transformative entrepreneurship promoted.	No. of gender and socio-economic transformative enterprises	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts	Type of income sources for households generated under climate change scenario	410,000
Incentivized climate smart agriculture for improved productivity.	No. of adaptive technology promoted	Viable innovations are rolled out, scaled up, encouraged and/or accelerated.	No. of innovative adaptation practices, tools and technologies accelerated, scaled-up and/or replicated	2,300,000
Improved and sustainable commodity compliance to market requirements.	No. of successful market linkages	Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Type of income sources for households generated under climate change scenario	360,000

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[2]

Ms Khangweziwe Mabuza Principle Secretary Ministry for Tourism and Environmental Affairs	Date: 8 January 2024

MINISTRY OF TOURISM AND ENVIRONMENTAL AFFAIRS

Tel: ++268 404 6420 / 404 1714/8
Fax: ++268 404 5415 / 404 6438
E-mail: ps_tourism@gov.sz / mintour@realnet.co.sz

P. O. BOX 2652
MBABANE H100
ESWATINI

8th January 2024

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for Strengthening Agro-Ecosystem Adaptation for Sustainable Livelihoods within Landscapes (SEASL)

In my capacity as designated authority for the Adaptation Fund in Eswatini, I confirm that the above national grant proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Eswatini.

Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by International Fund for Agriculture Development and executed by Food Agriculture Organization and Ministry of Agriculture.

Sincerely,

MINISTRY OF TOURISM AND ENVIRONMENTAL AFFAIRS
PRINCIPAL SECRETARY
08 JAN 2024
P.O. BOX 2652
MBABANE - ESWATINI

KHANGWEZIWE MABUZA
PRINCIPAL SECRETARY

B. Implementing

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
Implementing Entity coordinator: Ms Janie Rioux Senior Climate Finance Specialist ECG Division	**Email**: j.rioux@ifad.org
Mr Juan Carlos Mendoza Casadiegos Director Environment, Climate, Gender and Social Inclusion Division	
Date: 7 August 2024	**Email**: ecgmailbox@ifad.org
Project contact persons	
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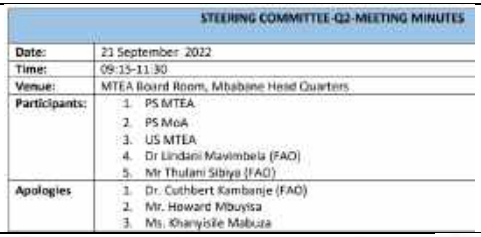
Annex 1: Indicative Results framework for the project proposal

Project Objective / Output	Indicator	Baseline	Target	Means of verification	Responsibility	Comment
Project Objective: **The project objective is to contribute towards reducing climate and human induced vulnerability of the agroecosystems of the Lubombo and Ngwempisi communities of Eswatini by increasing adaptive capacity of key local institutions and actors, through the pilot of good land management practices and climate resilient practices**	Number of beneficiaries (disaggregated by gender and youth) who have received support from the project as a proxy for increasing adaptive capacity to respond to the impact of climate change	0	At 4,400 households (at least 45% women and 50% youth)	Project Progress Report	PMU	A stable agroecosystem environment with improved gender transformative initiatives
Component 1: 1. Capacity development on a participatory approach within landscapes for improved knowledge management.						
Output 1.1.1 **Integrated agro-ecosystem assessment adopted to update biodiversity assessments done by the SNPAS project to inform adoption of climate smart technologies.**	Number of agroecosystems assessment reports	3	5	Assessment and management reports	PMU, Eswatini Environment Authority (EEA), Eswatini National Trust Commission (ENTC) and community	The update or expansion of agroecosystem assessment in communities will be compiled per landscape
Output 1.1.2 **Adopted use of information services Digital based knowledge and information management integrated for information sharing.**	Number of land degradation status reports.	The digitally earth observatory system currently functional at 25% of its potential	75% functionality	Land degradation status reports	PMU, MoA, ESWADE	Currently system piloted in 10 chiefdoms and the target is to roll it out to more than 30 chiefdoms
Output 1.1.3 **Technology support for climate/weather early warning systems and advisories strengthened.**	Fully functional information dissemination system	Delayed information system	Real timely dissemination	Reports, bulletins, flyers	PMU, MoA, NDMA, MTEA	Delayed flow, current early warning is more reactive than being proactive
Component 2. Strengthen multi-stakeholder institutional collaboration (public, private & communities) for strategic implementation of agro-ecosystem based adaptation						
Output 2.1.1 **Training of trainer's modules developed to capacitate lead committees on ecosystem-based adaptation strategies.**	Number of lead trainers trained	0	20	Reports and module booklets	PMU, ENTC, MTAD, EEA, MoA	Landscape committees currently not functional to capacitate communities
	Number of modules developed	0	3			
Output 2.1.2 Institutional capacity building programs for committees to develop ecosystem-based management	% of targeted chiefdoms have developed ecosystem-based management plans	8	15	Ecosystem-based chiefdoms development plans	PMU, MTAD, ENTC, EEA, MNRE	Strengthen the mainstreaming of natural resources management in chiefdom development plans
Output 2.1.3 **Regional Consultative Observatory learning on landscapes coordination.**	% of targeted institutional representatives participation	0	90% participation	Learning tour reports	PMU, Landscape committees and MoA	A platform to share experiences from advance landscapes in the region and to foster collaborative efforts
Component 3. Stimulate climate-adaptive investments in integrated ecosystems (forest, wetlands and rangeland rehabilitation.						
Output 3.1.1 **Pasture Management Plans developed and implemented**	% of executed plans	0	90%	Pasture management plans,	PMU, MoA, Landscape committees, community	Landscape structures supported to effectively manage rangelands
Output 3.1.2						

Wetlands management plans developed and implemented to enhance restoration of pasture carrying capacities currently reduced by overstocking. **Output 3.1.3** **Communal woodlots management plans developed and implemented to restore disturbed ecosystems due to livestock trampling and human over harvesting.**				Implementation progress reports	natural resources management committees	
Output 3.2.1 **Two community and two public nurseries strengthened to supply restored ecosystems.**	Number of community and public nurseries completely strengthened	0	4	Implementation progress reports	PMU, MoA, MTEA, EIRMIP	Restored ecosystems will more resilient to climate change and provide alternative livelihood
Output 3.2.2 Restored wetlands and water reservoirs designed and established considering environmental safeguards.	Number of designed and established wetlands and water reservoirs	0	15	Design reports, Implementation reports	PMU, MoA, ENTC, DWA	Wetlands and water reservoirs established to strengthen their ecosystem services
Output 3.2.3 Technologies & practices adopted for Invasive Alien Species and soil erosion control in ecosystems.	Number of integrating control methods applied, Area of land from which technologies have been adopted	0	4	Progress reports on adoption integrated methods	PMU, EEA, ENTC, MTEA	There is a need to implement the 2021 IAPS strategy which proposes an integrated control approach
Output 3.2.4 Agroforestry and silvopastoral technologies adopted as nature-based insurance for alternative livelihoods.	Area of land on which technologies has been adopted	0	10,000ha	Implementation progress report	PMU, MoA, MTEA	Agroforestry and silvopastoral will strengthening mitigation of soil degradation
Component 4. Upscale climate adaptive technologies for agroecosystems and sustainable alternative livelihoods.						
Output 4.1.1 **Program on sustainable natural resources harvesting for handicraft and other products.**	Number of chiefdoms on which the program has been fully initiated	0	15	Implementation progress report, Chiefdom natural resource reports	PMU, MTEA, ENTC, EEA	Program will improve sustainable utilization of natural resources
Output 4.1.2 **Apiary sites (honey production) developed on forest and wetlands ecosystems restored**	Number of apiary sites developed	0	20	Implementation progress report	PMU, MoA, MTEA, ENTC	Apiary sites will bring a sustainable alternative livelihood to communities
Output 4.2.1 **Drought tolerant, protein rich and early maturing crops promoted in rain fed agroecosystems to create economic value for protecting ecosystems.**	Number of crops and varieties adopted	0	90%	Implementation progress report, Production reports, Nutrition reports	PMU, MoA	Drought tolerant and early maturing varieties are an adaptation strategy
Output 4.2.2 **Catalytic program to switch from conventional irrigation to climate smart technologies such as drip irrigation and solar pumping..**	Area of land on which climate smart irrigation technologies have been adopted	0	10,000ha	Program implementation progress report	PMU, MoA	Program will incentivize the switch from conventional to climate-smart technologies
Output 4.3.1 **Value chains platform strengthened to promote market driven productivity.**	Number of successful market linkages	0	10	Implementation progress report, Value chains and market reports	PMU, MoA,	Market driven productivity will strengthen sustainability and livelihood
Output 4.3.2 **Capacity building program for strengthened value addition.**	Number of individuals and communities capacitated by program	0	20	Implementation progress report	PMU, MoA	There is a need for value addition capacity building for enhanced market linkages

ANNEX 2: CONSULTATIVE EXERCISE

TITTLE OF CONSULTATION	MAIN ISSUES DISCUSSED	LIST OF STAKEHOLDERS
NDA & MoA, Inception meeting on proposed concepts Date: 3 March 2022 Venue: Mbabane	Project concept note zero draft was presented to the Climate Finance Designated Authority (NDA/DA) as a Deliverable from a Green Climate Fund Readiness Project The DA gave a go ahead for development of full concept note	**OUTCOME OF MEETING BETWEEN MTEA-NDA, MOA & FAO** **Date:** 03 March 2022 **Time:** 10:30-12:00 **Venue:** MTEA Board Room, Mbabane Head Quarters **Participants:** 1. Khangeziwe Mabuza (PS-MTEA) 2. Dudu Masina-Nhlengethwa (MTEA) 3. Lindani Mavimbela (FAO) 4. Theophillus Dlamini (FAO) 5. Howard Mbuyisa (MOA) 6. Sipho Shiba (MOA) 7. Patric Dlamini (MOA) 8. Constance Dlamini (MTEA) 9. Mbhekeni Nxumalo (MTAE)
Development of log-frame for Concept note. Date: 18 May 2022 Venue: Piggs peak	Initial concept note development was developed a presentation of climate change adaptation gaps in the agriculture and environment and natural resources management sectors Issues raised: mitigation of land degradation (raised by Department of Land Use Development and Planning), adoption of climate smart technologies (raised by the Crop Department), rangeland management needs, silvopastorial technologies (raised by Department of Veterinary Service and Livestock) ; need for instruments for deploying finance to smallholder farmers (raised by Department of Economic Planning Service) which shaped the components of the concept note	   
Technical Committee (TC) meeting Date: 29 July 2022 Venue: Mbabane	Concept note was presented to the and TC made inputs on need for capacity building programs, TC also advised in terms of avoiding overlaps with ongoing similar projects.	**OUTCOME OF MEETING BETWEEN MTEA-NDA, MOA & FAO** **Date:** 29 July 2022 **Time:** 09:30-12:00 **Venue:** MoA Board Room, Mbabane Head Quarters **Participants:** 1. Mr Thulani Sibiya (MOA) 2. Dr Cuthbert Kambanje (FAO) 3. Dr Lindani Mavimbela (FAO) 4. Mr Theophillus Dlamini (FAO) 5. Mr Sifiso Msibi (MOA) 6. Mr Sipho Shiba (MOA) 7. Ms. Constance Dlamini (MTEA) 8. Mr Mbhekeni Nxumalo (MTAE) 9. Mr Ntokozo Dlamini (MoA) 10. Mr Victor Mahlalela (NDMA) 11. Mr Nkosinathi Mavimbela (MoF) 12. Dr Coll Ndzabandzaba (Red Cross) 13. Mr Spencer Green Thompson (MNRE) 14. Mr Sacolo Sanele (DPMO)

Steering Committee Meeting Date: 21 September 2022 Venue**:** Mbabane	The Committee and the Designated Authority endorsed the concept note having reviewed possibility of overlaps and checking if interventions were of national priority	 **STEERING COMMITTEE-Q2-MEETING MINUTES** **Date:** 21 September 2022 **Time:** 09:15-11:30 **Venue:** MTEA Board Room, Mbabane Head Quarters **Participants:** 1. PS MTEA 2. PS MoA 3. US MTEA 4. Dr Lindani Mavimbela (FAO) 5. Mr Thulani Sibiya (FAO) **Apologies** 1. Dr. Cuthbert Kambanje (FAO) 2. Mr. Howard Mbuyisa 3. Ms. Khanyisile Mabuza
Finalisation of Agro-ecological Concept Note Date: 22 November 2022 Venue: Zulwini	The Technical Working Group validated the components of the concept note with further consultations and assessments done.	
Landscapes (Lubombo and Ngwempisi) Community Consultation **Date: 20-23 June 2023** **Venue:** Shewula and Tikhuba Community/ Chiefdom centres for Lubombo Landscape and KaZulu and Luzelweni Community/ Chiefdom centres for Nwempisi Landscape	<u>Ngwempisi Landscape Issues and Proposed Interventions</u> According to submissions by the community members which constituted 47% women, climate change induced challenges faced included: limited labour-intensive conservation agriculture implements, lack of capacity with the conservation agriculture technology, limited government soil tillage implements, high agricultural inputs prices and lack of profitable market for agricultural produce, loss if livestock and crops due to lack of proper transboundary fence resulting in game animals destroying their crops and livestock, breakout of invasive alien species on rangelands, water scarcity for livestock and irrigation and lack of capacity for management of community plant nursery. The community members proposed interventions which included trainings on Conservation Agriculture (CA), provision of mechanized CA implements, provision of transboundary fence, fencing of rangelands, replanting of nutritious grasses on rangelands paddocking and rotational grazing, nature-based solutions for controlling IAPS which include turning them to an energy project, restoration of wetlands to enable resurfacing of water to be used for livestock and irrigation and also regrowth of thatch which has an economic value (used for handcraft) and capacity building to support agro-forestry initiatives from trees nursery. <u>Ngwempisi Landscape Issues and Proposed Interventions</u> The communities under the constituencies which participation constituted 63% women voiced out their livelihoods challenges which included macro-organisms and insects that feed on the roots of their crops and vegetables, unaffordability of insecticides used to control the macro-organisms, loss of essential soil micro-organism due to chemical use to control the macro-organisms, lack of capacity	

	in management of natural resources by Community Development Committees (CDCs), rangelands that have been degraded by IAPS, water scarcity as wetlands have been degraded by IAPS and livestock, lack of water pumping and conveyance material for irrigation, lack of palatable grass for livestock resulting in reduced livestock market price and costly transportation of produce to market. In response to these challenges, the community members proposed interventions including capacity building on natural resources management for CDCs, capacity building in use of nature-based solutions to control insects and macro-organisms, restoration of rangelands through reseeding of indigenous grasses and fencing, nature-based solutions of controlling IAPS including making liquid fertilizer from them, fencing of rangelands, provision of water resources through wetland restoration and building of earth dams bee keeping of which they need capacity building and inputs and lastly market linkage for their produce.