



ADAPTATION FUND

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Adaptation Fund Board
Project and Programme Review Committee
Thirty-eighth Meeting
Bonn, Germany, 19-23 October 2026

PROPOSAL FOR ESWATINI (1)



ADAPTATION FUND

ADAPTATION FUND BOARD SECRETARIAT
TECHNICAL REVIEW OF PROJECT PROPOSAL FOR
"STRENGTHENING ECOSYSTEM-BASED ADAPTATION FOR SUSTAINABLE LIVELIHOODS
WITHIN LANDSCAPES (SEASL)"

Project Title	Strengthening Ecosystem-based adaptation for Sustainable Livelihoods within Landscapes (SEASL)
Project ID	AF00000589
Category	Regular size project (over \$1 million)
Type	Single country project
Stage	Fully-developed project
Country	Eswatini
Implementing Entity	IFAD
Financing Requested	USD 10,000,000.00
Reviewer	Una May Gordon

Co-reviewer(s)

IE Contact Person

Clarissa Conte, Claus Reiner, Fanny Minjauw, Francesco Rispoli, Pierre Yves Guedez, Wietse Michiels, Zira Mavunganidze

Secretariat's Overall Comment

The initial technical review raises some issues, full cost of adaptation reasoning, E&S Principles checklist, lack of an explicit grievance mechanism and the budget for the IE as is discussed in the number of Clarification Requests (CRs) and Corrective Action Request (CAR) raised in the review.

Country Eligibility

Is the country party to the Kyoto Protocol or the Paris Agreement?

Response: Yes

Secretariat: N/A

Is the country a developing country particularly vulnerable to the adverse effects of climate change?

Response: Yes

Secretariat:

Key climate vulnerabilities in Eswatini include rising temperatures and changing rainfall patterns. While overall rainfall may decline, the frequency of heavy rainfall events exceeding 20 mm per day is expected to increase, heightening the risk of both drought and intense rainfall-related impacts. These changes are also expected to adversely affect biodiversity and ecosystem functioning

Project Eligibility

Has the designated government authority for the Adaptation Fund endorsed the project/programme?

Response: Yes

Secretariat:

As per the Endorsement letter dated 5 August 2026 signed by Dlamini Hlobisile of Ministry of Tourism and Environmental Affairs.

Does the length of the proposal amount to no more than One hundred (100) pages for the fully-developed project document, and one hundred (100) pages for its annexes?

Response: Pending

Secretariat: Yes.

The total pages of the proposal document is 96 including Table of contents. The total number of pages for the annexes is ~53 pages including ANNEX 1: Climate Risk Assessment, Spatial Targeting & M&E Framework, ANNEX 2: Overview of consultations conducted, ANNEX 3: Environmental and Social Risks Management Plan, and ANNEX 4 Gender Action Plan.

Some editorial notes:

CR1: Please note that the Terminal Evaluation is submitted 9 months after project closure. Please consider extending this in Projected Calendar to allow additional time.

CR2: Please ensure all tables have captions or title.

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part II Section A (pages 20-36), the proposal identified a number of concrete investments, but the scale is not consistently quantified. For instance, the proposal does not specify the number of hectares of rangeland under improved management. Similarly, though several types of water harvesting infrastructure are proposed, there is no information on the number to be installed nor their expected storage capacity of volume of water to be harvested. There is cohesion among goals, objectives, components and activities are strong. Notably the overall objective doesn't capture the focus component 2 well in terms of landscape level coordination and institutional capacity. Coherent Theory of Change and its diagram is included, while the assumptions and risks are documented in the narrative (para. 7). Activities support one or more AF Strategic Objectives (para. 12).

CR3: Please increase the photo quality of Figure 15 so the text is legible (less pixelated).

CAR1: Please quantify the expected scale of major concrete adaptation investment such as number of hectares of rangeland, number and type of rainwater harvesting systems to be installed and other relevant targets. Though it may exist in other sections of the proposal, it should be explicit in Part II Section A.

CR4: For the overall goal, consider the following:

- i. Include agroecosystems and diversified livelihoods.
- ii. Replace establish with enhance/strengthen since the project is building
- iii. Please ensure consistency with the terms agrosystems and agroecosystems. The goal mentions agroecosystems while the objective mentions agrosystems.

CR5: Please clarify the adaptation rationale and the additionality of livelihood and value chain activities under Component 4, specifically beekeeping enterprise development, aggregation centres and processing equipment . These may be considered the to be business as usual since they are typical agricultural development interventions, if climate-induced losses or vulnerabilities that will be addressed are not explicit.

CR6: Please make Component 2 more explicit in the overall objective. Consider including the wording such as 'strengthening inclusive landscape level coordination and multi-hazard response' to ensure that the overall objective adequately reflects all four project components.

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part II, Section B (pages 36-28), the proposal identifies expected economic, social and environmental benefits, and broadly identifies vulnerable groups such as women, youth, female-headed households, persons with disabilities and other marginalized groups. Benefits to these groups are noted in para 23 and Table 22. The proposal also notes the estimated number of direct and indirect beneficiaries. Gender considerations are well-reflected in the Gender Action Plan. However, concerns of negative development or maladaptation have not been indicated.

CR7: Please clarify the expected distribution of direct beneficiaries by sex, age and any other key vulnerabilities, given the vulnerable groups identified in the proposal.

CAR2: Please clarify how the potential adverse impacts, exclusion risks and maladaptation risks associated with project interventions will be identified, avoided and/or mitigated in accordance with the Fund's Environmental and Social Policy and Gender Policy.

CR8: Please clarify if Indigenous Peoples are present in the target areas or may be affected by activities. If so, please explain how applicable E&S safeguards such as consultation and participation requirements, have been addressed. Please refer to the E&S Principles checklist

Response: Not Cleared

Secretariat: N/A

Is the project / programme cost effective?

Response: Pending

Secretariat: Yes.

However, further information is needed.

As per Part II, Section C (pages 38-41), the cost-effectiveness analysis is generally adequate but requires further strengthening and amendments.

CR9: Please address the following:

- (i) reconcile inconsistencies in beneficiary and unit-cost figures provide clearer like-for-like comparisons with alternative adaptation options or provide reasoning behind this approach. Focusing on Table 23 & 24.
- (ii) clarify post-project O&M costs and financing to strengthen from a sustainability point of view.
- (iii) The footnote 51 on page 38 The USD 117 per-direct-beneficiary ratio is derived from $\text{USD } 10,000,000 \div 85,790,936$ direct beneficiaries. However, the number of beneficiaries is 85,790. This may have been a typo.
- (iv) Please ensure that all projections are appropriately cited. Where figures are already supported elsewhere in the proposal, such as the projected 40% wetland degradation by 2050, please cross-reference the relevant source or section.

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes

However further clarification is required.

As per Part II, Section D (pages 41-43), the proposal identifies relevant strategies and plans such as the National Development Plan, National Development Strategy, National Adaptation Plan, Nationally Determined Contributions (NDC), National Biodiversity Strategy and Action Plan (NBSAP), and landscape specific management plan. The proposal also explains the project's alignment with these strategies and plans. However, reference is not made regarding any sector-specific policies, strategies or plans.

CR10: Kindly clarify the following:

- i. whether there are any relevant sector specific plans (e.g. agriculture strategy etc) and describe the project's alignment to it.
- ii. confirm the years of implementation of each strategy/ plan or the year completed if the period is not documented in the proposal. Please clarify the period or year for the NAP.

Response: Not Cleared

Secretariat: N/A

Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund?

Response: Pending

Secretariat: Yes.

As per Part II, Section E (pages 43-49), the proposal notes national and local technical standards. It outlines the process for ensuring compliance and identifies the competent authority responsible for relevant approvals or authorisations. The standards appear to be aligned with the ESMP.

Response: Cleared

Secretariat: N/A

Is there duplication of project / programme with other funding sources?

Response: Pending

Secretariat: Not sure.

As per Part II, Section F (pages 49-56), there is a comprehensive list of projects.

CR11: For consistency and ease of comparison, please present the relevant projects in a table covering:

- (i) Project title, Donors/Funding Entity
- (ii) Main project interventions,
- (iii) Implementation period and specific location within the country,
- (iv) Target population,
- (v) Implementing entity,
- (vi) Key Lessons learned (where applicable)
- (vii) Overlaps, complementarities and synergies with the proposed project, including how SEASL will build upon existing or previous projects and avoid duplication

Response: Not Cleared

Secretariat: N/A

Does the project / programme have a learning and knowledge management component to capture and feedback lessons?

Response: Pending

Secretariat: Yes.

However, further information is needed.

As per Part II, Section G, the proposal outlines the different outputs related to knowledge management, the knowledge products to be produced across its five-year cycle. The frequency the implementation experiences

and lessons gained will be documented and reviewed will be annual. A Knowledge Management & Communications Officer will be part of the PMU.

CAR3: Please strengthen the visibility and coherence of the KM and Learning activities by consolidating them under either a dedicated component (a new Component 4 or a sub-component), with a dedicated budget line. This should bring together the project's knowledge generation, documentation, learning, dissemination, exchange, and uptake activities across all components.

CR12: Please clarify

i. how will the project systematically assess what works, for whom and under what conditions, and at what cost. Will this be part of the after action review?

ii. how the knowledge platform and the knowledge generated will be maintained, institutionalized, and financed after the project concludes.

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part II, Section H (pages 57-65), and in the Annexed Consultation Report, the proposal provides a comprehensive overview of the consultations held. This includes a list of participants (disaggregated by gender), including youth, location of meeting, issues discussion and raised and also indicated how the interest of stakeholders was included in the project. Stakeholders with gender remit were included such as women's farmer groups, traders' groups and other community-based groups. However, it is unclear whether the Ministry responsible for gender affairs participated in the consultation process.

CR13: Please confirm whether a representative of the national gender machinery or the government institution responsible for gender equality participated in the stakeholder consultations. If not, please clarify how the views and priorities of the national gender institution were considered in the project design and consultation process. Kindly ensure their inclusion is explicit if it is included. Note this is separate from the women's groups acknowledged above.

Response: Not Cleared

Secretariat: N/A

Is the requested financing justified on the basis of full cost of adaptation reasoning?

Response: Pending

Secretariat: As per Part II, Section I (pages 65-66), the proposal provides an overall rationale for AF funding through its baseline/with project analysis and discussion of climate, financial and institutional additionality. However, the full cost of adaptation reasoning should be strengthened at the component and major activity level to more clearly demonstrate the additional costs attributable to climate change and distinguish the proposed interventions from business-as-usual development activities.

CR14: Please clarify, for each component, the baseline situation, the additional adaptation needs arising from climate change, and the specific AF response, the expected reduction in vulnerability or climate risk, why the costs are necessary and proportionate, so activities are not considered business as usual.

CAR4: Please also confirm that delivery of all AF-financed outputs and outcomes is not dependent on EADF financing, co-financing, or other parallel initiatives, and that the AF-financed activities, taken on their own, are sufficient to deliver the proposed adaptation results. Also please further strengthen the adaptation additionality of activities that could otherwise be perceived as business-as-usual development interventions.

Response: Not Cleared

Secretariat: N/A

Is the project / program aligned with AF's results framework?

Response: Pending

Secretariat: Yes.

However further information is required.

According to Part III, Section F, "The project contributes directly to six of the eight AF Strategic Outcome areas (Outcomes 1, 2, 3, 5, 6, and 7)".

CAR5: Please follow the new guidance for the Alignment Table. https://www.adaptation-fund.org/wp-content/uploads/2026/04/AF-SRF-Updated-templates_results-framework-table-and-results-framework-alignment-table.pdf

CR15: Please amend the sentence as Outcome area 7 is not referenced in the Table 41- Project Alignment Table or elsewhere in the proposal.

Response: Not Cleared

Secretariat: N/A

Has the sustainability of the project/programme outcomes been taken into account when designing the project?

Response: Pending

Secretariat: Yes.

However further clarification is needed.

As described in Part II, Section J (pages 66-67), the proposal provides a comprehensive framework covering key areas, including a concise table reflecting operational mechanisms and exit arrangements per sustainability dimension. It provides institutional arrangements, ownership, capacity building, O&M, post-project funding mechanisms, and a phased exit strategy. The proposal also identifies several potential national financing mechanisms that could support continuation of adaptation activities beyond project completion. Some inconsistency in wording exists or needs clarification. The proposal does not provide a sufficiently clear pathway for replication and scaling up, including what interventions will be replicated or scaled, by whom, where, through which financing mechanisms, and on what basis.

CR16: It is stated that 'Eswatini Agricultural Development Fund (EADF) serves as the principal national anchor, with formal commitments to continue financing adaptation-aligned activities. Please clarify the statement: EADF willingness/MoU to be confirmed. SAPEMP is in the process of signing a MoU with EADF.

CR17: Please strengthen the post-project sustainability arrangements by clearly distinguishing confirmed financial and institutional commitments from anticipated or potential financing sources. For each key post-project financing mechanism, please clarify the responsible institution, status of the commitment/agreement, expected financing arrangements, eligible activities and timing.

CR18: Please have a bullet point which explicitly reflects replication and scaling up. In doing so, please further explain how replication and scaling up will occur after project completion, including:

- (i) which project interventions/results are expected to be replicated or scaled;
- (ii) the institutions responsible;
- (iii) the geographical or beneficiary scope for potential scaling;
- (iv) the financing mechanisms and indicative resource requirements; and
- (v) how project-generated evidence, knowledge and lessons will inform replication and scale-up decisions.

CR19: Please clarify the post-project O&M and financing arrangements for each major category of infrastructure and productive asset, including water-harvesting systems, nurseries, aggregation centres, processing equipment and other installations noted under technical sustainability. Please identify asset ownership, responsibility for maintenance and replacement, estimated recurrent costs, sources of financing, and post-project monitoring/accountability arrangements. This may simply require expanding Table 32 on Sustainability matrix drivers, mechanisms, and exit arrangements

CR20: Please include a bullet point on economic sustainability noting it is different from financial sustainability – focus on livelihood and enterprise interventions and how they expect to remain economically viable after AF support ends.

Response: Not Cleared

Secretariat: N/A

Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part II, Section K and Annexes 3 and 4, the proposal states that environmental and social risk screening

has been undertaken against the 15 principles of the Adaptation Fund Environmental and Social Policy (ESP), and classifies the project as Category B. The proposal highlights the use of unidentified sub-projects (USP) and also establishes an ANNEX 3 which functions as an Environmental and Social Management Framework (ESMF) for these unidentified sub-projects. However further clarification is needed in some areas

CR21: Please clarify why the sites must remain unidentified rather than select them during the proposal preparation. Community demands should be identified during the consultation. Is the results of the assessment will inform the selection? If so, or if there are other reasons, please be more explicit.

CAR6: If locations are not sufficiently known, please re-consider the use of Category B in the statement: SEASL includes Category B unidentified sub-projects. However, it can be noted that while the overall project is category B, each USP will undergo screening before approval.

CAR7: Given the overall project is classified as a Category B, the statement 'any site screening that returns a classification above Category B is escalated to a full EIA or the site is excluded' should be reconsidered. The project should not finance a Category A USP. Please indicate that the project will not finance Category A USP and refer to the exclusion list. An EIA for a Category A does not make it consistent with an overall Category B project.

CAR6: Regarding the checklist (Table 33):

- Note for Table 33, ESP 1 (Compliance with the law), ESP4 (Human rights) and ESP 6 (Core Labour Rights) always apply. Therefore, please remove the tick as further assessment is required during project implementation.
- ESP 10 (Conservation of Biological Diversity) notes Risk of introducing non-native or invasive species through nurseries / agroforestry". According to the AF's E&S Policy (2026) (para. 21), the issue is avoiding the introduction or use of known invasive species. Please ensure the screening of invasive species is explicit here.
- ESP 11 indicates that programmes/projects should not result in any significant or unjustified increase in greenhouse gas emissions or other drivers of climate change.
- ESP 8 (Involuntary settlement) only indicates that such activities will be excluded. However, this is insufficient, please review activities to see what could potentially result in economic displacement and/or restricted access.
- ESP 7 (Indigenous Peoples), if there are no indigenous people why reference is made to FPIC or is it unclear if Indigenous People will be affected, especially given the USPs. Please clarify the statement. Please review all 'key risk drivers' describing the risk. Take note of the CR below for guidance.
- Table 33, Column 3 is incomplete. It should include the risk category (low, Medium and High) like the unnamed table below. It should also describe the risk. Please strengthen the preliminary environmental and social screening by identifying foreseeable risks sufficiently to support the project categorization (Low, Medium or High). The assessment should consider potential direct, indirect, cumulative and transboundary impacts and risks associated with the proposed interventions. The tables should clearly:
 - identify the specific potential impact or risk;
 - indicate whether the risk is low, medium or high and provide the basis for that rating;
 - identify relevant avoidance, preventive or mitigation measures; and
 - explain how the risk and mitigation measures will be monitored during implementation.

Where no material risk is anticipated, please state "no risk" and provide an appropriate justification.

For consistency, risks may be framed as: "There is a risk of..." It is acknowledged some of this information is in the subsequent table and should be included in Table 33.

CR22: The proposal includes a Gender Action Plan (GAP). However, the GAP appears to be missing values and indicators. Please address the following

(i) The missing values and indicators

(ii) Rather than reference another report with the value, please include the cost in the table so it can be read as

a standalone document

Response: Not Cleared

Secretariat: N/A

Resource Availability

Is the requested project / programme funding within the cap of the country?

Response: Pending

Secretariat: Yes

Response: Cleared

Secretariat: N/A

Is the Implementing Entity Management Fee at or below 8.5 per cent of the total project/programme budget before the fee?

Response: Pending

Secretariat: Yes.

The IE fee is below the threshold of 8.5%. All figures are rounded off. The total amount requested (US\$10 million) which equates to the components table vs. budget vs. Disbursement table.

Response: Cleared

Secretariat: N/A

Are the Project/Programme Execution Costs at or below 9.5 per cent of the total project/programme budget (including the fee)?

Response: Pending

Secretariat: Yes.

The EE fee is at the threshold of 9.5%. All figures are rounded off.

Response: Cleared

Secretariat: N/A

Eligibility of IE

Is the project/programme submitted through an eligible Implementing Entity that has been accredited by the Board?

Response: Pending

Secretariat: Yes.

The Implementing Entity is International Fund for Agricultural Development (IFAD). Accreditation Expiration Date: 04 February 2031.

Response: Cleared

Secretariat: N/A

Implementation Arrangements

Is there adequate arrangement for project / programme management, in compliance with the Gender Policy of the Fund?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part III, Section A, the proposal, complemented by Figure 16 provides sufficient description of the roles/responsibilities of the IE, and EE as well as the composition of the National Climate Change Committee, the Project Steering Committee which meets annual, and the Agriculture Sector Climate Change Coordination Mechanism (ASCCCM), Technical Committee which meets quarterly. The two committees are inclusive including government, private sector and civil society. However, the names of the civil society groups and private sector representatives have not been identified.

The Project Management Unit (PMU) includes a National Project Coordinator and Specialist in E&S, M&E and Gender and Social Inclusion. However, Knowledge Management and Communications Officer and Climate Specialist has not been identified – though mentioned previously. Table 34 distinguishes the functions of the IE & EE.

CR23: Please specify the specialists and consultants that will be engaged as part of the PMU, along with their roles (more specifically the Knowledge Management and Communications Officer and Climate Specialist as identified in the Execution Costs budget). Please ensure consistency and alignment between the proposed PMU roles, the proposed activities, and the budget.

Response: Not Cleared

Secretariat: N/A

Are there measures for financial and project/programme risk management?

Response: Pending

Secretariat: Yes.

However

CR24: Please amend the row regarding “Limited government institutional capacity” as it does not mention all key specialist or is there a reason why all are not included.

CR25: Under Social, consider joining the sentences: Gender Action Plan with a minimum target of 40% female participation, supported by a dedicated Gender Specialist within the PMU

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However, further information is needed.

As per Part II, Section K (page 68), a table lists risk management instruments. As per Annex 3: Environmental and Social Risks Management Plan, Table 55 presents the SEASL E&S risk register and mitigation plan which forms the core of the ESMP. Table 56 sets out the roles and responsibilities of the IE, EE and other relevant actors, including IFAD’s supervisory role as the IE. Cost references for proposed mitigation and management measures are provided and linked to Table 57 (ESMP implementation budget). Section 12 outlines the arrangements for “Monitoring, supervision and reporting” on compliance with AF E&S Policy. The ESMP includes a Grievance Mechanism (section 11) with a dedicated budget line provided in Table 57. However, the full steps of the Grievance Mechanism is unclear.

- 1.
2. CAR9: Please clarify the full steps in the Grievance Mechanism, ensuring there is an accessible and meaningful grievance mechanism in place, mentioning all parts of the grievance process, including where grievances can be addressed.
3. CR26: For clarity, please include a column to link Table 54 E&S Principles to Table 55, ensuring that all risk identified in Part II, Section K (pages 67 and 68) are covered.

Response: Not Cleared

Secretariat: N/A

Is a budget on the Implementing Entity Management Fee use included?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part III, Section G, para. 148 (page 85), “The IFAD IE Fee is set at USD 783,000, fee covers IFAD's fiduciary

oversight, AF Board reporting, supervision missions, mid-term and terminal evaluation oversight, AF reporting compliance, and overall accountability obligations as Multilateral Implementing Entity. However, this is not broken down in a separate table like the Project Execution Costs.

CAR10: Please provide a detailed breakdown of the IE fee, ensuring that it covers all activities that IE is permitted to undertake. Please also note that the audit costs should be included under IE, not EE. This table should include the costs stated in para 85 but also Mid-Term Evaluation, Terminal Evaluation.

CR: Please ensure the IE costs in the M&E plan are included in the new IE table, such as the Baseline study, Mid-Term Evaluation, Terminal Evaluation.

Response: Not Cleared

Secretariat: N/A

Is an explanation and a breakdown of the execution costs included?

Response: Pending

Secretariat: Yes.

However further information is required.

As per Part III, Section G, Table 44 (pages 93-94), the proposal presents a detailed breakdown of Project Execution Costs which will be led by FAO as the EE. It includes the allowable expenses for EE such as PMU core staff, operational expenses, grievance redress mechanism and project administration (report and inception and completion events).

CAR11: Please note that the External Audit is a cost borne by the IE and not the EE. Please amend the budget accordingly.

CR27: Please clarify whether the monitoring costs have been included in the budget and, if so, indicate the relevant budget line under which they are captured.

CR28: Although budget notes have been provided, there are several budget lines where it is unclear how the final amounts were derived. This may indicate discrepancies in the calculations or that additional information is needed in the budget notes to clearly explain the basis of the totals. For example, budget lines related to 1.1.3, 1.1.4, 1.1.5, 1.2.4, 1.2.6, 1.2.7., 1.4.3. In other cases, the figures do not line up to the budget notes. Please review the entire detailed budget against the budget notes to ensure that the values are consistent and that there are no discrepancies between the two.

Response: Not Cleared

Secretariat: N/A

Is a detailed budget including budget notes included?

Response: Pending

Secretariat: Yes.

However, further information and clarification are required.

There are several discrepancies between the amounts reflected in the detailed budget and the corresponding budget notes, with many of the differences exceeding US\$100. Greater consistency is also needed between the budget and the budget notes to avoid confusion and ensure that all amounts can be clearly reconciled.

For example:

- Budget line 2.1.2 is valued at US\$233,607. However, the budget notes indicate 15 chiefdoms × US\$15,500 per chiefdom, which totals US\$232,500.
- Under the same budget line, for Trainings, the budget notes indicate approximately 15 multi-day capacity-building cohorts × US\$8,700, which totals US\$130,500.

CR29: Please clarify or review and reconcile these figures and ensure that the detailed budget and budget notes are clear and consistent throughout Table 44.

CR30: Para 149 indicated that adequate resources have been allocated in the project budget for gender-responsive implementation. The proposal also includes a GAP (Annex 4) with budgeted amounts assigned to specific activities. However, the link between the GAP and detailed project budget is not sufficiently clear. GAP activity 1.3.8 – Exchange visits is budgeted at US\$50,000 (focus on youth and women), whereas Table 44, budget line 1.3.8 – Exchange visits, reflects a higher amount. Please clarify.

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However further information is required.

The proposal includes an M&E budget valued at US\$145,000 with responsible parties identified. In Table 38 makes provisions for mid-term and terminal evaluations, baseline studies, ESMP and safeguards monitoring and gender action plan monitoring. Table 39 presents the Reporting Schedule.

CR31: Please note the Terminal Evaluation can be submitted nine months after Project Closure. In paragraph 134, please note that independent consultants will also be undertaking the Terminal Evaluation

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However further information is required.

Table 38 in the Budget for the M&E plan. The M&E activities are listed along with the responsible entity, The budget lines related to the IE are Evaluations (Mid-term and terminal evaluations), supervision missions and Progress Report Preparation.

CR32: For a US\$5-10million project the evaluation cost (i.e.the budget that is allocated to mid-term review and terminal evaluation) should be between 1-2% of the total project costs. However, the budget is currently below 1%. Please revise budget to meet the minimum 1% threshold, as such the combined MTR and terminal evaluation budget would need to be at least US\$100,000.

Response: Not Cleared

Secretariat: N/A

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?

Response: Pending

Secretariat: Yes.

However, further information is needed.

As per Part III, Section E, the proposal includes a Project Results Framework, the targets are disaggregated by sex as appropriate as specified in Table 40. Table 40 includes the alignment to AF Core indicator and the Results Framework indicators. However, the AF Core indicator tables are missing.

CAR12: Please note that the project result framework must include at least the core impact indicator "Number of beneficiaries" including estimations for direct and indirect beneficiaries. A second or third core indicator must also be included as appropriate e.g. namely (1) Early Warning System; (2) Assets Produced, Developed; Improved, or Strengthened; (3) Increased income, or avoided decrease in income or (4) Natural Assets Protected or Rehabilitated. Please refer to this document for guidance <https://www.adaptation-fund.org/wp-content/uploads/2016/04/AF-Core-Indicator-Methodologies.pdf> Note the core indicators are briefly mentioned in paragraph 144 (Part III, Section F) but no further details are provided.

CR34: Please ensure the targets in Table 40 are aligned with the targets mentioned in Part II Section B and also Section A (once the narrative in section A is amended).

CR35: According to Part III, Section F, "The project contributes directly to six of the eight AF Strategic Outcome areas (Outcomes 1, 2, 3, 5, 6, and 7)". However, Table 41 does not reflect AF Strategic Outcome area 7. In addition, para, 12 also does not mention Outcome 7. This may have been an oversight. Please amend the sentence.

CR36: For Table 41 'Overview of project alignment with the AF results framework', please note that each budget is identified by each associated AF output/indicator on its own. Please ensure that budget totals of output indicators are not lumped together. Please be sure to follow the new guidance as of April 2026-
https://www.adaptation-fund.org/wp-content/uploads/2026/04/AF-SRF-Updated-templates_results-framework-table-and-results-framework-alignment-table.pdf

Response: Not Cleared

Secretariat: N/A

Is a disbursement schedule with time-bound milestones included?

Response: Pending

Secretariat: Yes.

The disbursement table complies with the prescribed format at <https://www.adaptation-fund.org/apply-funding/project-funding/project-proposal-materials/>

Response: Cleared

Secretariat: N/A



FULLY DEVELOPED PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT 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 (IFAD)

Executing Entities: Food and Agriculture Organization (FAO)

Amount of Financing Requested: USD 10 million

Project Formulation Grant Request: Yes ☒ No ☐

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

NOTE: The LOE 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 proposal has been submitted before including at a different stage (concept)

☐ This is the first submission ever of the proposal at any stage

In case of a resubmission, please indicate the last submission date: 10 February 2025

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List of Acronyms

Acronym	Full Name/Description
AF	Adaptation Fund
AR6	Sixth Assessment Report (of the Intergovernmental Panel on Climate Change)
ASCCCM	Agricultural Sector Climate Change Coordination Mechanism
AVI	Advanced Vegetation Index
AWPB	Annual Work Plan and Budget
BSI	Bare Soil Index
CAADP	Comprehensive Africa Agriculture Development Programme
CBNRM	Community-Based Natural Resource Management
CDC	Chiefdom Development Committee
CDP	Chiefdom Development Plan
CHIRPS	Climate Hazards Group InfraRed Precipitation with Station data
CMIP6	Coupled Model Intercomparison Project Phase 6
CO ₂	Carbon dioxide
CRVA	Climate Risk and Vulnerability Assessment
CSA	Climate-Smart Agriculture
DEM	Digital Elevation Model
DOY	Day of Year
EbA	Ecosystem-based Adaptation
EADF	Eswatini Agricultural Development Fund
EEA	Eswatini Environment Authority
ENTC	Eswatini National Trust Commission
EWS	Early Warning System
EWADE	Eswatini Water and Agricultural Development Enterprises
FAO	Food and Agriculture Organization of the United Nations
FPIC	Free, Prior and Informed Consent
GBV	Gender-based Violence
GDP	Gross Domestic Product
GEE	Google Earth Engine
GII	Gender Inequality Index
GRM	Grievance Redress Mechanism
HDI	Human Development Index
HGSF	Home-Grown School Feeding Programme
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
IAPS	Invasive Alien Plant Species
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
LA	Landscape Association
LDN	Land Degradation Neutrality
LILMP	Lubombo Integrated Landscape Management Plan
LOE	Letter of Endorsement
LUSIP	Lower Usuthu Sustainable Land Management Project
M&E	Monitoring and Evaluation
masl	meters above sea level
MIE	Multilateral Implementing Entity
MoA	Ministry of Agriculture
MNRE	Ministry of Natural Resources and Energy
MoF	Ministry of Finance
MTEA	Ministry of Tourism and Environmental Affairs
MTR	Mid-Term Review
NAP	National Adaptation Plan
NBRI	Normalized Burn Ratio Index
NBSAP	National Biodiversity Strategy and Action Plan
NC4	Fourth National Communication to the United Nations Framework Convention on Climate Change
NCCC	National Climate Change Committee
NDC	Nationally Determined Contribution
NDMI	Normalized Difference Moisture Index
NDVI	Normalized Difference Vegetation Index
NDWI	Normalized Difference Water Index
NEX-GDDP	NASA Earth Exchange Global Daily Downscaled Projections
NILMP	Ngwempisi Integrated Landscape Management Plan
NLP	Ngwempisi Landscape Programme
NPCRI	Normalized Pigment Chlorophyll Ratio Index
NRM	Natural Resource Management
NRMC	Natural Resource Management Committee
PMU	Project Management Unit
PPR	Project Performance Report

PSC	Project Steering Committee
PWD	Person with Disability
RDA	Rural Development Area
SAPEMP	Smallholder Agriculture Productivity Enhancement and Mechanization Programme
SDG	Sustainable Development Goal
SEAP	Swaziland Environment Action Plan
SEASL	Strengthening Ecosystem-based Adaptation for Sustainable Livelihoods within Landscapes
SECAP	Social, Environmental and Climate Assessment Procedures (IFAD)
SI	Soil Index
SLM	Sustainable Land Management
SME	Small and Medium Enterprise
SNPAS	Strengthening the National Protected Areas System of Eswatini
SNL	Swazi Nation Land
SOS	Start of Season
SPI	Standardized Precipitation Index
SPI-3	Three-month Standardized Precipitation Index
SRF	Strategic Results Framework
SSP	Shared Socioeconomic Pathway
SSP2-4.5	Moderate emissions stabilization pathway (Shared Socioeconomic Pathway 2-4.5)
SSP5-8.5	High-emissions fossil-fuel pathway (Shared Socioeconomic Pathway 5-8.5)
TDL	Title Deed Land
ToR	Terms of Reference
TWG	Technical Working Group
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USP	Unidentified Sub-Project
VSLA	Village Savings and Loan Association
WHDP	Water Harvesting, Small and Medium Dams Project

Project background and context

1. Geographic, economic, social and environmental background

1.1. Country Overview

The Kingdom of Eswatini is a landlocked, lower-middle-income country covering approximately 17,364 km² in southern Africa, bordered by the Republic of South Africa on three sides and Mozambique to the east. As illustrated in Figure 2, the country is administratively divided into four regions Hhohho, Manzini, Shiselweni, and Lubombo which in turn are subdivided into Tinkhundla (administrative sub-units) and chiefdoms. Despite its small geographic footprint, Eswatini encompasses exceptional ecological diversity structured around four distinct physiographic regions (see Figure 3) oriented as north-south belts: the Highveld, Middleveld, Lowveld, and Lubombo Plateau. These regions form the ecological basis for differentiated land use, livelihood systems, and climate risk profiles.

- **The Highveld** (900–1,800 masl) receives the highest annual rainfall (typically exceeding 1,000 mm), supports cool and wet conditions, and is dominated by montane grasslands and Afromontane forests.
- **The Middleveld** (400–900 masl; 550–850 mm annual rainfall) supports mixed woodland and savanna ecosystems and hosts the densest human settlements.
- **The Lowveld** (150–400 masl; 400–700 mm) is characterized by semi-arid conditions, extreme heat, and sparse tree savanna.
- **The Lubombo Plateau** (450–750 masl; 400–700 mm) forms a narrow escarpment along the eastern border and connects with the Maputaland biodiversity system.

Land tenure in Eswatini is bifurcated: approximately 75% of the national territory is held as Swazi Nation Land (SNL), administered by traditional authorities and allocated under customary tenure, while the remaining approximately 25% comprises Title Deed Land (TDL) and Crown Land under formal statutory tenure.¹

1.2. Macroeconomic and Social Context

Eswatini's economy is characterized by a narrow productive base and deep structural vulnerabilities. Agriculture's contribution to GDP declined from 12.3% in 2000 to 8.8% in 2019², reflecting prolonged rural economic marginalization even as the majority of the population continues to depend on subsistence farming.³ Eswatini ranks in the medium human development index category, but is characterized by inequality in resource access along gender, age, and geographic lines.⁴

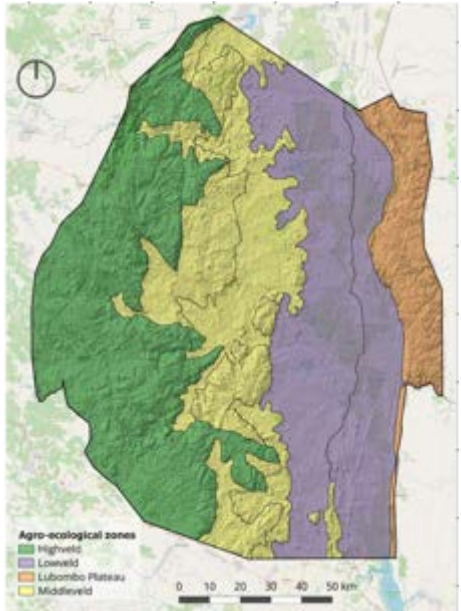
Poverty is pervasive and concentrated in rural areas. 54% to 59% of Eswatini's population lives below the national poverty line, with about 20% living in extreme poverty. Despite being classified as a lower-middle-income country with a relatively high GDP per capita, Eswatini suffers from some of the highest income inequality globally, driving deep, persistent multidimensional deprivation. Nearly 20% of the population suffers from multidimensional poverty, meaning they are deeply deprived in areas like nutrition, health, and standard of living.⁵

Approximately 76% of the national population reside in rural areas⁶, where livelihoods are overwhelmingly linked to rain-fed agriculture, livestock rearing, and natural resource extraction.⁷ Over 75% of smallholder farmers depend entirely on rainfall for crop production, with the majority of agricultural workforce being women a constituency that simultaneously bears the greatest burden of climate impacts and faces the most constrained access to productive assets, information, and institutional support.⁸ High HIV/AIDS prevalence further compounds socio-economic fragility, reducing household labour capacity, increasing dependency ratios, and eroding intergenerational knowledge transfer. Approximately 75% of the population rely on firewood as their

Figure 2 The four administrative regions in Eswatini



Figure 3 The Four agroecological zones in Eswatini



¹ TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.
² FAO/Africa-Press – Agricultural GDP declining: <https://www.africa-press.net/eswatini/all-news/agric-contribution-to-gdp-declining>
³ BTI 2022: Bertelsmann Transformation Index 2022, Bertelsmann Stiftung, Gütersloh.
⁴ UNDP HDR 2020: United Nations Development Programme, Human Development Report 2020: The Next Frontier — Human Development and the Anthropocene. New York: UNDP.
⁵ WB online: <https://www.worldbank.org/ext/en/country/eswatini>
⁶ UNFPA Eswatini – National Context: <https://eswatini.unfpa.org/en/national-context-0>
⁷ UNFPA 2020: United Nations Population Fund, State of World Population 2020.
⁸ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

primary source of household energy, creating persistent pressure on remaining forest resources and contributing to deforestation and land degradation cycles.⁹

1.3. The two project target landscapes (see Figure 4)

The **Lubombo Landscape** encompasses approximately 3,902.8 km² (390,275 ha) and forms part of the internationally recognized Maputaland-Albany biodiversity hotspot. It lies in the Lowveld and Lubombo Plateau physiographic zones and is home to approximately 212,531 people distributed across 11 Tinkhundla's and 87 chiefdoms / communities, at an average density of 54.4 people/km² (concentrations around Siteki Town reaching 743 people/km²). The landscape is semi-arid, receiving 400–700 mm of annual rainfall, and is structurally anchored by two major transboundary river systems the Mbuluzi River and the Great Usuthu River which provide critical water corridors for people, livestock, and biodiversity. Sentinel-2 composite land cover analysis shows forests and dense woodland covering approximately 50% of the landscape, rangeland 24%, and cropland 22%.¹⁰

The **Ngwempisi Landscape** occupies central-western Eswatini in the Middleveld at 400–900 masl, receiving 550–850 mm of annual rainfall. It hosts approximately 89,164 people across 41 chiefdoms / communities at 76.1 people/km². The Ngwempisi Landscape is officially designated as one of five national Land Degradation Neutrality (LDN) hotspots (see Figure 5), reflecting the compound impact of overgrazing, recurrent wildfire, invasive alien plant species (IAPS) invasion, and unsustainable agricultural practices. Land cover is characterized by forest at 46%, rangeland at 43%, cropland at approximately 8%, and built-up areas exceeding 2%.¹¹

Together, the two landscapes encompass approximately 301,677 people across 128 chiefdoms / communities, forming the primary unit of intervention for the SEASL project.

1.4. Ecosystems and Natural Capital

Eswatini's ecological systems comprise four major ecosystem types: montane grasslands (Highveld); savanna-woodland mosaics (Middleveld and Lowveld); forests (Highveld and Lubombo mountains); and aquatic systems (rivers, wetlands, and springs).¹² These ecosystems underpin the provisioning, regulating, and cultural services on which rural livelihoods depend, including food and water security, fodder production, carbon sequestration, local climate regulation, and spiritual wellbeing.

These ecosystems are under severe and compounding pressure. Land has affected approximately 25% of the national territory over the past decade, driven by overgrazing, unsustainable agricultural expansion, deforestation for fuelwood, recurrent uncontrolled wildfires, and the progressive invasion of invasive alien plant species (IAPS).¹³ Three IAPS in particular *Solanum mauritianum* (Bugweed), *Chromolaena odorata*, and *Lantana camara* outcompete native vegetation, reduce rangeland productivity, increase wildfire fuel loads, and degrade wetland margins. Approximately 80% of the national territory is infested by at least one of 16 documented IAPS.

Aquatic ecosystems are among the most critically threatened: only 3% of Eswatini's freshwater and wetland systems are legally protected, and wetlands face simultaneous pressures from livestock trampling, resource

Figure 4 The two project target landscapes

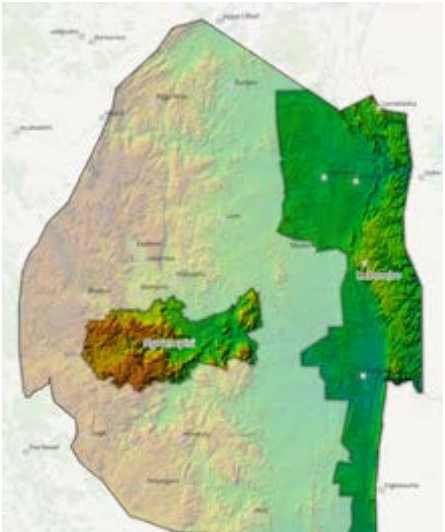


Figure 5 Five Land Degradation Hotspots for Eswatini

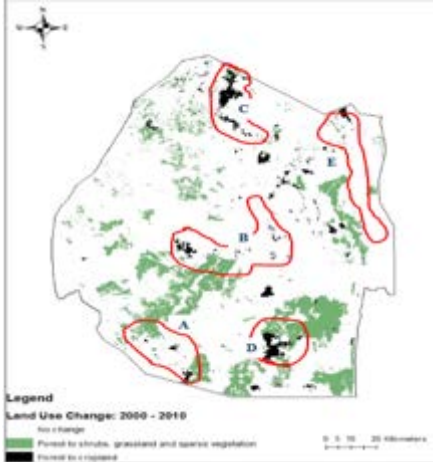


Figure 6 Land use and land cover in the project target landscapes

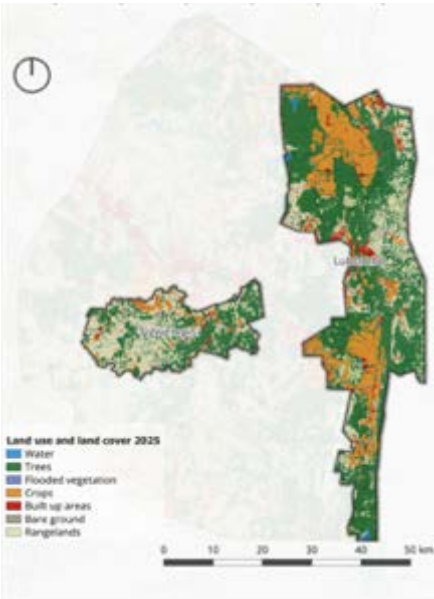
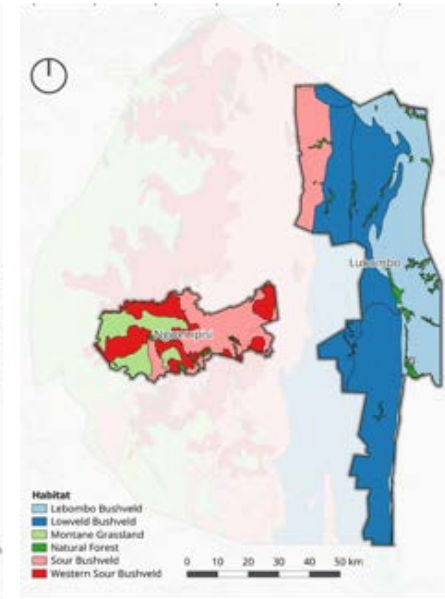


Figure 7 Habitat types within the project target landscapes.



⁹ TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.
¹⁰ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.
¹¹ Idem
¹² TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.
¹³ LILMP: Lubombo Integrated Landscape Management Plan 2020–2030, Ministry of Tourism and Environmental Affairs / Eswatini Environment Authority.

overharvesting, upstream catchment degradation, and accelerating climate change.¹⁴ Without significant restoration investment, marshlands and wetlands are projected to degrade by a further 40% by 2050.¹⁵ These losses would be catastrophic given that wetlands serve as the primary dry-season water sources, livestock watering points, and flood-buffering infrastructure for rural communities in both target landscapes.

Figure 6 and Figure 7 show the land use and habitat types within the project target landscapes.

2. Climate profile of Eswatini and project target landscapes

2.1. Historical Climate Hazards and Observed Trends

Eswatini's climate is characterized by high spatial variability linked to its physiographic diversity, with mean annual rainfall ranging from more than 1,500 mm in the northern Highveld to below 500 mm in the southern Lowveld. The country is inherently exposed to drought as a semi-arid environment, but observed trends since the mid-twentieth century indicate that both temperature and precipitation patterns have been substantially modified under anthropogenic climate change, substantially amplifying the biophysical and socio-economic risks faced by rural communities.

Temperature Trends

Analysis of station-based temperature records spanning 1961–2010 reveals that minimum night-time temperatures are rising faster than maximum daytime temperatures, a pattern consistent with the global warming signals documented in the IPCC Sixth Assessment Report.¹⁶ Across the country, the frequency of cold nights and frost days has declined markedly, while the frequency of hot nights has increased. In Mbabane (Highveld), hot nights increased by 27% between 1960 and 2004 during winter seasons.¹⁷ In the Lowveld already the hottest and driest region very hot days exceeding 34°C were rare events in the 1970s but have become a frequent seasonal occurrence over the past three decades.¹⁸ This thermal escalation has direct consequences for livestock productivity, crop evapotranspiration demand, and human health.

Precipitation Trends

Mean annual precipitation exhibits a clear declining trend in the number of rain days between 1970 and 2010, accompanied by increased inter-annual variability, longer dry spells, and a concentration of total annual rainfall into fewer, higher-intensity events.¹⁹ Rainfall totals have been consistently reduced over the 2000–2020 period relative to long-term means, deepening the chronic water insecurity already experienced in the semi-arid Lowveld and Lubombo zones.²⁰

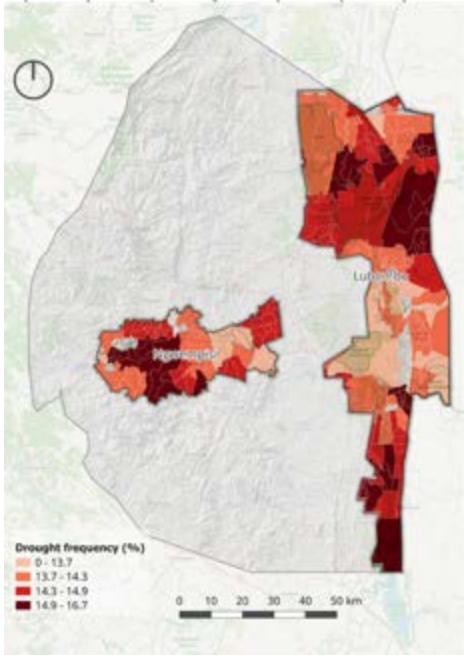
Drought Intensification

Analysis of Standardized Precipitation Index (SPI-3) data derived from 44 years of CHIRPS satellite-corrected station records (1981–2025)²¹ reveals a near-tripling of drought frequency in the Lubombo Landscape: the proportion of months classified as drought conditions ($SPI-3 \leq -1.0$) increased from approximately 8% during 1981–1990 to 23% during 2015–2025. As shown in Figure 8, this trend is spatially pervasive across Lubombo sub-areas and represents a structural shift in seasonal moisture balance rather than the expression of a single exceptional drought year, with multi-year drought sequences becoming increasingly common from the 2000s onward.²²

Growing Season Disruption

Analysis of MODIS-derived Start-of-Season (SOS) phenological data (1982–2025) reveals statistically significant delays in growing-season onset across multiple sub-areas. Delays range from 37 days at Mbadlane, to 40.5 days at Lokhayiza, to 46 days at Khushweni (all $p < 0.05$), effectively compressing the productive growing period and disrupting traditional planting calendars. As shown in Figure 9, Communities have shifted planting from September to as late as November a two-month dislocation that increases late-season moisture stress during grain filling and reduces total yield potential. Seven community consultations conducted in February 2026 universally confirmed that seasonal unpredictability has undermined the traditional ecological

Figure 8 Drought frequency (1981-2025) in the project target landscapes.



¹⁴ TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.

¹⁵ UNDP: SGP Eswatini Country Programme Strategy for OP7 The Kingdom of Eswatini (2021)

¹⁶ IPCC AR6: Intergovernmental Panel on Climate Change, Sixth Assessment Report: Impacts, Adaptation and Vulnerability (Working Group II). Cambridge University Press, 2022.

¹⁷ TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.

¹⁸ Idem

¹⁹ Idem

²⁰ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

²¹ CHIRPS: Climate Hazards Group InfraRed Precipitation with Station data; Funk, C. et al. (2015). Scientific Data 2, 150066. <https://doi.org/10.1038/sdata.2015.66>

²² CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

knowledge signals used to determine planting dates, including the flowering of specific indigenous trees and the arrival of migratory birds.²³

Compound Drought–erratic rainfall and extreme events Signal

As shown in Figure 10, several sub-areas display a dual drought-erratic rainfall and extreme events signal: SPI-3 values exceeding +1.5 (the extreme wet proxy threshold) occur in up to 10% months alongside drought-dominated periods in the same sub-areas. This reflects an increasingly variable rainfall regime where extended dry spells are punctuated by intense events that exceed the infiltration capacity of degraded, bare soils, generating surface runoff and localized flooding rather than groundwater recharge. Rural communities thus face soil moisture deficits during the growing season when reliable moisture is most needed and flash flooding during intense events, compounding crop damage and infrastructure losses.²⁴

Extreme Weather and IAPS–Wildfire Interactions

Community hazard profiling across seven consultation sites confirmed drought and extreme heat as the highest-ranked hazard cluster in every sub-area.²⁵ Hailstorms occur 2–3 times per year and are reported to be increasing, causing direct crop and infrastructure losses. Annual wildfires are a recurrent feature, worsened by the accumulation of dry IAPS biomass and declining community capacity for coordinated fire management. These hazards interact synergistically: IAPS invasion increases wildfire fuel loads; wildfires damage rangeland recovery and expose soils to erosion; droughts stress vegetation and increase IAPS competitive advantage over drought-sensitive native species, creating a self-reinforcing cycle of degradation.²⁶

2.2. Climate Projections

Projections derived from the CMIP6 EC-Earth3-Veg-LR⁷ ensemble under SSP2-4.5 and SSP5-8.5 for the 2041–2060 projection window indicate substantial intensification of heat and water stress across all physiographic zones.

Temperature Projections

At the national level, mean annual temperatures are projected to increase by 3–4°C over coming decades, with the semi-arid Lowveld and Lubombo zones experiencing the most pronounced change.²⁷ Projected maximum temperatures in the Lubombo Landscape are expected to rise from a baseline of 29–30°C to 30–31°C under SSP2-4.5, with markedly more severe outcomes under SSP5-8.5.

The number of heat stress days (days where maximum temperatures exceed 35°C) represents the most operationally significant thermal indicator for agricultural and livestock systems. In the Lubombo Landscape, the current baseline of 15–30 heat stress days/year is projected to rise to 40–60 days/year under SSP2-4.5, and to 80–120 days/year under SSP5-8.5. At the sub-area level, Mndobandoba is projected to experience 69.4 heat stress days/year under SSP2-4.5, and Mbadlane 62.4 heat stress days/year representing more than a 200% increase from baseline conditions.²⁸

Rainfall Projections

Under SSP2-4.5, mean annual rainfall is projected to decline by 7–10% relative to the historical baseline, with dry spells becoming more frequent and prolonged during the October–February farming season.²⁹ Simultaneously, the frequency of days with rainfall exceeding 20 mm is projected to increase, reinforcing the dual drought-flood pattern observed in recent historical data. In the Highveld, frost days are projected to decline further, with implications for pest and crop dynamics in cooler agro-ecological zones.³⁰

Ecosystem and Biodiversity Projections

These biophysical changes carry cascading consequences for ecosystem integrity. Climate change is projected to accelerate IAPS proliferation, as invasive species benefit from elevated CO₂ concentrations, higher temperatures, and increased rainfall variability relative to native species adapted to more stable historical

Figure 9 Start of Season (SOS) in the landscapes.

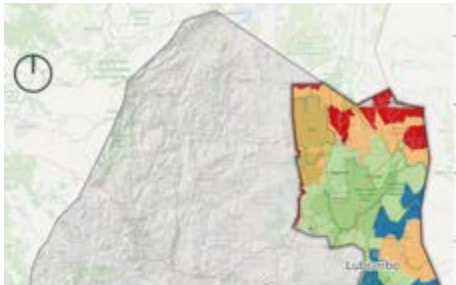
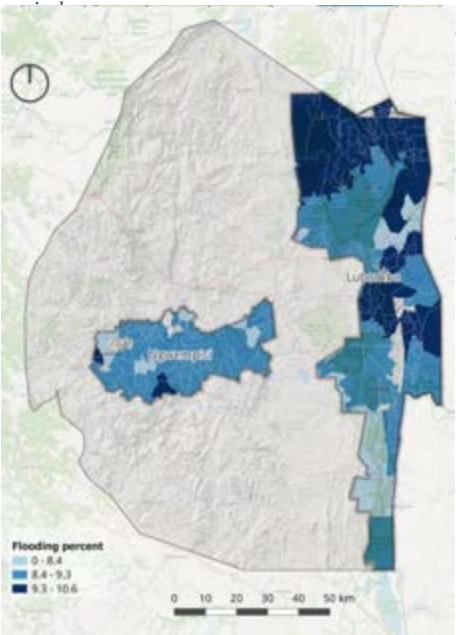


Figure 10 Erratic rain / extreme events months in percentage where SPI-3 >1.5 over the study



²³ I CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

²⁴ Idem

²⁵ Idem

²⁶ LILMP: Lubombo Integrated Landscape Management Plan 2020–2030, Ministry of Tourism and Environmental Affairs / Eswatini Environment Authority.

²⁷ IPCC AR6: Intergovernmental Panel on Climate Change, Sixth Assessment Report: Impacts, Adaptation and Vulnerability (Working Group II). Cambridge University Press, 2022.

²⁸ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

²⁹ Idem

³⁰ TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.

conditions.³¹ Forest patches in the Lowveld are at risk of depletion by the 2050s under higher-emissions trajectories. The grassland biome faces significant structural risk as precipitation totals decline and fire regimes intensify. Wetland systems, already severely stressed, face further degradation from altered river flow regimes, increased evapotranspiration, and changing fire dynamics.³²

3. Climate change vulnerability analysis

3.1. Analytical Framework

The climate change vulnerability analysis for the SEASL project is grounded in the IPCC Sixth Assessment Report conceptual framework, which defines climate risk as a function of the interaction between hazard (the physical climate signals described above), exposure (the degree to which people, livelihoods, and ecosystems are subject to those hazards), and vulnerability (the predisposition of exposed systems to be adversely affected, shaped by sensitivity and adaptive capacity). A dedicated Climate Risk and Vulnerability Assessment (CRVA) was conducted for this project (see deploying a nine-dimensional composite risk scoring methodology across all 128 sub-areas in the two target landscapes (total population approximately 301,677 people), integrating CHIRPS satellite rainfall data, CMIP6 climate projections, Sentinel-2 biophysical degradation analysis, census-based demographic data, and structured community consultations.

3.2. Hazard Exposure of Target Areas and Communities

As shown in Figure 11, the hazard exposure across the target landscapes is high and, in the case of the Lubombo Landscape, severe. The Lubombo Landscape hosts 158,600 people in a semi-arid environment where drought frequency has nearly tripled in four decades, heat stress days are projected to more than double, and growing seasons are being systematically compressed. Its position within the Maputaland-Albany hotspot means that ecosystem degradation from climate change simultaneously erodes the biodiversity and ecosystem service base upon which rural livelihoods depend. The Ngwempisi Landscape, as a national LDN hotspot, is exposed to a specific combination of hazards: elevated soil erosion from degraded rangelands, intensifying drought conditions in a moisture-stressed environment, and wildfire events amplified by IAPS biomass accumulation.³³

As shown in Table 1, the CRVA composite risk scoring identified two sub-areas at CRITICAL tier (combined score ≥17): Mbadlane (combined score: 19), driven by a 37-day growing-season delay, a projected 62.4 heat stress days/year under SSP2-4.5, and a 9.7% projected rainfall decline; and Lukhula (combined score: 17), hosting 12,412 people in a Multiple/Mixed degradation zone with 10.2% projected rainfall decline and 45.2 projected heat stress days/year.⁸ Five sub-areas rank at HIGH tier and 23 at MODERATE-HIGH. The 30 highest-priority sub-areas collectively shelter 95,749 people representing 31.7% of the total landscapes’ population.

Figure 11 Composite climate and population risk categories in project target landscapes

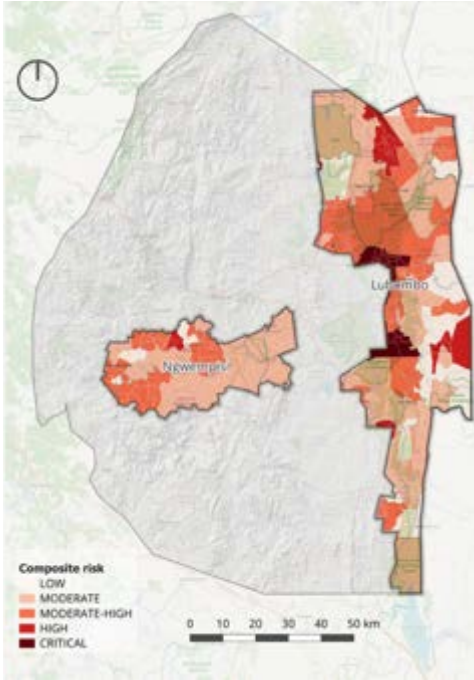


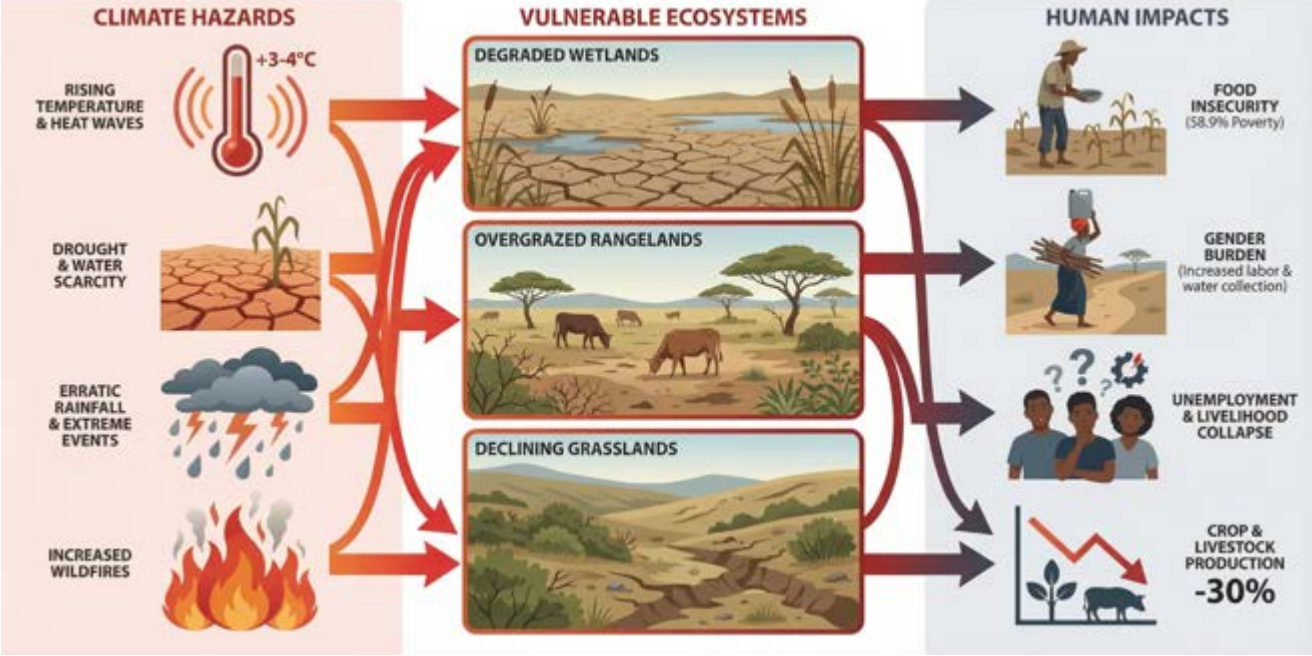
Table 1 Top 30 priority sub-areas by composite climate and population risk score, showing key risk dimensions.

#	Sub-Area	Landscape	Zone	Risk Tier	Combined Score	Population	Drought Freq.	Degrade Score
1	Mbadlane	Lubombo	Lowveld	CRITICAL	19	4306	13.6%	5
2	Lukhula	Lubombo	Lowveld	CRITICAL	17	12,412	14.2%	6
3	Matsenjwa	Lubombo	Lowveld	HIGH	16	3313	14.1%	5
4	Manzana	Lubombo	Middleveld	HIGH	15	878	14.7%	7
5	Mndobandoba	Lubombo	Lowveld	HIGH	15	2253	14.2%	8
6	Vuvulane	Lubombo	Lowveld	HIGH	15	2464	14.9%	4
7	Sibovini	Ngwempisi	Middleveld	HIGH	14	2243	14.7%	9
8	Panatha Ranch	Lubombo	Lowveld	MOD-HIGH	13	212	14.6%	4
9	Mbutfu	Lubombo	Lowveld	MOD-HIGH	13	1815	15.1%	6
10	Mambatfweni	Ngwempisi	Middleveld	MOD-HIGH	13	2576	15.3%	10
11	Shewula	Lubombo	Lowveld	MOD-HIGH	13	5559	15.4%	6
12	Lokhayiza	Lubombo	Lowveld	MOD-HIGH	13	5293	13.6%	6
13	Bulunga	Ngwempisi	Middleveld	MOD-HIGH	12	731	14.0%	5
14	Nkalashane	Lubombo	Lowveld	MOD-HIGH	12	4653	14.1%	6
15	Mayaluka	Lubombo	Lowveld	MOD-HIGH	12	4249	13.6%	4
16	Bhadzeni	Ngwempisi	Middleveld	MOD-HIGH	12	2041	13.8%	9
17	Mahlabatsini	Lubombo	Lowveld	MOD-HIGH	12	2225	14.8%	7
18	Sikhuphe	Lubombo	Lowveld	MOD-HIGH	12	5329	14.7%	8
19	Mabovini	Ngwempisi	Middleveld	MOD-HIGH	12	3907	15.4%	7
20	Khushweni	Lubombo	Lowveld	MOD-HIGH	11	823	14.7%	6
21	Mhlumeni	Lubombo	Lowveld	MOD-HIGH	11	979	15.9%	7
22	Dilini	Ngwempisi	Middleveld	MOD-HIGH	11	69	15.8%	8
23	Hlane	Lubombo	Lowveld	MOD-HIGH	11	3439	14.5%	6
24	Tabankulu	Lubombo	Lowveld	MOD-HIGH	11	4666	15.1%	4

³¹ LILMP: Lubombo Integrated Landscape Management Plan 2020–2030, Ministry of Tourism and Environmental Affairs / Eswatini Environment Authority.
³² IPCC AR6: Intergovernmental Panel on Climate Change, Sixth Assessment Report: Impacts, Adaptation and Vulnerability (Working Group II). Cambridge University Press, 2022.
³³ NILMP: Ngwempisi Integrated Landscape Management Plan, Eswatini Environment Authority / Ministry of Agriculture.

25	Ndlinilembi	Ngwempisi	Middleveld	MOD-HIGH	11	5798	14.0%	6
26	Mhlabubovu	Lubombo	Lowveld	MOD-HIGH	11	2849	14.1%	6
27	Matfuntini	Lubombo	Lowveld	MOD-HIGH	11	1503	14.5%	7
28	Khalangilile	Ngwempisi	Middleveld	MOD-HIGH	11	5880	14.9%	6
29	Ngcoseni	Ngwempisi	Middleveld	MOD-HIGH	11	6636	14.3%	7
30	Macudvulwini	Ngwempisi	Middleveld	MOD-HIGH	11	2579	13.3%	7

Figure 12 Overview of climate change vulnerabilities in the project target area.



Community consultations confirmed drought and extreme heat as the #1 hazard everywhere, with poultry mortality up to 60–100%. Hailstorms occur 2–3 times per year and are increasing. Wildfires are annual, destroying rangeland, fences, and crops with no fire management in place. Erratic rainfall has shifted planting seasons from September to November, with increasing fall armyworm outbreaks. IAPS invasion (Black Wattle, chromolaena, bugweed) is degrading all landscapes.

3.3. Sensitivity of Target Communities and Ecosystems

Sensitivity to climate hazards is elevated across both landscapes due to the structural dependence of livelihoods on rain-fed agriculture and natural resource systems, with limited technological or financial buffers. More than 75% of smallholder farmers rely exclusively on rainfall for crop production, and over 70-80% of the farming workforce are women with limited access to irrigation, credit, improved seed, and agricultural extension services.³⁴ The high dependence on subsistence maize a drought-sensitive crop as the primary food security crop amplifies household sensitivity: during the 2015/16 drought season, the area under maize cultivation declined by 64% nationally, with even more severe contractions recorded in the Lowveld.³⁵ Crops and livestock production under rain-fed conditions has declined by more than 30% on average in recent years, driven by increased temperatures and below-normal rainfall producing recurrent droughts and prolonged dry spells.⁸

Livestock rearing, a secondary livelihood pillar, is equally exposed. During extreme heat events documented through community consultations, poultry mortality reached 60–100% in multiple sub-areas representing total income losses for women-headed households that depend on small-scale poultry as a primary cash source.³⁶ Youth livelihoods are particularly at risk: the absence of viable agricultural alternatives has driven many young people toward cannabis cultivation as an informal coping strategy, reflecting the failure of current rural livelihood systems to provide resilient income pathways.

Wetland sensitivity is acute. Wetlands serve as the principal dry-season water sources for domestic use, livestock watering, and small-scale irrigation. Their accelerating degradation directly transmits climate stress into household food and water security outcomes. The Multiple/Mixed degradation typology the most severe category, in which vegetation collapse, soil exposure, moisture stress, and fire damage co-occur characterizes the most exposed sub-areas in the Lubombo Landscape (Tshaneni: 67.4 ha of critical degradation; Nsoko: 39.5 ha; Ndzevane: 39.2 ha), indicating that ecosystem self-recovery capacity has been significantly eroded and that active restoration rather than passive protection is required.³⁷

Target Group and Targeting Strategy

In line with Table 2, The SEASL project targets approximately **85,790 direct beneficiaries and 257.7 ha of critical degraded hotspots across 20 chiefdoms** / communities the 20 priority chiefdoms concentrate intensive investment within the broader operational area of 37 chiefdoms referenced elsewhere in this proposal;

³⁴ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

³⁵ TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.

³⁶ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

³⁷ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

the 257.7 ha denotes the acutely degraded critical cores, around which $\geq 12,000$ ha of wetland, rangeland and agroforestry are brought under active restoration or improved management under Outcome 3 in the Ngwempisi and Lubombo landscapes. The top 20 priority community sub-areas are located within approximately 20 chiefdoms (imiphakatsi) across five Tinkhundla: Ngwempisi, Siphofaneni, Mhlume, Hlane and Lomahasha. The primary target group consists of climate-vulnerable rural households whose livelihoods depend on rain-fed agriculture, livestock production, and natural resources, and who are increasingly exposed to drought, hailstorms, rangeland degradation, invasive alien plant species (IAPS), water scarcity, and ecosystem decline. Within this population, the project places particular emphasis on women-headed households, women farmers and livestock keepers, unemployed and under-employed rural youth, youth-headed households, land-poor households, persons with disabilities (PWDs), HIV-affected households, low-literacy households, and socially marginalized households with limited access to productive assets, climate information, finance, irrigation, and markets. These groups face disproportionately high climate vulnerability and lower adaptive capacity due to unequal access to resources, decision-making, climate services, and livelihood opportunities.

Beneficiary counting methodology. Direct beneficiaries are individuals who receive a demonstrable project-supported adaptation benefit through one or more SEASL interventions, including climate information and early-warning services, ecosystem-restoration access or management, capacity building, or climate-resilient livelihood support. The project MIS will assign unique household and individual identifiers to prevent double counting across components. The 85,790 direct-beneficiary target corresponds to the population of the 20 selected priority sub-areas; only persons verified as receiving a direct project benefit will be reported as direct beneficiaries. The wider population of the two target landscapes (301,677) will be reported as potential indirect beneficiaries benefiting from landscape-level ecosystem services, knowledge spillovers and institutional improvements. Direct beneficiaries will not be added again to the indirect figure when reporting overall reach. The project's unique beneficiary identification and tracking system will flag potential targeting anomalies, including repeated allocation of multiple high-value benefits to the same household, concentration of benefits within particular families or leadership structures, and deviations from agreed women, youth and vulnerability targets. Flagged cases will require documented justification and independent verification by the PMU before benefits are approved.

The project applies an SNPAS and SAPEMP-aligned, participatory, and climate vulnerability-based targeting strategy that combines geographic prioritization of climate hotspots, ecosystem degradation mapping, community-based targeting, and household-level vulnerability assessments. Geographic targeting will prioritize chiefdoms and communities exposed to severe drought and water stress, hailstorm-prone areas, wildfire risk zones, degraded wetlands and rangelands, and areas heavily affected by IAPS infestation. Targeting will be guided by the climate vulnerability assessments, GIS hotspot analysis, and participatory vulnerability mapping processes developed under Output 1.1.

Beneficiary selection will be implemented through existing local governance and development structures, including Chiefdom Development Committees (CDCs), Natural Resource Management Committees (NRMcs), and Landscape Associations (LAs), with support from extension services and community validation mechanisms. Selection processes will apply transparent criteria that consider climate hazard exposure, poverty and livelihood vulnerability, ecosystem dependency, adaptive capacity constraints, gender inequality, and access to climate services and productive resources. To reduce the risks of exclusion and elite capture, the project will apply transparent beneficiary selection procedures, public community validation processes, inclusive representation of women and youth in selection committees, grievance and appeals mechanisms, and monitoring systems with gender-, age-, and vulnerability-disaggregated data.

The strategy explicitly promotes meaningful participation and equitable benefit-sharing, and is aligned with SAPEMP targeting 40% women, poor and vulnerable SHFs, 30% youth and 5% Persons Living with Disabilities (PWDs), Persons Living with HIV and AIDS (PLHIV) and other vulnerable groups. Beyond participation, the project will support women and youth as leaders within community governance structures, managers of adaptation enterprises, productive asset owners, cooperative / Farmer Field School (FFS) members, and decision-makers, while ensuring they benefit directly from income generated through project-supported livelihood systems. The project will also apply inclusive participation measures, including the use of siSwati and low-literacy communication tools, accessible training venues and facilitation methods, flexible training schedules, and targeted outreach to underserved and remote households.

Many households will benefit from multiple complementary interventions across components, including ecosystem restoration, water harvesting, climate information services, climate-smart agriculture, and livelihood diversification. The project monitoring and evaluation system will therefore apply unique beneficiary tracking and gender-, age-, and vulnerability-disaggregated monitoring systems to avoid double counting and ensure accurate reporting of direct and indirect beneficiaries. Overall, the targeting strategy ensures that climate adaptation investments are directed toward households and communities most at risk from climate change while strengthening inclusive local institutions, ecosystem governance systems, and climate-resilient livelihood opportunities to support long-term resilience and sustainability.

3.4. Adaptive Capacity of Target Communities and Vulnerable and Marginalized Groups

Adaptive capacity across both landscapes is constrained by structural deficits in institutional, technological, financial, and social dimensions.

Institutional deficits

The governance of natural resources within SNL is fragmented across multiple, under-resourced actors Landscape Associations (LAs), Chiefdom Development Committees (CDCs), Natural Resource Management Committees (NRMcs), and traditional authorities without effective coordination mechanisms, clear mandates, or operational budgets. No functioning last-mile early warning system (EWS) exists in either landscape,

depriving communities of the timely, actionable climate information required for planting, grazing, and water management decisions.³⁸ No operational wildfire prevention and response protocols exist at the community level, despite the recurrence of annual wildfire events.

Technological and informational deficits

Agricultural extension services are chronically weak and under-resourced, reaching a small minority of farming households with relevant advice on climate-smart practices. There is no integrated community-level baseline on climate vulnerability, agroecosystem condition, or seed system diversity. Indigenous knowledge on drought-tolerant crop varieties, traditional weather forecasting, and rangeland management is inadequately documented and is being progressively lost.³⁹

Financial and market deficits

Market access is structurally absent for the majority of smallholder producers in both landscapes. Value chains are underdeveloped, post-harvest losses are high, and market linkages where they exist heavily favor intermediaries over primary producers. The absence of formal market connections prior to production promotion has repeatedly undermined past livelihood projects, as production increases without market outlets depress farmgate prices and erode incentives.

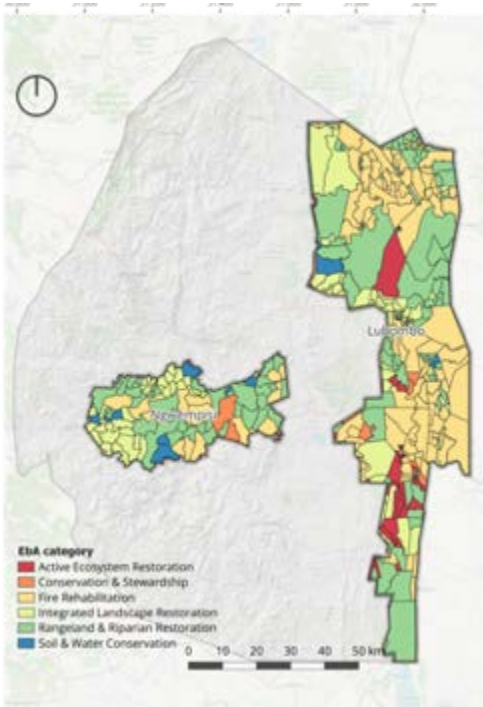
Gender inequality and social exclusion

Women constitute the majority of the farming workforce in both landscapes yet face compounded vulnerability through limited land rights under customary tenure, restricted intra-household decision-making authority, lower rates of formal employment, and disproportionate exposure to climate income shocks. ⁸ Youth lack age-appropriate training, land access, or start-up capital for climate-resilient livelihood pathways. Community consultations confirmed water scarcity as the primary structural barrier identified by communities themselves, followed by the absence of fencing, weak extension services, limited market access, and poor inter-community cooperation.⁴⁰ Other highly vulnerable groups identified include persons with disabilities (PWDs), HIV-affected households, low-literacy households, and land-poor families with limited access to productive assets.

3.5. Zone-Specific EbA Interventions and Spatial Targeting

The evidence base assembled through the CRVA provides the analytical foundation for a differentiated, landscape-specific Ecosystem-based Adaptation (EbA) prescription for each target landscape. The EbA groupings, mapped in Figure 13, are derived from the convergence of satellite-derived degradation typologies, community-confirmed hazard rankings, CMIP6 climate projections, and the spatial targeting results from the integrated spectral priority scoring. Rather than applying a uniform set of interventions, the SEASL project responds to the distinct degradation contexts, hazard profiles, and community priorities identified in each landscape.

Figure 13 Proposed EbA groupings.



EbA Prescription for the Lubombo Landscape

The EbA prescription for the Lubombo Landscape responds to a degradation context characterized by severe and worsening rainfall deficits, extreme heat stress projections (heat stress days rising from a current baseline of 15–30 per year to 40–120 per year under CMIP6 projections by 2041–2060), growing-season delays of up to 46 days, and the compound Multiple/Mixed degradation typology in which vegetation collapse, soil exposure, moisture stress, and fire damage co-occur and interact that dominates the highest-priority sub-areas including Tshaneni (spectral score 0.512, CRITICAL; 67.4 ha of critical degradation), Nsoko (0.475, CRITICAL; 39.5 ha), and Lukhula (0.448, HIGH; population of 12,412). Six integrated interventions are prescribed, as illustrated in Figure 13 and directly operationalized through Component 3 and Component 4 outputs.

EbA Prescription for the Ngwempisi Landscape

The EbA prescription for the Ngwempisi Landscape addresses a fundamentally different degradation context: compound water stress and bare soil degradation in a more densely settled landscape (54.4 people/km²) with critical wetland systems under severe and accelerating pressure. As the only national Land Degradation Neutrality (LDN) hotspot among the two target landscapes, the Ngwempisi requires a precision restoration approach that concentrates on the specific pressure points wetland margins, water access points, overstock livestock trails, and cultivated hillslopes where concentrated, intense degradation of the Water Stress + Bare Soil and Multiple/Mixed typologies is generating cascading livelihood impacts. Four integrated interventions are prescribed, as illustrated in Figure 13.

Spatial Overlays: Environmental and Socioeconomic Targeting

³⁸ Idem
³⁹ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.
⁴⁰ Idem

The identification of priority intervention sub-areas draws on two complementary analytical systems composite climate risk scoring and integrated spectral priority scoring whose convergence provides the strongest possible evidence base for spatial targeting.

Integrated Spectral Priority Scoring

The integrated spectral priority scoring framework combines three evidence streams into a single 0–1 scaled index identifying sub-areas where Sentinel-2 biophysical degradation evidence, degraded hectare extent, and population exposure converge most powerfully. Spectral degradation intensity is weighted at 50%, reflecting the primacy of satellite-derived ecological evidence. Degraded hectare extent contributes 25%, capturing landscape-scale significance beyond per-pixel intensity. Population exposure a normalized composite of population size (60% weight) and density (40%) contributes the remaining 25%, calibrating ecological evidence against the human vulnerability context.

The 20 community sub-areas identified under this scoring represent 85,790 people (14,298 households⁴¹) and 257.7 ha of degraded land.

Tshaneni (Mhlume corridor) achieves the highest integrated spectral score (0.512, CRITICAL) primarily through its 67.4 ha of degraded land the largest extent in the dataset. Nsoko achieves the second-highest score (0.475, CRITICAL) through high spectral degradation across BSI, NDVI, and NDWI dimensions, combined with 39.5 ha of degraded land and a population of 4,884. Lukhula ranks third (0.448, HIGH) primarily through its exceptional population exposure of 12,412 people the largest sub-area population in the dataset partially offsetting a more modest degraded extent of 11.8 ha. The key insight is that the spatial pattern of spectral degradation does not map perfectly onto the spatial pattern of climate risk: this complementarity between the two analytical systems is what gives the combined targeting approach its analytical power.

Table 2 Top 20 sub-areas ranked by integrated spectral priority score (see Figure 24). Tier color coding: CRITICAL (red), HIGH (orange), MOD-HIGH (yellow).

#	Sub-Area / communities	Landscape	Zone	Tier	Integ. Score	Population	Deg. Ha	Degradation Type
1	Tshaneni	Lubombo	Lowveld	CRITICAL	0.512	3,121	67.4	Multiple / Mixed
2	Nsoko	Lubombo	Lowveld	CRITICAL	0.475	4,884	39.5	Multiple / Mixed
3	Lukhula	Lubombo	Lowveld	HIGH	0.448	12,412	11.8	Multiple / Mixed
4	Ndzevane	Lubombo	Lowveld	HIGH	0.396	2,315	39.2	Multiple / Mixed
5	Ngcoseni	Ngwempisi	Middleveld	HIGH	0.395	6,636	1.3	Water Stress + Bare Soil
6	Sikhuphe	Lubombo	Lowveld	HIGH	0.395	6,456	1.5	Water Stress + Bare Soil + Veg. Collapse
7	Mambatfweni	Ngwempisi	Middleveld	HIGH	0.383	2,576	0.4	Water Stress + Bare Soil + Veg. Collapse
8	Lomahasha	Lubombo	Lowveld	HIGH	0.380	3,090	0.3	Water Stress + Bare Soil + Veg. Collapse
9	Ngulubeni	Lubombo	Lowveld	HIGH	0.376	1,367	0.3	Water Stress + Bare Soil + Veg. Collapse
10	Mndobandoba	Lubombo	Lowveld	HIGH	0.373	3,004	13.2	Vegetation Collapse
11	Khalangilile	Ngwempisi	Middleveld	HIGH	0.370	8,970	2.4	Multiple / Mixed
12	Ubombo Ranches	Lubombo	Lowveld	MOD-HIGH	0.370	3,226	34.7	Multiple / Mixed
13	Ndlinilembi	Ngwempisi	Middleveld	MOD-HIGH	0.369	8,939	5.5	Multiple / Mixed
14	Bhadzeni	Ngwempisi	Middleveld	MOD-HIGH	0.364	2,041	0.2	Water Stress + Bare Soil + Veg. Collapse
15	Ndinda	Ngwempisi	Middleveld	MOD-HIGH	0.363	3,124	0.8	Water Stress + Bare Soil
16	Sidvokodvo	Ngwempisi	Middleveld	MOD-HIGH	0.360	2,078	26.2	Multiple / Mixed
17	Mabovini	Ngwempisi	Middleveld	MOD-HIGH	0.359	4,934	2.1	Water Stress
18	Mhlatane	Ngwempisi	Middleveld	MOD-HIGH	0.359	622	0.1	Water Stress + Bare Soil + Veg. Collapse
19	Mbadlane	Lubombo	Lowveld	MOD-HIGH	0.358	5,166	10.7	Multiple / Mixed
20	Mpaka	Lubombo	Lowveld	MOD-HIGH	0.357	829	0.1	Water Stress + Bare Soil + Veg. Collapse
						85,790	257.7	

Intervention Portfolio Patterns

The Lowveld corridor from Tshaneni through Nsoko, Ndzevane, Mndobandoba, Ubombo Ranches, and Mbadlane concentrates the highest degraded hectare extents in the dataset, reflecting the physical extent of land degradation across the large pastoral and agroforestry landscapes of the Lubombo. This corridor warrants large-scale landscape restoration invasive species clearance across extensive areas, community-wide fire management protocols, and broad rangeland rehabilitation rather than site-specific precision interventions more appropriate to smaller, intensely degraded Middleveld sub-areas.

The Middleveld cluster within the top 20 encompassing Ngcoseni, Mambatfweni, Khalangilile, Ndlinilembi, Bhadzeni, Ndinda, Sidvokodvo, Mabovini, and Mhlatane is characterized by very high spectral degradation scores but smaller degraded hectare extents, reflecting concentrated, intense degradation around specific pressure points: water access points, livestock trails, and wetland margins. This calls for precision interventions targeted wetland fencing, water point rehabilitation, and focused IAPS control.

Convergence Analysis: Dual-Evidence Priority Sub-Areas

The convergence analysis identifying sub-areas appearing in both the climate risk top-30 portfolio and the spectral priority top-20 portfolio— reveals sites of dual-evidence priority where both the climate hazard trajectory

⁴¹ Average household size of 6

and the current biophysical degradation state independently justify immediate and comprehensive intervention. Nine sub-areas appear in both portfolios at high or critical priority tiers: Lukhula, Sikhuphe, Mambatweni, Khalangile, Ndinilembi, Bhadzeni, Ngcoseni, Mbadlane, and Mndobandoba. These nine sub-areas constitute the core dual-evidence priority set within which SEASL investment intensity should be concentrated. Mbadlane stands as the most compelling single site: ranking CRITICAL (1st) in the climate risk analysis and MOD-HIGH (19th) in the spectral analysis its appearance in both lists at high priority under two independent methodologies constitutes the strongest evidence-based case for immediate, comprehensive intervention.

This differentiated, evidence-driven spatial targeting approach integrating landscape-specific EbA prescriptions with dual-evidence priority scoring underpins the SEASL project's Theory of Change and ensures that ecosystem restoration, livelihood diversification, and governance investments are directed to the communities and landscapes where they will generate the greatest and most durable adaptation returns.

4. Problem statement and main barriers

4.1. Core Problem

The fundamental challenge addressed by the SEASL project is the convergence of three mutually reinforcing dynamics that are systematically eroding the resilience of rural communities in the Lubombo and Ngwempisi Landscapes: (1) progressively degraded ecosystems that can no longer buffer climate variability; (2) intensifying climate hazards that are already exceeding the coping threshold of existing land use and livelihood systems; and (3) severely constrained adaptive capacity rooted in institutional fragmentation, information deficits, and structural socio-economic marginalization disproportionately affecting women, youth, and other vulnerable groups.

The consequences are measurable and escalating. Agricultural productivity has declined by more than 30% under rain-fed conditions in recent years, with maize cultivation collapsing by 64% during the 2015/16 drought alone.⁴² Land degradation now affects 25% of the national territory, and without intervention, wetland systems critical to dry-season livelihoods are projected to lose 40% of their remaining functional integrity by 2050.⁴³ In the most exposed sub-areas, projected heat stress days will more than double under moderate emissions scenarios, and the farming season will continue to compress rendering current planting calendars functionally obsolete. The populations bearing the greatest burden of these impacts are those with the least capacity to adapt: subsistence smallholders, women-headed households, youth without land or assets, persons with disabilities, HIV-affected households, and communities in the most degraded and water-stressed landscapes.

Unless a coordinated set of ecosystem restoration, climate information and early warnings, governance strengthening, and livelihood diversification interventions is deployed at landscape scale and in an inclusive manner, the decline in food security and rural livelihoods in both landscapes will accelerate, with cascading implications for national poverty, food sovereignty, and biodiversity conservation.

4.2. Main Barriers and Links to Project Outputs

Four interdependent barriers explain the persistence of this problem and define the intervention logic of the SEASL project. Each barrier is directly addressed by specific project outputs.

Barrier 1 Fragmented and outdated climate information systems with no last-mile early warning capacity (Problem area: Inadequate climate evidence base and early warning)

Neither target landscape is served by a functioning, community-accessible early warning system that translates national or regional meteorological data into actionable, localized guidance for farmers, herders, or NRM committees. The national meteorological network has sparse coverage in target areas, and the last-mile communication infrastructure community radio, mobile-based alert systems, and local extension worker networks is inadequately developed. The absence of integrated baseline data on climate vulnerability, agroecosystem condition, and community-level risk means that adaptation planning is based on incomplete and fragmented evidence.⁴⁴ Indigenous and local knowledge on weather prediction, drought-tolerant crop varieties, and traditional landscape management remains undocumented and is being progressively lost.

→ Addressed by Output 1.1 (Integrated Climate Vulnerability, Inclusion, and Agroecosystem Assessment and Baseline), Output 1.2 (Inclusive Climate Information and Early Warning Systems Integrated with Indigenous Knowledge), Output 1.3 (Digital Knowledge Management, Agriculture Information Sharing and Knowledge Products), and Output 1.4 (Inclusive Community Capacity Building and Climate Adaptation Training Systems).

Barrier 2 Weak multi-stakeholder landscape governance with no wildfire, hailstorm, or drought response protocols (Problem area: Weak multi-stakeholder governance and coordination)

Effective ecosystem-based adaptation at landscape scale requires coordinated governance across multiple actors. In both target landscapes, this coordination is critically absent. NRMCS, CDCs, and LAs lack the capacity, mandate clarity, and operational resources to plan and implement integrated landscape management. No wildfire prevention or community fire response protocols exist. No coordinated post-hail or post-drought

⁴² TNC: Third National Communication of the Kingdom of Eswatini to the UNFCCC, Ministry of Tourism and Environmental Affairs.

⁴³ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

⁴⁴ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

rapid response mechanism is in place, leaving communities without institutional support in the immediate aftermath of extreme weather events.⁴⁵ The Lubombo Integrated Landscape Management Plan (LILMP 2020–2030)⁴⁶ and the Ngwempisi Integrated Landscape Management Plan⁴⁶ provide strategic frameworks that are currently under-operationalized due to insufficient institutional scaffolding, trained human resources, and multi-party governance agreements.

→ Addressed by Output 2.1 (Institutional Capacity Building with Inclusive Management of LAs, CDCs, and NRMCS) and Output 2.2 (Coordination Arrangements with Wildfire, Post-Hail and Drought Response Protocols).

Barrier 3 Severely degraded wetlands, rangelands, and forests unable to buffer climate shocks; accelerating IAPS invasion (Problem area: Degraded agroecosystems unable to buffer climate shocks)

The ecosystem services that historically buffered climate variability for rural communities water regulation from wetlands, pasture and fodder from rangelands, timber and non-timber products from woodlands, and shade and soil stabilization from tree cover have been severely eroded by overuse, fire, and IAPS invasion. The 25% national land degradation rate over the past decade, the near-tripling of drought frequency in the Lubombo Landscape, and the projected 40% wetland degradation by 2050 are expressions of this ecosystem deficit.⁴⁷ The IAPS crisis affecting 80% of the national territory reduces rangeland carrying capacity, increases wildfire fuel loads, degrades water quality, and suppresses native species regeneration.⁴⁸ Without restoration of foundational ecosystem functions particularly water security from rehabilitated wetlands and rangelands no sustainable agricultural or livelihood improvement is achievable.

→ Addressed by Output 3.1 (Rangeland Management Planning, Beneficiary Selection, and Grazing Access Rights), Output 3.2 (Wetland Fencing and Restoration at Scale), Output 3.3 (Communal Woodlot Management, Soil Erosion Control and IAPS Control), Output 3.4 (Nurseries with Hail-Protective Structures and Business Plans), Output 3.5 (Water Harvesting Infrastructure (rehabilitation) as Foundational Enabler), and Output 3.6 (Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives).

Barrier 4 Absence of diversified, climate-resilient livelihoods and functional market linkages (Problem area: Limited adoption of climate-smart agriculture)

Even where smallholder farmers have the motivation and capacity to adapt, the absence of climate-resilient livelihood options and market access pathways severely limits adaptive choices. The dominant livelihood strategy rain-fed maize and subsistence livestock is precisely the system most exposed to projected temperature and precipitation changes. Climate-smart agricultural technologies, drought-tolerant and indigenous crop varieties, and alternative income sources such as beekeeping and agroforestry are not systematically available to target communities. Critically, past livelihood initiatives have failed to establish market linkages before promoting production, resulting in gluts that depress farmgate prices and erode incentives. Women are disproportionately excluded from existing value chains, and youth lack start-up capital, technical training, and land for alternative enterprises.⁴⁹

→ Addressed by Output 4.1 (Beekeeping Value Chain with Training, Equipment and Secured Market Contracts), Output 4.2 (Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems), Output 4.3 (Climate-Smart Agriculture Technologies Scaled), Output 4.4 (Value Chain Platforms and Formal Market Linkages Before Production), and Output 4.5 (Value Addition and Traceability Programmes).

Collectively, these four barriers represent the structural determinants of climate maladaptation in the Lubombo and Ngwempisi Landscapes. The SEASL project addresses them through a nested, landscape-scale intervention logic that integrates ecosystem restoration (Component 3), livelihood resilience (Component 4), institutional strengthening (Component 2), and the knowledge and information systems (Component 1) required to make adaptation outcomes durable, inclusive, and measurable.

Project Theory of Change

5. **Overall objective:** To strengthen climate resilience in the Lubombo and Ngwempisi landscapes of Eswatini by restoring degraded agroecosystems, enhancing early warning and adaptive knowledge systems, and diversifying climate-resilient livelihoods, thereby reducing the vulnerability of rural communities with priority attention to women, youth, and vulnerable households to the increasing impacts of drought, hailstorms and wildfires.
6. **Impact Pathway:** Communities and institutions with evidence, knowledge, and EWS (Component 1) → coordinate effectively through functional and inclusive multi-stakeholder platforms (Component 2) → restore and manage degraded ecosystems (Component 3) → support diversified, climate-resilient livelihoods for most vulnerable, esp. women and youth (Component 4) → self-regenerating landscapes and economically incentivized stewardship sustain gains beyond project life.

⁴⁵ LILMP: Lubombo Integrated Landscape Management Plan 2020–2030, Ministry of Tourism and Environmental Affairs / Eswatini Environment Authority.

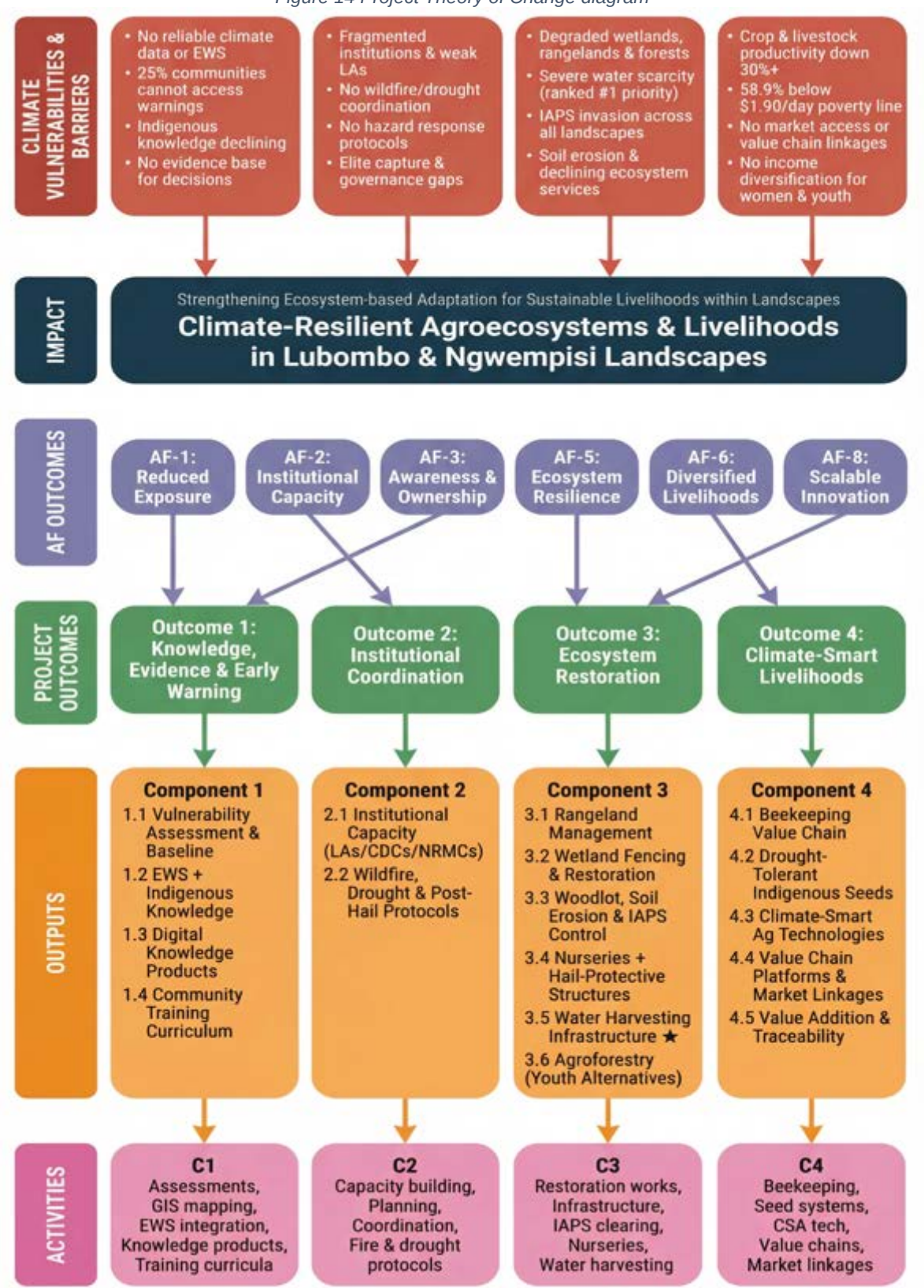
⁴⁶ NILMP: Ngwempisi Integrated Landscape Management Plan, Eswatini Environment Authority / Ministry of Agriculture.

⁴⁷ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

⁴⁸ LILMP: Lubombo Integrated Landscape Management Plan 2020–2030, Ministry of Tourism and Environmental Affairs / Eswatini Environment Authority.

⁴⁹ CRVA: Climate Risk and Vulnerability Assessment, IFAD/SEASL Project, Eswatini, 2026. Prepared by Samkele Tfwala, IFAD, February–March 2026.

Figure 14 Project Theory of Change diagram



7. Key risks and Assumptions

Each assumption below is framed as a condition that must hold true for the corresponding link in the impact pathway to function as intended (Component 1 -> Component 2 -> Component 3 -> Component 4 -> sustained outcomes). Design rules embedded in the project's approach (e.g., capacity before inputs, market linkages before production, no parallel systems, no inputs until training verified) are presented here as measurable assumptions with indicators and contingency triggers, rather than only as implementation guidance. Governance and conflict-related risks identified elsewhere in the proposal (elite capture, women's exclusion due to discriminatory bylaws, transhumance corridor conflicts, and upstream-downstream water conflicts) are integrated below as critical assumptions, with their corresponding mitigation measures embedded as enabling actions that keep the pathway functioning, not merely as external safeguards.

Table 3 Overview of key assumptions

Land tenure	Community land tenure on Swazi Nation Land allows for fencing and access control as a precondition for ecosystem restoration.
Wetland regeneration	Fenced wetlands regenerate within 24 months demonstrated and proven before through the SNPAS project
SAPEMP complementarity	SAPEMP provides complementary activities of financial inclusion and market infrastructure as planned, enabling climate-resilient value chain development under Component 4.

Government financial anchoring	Government agricultural fund (EADF) will be used for financial anchoring of the project
LA resourcing & mandate	Landscape Associations (LAs) are resourced with operational budgets and formal mandates addressing the SNPAS project lesson that LAs risk becoming "forums without action" without dedicated resources. Landscape Associations retain sufficient operational budget and formal mandate throughout the project to avoid becoming purely consultative bodies, as observed under SNPAS. Indicator: LA operational budgets disbursed on schedule; formal mandate instruments signed and gazetted. Trigger/contingency: If LA budgets or mandates lapse, project management activates supplementary bridging funds and escalates mandate renewal with government counterparts within one quarter.
Training-first sequencing	Training and capacity building precede all physical inputs and equipment provision, consistent with community-identified priorities and the project's training-first design principle. Training and capacity-building outcomes are verified as adequate before any physical inputs or equipment are released, so that "no inputs until training verified" functions as a critical enabling condition rather than only a design rule. Indicator: percentage of targeted beneficiaries certified as trained/competency-verified prior to input distribution. Trigger/contingency: If training verification thresholds are not met by the scheduled input-release date, input distribution is delayed and additional targeted training or refresher sessions are triggered.
Market-first sequencing	Value chain platforms and formal market linkages are secured before production is promoted (Component 4 design principle), reducing livelihood risk for vulnerable households. Value chain platforms and market linkages ("market linkages before production") are secured and buyers maintain offtake agreements before production is scaled up, so that produced goods have a reliable market. Indicator: number and value of signed offtake/purchase agreements in place prior to production scale-up. Trigger/contingency: If offtake agreements lapse or buyers withdraw, the project pauses production scale-up for the affected value chain and re-engages alternative buyers or aggregators before resuming.
Government policy alignment	Government agricultural and natural resource management policies remain supportive of community-based adaptation and inclusive landscape governance.
Capacity before inputs / No parallel systems (design rule)	Community and institutional capacity (e.g., functioning committees, trained facilitators) is established before inputs are provided, and project-supported structures build on and strengthen existing institutions rather than creating parallel systems that compete with or undermine them. Indicator: capacity assessment scores for target institutions meet minimum threshold before input release; project-supported committees are nested within or formally recognized by existing traditional/local governance structures (no unrecognized parallel bodies created). Trigger/contingency: If capacity thresholds are not met, input release is postponed and additional institutional strengthening support is provided; if parallel structures are detected, project management realigns supported bodies with existing governance structures within one reporting period.
Elite capture safeguards effective	Elite capture of project benefits, resources, or decision-making within Landscape Associations and community structures is prevented, so that benefits reach intended vulnerable households rather than being concentrated among local elites. Indicator: beneficiary selection audits show targeting criteria met; grievance/complaint records show no unresolved elite-capture complaints. Trigger/contingency (enabling action, not only safeguard): If elite capture is detected, the project activates independent beneficiary verification, rotates or reforms LA leadership positions, and strengthens transparent, community-validated targeting criteria as an enabling action to restore inclusive access.
Women's inclusion despite bylaws	Discriminatory customary bylaws restricting women's land access, decision-making, or resource use are reformed or waived where needed, enabling women's full participation in landscape governance and livelihood activities. Indicator: proportion of target chiefdoms/communities where bylaw reform or formal waivers enabling women's participation are completed; percentage of women in LA leadership and decision-making roles. Trigger/contingency (enabling action): Where bylaw reform stalls, the project intensifies traditional-authority engagement and advocacy, negotiates interim waivers with chiefs/chiefdom structures, and provides alternative participation pathways for women until formal reform is achieved.
Transhumance corridor conflicts managed	Competing claims over transhumance corridors between herders and settled agricultural/restoration activities are resolved or actively managed, so that restoration and livelihood activities do not trigger renewed land-use conflict. Indicator: number of transhumance corridors with agreed, documented access protocols; number of corridor-related conflict incidents reported. Trigger/contingency (enabling action): If corridor conflicts arise, the project convenes multi-stakeholder mediation (including herder representatives) to negotiate revised corridor agreements and adjusts restoration siting where necessary.
Water allocation protocols enforced	Upstream-downstream water allocation protocols are established, respected, and enforced among competing users, so that upstream restoration and water use do not create or exacerbate downstream water conflicts. Indicator: existence and enforcement record of water allocation/sharing agreements across upstream-downstream user groups; number of unresolved upstream-downstream water disputes. Trigger/contingency (enabling action): Where allocation protocols are breached or absent, the project supports establishment/strengthening of catchment-level water user associations and facilitates formal allocation agreements with government water authorities as an enabling condition for continued restoration activity.
EWS advisories trusted and acted upon	Early warning system (EWS) advisories are trusted by communities and institutions and are acted upon in a timely manner, translating Component 1 knowledge outputs into effective adaptive decisions downstream in the impact pathway. Indicator: percentage of EWS advisories followed by documented community/institutional response actions; user satisfaction/trust surveys on EWS reliability. Trigger/contingency: If uptake or trust is low, the project intensifies co-design of advisories with communities, strengthens last-mile communication channels, and conducts trust-building and feedback sessions with EWS users.
Buyers maintain offtake agreements	Buyers and market actors maintain signed offtake agreements over the life of the project, sustaining the market-first sequencing logic underpinning Component 4 and preventing livelihood risk from unsold production. Indicator: retention rate of signed offtake agreements year-on-year; volume of produce sold through formal offtake channels versus informal/spot sales. Trigger/contingency: If buyers withdraw or offtake volumes fall short, the project supports diversification of buyers/aggregators and renegotiation of agreements before further production scale-up.

8. Sustainability Beyond Project Life

Self-regenerating landscapes (Component 3) and economically incentivized community stewardship (Component 4) are the twin sustainability drivers. Once wetlands are fenced and rangelands protected, natural regeneration proceeds without ongoing inputs. Once households earn reliable income from climate-resilient value chains (beekeeping, agroforestry, seed multiplication), they have direct economic incentives to protect and manage restored ecosystems. Landscape Associations, resourced with operational budgets and legal mandates, serve as the institutional anchors that sustain coordination, governance, and adaptive management beyond project completion.

9. Additional Sustainability Mechanism:

- Building existing institutional structures (LAS, CDCs, NRMCS) anchored in national legislation, now with operational budgets and M&E systems
- Linking to existing government funding mechanisms (EADF, but also ADF, EEF, RDF) for continued financing
- Promoting self-regenerating landscapes that provide increasing returns over time
- Guaranteed institutional markets (HGSF schools) as the primary off-take mechanism before production is promoted.
- Nursery business plans, water infrastructure maintenance funds, and beekeeping enterprise sustainability plans, graduation pathways built in from Year 1
- EYEOP grants mechanism for youth entrepreneurship as a sustained livelihood channel beyond project life

Project Objectives

10. Overall Goal: Establish climate-resilient agrosystems and livelihoods in Lubombo and Ngwempisi landscapes

11. Overall Objective: To strengthen climate resilience in the Lubombo and Ngwempisi landscapes of Eswatini by restoring degraded agroecosystems, enhancing early warning and adaptive knowledge systems, and diversifying climate-resilient livelihoods, thereby reducing the vulnerability of rural communities with priority attention to women, youth, and vulnerable households especially to the increasing impacts of drought, hailstorms and wildfires.

12. Specific objectives:

- **Objective 1** (*linked to Outcome 1 / AF Outcomes 1 & 3*)
To equip highly climate-vulnerable communities and institutions in the Lubombo and Ngwempisi landscapes with priority attention to women, youth, female-headed households, persons with disabilities, and low-literacy groups with the evidence base, early warning systems, and adaptive knowledge required to make informed and equitable decisions on climate-resilient land and ecosystem management.
- **Objective 2** (*linked to Outcome 2 / AF Outcome 2*)
To establish and strengthen functional, inclusive landscape-level multi-stakeholder coordination platforms at chiefdom and community levels, with formal mandates and operational capacity for integrated agroecosystem management and multi-hazard response including wildfire, drought, water allocation, and post-hail protocols targeting climate-vulnerable households, with priority inclusion of women-headed households, youth, land-poor households, persons with disabilities, and HIV-affected households.
- **Objective 3** (*linked to Outcome 3 / AF Outcome 5*)
To restore and improve the management of degraded wetlands, rangelands, and forests in the Lubombo and Ngwempisi landscapes, enabling self-regeneration of critical ecosystem services water, soil, biodiversity, and grazing capacity that underpin climate resilience, food security, and sustainable livelihoods for climate-vulnerable households.
- **Objective 4** (*linked to Outcome 4 / AF Outcome 6*)
To diversify and strengthen the livelihoods and income sources of poor and climate-vulnerable rural households in Lubombo and Ngwempisi landscapes chiefdoms / communities particularly women-headed households, unemployed and under-employed youth, young women, land-poor households, and pastoral households through inclusive, climate-resilient value chains, secured market linkages, and climate-smart agriculture technologies.

13. Targeting: The project targets climate-vulnerable communities and households also identified through the SNPAS and SAPEMP project-aligned vulnerability criteria, with priority inclusion of women, youth, female-headed households, land-poor households, HIV-affected households, low-literacy groups, persons with disabilities, and households and communities located in high climate-risk and degraded ecosystems.

Table 4 Project components, outcomes and outputs

Project Component	Expected Outcome	Expected Concrete Outputs	Budget
Component 1: Evidence Base, Early Warning Capacity, and Adaptive Knowledge	Outcome 1: Highly climate-vulnerable communities and institutions have the evidence base, early warning capacity, and adaptive knowledge required to make informed and equitable decisions on climate-resilient land and ecosystem management	Output 1.1: Integrated Climate Vulnerability, Inclusion, and Agroecosystem Assessment and Baseline for Targeted Adaptation Planning	260,000
		Output 1.2: Inclusive Climate Information and Early Warning Systems Integrated with Indigenous Knowledge for Last-Mile Adaptation Response	215,000
		Output 1.3: Digital Knowledge Management, Agriculture Information Sharing & Knowledge Products, with explicit focus on equitable knowledge ownership,	865,000
	(In line with AF outcome areas 1 and 3)		

		governance, access rights, and benefit control by women, youth, and marginalized groups	
		Output 1.4: Inclusive Community Capacity Building and Climate Adaptation Training Systems, including on Operation & Maintenance	275,000
			1,615,000
Component 2: Multi-Stakeholder Coordination	Outcome 2: Landscape-level multi-stakeholder coordination is functional, enabling strategic, integrated agroecosystem management at chiefdom and community levels, with explicit mandates for wildfire management, drought response, water allocation, and post-hail protocols. (In line with AF outcome area 2)	Output 2.1: Institutional Capacity Building with inclusive management and promotion of women and youth in ownership, leadership, governance authority, access rights, and benefit control positions within LA Associations, Chiefdom development Committees (CDC's) and Natural Resources Management Committees (NRMC)	570,000
		Output 2.2: Coordination Arrangements with Wildfire, Post-Hail & Drought Response Protocols	160,000
			730,000
Component 3: Ecosystem Restoration	Outcome 3: Degraded wetlands, rangelands, and forests begin self-regenerating, restoring the ecosystem services on which climate-vulnerable households depend, restoring water, soil, biodiversity, and grazing capacity that underpin climate resilience, food security, and sustainable livelihoods for climate-vulnerable households. (In line with AF outcome area 5)	Output 3.1: Rangeland management planning, beneficiary selection, and allocation of grazing access rights	1,120,000
		Output 3.2: Wetland Fencing & Restoration at Scale.	250,000
		Output 3.3: Communal Woodlot Management, Soil Erosion Control & IAPS Control	805,000
		Output 3.4: Nurseries with Hail-Protective Structures & Business Plans	600,000
		Output 3.5: Water Harvesting Infrastructure (Foundational Enabler)	905,000
		Output 3.6: Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives	550,000
			4,230,000
Component 4: Climate-Smart Livelihoods	Outcome 4: Poor and climate-vulnerable rural households in targeted communities/chiefdoms, particularly women-headed households, unemployed and under-employed youth, land-poor households, and pastoral households, have diversified, climate-resilient income streams, improved food security, and strengthened adaptive capacity through inclusive market systems and climate-resilient value chains. (In line with AF outcome area 6)	Output 4.1: Beekeeping Value Chain with Training, Equipment & Secured Market Contracts	517,000
		Output 4.2: Drought-Tolerant Indigenous Varieties & Seed Multiplication Systems	395,000
		Output 4.3: Climate-Smart Agriculture Technologies Scaled	380,000
		Output 4.4: Value Chain Platforms & Formal Market Linkages Before Production	205,000
		Output 4.5: Value Addition & Traceability Programmes	270,000
			1,767,000
Total Project Components			8,342,000
Project Execution Costs			875,000
Total project costs (Components + PEC)			9,217,000
Project Cycle management fee charged by the Implementing Entity			783,000
Amount of Financing Requested			10,000,000

Project calendar

Table 5 Project Calendar

Milestones	Expected Dates
Indicative Start of Project Implementation	1 Sep 2027
Mid-term Review (if planned)	1 Mar 2030
Project Completion	31 Aug 2032
Terminal Evaluation	28 Feb 2033

Indicative timing note. The implementation calendar will be adjusted to the actual date of Adaptation Fund Board approval and effectiveness of the Legal Agreement. For planning purposes, the proposal assumes Board approval no earlier than April 2027, completion of legal and execution arrangements during approximately July-August 2027, and project inception as soon as practicable following first disbursement and within three months of receipt of funds.

PART II: PROJECT JUSTIFICATION

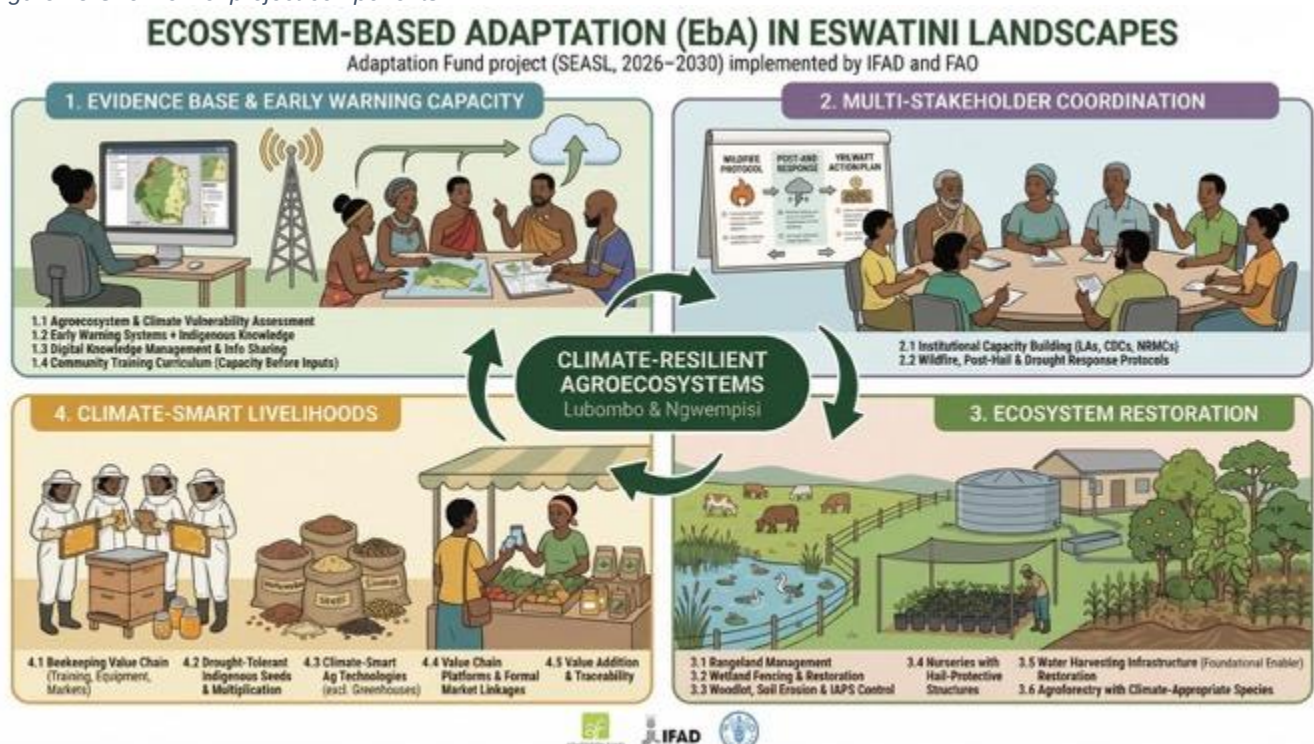
A. Project components

14. Overview of the Project's Component Structure

The SEASL project is structured around four mutually reinforcing components (Figure 15) that address the root causes of climate vulnerability in the Ngwempisi and Lubombo landscapes. The project responds to a compound climate risk profile characterized by a near-tripling of drought frequency in the Lubombo landscape over four decades, significant delays in growing-season onset (up to 46 days at some sub-areas), and 2–3 annual hailstorm events all projected to intensify under SSP2-4.5 and SSP5-8.5 pathways.

The four-component logic is deliberately sequential: communities cannot adapt to hazards they cannot measure or understand (Component 1); coordinated multi-stakeholder response is required to manage community transboundary hazards such as wildfire and IAPS (Component 2); the ecosystem services underpinning livelihoods must be restored as a precondition for productive investment (Component 3); and diversified, climate-resilient livelihoods can then be sustainably built on restored ecosystems and secured markets (Component 4).

Figure 15 Overview of project components



All four components are targeted at climate-vulnerable communities and households, with priority inclusion of women (40 % target), youth (30 % target), persons with disabilities (5 % target), female-headed households, land-poor households, HIV-affected households, low-literacy groups, and households in high climate-risk and degraded ecosystems, identified through SAPEMP-aligned vulnerability criteria. Target for the remaining categories (female-headed, land-poor, HIV-affected, low-literacy) are set as monitored outreach categories tracked via participatory targeting

15. COMPONENT 1: EVIDENCE BASE, EARLY WARNING CAPACITY & ADAPTIVE KNOWLEDGE

15.1. Project Outcome 1: Highly climate-vulnerable communities and institutions have the evidence base, early warning capacity, and adaptive knowledge required to make informed and equitable decisions on climate-resilient land and ecosystem management. Targeting particularly women, youth, female-headed households, land-poor households, HIV-affected households, low-literacy groups, persons with disabilities, and households excluded from climate information and early warning systems.

Linkage to AF Outcome Areas 1 and 3: Without accurate, inclusive, and localized climate information and early warning systems, communities cannot reduce their exposure to drought, hailstorm, and wildfire hazards (AF Outcome Area 1). Without documented evidence bases and adaptive knowledge, institutions cannot plan, target, or monitor adaptation investments effectively (AF Outcome Area 3). Growing-season disruptions of up to 46 days have invalidated inherited adaptive strategies; approximately 25% of target communities lack effective EWS access, and 19% of those who receive warnings do not act on them gaps that directly translate into preventable losses during the 2–3 annual climate shocks communities now face.

15.2. Output 1.1: Integrated Climate Vulnerability, Inclusion, and Agroecosystem Assessment and Baseline for Targeted Adaptation Planning

Conduct a comprehensive and participatory climate vulnerability assessment to identify agroecosystems, communities, and social groups facing the highest climate risks, ecosystem degradation, and adaptive capacity constraints, while establishing gender-, age-, and vulnerability-disaggregated baselines to guide equitable adaptation targeting. Builds on and does not repeat existing SNPAS biodiversity surveys.

Activities and climate change rationale

Table 6 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential risk Mitigation Measures
1.1.1	By Month 9, map climate hazard impacts (drought, hailstorm, wildfire, + IAPS) to specific agroecosystems and target communities in target Tinkhundla and chiefdom using GIS layered analysis of exposure, sensitivity, and adaptive capacity disaggregated by gender, age, disability, and vulnerability group.	Without a hazard-specific map, investments cannot be targeted where risk is highest. Drought and IAPS together drive >30% agricultural productivity decline. The 20 dual-evidence priority sub-areas (Table 2) must anchor targeting.	Beneficiary selection for hazard mapping exercises will apply positive discrimination criteria to ensure participation of women-headed households, youth persons with disabilities and other relevant vulnerable groups. Community validation sessions will use gender-segregated formats (women-only and youth-specific sub-sessions) to prevent elite capture of site prioritization decisions.
1.1.2	By Month 9, update and validate community vulnerability baselines using participatory gender-responsive surveys in target communities, identifying and prioritizing highly climate-vulnerable and socially excluded groups (young women, female-headed households, PWDs, HIV-affected households) with gender, age, disability, and vulnerability group disaggregated data.	Climate change is worsening year on year; outdated baselines miss emerging hotspots. Gender data ensures women's and youth's specific vulnerabilities are addressed in targeting decisions.	Vulnerability baseline surveys will use transparent, criteria-based participatory targeting aligned with SAPEMP vulnerability criteria; beneficiary lists will be publicly posted at community / chiefdom level. A three-tier Grievance Redress Mechanism (GRM) will be operational from project inception to allow affected community members to challenge targeting decisions.
1.1.3	By Month 12, produce validated GIS hotspot maps for rangeland degradation, wetland condition, drought/water stress, wildfire risk, erratic rainfall/hailstorms and IAPS infestation across all target communities, validated by community representatives. Maps shared with MERP-ENTC, ELVCDP, and Ministry of Agriculture to enable coordinated landscape-level targeting.	Erratic rainfall/hailstorms and drought are shifting degradation patterns rapidly. The Tshaneni–Nsoko–Lukhula corridor in Lubombo and the Ngcoseni–Mambatweni–Khalangilile cluster in Ngwempisi represent the highest-priority zones confirmed by dual-evidence scoring.	<u>Hotspot mapping will use participatory validation sessions inclusive of women, youth, PWDs and HIV-affected representatives to prevent hazard maps from reflecting only male or elite land users' priorities.</u>
1.1.4	By Month 12, conduct community inventory of indigenous drought-tolerant seed varieties and gene banks in all target communities, documenting at least 20 IK crop varieties with propagation protocols confirmed by farmers, seed custodians, and community gene bank members effective under drought.	IK maize varieties outperform hybrids under drought. The 37-day SOS delay at Mbadlane makes IK early-maturing varieties a critical coping tool for the compressed growing season.	<u>Seed inventory documentation will formally record women and youth as custodians of indigenous varieties, with access and benefit rights documented, so that IK knowledge is not captured or reinterpreted by male household heads or traditional leaders.</u>
1.1.5	By Month 12, conduct participatory intra-household analysis (access/control over resources, labour division, decision-making) to inform equitable benefit design and reduce gender-based barriers to adaptation.	Climate shocks increase household resource pressure, but unequal intra-household decision-making limits women's and youth's ability to adapt. Ensures that outputs 3.x and 4.x benefit-sharing rules reflect actual power dynamics.	Intra-household analysis will include dedicated safe-space sessions for women to surface gender-specific barriers without social pressure. Results will directly inform women-only enterprise group modalities under Outputs 4.1, 4.2, and 4.3 to prevent default to male leadership in mixed groups. Time use and labour burden data collected will feed into the Gender Action Plan to avoid increasing women's workloads through poorly designed project activities.

15.3. Output 1.2: Inclusive Climate Information and Early Warning Systems Integrated with Indigenous Knowledge for Last-Mile Adaptation Response

Strengthen inclusive early warning systems by integrating indigenous knowledge, improving last-mile dissemination, and prioritizing access for climate-vulnerable and underserved populations, including women, youth, low-literacy groups, and communities with limited ICT access. Links to existing CDI-E and SADC-CSC systems rather than creating parallel ones.

Activities and climate change rationale

Table 7 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
1.2.1	By year 1, integrate the CDI-E (Composite Drought Index for Eswatini) as the standard drought indicator across all SEASL landscape-level advisories; establish a data-sharing protocol with NDMA and SADC-CSC; and align SEASL's drought response triggers with CDI-E thresholds.	Drought is the #1 hazard in all 7 target communities. Harmonized indicators enable consistent early warnings so communities can plan planting, water use, and livestock decisions in advance.	<u>Data-sharing and threshold-setting will include community-level validation to ensure drought triggers reflect the lived experience of women, pastoralists and land-poor households, not only institutional data sources.</u>
1.2.2	By year 1, adopt MERP-ENTC's validated Communication and Environmental Education Awareness (CEEAA) Strategy as the official SEASL communications framework, adapting existing materials for siSwati language and low-literacy formats. Produce community-facing communication products in Year 1.	Technical language in climate advisories is a confirmed barrier to action. Communities in all 7 consultation sessions confirmed that information needs to reach them in siSwati through trusted channels.	<u>Communication materials will be pre-tested with women, youth, low-literacy and PWD focus groups to confirm accessibility before roll-out, preventing exclusion from advisories due to language, format or delivery channel.</u>
1.2.3	By Year 1, month 6 end, train Eswatini Meteorological Service (EMS) staff to	National EWS information is too coarse for chiefdom-level decisions.	<u>Downscaled advisories will be reviewed for accessibility to non-smartphone users and</u>

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	downscale SADC-CSC regional climate products into community/chiefdom-level seasonal and 10-day agricultural advisories for both landscapes; establish a quarterly review schedule; deliver first landscape-level advisory by Year 1, month 6	The 46-day SOS delay at Khushweni means communities need localized guidance to make planting decisions.	<u>low-literacy groups, and delivered jointly with radio and community focal-point channels so that reliance on technical staff does not exclude the most vulnerable communities.</u>
1.2.4	By Year 2, design and implement targeted EWS access strategies for the documented 25% of communities with no EWS coverage and the 19% who receive but do not act on warnings. Strategies to include: women-only SMS groups; radio listening groups in low-ICT communities/chiefdoms; community focal points with stipends. Baseline survey in Year 1 and annual follow-up. Climate-information-services and early-warning gap analysis (basis for the response above). The intervention logic follows the full climate-information value chain, with a documented gap at each step: (i) generation — meteorological station density is sparse and sub-area forecasts are not routinely downscaled to chiefdom level; (ii) translation — advisories are issued in technical formats and in English, excluding low-literacy, HIV-affected and disabled users, while the traditional ecological signals communities historically relied on (indigenous-tree flowering, migratory-bird arrival) are no longer reliable under shifted seasonality; (iii) dissemination 25% of communities have no functional last-mile channel; and (iv) use a further 19% receive warnings but do not act on them, reflecting gaps in trust, timing and actionability. The project responds at each step: co-produced, downscaled seasonal and sub-seasonal advisories blended with indigenous indicators; icon-based and vernacular bulletins delivered through community radio and SMS for last-mile, disability- and literacy-inclusive access; women-only SMS groups, radio listening groups and stipended community focal points to close the coverage gap; and impact-based, decision-linked advisory formats (what to do, and by when) with a Year-1 baseline and annual follow-up survey to convert receipt into action. A rapid climate-information-services capacity-and-needs assessment in Year 1 (under Output 1.1) will confirm and quantify these gaps by sub-area and by user group before scale-up, so that investments target the specific missing links rather than the value chain as a whole.	Climate shocks cause maximum preventable damage when warnings are received but not acted on. The 19% non-response rate is a documented, solvable problem requiring a structural community solution.	Multi-channel information delivery will be required (SMS alerts in SiSwati for non-smartphone users, radio integration, and community-based IK indicator integration) to address the documented digital divide risk between youth and elderly and between men and women. EWS access strategies will be co-designed with communities to ensure accessibility for low-literacy groups.
1.2.5	By Year 2, train farmers and extension workers through FFS or cooperatives—prioritizing youth and young women on EWS tools, with a dedicated module integrating IK seasonal indicators (traditional plant phenology, migratory bird timing, traditional calendars). Modules adapted for low-literacy and first-time technology users.	Community consultations confirmed IK indicators are no longer reliable as planting signals due to climate change. Integrating IK with formal EWS bridges the trust gap and improves timely response.	Training modules will be adapted for low-literacy and first-time technology users to prevent reinforcement of the digital divide in EWS access. Community early warning interpreters will be trained to serve as the last-mile interface, particularly for women and elderly who lack access to digital tools.
1.2.6	From Year 1 month 6, coordinate at least 52 weekly radio bulletins per year and 4 quarterly reports on weather forecasts, market prices, pest alerts, and EWS advisories in siSwati, through existing national and community radio channels. Monthly listener feedback loop to assess uptake and adapt content.	Radio is the primary trusted information channel for low-literacy communities in both landscapes. Regular, predictable siSwati bulletins enable planting, storage, and livestock decisions aligned with climate forecasts.	<u>Radio content will include a monitored feedback loop disaggregated by sex and age to confirm women, youth and low-literacy listeners are receiving and understanding advisories, adjusting content where gaps are identified</u>
1.2.7	By Year 2, establish and resource women- and youth-led EWS dissemination groups (one per community/chiefdom), each comprising ≥10 members with ≥40% women, representing female-headed households, land-poor youth, and marginalized groups. Provide performance-based incentives (stipends or in-kind) and annual refresher training.	Without sustained community-level champions, last-mile EWS coverage collapses after project support ends. Women and youth are most excluded from current EWS systems and most impacted by climate shocks.	Women- and youth-led EWS dissemination groups will be constituted through transparent, publicly validated selection criteria overseen by CDCs and NRMCS to prevent elite capture and exclusion of marginalized groups. Performance-based incentives (stipends or in-kind) will be distributed through group-based accountability mechanisms to prevent misappropriation.

15.4. Output 1.3: Digital Knowledge Management, Agriculture Information Sharing & Knowledge Products

Strengthen climate adaptation decision-support systems by improving integrated data access, inclusive knowledge sharing, and practical learning products tailored to the needs of climate-vulnerable communities, extension systems, women, and youth.

Activities and climate change rationale

Table 8 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
1.3.1	By Month 6, establish a protocol between SEASL and FAO STOSAR II to align data platforms, co-schedule field data collection activities, and share community engagement calendars Protocol reviewed annually.	Institutional fragmentation of climate data is a barrier to coordinated adaptation. A protocol prevents the duplication of field surveys in already-consulted communities.	<u>The data-sharing protocol will include explicit provisions ensuring community-level data collected from women, youth and vulnerable households is represented in the shared platform and not lost in aggregation with national datasets.</u>
1.3.2	By Month 6, establish a formal data-sharing protocol with FAO (STOSAR II) to feed SEASL's community-level climate vulnerability and NRM data into the national AIMS rather than creating a parallel SEASL GIS portal. Protocol defines data formats, upload schedules, and access arrangements.	Climate change is accelerating water stress and degradation faster than siloed monitoring systems can track. Integrated national data enables early identification of drought hotspots before they become crises.	<u>Data governance arrangements will specify that community-generated vulnerability and NRM data remain accessible to the originating communities, with disaggregation by sex, age and vulnerability status preserved in the national AIMS upload.</u>
1.3.4	By Year 1, strengthen land degradation monitoring coverage from existing SNPAS and CSARL areas to all target communities producing quarterly satellite-validated degradation reports feeding into STOSAR II. Build capacity of NRM committee members (one per community/chiefdom) in community-based monitoring using simple field protocols.	Drought and erratic rainfall are expanding degradation into areas beyond SNPAS and CSARL's covered zones. Wider monitoring ensures no high-risk communities/chiefdom slips past the early warning horizon.	Capacity building for NRM committee members will include dedicated training on transparent, participatory monitoring approaches to prevent elite capture of monitoring data. Training cohorts must achieve ≥40% women participation; selection verified by PMU prior to each training session.
1.3.4	By Year 1 month 6, build long-term capacity of MoA staff across both landscapes in GIS-based land degradation monitoring, STOSAR II data protocols, and climate data interpretation, building on STOSAR I's trained cohort. Deliver training through at least 3 structured sessions plus mentored practice. Target: 40% women among trainees.	Sustained climate adaptation depends on government monitoring capacity. Without trained staff, monitoring collapses when the project ends the most common cause of post-project evidence gap in the landscape.	Capacity building for NRM committee members will include dedicated training on transparent, participatory monitoring approaches to prevent elite capture of monitoring data. Training cohorts must achieve ≥40% women participation; selection verified by PMU prior to each training session.
1.3.5	By Year 1 month 6, research and document lessons from SNPAS, CSARL, SMLP, MERP, LUSIP on EbA best practices, capturing gender-differentiated and youth-specific lessons including documented failure modes (ecotourism collapse, greenhouse favoritism, species mortality, abandoned IAPS clearing, CSARL youth beekeeping attrition). Produce minimum 1 consolidated lessons brief per component by Year 2.	Past project lessons are the most reliable guide to what works under Eswatini's specific climate and social conditions. The February 2026 consultations confirmed that communities expect SEASL to demonstrate it has learned from them.	Documented failure modes (ecotourism collapse, greenhouse favoritism, species mortality, abandoned IAPS clearing, CSARL youth beekeeping attrition) will be explicitly included in lessons briefs to inform risk mitigation across all subsequent physical investment activities.
1.3.6	By Year 1 month 6, use the climate vulnerability baselines to update NRM plans in all target communities/chiefdoms, including documentation of minimum 20 IK drought-tolerant maize varieties with propagation protocols; update not duplicate SNPAS's 7 existing wetland management plans and CSARL's CDPs where applicable.	Rainfall is shifting planting seasons. Documenting drought-tolerant varieties is the foundation for scaling them as a climate adaptation tool. NRM plan updates must reflect current (2026) degradation conditions and SSP2-4.5 projections.	<u>NRM plan updates will be validated through inclusive community sessions with dedicated safe-space discussions for women and youth to ensure updated plans reflect their access and use rights, not only those of traditional leaders.</u>
1.3.7	By Year 4, produce targeted knowledge products. develop tailored knowledge products for different groups (young women entrepreneurs, livestock-owning men, land-poor youth). All products validated by community representatives before finalization.	Past projects failed because inputs preceded training, leading to misuse and abandonment. CSARL confirmed youth beekeeping failed without multi-year training and market contracts. Products institutionalize the correct sequencing model across all extension systems.	<u>Knowledge products will be reviewed for accessibility and relevance across gender, age and vulnerability groups before dissemination, with dedicated products for women entrepreneurs, land-poor youth and other under-represented groups as planned.</u>
1.3.8	By Year 4, organize cross-landscape exchange visits and peer learning sessions with ≥40% women and ≥30% youth participation; Evaluate learning uptake through pre-post surveys.	Drought, erratic rainfall, and climate variability reduce productivity; peer learning from communities that have successfully adapted is among the most cost-effective behavior change mechanisms available.	

15.5. Output 1.4: Inclusive Community Capacity Building and Climate Adaptation Training Systems, including on Operation & Maintenance

Establish an inclusive and gender-responsive cascading capacity-building system equipping vulnerable communities, women, youth, and local institutions with the skills, leadership capacity, and operational and maintenance knowledge needed to sustain climate adaptation investments and respond to recurring climate hazards. All training precedes physical inputs and includes GESI modules (≥40% women, ≥30% youth) and climate hazard response protocols.

Activities and climate change rationale

Table 9 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
1.4.1	By Month 6, conduct a structured stakeholder mapping at national, landscape and community/chiefdom level, identifying: (i) existing CSARL- and SNPAS-trained NRMCS and lead farmers; (ii) gender and youth focal points; (iii) MERP-ENTC	Climate impacts are unevenly distributed women and youth are most affected but least represented. Mapping ensures no community is overlooked and prevents consultation fatigue documented when multiple	Stakeholder mapping will identify existing gender and youth focal points to ensure SEASL builds on rather than displaces existing women's and youth participation structures. Results shared with MERP-ENTC and SAPEMP by Month 3 to prevent

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	community engagement schedules; (iv) SAPEMP FFS and cooperative structures. Map shared with MERP-ENTC and SAPEMP by Month 3 to avoid scheduling conflicts and duplicate community engagement.	projects engage the same communities without coordination.	consultation fatigue and scheduling conflicts that community consultations identified as a documented risk across multiply-engaged communities.
1.4.2	By Year 1, design a multi-year cascading training model with annual refresher cycles and an embedded GESI module (≥40% women, ≥30% youth quotas; leadership pathways, mentorship, and decision-making roles for women and youth). Training delivered through the existing CSARL FFS model and cooperatives with gender and youth champions in each community.	One-off workshops have consistently failed SNPAS and CSARL both documented low knowledge retention. Multi-year cascading training builds durable skills to manage recurring annual climate hazards (drought, wildfire, hailstorm, IAPS).	Cascading training model will include dedicated GBV safeguarding protocols embedded in all training materials before launch. Childcare support at training venues, flexible schedules, and accessible venues in siSwati will be provided to remove structural barriers that prevent women and youth from attending. Training includes transparent SAPEMP-aligned beneficiary selection with public validation by CDCs and NRMCS to prevent elite capture.
1.4.3	By Year 1 month 6, train Landscape Association leaders as lead ambassadors (≥40% women, ≥30% youth); designate at least 2 gender and 2 youth focal points in each of the 3 Landscape Association platforms; provide dedicated leadership and public speaking training for women and youth representatives. Ambassadors formally linked to MERP-ENTC's CDC capacity-building system.	Locally trained ambassadors ensure climate information reaches remote households without dependence on external experts critical during sudden-onset climate events (wildfire, hailstorm) when external support cannot arrive in time.	Training for Landscape Association leaders will include specific modules on CDC bylaw reform to address the structural barrier confirmed by Ngwempisi women's FGDs: existing bylaws prohibit women from holding executive roles. Bylaw reform support is embedded as a pre-condition for project investments in Ngwempisi community/chiefdoms. Women and youth ambassadors will be formally linked to MERP-ENTC's CDC capacity-building system to prevent creation of parallel structures.
1.4.4	By Year 2, produce community-level awareness materials on EbA and the climate–food security nexus using MERP-ENTC's validated CEEA communication strategy, all in accessible siSwati formats (audio, visual, low-literacy).	Low awareness of climate-food linkages leads to maladaptation communities continue drought-sensitive monoculture maize when diversified diets and drought-tolerant varieties are available and proven.	<u>Awareness materials will be produced in multiple accessible formats (audio, visual, low-literacy siSwati) and field-tested with women, PWDs and low-literacy groups to prevent unequal access to adaptation information.</u>
1.4.5	From Year 1 (training) and Year 2 (inputs), deploy lead ambassadors to train communities on climate adaptation, strictly sequencing: (i) multi-year capacity building, (ii) O&M training, then (iii) physical inputs no physical inputs distributed until training attendance verified. Inclusivity measures: childcare support at training venues, flexible schedules, accessible venues, sessions in siSwati. Apply transparent SAPEMP-aligned beneficiary selection with public validation by CDCs and NRMCS.	Physical inputs provided without prior training are routinely abandoned documented as the primary failure mode across SNPAS, CSARL, LUSIP, and SMLP. The sequencing principle was independently articulated by communities at all consultation sessions.	No physical inputs will be distributed until training attendance is verified by PMU, applying the binding capacity-before-inputs sequencing rule as a direct response to the community consultation finding that rapid input distribution without adequate capacity building repeats past project failures (SNPAS, CSARL, LUSIP, SMLP). Inclusivity measures (childcare support, flexible schedules, siSwati facilitation) will be applied at all sessions. Women-only enterprise groups will be the default modality for all livelihood outputs (4.1–4.5) to prevent misappropriation of inputs by male household members, as confirmed by women's FGDs across all landscapes.

16. COMPONENT 2: MULTI-STAKEHOLDER COORDINATION

16.1. Project Outcome 2: Landscape-level multi-stakeholder coordination is functional, enabling strategic, integrated agroecosystem management at community/chiefdom and community levels, with explicit mandates for wildfire management, drought response, water allocation, and post-hail protocols. Targeting climate-vulnerable communities and households identified through SAPEMP project-aligned vulnerability criteria, with priority inclusion of women, youth, female-headed households, land-poor households, HIV-affected households, low-literacy groups, persons with disabilities, and households in high climate-risk and degraded ecosystems.

Linkage to AF Outcome Area 2: The most severe climate hazards in the project area annual wildfires, 2–3 hailstorm events per year, and multi-season droughts are inherently community transboundary and cannot be managed by individual communities acting in isolation. Effective multi-stakeholder coordination with clear mandates, operational budgets, and pre-agreed response protocols is the institutional foundation without which all other adaptation investments remain fragmented and unsustainable.

16.2. Output 2.1: Institutional Capacity Building with Inclusive Management Landscape Associations, Chiefdom Development Committees (CDCs), and Natural Resource Management Committees (NRMCS)

Strengthen Landscape Associations, CDCs, and NRMCS with operational budgets, NRM mandates, and links to ADF/EEF/RDF, prioritizing communities/chiefdoms serving the most climate-vulnerable populations identified through SAPEMP targeting. Institutional strengthening will prioritize inclusive governance and equitable participation of women, youth, female-headed households, and vulnerable resource users.

Activities and climate change rationale

Table 10 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
2.1.1	By Month 6, conduct a joint geographic scoping exercise with ENTC (MERP project) and ELVCDP to produce a formal community/chiefdom-level engagement map identifying which chiefdoms are covered by MERP, SEASL, and ELVCDP respectively; avoid parallel CDC engagement in the same chiefdoms. Share results with PSC and formally endorse the map by Month 3. By Year 2, review and strengthen existing LAS, CDCs, and NRMCS across the target communities/chiefdoms, prioritizing CRITICAL and HIGH-tier sub-areas; introduce women and youth quotas (≥40% women, ≥30% youth) combined with leadership training.	Climate hazards require coordinated multi-community responses that cross chiefdom boundaries. Without a joint scope map, SEASL and MERP will engage the same CDCs in overlapping programming, creating consultation fatigue and duplicating institutional investments.	Geographic scoping will confirm which communities/chiefdoms are not yet covered by MERP, SEASL, and ELVCDP, preventing parallel CDC engagement and consultation fatigue identified as a significant community risk. CDC bylaw reform support will be incorporated as a pre-condition for project investments in communities/chiefdoms where women are structurally excluded from governance (confirmed in Ngwempisi consultations). Women and youth quotas (≥40% women, ≥30% youth) will be binding PMU-verified requirements.
2.1.2	By Year 2, establish new CDCs and NRMCS only in communities/chiefdoms confirmed not yet covered by MERP-ENTC, CSARL, or SAPEMP, using MERP-ENTC's validated multi-day capacity-building model (proposal writing, M&E, negotiation).	Climate shocks affect all communities/chiefdoms, but coordination capacity is uneven. Gaps in coverage create institutional blind spots during climate events. CRITICAL-tier sub-areas (Mbadlane, Lukhula) require institutional response capacity that currently does not exist.	<u>New CDC/NRMC establishment will apply transparent, publicly validated selection criteria with mandatory quotas (≥40% women, ≥30% youth) to prevent replication of existing male-dominated leadership structures in newly formed committees.</u>
2.1.3	By Year 2, provide structured capacity building to Landscape Associations in NRM framework implementation, with dedicated operational budget lines for climate response activities, gender and youth inclusion, and annual planning. Link LAS formally to EADF, EEF, and RDF funding mechanisms with supported grant applications by Year 3. Ensure women and youth representatives participate in all financial management and planning sessions.	LAS without operational budgets remain 'forums without action' (SNPAS lesson). Budgeted LAS can organize and fund drought response, fire management, and IAPS clearing annually without waiting for project disbursements.	<u>Capacity-building and funding-linkage support will require documented participation of women and youth in financial management and planning sessions, with monitoring to confirm decision-making roles are substantive and not nominal.</u>
2.1.4	By Year 2, organize gender age and vulnerable groups-balanced community planning sessions in all target communities/chiefdoms to update existing CDPs, applying SAPEMP-aligned participatory targeting; include dedicated safe-space sessions per chiefdom for women, youth, PWDs, and vulnerable households. Update do not duplicate CSARL's 59 CDPs and SNPAS's management plans where applicable.	Climate projections have changed substantially since existing CDPs were written. Plans based on pre-2020 rainfall data do not reflect the 46-day SOS delay and increased heat stress days projected under SSP2-4.5 scenarios.	Community planning sessions will include dedicated safe-space sessions per community/chiefdom for women, youth, PWDs, and vulnerable households to prevent male-dominated governance structures from capturing planning outcomes. CDC bylaw reform (where required) will be completed before CDPs are finalized to ensure women's leadership is institutionalized in revised plans.

16.3. Output 2.2: Coordination Arrangements with Wildfire, Post-Hail, and Drought Response Protocols

Formalize multi-stakeholder platforms (community leaders/chiefs, women, youth, livestock keepers) with concrete action protocols for wildfire, post-hail rangeland recovery, and drought response, explicitly prioritizing the most climate-vulnerable communities and livelihood groups.

Activities and climate change rationale

Table 11 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
2.2.1	By Month 6, conduct a mapping exercise of all active coordination platforms involving MERP-ENTC, ELVCDP, CSARL, SAPEMP, and SEASL across both landscapes, identifying scheduling conflicts, geographic overlaps, and institutional gaps. Produce a joint engagement calendar shared with all partners by Month 3 and reviewed quarterly.	Climate events cross community/chiefdom and project boundaries. Without a joint coordination map, drought and wildfire responses are fragmented and leave gaps in institutional coverage during critical moments.	<u>The mapping and joint engagement calendar will be reviewed to confirm scheduling accommodates women's and caregivers' time constraints, preventing coordination platforms from being dominated by male representatives with greater time flexibility.</u>
2.2.2	By Month 6, establish agreements between SEASL (FAO), ENTC (MERP), and the Ministry of Tinkhundla to: (i) share CDC engagement platforms and co-schedule activities; (ii) formally adopt MERP-ENTC's validated ILM and CEEA strategies; (iii) establish a joint real-time lesson-sharing mechanism between SEASL and MERP. Review agreement annually in PSC.	Parallel engagement of the same communities is a documented and quantifiable waste of adaptation resources. Formal agreements convert informal coordination into binding agreements that survive personnel changes.	<u>Institutional agreements will specify inclusive representation requirements so that shared CDC engagement platforms and lesson-sharing mechanisms do not concentrate influence among senior male stakeholders.</u>
2.2.3	By Year 2, organize minimum 3 structured study visits per landscape (6 total) to SNPAS's award-winning wetland community/chiefdom as a peer motivation model for wetland restoration uptake. Each visit engages minimum 20 CDC/NRMC leaders with ≥40% women and youth. Pre-post surveys to measure	Peer learning from communities that have already coordinated and adapted is more credible and durable than technical training alone. The SNPAS success story (24-month regeneration, women's income, levy-funded maintenance) is the most compelling motivation narrative available.	<u>Study visit selection will apply transparent, quota-based criteria (≥40% women, ≥30% youth) with logistical support (e.g. childcare, transport) to prevent exposure and networking opportunities from being captured mainly by senior male leaders.</u>

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	attitude change toward coordinated wetland management.		
2.2.4	By Year 2, develop and implement wildfire response protocols, post-hail rangeland recovery checklists, and drought response plans in each of the target communities/chiefdoms; define specific roles for women, youth, and vulnerable groups in each protocol; integrate CDI-E drought triggers as the activation threshold for drought response protocols. Simulate protocols in target community exercises by Year 4.	Wildfires occur annually; hailstorms hit 2–3 times per year; drought is the #1 community-ranked hazard. Pre-agreed and tested protocols reduce response time and prevent the slow, disorganized responses that historically turn manageable hazard events into livelihood crises.	Wildfire response protocols will use manual and mechanical IAPS clearing as the primary approach; prescribed burning (where required) will be conducted only under approved fire management protocols developed under this output, with firebreaks established prior to burn operations and community fire management brigades trained and operational directly addressing the community-identified risk of uncontrolled burning that spreads beyond intended areas. Drought response protocols will be formally linked to CDI-E drought triggers and SADC-CSC/EMS advisories for forecast-based activation.

17. COMPONENT 3: ECOSYSTEM RESTORATION

17.1. Project Outcome 3: Degraded wetlands, rangelands, and forests begin self-regenerating, restoring the ecosystem services on which climate-vulnerable households depend are restored and protected. Targeting climate-vulnerable communities and households identified through SAPEMP project-aligned vulnerability criteria, with priority inclusion of women, youth, female-headed households, land-poor households, HIV-affected households, low-literacy groups, persons with disabilities, and households in high climate-risk and degraded ecosystems.

Linkage to AF Outcome Area 5: The restoration of degraded wetlands, rangelands, and forests is the physical foundation of climate resilience for the communities in the project area. Wetlands are projected to degrade by a further 40% by 2050 without intervention, eliminating the primary dry-season water source for rural communities. The compound IAPS-wildfire cycle in which invasive species increase wildfire fuel loads, wildfires damage rangeland recovery, and drought advantages IAPS over native species is creating a self-reinforcing degradation spiral that can only be broken through systematic ecosystem restoration.

17.2. Output 3.1: Rangeland Management

Develop and implement rangeland management plans covering paddocking, rotational grazing, fire management, IAPS clearing, and post-hail recovery protocols; promote hailstorm-resistant and drought-tolerant pasture species; apply GESI-based beneficiary selection, prioritizing vulnerable households, women livestock keepers, and youth-managed herds.

Activities and climate change rationale

Table 12 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
3.1.1	By Month 6, establish coordination protocol with the Department of Veterinary and Livestock Services and ELVCDP (EU-ITC, 2023–2027) for Lubombo rangeland and livestock activities, including: (i) joint community mapping to avoid reaching the same households with overlapping rangeland investments; (ii) shared training calendars; (iii) aligned fodder production activities. Review protocol every year	Climate adaptation at landscape scale requires aligned programming. Without formal coordination, SEASL and ELVCDP will reach the same livestock-owning households in Gangakhulu, Lubombo, with overlapping investments.	<u>Joint community mapping will disaggregate livestock ownership and rangeland use by sex and wealth status to ensure coordination with ELVCDP does not overlook women, youth and poorer households with limited or no cattle.</u>
3.1.2	By Year 1, facilitate community-led assessments of unsustainable rangeland practices (overstocking, IAPS, uncontrolled burning) in each of the target communities/chiefdoms using standardized scorecards; document current stocking rates, IAPS species present, and fire frequency per community/chiefdom; disaggregate by women livestock keepers and youth herders. Results feed directly into costed rangeland management plans under 3.1.3.	Drought and IAPS together degrade rangelands feeding >80% of rural livestock. Community/chiefdom-level assessment is the foundation for targeted, resource-efficient management plan prioritization.	<u>Assessment scorecards will document women livestock keepers and youth herders separately from male-dominated herd data, ensuring destocking or grazing-control recommendations do not disproportionately burden poorer and female-headed households.</u>
3.1.3	By Year 2, conduct rangeland health assessments in all target communities/chiefdoms, identifying degradation hotspots and promoting at minimum 5 drought-tolerant and hailstorm-resistant pasture species per landscape (species list validated by MoA Department of Rangeland Management and ELVCDP); produce a shared, formally endorsed species guide. No species promoted without the validated guide; Planting material from community nurseries (3.4).	Changing rainfall patterns are reducing traditional pasture productivity. Climate-resilient species directly reduce livestock losses from drought and hailstorm the most common and economically devastating climate events for livestock-dependent households.	<u>Species selection and validation will include consultation with women and youth land users to ensure promoted pasture species and management approaches reflect diverse user needs, not solely those of larger livestock owners.</u>
3.1.4	By Year 2, mobilize communal resource users across all target	Without structured, costed plans, rangeland management collapses after	Rangeland management plans must include agreed livestock corridors with

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	communities/chiefdoms and develop costed, multi-year rangeland management plans using GESI-based beneficiary selection (≥40% women, ≥30% youth). Plans to formally recognize women's and youth's grazing rights in updated by-laws; include annual wildfire response protocols and rotational grazing. Validate plans through CDC/NRMC community processes and the Chiefs. Coordinate with MERP-ENTC to avoid parallel management planning in the same communities/chiefdoms.	each climate shock when communities lack resources to coordinate responses.	corridor alignments developed and signed off by all affected livestock-keeping households prior to installation of any paddock fencing directly addressing the consultation-identified risk of blocking transhumance movement routes in 4 target communities/chiefdoms. Women's and youth's grazing rights will be formally recognized in updated by-laws. Multi-stakeholder NRMC water allocation protocols will be required prior to commissioning any water infrastructure under Output 3.5 to prevent upstream-downstream water conflicts.
3.1.5	By Year 3, support MoA's Department of Rangeland Management to introduce perennial fodder species (including Lucerne and sainfoin where climate conditions allow) across target sites in both landscapes, coordinating with ELVCDP's Lubombo fodder production activities. Validate species suitability through minimum 1-year field trial before scale-up. This is done by embedding the MoA Rangeland Department as the technical validating authority for species lists, plans and by-laws, with SEASL funding the assessments and endorsement process - no parallel unit.	Drought and hailstorm repeatedly destroy annual fodder crops. Perennial plants survive drought and recover faster after hailstorm, buffering feed shortages during increasingly frequent climate stress periods.	<u>Field trials and species validation will include monitoring of benefit distribution across wealth and gender groups to prevent perennial fodder investments from disproportionately benefiting larger, better-resourced livestock owners.</u>
3.1.6	By Year 3, produce published rangeland management plans and investment case documents designed to attract private sector, NGO, and government involvement in IAPS and fire management; share with EADF, EEF, and potential private sector partners. Coordinated with MERP-ENTC to present a joint investment case for the Malolotja–Lubombo corridor.	Large-scale IAPS control and sustained fire management require resources beyond the project's 5-year budget. Published investment-grade plans convert project results into ongoing sustainability by attracting financing as climate warming continues to expand IAPS habitat.	<u>Investment case documents will explicitly reference GESI-based benefit-sharing arrangements from Activity 3.1.4 to ensure private sector and government partnerships reinforce, rather than bypass, women's and youth's recognized grazing rights.</u>

17.3. Output 3.2: Wetland Fencing and Restoration at Scale

Fence and restore degraded wetlands using the proven SNPAS model, prioritizing wetlands providing critical ecosystem services to highly climate-vulnerable communities and water-insecure households, starting with the 7 existing SNPAS management plans in Ngwempisi and extending to Lubombo. Wetlands designed for multi-use water supply (household, livestock, crops), with community-based maintenance funds and trained maintenance technicians per committee.

Activities and climate change rationale

Table 13 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
3.2.1	By year 1, Identify degraded wetlands using SNPAS's 7 existing management plans as the baseline for Ngwempisi and conduct parallel assessments of additional degraded wetlands in Lubombo, using the SNPAS assessment methodology. Prioritize wetlands in the Ngcoseni, Mambatweni, Khalangilile, and Sidvokodvo sub-areas. Identify wetlands for restoration by Year 1. Demarcate scope with MERP-ENTC (Mbuluzi basin) within Month 6.	Wetlands are projected to degrade a further 40% by 2050. They are the primary dry-season water source confirmed as the #1 priority by community consultations in all Ngwempisi sessions. SNPAS restoration showed 24-month regeneration this is the highest-impact intervention available.	<u>Wetland identification and prioritization will include verification / consultation with women users of reeds, water and wild foods to ensure restoration site selection reflects their access needs, not only formal management priorities.</u>
3.2.2	By Year 2, design wetland restoration sites with water-for-multiple-uses as a core principle: each restored wetland designed to service (i) household drinking water, (ii) livestock watering, and (iii) small-scale garden irrigation simultaneously. Design verified by a hydrologist. No single-use wetland restorations.	Drought reduces surface water for all uses simultaneously. Multi-use design ensures one investment generates compound resilience benefits confirmed as the #1 community priority.	Wetland design will incorporate multi-use water access (household, livestock, small-scale irrigation) with formally negotiated access rules to prevent capture by livestock owners as confirmed by SNPAS lessons and women's consultation findings. Women will constitute ≥40% of wetland management committee members, and their rights to reeds, water, and wild foods will be formally protected in management plans.
3.2.3	By Year 2, mobilize communities and develop inclusive wetland management plans for all target wetlands and fence these, ensuring women's access to reeds, water, and wild foods is formally protected through negotiated access rules; ensure women constitute ≥40% of wetland management committee members. Include vulnerable group safe-space sessions per wetland site.	Women walk up to 5 km for water during drought. Without women's formal access rights, restored wetlands risk being captured by livestock owners. Inclusive management plans ensure restored wetlands benefit the most water-insecure households.	Wetland management plans will formally protect women's access to reeds, water, and wild foods through negotiated access rules directly responding to the consultation-identified risk that restored wetlands risk being captured by livestock owners at the expense of women who walk up to 5 km for water in dry season. FPIC with all affected communities will be documented before any fencing or restoration works commence.
3.2.4	From Year 1, systematically deploy SNPAS's 24-month wetland regeneration	Community buy-in must be built with evidence. SNPAS demonstrated that	<u>Success-story dissemination and study visits will apply gender- and youth-inclusive</u>

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	success story as the primary community motivation tool in all 20 communities/chiefdoms, through: (i) study visits to the SNPAS model chiefdom; (ii) documentary materials; (iii) community radio features. Target: minimum 3,700 HHs per year reached with SNPAS success narrative.	ecosystems recover rapidly with protection (24 months), women earn income, and small levies fund maintenance. This evidence is compelling specifically because it is local, not theoretical.	<u>selection criteria to prevent motivation and learning opportunities from concentrating among male or better-connected community members.</u>
3.2.5	By Year 1, engage MNRE and the Environmental Authority for all wetland restoration activities; update not duplicate existing SNPAS wetland management plans for Ngwempisi sites; obtain formal environmental compliance sign-off before any fencing is installed. All wetland management plans endorsed by MNRE by Year 3.	Regulatory compliance secures long-term tenure of restored wetlands against future land-use conflicts the primary threat to restoration sustainability in both landscapes.	<u>Environmental compliance engagement will include verification that updated management plans preserve or formally document women's negotiated access to reeds, water and wild foods before any fencing or restriction is authorized.</u>

17.4. Output 3.3: Communal Woodlot Management, Soil Erosion Control, and IAPS Control

Scale IAPS control (Black Wattle, chromolaena, bugweed) and soil erosion management across woodlots and rangelands; pilot a Working for Water Eswatini model that converts IAPS clearing into paid youth and women employment and sustainable biomass-based enterprises.

Activities and climate change rationale

Table 14 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
3.3.1	By Year 1, assess IAPS-threatened areas using GIS mapping and participatory micro-zoning, building on outcomes of output 1, EEA/Forestry Department's national IAPS strategy (2020–2030) and MERP-ENTC's Mbuluzi basin IAPS mapping. Produce community/chiefdom-level IAPS priority maps for all target communities/chiefdoms; verify against national IAPS mapping to avoid re-mapping already-documented areas.	IAPS invasion accelerates under warmer, drier conditions confirmed by community consultations as the most visible climate-related land degradation hazard. GIS mapping identifies the highest-return clearing sites.	IAPS management protocols will use manual and mechanical clearing as the primary approach. Prescribed burning, where required, will only be conducted under approved fire management protocols with firebreaks established and community fire brigades operational before any burn addressing the consultation-identified risk of fire spread from IAPS clearing beyond intended areas (documented in Ntandozi and Ngwempisi).
3.3.2	By Year 1, research and document IAPS eradication methods for Black Wattle, chromolaena, bugweed, and Lantana camara confirmed effective in Eswatini's agroecological zones; identify market value pathways for cleared biomass (timber, charcoal, energy). Produce an IAPS economic case brief shared with potential private sector downstream partners (timber buyers, CONCO water users) by Year 2.	IAPS clearing collapses when funding ends with no economic incentive the SNPAS lesson is explicit. Biomass markets create a self-sustaining incentive model. CONCO and other water users who depend on restored catchments are natural financing partners.	<u>Market pathway development for cleared biomass will include explicit provisions for women's and youth's participation as suppliers or enterprise members, preventing downstream commercial benefits from accruing only to male-controlled operators.</u>
3.3.3	By Year 2, mobilize communities in all target communities/chiefdoms and develop costed multi-year IAPS management plans with annual follow-up budgets and clearly assigned NRM responsibilities; include women and youth as IAPS clearing team leaders. Plans coordinated with MERP-ENTC to avoid parallel management planning.	SNPAS documented IAPS clearing was not sustained when partnerships lapsed the failure mode was lack of annual follow-up resources and clear institutional ownership. Multi-year costed plans with named NRM ownership prevent this failure from recurring.	<u>IAPS management plans will require documented roles for women and youth as clearing team leaders with corresponding decision-making authority, not only labour participation, to avoid reinforcing gendered labour segmentation.</u>
3.3.4	By Year 1, develop IEC awareness materials with the Forestry Department and EEA on IAPS identification, reporting, and control; engage EEA for formal IAPS clearing permits in all target communities/chiefdoms by Year 2. Awareness materials integrated into the CEEA communication strategy under Activity 1.2.5.	IAPS clearing without regulatory authorization risks enforcement problems. Institutional backing ensures cleared areas remain legally protected and IAPS cannot legally invade through adjacent unmanaged land.	<u>IAPS awareness and permitting materials will be produced in accessible formats and disseminated through channels reaching women, low-literacy and remote households, preventing unequal awareness of reporting and control procedures.</u>
3.3.5	From Year 4, revegetate degraded soils with CSARL-validated native species gully reclamation techniques, prioritizing donga-prone and hailstorm-affected areas in the highest-priority sub-areas (Tshaneni 67.4 ha, Nsoko 39.5 ha, Ndzevane 39.2 ha critical degradation areas). Target: ≥70% revegetation survival rate at 18 months.	Hailstorms and drought accelerate soil erosion. The Multiple/Mixed degradation typology vegetation collapse, soil exposure, moisture stress, and fire damage co-occurring dominates the highest-priority sub-areas. Native species revegetation stabilizes soils, restores water infiltration, and reduces runoff.	<u>Revegetation site selection and monitoring will include women and youth in survival-rate verification and gap-filling decisions to ensure restoration benefits and responsibilities are equitably shared.</u>
3.3.6	From Year 1, link IAPS clearing areas formally to community fire management protocols under Output 2.2 and rangeland management plans under Output 3.1. Cleared areas registered in drought/wildfire response maps and included in annual fire management simulations.	Cleared IAPS areas become high-risk wildfire corridors if not integrated into fire management systems a documented compound risk. Linking IAPS and fire management ensures cleared areas are monitored and firebreaks maintained annually.	<u>Registration of cleared areas in fire and drought response maps will incorporate input from women and youth NRM members to ensure protocols reflect the full range of community risk knowledge.</u>
3.3.7	By Year 3, produce IAPS investment case documents designed to attract private sector, government, and	Large-scale IAPS control exceeds the 5-year project budget alone. Further financing is essential for post-project	<u>Investment case documents for continued IAPS management will include explicit reference to the WfW intergenerational</u>

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	development partnerships for continued IAPS management beyond Year 5; shared with partners identified in Activity 3.3.2.	sustainability as climate warming continues to expand IAPS habitat. The investment case must be credible to private sector partners with a financial stake in clean catchments. SEASL fully finances the IAPS management activities and targets committed under the project results framework during the five-year implementation period. Given that invasive alien species management is a long-term national challenge extending beyond the geographic and temporal scope of SEASL, the project will additionally develop investment cases to support voluntary replication and scaling after project completion. Such future financing is additional to, and is not a condition for, successful implementation or achievement of SEASL Adaptation Fund results.	<u>clearing model's inclusion targets, ensuring future private sector or government partnerships sustain equitable employment access.</u>
3.3.8	From Year 2, train communities on IAPS control tools and pilot a Working for Water Eswatini (WfW) model in communities/chiefdoms in Ngwempisi (wattle-infested rangelands), paying intergenerational clearing teams; prioritize unemployed youth, women-headed households, and land-poor households. SEASL will finance the support required to achieve this activity. Where available, youth may subsequently be referred on a voluntary basis to existing national enterprise registries, business-development services or financing opportunities, including Imakhete/EYEOP, as complementary support that is not required for delivery of SEASL outputs or outcomes.	IAPS is the most visible climate-related degradation hazard confirmed by all 7 target communities. Converting clearing into paid employment creates a durable economic incentive keeping communities clearing IAPS after project completion. The Luzwelweni community explicitly called for 'interventions as fruitful as cannabis' WfW is the closest proven equivalent.	

17.5. Output 3.4: Nurseries with Hail-Protective Structures and Business Plans

Rehabilitate 4 community and 2 public nurseries with hail-protective structures at all sites; stock only climate-appropriate indigenous and drought-tolerant species; develop nursery business plans with HGSF market linkages and community seed/gene banks at nursery sites. Prioritize women- and youth-led nursery governance.

Activities and climate change rationale

Table 15 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	non-adapted species. SNPAS		
3.4.1	By Year 3, rehabilitate 6 nurseries (4 community, 2 public) and install hail-protective structures at each site; formally establish women- and youth-led nursery governance (≥40% women, ≥30% youth as enterprise co-owners) with registration as legal enterprises. Prioritize LUSIP's 5 community nurseries at Siphofaneni as the first 2 community sites.	Hailstorms (2–3/year) damage nursery stock annually, disrupting seedling supply. Protective structures are the single lowest-cost, highest-impact nursery investment available.	
3.4.2	By Year 3, develop 6 nursery management manuals specifying only climate-appropriate, drought-tolerant indigenous species validated against MoA/Forestry species lists and CSARL/SNPAS survival data; include a species exclusion list of non-adapted varieties responsible for SNPAS's documented survival failures. Review annually against latest climate projections.	Higher temperatures and erratic rainfall kill documented that wrong species selection was the primary cause of mass seedling mortality the most expensive and avoidable past failure in the landscape.	<u>Species validation and exclusion-list development will include consultation with women and youth nursery operators to ensure species choices reflect a broad range of livelihood and nutrition priorities, not only technical survival criteria.</u>
3.4.3	By Year 3, document and validate propagation techniques for priority species confirmed effective under drought, producing a standardized protocol guide shared across all 6 nurseries and feeding into the STOSAR II AIMS.	Different species require different propagation methods to survive drought stress. Fragmented knowledge on propagation was the direct cause of inconsistent seedling survival documented in SNPAS.	<u>Propagation protocol documentation will capture and credit indigenous and women-held propagation knowledge alongside technical validation, preventing loss of women's traditional expertise in formal knowledge products.</u>
3.4.4	From Year 2 (training) and Year 3 (tools), train community members in climate-resilient nursery operations and propagation (≥40% women, ≥30% youth); ensure all training precedes the provision of tools and inputs; include O&M modules.	Communities cannot maintain nurseries through climate shocks without practical operational skills. Training-first ensures equipment is correctly used and maintained through future climate events.	<u>Training will be delivered ahead of tool distribution and adapted for accessibility (timing, venue, format) to ensure women, youth and PWDs are not excluded from nursery operations training due to labour or mobility constraints.</u>
3.4.5	By Year 4, support Good Agricultural Practice (GAP) certification for all 6	GAP certification enables access to HGSF and government reforestation	<u>GAP certification support will confirm women- and youth-led nursery co-owners</u>

Activity	Description	non-adapted species.	Climate Change Rationale	Potential Risk Mitigation Measures
	nurseries, with first applications submitted by Year 2. Coordinate with HGSP/FAO to confirm HGSP procurement requirements before investing in certification.		markets providing stable, drought-resilient income during climate downturns when informal markets contract.	<u>are named on certification applications, preventing formal recognition and market benefits from defaulting to male household heads.</u>
3.4.6	By Year 4, expand the species portfolio at all 6 nurseries to include additional indigenous varieties with confirmed multi-hazard climate resilience benefits (drought AND hailstorm AND heat tolerance), validated through at least 1 growing season before scale-up.		Diversifying the nursery portfolio reduces the risk that any single drought or pest event eliminates all stock. The SNPAS failure of monoculture seedling production is the counter-example.	<u>Species portfolio expansion decisions will be validated with women and youth nursery members to ensure new varieties address needs identified by diverse users, not only market-driven priorities of larger operators.</u>
3.4.7	By Year 4, increase production of edible native species (fruits, medicinal plants) at nurseries, targeting species documented as drought-tolerant and nutritionally dense, with dedicated women's processing and sales pathways.		Drought reduces income from annual crops. Native edible species are drought-tolerant by design and generate income during climate shocks a direct income buffering mechanism for climate-vulnerable women.	<u>Development of women's processing and sales pathways for edible native species will include documented control over income and produce, preventing value-added benefits from being captured by male household members.</u>
3.4.8	By Year 3, develop formal nursery business plans for all 6 nurseries with: (i) confirmed HGSP and government reforestation market linkages (MoUs signed before business plan investment); (ii) cost-recovery mechanisms; (iii) climate contingency provisions for 1 failed hailstorm season. Business plans reviewed annually.		Without business plans, nurseries collapse when project funding ends. Pre-secured buyers ensure nurseries can survive droughts and hailstorms that temporarily reduce output.	<u>Nursery business plans will document women's and youth's equity stakes and decision-making roles alongside market linkages, ensuring formalized market contracts do not shift control of nursery enterprises toward better-connected male operators.</u>
3.4.9	By Year 3, establish 6 community seed and gene banks at nursery sites, with formal protocols for collection, storage, and sharing of drought-tolerant IK varieties; ensure ≥40% women are recognized as custodians with documented user rights. Integrate with national seed system through MoA coordination.		Climate change is eroding genetic diversity as non-adapted varieties fail and are abandoned. Seed banks preserve locally adapted drought-tolerant IK varieties as living insurance against crop failure.	<u>Seed and gene bank protocols will formally register women as custodians with documented user rights, consistent with the project's broader approach to preventing seed system capture by male household members or elites.</u>

17.6. Output 3.5: Water Harvesting Infrastructure (Foundational Enabler)

Establish water harvesting systems including household ferro-cement rainwater tanks (CSARL-proven), community reservoirs, and siltation management with multi-use design (household, livestock, crops). No large dam rehabilitation as LUSIP documented perpetual design failures with large centralized systems. Prioritized for drought-prone and water-insecure communities and vulnerable households.

Activities and climate change rationale

Table 16 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
3.5.1	By year 1 month 6, conduct participatory water needs assessments in all target communities/chiefdoms, covering household drinking water, livestock watering, and crop irrigation needs, disaggregated by gender and vulnerability category. Identify households without access to water within 500m during the dry season.	Drought is the #1 hazard in all 7 target communities. Water scarcity in the dry season was identified as the primary structural barrier by communities before even mentioning fencing or extension. Without understanding where scarcity is most acute, investments misallocate resources.	Water needs assessment will include participatory identification of potential upstream-downstream water use conflicts a risk raised in multiple communities/chiefdoms, particularly in Lubombo where illegal upstream farming practices have blocked streams and cut irrigation pipes. Soil suitability assessments will be conducted prior to final siting of all water retention structures to prevent donga formation, cited as the most serious environmental concern at Ntondozi and Mphini sites.
3.5.2	By year 1 month 6, rank and map water-stressed sites across both landscapes using GIS analysis linked to rangeland water recharge and wetland catchment mapping from Activity 1.1.3. Produce a water infrastructure investment priority map validated by NRMCS and shared with ELVCDP and MERP-ENTC.	Drought patterns are shifting. GIS-based prioritization ensures investment targets the highest-stress sites (Mhlumeni 15.9% drought frequency highest in the dataset).	<u>Water infrastructure prioritization mapping will be validated by NRMCS including women and vulnerable household representatives to ensure site ranking reflects the needs of those without secure land or water access, not only larger landholders.</u>
3.5.3	From Year 2, design and install nature-based solutions, incl. household ferro-cement rainwater tanks and community reservoirs/water points using CSARL's proven ferro-cement tank design; prioritize female-headed households, land-poor youth, PWDs, and HIV-affected households in severe water-stress zones; use SAPEMP-aligned targeting. Install community tanks only after O&M training completed (Activity 3.5.4).	Ferro-cement tanks store rainwater at household level, providing a direct drought buffer for domestic water security. LUSIP's dam failures cost millions with no lasting benefit SEASL explicitly specifies no large, centralized dams.	<u>Installation of tanks and water points will apply SAPEMP-aligned targeting with documented prioritization of female-headed households, land-poor youth, PWDs and HIV-affected households, and will proceed only after O&M training to prevent unequal access to functioning infrastructure.</u>
3.5.4	By Year 2 (before any infrastructure is installed), train NRMCS members in water source management; establish trained maintenance technicians (minimum 1 per site) and community-managed maintenance funds (minimum one per community/chiefdom).	Without trained local technicians and a maintenance fund, water infrastructure is abandoned within 2 years of project completion the most common single point of failure across all water projects in Eswatini.	<u>Maintenance technician and fund management roles will apply inclusive selection criteria (documented participation of women and youth) to prevent post-installation control of water infrastructure from concentrating among male committee members.</u>

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
3.5.5	By Year 2, assess groundwater recharge potential from restored wetlands and coordinate with the GEF-UNDP Incomati-Maputo Transboundary Water Resources Management project (pipeline) to ensure SEASL recharge findings contribute to the transboundary planning process, avoiding parallel water resource assessments in the same catchments.	Wetland restoration increases groundwater recharge. Understanding recharge capacity under climate change scenarios is essential to sustainable water allocation planning for the Lubombo Lowveld sub-areas with the highest drought frequency.	<u>Coordination with the transboundary water resources programme will ensure recharge assessment findings retain community- and gender-disaggregated data, preventing loss of locally relevant equity considerations in larger-scale planning.</u>
3.5.6	By Year 4, install water reticulation systems for livestock water points across rangeland areas, coordinated with ELVCDP's Gangakhulu livestock infrastructure to avoid overlap; prioritize rangeland areas with highest drought-related livestock mortality confirmed through Activity 3.1.1 assessments.	During drought, livestock travel long distances to water, accelerating rangeland degradation. Dispersed water points reduce pressure on degraded areas and maintain livestock body condition through dry seasons.	<u>Reticulation siting will be validated against Activity 3.1.1 assessments disaggregated by wealth and gender to ensure livestock water investments do not disproportionately benefit larger, better-resourced livestock owners.</u>
3.5.7	By Year 4, test water quality at restored water sources using standard WHO parameters; flag unsafe sources before any drinking water use are promoted; recommend corrective measures where contamination is found; integrate water quality monitoring into the NRM O&M responsibility framework.	Climate change increases the frequency and intensity of flooding and runoff events that contaminate water sources. Quality testing ensures restored infrastructure is safe and does not create health risks alongside climate risks.	<u>Water-quality monitoring responsibilities will include women and youth NRM members, and corrective-action decisions will be documented transparently to prevent unequal access to safe water information across community groups.</u>

17.7. Output 3.6: Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives

Promote agroforestry with drought-tolerant, heat-resistant, hailstorm-resilient fruit trees (citrus, oranges) and silvopastoral systems; GESI-targeted plot allocation near homesteads; and a youth incubation pathway with training, starter kits, and guaranteed HGSF buyers before scale-up. Prioritize climate-vulnerable youth, young women, land-poor households, and vulnerable households.

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
3.6.1	By Year 1 month 6, conduct agroforestry species selection for both landscapes, shortlisting only drought-tolerant, heat-tolerant ($\geq 35^{\circ}\text{C}$ threshold), and hailstorm-resistant species; include nutrient-dense indigenous fruit/nut species per landscape; validate shortlist against CSARL and SNPAS survival data and MoA/Forestry species lists. Produce a landscape-specific approved species list by Year 1 before any planting begins.	Higher temperatures, longer droughts, and increasing hailstorms are killing non-adapted tree species SNPAS documented 40% mortality from wrong species selection. The Lubombo Lowveld will experience 40–120 heat stress days/year by 2041–2060.	<u>Species selection validation will include consultation with women and youth land users to ensure the approved species list reflects diverse livelihood and nutrition priorities, not only those of larger landholders or male decision-makers.</u>
3.6.2	From Year 2 (training) and Year 3 (planting), train HHs on improving agricultural micro-climate through agroforestry, with GESI-targeted plot access near homesteads and formal user rights documents securing women's and youth's rights over trees and derived income; include small-scale processing modules.	Extreme heat and drought reduce crop yields. Agroforestry creates shade and wind buffers that moderate temperature and moisture at field level. Temperatures will exceed 31°C mean annual maximum under SSP2-4.5 in the Lubombo.	<u>Formal user-rights documentation will explicitly register women's and youth's rights over trees and derived income before planting, directly addressing the risk that agroforestry benefits accrue mainly to those with pre-existing recognized land rights.</u>
3.6.3	From Year 3, plant climate-appropriate trees (CSARL- and LUSIP-proven species from the Year 1 month 6 approved list) across both landscapes; implement systematic post-planting monitoring at 3, 6, 12, and 18 months with targeted gap-filling for mortality $>30\%$.	Reforestation without climate-appropriate species and monitoring results in 50% mortality within 2 seasons SNPAS's documented failure. Trees that survive build long-term resilience against drought, soil erosion, and extreme heat.	<u>Post-planting monitoring will include women and youth in gap-filling and survival verification to ensure restoration labour and decision-making responsibilities are equitably shared, not concentrated in lower-paid or unpaid roles for women.</u>
3.6.4	From Year 2, promote commercial woodlot pilot sites in wattle-infested rangelands, directly linked to the WfW employment model under Activity 3.3.8 and identifying private sector timber/biomass buyers before scaling up. No scale-up before confirmed buyers. This is done through FFS/cooperative platforms (SAPEMP/CSARL), $\geq 40\%$ women/ $\geq 30\%$ youth groups with registered asset ownership, the market-first rule (HGSF/SAPEMP off-take secured first), and training-before-inputs verified by the PMU.	Wattle invasion is driven by warmer, drier conditions. Commercial woodlots with biomass income incentivize communities to actively manage rather than abandon IAPS-invaded rangelands.	
3.6.5	From Year 2, introduce leguminous shrub species per landscape (selected for hailstorm tolerance where applicable) as fodder and soil fertility improvement; validate species through 1 growing season field trial before scale-up; coordinate species selection with ELVCDP's livestock fodder activities.	Drought and hailstorm reduce fodder availability. Nitrogen-fixing leguminous shrubs improve soil fertility and provide drought-resistant fodder, reducing livestock mortality during dry spells.	<u>Field trial validation of leguminous shrub species will include consultation with women and youth to confirm fodder and soil-fertility benefits are accessible beyond larger livestock owners coordinating with ELVCDP.</u>
3.6.6	From Year 2 (training) and Year 3 (assets), establish youth agroforestry incubation pathways for youth through: (i) negotiated land access arrangements (group-based, intergenerational land-sharing); (ii) multi-year training; (iii)	Youth are leaving agriculture because climate shocks make returns unreliable. A structured incubation pathway creates a climate-resilient income alternative competitive with cannabis directly	Potential risks related to youth land access, elite capture, low enterprise viability and market failure will be assessed and mitigated through negotiated and transparent land access arrangements, clear beneficiary selection criteria, and phased support linked

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	starter kits distributed AFTER training; (iv) guaranteed HGSF buyers confirmed BEFORE scale-up; (v) registration through EYEOP's Imakhete registry. Specific quotas: ≥40% young women, ≥30% land-poor youth.	responding to the Luzwelweni community's call for 'interventions as fruitful as cannabis.'	to demonstrated commitment and completion of training. Market assessments and buyer agreements (including HGSF where feasible) will be secured prior to production scale-up to reduce market risks. Ongoing mentorship, business coaching and linkages to financial services will be provided to improve enterprise sustainability and reduce the risk of youth disengagement or reversion to unsustainable livelihood options. Particular attention will be given to ensuring equitable participation of young women and land-poor youth through tailored support measures and monitoring of inclusion outcomes.

18. COMPONENT 4: CLIMATE-SMART LIVELIHOODS

Project Outcome 4: Poor and climate-vulnerable rural households in SAPEMP-targeted communities/chiefdoms, particularly women-headed households, unemployed and under-employed youth, land-poor households, and pastoral households, have diversified, climate-resilient income streams, improved food security, and strengthened adaptive capacity through inclusive market systems and climate-resilient value chains. Targeting approximately 14,298 households (approximately 85,790 direct beneficiaries) across the Ngwempisi and Lubombo landscapes, including at least 40% women, and 30% youth, with equal participation of young women and young men, women-headed households, land-poor households, unemployed and under-employed rural youth, and households affected by drought, hailstorms, rangeland degradation, IAPS, and water scarcity.

Linkage to AF Outcome Areas 6 and 8: Climate-vulnerable households currently rely heavily on rain-fed agriculture, which is subject to devastating losses from drought, hailstorm, and erratic rainfall. Building diversified, climate-resilient livelihoods anchored to restored ecosystems (Component 3) and secured by formal market linkages reduces the co-variance of climate risk across household income streams (AF Outcome Area 6). Improved food security and water security follow from the integration of drought-tolerant crops, water harvesting, and conservation agriculture (AF Outcome Area 8).

18.1. Output 4.1: Beekeeping Value Chain with Training, Equipment, and Secured Market Contracts

Strengthen the climate-resilient beekeeping value chain for poor and climate-vulnerable households, especially women, youth, women-headed households, and land-poor households, through multi-year training, equipment (hives, protective gear, extraction tools), and market contracts secured with HGSF and formal buyers BEFORE scale-up. Builds on LUSIP's 10% uptake success.

Activities and climate change rationale

Table 17 Overview of activities and climate change rationale

Activity	Description	Lessons Reflected / Complementarity	Potential Risk Mitigation Measures
4.1.1	By Year 1 month 6, identify and formally map apiary sites across both landscapes, linking each site to specific restored wetlands and woodlots being established under Component 3; include ecosystem stewardship incentive in site agreements (apiary access in exchange for wetland protection participation). Sites validated by Departments of Forestry and Agriculture.	Builds on LUSIP's 10% beekeeping uptake success in Siphofaneni. Coordinates with MERP-ENTC's ecosystem restoration zones. SAPEMP FFS structures used as the management framework no parallel apiary platform created.	<u>Site selection and agreements will apply inclusive targeting criteria co-validated by community structures to prevent better-connected men or land-right holders from capturing apiary opportunities; site agreements will document women and youth access/use rights where apiaries are placed on communal or individually controlled land.</u>
4.1.2	From Year 2 (training) and Year 3 (equipment), train HHs (≥40% women, ≥30% youth, prioritizing unemployed youth, women-headed HHs, and land-poor HHs) on hive-making, colony management, and safety; include a dedicated youth enterprise development track (business development, cooperative/FFS formation, financial literacy); adapt modules for first-time entrepreneurs. Training must be completed and documented before any equipment is distributed.	Directly corrects LUSIP's documented failure. CSARL's lesson: mixed groups (≥40% women, ≥30% youth) are more stable than youth-only cohorts. Youth enterprise track through EYEP model rather than a standalone system.	Training must be fully completed and documented before any beekeeping equipment is distributed directly correcting LUSIP's documented failure of distributing equipment before training. Women-only enterprise groups will be established as the default modality to prevent default to male leadership in mixed groups and misappropriation of inputs confirmed by women's FGDs. Group-based accountability mechanisms (savings groups, cooperative bylaws) will be required as a condition for enterprise support disbursement.
4.1.3	By Year 1 month 6 end (before any production scale-up), secure formal offtake agreements and market contracts with HGSF and SAPEMP cooperatives/FFS for HHs' expected annual honey production; channel all contracts through SAPEMP coordination platform, not parallel SEASL marketing structures. Contracts reviewed and renewed annually.	ELVCDP lesson: market contracts must be secured before production scale-up formally embedded as a project-wide rule. SAPEMP coordination platform used, not a parallel SEASL platform.	<u>All market contracts will be reviewed to ensure women and youth producers are explicitly recognized as participating suppliers and benefit recipients, reducing the risk that commercialization strengthens male control over income. No production scale-up will proceed until contracts and beneficiary lists are cross-checked against inclusion criteria.</u>
4.1.4	By Year 4, produce documented case studies on beekeeping as a climate-resilient livelihood model, featuring	Knowledge products shared with SAPEMP, ELVCDP, and EYEOP for broader dissemination. Published in	<u>Case studies and dissemination products will apply informed-consent and safe-representation protocols, and will intentionally</u>

Activity	Description	Lessons Reflected / Complementarity	Potential Risk Mitigation Measures
	women and youth producers; disseminate through STOSAR II AIMS, national media, and IFAD's knowledge sharing platform. Each case study to document income generated, seasonal patterns, and climate shock management strategies.	STOSAR II AIMS avoids creating a standalone SEASL publication platform.	<u>feature women and youth producers to counter bias in visibility and recognition of adaptation benefits.</u>
4.1.5	By Year 4, develop climate-contingency sustainability plans for cooperatives/FFS, including: (i) income projections; (ii) maintenance schedules; (iii) explicit climate contingency provisions for 1 failed honey season; (iv) ≥40% women and ≥30% youth as registered enterprise members and productive asset owners; (v) formal enterprise registration through EYEOP's Imakhete registry.	Adopts ELVCDP's SheTrades model (women as registered asset owners as critical financial inclusion factor). Youth enterprise registration through EYEOP's Imakhete registry no parallel registry created.	<u>Sustainability plans will require women and youth to be registered as enterprise members and productive asset holders, with governance rules documenting benefit-sharing, maintenance responsibilities, and dispute-resolution procedures so that climate-resilient income streams are not appropriated by local elites or male household members.</u>
4.1.6	From Year 2 (only after training verified under 4.1.2), provide beekeeping production and processing equipment (hives, protective gear, honey extraction tools, wax and propolis processing supplies) to equipped HHs (≥40% women, ≥30% youth). No equipment distributed without training sign-off.	Directly addresses LUSIP's documented barrier. Equipment distribution sequenced strictly after training LUSIP's inverse approach explicitly reversed. Equipment procurement through SAPEMP supply chain where possible.	Equipment distribution will be strictly sequenced after training sign-off verified by PMU. No equipment will be distributed without training verification to prevent the attrition pattern documented in LUSIP and CSARL beekeeping pilots. Women-only enterprise groups required as default; group constitutions must include explicit provisions for women as registered asset owners before any procurement is released.
4.1.7	From Year 2, establish youth beekeeping incubation pathways for youth (≥40% young women, ≥30% land-poor youth) through: (i) group-based apiary models; (ii) mentorship from experienced beekeepers; (iii) start-up kits after training; (iv) phased graduation toward independent enterprises; and (v) AF-financed enterprise support required to achieve the activity results. Where available, participants may subsequently be referred voluntarily to existing national savings, enterprise and financing services, including EYEOP/Imakhete, as complementary opportunities that are not required for achievement of SEASL results. CSARL's finding: youth engagement works only with tangible quick-return assets and secured market linkages. EYEOP's grant mechanism used no parallel youth support infrastructure created. Mixed groups (not youth-only). Mentorship from LUSIP-trained beekeepers where available.	CSARL's finding: youth engagement works only with tangible quick-return assets and secured market linkages. EYEOP's grant mechanism used no parallel youth support infrastructure created. Mixed groups (not youth-only). Mentorship from LUSIP-trained beekeepers where available.	<u>Youth incubation pathways will prioritize land-poor youth and young women through group-based apiary models, tailored mentoring and phased start-up support, reducing exclusion linked to land rights, start-up capital and weak market access.</u>

18.2. Output 4.2: Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems

Promote indigenous drought-tolerant varieties and nutrition-sensitive crops documented by communities as outperforming hybrids under drought; establish community seed multiplication systems linked to HGSP institutional markets, building on seed banks from

Activities and climate change rationale

Table 18 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
4.2.1	By Year 1 month 6, update the agricultural production baseline for all target communities/chiefdoms, building on CSARL's 814 ha under climate-resilient practices as the starting point; disaggregate by crop, variety, and climate performance. Shared with SAPEMP and GEF-FAO Sustainable Food Systems project to avoid parallel baselines.	Climate change is reducing yields of conventional varieties. An updated baseline capturing IK variety performance across all 20 communities/chiefdoms is the foundation for measuring real adaptation progress and targeting extension services.	<u>Baseline updating will be sex-, age- and vulnerability-disaggregated to identify which groups lack access to seeds, extension and irrigated plots, so targeting can correct rather than reinforce existing inequalities.</u>
4.2.2	From Year 2, build community capacity on erosion control and conservation agriculture across HHs, using CSARL's validated gully reclamation methods and consistent CA messaging; ensure ≥40% women in all CA training cohorts; maintain consistent messaging with SAPEMP CA activities to avoid community confusion from conflicting advice.	Hailstorms and erratic rainfall accelerate soil erosion year by year. Conservation agriculture builds soil structure that retains water during drought and resists erosion during intense rainfall a proven response to both hazard types.	<u>Training schedules, locations and methods will be adapted to women, youth, PWDs and HIV-affected households, with accessible venues and labour-sensitive delivery to reduce exclusion from conservation agriculture capacity building.</u>
4.2.3	From Year 3, promote growing of IK drought-tolerant varieties documented in Activity 1.1.4, with technical support	Rainfall has shifted planting seasons from September to November (37–46-day SOS delay). IK varieties	Indigenous variety promotion will use women-only seed multiplication groups as the default modality to prevent male household members

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	on climate-resilient propagation and planting calendar adjustment to reflect SOS shifts (September-to-November shift). This is done via women-only seed-multiplication groups promoting indigenous drought-tolerant varieties (4.2.3), with MoA extension support and planting-calendar adjustment for the SOS shift.	adapted to local conditions maintain yields in compressed growing seasons where hybrids fail.	from redirecting seeds as confirmed by women's FGDs reporting systematic input misappropriation in mixed households. Group-based accountability mechanisms will be required before any seed distribution commences.
4.2.4	From Year 3, Through MoA extension and FFS, promote drought-tolerant open-pollinated varieties and indigenous fruit tree species across both landscapes; formally exclude high-water-input crops from promotion in water-scarce sites confirmed in the Activity 3.5.2 water stress map. Target: water-scarce sites (above drought frequency threshold of 14% months) excluded from irrigated crop promotion.	Erratic rainfall and increasing dry spells make high-water crops economically unsustainable in the most drought-prone sub-areas (Mhlumeni: 15.9% drought frequency). Drought-tolerant varieties directly reduce the risk of total crop failure.	<u>Promotion packages will prioritize poorer and less-connected farmers, including women and youth with limited irrigation access, and exclude unsupported promotion of input-intensive options that could advantage wealthier farmers.</u>
4.2.5	By Year 4, improve pasture resilience in water-stressed rangeland sites through water reticulation installations confirmed under Output 3.5; coordinate water point placement with ELVCDP's Lubombo livestock activities to avoid duplicating reticulation infrastructure; Subject to DoWA authorization and NRMC allocation protocols.	Drought reduces pasture productivity, forcing destocking the primary cause of household income collapse in livestock-dependent communities. Water reticulation extends the productive grazing season.	<u>Water-point placement and allocation rules will be validated with NRMCS, women and pastoral users to reduce conflict, elite capture and exclusion of poorer livestock keepers from reticulation benefits.</u>
4.2.6	From Year 3, establish community seed multiplication systems for documented IK varieties in all target communities/chiefdoms, formally recognizing women and youth as custodians with documented access and benefit rights; link seed systems to HGSP institutional market and GEF-FAO Sustainable Food Systems project for demand confirmation before scaling multiplication.	Climate change is eroding seed diversity rapidly. Community seed systems preserve locally adapted drought-tolerant varieties and ensure reliable seed supply when commercial chains are disrupted by drought or flood events.	<u>Seed multiplication systems will formally document women and youth custodianship, access rights and benefit-sharing rules, reducing the risk that improved seed systems are controlled by wealthier farmers or male household members.</u>

18.3. Output 4.3: Climate-Smart Agriculture Technologies Scaled

Scale climate-smart agriculture technologies specifically selected to address the primary climate hazards (drought, hailstorm, erratic rainfall) faced by smallholder farmers.

Activities and climate change rationale

Table 19 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
4.3.1	From Year 2 (only where Output 3.5 confirms adequate water supply), convert furrow to drip irrigation for minimum 15 SAPEMP pre-selected farmer groups; no drip conversion in water-scarce sites below the Activity 3.5.2 drought frequency threshold.	Drought is reducing available irrigation water. Drip irrigation uses 40–60% less water than furrow systems, extending irrigation capacity through dry spells. Conversion only where water supply has been confirmed.	<u>Drip irrigation conversion will be limited to sites with confirmed water availability and transparent beneficiary selection, so climate-smart irrigation support does not disproportionately favour better-capitalized farmers with pre-existing irrigation access.</u>
4.3.2	From Year 2 (training) and Year 3 (equipment), provide climate-smart mechanization (no-till planters) across RDAs with training completed before equipment delivery; maintain consistent CA messaging aligned with Activity 4.2.2.	Erratic rainfall compresses planting windows. No-till planting preserves soil moisture and enables timely planting in shortened, unpredictable growing seasons directly addressing the SOS delay documented across multiple sub-areas.	Labour-saving technology (no-till implements, drip irrigation) will be prioritized for women beneficiaries to address the documented risk of increased labour burdens on women and vulnerable groups, confirmed across all women's FGDs. Time use baseline studies will be conducted before technology rollout to establish sex-disaggregated labour time indicators. Training-first sequencing will be enforced (training before equipment) with PMU verification.
4.3.3	From Year 3, install shade nets and hail-protective structures (not greenhouses) at hailstorm hotspot sites; prioritize vulnerable HHs and producer groups with documented repeated hail crop losses confirmed through Activity 1.1.1 hazard mapping.	Hailstorms cause total crop destruction 2–3 times per year. Shade/hail nets directly protect food and income crops at proven low cost. LUSIP explicitly rated greenhouses as an 'aberration' favored a small group, not replicable.	Hail-protective structures will be sited exclusively at locations confirmed by Activity 1.1.1 hazard mapping and validated by community representatives. Structures specified as shade/hail nets (not greenhouses) following LUSIP's lesson of greenhouse favoritism confirmed risk of elite capture if selection is not strictly criteria-based with priority for vulnerable households and producer groups with documented repeated hail crop losses.
4.3.4	From Year 2, pilot fertilizer tea trial sites across both landscapes; evaluate results by Year 3 before scale-up decision. No scale-up of either technology without field trial evidence of effectiveness under local climate conditions.	Drought reduces soil organic matter. Fertilizer teas reduce input costs and water dependency making farming economically viable in climate-stressed years.	<u>Pilot participation and scale-up decisions will include women, youth and poorer farmers in trial design and evaluation, preventing premature roll-out of technologies that are ineffective or inaccessible for less-resourced households.</u>

18.4. Output 4.4: Value Chain Platforms and Formal Market Linkages Before Production

Establish formal market linkages to HGSF (schools), SAPEMP cooperatives/FFS, and identified buyers BEFORE production is promoted. SEASL complements SAPEMP and does not create parallel infrastructure. HGSF agreements in Year 1.

Activities and climate change rationale

Table 20 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
4.4.1	By year 1, map existing producer groups against CSARL, SAPEMP, EADF, ELVCDP, FAO, and EYEOP to identify: (i) groups already served that SEASL should not duplicate; (ii) gaps where SEASL targets new groups; (iii) coordination opportunities. Share mapping results with all identified partners and update PSC annually.	Climate impacts are most severe where vulnerable communities have no market backup during bad seasons. Systematic mapping ensures no community without a market lifeline is overlooked, and that SEASL resources are not spent on communities already served by SAPEMP or ELVCDP.	<u>Producer-group mapping will include a social inclusion screen to identify communities and groups currently underserved, especially women-, youth- and PWD-led groups, so SEASL does not reinforce existing service biases.</u>
4.4.2	By Year 2, formalize offtake agreements with HGSF, SAPEMP cooperatives/FFS, and formal private sector for each major value chain (beekeeping, agroforestry, horticulture) BEFORE any production scale-up is initiated in Year 3. Market contracts reviewed and renewed annually.	Climate shocks reduce output unpredictably. Without guaranteed buyers, even small production shortfalls from drought or hailstorm leave smallholders with both reduced yield AND no market a double climate shock that was the primary cause of cooperative/FFS collapse documented in CSARL, SMLP.	<u>Offtake agreements will be reviewed to ensure women and youth producers are explicitly included in supply arrangements and governance, reducing the risk that market formalization benefits only established or male-controlled producers.</u>
4.4.3	By year 2, formalize agreements with HGSF/FAO and WFP for HGSF school feeding programme procurement from SEASL-supported producer groups across both landscapes; MoUs operational and first purchase orders confirmed before any production scale-up in Year 3. Review annually.	HGSF demand is stable even when market demand drops after drought. Guaranteed institutional off-take is the most reliable income protection during climate downturns.	<u>Institutional procurement arrangements will include transparent participation criteria and supplier support for women and youth groups so HGSF-linked opportunities are not captured by already-connected enterprises.</u>
4.4.4	From Year 2, train women entrepreneurs and youth entrepreneurs on business planning, focusing on processing and value chain node activities; channel all youth through EYEOP's Imakhete registry; tailor training for different segments (start-up vs. semi-commercial); prioritize youth from CRITICAL- and HIGH-tier climate-vulnerable sub-areas. Target: ≥40% women in all entrepreneur training cohorts.	Climate shocks destroy agricultural income without warning. Business planning skills enable producers to diversify, save, and manage cash flow to withstand periods of climate-reduced income.	<u>Training modalities will be accessible and segmented for start-up and less-experienced entrepreneurs, with scheduling responsive to care burdens and targeted outreach to young women, PWDs and poorer youth to avoid exclusion.</u>
4.4.5	From Year 2, develop climate-smart marketing training tools integrating STOSAR II's AIIS market information platform for real-time pricing data; train producer group leaders and extension workers on using AIIS for market intelligence; avoid creating a parallel SEASL market information platform.	Climate shocks create rapid price volatility. Real-time pricing information enables producers to decide when and where to sell, reducing income losses during climate-disrupted market periods.	<u>Digital marketing tools will be paired with practical support for low-literacy and digitally excluded users, including women and poorer youth, so access to real-time market information does not create a new divide.</u>
4.4.6	From Year 2, provide structured enterprise coaching to entrepreneurs (≥40% women, ≥30% youth) using the EYEOP/EYEP skills–capital–market model; prioritize women and youth from CRITICAL- and HIGH-tier climate-vulnerable HHS; channel youth grants through EYEOP's existing mechanism no parallel SEASL grant system.	Climate shocks expose business management gaps precisely when they matter most. Simultaneous skills, capital, and market coaching builds the full resilience package to maintain income through climate events. EYEOP achieved 84% employment rate.	<u>Enterprise coaching and grant linkage will apply explicit inclusion criteria and gender-responsive follow-up so support does not concentrate among already advanced entrepreneurs or better-connected youth.</u>

18.5. Output 4.5: Value Addition, Traceability Programmes, and Aggregation Centers

Build capacity for value addition on honey (wax, propolis, honey-based products), fruits, and NTFPs, with traceability systems for climate-resilient products; prioritize women- and youth-led enterprises, vulnerable producer groups, and SAPEMP-aligned market systems. Equipment is provided only after training, and market contracts are secured.

Activities and climate change rationale

Table 21 Overview of activities and climate change rationale

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
4.5.1	From Year 2, promote Haggregation models for value addition of honey sub-products (wax, propolis, honey-based products) in aggregation centers across both landscapes; ensure ≥40% women and ≥30% youth among enterprise members as registered asset owners; link to HGSF and SAPEMP market channels not parallel SEASL platforms.	Drought reduces primary honey product volume. Value addition from sub-products generates income from the same harvest even when honey yield is climate-reduced, directly buffering smallholder income against rainfall variability.	<u>Enterprise membership and asset-registration rules will require women and youth to be recognized as co-owners and benefit holders in value-added honey businesses, reducing the risk that commercialization increases women's labour without income control.</u>
4.5.2	From Year 2, support women and youth enterprises through climate-controlled	Post-harvest losses spike during climate events (heat, humidity, erratic	<u>Storage-facility governance and enterprise constitutions will document women's control</u>

Activity	Description	Climate Change Rationale	Potential Risk Mitigation Measures
	storage facilities and EYEOP's Imakhethe platform for technology-oriented marketing; ensure women formally control income from value-added products through cooperative/FFS governance rules documented in enterprise constitutions.	weather). Storage facilities enable women and youth to hold and sell products at better prices rather than panic-selling after a climate shock when prices are lowest.	over income from value-added products and include accessible participation arrangements for youth, PWDs and HIV-affected beneficiaries.
4.5.3	From Year 2, develop Farmer Field Schools (FFS) or cooperatives and aggregation centers across both landscapes, formally coordinating with EADF, SAPEMP, and FAO market channels; map existing FFS against CSARL and SAPEMP structures within first 3 months to avoid duplicating in already-served communities.	Isolated smallholders cannot negotiate prices after climate-reduced harvests. FFS and aggregation centers provide collective market power that buffers individual climate income shocks.	Formation of FFS/cooperatives and aggregation centres will use transparent inclusion criteria and representation rules to prevent local elite capture and ensure women and youth have active governance roles.
4.5.4	From Year 2 (knowledge) and Year 3 (application), train community members (≥40% women, ≥30% youth) on value addition, aggregation, entrepreneurship, financial literacy, and climate risk management; integrate AIIS market information for real-time pricing; apply training-before-inputs sequencing verified by PMU.	Market prices collapse after climate events. Real-time pricing data enables producers to identify where to sell, when to hold stock, and which products maintain value through climate-disrupted markets.	Training delivery will use accessible modalities, timing and venues responsive to care responsibilities and disability inclusion, so women and persons with disabilities are not excluded from value-addition capacity building.
4.5.5	From Year 3 (only after training under 4.5.4 verified and market contracts under 4.4.1 signed), provide post-harvest value addition equipment (dryers, processing units, packaging equipment) to enterprises (≥40% women-led, ≥30% youth-led). Equipment kits standardized by product type. No equipment distributed before training and contract milestones are confirmed by PMU.	Post-harvest losses are amplified by climate shocks (heat, humidity, erratic weather). Drying, processing, and packaging equipment reduces losses and maintains product quality through climate events.	
4.5.6	From Year 2, Through FFS, promote post-harvest support for climate-resilient varieties and small livestock; develop and formally document contingency protocols for climate and disease shocks adapted from ELVCDP's FMD response model; protocols tested in at least 1 community/chiefdom simulation exercise by Year 3; integrate with wildfire and drought response protocols under Output 2.2.	Climate shocks create simultaneous production and market disruptions. Pre-agreed contingency protocols ensure income losses from compound climate-disease events are minimized ELVCDP's FMD outbreak in 2025 demonstrated the consequences of lacking such protocols.	Contingency protocols will be validated with women and youth producers and linked to inclusive communication channels so emergency response does not bypass less-connected or labour-constrained households.

18.6. Component Coherence: Risks, Partners, Dependencies and Safeguards

The SEASL component structure follows a deliberately sequential logic: Component 1 (evidence, EWS, and adaptive knowledge) generates the vulnerability data, early-warning infrastructure, and targeting criteria that Component 2 (multi-stakeholder coordination) uses to build institutional capacity and allocate resource access rights; Component 3 (ecosystem restoration) then rehabilitates the rangelands, wetlands, and water systems on which Component 4 (climate-smart livelihoods) depends for productive investment.

Because this sequencing creates interdependence across Outputs, delay or underperformance in early-stage assessments, coordination platforms, or protocols can weaken or slow downstream restoration and livelihood investments. The matrix below makes this interdependence explicit by mapping each component to the delivery risks it addresses and is exposed to, its main partners / consent required, the key dependencies and sequence triggers that link it to adjacent components, its safeguards and Free, Prior and Informed Consent (FPIC) requirements, and the mechanisms that sustain its results after project completion This is intended to reduce fragmentation across the 17 Outputs and clarify implementation responsibilities for the Project Management Unit (PMU), Project Steering Committee (PSC), and Technical Committee (TC).

Table 21.2 Component coherence matrix: risks, partners, dependencies, safeguards and sustainability

B. Project economic, social, and environmental benefits

19. The SEASL project will deliver concrete and measurable economic, social, and environmental benefits across the Lubombo and Ngwempisi landscapes of Eswatini. Benefits accrue at three levels: (i) directly to 85,790 people (14,298 households) reached through climate-resilient livelihoods, ecosystem restoration, and adaptive knowledge interventions; (ii) 301,677 indirect beneficiaries reached with approximately 212,531 in the Lubombo landscape and 89,164 in the Ngwempisi landscape. Indirect benefits will accrue through improved ecosystem services, spillover adoption of climate-smart agriculture and livestock practices, strengthened early warning systems, and enhanced landscape-level resilience to climate and disease shocks. (iii) to national systems through strengthened institutions, evidence platforms, and government coordination mechanisms. Targeting prioritizes women-headed households, youth, land-poor households, HIV-affected households, persons with disabilities, and low-literacy groups, in line with the SAPEMP-aligned vulnerability criteria and the project Gender Action Plan (ANNEX 4 Gender and Social Inclusion Assessment and Action Plan).

20. **Economic benefits** are generated primarily through Component 4 (climate-smart livelihoods) and Component 3 (ecosystem restoration with productive co-benefits). The project supports diversified, climate-resilient value chains beekeeping (Output 4.1), drought-tolerant indigenous seed multiplication (Output 4.2), climate-smart agriculture (Output 4.3), and agroforestry (Output 3.6) anchored in pre-secured market off-take contracts (Output 4.4), including with the Home-Grown School Feeding Programme. Expected household-level income gains range between USD 350 and USD 600 per participating household per year at full performance, derived from comparable values documented under SAPEMP, SNPAS and LUSIP-GEF. Beekeeping participants are expected to reach productive hives per household by Year 4 with corresponding honey revenues; seed-multiplication groups will sell to the National Seed Quality Control Services and to EADF-financed off-takers. Nursery business plans (Output 3.4) and water-harvesting infrastructure (Output 3.5) generate downstream productivity gains by reducing crop water stress and lowering replanting losses after hailstorms and droughts.
21. **Social benefits** are distributed across health, food security, education, and gender equality dimensions. Improved water availability from harvesting infrastructure and wetland restoration (Outputs 3.2 and 3.5) reduces the daily water-collection burden on women and girls estimated at 1.5 to 3 hours per day in the most drought-affected chiefdoms and lowers exposure to gender-based violence linked to long-distance water fetching. Climate-resilient food production and HGSF-anchored off-take contracts strengthen household food security, particularly for the 54–59% of the population currently living below the national poverty line.⁵⁰ Capacity-building activities (Output 1.4) deliver inclusive training to at least 40% women and 30% youth participants, while leadership quotas in Landscape Associations, Chiefdom Development Committees, and Natural Resource Management Committees (Output 2.1) institutionalize women's and youth decision-making authority in landscape governance. Low-literacy adaptation tools (icon-based EWS bulletins, oral radio formats Output 1.2) extend benefits to the most marginalized population segments.
22. **Environmental benefits** flow from Component 3 and reinforce the long-term productive base of the two landscapes. Wetland fencing and restoration (Output 3.2) will restore at least 1,200 hectares of degraded wetlands across the Lubombo and Ngwempisi landscapes; rangeland management and IAPS control (Output 3.3) will bring an additional 8,500 hectares of communal rangeland under sustainable management; and agroforestry and woodlot interventions (Outputs 3.3 and 3.6) will establish a further 2,300 hectares of tree cover with climate-appropriate indigenous species. These restoration actions are expected to generate measurable improvements in groundwater recharge, soil retention, carbon sequestration, and biodiversity, including species of conservation concern in the Maputaland-Albany biodiversity hotspot. By design, no environmental benefit is contingent on additional grant cycles restored ecosystems regenerate self-sustainingly once protected, consistent with evidence from SNPAS-fenced sites.
23. **Benefits for vulnerable groups** are tracked through gender-, age-, and vulnerability-disaggregated indicators in the Results Framework (Section III.E) and the Gender Action Plan. The project applies a minimum 40% women / 30% youth participation benchmark across all outputs, with higher quotas for value-chain interventions in chiefdoms where female-headed and HIV-affected households exceed 35% of the local population. Persons with disabilities and low-literacy groups are reached through accessible training formats, icon-based decision tools, and community-radio broadcasts in siSwati.

Table 22 Summary of expected economic, social and environmental benefits

Benefit category	Direct beneficiaries			Mechanism / Output	Indicative magnitude / target
Income diversification	Activity	Description	Direct beneficiaries	Beekeeping, seed multiplication, CSA, agroforestry, value-chain platforms (Outputs 3.6, 4.1–4.5)	USD 350–600 incremental household income/year at full performance
	3.6.2	Agroforestry training	≈ 1,400 HHS		
	3.6.6	Youth agroforestry incubates	≈ 150 youth		
	4.1.2	Beekeeping HHS trained	≈ 1,500 HHS		
	4.2.2	Conservation agriculture / erosion control	≈ 1,800 HHS		
	4.4.4	Women & youth entrepreneurs trained	≈ 600 people		
	Total		4,800 HH (disaggregated by female-headed households)		
Water security & reduced collection burden	≈ 14,298 households (women & girls prioritized)			Water-harvesting infrastructure, wetland fencing & restoration (Outputs 3.2, 3.5)	1.5–3 hours/day saved; 1,200 ha wetland restored. 1500 HH with tanks and 20 community water points
Food security	≈ 14,298 households			Drought-tolerant seed, CSA, HGSF off-take contracts (Outputs 4.2, 4.3, 4.4)	Reduced months of food insecurity; secured institutional market
Gender equality & women's empowerment	≥ 40% of all beneficiaries			Leadership quotas in LAs/CDCs/NRMCs, female-led value chains, GBV-sensitive infrastructure siting (Outputs 2.1, 4.1)	≥ 40% women in decision-making bodies; Gender Action Plan (Annex 4)

⁵⁰ IMF – 2024 Article IV Consultation for Eswatini

Youth livelihoods	≥ 30% of all beneficiaries	Agroforestry, beekeeping, nursery enterprises, EYEOP grants linkage (Outputs 3.4, 3.6, 4.1)	≥ 30% youth participation; EYEOP-linked grant pipeline
Rangeland & ecosystem services	301,677 people (landscape-wide)	Rangeland management, IAPS control, woodlots (Outputs 3.1, 3.3)	8,500 ha rangeland sustainably managed; 2,300 ha tree cover
Climate-information & adaptive knowledge	≈ 11,438 households	Inclusive EWS, last-mile bulletins, training (Outputs 1.2, 1.4)	Hazard bulletins reach ≥ 80% of households in high-risk communities/chiefdoms
Institutional & policy benefits	National & subnational systems	LA mandates & budgets, NRM capacity, evidence platforms (Outputs 1.3, 2.1, 2.2)	Functional LAs with operational budgets; integration into LILMP/NILMP
Carbon sequestration co-benefit	Global	Wetland & rangeland restoration, agroforestry (Outputs 3.2, 3.3, 3.6)	

24. **Benefit sustainability.** All benefits are designed to persist beyond project completion: (i) income streams are anchored in pre-secured market contracts and operational business plans rather than time-bound subsidies; (ii) restored ecosystems are self-regenerating once protected; (iii) institutional capacity is built into existing statutory bodies (LAs, CDCs, NRMCS) with established legal mandates; and (iv) the Eswatini Agricultural Development Fund (EADF) and complementary public mechanisms (ADF, EEF, RDF) provide a national financial anchor for continued investment. The sustainability logic is elaborated in Section II.J.

C. Project cost-effectiveness

25. The SEASL project is designed for high cost-effectiveness through four deliberate design choices: (i) anchoring activities in existing institutions, infrastructure, and partnership programmes (although stand-alone in terms of financing and results framework) rather than parallel structures; (ii) prioritizing low-cost, high-leverage ecosystem-based adaptation (EbA) interventions whose unit costs are below engineered alternatives; (iii) sequencing for self-regenerating outcomes so that one-off investments deliver multi-decadal benefit streams; and (iv) explicit complementarity with SAPEMP, SNPAS, MERP, ELVCDP, and other active projects to avoid duplication of baselines. The total AF grant of USD 10,000,000⁵¹ translates into a direct cost of approximately USD 117 per direct beneficiary values that compare favorably with peer AF, GCF, and IFAD-financed adaptation projects in Southern Africa.

26. **Comparison of design alternatives.** During project preparation, three alternative design pathways were appraised against the chosen EbA-centered design. The selected design dominates the alternatives on cost per hectare restored, cost per beneficiary, and resilience persistence beyond project life. The comparison is summarized below.

Table 23 Comparison of project design alternatives

Design alternative	Approach	Indicative unit cost	Outcome durability	Selected?
A. EbA-centered landscape approach (SEASL design)	Community-led wetland fencing, rangeland management, agroforestry, IAPS control, water-harvesting + climate-smart livelihoods anchored in LAs	USD 150–600 / ha restored; USD 85 / direct beneficiary ⁵²	Self-regenerating; multi-decadal; institutional anchoring	YES
B. Hard-infrastructure water security	Large dams, piped irrigation schemes, mechanized pumping	USD 12,000–35,000 / ha irrigated; high O&M cost ⁵³	Dependent on continuous public O&M financing; vulnerable to flood/hail damage	No high cost; replicated by WHDP & EWADE
C. Sectoral CSA-only intervention	Subsidized inputs, mechanization, single-commodity value chains	USD 400–800 / household but narrow scope ⁵⁴	Time-bound; gains erode when subsidies end	No does not address ecosystem degradation drivers
D. Information & EWS only	EWS upgrade and digital advisory without restoration/livelihoods	Low up-front; limited transformation ⁵⁵	Information without enabling assets does not reduce vulnerability	No necessary but insufficient on its own

⁵¹ Total project size approved under Part I (Project/Programme Financing Requested). The USD 117 per-direct-beneficiary ratio is derived from USD 10,000,000 ÷ 85,790,936 direct beneficiaries.

⁵² Per-hectare band aggregates the unit-cost ranges in Table 24 (wetland, rangeland, agroforestry). Per-beneficiary figure as derived in footnote above.

⁵³ Sub-Saharan Africa large-scale irrigation per-hectare investment cost. Sources: Merrey, D. (2020), “Large scale irrigation investments in sub-Saharan Africa,” Water Alternatives blog, citing de Fraiture & Giordano (2014), <https://www.water-alternatives.org/index.php/blog/african-irrigation> (motor-pump ≈ USD 400/ha; canal/large-scale schemes up to USD 10,000/ha and beyond); peer-reviewed Manchester University analysis confirming SSA formal large-scale schemes “regularly in excess of \$20,000 per ha,” https://research.manchester.ac.uk/files/185993480/NS2021_accepted.pdf; FAO AquaStat investment-cost database, <https://www.fao.org/aquastat/en/overview/methodology/investment-costs>

⁵⁴ Per-household climate-smart agriculture package cost in SSA pilot evidence. Sources: Belay, A. et al. (2023), “Does climate-smart agriculture improve household income and food security? Evidence from Southern Ethiopia,” Environment, Development and Sustainability, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10175932/> (CSA-adopting households +20.3% farm income/ha); World Bank, Economics of Climate-Smart Agriculture, <https://openknowledge.worldbank.org/bitstreams/2ce5f1d7-add3-5d5e-860f-29e9ed8bb55b/download>; Sain, G. et al. (2021), Heliyon, <https://www.sciencedirect.com/science/article/pii/S2405844021007568> (per-HH CSA adoption costs USD 350–900).

⁵⁵ GCF Independent Evaluation Unit (2026), Independent Evaluation of the GCF’s Approach to and Portfolio of Climate Information and Early Warning Systems, concludes: “GCF’s cumulative investments in CIEWS reached USD 1.997 billion as of B.43 (10% of total portfolio)” yet persistent gaps remain between system design and operational delivery — most evident in last-mile connectivity — confirming that information without enabling assets does not reduce vulnerability, https://ieu.greenclimate.fund/sites/default/files/document/ciews-2025-final-report_0.pdf

27. **Comparison with business-as-usual/no-adaptation.** Under a business-as-usual pathway, climate shocks would continue to generate recurrent losses in agricultural production, livestock and household incomes while degradation of wetlands, rangelands and woodlands would progressively reduce the ecosystems' capacity to buffer drought, heat, wildfire and erratic rainfall. This would heavily affect marginalized and vulnerable groups such as women-headed households, land-poor households and those affected by HIV and disabilities. In recent years drought frequency in the Lubombo Landscape has nearly tripled, and more than 75% of smallholder farmers depend exclusively on rainfall for crop production, and that wetland degradation is projected to reach approximately 40% by 2050 without significant restoration investment. These trends imply increasing costs associated with water shortages, declining agricultural productivity, livestock losses, soil degradation, wildfire and emergency responses.
28. SEASL instead invests in measures that reduce the probability and magnitude of these recurring losses. Wetland restoration protects dry-season water sources; rangeland management and IAPS control restore productive capacity; agroforestry and soil-erosion measures strengthen ecosystem functions; early warning allows households and institutions to act before climate shocks translate into major losses; and climate-smart livelihood activities diversify household income and reduce dependence on highly climate-sensitive production systems. The project therefore converts a significant share of future reactive expenditure into preventive investments that create productive and environmental assets with benefits extending beyond the five-year implementation period. The project targets a 30% reduction in household-level drought losses in covered chiefdoms by Year 5.

Project / Programme Components	With Project	Without Project / Business-as-Usual
1. Evidence, Early Warning and Adaptive Knowledge	Earlier and better-informed climate-risk decisions. Communities, farmers and institutions receive timely, accessible climate information through last-mile SMS, USSD, community radio and other locally appropriate channels. Integration of the Composite Drought Index for Eswatini (CDI-E) and existing STOSAR systems avoids parallel information systems. Earlier action is expected to reduce household exposure and losses from drought, hailstorms and other climate hazards. The EWS component is delivered at an indicative USD 6–12 per household reached, below the regional benchmark of USD 8–25.	Late and ineffective response to climate shocks. Approximately 25% of drought-prone communities currently lack access to early-warning information, while some households that receive information do not act because of technical language, delayed dissemination and low trust. Without investment in last-mile systems, climate information will continue to have limited practical value and households will remain exposed to avoidable drought, hail and wildfire losses.
2. Multi-Stakeholder Coordination	Stronger and more coordinated local climate-risk management. Landscape Associations, CDCs and NRMCS receive structured capacity building and clearer roles in drought response, water allocation, wildfire management and other climate risks. The project uses existing institutional platforms and coordinates with MERP, SAPEMP and other programmes, reducing duplication and transaction costs.	Fragmented and weak institutional response. Natural-resource governance remains dispersed among under-resourced institutions, with limited coordination, unclear mandates and inadequate operational resources. Without strengthening these systems, investments in ecosystems, livelihoods and climate information are less likely to be sustained or translated into coordinated action.
3. Ecosystem Restoration and Water Security	Restored ecosystems, improved water security and reduced climate-related production losses. SEASL will restore at least 1,200 ha of wetlands, bring 8,500 ha of communal rangeland under sustainable management and establish approximately 2,300 ha of tree cover. It will also install approximately 1,500 household ferro-cement tanks and 20 community water points/reservoirs. Wetland restoration and rangeland management strengthen water regulation, soil retention, grazing capacity, biodiversity and ecosystem resilience. Community-led restoration costs are relatively low: USD 350–600/ha for wetland restoration, USD 150–300/ha for rangeland management/IAPS control, and USD 350–500 per household for ferro-cement tanks.	Continuing degradation and rising replacement costs. Without intervention, wetland degradation is projected to reach approximately 40% by 2050, increasing the cost of securing water for households, livestock and small-scale agriculture. Degraded rangelands will continue to reduce carrying capacity, while IAPS invasion, soil erosion and loss of vegetation will increase vulnerability to drought, wildfire and erratic rainfall. Engineered water alternatives would be substantially more expensive than the proposed community-based systems.
4. Climate-Smart Livelihoods and Inclusive Value Chains	Diversified and more resilient household incomes. The project supports approximately 4,800 households plus 750 youth/women beneficiaries through beekeeping, seed multiplication, CSA, agroforestry and value-chain activities. Expected incremental income is approximately USD 350–600 per participating household per year at full performance. Beekeeping support costs approximately USD 280–400 per beneficiary, with formal offtake agreements secured before production scale-up. Training-before-inputs and market-before-production sequencing reduce the risk of unproductive investments.	Continued dependence on climate-sensitive livelihoods. Rain-fed maize and subsistence livestock remain highly exposed to drought, heat and rainfall variability. Limited market access, weak extension services and insufficient livelihood alternatives constrain adaptive capacity. Past livelihood interventions have also experienced production-market mismatches, where increased production without secured markets depressed farmgate prices and weakened incentives. Without diversification, vulnerable households remain exposed to recurrent climate-driven income shocks and food insecurity.
Overall SEASL programme	Integrated climate resilience at landscape scale. The USD 10 million investment reaches approximately 85,790 direct beneficiaries (14,298 households) and approximately 301,677 indirect beneficiaries. The combination of EWS, institutional coordination, ecosystem restoration, water security and livelihood diversification creates	Increasing climate vulnerability and reactive expenditure. Continued drought, extreme heat, hailstorms, wildfire, water scarcity, ecosystem degradation and weak livelihood diversification would progressively increase household losses and the cost of reactive responses. The proposal notes that national disaster-response expenditure during the

	complementary benefits that would not be achieved efficiently through isolated interventions. The project targets at least 40% women and 30% youth and prioritizes other vulnerable groups. The project also seeks a 30% reduction in household-level drought losses in covered chiefdoms by Year 5.	2015–2016 El Niño drought exceeded USD 60 million. Without adaptation, ecosystem degradation would also increase the need for costly engineered water supply and other replacement investments.
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29. Overall, SEASL provides a strong value-for-money proposition because it combines relatively low-cost, community-led ecosystem restoration with climate information, institutional strengthening and livelihood diversification. The selected interventions are generally less capital-intensive than hard-infrastructure alternatives, are designed to generate benefits over multiple years, leverage existing national and partner systems, and reduce the recurring economic costs associated with drought, ecosystem degradation and climate-related livelihood losses. The project's cost-effectiveness therefore derives not only from the initial cost of each intervention, but from the persistence, scale and multiple adaptation benefits generated by each Adaptation Fund dollar.
30. **Unit-cost benchmarking.** Indicative unit costs used in budget construction were triangulated against (a) IFAD–FAO procurement records from SAPEMP and LUSIP-GEF; (b) Eswatini Environment Authority infrastructure permit submissions; and (c) AF and GCF Southern Africa portfolio benchmarks. Indicative cost-effectiveness ratios are shown below.

Table 24 Indicative unit-cost benchmarks for key SEASL interventions

Intervention	Indicative SEASL unit cost	Regional benchmark range	Cost-effectiveness rationale
Wetland fencing & restoration (per ha)	USD 350–600 ⁵⁶	USD 400–1,200 (SNPAS, GEF wetland portfolio)	Community labour reduces cost; self-regeneration evidenced within 24 months
Rangeland management + IAPS control (per ha)	USD 150–300 ⁵⁷	USD 200–500 (LDN portfolio benchmarks)	Mechanical + biological control; community-managed grazing rotation
Agroforestry / woodlot (per ha)	USD 450–800 ⁵⁸	USD 600–1,500 (FAO Southern Africa portfolio)	Local seedlings from project nurseries; cooperative planting
Ferro-cement rainwater tank (per household equivalent)	USD 350–500 ⁵⁹	USD 600–1,200 (engineered alternatives)	Local artisanship; standardized design; community contribution to construction
Beekeeping value-chain support (per beneficiary)	USD 280–400 ⁶⁰	USD 350–700 (regional honey-VC projects)	Group-based equipment; HGSP and private off-take contracts pre-negotiated
EWS last-mile dissemination (per household reached)	USD 6–12 ⁶¹	USD 8–25 (GCF EWS programmes)	Leverages STOSAR I/II investments; community radio + USSD

⁵⁶ Wetland fencing and restoration unit cost. SEASL band reflects community-led modality; regional benchmark USD 400–1,200/ha. Sources: South African Institute of International Affairs (2021), “Africa’s Restoration Economy: Insights from South Africa’s Wetland” (SANBI Working for Wetlands programme — most cost-effective when targeting early-stage degradation), <https://saiia.org.za/research/africas-restoration-economy-insights-from-south-africas-wetland/>; SANBI (2020), EbA in South Africa case study, <https://www.sanbi.org/wp-content/uploads/2020/05/Case-Study-EbA-in-South-Africa-003.pdf>; Eswatini Environment Fund (EEF) grants documented at USD 8,825–16,350 per community wetland (Shewula and Lawuba sites — fencing, nursery, solar pump, livestock troughs), NAP Global Network (2023), Eswatini Environment Fund briefing, <https://napglobalnetwork.org/wp-content/uploads/2023/03/napgn-en-2023-eswatini-environmental-fund.pdf>; Conservation Strategy Fund (2026), Estimating the Economic Cost of Losing Wetlands Globally, <https://www.conservation-strategy.org/> (global range USD 1,000–150,000/ha; lower-bound values match community-led restoration).

⁵⁷ Rangeland management plus invasive alien plant species (IAPS) control unit cost. SEASL band reflects community-led mechanical + biological control combined with managed grazing rotations; LDN portfolio benchmark USD 200–500/ha. Sources: ELD Initiative / IUCN (2025), The Business Case for Investment in Rangeland Restoration, documenting ecosystem-service value of restored rangeland at USD 5,934/ha/year and benchmark unit costs of USD 150–500/ha, https://www.eld-initiative.org/fileadmin/ELD_Filter_Tool/Publication_Rangeland_Report/251111_ELD_rangelands_restoration_final.pdf; Working for Water (South Africa) public-employment IAP-clearing cost USD 150–300/ha first treatment plus USD 50–100/ha follow-up, with biological control producing multi-decadal cost decline (cost-benefit ratios 2–40), University of Hawaii Economic Research Organization (2025), <https://uhero.hawaii.edu/cost-effective-invasive-species-management/>; methodological reference: Costs of Land Treatments on Public Lands, <https://www.sciencedirect.com/science/article/pii/S1550742425000326>.

⁵⁸ Agroforestry / woodlot establishment unit cost. SEASL band reflects community nurseries and cooperative labour (30–60% cost reduction versus commercial seedling procurement); FAO Southern Africa benchmark USD 600–1,500/ha. Sources: World Bank (1999), Agroforestry in Sub-Saharan Africa, recommending 30 trees/ha for soil-improver species and 100 trees/ha for productive species, <https://documents1.worldbank.org/curated/en/550771468768288533/pdf/multi-page.pdf>; FAO (2024), National Agroforestry Strategy II (Tanzania), <https://faolex.fao.org/docs/pdf/tan231421.pdf>; Kenya Institute for Public Policy Research and Analysis, Opportunity Cost of Agroforestry, <https://repository.kippira.or.ke/bitstreams/7f2c474b-8bd0-4aa5-913e-31710bedcebd/download>; World Agroforestry Centre (ICRAF), Tree Seeds for Farmers toolkit, <https://www.worldagroforestry.org/sites/default/files/Toolkit.pdf>.

⁵⁹ Ferro-cement rainwater-harvesting tank per household equivalent. Direct documentary anchor: IRC International Water and Sanitation Centre / Lee & Visscher, “Experience with Rainwater Catchment Systems in Kenya,” reporting “For a 15 m³ tank the cost is currently around US \$350. If the catchment area is cemented, the cost of the complete system... is about US \$500,” <https://www.ircwash.org/sites/default/files/213.0-3351.pdf>. Corroborating sources: CuveWaters / GIZ Cost Sheet for Ferrocement Tank (30 m³ design at USD 400–500 with local artisanship), http://www.cuvewaters.net/fileadmin/edit/Downloads/RFWH_Toolkit/14_9b_CS_Ferrocement-Tank_E.pdf; Water Research Commission of South Africa, TT 499/11, Ferrocement Reservoirs — A South African Perspective, <https://www.wrc.org.za/wp-content/uploads/mdocs/TT%20499-11.pdf>. Engineered alternative reference point (USD 600–1,200/HH): mid-range 5,000–10,000 L plastic-tank installation R15,000–R35,000 (≈ USD 800–1,800), Savvy Plumbing, <https://savvyplumbing.co.za/rain-water-harvesting-in-south-africa-costs-benefits-systems-installation-guide/>.

⁶⁰ Beekeeping value-chain support per beneficiary. SEASL band reflects locally fabricated hives, cooperative training and existing market linkages; regional benchmark USD 350–700. Sources: CRI / QED Discussion Paper 241, Honey production in Ethiopia: a cost-benefit analysis of modern beehives (Intervention C — hives + tools + training — at 8,645 ETB/beekeeper ≈ USD 230–280; NPVs USD 314–4,866/HH), https://cri-world.com/publications/qed_dp_241.pdf; FAO (2023), Sustainable Beekeeping Value Chain in Africa, <https://openknowledge.fao.org/server/api/core/bitstreams/434d868d-ea88-4ba3-b9e4-b9c126f91f56/content>; IFAD/AF SAPEMP proposal (2024), projecting 300 HHs at 50 kg honey/yr generating SZL 3,000 (≈ USD 200) per HH per year — implying a 1.5–2-year cost recovery on the SEASL unit-cost band, https://www.adaptation-fund.org/wp-content/uploads/2025/03/AFB.PPRC_35.Inf_27-Proposal-for-Eswatini.pdf.

⁶¹ Per-household last-mile early-warning dissemination cost. SEASL band leverages STOSAR I/II rails, existing community-radio infrastructure and SMS/USSD; GCF programmatic benchmark USD 8–25/HH reached. Sources: GCF Independent Evaluation Unit (2026), CIEWS evaluation, https://ieu.greenclimate.fund/sites/default/files/document/ciews-2025-final-report_0.pdf; ITU (2025), “Financing the last mile: Investing in Warning Dissemination — EW4All,” <https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Pages/EW4ALL/financing-ew4all.aspx>; GCF/UNDP (Feb 2025), “Green Climate Fund approves \$103 million to strengthen early warning systems in vulnerable countries,” <https://www.undp.org/press-releases/green-climate-fund-approves-103-million-strengthen-early-warning-systems-vulnerable-countries>; SADC SAWIDRA / STOSAR programme documentation.

31. **Avoided-cost rationale.** Investment in EbA-led restoration and inclusive landscape governance avoids substantially higher reactive costs that would otherwise materialize under business-as-usual climate trajectories. National disaster-response expenditure for the 2015–2016 El Niño drought exceeded USD 60 million; SEASL targets a 30% reduction in household-level drought losses in covered chiefdoms by Year 5. Wetland degradation trajectories projected at -40% by 2050 under no-action scenarios would impose disproportionate water-supply and livestock-watering replacement costs; SEASL averts these by securing self-regenerating dry-season water sources at a fraction of engineered-supply cost.
32. **Non-duplication economics.** SEASL deliberately leverages the infrastructure of partner projects to minimize transactional costs. Baseline data and vulnerability targeting are inherited from SAPEMP, eliminating duplicate household surveys. Value-chain financing for project participants is channeled through EADF mechanisms rather than through a parallel project financial product. LA operational structures established under SNPAS in adjacent areas are extended into Lubombo and Ngwempisi rather than rebuilt. Detailed complementarity arrangements are documented in Section II.F.
33. **Cost-effectiveness governance.** Annual Work Plans and Budgets (AWPBs) will be appraised against unit-cost benchmarks during IFAD supervision missions; significant deviations (>15%) trigger an explicit value-for-money review. The Project Steering Committee receives a cost-effectiveness dashboard at each meeting tracking unit cost trends, procurement competition, and benefit accrual rates.

D. Project consistency with national or sub-national sustainable development strategies

34. The SEASL project is fully consistent with, and operationally embedded in, Eswatini's overarching national development and climate policy frameworks. The project's four components Evidence Base and Early Warning (Component 1), Multi-Stakeholder Coordination (Component 2), Ecosystem Restoration (Component 3), and Climate-Smart Livelihoods (Component 4) respond directly to the adaptation, food security, ecosystem management, and livelihood resilience priorities articulated across the national strategies detailed below.

35. National Development Plan 2023/24–2027/28 (NDP)

The Eswatini National Development Plan 2023/24–2027/28 is the country's primary medium-term development framework, organized under the theme *"Good Governance: The Anchor for Economic Recovery, Green Growth, and Sustainable Livelihoods"*. The NDP explicitly states that it is *"climate-proofed to safeguard investments already made and those to be done, to build resilience against climate change and minimize future losses,"* and commits to integrating climate change in development planning and budgeting.

The NDP identifies the following sectoral outcomes directly aligned with SEASL:

- **Sectoral Outcome 6.5 – Modernizing Agriculture for Increased Production and Value Addition:** promotes climate-smart agriculture, drought-resilient varieties, irrigation efficiency, post-harvest handling, and market linkages directly corresponding to Component 4 outputs 4.1–4.5.
- **Sectoral Outcome 7.4 – Enhanced Food Security and Access to Nutritious Food:** supports diversified food production, school feeding (Home Grown School Feeding), and nutrition-sensitive crops aligned with Outputs 4.2, 4.3, and 4.4.
- **Sectoral Outcome 9.1 – Improved Management of Water Resources:** promotes water harvesting infrastructure, catchment protection, and resilient water supply directly aligned with Output 3.5.
- **Sectoral Outcome 9.2 – Improved Land Governance, Land Use Planning and Management:** promotes sustainable land management and ecosystem restoration aligned with Outputs 3.1–3.4.
- **Sectoral Outcome 9.4 – Improved National and Community Resilience to Climate Change Impacts and Disaster Risks:** promotes early warning systems, climate information, and community-level climate risk management aligned with Components 1 and 2.
- **Sectoral Outcome 9.5 – Clean and Safe Environment and Sustainable Use of Natural Resources:** promotes IAPS control, rangeland rehabilitation, and biodiversity conservation aligned with Outputs 3.1–3.4.
- **Sectoral Outcome 7.7 – Empowered Youth to Actively Participate in Economic Activity:** promotes youth employment and entrepreneurship aligned with the GESI targeting embedded across all SEASL components.

The NDP recognizes the Ngwempisi Landscape as one of five national Land Degradation Neutrality (LDN) hotspots, and it explicitly lists ecosystem restoration, IAPS management, and community-based NRM as urgent national priorities. SEASL is therefore a direct delivery vehicle for the NDP's investment priorities in both target landscapes.

36. National Development Strategy (NDS) / Vision 2022

The National Development Strategy (NDS) Eswatini's overarching long-term vision framework articulates four strategic pillars: (a) good governance, (b) a vibrant, climate-resilient economy, (c) environmental sustainability, and (d) human capital and social development. The NDS's nucleus is poverty eradication, employment creation, gender equity, social integration, and environmental protection. SEASL directly advances all four pillars through its combined investment in community governance strengthening (Component 2), inclusive livelihoods (Component 4), ecosystem restoration (Component 3), and climate information (Component 1).

The NDS also articulates the following climate-relevant strategies that SEASL implements at community level:

- Mainstreaming climate change into national development, sectoral planning, and budgeting
- Promoting adaptation and mitigation actions contributing to sustainable development and poverty eradication
- Modernizing meteorological and hydrological networks and agricultural observation systems
- Establishing a national framework for climate services and early warning

37. Nationally Determined Contribution (NDC) 2021

Eswatini's Updated NDC (2021), submitted to the UNFCCC, identifies five priority sectors for adaptation action: Agriculture, Water, Health, Ecosystems and Biodiversity, and Infrastructure. SEASL directly delivers against three of these five priority sectors:

Agriculture adaptation priorities addressed by SEASL:

- Converting flood irrigation to water-efficient systems (Output 4.3: drip irrigation conversion)
- Supporting in-farm water harvesting (Output 3.5)
- Diversifying to drought-tolerant crops, trees, and small livestock (Outputs 4.1, 4.2, 3.6)
- Managing invasive alien species using the National IAPS Strategy (Output 3.3)
- Restoring and managing degraded land for adaptation benefits (Outputs 3.1–3.4)
- Upscaling climate-smart agriculture for improved food security (Output 4.3)
- Developing integrated early warning and timely climate information for farmers (Outputs 1.2, 1.3)
- Building capacities and supporting communities towards livelihood diversification to alleviate burdens on women (Component 4 and GESI throughout)

Water adaptation priorities addressed by SEASL:

- Developing and implementing catchment adaptation plans (Outputs 3.1, 3.2, 3.5)
- Controlling invasive species in catchments to protect water quality and quantity (Output 3.3)
- Constructing water storage infrastructure for multiple use (Output 3.5: ferro-cement tanks, community reservoirs)
- Strengthening early warning for improved disaster preparedness (Output 1.2)

Ecosystems and Biodiversity adaptation priorities addressed by SEASL:

- Strengthening regenerative landscape management of degraded ecosystems (Outputs 3.1–3.6)
- Restoring and protecting wetlands (Output 3.2)
- Managing and controlling invasive species (Output 3.3)
- Conducting research and knowledge sharing for income generation through non-timber forest products (Outputs 1.1, 1.3, 4.1)
- Improving conservation of genetic resources including indigenous tree varieties and landrace crops (Outputs 1.1, 4.2)

The NDC also commits to planting 10 million trees as part of its AFOLU sector contributions. SEASL directly contributes to this commitment through Outputs 3.4 (nurseries), 3.6 (agroforestry), and 3.3 (communal woodlot management).

38. National Adaptation Plan (NAP)

Eswatini is finalizing its National Adaptation Plan (NAP) as an integrated framework for climate adaptation across sectors. The five priority adaptation areas confirmed through the NAP process are: (1) Agriculture and Food Security; (2) Water Resources and Energy; (3) Water Supply, Sanitation and Health; (4) Biodiversity and Ecosystems; and (5) Disaster Risk Reduction and Early Warning. SEASL is a direct operational vehicle for the NAP's agriculture, ecosystems, water, and disaster risk reduction priorities in the Lubombo and Ngwempisi Landscapes.

39. National Biodiversity Strategy and Action Plan (NBSAP)

Eswatini's NBSAP (2016–2030) articulates 58 biodiversity targets for the 2021–2030 decade, consistent with the Kunming-Montreal Global Biodiversity Framework. SEASL directly contributes to at least 12 of these targets, including invasive alien species control, riparian restoration, wetland management, rangeland rehabilitation, and community-based NRM (Components 2, 3). The NBSAP process is led by the Eswatini National Trust Commission (ENTC), which is a key institutional partner of SEASL under Component 2.

40. Lubombo Integrated Landscape Management Plan (LILMP) 2020–2030 and Ngwempisi Integrated Landscape Management Plan (NILMP)

The Lubombo Integrated Landscape Management Plan (LILMP 2020–2030), prepared by the Ministry of Tourism and Environmental Affairs (MTEA) and the Eswatini Environment Authority (EEA), and the Ngwempisi Integrated Landscape Management Plan (NILMP), prepared by the EEA and Ministry of Agriculture (MoA), are the sub-national strategic frameworks within which SEASL operates. Both ILMPs identify ecosystem restoration, IAPS control, community NRM, and livelihood diversification as priority investment areas for the

respective landscapes. SEASL has been explicitly designed to operationalize the ILMPs' investment priorities within the highest-priority sub-areas identified through the project's CRVA analysis.

41. UNCCD Land Degradation Neutrality (LDN) Framework

Eswatini has committed to national LDN targets under the United Nations Convention to Combat Desertification (UNCCD), with the Ngwempisi Landscape designated as one of five national LDN hotspots requiring priority restoration investment. SEASL's ecosystem restoration component (Component 3) is explicitly designed to contribute to national LDN accounting, with the Sentinel-2-derived degraded hectare mapping used as the baseline against which LDN restoration progress will be tracked.

42. Seventh National Report to the Convention on Biological Diversity (7NR)

The Seventh National Report to the CBD articulates Eswatini's commitments to national biodiversity targets for 2021–2030. SEASL's IAPS control, wetland fencing, rangeland management, and agroforestry activities (Outputs 3.1–3.6) directly contribute to at least 12 of the 58 national biodiversity targets documented in this report.

Table 25 Summary: SEASL Alignment with National Sustainable Development Strategies

SEASL Component / Output	National Strategy	Relevant Goal / Priority	Authorizing/Responsible Institution
Component 1: Evidence Base, EWS, Capacity			
Output 1.1 Climate Vulnerability Assessment	NDP 2023-28 (SO 9.4); NDC (Agriculture, DRR); NAP	Climate risk mapping; evidence base for adaptation; food security	MTEA, MoA, NDMA
Output 1.2 Early Warning Systems	NDP (SO 9.4); NDC (Water, DRR); NDS	Multi-hazard EWS; climate services; agricultural advisories	MTEA, EMS, NDMA
Output 1.3 Digital Knowledge Management	NDP (SO 9.4, SO 6.5); NDC	Integrated data systems; climate information for farmers	MoA, STOSAR II/FAO
Output 1.4 Capacity Building	NDP (SO 9.4, SO 7.7); NDC (Gender, Youth)	Community climate adaptation training; gender/youth inclusion	MoA, ENTC, MTEA
Component 2: Multi-Stakeholder Coordination			
Output 2.1 Institutional Capacity (LAs, CDCs, NRMCS)	NDP (SO 9.2, SO 9.5); LILMP/NILMP; NBSAP	Landscape governance; community NRM; IAPS/wildfire coordination	ENTC, MoA, MTEA, Traditional Authorities
Output 2.2 Wildfire, Drought, Hail Response Protocols	NDP (SO 9.4); NDC (DRR); NDS	Multi-hazard early warning; disaster risk reduction	NDMA, MTEA, Traditional Authorities
Component 3: Ecosystem Restoration			
Output 3.1 Rangeland Management Plans	NDP (SO 9.2, SO 9.5); NDC (Ecosystems); NBSAP; LDN	Sustainable rangeland management; LDN; biodiversity	ENTC, MoA (Dept. of Rangeland Management), MTEA/EEA
Output 3.2 Wetland Fencing Restoration	NDP (SO 9.5); NDC (Ecosystems/Biodiversity); NBSAP; LILMP/NILMP	Wetland protection; biodiversity; hydrological services	ENTC, MTEA/EEA, MoNRE
Output 3.3 Communal Woodlot, Soil Erosion, IAPS Control	NDP (SO 9.2, SO 9.5); NDC (Agriculture, Ecosystems); NBSAP; LDN	IAPS; forest management; LDN	ENTC (Dept. of Forestry), MoA, EEA
Output 3.4 Nurseries with Hail-Protective Structures	NDP (SO 6.5, SO 9.5); NDC (Agriculture, AFOLU: 10M trees)	Tree planting; agro-biodiversity; food security	MoA, ENTC (Dept. of Forestry), MTEA
Output 3.5 Water Harvesting Infrastructure (rehabilitation)	NDP (SO 9.1, SO 7.3); NDC (Water)	Water storage; household water security; catchment resilience	MoNRE (Dept. of Water Affairs), MoA
Output 3.6 Agroforestry with Climate-Appropriate Species	NDP (SO 6.5, SO 9.5); NDC (AFOLU, Ecosystems)	Agroforestry; tree planting; youth livelihoods; soil health	MoA, ENTC (Dept. of Forestry), MTEA
Component 4: Climate-Smart Livelihoods			
Output 4.1 Beekeeping Value Chain	NDP (SO 6.5, SO 7.7); NDC (Agriculture, Youth)	Climate-resilient livelihoods; NTFP value chains; youth entrepreneurship	MoA, EYEOP, EADF
Output 4.2 Drought-Tolerant Indigenous Seed Systems	NDP (SO 6.5, SO 7.4); NDC (Agriculture)	Food security; indigenous varieties; seed systems	MoA (Dept. of Agriculture), NBRI
Output 4.3 Climate-Smart Agriculture Technologies	NDP (SO 6.5, SO 7.4); NDC (Agriculture)	CSA upscaling; drip irrigation; conservation agriculture	MoA, SAPEMP
Output 4.4 Value Chain Platforms and Market Linkages	NDP (SO 6.1, SO 6.5); NDC (Agriculture)	Market access; inclusive value chains; food security	MoA, EADF, MoITC
Output 4.5 Value Addition and Traceability	NDP (SO 6.1, SO 6.4); NDC (Agriculture, Youth)	Value addition; post-harvest handling; youth enterprises	MoA, EYEOP, MoITC

E. Project compliance with relevant national technical standards and the Environmental and Social Policy of the Adaptation Fund.

43. The SEASL project has been designed to comply with all applicable national technical standards, environmental regulations, and sectoral legislation of the Kingdom of Eswatini. All project activities are subject to the legal and regulatory framework described below, and compliance processes have been embedded into the project's management and implementation design from the outset. Per Adaptation Fund requirements, compliance is not treated as a post-design consideration but as a governing condition for project planning, implementation, contracting, and monitoring.

44. In addition, SEASL fully complies with the Adaptation Fund's Environmental and Social Policy (ESP) and Gender Policy (GP) and the IFAD Social, Environmental and Climate Assessment Procedures (SECAP), as documented in and the ANNEX 3: Environmental and Social Risks Management Plan and the ANNEX 4 Gender and Social Inclusion Assessment and Action Plan.

45. Environmental Management Act 2002 (Act No. 5 of 2002)

The Environment Management Act (EMA) 2002 is Eswatini's framework environmental legislation. It establishes the Eswatini Environment Authority (EEA) as the national environmental regulator; requires Environmental Impact Assessment (EIA) for development activities with potential adverse effects; establishes environmental standards and compliance mechanisms; governs the sustainable management of natural resources; and establishes the Eswatini Environment Fund (EEF).

Relevance to SEASL: All physical infrastructure under Component 3 (wetland fencing, water harvesting structures, nurseries with hail-protective structures, rangeland infrastructure) and Component 4 (aggregation centers, storage facilities) must comply with EIA requirements under the EMA 2002. The EEA, housed within MTEA, is also the institutional authority for environmental compliance monitoring of landscape-level activities in both target landscapes.

Compliance process:

- Prior to implementation of any physical infrastructure (Outputs 3.2, 3.4, 3.5, 4.5), the project / PMU shall conduct an environmental screening consistent with EMA 2002 Schedule 1 screening criteria, in consultation with EEA.
- Where screening identifies potential adverse effects meeting EIA thresholds, a full EIA or abbreviated Environmental Assessment (EA) will be commissioned and submitted to EEA for review and clearance.
- All environmental management and mitigation commitments arising from EIA processes will be incorporated into site-specific Environmental Management Plans (EMPs) and monitored under the project's M&E framework.
- EEA will be formally represented on the Project Steering Committee (PSC) to ensure ongoing compliance oversight.
- **Authorizing actor:** Eswatini Environment Authority (EEA), Ministry of Tourism and Environmental Affairs (MTEA).

46. Water Act 2003 (as under review / Revised Water Bill)

The Water Act 2003 governs the management, allocation, use, and protection of all water resources in Eswatini and establishes the Department of Water Affairs under the Ministry of Natural Resources and Energy (MoNRE) as the regulatory authority. The Act is currently under a comprehensive nine-month review process (2025–2026) to align it with IWRM principles, national climate priorities, transboundary water obligations, and SDG 6, with a revised Water Bill expected.

Relevance to SEASL: All water harvesting infrastructure (Output 3.5: ferro-cement rainwater tanks, community reservoirs, livestock water points) and any modification to water sources or surface water drainage requires authorization under the Water Act, including abstraction permits or water use registrations as applicable. Groundwater recharge assessments (Activity 3.5.5) and coordination with transboundary water management (GEF-UNDP Incomati-Maputo project) are also governed by this framework.

Compliance process:

- Prior to installation of any water harvesting or storage infrastructure, the PMU will consult with the Department of Water Affairs (DoWA), MoNRE to determine whether water use authorizations or abstraction registrations are required for the specific site and infrastructure type.
- Community water points on Swazi Nation Land (SNL) that draw on natural springs or surface water will be registered with the DoWA as required under the current Act and its successor regulations.
- Water quality testing (Activity 3.5.7) will be conducted using WHO parameters in coordination with the DoWA's water quality monitoring protocols, ensuring all restored water sources comply with national drinking water standards before domestic use is promoted.
- The PMU will track developments under the Water Act review and ensure any new regulatory requirements are incorporated into the project's compliance framework upon enactment.
- **Authorizing actor:** Department of Water Affairs, Ministry of Natural Resources and Energy (MoNRE).

47. Seeds and Plant Varieties Act 2000 (Act No. 7 of 2000)

The Seeds and Plant Varieties Act 2000 govern the registration, sale, import, export, and certification of seeds and plant varieties in Eswatini, and establishes an Official Seed Testing Station and seed certification schemes. The Act is administered by the Ministry of Agriculture (MoA)

Relevance to SEASL: Output 4.2 (Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems) involves the production, multiplication, storage, and distribution of indigenous drought-tolerant seed varieties. Output 3.4 (Nurseries) and Output 3.6 (Agroforestry) involve the procurement, multiplication, and distribution of tree and crop species. All seed handling activities must comply with the labelling, purity, germination, and certification requirements of the Act.

Compliance process:

- All seed varieties promoted through Output 4.2 will be documented against the MoA-maintained variety list, and where indigenous varieties are not formally registered, seed multiplication will follow community seed bank protocols consistent with MoA's indigenous variety documentation guidelines.
- Any imported seed varieties for conservation agriculture or climate-smart agriculture (Activity 4.3.2) must comply with the Act's importation requirements and will be sourced through registered importers or directly through FAO supply chains as the project's executing agency.
- Nursery-produced seedlings under Output 3.4 will comply with the Act's species recognition and labelling requirements.
- The Agroforestry species list (Output 3.6, Activity 3.6.1) will be validated against MoA and Forestry Department approved species lists prior to any planting.
- **Authorizing actor:** Ministry of Agriculture (MoA), Registrar of Seeds, Official Seed Testing Station.

48. Plant Health Protection Act 2020 (Act No. 03 of 2020)

The Plant Health Protection Act 2020 governs phytosanitary measures to prevent the introduction, establishment, and spread of plant pests and diseases in Eswatini. It establishes requirements for pest risk assessment, border control, inspection, certification, and compliance enforcement, and supersedes earlier plant health legislation.

Relevance to SEASL: Output 3.3 (IAPS Control) involves the physical management and disposal of invasive alien plant species (IAPS) including *Solanum mauritianum* (Bugweed), *Chromolaena odorata*, and *Lantana camara*. Output 3.6 (Agroforestry) and Output 3.4 (Nurseries) involve the introduction and propagation of plant species that must not contribute to new invasive risks. Output 4.2 (seed multiplication) requires phytosanitary certification for any seed movement between chiefdoms.

Compliance process:

- IAPS management protocols under Output 3.3 will be developed in consultation with ENTC (which maintains the national IAPS register and strategy) and will comply with disposal and biocontrol requirements under the Plant Health Protection Act 2020.
- All agroforestry species introduced under Output 3.6 will be assessed against the national IAPS risk list prior to procurement, and no species classified as invasive or potentially invasive will be planted without explicit written clearance from the Plant Health Services Directorate, MoA.
- Seed movement for community seed multiplication systems (Output 4.2) between chiefdoms will be accompanied by phytosanitary certificates where required.
- **Authorizing actor:** Plant Health Services Directorate, Ministry of Agriculture (MoA); ENTC for IAPS identification and management.

49. Pesticides Management Act 2017

The Pesticides Management Act 2017 governs the registration, importation, distribution, sale, and use of pesticides and agrochemicals in Eswatini. It establishes requirements for pesticide registration and labelling, licensed handlers, and environmentally safe application and disposal.

Relevance to SEASL: Output 4.3 (Climate-Smart Agriculture Technologies) and Output 3.3 (IAPS control using chemical methods where applicable) may involve the use of registered herbicides or pesticides. Conservation agriculture promoted under Output 4.3 explicitly aims to reduce chemical inputs, but any pesticide use must comply with the Act.

Compliance process:

- SEASL's climate-smart agriculture training (Output 4.3) will explicitly train farmers on Integrated Pest Management (IPM) approaches, emphasizing minimization of pesticide use as part of conservation agriculture.
- Where chemical IAPS management is required under Output 3.3, only pesticides registered under the Pesticides Management Act 2017 and cleared for the target species and application environment will be used. Application will be performed by or supervised by licensed pesticide handlers.
- The project's ANNEX 3: Environmental and Social Risks Management Plan includes specific risk mitigation measures for pesticide handling and disposal, consistent with IFAD SECAP and the Adaptation Fund ESP requirements.
- **Authorizing actor:** Plant Health Services Directorate and Pesticides Control Board, Ministry of Agriculture (MoA).

50. National Forestry Act and Policy (Eswatini National Forestry Programme)

Eswatini's forestry sector is governed by the national forestry legislation and the emerging National Forestry Programme, which promotes sustainable forestry, community woodlot management, and secure access and tenure for forest resources. The Forestry Department under ENTC and MoA manages forestry standards and regulations.

Relevance to SEASL: Output 3.3 (Communal Woodlot Management) and Output 3.6 (Agroforestry) involve the establishment and management of community woodlots and agroforestry systems on Swazi Nation Land.

These activities must comply with national forestry management requirements, including species selection, harvesting regulations, and community tenure arrangements.

Compliance process:

- Woodlot management plans (Output 3.3) will be developed in consultation with the Departments of Forestry under both ENTC and MoA and will comply with national standards for community woodland management.
- Commercial woodlot pilots (Activity 3.6.4) will secure written confirmation of market buyers and formal biomass/timber offtake agreements in accordance with applicable forestry trade regulations before scale-up.
- All agroforestry tree species (Output 3.6) will be sourced from nurseries registered under applicable regulations, and planting will follow MoA/Forestry Department technical guidelines for site preparation, spacing, and post-planting monitoring.
- Women and youth formal user rights documents over trees and derived income will be developed in compliance with customary and statutory tenure requirements under Swazi Nation Land administration and, where applicable, MNRE land use regulations.
- **Authorizing actor:** Department of Forestry (ENTC/MoA), Traditional Authorities (Chiefs, Inner Councils).

51. Range Land Act / Rangeland Management Regulations

Eswatini's rangeland management on Swazi Nation Land is governed by customary law, chiefdom-level governance, and MoA's Department of Rangeland Management, which provides technical standards for grazing management, stocking rates, and rangeland rehabilitation. The Lubombo and Ngwempisi Integrated Landscape Management Plans (LILMP/NILMP) provide the sub-national management frameworks within which rangeland interventions are situated.

Relevance to SEASL: Output 3.1 (Rangeland Management Planning and Grazing Access Rights) involves the formalization of community-based grazing management plans, allocation of grazing access rights, and establishment of managed grazing zones. These activities must comply with MoA rangeland management technical standards and align with chiefdom-level authority.

Compliance process:

- Rangeland management plans (Output 3.1) will be developed with technical oversight from MoA's Department of Rangeland Management and will adopt the technical standards for carrying capacity assessment, rotational grazing design, and erosion control endorsed by MoA.
- Allocation of grazing access rights will be conducted through community participatory processes validated by Chiefs and CDCs, consistent with customary land tenure under SNL administration.
- MoA's Department of Rangeland Management will be formally engaged as a technical reviewer of all rangeland management plans produced under Output 3.1.
- **Authorizing actor:** Department of Rangeland Management, Ministry of Agriculture (MoA); Traditional Authorities (Chiefs) for SNL tenure.

52. Construction and Infrastructure Technical Standards

Water harvesting infrastructure (Output 3.5: ferro-cement tanks, community reservoirs), fencing structures (Output 3.2), nursery infrastructure (Output 3.4), and aggregation centers and storage facilities (Output 4.5) are subject to Eswatini's construction standards, as enforced by the Ministry of Public Works and Transport (MoPWT) and local government authorities.

Compliance process:

- All civil works will be designed by qualified engineers or technical officers and will comply with applicable national construction standards, including structural safety, materials quality, and workmanship requirements.
- Ferro-cement tank designs under Output 3.5 will use the CSARL-proven design already validated and approved in the same landscapes, minimizing technical risk and re-approval requirements.
- Hail-protective structures and nursery shelters (Output 3.4) will be designed for wind and hail load tolerances consistent with the climate hazard profiles documented in the CRVA.
- Procurement of all construction materials will comply with IFAD procurement standards (IFAD Procurement Guidelines) and Eswatini public procurement regulations.
- **Authorizing actor:** Ministry of Public Works and Transport (MoPWT); MoA for agricultural infrastructure.

53. Adaptation Fund Environmental and Social Policy (ESP) and IFAD SECAP

SEASL is fully compliant with the Adaptation Fund's Environmental and Social Policy (ESP) and the IFAD Social, Environmental and Climate Assessment Procedures (SECAP). The environmental and social risk management framework for the project, documented in the ANNEX 3: Environmental and Social Risks Management Plan, addresses the following ESP principles as applied to SEASL's specific risk context:

- **Access and equity:** SEASL applies SAPEMP-aligned vulnerability criteria and GESI targeting (40% women beneficiaries, 30% youth) across all outputs to ensure equitable access to project benefits.
- **Marginalized and vulnerable groups:** The project prioritizes women-headed households, land-poor households, HIV-affected households, youth, persons with disabilities, and low-literacy groups in beneficiary selection across all components.
- **Human rights:** All community engagement follows Free, Prior, and Informed Consent (FPIC) principles; Grievance Redress Mechanism (GRM) established at chiefdom and landscape levels.
- **Gender equality and women's empowerment:** Documented in the ANNEX 4 Gender and Social Inclusion Assessment and Action Plan, with gender-disaggregated M&E throughout.
- **Labour standards:** All project-contracted labour will comply with applicable Eswatini labour legislation.
- **Indigenous peoples and cultural heritage:** All activities on Swazi Nation Land will respect customary law and traditional authority governance. No activity will proceed that threatens culturally significant sites or resources.
- **Pollution prevention and resource efficiency:** Integrated into the ESRMP; addressed through IPM, minimal pesticide use, and responsible IAPS disposal protocols.
- **Climate change and disaster risk:** Climate-proofing is embedded in all infrastructure design specifications; no infrastructure will be installed in flood-prone zones without flood-resilient design specifications.
- **Biodiversity conservation:** No activity will be implemented that creates net harm to biodiversity; all species introduced under Components 3 and 4 are cleared against the IAPS register prior to procurement.

Key to EIA category column: Under Eswatini's Environmental Assessment Regulations (EAAR) 2022 (made under EMA 2002), all project proponents must first submit a **Project Brief** to EEA for screening. EEA then classifies the activity as: **Category 1** (full EIA + Comprehensive Mitigation Plan required); **Category 2** (Initial Environmental Evaluation/IEE + CMP abridged assessment); or **No EIA required** (minimal/insignificant impact). An **Environmental Compliance Certificate (ECC)** issued by EEA is mandatory before any Category 1 or Category 2 physical works commence. The ECC expires after 3 years if no substantial progress is made. Screening, EIA preparation, and ECC costs are borne by the project proponent (IFAD/SEASL PMU).

For community-based and demand-driven investments where sites will be selected during implementation, environmental authorization requirements will be determined following site-specific screening. Where required under the Environment Management Act, 2002 and Environmental Assessment Regulations, a Project Brief will be submitted to the Eswatini Environment Authority after site selection and design finalization and before commencement of any physical works. Subsequent environmental assessment requirements and approvals will be completed prior to implementation.

Table 26 Overview of how the project complies with national laws and standards

Output	Applicable Law / Standard	Key Compliance Requirement	Environmental / Social Risk Screening & Assessment Required?	Pre-Project Compliance Steps	Authorizing Actor
1.1 Climate & Vulnerability Assessment	EMA 2002; NDC; NBSAP	Alignment with national monitoring frameworks	No EIA required. Desktop/analytical work only; no physical interventions. IFAD SECAP: low risk.	Data-sharing protocol with EEA, ENTC, MoA signed before data collection. ESRMP confirmed adequate.	EEA/MTEA; MoA
1.2 EWS Integration (sensors, agro-advisory)	NDS; NDC (DRR); EMA 2002	Use of official EMS products; standard equipment specs	No EIA / Project Brief required for installation of small EWS sensors. If telecom infrastructure erected (masts >6 m), Project Brief to EEA required for screening.	Confirm mast/tower dimensions with EMS before procurement. Submit Project Brief to EEA if height thresholds met.	EMS; NDMA; EEA (if mast infrastructure)
1.3 Digital Knowledge Management Platform	EMA 2002; NDP SO 9.4	Integration with STOSAR II AIMS; no parallel database	No EIA required. Software/ICT system only; no physical footprint.	Data protocol with FAO/MoA signed. IFAD SECAP: negligible risk.	MoA; STOSAR II/FAO
1.4 Capacity Building (FFS, gender, youth)	NDS; NDC (Gender/Youth); Labour law	GESI quotas; FFS methodology; participant safeguarding	No EIA required. Training activities. IFAD SECAP: low/medium risk (GBV, safeguarding).	GBV/safeguarding protocols embedded in training materials pre-launch. GRM operational before first FFS cohort. GESI baseline data collected pre-project.	MoA; ENTC; EYEOP
2.1 Institutional Strengthening (LAS, CDCs, NRMCS)	EMA 2002; LILMP/NILMP; NDP SO 9.2	Formal NRM mandates; EADF/EEF/RDF linkage	No EIA required. Governance/institutional development only. IFAD SECAP: low risk (exclusion of marginalized groups).	FPIC and consultative processes documented pre-implementation. Chiefdom-level GRM established before any physical activity in landscape.	ENTC; MTEA/EEA; Traditional Authorities
2.2 Multi-Hazard Response Protocols	NDP SO 9.4; NDC (DRR)	Alignment with NDMA multi-hazard protocols	No EIA required. Protocol and planning documents only.	Integration with NDMA contingency framework completed before wet season activities.	NDMA; MTEA
3.1 Rangeland Management Plans & Grazing Access Rights	Rangeland Act/Regulations; LILMP/NILMP; LDN	Technical rangeland management standards; SNL tenure rights documentation	Project Brief to be submitted to EEA at implementation required for any physical grazing infrastructure (kraals, firebreaks). EEA likely to classify as Category 2 → IEE + CMP given small scale. For plan preparation only; no EIA.	A Project Brief is required to be prepared and submitted to EEA once intervention sites have been identified, designs and BOQs prepared, and prior to procurement or commencement of any physical works. IEE/CMP prepared if required by EEA. Rangeland management plans validated by MoA Rangeland	MoA (Rangeland Dept.); EEA (Category 2 if physical works); Traditional Authorities

				Dept. and Chiefs before any grazing restrictions enforced.	
3.2 Wetland Fencing & Riparian Restoration	EMA 2002 (s.32); Water Act 2003; NBSAP; LILMP/NILMP	Wetland protection; construction standards; DoWA authorization	PRIORITY Project Brief to EEA mandatory before any works. EEA likely to classify as Category 2 → IEE + CMP (wetland = environmentally sensitive area per EAAR screening criteria). If multiple or large wetlands affected: possible Category 1 → full EIA.	Project Brief submitted to EEA. EEA screening decision obtained before any physical works commence. IEE/CMP or full EIA prepared and ECC secured before field implementation. DoWA consulted for water-related works. FPIC with affected communities documented.	EEA/MTEA (ECC issuer); MoNRE (DoWA); ENTCT
3.3 Woodlot Establishment, Soil Erosion, IAPS Control	EMA 2002; Plant Health Protection Act 2020; Pesticides Management Act 2017; Forestry Act/Policy	IAPS management protocols; chemical use standards; species clearance	Project Brief to EEA required for chemical IAPS control and soil erosion earthworks. EEA likely to classify as Category 2 → IEE + CMP for earthworks >1 ha or chemical use. Physical planting/revegetation likely no EIA if on degraded/cultivated land.	Project Brief submitted. IAPS management protocols validated by ENTCT and Plant Health Services before operations. Pesticide Use Plan (listing only registered herbicides) approved by MoA before any chemical application.	EEA (Category 2 for earthworks/chemicals); ENTCT; MoA (Plant Health Services)
3.4 Nurseries with Hail-Protective Structures	EMA 2002; Seeds & Plant Varieties Act 2000; NDC (AFOLU)	Species approval list; structural safety standards; seedling certification quality	Project Brief to EEA required for construction of permanent nursery structures. EEA likely to classify as Category 2 → IEE + CMP for structures on sensitive sites, or No EIA for small temporary structures on already-disturbed land.	Project Brief submitted per site. Species list validated against MoA/Forestry approved list and IAPS register before nursery establishment. Building standards compliance confirmed with MoPWT before construction tender.	EEA (if permanent structure); MoA (Forestry/Horticulture); MoPWT
3.5 Water Harvesting Infrastructure (ferro-cement tanks, reservoirs, livestock points)	Water Act 2003; EMA 2002; WHO water quality standards	Water use registration; construction quality standards; water quality testing	PRIORITY Project Brief to EEA mandatory for community reservoirs and multiple-use water storage. EEA likely to classify as Category 2 → IEE + CMP (water infrastructure on/near water bodies). Ferro-cement household tanks: likely No EIA (small-scale, no excavation). DoWA water use authorization required in all cases.	Where screening identifies a proposed intervention as requiring EEA review, a Project Brief shall be submitted to EEA following site selection and preliminary design, and prior to procurement, construction, land disturbance, vegetation clearance, water abstraction, or any other physical works. Any additional requirements arising from EEA categorization (e.g., IEE, CMP, EIA) shall be completed and approved before implementation." For Outputs 3.2, 3.3, 3.4, 3.5 and 4.5 DoWA water use consultation/registration per site completed before construction commences. Water quality baseline testing (Activity 3.5.7) undertaken pre-project. ECC obtained before major civil works.	EEA (Category 2 for reservoirs); MoNRE (DoWA water authorization)
3.6 Agroforestry with Climate-Appropriate Species	Seeds & Plant Varieties Act 2000; Plant Health Protection Act 2020; Forestry Act/Policy; LDN	Approved species list; IAPS clearance; planting and spacing standards	No EIA required for agroforestry planting on existing farmland. If any land clearing of natural vegetation is required: Project Brief to EEA required; possible Category 2 → IEE + CMP.	Agroforestry species list validated by MoA/Forestry Dept. and checked against IAPS register before nursery procurement. SNL tenure/user rights documentation for women/youth completed before planting season. No clearing of natural vegetation without EEA clearance.	MoA (Forestry Dept.); ENTCT; EEA (if land clearing); Plant Health Services
4.1 Beekeeping Value Chain	EMA 2002; Food safety regulations; honey quality standards	Site validation; product quality; hive siting standards	No EIA required for apiary establishment. IFAD SECAP: low risk.	Apiary site selection validated against habitat sensitivity (proximity to restored wetlands/woodlands) before procurement. Market linkage contracts with buyers established before first harvest cycle.	MoA; EADF
4.2 Drought-Tolerant Seed Multiplication	Seeds & Plant Varieties Act 2000; Plant Health Protection Act 2020	Seed certification/variety documentation; phytosanitary compliance	No EIA required. On-farm multiplication only. Phytosanitary risk assessment for any inter-chiefdom seed movement.	MoA variety list cross-check and NBRI indigenous variety documentation completed before seed distribution. Phytosanitary certificates obtained for inter-chiefdom seed movement per Plant Health Services requirements.	MoA (Registrar of Seeds); NBRI; Plant Health Services
4.3 CSA Technologies (drip irrigation, no-till, shade nets)	Water Act 2003; EMA 2002; NDP SO 6.5	Water abstraction authorization; equipment safety/installation standards	No EIA required for on-farm drip irrigation systems at household/small-group scale. DoWA water use consultation required for drip conversion sites	DoWA consultation per drip conversion site cluster before equipment procurement. Equipment specifications validated against MoA CSA technology standards.	MoNRE (DoWA) for water use; MoA for technology standards

			drawing on surface water or boreholes.		
4.4 Value Chain Platforms and Market Linkages	Business regulation; cooperative law; market legislation	Enterprise registration; cooperative constitution compliance; market contracts	No EIA required. Governance/commercial facilitation only.	Enterprise and cooperative registration with MoITC and EADF completed before any aggregation activities commence. Farmer platform constitutions validated by MoA extension before operationalization.	MoA; MoITC; EADF; EYEOP
4.5 Value Addition, Traceability, Aggregation Centers	Food safety law; business regulation; EMA 2002	Food handling/hygiene standards; storage safety; processing equipment compliance	Project Brief to EEA required for construction or significant renovation of aggregation centers and storage facilities. EEA likely to classify as Category 2 → IEE + CMP if permanent structures on new footprint. No EIA if renovating existing structures.	For community-based and demand-driven investments where sites will be selected during implementation, environmental authorization requirements will be determined following site-specific screening. Where required under the Environment Management Act, 2002 and Environmental Assessment Regulations, a Project Brief will be submitted to the Eswatini Environment Authority after site selection and design finalization and before commencement of any physical works. Subsequent environmental assessment requirements and approvals will be completed prior to implementation. MoA/Ministry of Health food safety pre-inspection of storage facilities before commissioning. HACCP-aligned food handling training completed before first produce storage season.	EEA (Category 2 if new build); MoA; Ministry of Health; MoITC

All compliance actions described in this section will be embedded into the SEASL Project Management Unit (PMU) workplan and will be tracked as mandatory pre-conditions for the release of physical inputs, consistent with the project-wide training-before-inputs sequencing principle). The PSC will include representation from EEA, MoA, MoNRE, ENTC, and NDMA to ensure whole-of-government compliance oversight throughout the project lifecycle.

F. Project complementarity with other projects

54. The SEASL project has been designed to avoid duplication with other ongoing or completed initiatives operating in the Lubombo and Ngwempisi landscapes, and to build explicitly on their documented results, institutional structures, and lessons. This section identifies all relevant projects, describes the nature of the relationship complementarity or potential overlap (see overview in Table 27) and specifies the coordination mechanisms built into project design for each component. SEASL is **anchored on SNPAS and the Smallholder Agriculture Productivity Enhancement and Mechanization Programme (SAPEMP)** lessons.

55. **Primary Anchor: SAPEMP Smallholder Agriculture Productivity Enhancement and Mechanization Programme**

Funder	IFAD / ESWADE
Status	Starting (complementary/enabling partner of SEASL)
Target Areas	Lubombo, Manzini, Shiselweni
Overlap Risk	Low–Moderate (distinct entry points; explicit co-design)

Relationship to SEASL: SAPEMP is the **primary institutional anchor of SEASL**. The two projects have been co-designed as complementary interventions operating within overlapping target chiefdoms. SAPEMP delivers market infrastructure, Farmer Field School (FFS) platforms, mechanization support, and financial services for smallholder agriculture. SEASL delivers the ecosystem-based adaptation (EbA) layer the climate risk reduction, watershed restoration, community early warning, and governance foundation that makes SAPEMP's agricultural investments viable and climate-resilient over time.

Complementarity by SEASL Component:

- **Component 1 (Knowledge, EWS, and Capacity Building):** SEASL uses SAPEMP's FFS cooperative structures and community engagement schedules as the primary entry point for climate vulnerability assessments (Output 1.1) and community capacity building (Output 1.4). A joint stakeholder mapping is conducted by Month 6 to align SAPEMP FFS coverage with SEASL's training and early warning activities, avoiding scheduling conflicts and duplicate community engagement (Activity 1.4.1).
- **Component 2 (Multi-Stakeholder Coordination):** SEASL targets SAPEMP-identified chiefdoms as the priority areas for institutional capacity building of Landscape Associations, CDCs, and NRMCS (Output 2.1). Beneficiary selection criteria are explicitly aligned with SAPEMP vulnerability targeting (40% women, 30% youth, 5% persons with disabilities) across all components.
- **Component 3 (Ecosystem Restoration):** SEASL's ecosystem restoration activities (wetland fencing, rangeland management, IAPS control, water harvesting) aligned with SNPAS lessons, directly protect

and enable the agricultural productivity gains that SAPEMP's market infrastructure investments are designed to generate. Without the watershed stabilization and water security delivered by Component 3, SAPEMP's value chain investments face structural climate risk. Component 3 functions as the ecological partner to SAPEMP's market financing.

- **Component 4 (Climate-Smart Livelihoods):** SEASL's livelihood outputs (Outputs 4.1–4.5) operate through feasible or SAPEMP's coordination platform. Beekeeping offtake agreements (Activity 4.1.3) and value chain platforms (Output 4.4) are channeled through feasible or SAPEMP cooperatives/FFS. Equipment procurement is routed through SAPEMP supply chains where feasible (Activity 4.1.6). A joint steering mechanism not a narrative reference to complementarity is established to coordinate Component 4 activities with SAPEMP.

Coordination mechanism: Joint chiefdom mapping by Month 6; formal co-design of beneficiary selection criteria; shared coordination platform for Component 4 value chain activities; SAPEMP FFS used as entry point for Components 1 and 4. Results shared with SAPEMP as a project-wide rule.

Key Assumption (Theory of Change): SAPEMP provides complementary activities of financial inclusion and market infrastructure as planned, enabling climate-resilient value chain development under Component 4.

56. SNPAS Strengthening the National Protected Areas System of Eswatini (CLOSED)

Funder	GEF/UNDP
Period	2014–2021
Target Areas	Lubombo, Ngwempisi, Malolotja
Status	Closed
Overlap Risk	High (if SEASL repeats SNPAS baselines rather than building on them)

SNPAS created the institutional architecture and piloted wetland rehabilitation that SEASL operationalizes and scales. Seven wetland management plans in Ngwempisi, existing Landscape Associations, IAPS clearing, biodiversity assessments, and community nurseries are SNPAS outputs that SEASL explicitly builds on rather than recreates.

- **Component 2:** SEASL activates existing SNPAS Landscape Associations does not create new ones (Activity 2.1.1). CDP updates build on SNPAS's 7 wetland management plans and CSARL's 59 CDPs as the planning baseline (Activity 2.1.4).
- **Component 3:** SEASL updates and operationalizes existing SNPAS wetland management plans, not developing new ones (Outputs 3.1–3.2). The SNPAS-documented 24-month wetland regeneration cycle, women's income generation from restored wetlands, and levy-funded fence maintenance are the direct design basis for Output 3.2.

Key lessons integrated:

- Wetland fencing is effective and sustainable: ecosystems regenerated within 24 months; women earned income; small community levies funded maintenance. Directly adopted in Output 3.2 design.
- Landscape Associations risk becoming forums without action if insufficiently resourced. SEASL provides LA operational budgets and formal mandates, linked to EADF/EEF/RDF (Activity 2.1.3). This is the single most important SNPAS lesson.
- Tree planting had poor survival rates due to wrong species and inadequate monitoring. SEASL uses species lists validated by MoA (Activity 3.1.3); no tree planting without species guide.
- Physical inputs without prior training were abandoned. SEASL adopts a strict training-first sequencing protocol across all components (Activity 1.4.5).

57. CSARL Climate-Smart Agriculture for Resilient Livelihoods (CLOSED)

Funder	GEF/IFAD
Period	2017–2024
Target Areas	Lubombo, Shiselweni
Status	Closed
Overlap Risk	Moderate–High (if SEASL replaces rather than builds on CSARL structures)

CSARL trained NRMCS and lead farmers, produced 59 Chiefdom Development Plans (CDPs), established FFS cooperatives, and piloted multi-day capacity-building methodologies across Lubombo all of which SEASL mobilizes as its foundation.

- **Component 1:** CSARL-trained NRMCS are mobilized rather than replaced (Activity 1.4.1). Training is delivered through the existing CSARL FFS model (Activity 1.4.2).
- **Component 2:** CSARL's 59 CDPs are the planning base for updates under Activity 2.1.4, not replaced.
- **Component 3:** CSARL's water-for-multiple-uses approach, proven in Lubombo, is directly adopted for wetland restoration design (Activity 3.2.2).

Key lessons integrated:

- Multi-year cascading training outperforms one-off workshops: low knowledge retention from single-event training documented. SEASL designs multi-year refresher cycles with annual updates (Activity 1.4.2).
- FFS capacity-before-inputs model formally adopted as the SEASL standard sequencing protocol (Activity 1.4.5).

- Youth engagement in beekeeping failed without multi-year training and secured market contracts. SEASL targets mixed intergenerational groups (40% women, 30% youth), not youth-only cohorts (Activity 4.1.2).

58. MERP/ENTC Mbuluzi Ecosystems Restoration Project (ACTIVE Highest Duplication Risk)

Funder	UNEP/ENTC
Period	2023–2027
Target Areas	Malolotja to Lubombo (Mbuluzi River Basin)
Status	Active
Overlap Risk	Moderate–High (geographic, institutional, and thematic overlap)

MERP's validated Integrated Land Management (ILM) Strategy and Communication and Environmental Education Awareness (CEEAA) Strategy are directly adopted by SEASL not duplicated. MERP is the highest duplication risk among active projects. Three non-negotiable coordination actions are embedded in SEASL's Year 1 work plan:

- Joint geographic scoping exercise with ENTC within Month 3 to produce a formal chiefdom-level engagement map demarcating MERP and SEASL coverage (Activities 2.1.1, 1.4.1). Results endorsed by PSC.
- Adoption of MERP-ENTC's validated ILM and CEEA strategies by SEASL no parallel strategy documents developed (Activity 2.2.2).
- Agreement between SEASL, ENTC, and the Ministry of Tinkhundla to share CDC engagement platforms, co-schedule activities, and establish a joint real-time lesson-sharing mechanism (Activity 2.2.2).
- MERP's monitoring data for the Mbuluzi basin is integrated into SEASL's degradation monitoring to avoid re-monitoring already-covered zones (Activity 1.3.4). MERP-ENTC's CDC capacity-building model is replicated for SEASL's community governance outputs.

59. ELVCDP Eswatini Livestock Value Chain Development Project (ACTIVE)

Funder	EU/ITC
Period	2023–2027
Target Areas	Gangakhulu (Lubombo), Mahlangatsha (Manzini), Zinyane (Hhohho), Luhlekweni (Shiselweni)
Status	Active
Overlap Risk	Low–Moderate (livestock value chain, rangeland, gender/youth)

ELVCDP focuses on commercial livestock competitiveness; SEASL focuses on EbA and ecosystem restoration distinct primary entry points. ELVCDP's investment in haymaking and fodder baling equipment reduces feed pressure on rangelands, complementing SEASL's rangeland restoration (Output 3.1). Both projects work through the Ministry of Agriculture extension system.

- **Component 3:** Formal coordination protocol with ELVCDP by Month 6 (Activity 3.1.1) for joint community mapping, shared training calendars, and aligned fodder/rangeland activities in Gangakhulu.
- **Component 4:** ELVCDP's SheTrades gender inclusion model (40% women as registered asset owners) adopted for SEASL cooperative composition. Species list for rangeland restoration coordinated to avoid duplication (Activity 3.1.3).

Key lessons integrated:

- Market contracts must be secured before production scale-up formally embedded as SEASL's project-wide market-first rule (Activity 4.1.3).
- Phased, sustained capacity building including refresher trainings outperforms one-off workshops. SEASL designs multi-year training cycles for all livelihood and NRM skills.
- The FMD outbreak in 2025 disrupted ELVCDP activities. SEASL livelihood plans include climate and disease shock contingency protocols (Activity 4.1.5).

60. STOSAR II Support Towards Operationalization of the SADC Regional Agricultural Policy, Phase II (ACTIVE)

Funder	EU/SADC/FAO
Period	2025–2028
Target Areas	SADC region, including Eswatini
Status	Active

FAO is the shared implementing partner. SEASL feeds community-level climate vulnerability and NRM data into STOSAR II's national Agricultural Information Management System (AIMS) rather than creating a parallel database (Activities 1.3.1, 1.3.2). A formal data-sharing protocol is established by Month 6. STOSAR II's SPS and early warning platforms are leveraged for SEASL Output 1.2. SEASL beneficiaries' access STOSAR II's market access and SPS certification support through the shared platform.

61. CDI-E Composite Drought Index for Eswatini (ACTIVE)

Funder	NDMA/Red Cross
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Period	2023–ongoing
Target Areas	National, Lubombo/Shiselweni focus
Status	Active

SEASL integrates CDI-E drought triggers as the activation threshold for all drought response protocols under Output 2.2, rather than developing parallel drought indicators (Activity 2.2.4). This avoids duplicating indicator development and aligns SEASL's community-level response protocols with nationally validated drought signals.

62. EYEOP Eswatini Youth Employment Opportunities Project (ACTIVE)

Funder	World Bank/IDA
Period	2025–2030
Status	Active

From Year 2, establish youth beekeeping incubation pathways for youth (≥40% young women, ≥30% land-poor youth) through: (i) group-based apiary models; (ii) mentorship from experienced beekeepers; (iii) start-up kits after training; (iv) phased graduation toward independent enterprises; and (v) AF-financed enterprise support required to achieve the activity results. Where available, participants may subsequently be referred voluntarily to existing national savings, enterprise and financing services, including EYEOP/Imakhete, as complementary opportunities that are not required for achievement of SEASL results. CSARL's finding: youth engagement works only with tangible quick-return assets and secured market linkages. EYEOP's grant mechanism used no parallel youth support infrastructure created. Mixed groups (not youth-only). Mentorship from LUSIP-trained beekeepers where available.

63. EYEP Eswatini Youth Empowerment Programme (ACTIVE)

Funder	UNDP/GoE/MTN
Period	2023–ongoing
Status	Active

EYEP youth facilitation training is used for youth champion development under Output 1.4 (Activity 1.4.2). EYEP artisan graduates (construction skills) could be contracted for SEASL's infrastructure works nurseries, fencing, water structures creating direct youth employment linkages rather than parallel youth training systems (Components 3 and 4 design).

64. HGSF Home-Grown School Feeding Programme (ACTIVE)

Funder	GoE/FAO/WFP
Status	Active

SEASL explicitly links climate-resilient crop production (Output 4.3) and seed multiplication (Output 4.2) to HGSF as the guaranteed institutional market outlet before production is scaled. Offtake agreements with HGSF are formalized in Activity 4.1.3. Formal MoUs with HGSF are established early in implementation. This guaranteed institutional market is one of the most durable sustainability mechanisms for smallholder producers, confirmed by evidence across multiple Eswatini projects.

65. GEF-FAO Catalyzing Transformation to Sustainable Food Systems (STARTING)

Funder	GEF/FAO
Period	2025–2029
Status	Starting

SEASL coordinates with GEF-FAO on maize-beans seed work to ensure SEASL's community seed multiplication systems (Activity 4.2.6) do not create a parallel national seed system. HGSF demand is confirmed through GEF-FAO coordination before scaling seed multiplication. FAO as shared implementing partner makes this coordination operationally straightforward.

66. LUSIP-GEF/LUSLM Lower Usuthu Sustainable Land Management (CLOSED)

Funder	GEF/IFAD
Period	2011–2015
Status	Closed

LUSIP is Eswatini's most cited cautionary lesson for SEASL design:

- Equipment before training results in abandoned investments. SEASL formally reverses this: strict training-first sequencing verified through PMU checklist before any inputs are released (Activity 1.4.5).
- Large, centralized water infrastructure (large dams) was not replicable or community-manageable. SEASL explicitly avoids large-scale dam construction; all water infrastructure is community-scale (Activity 3.2.2).
- Ecotourism, greenhouses, and poly-tunnels favored small groups, produced no environmental benefit, and were not replicable. SEASL does not include these interventions.
- Beekeeping success (10% uptake in Siphofaneni) is the positive precedent SEASL builds on (Activity 4.1.1).

67. SMLP Smallholder Market-Led Project (CLOSED)

Funder	IFAD/GEF/GoE
Period	2016–2022
Status	Closed

SMLP's market linkage failures production scale-up without secured buyers caused farmgate price collapse are formally embedded in SEASL as the market-first sequencing rule (Activity 4.1.3, Output 4.4 design principle). SAPEMP, as SMLP's successor, carries forward SMLP's market infrastructure, which SEASL complements with EbA.

68. Other Active and Pipeline Projects

Project	Funder / Period	Relationship to SEASL
EWS (closed)	Italy/UNDP 2019–2024	SEASL uses EWS's 10 AWS and 8 river gauging stations for downscaled community advisories (Output 1.2), not duplicating infrastructure. Lesson: sustainability requires exit strategy and community trust SEASL integrates indigenous knowledge and community-level dissemination.
SADC-CSC (active)	WMO/SADC 2024–ongoing	SEASL links drought response protocols to SADC-CSC advisories for forecast-based triggering (Activity 2.2.4).
UNDP-GCF NbS-ARC (pipeline)	GCF/UNDP	SEASL is confirmed as prioritized over NbS-ARC for Lubombo and Ngwempisi. If approved, a formal scope differentiation protocol will be required.
WHDP (closed)	EU/GoE 2016–2024	SEASL learns from WHDP's small dam water storage approach for reservoir/pond rehabilitation in Component 3.
GEF-UNDP Incomati-Maputo (pipeline)	GEF/UNDP	Transboundary water governance; may improve upstream water governance benefiting SEASL's aquatic ecosystem work downstream.
UNDP-CONCO NbS Pilot (active)	UNDP/CONCO 2025–2026	Active in Lusushwana catchment, not SEASL's target landscape. Private sector partnership model (CONCO as water user) noted for SEASL's IAPS investment case.
NDC Youth Green Skills (closed)	UNDP/NAMBoard 2023–2024	Confirms youth engagement works when quick-return assets, market linkages, and legal income alternatives are combined basis for SEASL's mixed-group, starter-kit-plus-market approach in Component 4.

69. Summary: SEASL's Non-Duplication and Complementarity Architecture

SEASL does not repeat any of the following, which have already been delivered by other projects:

- Wetland management plans (SNPAS) → updated, not redeveloped
- Landscape Associations (SNPAS) → activated with budgets and mandates, not recreated
- Chiefdom Development Plans (CSARL) → updated, not replaced
- NRM committees (CSARL/SNPAS) → mobilized, not replaced
- Value chain platforms (SAPEMP/ELVCDP) → SEASL uses SAPEMP's platform, not a parallel one
- Climate data systems (STOSAR II/EWS/CDI-E) → SEASL integrates and feeds into, not duplicates
- Youth enterprise registries (EYEOP Imakhete) → SEASL uses existing registry
- ILM and CEEA strategies (MERP-ENTC) → formally adopted, not replicated

SEASL is able to deliver its outcomes and outputs climate-vulnerable communities and institutions with the evidence base, coordination capacity, restored ecosystems, and diversified livelihoods needed to adapt to increasing drought, hailstorms, and wildfires regardless of the success of any individual project, in compliance with the AF's full cost of adaptation requirement.

Table 27 Overview of relevant projects with potential duplication, complementarity and lessons learned

Project	Potential duplication with SEASL	Complementarity with SEASL	Key lessons and replication potential for SEASL
SAPEMP (IFAD/ESWA DE)	LOW–MODERATE. Successor to SMLP; market-driven smallholder agriculture in Lubombo and Manzini Value chain activities to be covered by SAPEMP and not SEASL	SAPEMP continues SMLP's market infrastructure / value chain; SEASL adds the EbA and climate adaptation layer. Joint use of CDPs and market platforms is logical. SEASL explicitly designed to complement SAPEMP	- Just starting no lessons yet . Risk: if SAPEMP promotes conventional intensification while SEASL promotes EbA, messaging to farmers may conflict. Align extension approaches.
SNPAS (GEF/UNDP)	HIGH. Wetland management plans (7 in Ngwempisi already exist); Landscape Associations (Las) already established; IAPS clearing started; biodiversity assessments done; community nurseries initiated. SEASL risks repeating these unless it explicitly builds on SNPAS baselines.	Strong. SNPAS created institutional architecture and piloted wetland rehabilitation that SEASL can operationalize and scale. SNPAS did not address livelihoods or value chains. SEASL to complement / update the existing wetland management plans, assessments already done and nurseries established.	- Wetland fencing is effective and sustainable (ecosystems regenerated in 24 months; women earned income; small levies funded fence maintenance). - Landscape Associations risk becoming "forums without action" (formed too late, insufficiently resourced). - Tree planting had poor survival (wrong species, inadequate monitoring) - ensure adequate species and protection - Ecotourism value chains failed (lodges unfinished, no revenue) - IAPS clearing was technically feasible but not sustained (partnership suspended). - Inter-governmental coordination was weak (MoUs not operationalized).
CSARL (GEF/IFAD)	MODERATE. Potential overlap 814.1 ha under climate-resilient practices and 71,106 people already reached in the same 37 chiefdoms	Link CSARL groups to SAPEMP and SEASL). For youth especially for financial services. Since 32 of the 37 CSARL chiefdoms fall in Lubombo and	☑ 10 proven successes (for replication): Infrastructure & environment: ferro-cement rainwater harvesting tanks, wetlands rehabilitation (award), gully reclamation, conservation agriculture; Planning & institutions: Chiefdom Development Plans, Natural Resource Management Committees

	Shiselweni 22 chiefdoms Lubombo 10 chiefdoms Manzini 5 chiefdoms All 37 were in the rain-fed Middleveld and Lowveld areas, selected because they were <i>not</i> already served by large-scale irrigation	Shiselweni SEASL's core landscape the overlap is near-total for those two regions. SEASL should treat CSARL's CDPs, NRMCS, water user groups, erosion control groups, and trained lead farmers as the existing institutional base	(NRMCS) and water user groups established and trained; Value chains: Honey, Horticulture, Permaculture nutrition gardens, Lead farmer model ⚠ 5 caution flags (dam delays, market volume gaps, youth disengagement (due to no access land, finance, mismatch expectations – no quick returns, limited interest in beekeeping-avoid, no voluntary work-avoid), financial sustainability rating, maintenance burden on elderly women) ✗ 3 failures (food deficit worsened, private sector co-financing collapsed, youth individual Business Development Services ineffective – avoid)
MERP	MODERATE–HIGH. The Mbuluzi Ecosystems Restoration Project (MERP/ENTC-UNEP-GEF, 2023–2027) operates in the same landscape continuum as SEASL, spanning the Malolotja to Lubombo landscapes along the Mbuluzi River Basin. Both projects pursue integrated natural resource management, SLM, ecosystem restoration, and community livelihoods using a landscape approach. Both work with Chiefdom Development Committees (CDCs), the Ministry of Tinkhundla, ENTC, and the Ministry of Agriculture. IAPS clearing, SLM on agricultural land, and community NRM governance activities overlap directly with SEASL Outputs 3.1–3.3. SEASL must explicitly demarcate geographic and thematic scope through a formal coordination protocol with ENTC.	Strong. The Mbuluzi project provides a live model of landscape-level ecosystem restoration with community engagement in the same agro-ecological setting as SEASL. Its validated Communication and Environmental Education Awareness (CEEa) Strategy and Integrated Land Management (ILM) Strategy can be directly adopted by SEASL, avoiding the development of parallel strategies. ENTC's experience managing protected areas along the Mbuluzi corridor is directly relevant to SEASL's wetland and ecosystem management outputs. The project's engagement with the AFR100 (African Forest Landscape Restoration Initiative) links SEASL to continental restoration commitments and potential financing. CDC leadership capacity building (proposal writing, M&E, negotiation) is replicable for SEASL's community governance outputs.	- A landscape approach spanning multiple agro-ecological zones (Malolotja to Lubombo) is operationally feasible with ENTC as executing agency SEASL should explore a formal MoU with ENTC to align geographic coverage and avoid overlap. - Validated ILM and CEEa strategies are ready-made tools for SEASL's community NRM governance and awareness activities adopt rather than develop parallel frameworks. - CDC capacity building through multi-day workshops (proposal writing, M&E, negotiation) is an effective community ownership model replicable for SEASL's Chiefdom Development Plan updating and -NRM committee strengthening. - Geographic overlap with SEASL's Lubombo landscape is likely significant. A joint mapping exercise between SEASL and MERP is an urgent priority to demarcate scope and avoid community-level duplication. - Project is still in early implementation (2023–2027) limited outcome lessons to date. Establish a joint learning mechanism with ENTC to share emerging lessons in real time. - Both projects work with CDCs in the same landscapes without coordination, communities may experience consultation fatigue. Align activity schedules and share community engagement platforms.
ELVCDP	LOW–MODERATE. ELVCDP targets beef and goat value chains in four pilot chiefdoms including Gangakhulu in Lubombo, which overlaps with SEASL's target landscape. Livestock value chain training, market access, and gender/youth inclusion activities overlap with SEASL Component 4 (climate-smart livelihoods). Fodder production and rangeland management dimensions could overlap with SEASL Output 3.1 (rangeland management). However, ELVCDP's focus is commercial livestock competitiveness and trade-oriented markets, while SEASL focuses on EbA and ecosystem restoration the entry points and primary outcomes are distinct.	Strong in Lubombo. ELVCDP's livestock enterprise model pairing technical training with market formalization, women/youth asset registration, and fodder production infrastructure provides a proven delivery mechanism that SEASL's beekeeping and NTFP value chain activities can learn from and adapt. The SheTrades gender inclusion framework is directly replicable for SEASL's gender mainstreaming targets (≥40% women in cooperatives). ELVCDP's investment in haymaking and fodder baling equipment (E3.1 million) reduces feed pressure on rangelands, complementing SEASL's rangeland restoration. Both projects work through the Ministry of Agriculture, enabling coordination via the same extension officer network.	- Phased, sustained capacity building (including refresher trainings and mentorship) outperforms one-off workshops SEASL should design multi-year training cycles for beekeeping and NRM skills, not single events. - Formalizing women and youth as registered asset owners proved critical for financial inclusion and confidence SEASL should apply this approach for beekeeping cooperatives (≥40% women, ≥30% youth ownership targets). - Value addition beyond the primary product (leather tanning, meat processing) significantly increases income SEASL's beekeeping value chain should similarly include wax, propolis, and honey-based product processing. - Market transparency and formal contracts must precede production scale-up consistent with SEASL's community consultation finding that markets must be secured before promoting output. - The Foot and Mouth Disease (FMD) outbreak in 2025 disrupted ELVCDP activities SEASL's livelihood plans should include contingency protocols for climate and disease shocks to value chains.
STOSAR II	LOW–MODERATE. STOSAR II operates at the SADC regional level with a national implementation component. Its Agricultural Information Management Systems (AIMS) and Food and Nutrition Security (FNS) early warning components overlap with SEASL Output 1.1.3 (climate information and early warning systems). Market access and inclusive value chains components overlap with SEASL Component 4 (climate-smart livelihoods). However, STOSAR II's entry point is trade, SPS systems, and regional policy harmonization distinct from SEASL's ecosystem-based adaptation focus. Limited direct duplication risk given	Strong. STOSAR II's AIMS will generate national agricultural data and knowledge products that SEASL can use for evidence-based targeting and monitoring. Its SPS and food security early warning infrastructure complements SEASL's community-level early warning activities. The inclusive value chain workstream particularly for women, youth, and SMEs supports the sustainability of SEASL's Component 4 livelihoods by creating broader market systems. Coordination is facilitated by FAO as a shared implementing partner, providing a natural alignment mechanism for joint planning and information sharing.	- STOSAR II is newly launched (2025) no implementation lessons yet from Phase II. - STOSAR I (2018–2024) trained Ministry of Agriculture staff in QGIS, Kobo Collect, and data collection tools and strengthened SPS laboratory infrastructure SEASL can leverage these trained staff and improved data systems for climate vulnerability assessments without duplicating capacity building. - Regional early warning and monitoring systems developed under STOSAR can inform SEASL's community-level early warning communication strategy. - SEASL must ensure its community-level outputs link up to national AIMS and early warning platforms being strengthened by STOSAR II, rather than creating parallel information systems.

	the different geographic and institutional scale.		
CDI-E (NDMA/Red Cross)	MODERATE. The CDI-E directly supports drought monitoring overlaps with SEASL Output 1.1.3 (early warning) if SEASL also attempts to develop drought indicators.	Strong. The CDI-E, once operational, would provide the standardized drought indicator that SEASL's early warning activities need. Rather than developing new indicators, SEASL should integrate the CDI-E into its community-level information dissemination strategy.	- CDI-E is still under development SEASL should monitor progress and plan to be an early adopter. - Research shows 25% of drought-prone communities in Lubombo and Shiselweni still cannot access early warning information, and 19% who receive it do not act on it due to technical language, delayed dissemination, and low trust. SEASL's communications strategy (Activity 1.1.3.5) must address these last-mile barriers.
EYEOP (World Bank/IDA)	LOW–MODERATE. EYEOP provides asset grants for youth entrepreneurship along agriculture value chains, including CSA training. Overlap with SEASL Component 4 livelihood activities. However, EYEOP targets ~30,000 NEET youth nationally rather than specific landscapes.	Strong. EYEOP's digital social registry ("Imakhete") can help SEASL identify and target vulnerable youth in Ngwempisi and Lubombo. EYEOP's grant mechanism (asset grants disbursed to input suppliers based on business plans) could be a delivery channel for SEASL livelihood beneficiaries. 40% female beneficiary requirement aligns with SEASL gender targets.	- EYEOP builds on EYEP artisan training model, which achieved 84% employment rate (the strongest youth livelihood outcome evidence in Eswatini). - EYEOP just approved (May 2025) (no implementation lessons yet). Predecessor EYEP demonstrated that combining skills training with starter kits is the critical success factor. - Could provide cannabis-alternative livelihoods for youth in SEASL target areas if coordinated (EYEOP focuses on agricultural value chains as legal income pathways).
EYEP (UNDP/GoE/MTN)	LOW. EYEP trains out-of-school youth in artisanal trades (plumbing, electrical, sewing, metalwork) and digital skills different intervention logic from SEASL's ecosystem-based livelihoods.	Moderate. EYEP's 4 regional training centers could be platforms for SEASL to deliver green skills and livelihood training. EYEP graduates with construction and metalwork skills could be deployed for SEASL infrastructure (nurseries, fencing, water structures).	- 84% employment rate among graduates strongest evidence of any youth livelihood programme in Eswatini. - Starter kits are essential MTN sponsors E160,000 per cohort; graduates without tools cannot operationalize skills. - Programme successfully redirects NEET youth 38% of graduates started own businesses. Demonstrates that providing skills + capital within 3 months generates immediate income, critical to compete with fast cash appeal of cannabis cultivation.
HGSF (GoE/FAO/WFP)	LOW. School feeding programme, not an ecosystem project.	SEASL explicitly plans to link climate-resilient crop production to HGSF as a guaranteed market outlet (Output 4.3.1.6). Potentially powerful sustainability mechanism.	- Guaranteed institutional market (schools) is one of the most sustainable off-take models for smallholders. SEASL should formalize MoUs with HGSF early.
GEF-FAO Food Systems	LOW–MODERATE. Maize and beans value chains and sustainable agriculture practices overlap with SEASL Output 4.2 and 4.3, but entry points differ.	GEF-FAO takes a food systems transformation approach with ESWADE execution; SEASL focuses on EbA within landscapes. Potential for joint value chain platforms.	- Project just starting (2025); no lessons yet. Potential risk of operational overlap if both projects promote Climate Smart Agriculture (CSA) in the same communities. SEASL and GEF-FAO will establish a joint coordination protocol.
LUSIP-GEF (GEF/IFAD)	MODERATE. Conservation agriculture, donga rehabilitation, community nurseries, and beekeeping at Siphofaneni overlap with SEASL Component 3 & 4 activities in the same RDAs.	LUSIP built 5 community nurseries and piloted SLM at Siphofaneni that SEASL can scale. Chiefdom Development Plans (CDPs) from LUSIP provide the planning base for SEASL.	- Beekeeping highly effective (10× uptake, strong conservation incentive). - Home-garden fruit orchards were adoptable and sustainable. - Community nurseries at Siphofaneni were a tangible achievement. - Conservation agriculture showed "early promise" but risks confusion when promoted alongside conventional ploughing. - Poly-tunnel/greenhouse intervention rated an "aberration" (favored a small group, no environmental benefit, not replicable). - Donga rehabilitation had "perpetual problems with construction design" (gabion weirs failed). - CDPs were expensive to produce (cost-efficiency for scale-up is a concern).
SMLP (IFAD/GEF)	MODERATE. Chiefdom Development Plans (CDPs), rainwater harvesting, soil & water conservation, and market-led production in Lubombo overlap with SEASL Components 2–4.	SMLP developed 59 CDPs that SEASL can update with climate/NRM mainstreaming. SMLP's market linkage experience directly informs SEASL's value chain outputs.	- CDP process was transformative when chiefs were engaged. - Rainwater harvesting at homestead/field level was practical and adopted. - Market linkages for smallholders worked best for irrigated crops, less proven for dryland/NTP commodities relevant to SEASL. - SMLP focused on irrigated commercial agriculture (lessons may not directly transfer to SEASL's EbA and subsistence context).
EWS (Italy/UNDP)	MODERATE–HIGH. Climate advisories, early warning, automated weather stations, and information dissemination overlap with SEASL Output 1.1.3.	EWS installed 10 AWS and 8 river gauging stations that SEASL can use for downscaled advisories. SEASL adds the agriculture/food system dimension EWS lacked.	- Weather stations and improved forecasting are technically effective. - Sustainability is unproven (no exit strategy; infrastructure maintenance at risk; CAP not fully operational). - Community-level engagement was weak (23% of communities still rely on indigenous knowledge and distrust formal warnings)
SADC-CSC (WMO/SADC)	LOW. SADC-CSC operates at regional level, providing climate products to national meteorological services a different scale from SEASL's community-level climate information activities.	Strong upstream complement. SADC-CSC produces Regional Climate Outlook Forum (RCOF) consensus statements, seasonal forecasts, and monitoring products that Eswatini's MET service should be downscaling for communities. SEASL's Output 1.1.3 (climate/weather EWS)	- SADC-CSC entered WMO demonstration phase in June 2024 still building operational capacity. - Eswatini MET's capacity to access and downscale products to landscape-level advisories remains the bottleneck. SEASL should ensure Output 1.1.3 budget includes training MET staff to use SADC-CSC products for localized forecasts.

		depends on receiving reliable regional-scale inputs.	
UNDP-GCF NbS-ARC	HIGH. Multi-country programme targeting Lubombo region and Highveld with integrated watershed and rangeland management, wetland restoration, and ecosystem-based adaptation nearly identical intervention logic to SEASL.	Both projects share the EbA and agropastoral resilience paradigm. If NbS-ARC proceeds (~\$20M for Eswatini), it could amplify SEASL results significantly.	- Still at concept note stage with GCF. If approved, major duplication risk both would do rangeland management, wetland restoration, and ecosystem-based livelihoods in Lubombo. SEASL must differentiate clearly or position as co-financing. Has been confirmed by government counterparts that the AF proposal submission will be prioritized over the GCF concept.
WHDP (EU)	LOW. Different geographic focus (Highveld: Hhohho, Manzini, Shiselweni). SEASL targets Lubombo and Ngwempisi.	WHDP developed 527 ha of irrigated land and dam infrastructure. SEASL can learn from WHDP's water storage approach for its own reservoir/pond rehabilitation.	- Small dam construction effective for food security when coupled with farmer schemes. - Capital-intensive; requires institutional management (ESWADE model). Not directly replicable under SEASL's community-based approach.
GEF-UNDP Incomati-Maputo	LOW. Transboundary water governance focus; different scale and institutional level.	May improve upstream water governance that benefits SEASL's aquatic ecosystem work in Lubombo (downstream).	- In pipeline. Primarily a governance/institutional project (limited direct lessons for community-level EbA).
UNDP-CONCO NbS Pilot (UNDP/CONCO)	LOW. Different geographic area (Lusushwana catchment near Matsapha, not in Ngwempisi or Lubombo). Focus on IAP removal and indigenous replanting is methodologically similar to SEASL Output 3.1.3 and 3.2.3.	Strong methodological model. This pilot demonstrates private sector financing for invasive species clearing (CONCO invested E870,000), community youth mobilization for IAP removal, and a catchment investment plan model SEASL could replicate.	- Youth-led invasive species clearing is technically feasible (20 youth volunteers trained and cleared 25% of 80 ha target within months). - Private sector co-financing works when downstream industrial users (CONCO) have a direct interest in water security . - Scale is very small (E870,000/1 year) SEASL would need to demonstrate this model can work at landscape scale across multiple chiefdoms. - Sustainability beyond the one-year pilot is unproven. SEASL should plan for multi-year IAP follow-up clearing , as SNPAS lesson showed IAP clearing was "not sustained" when partnerships lapsed.
NDC Youth Green Skills (UNDP/NAMBoard)	LOW-MODERATE. This closed project distributed E450,000 in climate-smart agriculture equipment (drip irrigation, water storage) to 104 youth farmers. Similar inputs to SEASL Output 4.2.2.	Strong baseline. 104 trained youth across all four regions (62 women, 42 men) now have CSA skills and equipment. SEASL can potentially recruit from this cohort for its youth farmer activities in Ngwempisi and Lubombo rather than training from scratch.	-Partnership model worked NAMBoard provided market linkage through the Eswatini Horticulture Information System (EHIS) digital platform, giving trained farmers access to real-time market data . -Youth trained in permaculture, conservation agriculture, climate-smart irrigation, and protected production directly relevant skills for SEASL target activities. - Providing equipment + market information + skills simultaneously gave youth a tangible, immediate livelihood pathway as a cannabis-growing alternative

G. Project learning and knowledge management

70. Learning and knowledge management (KM) are integral to the SEASL design, not an add-on. KM activities are concentrated in **Component 1** (Outputs 1.3, and 1.4), with cross-cutting links to Components 2, 3, and 4 to ensure that operational lessons feed back into adaptive management within the project and outward into national and regional knowledge networks.
71. **Knowledge products.** The project will produce a set of knowledge products across its five-year cycle. Each product specifies its target audience, format, and dissemination channel from the design stage. All knowledge products are made openly accessible and are published in both English and SiSwati where appropriate.

Table 28 SEASL knowledge products and dissemination plan

Knowledge product	Lead output	Format	Primary audience	Dissemination channel & timing
Integrated climate vulnerability & agroecosystem baseline	1.1	Technical report + GIS dataset + dashboard	MTEA, MoA, EEA, partner projects	Public dashboard (Year 1, M12); national workshop
Inclusive EWS bulletins (icon-based, SiSwati audio)	1.2	Bulletin templates, radio scripts, USSD	Communities, women, low-literacy groups, PWDs	Community radio, USSD push, chiefdom noticeboards (Years 1–5)
Digital landscape knowledge platform	1.3	Web platform with open APIs	Government, researchers, NGOs, AF/GCF community	Hosted by MTEA; launched M18
Adaptation training curricula (community + extension)	1.4	Curricula, ToT manuals, e-learning modules	Extension services, LA/CDC/NRMC members	FAO Eswatini & MoA extension network; launched M12
Lessons-learned case studies (annual)	Cross-component	Short case briefs (4–8 pp), policy notes	AF Board, IFAD, FAO, NCCC, partners	Annual; AF PPR cycle; uploaded to AF Adaptation Network
Mid-term and terminal evaluation knowledge synthesis	M&E	Evaluation reports, evaluation policy briefs	AF Board, Govt of Eswatini, sister projects	MTR (Year 3); Terminal (Year 5+); shared via AF portal
South–South & regional exchange products	Cross-component	Study tour reports, peer-exchange briefs	SADC adaptation practitioners	≥ 2 exchanges with comparable AF/GCF projects (Years 2–5)
Gender & social inclusion learning notes	Cross-component	Thematic learning notes	Gender practitioners, AF gender community	Annual; via AF Gender Policy reporting

72. **Internal learning architecture.** The PMU operates a learning cycle with: (i) **reflection workshops** at landscape level convene LAs, NRMCS, and field teams to surface implementation issues and update operational protocols; (ii) **annual learning reviews** consolidate workshop insights into adaptive-management decisions reflected in the next AWPB; (iii) the **M&E system** generates gender- and age-disaggregated data so that course correction is evidence-based (see Section III.D); and (iv) **after-action reviews** are mandatory following all drought, hail, and wildfire response activations to extract operational learning into updated response protocols (Output 2.2).
73. **External learning and policy uptake.** Learning is linked to national policy instruments. The project aims to: (i) provide relevant information into Eswatini's Fourth and Fifth National Communications to the UNFCCC and the National Adaptation Plan update cycle; (ii) contributing case material to the National Climate Change Committee (NCCC) biannual reports; (iii) supporting MoA in updating the agricultural extension curriculum with project-validated CSA practices; and (iv) sharing experience with the Adaptation Fund and the LDC Universities Consortium on Climate Change.
74. **Knowledge equity and ownership.** Output 1.3 is designed with attention to **equitable knowledge ownership, governance, access rights, and benefit control by women, youth, and marginalized groups**. Data-collection protocols apply free, prior, and informed consent (FPIC); community-generated data remains under community ownership; and the digital platform exposes role-based access controls that prevent extractive use of community data by third parties. Local researchers (including from the University of Eswatini) will be engaged as co-producers of knowledge products rather than subcontracted data collectors.
75. **Budget and resourcing.** KM is budgeted under Component 1, with allocations for the digital platform, knowledge products and learning events. A **Knowledge Management & Communications Officer** will be part of the PMU. The Officer reports to the Project Coordinator and works with the M&E Specialist to ensure data-to-knowledge translation.
76. **Reporting and accountability.** KM performance is tracked through dedicated indicators in the Results Framework (Section III.E) and reported in annual Project Performance Reports (PPRs) to the AF Board. The terminal evaluation includes an explicit knowledge-uptake assessment to verify whether project knowledge products have been adopted by intended users.

H. Project consultative process

77. This section describes the comprehensive, gender-responsive consultative process undertaken during both the concept note preparation phase (2022–2024) and the full proposal development phase (2024–2026), in compliance with the Adaptation Fund's Environmental and Social Policy (ESP) and Gender Policy. For each phase, the section identifies stakeholders consulted, the principles of their selection and their role ascription, the techniques used, the key findings arising, and the concrete ways in which those findings shaped the project design.
78. **Overview and Guiding Principles:** The consultative process for SEASL was designed to be inclusive, iterative, and gender-responsive, guided by three principles aligned with the AF ESP and Gender Policy:
 - **Comprehensiveness** all direct and indirect project stakeholders were engaged, from national government ministries and landscape governance bodies to community women's groups and youth.
 - **Gender-responsiveness** special measures were taken at each stage to ensure women's meaningful participation, recognizing that women constitute the majority of subsistence farmers in rural Eswatini and face structural barriers to resource access and decision-making.
 - **Iteration and uptake** consultation findings were not only documented but actively used to revise and co-design project components, activities, and safeguards arrangements. The AF secretariat's technical reviews confirmed that consultation feedback was systematically addressed in successive proposal versions.

The consultative process followed a two-phase structure that mirrors the two-step AF submission process: an initial consultative process conducted during concept note preparation, and a deepened, comprehensive consultative process conducted during full proposal development.

79. Phase 1: Consultations During Concept Note Preparation (2022–2024)

79.1. Institutional Stakeholder Consultations

During concept note development, IFAD and FAO conducted a structured series of consultations with national institutions to validate the project rationale, align with existing mandates, and build institutional ownership.

Technical Working Group (TWG): Three TWG meetings were convened. The TWG brought together representatives of the Ministry of Tourism and Environmental Affairs (MTEA), Ministry of Agriculture (MoA), Eswatini Environment Authority (EEA), Eswatini National Trust Commission (ENTC), National Disaster Management Agency (NDMA), Eswatini Meteorological Service (EMS), and relevant technical staff from FAO and IFAD.

Selection principles: TWG members were selected based on their statutory mandate over land, water, ecosystem management, and agricultural adaptation in Eswatini.

Role ascription: Technical validation of project rationale, review of climate risk analysis, alignment with national plans (NDP 2023–2028, National Climate Change Policy 2016, National Adaptation Plan), and identification of regulatory compliance requirements.

Key issues raised and how they shaped the design:

- The TWG flagged the need to align project activities with the Lubombo Integrated Landscape Management Plan (ILMP 2020–2030) and Ngwempisi Integrated Landscape Management Plan (NILMP 2020–2030), developed under the SNPAS project. This led to the project being explicitly anchored to these landscape frameworks.
- The TWG raised concern about duplication with the GEF-funded SNPAS project (ended 2021). The design was revised to focus on filling the post-SNPAS gap: transitioning from protected area management to community-level agroecosystem adaptation, avoiding overlap while building on SNPAS biodiversity baselines.
- NDMA representatives highlighted the absence of climate risk early warning systems accessible to community level, directly influencing Output 1.2 (Inclusive Climate Information and Early Warning Systems Integrated with Indigenous Knowledge for Last-Mile Adaptation Response).
- EEA determines the instrument per site after screening (Project Brief, then IEE/CMP, or full EIA only where warranted); most works are expected in Category 2, shaping the compliance pathway documented in Section II.E.

Technical Committee (TC): Three TC meetings were held with a broader range of sectoral line ministries including MoA's Rangeland Management Department, the Forestry Department, Water Division (Ministry of Natural Resources), and representatives from civil society organizations.

Key issues raised:

- Rangeland degradation and bush encroachment by Alien and Invasive Plant Species (IAPS) were identified as the primary stressor undermining both livestock productivity and ecosystem water regulation. This concern directly shaped the design of Outputs 3.1 (Rangeland management planning, beneficiary selection, and allocation of grazing access rights) and 3.3 (Communal Woodlot Management, Soil Erosion Control & IAPS Control)
- The TC confirmed the absence of communal woodlots management plans and tree nursery capacity in the target landscapes, informing Output 3.4 (Nurseries with Hail-Protective Structures and Business Plans) and Output 3.6 (Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives).

Project Steering Committee (PSC): One PSC meeting was held during concept note preparation, establishing the multi-stakeholder oversight body and confirming government endorsement and coordination modalities with MTEA as Designated Authority (DA).

National Designated Authority (NDA) Office: Two meetings were held with the NDA to confirm alignment with the AF country programme strategy, validate the country eligibility pathway, and confirm the endorsement letter process. The NDA confirmed that SEASL aligns with Eswatini's NDC 3.0 (2025) priorities for ecosystem-based adaptation and climate-resilient agriculture.

UN System Coordination: Consultations were also held with UNDP and UNEP, primarily to verify complementarity and avoid overlap with the GEF Small Grants Programme (UNEP), the UNDP country programme for natural resource management, and to leverage FAO's Country Programming Framework 2022–2025 as a coordination mechanism.

79.2. Community Consultations in the Target Landscapes

Community consultations were conducted in four representative communities across the two target landscapes. The consultation approach used participatory rural appraisal (PRA) methods, Focus Group Discussions (FGDs), and field observation walks. Separate sessions were held for women's groups, mixed groups, and community governance structures (Community Development Committees / CDCs and Traditional Authorities / Inkhundla). Meeting times and venues were selected in consultation with community leaders to maximize participation by women and elderly persons.

Table 29 Consultation outcomes in Lubombo Landscape Shewula and Tikhuba Communities

Issue Raised	Source Stakeholder Group	How It Shaped the Design
Limited and labor-intensive conservation agriculture implements	Subsistence farmers (mixed group)	Informed Output 4.3: Climate-Smart Agriculture Technologies Scaled
High agricultural input prices and lack of affordable seed	Women farmers' groups	Supported inclusion of drought-tolerant seed support under Output 4.2
Livestock and crop losses due to poor transboundary fencing and rangeland degradation	Livestock keepers (mostly men)	Directly generated Output 3.1 (Rangeland Management Plans)
Invasion by IAPS degrading grazing land and wetlands	CDCs and Traditional Authorities	Generated Output 3.3 (IAPS Control, Communal Woodlot Management, Soil Erosion Control) using nature-based methods
Absence of functioning wetland management and water shortages for irrigation	Women's groups (primary water collectors)	Generated Output 3.2 (Wetland Fencing and Restoration at Scale)
Interest in agroforestry and tree nurseries	Youth and women	Generated Output 3.4 (Nurseries with Hail-Protective Structures) and Output 3.6 (Agroforestry with Climate-Appropriate Species)

Limited market access for agricultural produce	Mixed group	Informed Output 4.4 (Value Chain Platforms and Formal Market Linkages) and Output 4.5 (Value Addition and Traceability)
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Community members in the Lubombo landscape ranked wetland fencing and rehabilitation as their top priority adaptation intervention, citing groundwater recharge and the direct link to women's livelihoods through reed crafts and vegetable gardening. This ranking directly determined the budget allocation priority for Component 3.

Table 30 Consultation outcomes in Ngwempisi Landscape KaZulu and Luzelweni Communities

Issue Raised	Source Stakeholder Group	How It Shaped the Design
Low women's participation in CDC decision-making	Women's groups	Led to gender-responsive governance requirements in Output 2.1 (30% women quota in CDC/NRMC leadership) and multi-hazard response protocol requirements in Output 2.2
Labour-intensive conservation agriculture without mechanization support	Smallholder farmers	Reinforced Output 4.3 (Climate-Smart Agriculture Technologies: no-till, drip irrigation, shade nets) for the Ngwempisi context
Crop pest and disease outbreaks aggravated by climate variability	Farmer groups	Informed integrated management approaches embedded in Output 4.2 (Indigenous Varieties and Seed Multiplication)
Loss of soil health due to pesticide overuse	Women farmers (household food production)	Triggered inclusion of soil health management and fertilizer tea approaches in Output 4.3
Lack of CDC capacity on natural resource management and EbA principles	CDCs	Directly generated Output 2.1 (Institutional Capacity Building: LAs, CDCs, NRMCs) and Output 2.2 (Wildfire, Drought, Hail Response Protocols)
IAPS invasion in rangelands and wetlands; absence of palatable grass	Livestock keepers	Shaped Output 3.3 (Communal Woodlot Management, IAPS Control) for the Ngwempisi landscape
High transport costs reducing market access; no cold storage	Women traders	Informed Output 4.4 (Value Chain Platforms) and Output 4.5 (Value Addition, Traceability, and Aggregation Centers)
Strong community interest in beekeeping as climate-resilient livelihood	Youth and women	Generated Output 4.1 (Beekeeping Value Chain with Training, Equipment and Secured Market Contracts) as a distinct and dedicated output

Community members in the Ngwempisi landscape ranked capacity building for CDCs as the most urgent need before any physical infrastructure investment an explicit expression of the "capacity before inputs" principle. This finding was pivotal in structuring the project's sequencing logic: Component 1 (awareness and knowledge) and Component 2 (institutional capacity) precede the investments in Components 3 and 4.

79.3. Gender and Inclusion Dimensions of Phase 1 Consultations

Across all Phase 1 community consultations, women's participation averaged 52% of attendees. Specific measures deployed included:

- FGDs held separately for women to provide a safe space for raising gender-specific concerns without social pressure from male household members
- Consultations held at locations and times that avoid conflicts with domestic care responsibilities (early morning, at community centers)
- Use of local SiSwati language facilitated by female local facilitators from ENTC's community extension cadre

Women's consultation inputs established that gender dynamics differ markedly between the two landscapes:

- In the **Lubombo landscape**, women are primary collectors of water and firewood and have well-established wetland-based craft and medicinal plant enterprises but lack formalized governance roles. This shaped gender-responsive outputs around wetland governance committees with mandated women's representation.
- In the **Ngwempisi landscape**, women are the majority of smallholder food producers but are largely excluded from CDC decision-making on rangeland allocation. This shaped the governance reform requirements under Output 2.2 and the gender action plan under Component 1.

80. Phase 2: Consultations During Full Proposal Development (2024–2026)

Following concept note approval in principle by the AF Board, a deepened and expanded consultative process was conducted during full proposal development. This phase was designed to address AF secretariat comments from the three technical review rounds, in particular: the need for comprehensive gender balance reporting across all consultation types, specific information on how women's perspectives influenced project design, landscape-specific gender dynamics, and a systematic identification and documentation of potential environmental and social risks and impacts of proposed project activities with corresponding mitigation measures.

80.1. Expanded Institutional Consultations

Multi-Ministry Technical Workshops (2024–2025): Two multi-ministry technical workshops were convened by FAO/IFAD with MTEA, MoA, ENTC, EEA, NDMA, EMS, Ministry of Finance, and the newly established Climate Change Unit (CCU). These workshops served to:

- Validate the expanded project logic and output-level design emerging from SMART activity formulation

- Confirm institutional roles and MoU requirements under the project management arrangements (Section III.A)
- Review the ESMP and environmental and social risk assessment
- Review the Gender Action Plan (GAP) and confirm sex-disaggregated targets

Key outcomes that shaped the full proposal design:

- MoA's Rangeland Management Department confirmed that the Rangeland Management Regulations require submission and formal approval of chiefdom-level Rangeland Management Plans. This compliance requirement is now embedded in Output 3.1 activities and the compliance pathway in Section II.E
- ENTC confirmed its statutory mandate under the Swaziland Environment Authority Act to approve the Integrated Landscape Management Plan (ILMP) updates, which is now built into Output 2.1 milestones and the coordination arrangements under Output 2.2.
- MoF confirmed that the project must comply with Public Finance Management Act (PFMA) requirements for grant disbursements, shaping the in-kind grant and enterprise support protocols designed under Outputs 4.1, 4.3, and 4.5.
- The Climate Change Unit flagged alignment requirements with Eswatini's NDC 3.0 (2025), which specifically lists EbA in the Lubombo and Ngwempisi landscapes as a priority adaptation measure.

Coordination Meetings with Complementary Projects: To operationalize the project complementarity framework (Section II.F), IFAD and FAO convened coordination meetings with the implementing teams of SAPEMP, ELVCLDP (SheTrades Eswatini), and the GEF-FAO Catalyzing Sustainable Food Systems project. These consultations confirmed:

- The joint geographic scope delineation to prevent overlap between SAPEMP (northern Lubombo) and SEASL (southern Lubombo and all of Ngwempisi)
- The market linkage referral mechanism that connects SEASL beneficiaries to SAPEMP's established aggregation and market infrastructure
- The commitment to also cover the rangeland early warning system under ENTC-MERP, confirmed as a formal arrangement in the project budget.

Grievance Mechanism Consultations: A dedicated consultation was held with MTEA's Community Affairs Department and representatives of the Lubombo and Ngwempisi Landscape Associations to design the project's Grievance Redress Mechanism (GRM). Community representatives validated that the proposed three-tier GRM (community level → PMU level → IFAD level) is accessible and consistent with existing traditional dispute resolution practices (emakhanselo), while providing escalation pathways that do not rely solely on traditional authority channels that may be less accessible to women.

80.2. Community Consultations in the Target Landscapes (Full Proposal Phase)

Deepened community-level consultations were conducted in February 2026 across 13 communities/chiefdoms (101 people of which 38 % women) in the two target landscapes, covering all project target communities. This expanded consultation round was structured to:

- Validate and refine activities developed from the concept note consultation findings
- Conduct a participatory beneficiary mapping and vulnerability profiling exercise
- Conduct FPIC (Free, Prior and Informed Consent) consultations with communities on all interventions involving land use change (rangeland fencing, wetland demarcation, woodlot establishment)
- Identify potential environmental and social risks and impacts and identify risk mitigation measures
- Conduct separate gender consultations to finalize women's priority rankings and validate gender-responsive design features

All consultations were facilitated in SiSwati. Separate women-only FGDs were held in each chiefdom. Youth sessions were held at Inkhundla centers. Participatory mapping using physical landscape maps was used to co-identify sites for wetland rehabilitation, rangeland fencing, woodlot establishment, water harvesting structures, and tree nurseries.

Key findings from the February 2026 community consultations and how they shaped the full proposal:

- **Community prioritization of wetland fencing** emerged as the top-ranked intervention, confirming the concept-phase findings and validating the budget weight of Output 3.2 (Wetland Fencing and Restoration at Scale). Women's groups explicitly linked wetland rehabilitation to reduced walking distances for water collection (currently averaging 3–5 km one way in dry season).
- **Water harvesting** (earth dams and water retention structures) was ranked as the second priority (while prioritizing rehabilitating existing structures). This confirmed Output 3.5 (Water Harvesting Infrastructure Foundational Enabler) and resulted in its elevation in the activity design with larger per-chiefdom infrastructure targets than in the concept note.
- **Rangeland management** was the third ranked priority, with communities specifying the need for paddocking systems and rotational grazing protocols in addition to fencing. Community input on paddock layout directly informed the technical specifications for Output 3.1 (Rangeland Management Planning, Beneficiary Selection, and Allocation of Grazing Access Rights).
- **Beekeeping** was confirmed as the top preferred alternative livelihood activity by women's groups, validating Output 4.1 (Beekeeping Value Chain with Training, Equipment and Secured Market

Contracts) and triggering the allocation of a dedicated budget line for beekeeping starter kits for women and youth.

- **Indigenous knowledge (IK) seed varieties** were requested by women farmers, particularly drought-tolerant sorghum and cowpea landraces. This finding shaped Output 4.2 (Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems), including the seed bank component now embedded in Activity 4.2.x.
- **Agroforestry** (particularly multi-use trees: fruit trees, fodder species, and woodlot species) was ranked as the preferred landscape-greening activity. Community members specified the priority species mix, which is now reflected in the species selection criteria for Output 3.6 (Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives) and the nursery species lists for Output 3.4.
- **Capacity building before infrastructure:** Communities in both landscapes consistently stated that training and governance capacity must precede physical investment an explicit demand that confirmed and reinforced the project's sequencing logic, codified in Output 1.4 (Inclusive Community Capacity Building and Climate Adaptation Training Systems, including Operation and Maintenance) and applied as a binding sequencing rule across all Outputs in Components 3 and 4.
Market connectivity was raised as a cross-cutting concern, with communities citing lack of access to markets as the primary reason post-harvest losses occur. This validated the design of Output 4.4 (Value Chain Platforms and Formal Market Linkages Before Production) and Output 4.5 (Value Addition, Traceability Programmes, and Aggregation Centers) and triggered the inclusion of aggregation center infrastructure under Activity 4.5.3.
- **FPIC on rangeland fencing:** Community members raised concerns about the potential exclusion of transhumance livestock movement routes when installing rangeland paddock fencing. This concern was incorporated into the ESMP (Output-level risk mitigation measure for Output 3.1), requiring that paddocking designs include agreed livestock corridors developed with all affected livestock-keeping households prior to fencing.
- **Gender-specific barriers in Ngwempisi:** Women in the Ngwempisi landscape consultations confirmed that existing CDC bylaws do not permit women to hold executive roles, a structural barrier to the project's governance reform objectives. This led to the explicit inclusion of CDC bylaw reform support in Output 2.1 and Output 2.2, and to the Gender Action Plan commitment to support 30% women's leadership in all chiefdom-level governance bodies by Year 2.

80.3. Environmental and Social Risks, Impacts, and Mitigation Measures Identified Through Community Consultations

The February 2026 community consultations were structured to also identify potential environmental and social risks and impacts of proposed project activities, in compliance with the AF ESP and GP. The following section synthesizes findings from community FGDs, women-only sessions, and institutional consultations across all chiefdoms, organized by risk category and linked to the corresponding ESMP mitigation measures. This information directly informed the ESMP and ESRN prepared under IFAD's Social, Environmental and Climate Assessment Procedures (SECAP).

Social Risks and Impacts: The following social risks and impacts were identified through community and institutional consultations and are addressed through ESMP, Gender Action Plan, and project design mitigation measures:

- **Risk: Elite capture and exclusion of vulnerable groups from project benefits.** Across the communities consulted in February 2026, participants raised the risk that project benefits including rangeland access rights, beekeeping starter kits, water infrastructure, and enterprise support could be captured by better-connected community members at the expense of women, youth, elderly persons, and persons with disabilities. In Luzwelweni, this risk was illustrated by the failure of a prior NERCHA communal farming initiative, where inputs were misallocated to community members unable to utilize them, and where the initiative eventually collapsed due to conflicts.
Mitigation: Transparent, criteria-based beneficiary selection processes to be developed under Output 1.4, with community validation and CDC oversight; selection criteria to apply positive discrimination for women-headed households, youth-headed households, and vulnerable groups; beneficiary lists to be publicly posted at chiefdom level; independent verification of beneficiary selection by the PMU the project's three-tier GRM to be operational from project inception to allow affected community members to challenge selection decisions.
- **Risk: Reinforcement of male-dominated governance structures and tokenistic women's and youth's participation.** Institutional consultations and women's FGDs in both landscapes identified the risk that project governance structures Landscape Associations, CDCs, NRMCS could default to male-dominated leadership, replicating existing structural inequalities even when women's participation targets are formally set. Women in Ngwempisi confirmed that existing CDC bylaws explicitly prohibit women from holding executive roles.
Mitigation: CDC bylaw reform support incorporated in Output 2.1 as a pre-condition for project investments in Ngwempisi chiefdoms; 30% minimum women's leadership quota mandated in all project governance bodies as a binding PMU-verified requirement; women-only enterprise groups required under Outputs 4.1, 4.2, and 4.3 to prevent default to male leadership in mixed groups; training-first principle for all livelihood activities ensures skills transfer to women prior to input distribution.
- **Risk: Increased labour burdens on women and vulnerable groups.** Women's FGDs in both landscapes confirmed that most agricultural labour including water collection (averaging 3–5 km one way in dry season), firewood collection, crop management, and household food production is already

performed predominantly by women. Poorly designed project activities (e.g., labor-intensive restoration works without mechanization support, or input distribution without training) could increase women's time burdens without proportional benefits.

Mitigation: Labour-saving technology prioritization embedded in Output 4.3 (no-till implements, drip irrigation, shade nets); time use and labour burden analysis and quantified reduction targets to be conducted as part of baseline study within first six months; Gender Action Plan to include measurable time-saving activity targets; M&E system to track sex-disaggregated labour time indicators and reduction outcomes.

- **Risk: Conflicts over natural resource access and use rights, including transhumance route disruption and upstream-downstream water conflicts.** Community consultations in x chiefdoms identified that installation of rangeland paddock fencing risks blocking established livestock movement routes used by transhumance keepers, creating conflicts with affected households. In Ntandozi, upstream illegal farming practices (blocking streams, cutting irrigation pipes) were cited as a recurring source of conflict that project water infrastructure could inadvertently exacerbate.

Mitigation: Paddock designs must include agreed livestock corridors, with corridor alignments developed and signed off by all affected livestock-keeping households prior to fencing (ESMP measure for Output 3.1); corridors and water use agreements to be formally documented; multi-stakeholder NRMC water allocation protocols required prior to commissioning water infrastructure (Output 3.5); GRM accessible to community members who experience exclusion or resource conflicts.
- **Risk: Social tensions and community cohesion challenges linked to past project failures.** Multiple communities particularly Luzwelweni and Ntandozi cited poor cooperation, dependency culture, and interpersonal conflicts as reasons why past agricultural and restoration projects failed. Community members explicitly warned that rapid input distribution without adequate capacity building or transparent process management would repeat these failures and damage trust in the SEASL project.

Mitigation: "Capacity before inputs" sequencing rule applied as a binding PMU-enforced protocol across all Outputs 4.1–4.5; community-led activity planning processes embedded in Output 2.1; exit strategies and maintenance plans required from inception for all infrastructure investments; participatory community monitoring with feedback loops to detect and address emerging social tensions.
- **Risk: Exclusion of youth from project benefits and perpetuation of illegal livelihood alternatives.** Youth consultations across all communities confirmed that youth participation in agriculture is approximately 2 in 10, and that illegal crop farming (cannabis) offers perceived higher and quicker returns than formal agriculture. Without targeted and attractive economic alternatives, youth exclusion from project benefits could perpetuate illegal livelihoods and undermine community governance.

Mitigation: 30% youth participation target across all SEASL outputs; high-value, quick-return enterprise alternatives (agroforestry with fruit trees, beekeeping, baby vegetables) prioritized under Outputs 4.1 and 3.6; youth incubation pathways including training, starter kits, financing, and market linkages; youth innovation exposure visits and capacity building on farming profitability embedded in Output 1.4; digital platforms for farmer networking and peer learning designed for youth access; youth-specific sessions maintained throughout implementation monitoring.
- **Risk: Misuse or misappropriation of project inputs, particularly in enterprise activities.** Women's FGDs in both landscapes reported that in mixed households, agricultural inputs distributed directly to women are frequently redirected to male household members, undermining the gender-responsive targeting of enterprise activities.

Mitigation: Training-first principle enforced as a binding PMU-verified sequencing rule: skills training and enterprise planning must be completed and verified before any input distribution; women-only enterprise groups established as the default modality for Outputs 4.1, 4.2, and 4.3; group-based accountability mechanisms (savings groups, cooperative bylaws) required as a condition for enterprise support disbursement.
- **Risk: Digital divide in access to climate information systems.** Consultations with communities and NDMA highlighted that formal early warning systems are currently not accessible at community level, and that radio broadcasts are the primary information source. Introduction of digital EWS platforms risks reinforcing the digital divide between youth and the elderly and between men and women.

Mitigation: Multi-channel information delivery required under Output 1.2, including SMS alerts in SiSwati for non-smartphone users, radio integration, and community-based IK indicator integration; community early warning interpreters (trained as part of Output 1.4) to serve as the last-mile interface; digital EWS designed with accessible visual formats for low-literacy users; monitoring of actual access and use of EWS across gender and age groups.
- **Risk: Gender-based violence (GBV), sexual exploitation and abuse (SEA/H)**

Project-induced changes in income flows, resource access, and participation in mixed group may increase risks of intra-household conflict, harassment, or exploitation.

Mitigation: Establishment of a GBV-sensitive GRM with confidential reporting and referral pathways; codes of conduct for all staff, contractors, and community facilitators; mandatory GBV awareness training; partnerships with local service providers for survivor support; integration of GBV safeguards into all community engagement processes.

Environmental Risks and Impacts: The following environmental risks and impacts were identified through consultations and are addressed through ESMP mitigation measures:

- **Risk: Ecological disturbance during wetland fencing and restoration works.** Communities and ENTC technical staff noted that inappropriate siting of fencing lines or works conducted during ecologically sensitive periods (bird nesting, fish spawning), could temporarily disturb wetland ecosystems.
Mitigation: Site-specific EIAs required under the Environment Management Act 2002; fencing alignments to be validated with ENTC and wetland ecologists prior to construction; civil works prohibited during ecologically sensitive periods as determined by seasonal assessment; post-fencing monitoring of wetland recovery indicators (water yield, reed and grass regeneration, wildlife use) integrated into = monitoring protocols.
- **Risk: Uncontrolled or premature burning during IAPS clearing and rangeland management works.** Community consultation in Ntondozi and Ngwempisi highlighted that IAPS clearing programmes have historically involved fire use that spread beyond intended areas, burning crops, fences, and rangeland consistent with the annual wildfire problem reported across all chiefdoms.
Mitigation: All IAPS clearing activities to use manual and mechanical methods as the primary approach; prescribed burning, where required, to be conducted only under approved fire management protocols developed under Output 2.2, with firebreaks established prior to burn operations and community fire management brigades trained and operational.
- **Risk: Soil erosion and donga formation associated with construction of water harvesting structures, earth dams, and conveyance canals.** Communities in Ntondozi (Mphini and Ndinda) noted that local soil types do not retain water well and that poorly sited dam construction has historically contributed to donga formation one of the most serious environmental concerns raised across all sites.
Mitigation: Interventions to be small and local only and rehabilitation of existing structures will be prioritized; Soil suitability assessment required prior to final siting of all water retention structures; civil designs to incorporate erosion control measures (gabions, vegetated buffer strips, energy dissipators); donga rehabilitation measures (tree planting, fencing of gully heads, reseeding with indigenous grasses) to be integrated alongside infrastructure installation; Output 3.5 to include post-construction monitoring of sedimentation and erosion indicators.
- **Risk: Introduction or unintentional spread of non-target species through nursery activities and agroforestry.** Technical committee consultations raised concern that poorly managed nurseries or unvalidated species selection could introduce non-indigenous species that become invasive, compounding the existing IAPS problem.
Mitigation: Species selection for nurseries and agroforestry to be validated against the EEA-approved list of climate-appropriate indigenous and non-invasive exotic species; ENTC to review and approve species lists prior to procurement; nursery staff trained on biosecurity protocols; introduced species monitored for invasiveness over the project lifetime.
- **Risk: Water use conflicts resulting from increased irrigation and water harvesting activities.** Communities in multiple sites particularly downstream farmers in the Lubombo landscape noted that upstream water use (illegal crop farming, stream blocking) already causes conflicts, and that expanded irrigation under the project could exacerbate competition.
Mitigation: Water use agreements to be formalized through multi-stakeholder water allocation committees (NRMCS) established under Output 2.2 prior to commissioning water infrastructure; water allocation protocols to incorporate downstream flow requirements; water yield monitoring from restored wetlands to form the evidence base for adaptive water management decisions.

80.4. Consultation with Women's Groups and Gender-Specific Sessions

In compliance with the AF Gender Policy requirement for a comprehensive gender-responsive consultative process at the full proposal stage, dedicated gender consultations were conducted as follows:

- **Lubombo Landscape:** Three landscape-level women's workshops convened at Shewula, Tikhuba, and Lomahasha Inkhundla centers; approximately 280 women participated. Sessions focused on: (i) validation of gender-differentiated climate vulnerability findings from the CRVA; (ii) validation of the Gender Action Plan activities, targets, and indicators; (iii) women's preferences for enterprise types under Component 4; (iv) gender-responsive safeguards (particularly FPIC procedures and GRM accessibility for women).
- **Ngwempisi Landscape:** Two landscape-level women's workshops conducted at KaZulu and Luzelweni Inkhundla centers; approximately 190 women participated. Sessions focused on: (i) CDC governance reform and women's leadership; (ii) women-led natural resource management models from other IFAD projects (SheTrades governance model); (iii) land access barriers for women smallholders; (iv) validation of beekeeping and IK seed variety activities as women-led enterprise priorities.

How gender consultation findings shaped the full proposal:

- The requirement for **separate women-only enterprise groups** under Outputs 4.1, 4.2, and 4.3 (rather than mixed groups) was a direct outcome of women's consultation feedback that mixed production groups default to male leadership in Eswatini's social context.

- The **training-first principle** for all livelihood activities (Component 4): women explicitly requested that skills training precede any input distribution to avoid misappropriation by male household members a principle now codified in Output 1.4 and enforced as a binding PMU-verified sequencing rule across all Outputs 4.1–4.5.
- The **gender-disaggregated target of 40% women beneficiaries** across all SEASL outputs is grounded in community consultation findings that established women as the primary managers of household food security and water access in both target landscapes.

81. Overview of How Consultation Findings Shaped the Project Design

The table below provides a consolidated view of how consultation findings from both phases including environmental and social risk findings are directly traceable to project components, outputs, activities, and safeguard instruments in Section II.A and Section II.E.

Table 31 Overview of consultation findings and how they shaped the project design

Consultation Finding	Phase	Stakeholder Source	Influenced Project Element / Safeguard Instrument
Wetland fencing and rehabilitation ranked #1 community priority	Phase 1 & 2	Communities, women's groups (Lubombo & Ngwempisi)	Output 3.2 Wetland Fencing and Restoration at Scale
Water harvesting ranked #2 community priority; canal works may affect homesteads (social risk)	Phase 1 & 2	Communities, mixed groups	Output 3.5 Water Harvesting Infrastructure with prioritization of rehabilitating existing infrastructure and conducting pre-feasibility studies with the department of water affairs; ESMP: water use agreements prior to civil works
"Capacity before inputs" sequencing principle	Phase 1 & 2	CDCs, women's groups (all chiefdoms)	Output 1.4 Capacity Building system; binding sequencing rule enforced across all Outputs 4.1–4.5
CDC governance reform needed for women's leadership; CDC bylaws exclude women from executive roles (social risk)	Phase 1 & 2	Women's groups (Ngwempisi)	Output 2.1 Institutional Capacity (CDC bylaw reform); Output 2.2 multi-hazard coordination with gender mandates
Beekeeping as top women/youth livelihood preference	Phase 1 & 2	Women's groups and youth	Output 4.1 Beekeeping Value Chain with Training, Equipment and Secured Market Contracts
IK drought-tolerant seed varieties requested	Phase 2	Women farmers (29/37 chiefdoms)	Output 4.2 Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems
Rangeland paddocking risks blocking transhumance routes (social/environmental risk)	Phase 2	Livestock keepers	Output 3.1 Rangeland Management Plans; ESMP: agreed livestock corridors required prior to fencing
Soil erosion and donga formation risk from water infrastructure (environmental risk)	Phase 1 & 2	Communities (Ntondozi, Ngwempisi)	Output 3.5; ESMP: soil suitability assessments, erosion control measures, post-construction monitoring
IAPS clearing fire risk uncontrolled spread of prescribed burns (environmental risk)	Phase 1 & 2	Communities (all landscapes)	Output 3.3 IAPS Control; ESMP: manual/mechanical clearing priority; prescribed burns only under Output 2.2 fire protocols
Ecological disturbance risk from wetland fencing (environmental risk)	Phase 2	ENTC, EEA	Output 3.2; ESMP: Minimized by design (small, disturbed footprints, no large dams/irrigation, avoid sensitive habitats). Where full EIA would be triggered, re-site or re-scope where feasible; otherwise complete the EIA before works. Residual likelihood is low; timing restrictions; post-fencing ecosystem monitoring
Elite capture and exclusion of women, youth, and vulnerable groups (social risk)	Phase 1 & 2	All communities (esp. Luzwelweni)	Output 1.4 beneficiary selection protocols; GRM from project inception; positive discrimination criteria
Increased labour burdens for women (social risk)	Phase 2	Women's FGDs (all landscapes)	Output 4.3: labor-saving technologies; GAP: time use baseline; sex-disaggregated labour time M&E indicators
Digital divide risk in EWS access (social risk)	Phase 2	Communities, NDMA	Output 1.2: multi-channel delivery (SMS, radio, IK integration); trained community EWS interpreters
Input misappropriation by male household members (social risk)	Phase 2	Women's FGDs (all landscapes)	Training-first binding rule; women-only enterprise groups; group accountability mechanisms
Upstream-downstream water conflicts risk from expanded irrigation (social/environmental risk)	Phase 2	Communities (Lubombo, Ntondozi)	Output 2.2 NRMC water allocation protocols; water use agreements prior to infrastructure commissioning
Market access and post-harvest losses	Phase 1 & 2	Mixed groups, women traders	Output 4.4 Value Chain Platforms and Market Linkages; Output 4.5 Value Addition, Traceability and Aggregation Centers
IAPS invasion as primary rangeland/wetland threat	Phase 1 & 2	CDCs, livestock keepers	Output 3.3 Communal Woodlot Management, Soil Erosion Control, and IAPS Control
Absence of community-level EWS	Phase 1	TWG (NDMA, EMS)	Output 1.2 Early Warning Systems and agricultural advisories
Alignment with ILMP/NILMP required	Phase 1	TWG (ENTC, MTEA)	Output 2.1 Institutional Capacity (ILMP update milestones); Output 2.2 coordination protocols
Tree nursery absence and species survival failures; risk of invasive species introduction (environmental risk)	Phase 1 & 2	TC, youth and women's groups	Output 3.4 Nurseries with Hail-Protective Structures; ESMP: EEA-validated species list; nursery biosecurity protocols
Agroforestry as preferred landscape-greening activity	Phase 1 & 2	Communities	Output 3.6 Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives
Conservation agriculture and climate-smart inputs	Phase 1 & 2	Smallholder farmers, mixed groups	Output 4.3 Climate-Smart Agriculture Technologies Scaled
Training-first principle for enterprise activities; input misuse risk	Phase 2	Women's groups (all landscapes)	Binding sequencing rule across Outputs 4.1–4.5; codified in Output 1.4
Women-only enterprise groups preferred	Phase 2	Women's groups	Implementation modality for Outputs 4.1, 4.2, 4.3
GRM design using emakhanselo tradition; women's GRM access concerns	Phase 2	Community Affairs Dept, Landscape	Three-tier GRM design (community → PMU → IFAD); female focal points; private reporting channels

		Associations, Women's FGDs	
NDC 3.0 alignment with EbA in target landscapes	Phase 2	NDA, CCU	Full cost of adaptation rationale (Section II.I)
SAPEMP geographic scope delineation	Phase 2	SAPEMP implementing team	Section II.F complementarity framework; geographic targeting in Components 3–4

82. Safeguard Instruments Prepared in Response to Consultation Findings

The environmental and social risk and impact findings documented through the consultative process have been addressed through the preparation of the following safeguard instruments, in accordance with IFAD's SECAP requirements and the AF ESP and GP:

- **Environmental and Social Review Note (ESRN):** documents the project's environmental and social risk classification and the basis for the ESMP requirement, drawing on community-identified environmental risks related to wetland disturbance, IAPS clearing, water infrastructure, and nursery activities.
- **Environmental and Social Management Plan (ESMP):** provides output-level mitigation measures for all significant environmental and social risks identified through consultation, including livestock corridor requirements, soil erosion controls, wetland work timing restrictions, beneficiary selection protocols, and women-specific GRM access arrangements.
- **Gender and Social Inclusion Analysis:** documents the gender-differentiated vulnerability and risk findings from community consultations, informs the Gender Action Plan targets and indicators, and provides the evidence base for women-only enterprise group modalities and the training-first sequencing rule.
- **Stakeholder Engagement Plan:** formalizes the continued engagement approach for project implementation, building on the consultative process documented in this section, with specific provisions for women's and youth engagement, SiSwati facilitation, and landscape-level validation platforms.
- **Grievance Redress Mechanism (GRM):** three-tier mechanism (community → PMU → IFAD) designed in direct response to community consultation findings on accessibility, emakhanselo tradition alignment, and women's need for private reporting channels.

For a detailed overview of consultations conducted, please see ANNEX 2: Overview of consultations conducted

I. Project justification

83. AF financing for the SEASL project is justified on grounds of **climate additionality**, **financial additionality**, and **institutional additionality**. The project addresses climate change impacts and adaptation need that are demonstrably beyond the scope of the current baseline of public expenditure and concessional financing available to Eswatini and delivers adaptation benefits that would not occur in the absence of AF support.
84. **Climate additionality.** All four project components address adaptation needs explicitly driven by observed and projected climate change in the Lubombo and Ngwempisi landscapes intensifying drought frequency, rising temperatures, shifting rainfall seasonality, more frequent hailstorms, and increased wildfire risk (documented in Part I and ANNEX 1: Climate Risk Assessment, Spatial Targeting & M&E Framework). Each output incorporates a specific climate change rationale linking the activity to a measurable climate hazard, exposure pathway, and vulnerability reduction logic. Activities such as ferro-cement rainwater harvesting, hail-protective nursery structures, drought-tolerant indigenous seed multiplication, wildfire-response protocols, and inclusive EWS bulletins exist **only because of** projected climate trajectories they are not part of the existing baseline of agriculture or natural-resource-management programming.
85. **Baseline (without-AF) scenario.** In the absence of AF financing, the baseline trajectory in the two landscapes is one of continued ecosystem degradation, declining household adaptive capacity, and widening climate-vulnerability gaps for the most marginalized groups. Government investment through SAPEMP, EADF, and the agriculture-sector budget addresses important productive and financial-inclusion needs, but does not finance (i) landscape-scale ecosystem restoration, (ii) climate-proofed water-harvesting infrastructure at community scale, (iii) inclusive last-mile EWS for low-literacy and disability-vulnerable groups, or (iv) Landscape Association operational budgets and wildfire/drought response protocols. Wetlands would continue degrading on the trajectory of -40% by 2050 (Part I); rangeland productivity would continue declining under IAPS pressure; and women and youth in target chiefdoms would remain disproportionately exposed to climate shocks without the assets, information, and institutions required to adapt.
86. **With-AF scenario.** AF financing converts the baseline trajectory into a measurable adaptation pathway. The grant catalyzes (i) integrated, multi-hazard adaptation planning rooted in evidence and community knowledge; (ii) restoration of degraded wetlands, rangelands, and forests at a scale sufficient to trigger self-regeneration; (iii) climate-resilient livelihoods anchored in secured markets; and (iv) institutional structures (resourced LAs, NRMC mandates, response protocols) that sustain adaptive capacity beyond project life. The expected with-AF outcome is a **demonstrable shift in the climate-resilience trajectory** of 85,790 direct beneficiaries and the wider 301,677 people living in the target landscapes.
87. **Financial additionality.** Eswatini, as a lower-middle-income country with constrained fiscal space, cannot finance the incremental adaptation costs of the SEASL programme from domestic resources. The agriculture sector's contribution to GDP has fallen from 12.3% (2000) to 8.8% (2019), and rural climate-vulnerability

investment is consistently underfunded relative to need. Existing climate finance to Eswatini (e.g., GEF SNPAS, GCF MERP, IFAD SAPEMP) addresses important but different adaptation niches; SEASL occupies the underfunded space of community-scale EbA, inclusive landscape governance, and last-mile EWS-livelihoods integration. The AF grant therefore represents the **incremental cost of adaptation** rather than a substitute for domestic or other concessional financing.

88. **Institutional additionality.** The project strengthens national institutions in ways that the existing baseline cannot achieve. Specifically: (i) it formalizes Landscape Associations with operational budgets and statutory mandates explicitly addressing the documented SNPAS lesson that LAs without resources become 'forums without action'; (ii) it builds NRM and CDC capacity for multi-hazard response protocols not currently in place; and (iii) it institutionalizes gender- and inclusion-disaggregated climate data in national M&E systems, an explicit AF Gender Policy expectation.
89. **Why grant not loan financing.** The activities financed by SEASL generate diffuse, non-monetizable public-good benefits restored ecosystems, climate information, institutional capacity, behavioral adaptation that cannot service commercial debt at the rural-household scale. Concessional grant financing is the only instrument capable of supporting these public-good investments at the required scale and pace, without imposing debt burdens on a country already classified as facing macro-fiscal vulnerability. Where private-good components exist (e.g., beekeeping enterprises under Output 4.1), the project deliberately channels enterprise finance through EADF rather than through the AF grant, preserving the grant for genuinely public-good investment.
90. **Alignment with AF eligibility criteria.** SEASL meets all AF eligibility tests: (i) **concrete adaptation** physical and behavioral assets are delivered in the target landscapes (wetland fencing, water-harvesting infrastructure, nurseries, operational LAs); (ii) **vulnerability and urgency** Eswatini is highly vulnerable to climate hazards documented in NC4 and the IPCC AR6; (iii) **country ownership** the project is fully aligned with the NDC, NAP, National Climate Change Policy, and the Comprehensive Agricultural Sector Policy (see Section II.D); and (iv) **gender and vulnerable-group inclusion** the ANNEX 4 Gender and Social Inclusion Assessment and Action Plan operationalizes the AF Gender Policy.

J. Project sustainability

91. Sustainability of project outcomes is a primary design parameter, not a closing concern. SEASL is designed so that benefits persist and in several dimensions compound after project completion. Sustainability operates across five dimensions: **ecological, institutional, financial, technical, and social**. Each dimension is anchored in project design features and verifiable exit arrangements rather than in post-hoc commitments.
92. **Ecological sustainability.** The core ecological logic of Component 3 is **self-regenerating landscapes**. Once degraded wetlands are fenced and rangelands protected from overgrazing and IAPS encroachment, natural regeneration proceeds without ongoing financial inputs. Field evidence from SNPAS-fenced sites confirms wetland recovery within approximately 24 months. Indigenous-species agroforestry and woodlots establish multi-decadal tree cover without need for replanting. The choice of climate-appropriate native species across all restoration activities further increases ecological persistence under projected SSP2-4.5 and SSP5-8.5 climate scenarios.
93. **Institutional sustainability.** SEASL deliberately builds on **existing statutory institutions** (Landscape Associations, Chiefdom Development Committees, Natural Resource Management Committees) anchored in national legislation, rather than creating parallel project structures. The project addresses the documented SNPAS lesson that LAs without operational budgets become 'forums without action' by providing each Landscape Association with a multi-year operational budget envelope, a formal NRM mandate, and trained leadership including women and youth in decision-making positions. By project completion, LAs are expected to be functional, mandated, and resourced to continue coordinating adaptive landscape management without external project support.
94. **Financial sustainability.** Financial sustainability is secured through a four-channel post-completion financing architecture. First, the **Eswatini Agricultural Development Fund (EADF)** serves as the principal national anchor, with formal commitments to continue financing adaptation-aligned activities in the two landscapes. Second, complementary national mechanisms the **Agricultural Development Fund (ADF)**, the **Eswatini Environment Fund (EEF)**, and the **Rural Development Fund (RDF)** provide additional channels for restoration, environmental compliance, and rural enterprise. Third, **market-anchored value chains** under Component 4 (HGSF, private off-take contracts) generate recurrent income flows that self-fund household-level adaptation investment beyond project life. Fourth, the **EYEOP grants mechanism** channels youth-enterprise finance into project-incubated value chains, providing a sustained livelihood pipeline.
95. **Technical sustainability.** Technical persistence is secured by (i) **training-first sequencing** capacity-building precedes physical inputs in every output, ensuring that operators of restored assets are trained before assets are commissioned; (ii) cascading **Training-of-Trainers (ToT) models** that embed knowledge in extension services and community-level facilitators; (iii) **operation & maintenance (O&M) plans** for every physical asset, with budgeted maintenance funds for water-harvesting infrastructure, nurseries, and aggregation centers; (iv) **business plans** for all nurseries and beekeeping enterprises, embedding cost-recovery and reinvestment logic from Year 1; and (v) integration of project-validated CSA practices into the MoA extension curriculum so that knowledge persists in the national system.
96. **Social sustainability.** Social persistence is secured through deep inclusion of women, youth, and vulnerable groups in governance and benefit streams. Leadership quotas in LAs, CDCs, and NRMCs ($\geq 40\%$ women, $\geq$

30% youth) institutionalize inclusive decision-making. The ANNEX 4 Gender and Social Inclusion Assessment and Action Plan operationalizes the AF Gender Policy and remains in force beyond project completion as a tool for the Landscape Associations. The Grievance Redress Mechanism (GRM), established at chiefdom and landscape levels, is embedded within existing customary and statutory structures and continues to operate after project completion. Beneficiary ownership is reinforced by participatory wetland and rangeland management rules co-developed with the communities.

Table 32 Sustainability matrix drivers, mechanisms, and exit arrangements

Dimension	Sustainability driver	Operational mechanism	Exit arrangement
Ecological	Self-regenerating wetlands, rangelands, forests	Fencing, IAPS control, native-species agroforestry; community-managed grazing rules	Restored areas maintained under LA mandates and customary grazing protocols
Institutional	Resourced LAs, CDCs, NRMCS with statutory mandates	Operational budgets, NRM mandates, leadership quotas, trained members	LAs functional and resourced via EADF/ADF/EEF/RDF at completion
Financial	EADF anchoring + complementary funds + market off-take	EADF channeling, EADF/EEF/RDF eligibility, HGSP contracts	Multi-channel financing pipeline documented and committed before closure
Technical	Training-first sequencing & embedded knowledge	ToT, e-learning, business plans, O&M funds, extension curriculum updates	Curriculum institutionalized in MoA & FAO extension; O&M funds operational
Social	Inclusion of women, youth, vulnerable groups	Quotas in LA/CDC/NRMC leadership; GAP; GRM at chiefdom & landscape level	GAP and GRM remain in force; LA reporting on inclusion KPIs

97. **Phased exit strategy.** The PMU prepares an explicit exit strategy by **Year 4 (Month 48)**, including: (i) handover protocols for every restored asset; (ii) confirmed EADF and partner-fund financing commitments for post-completion activities; (iii) institutional handover MoUs between PMU, MTEA, MoA, MNRE, and the LAs; (iv) a documented O&M financing and accountability plan; and (v) a post- completion monitoring arrangement under MTEA and the NCCC to track continuing performance against the project's adaptation indicators. The terminal evaluation in Q1 2032 includes an explicit sustainability assessment verifying readiness for handover.

98. **Risks to sustainability and their management.** Two principal risks to sustainability are recognized: (i) the risk that EADF or partner-fund financing commitments do not materialize at the levels required for LA operations after closure, **mitigated by** formal agreement signed by Year 3 and by a diversified multi-channel funding architecture (by linking Landscape Association operating budgets and NRM mandates to statutory windows (EADF/EEF/RDF, Activity 2.1.3) and formalizing mandates in by-laws, so maintenance draws on recurrent national sources. EADF willingness/MoU to be confirmed. SAPEMP is in the process of signing a MoU with EADF; and (ii) the risk that political or institutional changes erode mandates for inclusive landscape governance, **mitigated by** anchoring mandates in statutory and customary structures (LILMP/NILMP, Chiefdom/NRMC governance, EADF/EEF) rather than project-specific instruments and by embedding inclusion KPIs in the NCCC reporting cycle.

K. Overview of the environmental and social impacts and risks identified

99. An Environmental and Social Risk Screening has been undertaken in accordance with the Adaptation Fund's Environmental and Social Policy (ESP), the AF Gender Policy (GP), and the IFAD Social, Environmental and Climate Assessment Procedures (SECAP). Screening was conducted at activity, output, and component level for each of the two target landscapes (Lubombo and Ngwempisi), drawing on consultations with affected and interested stakeholders (Section II.H) and on national regulatory screening criteria under the Environmental Assessment Regulations (EAAR) 2022.

100. **Overall risk classification.** Based on the screening, the SEASL project is classified as **Category B / moderate risk** under the AF ESP (and equivalently Moderate under IFAD SECAP). No activity is expected to cause significant, large-scale, irreversible, or unprecedented adverse environmental or social impacts. All identified potential risks are site-specific, manageable through standard mitigation measures, and addressed through the Environmental and Social Risks Management Plan (Presented in ANNEX 3: Environmental and Social Risks Management Plan).

101. **Activities excluded ex-ante.** Activities triggering high-risk ESP categories are excluded by design. Specifically, the project will **not**: (i) involve involuntary physical or economic resettlement; (ii) construct large dams or large-scale irrigation schemes; (iii) introduce non-native species; (iv) operate in legally protected areas without prior MTEA/EEA authorization and FPIC; (v) procure or use prohibited agro-chemicals under the Stockholm or Rotterdam Conventions; (vi) involve activities incompatible with customary tenure on Swazi Nation Land; or (vii) undertake any activity on land subject to unresolved tenure disputes.

102. **Screening against the 15 ESP Principles.** The tables below summarize which risk principles require further assessment (potential risk) and which not, and the potential risk classification against each of the 15 AF ESP principles, the underlying risk driver, and the corresponding risk management instrument. The full risk register, mitigation actions, monitoring indicators, and responsible parties are detailed in ANNEX 3: Environmental and Social Risks Management Plan. Cross-cutting gender risks are addressed in ANNEX 4 Gender and Social Inclusion Assessment and Action Plan.

Table 33 Checklist of principles and overview risk identification and management

ESP Principle	No Further Assessment Required for Compliance	Potential Impacts and Risks — Further Assessment and Management Required
1. Compliance with the Law	✓	
2. Access and Equity		✓

3. Marginalized and Vulnerable Groups		✓
4. Human Rights	✓	
5. Gender Equality and Women's Empowerment		✓
6. Core Labour Rights		✓
7. Indigenous Peoples	✓	
8. Involuntary Resettlement	✓	
9. Protection of Natural Habitats		✓
10. Conservation of Biological Diversity	✓	
11. Climate Change	✓	
12. Pollution Prevention and Resource Efficiency		✓
13. Public Health		✓
14. Physical and Cultural Heritage	✓	
15. Lands and Soil Conservation		✓

AF ESP Principle	Potential risk	Key risk drivers identified	Risk Management instrument
1. Compliance with the Law	Not triggered	Multiple national permits required (EIA, water-use, ECC)	Compliance schedule section Project compliance with relevant national technical standards and the Environmental and Social Policy of the Adaptation Fund.; PSC oversight by EEA/MNRE
2. Access and Equity	Low	Risk of elite capture in beneficiary selection	SAPEMP-aligned vulnerability criteria; Targeting protocols; transparent selection; GRM; ESMP
3. Marginalized and Vulnerable Groups	Low	Risk of exclusion of low-literacy, HIV-affected, PWD households	Targeting protocols; icon-based tools; community-radio formats; GAP; GRM; ESMP; GAP
4. Human Rights	Not triggered	Risk of non-consent on community-level activities	FPIC for all SNL activities; GRM at chiefdom and landscape level
5. Gender Equality and Women's Empowerment	Low	Risk of unequal participation, GBV near infrastructure	GBV-sensitive siting; female leadership quotas; GRM; ESMP; GAP
6. Core Labour Rights	Moderate	Contracted labour (construction, restoration) must meet labour standards	ILO and Eswatini labour-law compliance clauses in all contracts; PMU compliance check; ESMP; worker GRM channel
7. Indigenous Peoples	Not triggered	No indigenous peoples (as defined under ESP) present in target landscapes	FPIC and customary-authority engagement on all SNL activities
8. Involuntary Resettlement	Low	Activity design excludes resettlement	Explicit exclusion clause; site-specific screening reaffirms at every site
9. Protection of Natural Habitats	Moderate	Restoration activities in habitats of conservation value (Maputaland-Albany hotspot); potential tree cutting	Site-specific habitat screening; alignment with NBSAP; ENTC consultation; Establish and formalize Community Forest Management Groups in Lubombo and Ngwempisi target communities, with elaborated rules on harvesting, benefit sharing, and sanctions - modelled on the Ezikhotheni experience and complemented by sustainable wood fuel revenue streams.
10. Conservation of Biological Diversity	Not triggered	Risk of introducing non-native or invasive species through nurseries / agroforestry	All species cleared against IAPS register pre-procurement; ENTC review
11. Climate Change	Moderate	Infrastructure exposed to drought, hail, flood, heat; limited use of energy by project activities	Climate-proofed design specs; no flood-zone siting; hail-protective structures
12. Pollution Prevention and Resource Efficiency	Moderate	Pesticide use in CSA; IAPS disposal	IPM-first policy; minimal pesticide use; responsible IAPS disposal protocols; ESMP
13. Public Health	Low	Risk of water-borne disease around restored wetlands and water points	Site-specific health screening; community hygiene training; livestock watering separation; ESMP
14. Physical and Cultural Heritage	Moderate	Risk of disturbing cultural sites on SNL	Chance-find procedures; consultation with traditional authorities (FPIC)
15. Lands and Soil Conservation	Low	Risk of soil disturbance during construction and IAPS removal	Soil-erosion control measures in ESMP; mechanical IAPS removal limited to non-sensitive sites; ESMP

103. Unidentified Sub-projects (USPs). SEASL includes Category B unidentified sub-projects because the precise locations and technical specifications of a limited number of community-level investments can only be determined through participatory planning and site-specific technical assessment during implementation. These include wetland and riparian restoration/fencing, community nurseries, small-scale water-harvesting and livestock-water infrastructure, grazing infrastructure and selected aggregation/storage facilities under Components 3 and 4. Their inclusion as USPs is necessary to ensure that final investments respond to community demand, climate vulnerability, land and water conditions and site-specific environmental and social constraints. No physical works or procurement of site-specific infrastructure will commence until the relevant site has undergone screening against the 15 AF ESP principles and IFAD SECAP requirements, required national environmental and water authorizations have been obtained, FPIC has been documented where applicable, and proportionate site-specific mitigation measures/ESMPs have been approved. Activities presenting risks inconsistent with the project's Category B classification, including activities requiring involuntary resettlement, will not be financed. The detailed USP screening and management procedure is provided in Annex 3.

Consistency with IFAD SECAP screening. The AF ESP screening and IFAD SECAP screening have been cross-checked to ensure consistency in risk identification and management requirements. Where an IFAD SECAP standard triggers a specific management instrument or procedure, including FPIC, pest-management measures or Chance Find Procedures, the corresponding AF ESP classification and management requirements are aligned. The same classifications and mitigation requirements apply consistently in Table 33, the SECAP screening and Annex 3

For the avoidance of doubt, because a number of sub-projects (wetland-fencing reaches, nursery and aggregation-centre sites, and small water-harvesting works under Outputs 3.2, 3.4, 3.5 and 4.5) are not spatially

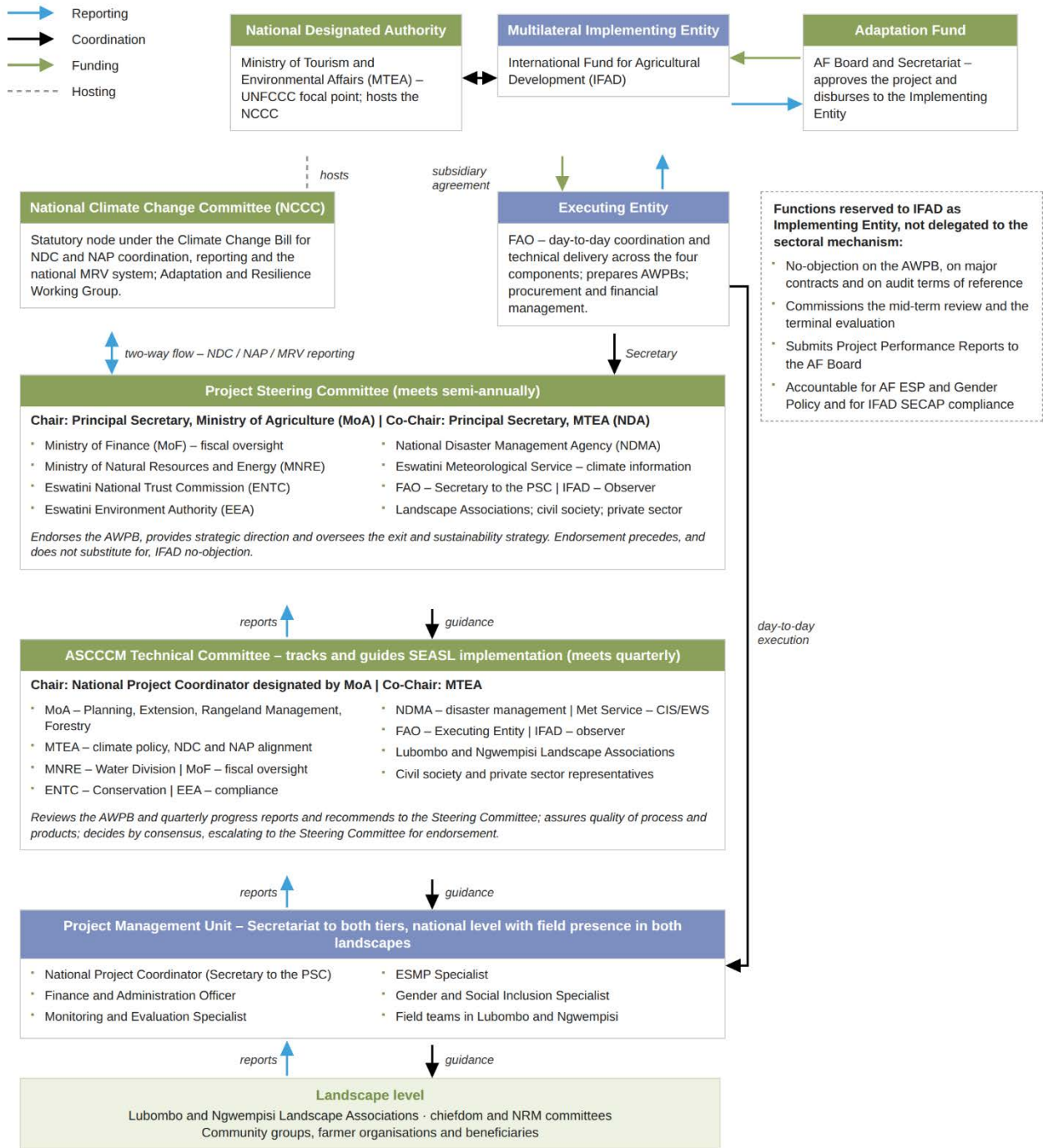
fixed at approval, ANNEX 3 functions as an Environmental and Social Management Framework (ESMF) for these unidentified sub-projects. It operates in two layers: (i) typology-level risks and mitigation measures are identified now in the Annex 3 risk register; and (ii) a binding site-specific screening framework (Annex 3, Sub-Annex 3A) governs each site before procurement. The PMU E&S Safeguards Specialist completes the Sub-Annex 3A screening checklist in consultation with the EEA, EWADE/DoWA and the relevant Landscape Association, reaffirms the exclusion list, and secures the required national authorization an EEA Project Brief and, where the EEA so determines, an Initial Environmental Evaluation (IEE) with a Comprehensive Mitigation Plan or a full EIA, together with the Environmental Compliance Certificate (ECC) and any Department of Water Affairs (DoWA) water-use authorization as a condition precedent to disbursement for that site. No categorical 'no-EIA' determination is made at proposal stage: small works on already-disturbed land are not anticipated to require an EIA, whereas environmentally sensitive sites (notably wetlands) trigger a Project Brief on which the EEA determines the instrument. Any site screening that returns a classification above Category B is escalated to a full EIA or the site is excluded. This framework is consistent with the AF Environmental and Social Policy requirements for unidentified sub-projects and with IFAD SECAP.

103. **Stakeholder consultation on risks.** The risk identification process was informed by consultations conducted during concept-note and full-proposal preparation (Section Project consultative process and ANNEX 2: Overview of consultations conducted). Feedback from women's groups, youth, chiefdoms, PWDs, and HIV-affected households shaped specific mitigation measures, including hail-protective nursery design, GBV-sensitive water-point siting, and icon-based EWS bulletins.
104. Management arrangements for E&S risks are detailed in Measures for environmental and social risk management (Measures for Environmental and Social Risk Management) and operationalized in ANNEX 3: Environmental and Social Risks Management Plan and ANNEX 4 Gender and Social Inclusion Assessment and Action Plan.

PART III: PROJECT IMPLEMENTATION ARRANGEMENTS

A. Project implementation arrangements

Figure 16 Project organigram



105. Above figures provides an overview of the project implementation arrangements. The roles and responsibilities are described in detail below. IFAD serves as the Multilateral Implementing Entity (MIE) responsible for fiduciary oversight, supervision, and reporting to the AF Board. FAO serves as the Executing Entity responsible for day-to-day project coordination / management and technical delivery. A subsidiary agreement between IFAD and FAO will formalize executing arrangements, reporting obligations, and fund transfer terms.

106. **IFAD – Implementing Entity**

IFAD bears overall accountability for the project vis-à-vis the Adaptation Fund Board. Its responsibilities include:

- Administering the AF grant and overseeing disbursements based on approved Annual Work Plans and Budgets (AWPBs)
- Conducting supervision missions and provide technical backstopping, leveraging synergies with its existing Eswatini country programme
- Commissioning the mid-term review and terminal evaluation and submitting annual Project Performance Reports (PPRs) to the AF Board.
- Ensuring compliance with IFAD's SECAP and the Adaptation Fund's Environmental and Social Policy.

107. **FAO – Executing Entity**

FAO, with an in-country office and a Country Programming Framework aligned with ecosystem-based adaptation objectives, will:

- Be responsible for day-to-day project coordination / management and technical delivery.
- Recruit staff and coordinate all field operations.
- Prepare AWPBs for Project Steering Committee (PSC) and IFAD approval, manage procurement per FAO/AF guidelines, and maintain financial records with annual external audits.

- Lead technical implementation across all four components, drawing on FAO's expertise in climate-smart agriculture, sustainable land management, and ecosystem rehabilitation.
- Serve as the primary liaison between the project, government ministries, especially the Ministry of Tourism and Environmental Affairs (MTEA) and the Ministry of Agriculture (MoA), NGO's, community-level institutions and the private sector.

108. IFAD–FAO Role Delineation

Below table provides an overview of the roles division between IFAD and FAO.

Table 34 IFAD–FAO Role Delineation

Function	IFAD (Implementing Entity)	FAO (Executing Entity)
Fiduciary management	Administers AF grant, oversees disbursements	Manages day-to-day finances, maintains accounts
Supervision	Conducts missions, quality assurance	Reports to IFAD, implements corrective actions
Technical delivery	Strategic guidance, backstopping	Leads implementation across all 4 components
M&E	Commissions MTR and terminal evaluation	Operates M&E system, prepares PPRs
Procurement	No-objection for major contracts	Manages procurement per FAO/AF guidelines
AF Board reporting	Submits annual reports to AF Board	Prepares draft reports for IFAD review
Safeguards	SECAP/ESP compliance oversight	Implements ESMP, grievance mechanism

109. Alignment with the Agriculture Sector Climate Change Coordination Mechanism (ASCCCM)

SEASL governance follows the Agriculture Sector Climate Change Coordination Mechanism (ASCCCM), the coordination structure approved for the agriculture sector and designated for mainstreaming across climate finance initiatives in Eswatini in order to strengthen sectoral coordination, institutional accountability and National Focal Point reporting. Rather than establishing a stand-alone project structure, SEASL adopts the ASCCCM two-tier architecture: a Steering Committee as the top directional decision platform and, below it, a Technical Committee that tracks and guides implementation. The Steering Committee maintains a two-way information flow with the National Climate Change Committee (NCCC) constituted under the Climate Change Bill, which is the national node for NDC and NAP coordination and reporting. SEASL results therefore enter national climate reporting through an existing statutory channel rather than a project-specific one, and the coordination arrangement outlives the project period.

110. Project Steering Committee

The Project Steering Committee (PSC) meets semi-annually and provides strategic direction and oversight for the SEASL project. It is chaired by the Principal Secretary of the Ministry of Agriculture (MoA) and co-chaired by the Principal Secretary of the Ministry of Tourism and Environmental Affairs (MTEA), which also serves as the National Designated Authority (NDA). In line with the ASCCCM structure, the PSC sits as the ASCCCM Steering Committee when convened in project session.

Members include:

- Ministry of Finance (MoF) – fiscal oversight
- Ministry of Natural Resources and Energy (MNRE)
- Eswatini National Trust Commission (ENTC)
- Eswatini Environment Authority (EEA)
- National Disaster Management Agency (NDMA)
- Eswatini Meteorological Service – information
- FAO – Secretary to the PSC
- IFAD – Observer
- Lubombo and Ngwempisi Landscape Associations; civil society and private sector representatives

The PSC endorses the Annual Work Plan and Budget (AWPB), provides strategic direction, and oversees the exit and sustainability strategy. Its endorsement precedes but does not substitute for IFAD's no-objection.

111. Technical Committee

Below the Steering Committee, the Technical Committee (TC) tracks and guides SEASL implementation and meets quarterly. It is chaired by the National Project Coordinator designated by the MoA, with MTEA as co-chair.

Members include:

- MoA – Planning, Extension, Rangeland Management and Forestry
- MTEA – climate policy, NDC/NAP alignment
- MNRE – Water Division
- MoF – fiscal oversight
- ENTC – Conservation
- EEA – (biodiversity and environmental) compliance
- NDMA – disaster management
- Eswatini Meteorological Service – Climate Information Services and Early Warning Systems (CIS/EWS)
- FAO – Executing Entity
- IFAD – Observer
- Lubombo and Ngwempisi Landscape Associations; civil society and private sector representatives

The TC reviews the AWPB and quarterly progress reports and makes recommendations to the Steering Committee and assures the quality of process management and of products. Decision-making in the TC is by consensus, escalated to the Steering Committee for guidance and endorsement.

112. Project Management Unit

Reporting to and guided by the TC, the Project Management Unit (PMU) serves as secretariat to both committees and maintains a national-level presence with field teams in both landscapes. Its core staff comprise the National Project Coordinator (Secretary to the PSC), a Finance and Administration Officer, a Monitoring and Evaluation Specialist, a Gender and Social Inclusion Specialist, and an ESMP Specialist, supported by field teams based in Lubombo and Ngwempisi.

113. Frequency and convening

The Steering Committee convenes twice annually and the Technical Committee quarterly; ad hoc meetings are convened only when the need arises. Members are notified at least two weeks before a meeting and confirm their availability in writing one week prior. The chairpersons at each level, in conjunction with the Secretariat, are responsible for convening their committee. The PMU discharges Secretariat functions for both tiers — logistical arrangements, packaging of meeting documents and collation of reports for the chairpersons — and reports to the Technical Committee and the Steering Committee.

114. Reservation of Implementing Entity functions

Functions reserved to IFAD as Multilateral Implementing Entity are not delegated to the sectoral mechanism. IFAD retains the no-objection on the AWPB, on major contracts and on audit terms of reference; commissions the mid-term review and the terminal evaluation; submits Project Performance Reports to the Adaptation Fund Board; and bears ultimate accountability for compliance with the Fund Environmental and Social Policy and Gender Policy and with IFAD SECAP. Steering Committee endorsement precedes, and does not substitute for, IFAD no-objection.

115. General accountability and reporting lines

The Ministry of Agriculture, as lead sector ministry, assumes responsibility for the Government overall commitment as documented in the project agreement with the Executing Entity and in this project document. MTEA, as National Designated Authority, accounts for the consistency of project reporting with the NDC, the NAP and the national MRV system. The reporting line runs from the PMU to the Technical Committee, from the Technical Committee to the Steering Committee, and from the Steering Committee to the NCCC, placing SEASL results within national climate reporting rather than in a parallel project channel.

116. Key Government Roles

MTEA leads national climate change coordination through the NCCC and its Adaptation and Resilience Working Group, ensuring the project aligns with the NAP and NDC. MoA is the primary technical partner for Components 3 and 4, providing extension services and supporting climate-smart agriculture dissemination. MoF ensures fiscal oversight. ENTC provides guidance on landscape management, building on the Integrated Landscape Management Plans. The Eswatini Meteorological Service supports Component 1 activities on climate information services and early warning systems. The project will report to the NCCC through its Adaptation and Resilience Working Group, ensuring high-level political support and alignment with the national MRV system.

117. Legal and Financial Arrangements

A subsidiary agreement between IFAD and FAO will formalize executing arrangements, reporting obligations, fiduciary requirements and fund-transfer terms. Prior to first disbursement of Adaptation Fund proceeds to FAO, IFAD will determine that the IFAD-FAO subsidiary agreement is satisfactory and materially back-to-back with the obligations applicable to IFAD under the AF Legal Agreement. This will include provisions covering AF verification missions and access to relevant project sites, records and information; financial and progress reporting; audit and assurance; cooperation in investigations of prohibited practices; environmental, social and gender requirements; suspension and termination; and recovery or refund of ineligible or misapplied amounts. IFAD's confirmation that these requirements have been satisfactorily incorporated will constitute a condition precedent to first disbursement. Should satisfactory arrangements not be concluded, an alternative Executing Entity arrangement will be pursued in accordance with applicable Adaptation Fund procedures.

A subsidiary agreement between IFAD and FAO will formalize executing arrangements, reporting obligations, and fund transfer terms. This agreement will specify: (i) the scope of FAO's executing mandate; (ii) fund transfer modalities and disbursement schedules linked to AWPB milestones; (iii) reporting obligations, including financial reports, annual audit requirements, and PPR inputs; (iv) procurement rules applicable to the project (FAO procurement guidelines, consistent with AF requirements); and (v) intellectual property and data-sharing provisions. FAO will be responsible for overall financial management of the Programme. It will be responsible to release of funds against agreed plans drawn out of the approved AWPBs and make payments to supplier and contractors based on work completed, and coordinate monitoring and financial reporting for the Programme as a whole through FAO. FAO will install a computerized accounting software to be used in the financial management of the project. The financial management of the project will be performed by the Finance and Administration Officer, who will be overseen by the Finance and Administration team at the FAO in-country office. All financial management will comply with the AF's fiduciary standards, IFAD's Financial Management Guidelines, and FAO's financial regulations. Annual project audits will be conducted by independent external auditors acceptable by IFAD. At the national level, a project agreement between FAO and the Government of Eswatini (represented by MTEA and MoA) will formalize the Government's commitments, including provision of counterpart staff, office space, tax exemptions, and facilitation of project operations.

118. Financial Management and Disbursement Arrangements

Financial management organization and staffing

The FAO is adequately staffed and will provide financial management support to the PMU. A qualified and experienced Finance and Administrative Officer shall be recruited, to handle SEASL project financing. In order to enhance familiarity with IFAD and AF procedures, FMD will provide capacity building training to the Finance Staff who will be selected competitively. The capacity building will include familiarization with procedures on financial reporting, expenditures categorizations across components, outputs, activities, budget line categories, financial reporting timelines and other financial management matters. The Finance and Administration Officer position should be filled by the start of the project, in accordance with FAO requirements and procedures.

Budgeting

FAO shall ensure that the project budget, project proposal and PIM have adequate details on key activities to be implemented and sources of finances for these costs. Subsequently, on an annual basis, an AWPB will be prepared with adequate details on financing for key activities to ensure adequate guidance to the accounting team in booking the expenditure. The MS Excel AWPB will have a column to show financiers and proportion of financing should the activity be financed from several sources.

The PMU will coordinate the budget preparation processes with close coordination with the implementing institutions and submit to the PSC for approval. After PSC approval, FAO will submit the AWPB to IFAD for a No Objection. Budget monitoring will be carried out periodically, at least on quarterly basis and any significant deviations discussed within the project for remedial actions. The approved budget will be coded in the accounting system for ease of monitoring and aligning expenditure when posting.

Disbursement Arrangements and Flow of Funds

The specific disbursement mechanisms applicable to the project will be confirmed between IFAD and FAO during design and before the Financing Agreement (FA), Financial Management and Financial Control Letter (FMFCL), and subsidiary agreement are finalized. The agreed arrangements will describe the applicable modalities, documentation, reporting, cash-forecast and replenishment requirements and will reflect the arrangements applicable to a United Nations Executing Entity. No particular advance/replenishment mechanism is assumed in this proposal pending that confirmation.

Subject to confirmation with FAO before the financing and subsidiary agreements are finalized, project funds will be managed through arrangements that ensure clear segregation, traceability and reconciliation of SEASL resources in accordance with FAO financial regulations, IFAD fiduciary requirements and the AF Legal Agreement. The final account structure, including whether dedicated project bank accounts or equivalent segregated accounting arrangements are used, will be recorded in the agreed financial-management documentation before first disbursement.

Internal Controls and Internal audit arrangements

Internal controls have been instituted in the whole framework of financial and administrative procedures of FAO. The identified controls range from; proper record keeping and posting, authorization of accounting, procurement and administrative documents, physical security of assets, double signing (approval) arrangements, to financial reporting and monitoring. There will be an internal audit function to check overall compliance to internal controls and provide support towards improving systems, procedures and processes. The control environment will be monitored using both internal and external audit and oversight. FAO has a robust financial management procedures manual which defines clearly what constitutes conflict of interest and corruption. SEASL staff should sign a conflict-of-interest declaration upon recruitment and every year in line with best practice.

All transactions require a minimum of two signatories. Withdrawal applications shall be approved by the same higher-level positions at the FAO in-country office.

Internal Audit services will be provided by the Internal Audit function of FAO. The PMU Finance and Administration Officer will also carry out financial monitoring reviews at the project implementing agencies on a regular basis, further providing capacity building on any areas of weakness.

Accounting Systems and Financial Reporting mechanisms

FAO will provide appropriate accounting software to the PMU. The software should be capable of multiple analysis, in order to allow reporting by financier, component, output, activity, and budget line categories. The software should facilitate reporting by quarter, cumulative for the year and cumulative from the start of the project, including recording of memorandum data on any in kind contributions (IKC) made by government or project beneficiaries. The software should have appropriate segregation of duties around data entry, review, approval and posting to ensure accuracy and reliability. FAO shall guide the PMU to establish a standardized chart of accounts for SEASL project, using the policies and definitions of FAO to ease financial reporting

SEASL shall prepare quarterly interim financial reports (IFRs) in line with IFAD guidelines. To ease financial reporting, all required information would be coded into the accounting system, such that financial reporting would only entail extracting data from the accounting system with minimal refinements. Quarterly IFRs will be submitted to IFAD within 45 days after period end. After submitting an IFR, the project shall be able to submit a withdrawal application to justify previous advances or to request advances in line with the cash forecast. The project will also keep a record of fixed assets and produce quarterly reports to IFAD and external auditors.

External Audit and assurance arrangements will be discussed and agreed between IFAD and FAO before the Financing Agreement and subsidiary agreement are signed. The agreed modality will comply with IFAD fiduciary requirements and obligations arising from the AF Legal Agreement, taking into account the audit framework applicable to FAO as a United Nations organization. It will clarify whether project-specific external

audit procedures or FAO's standard external-audit arrangements will apply, as well as the financial statements, assurance reports, access rights and any special-purpose audit provisions required for SEASL

FAO shall submit the audit terms of reference to IFAD for a No Objection in advance in line with the guidance provided in the IFAD Handbook on Financial Reporting and Auditing of IFAD-financed projects. The auditor should be appointed before the start of the financial year to be audited. This is to allow the auditor sufficient time to plan and carry out a comprehensive examination of the recipient's financial records and accounts.

119. Environmental and Social Safeguards Management responsibilities

Clear institutional accountability for environmental and social safeguards is assigned across the project's governance tiers:

- **IFAD (Implementing Entity):** Bears ultimate accountability for ESP, GP and SECAP compliance vis-à-vis the AF Board. IFAD will verify safeguards performance during biannual supervision missions and ensure that corrective actions are taken when non-compliance is identified.
- **FAO (Executing Entity):** Responsible for operationalizing all safeguards instruments. FAO will ensure that its procurement, contracting, and activity implementation procedures incorporate ESMP requirements.
- **Environmental and Social risks Management Plan (ESMP) Specialist (PMU):** The day-to-day safeguards focal point. This officer will oversee ESMP implementation in the field, maintain a safeguard monitoring log, prepare safeguards sections of reports, and coordinate with EEA if needed.
- **Gender and Social Inclusion Specialist (PMU):** Leads implementation of the Gender Action Plan and ensures social safeguards including FPIC processes, vulnerable group targeting, and the prevention of gender-based violence are embedded in all field activities.
- **Project field staff (PMU):** Act as the first point of contact for the project-level Grievance Redress Mechanism at community level, documenting and escalating complaints in accordance with the GRM protocol.
- **Project Steering Committee:** Reviews safeguards performance reports at each meeting and provides strategic guidance on any significant environmental or social risks that emerge during implementation.

120. Adaptive Management

The project will adopt an adaptive management approach to respond to changing climate conditions, evolving stakeholder needs, emerging environmental and social risks, and lessons learned during implementation. Key mechanisms include:

- **Annual reflection and planning cycle:** Each AWPB will be informed by the previous year's M&E findings, community feedback, and PSC guidance, allowing adjustments to activity priorities, targeting, and resource allocation.
- **Mid-term review (MTR):** IFAD will commission an independent MTR at the midpoint of implementation to assess progress, relevance, and effectiveness. The MTR will produce actionable recommendations that may lead to restructuring of activities, budget reallocations, or revisions to the results framework, subject to AF Board approval where required.
- **Environmental and social risk screening:** If new project activities are proposed, these will be screened against the 15 AF safeguard areas and potential impacts assessed, and new ESMP developed for these activities, which will need to be approved by the PSC and AF.

121. Project Launch and Inception Workshop

A national inception workshop will be convened within three months of the first disbursement of AF funds. The workshop will bring together all PSC members, PMU staff, government technical officers, landscape association representatives, civil society partners, and IFAD and FAO representatives. The workshop will serve to:

- Formally launch the project and present its objectives, components, and expected results to all stakeholders.
- Validate and endorse the Year 1 AWPB and procurement plan.
- Formally constitute the PSC and agree on its terms of reference, meeting schedule, and decision-making procedures.
- Present the M&E framework, including baseline data collection plans, indicator definitions, and reporting responsibilities.
- Review the ESMP, GRM, and Gender Action Plan with all partners.
- Clarify roles, responsibilities, and communication protocols among IFAD, FAO, government agencies, and community-level actors.

B. Measures for financial and project risk management

The table below provides an overview of the identified the potential financial and project management risks that may affect the SEASL project, assess their significance, and presents mitigation measures. Risks are rated as High (H), Medium (M), or Low (L). The overview table is followed by a detailed internal IFAD assessment of potential risks with mitigation measures.

Table 35 Risk Assessment Table

Risk Category	Identified Risk	Rating	Mitigation Measures
Financial	Insufficient financial transparency or accountability.	L	Three-level control: (i) dual authorization of transactions; (ii) FAO internal self-audits; (iii) IFAD supervision. Annual independent external audits. Project funds managed through FAO financial regulations and AF fiduciary standards.
	Disbursement delays.	M	IFAD manages disbursements linked to certified Statements of Expenditure and approved AWPBs. FAO as EE reduces government processing bottlenecks.

	Exchange rate fluctuations (Lilangeni pegged to South African Rand)	L	Budget denominated in USD. FAO holds funds in USD and converts at prevailing rates upon expenditure, minimizing exposure.
Institutional	Limited government institutional capacity.	M	FAO as Executing Entity provides execution capacity. PMU staffed with dedicated M&E, Climate, and Gender specialists. Component 1 invests in government capacity building.
	Weak inter-ministerial coordination.	M	PSC chaired by MTEA with cross-ministerial membership. Project registered with NCCC Adaptation and Resilience Working Group. Clear ToRs for each partner to avoid role ambiguity.
	Complex implementation arrangements leading to unclear roles.	L	Simplified two-tier structure: IFAD (oversight) and FAO (execution). IFAD-FAO subsidiary agreement specifies roles. Single PMU under FAO avoids the multi-agency ambiguity identified in previous projects. Clear role delineation table in Section III.A.
Climate	Severe drought or flooding during implementation.	M	Project designed to build resilience to these hazards (Components 3–4). Partnership with Eswatini Meteorological Service for early warning and adaptive scheduling. Contingency provisions in AWPB.
Social	Low adoption of climate-smart technologies.	M	Participatory, demand-driven design. Beneficiary profiling to reach more vulnerable households. capacity building precedes technology rollout.
	Elite capture; exclusion of women, youth, marginalized groups	M	Gender Action Plan with minimum 40% female participation. Gender Specialist in PMU. Transparent beneficiary selection criteria validated by Landscape Associations. GRM for reporting exclusion.
	Land tenure or resource access disputes in buffer zones.	M	Activities complement existing Integrated Landscape Management Plans. FPIC for communal land use changes. GRM for dispute resolution. ENTC coordination on protected area boundaries.
Operational	PMU staffing challenges.	M	FAO recruitment procedures and candidate rosters. Competitive terms of service. Recruitment commences before start of the project. IFAD oversight of key recruitment decisions. Performance-based contracts.
	Inadequate project steering and oversight.	M	PSC membership includes technical experts alongside institutional representatives. Clear ToRs for PSC. IFAD attends as observer to ensure quality of strategic guidance.

Table 36 Detailed internal IFAD screening of potential risks

Summary	Brief description of issues	Inherent Risk at design H/S/M/L	Agreed Mitigation Measures (covenants precedent to disbursement)	Residual Risk H/S/M/L
A. Inherent risk assessment pillars				
i. Country level	In 2022, the Transparency International corruption perception index score for Eswatini was 23/100 (substantial risk) which places the country in 152nd position out of 180 countries. The country TI score deteriorated by 7 points in 2025 vs 2022. According to the Mo Ibrahim Index (2025), measuring governance performance, Eswatini is a medium policy performer, ranked 35 out of 54 African countries showing a slow improvement trend in the last decade, including the sub-dimension Accountability & Transparency and Anti-corruption.	Substantial	For implementation of this project, there should be reliance on established FAO financial management procedures	N/A
ii. Entity level	FAO and IFAD have a number of ongoing initiatives, with focus on global agri-food systems transformation, climate resilience, and natural resource management. Such initiatives include: GEF-8 Food Systems Integrated Program (FSIP); Global Coordination Project (GCP); Nutrition-Sensitive Agriculture Water Productivity; in addition to several regional flagship projects and programs. FAO has a comprehensive Technical Cooperation Programme guideline which guide implementation of FAO technical assistance interventions with governments⁶². These will be supplemented with IFAD finance procedure to ensure the project has a strong internal control environment. The proposed project organization structure is sufficient to implement the project. FAO has ongoing projects in Eswatini, with focus on sustainable agriculture, climate adaptation, and food security. These projects include: GEF-8 Food Systems Transformation Project; GEF-8 Food Systems Transformation Project; Green Infrastructure & Urban Agriculture (CUPPAH); Tick and Disease Control; Anticipatory Action & Drought Planning; Agroecological Classification; among others.	Low		N/A

⁶² <https://openknowledge.fao.org/server/api/core/bitstreams/767368d0-6580-442e-8ace-ae15d01dae68/content>

	Many other projects have also been successfully implemented. The Executing Entity, therefore, has the necessary capacity and structure to work with IFAD in delivering SEASL project objectives. Ongoing project in Eswatini have continued to perform satisfactorily on counterpart funding, receiving more than 80% of their counterpart funds.			
iii. Project level	Financial management risks identified at project level include (i) low budget execution, due to low quality budget and slow procurement processes, (ii) late submission of interim financial reports (IFR); (iii) low expertise in the use of accounting software and lack of customized financial reports, (iv) continued deterioration of the local currency against US Dollar	Substantial	Prepare detailed AWPBs on an annual basis. Automate generation of IFRs. Staff capacity building on use of software. The designated account has to be in the same currency as the grant.	N/A
B. Control risk assessment pillars				
1. Organization and Staffing	The proposed Executing Entity is FAO. FAO has a history of successfully implementing projects in Eswatini. It will undertake the establishment and staffing of a PMU for SEASL project, including a Finance and Administration Officer supervised by the IFAD country office. The recruitment may create knowledge gaps on IFAD and AF financial management procedures, which could affect programme quality. Other IFAD funded projects in Eswatini have had issues with timeliness and quality of financial reports to IFAD. Another risk is that only one Finance and Administration Officer will be directly responsible for SEASL financial management activities, which could pose internal control challenges. It is necessary for the FAO county office to provide adequate support and supervision to the SEASL financial management staff. The individual should be qualified, with appropriate expertise in project financial management.	Substantial	FAO should recruit qualified and experienced finance and accounting staff to manage the programme from inception. Regarding familiarity with IFAD and AF procedures, FMD will provide capacity building training to the Finance Staff who will be selected competitively. The capacity building will include familiarization with procedures on financial reporting, expenditures categorizations across components, budget line categories, financial reporting timelines and other financial management related matters.	Substantial
2. Budgeting	FAO has multiple financiers and projects. There is a risk of mix-up in budgeting and expenditure allocations to these multiple financiers and projects. There may also be a risk that annual work plans and budgets are not prepared or revised on a timely basis, and not executed in a coherent manner, resulting in funds not being available when needed, ineligible costs and reallocation of Programme funds and slow implementation progress.	Substantial	Ensure the project budget, project proposal and PIM have adequate details on key activities to be implemented and sources of finances for these costs. Subsequently, the AWPB will be prepared with adequate details on financing for key activities to ensure adequate guidance to the accounting team in booking of the expenditure. The MS Excel AWPB will have a column to show financiers and proportion of financing should the activity be financed from several sources. The PMU will coordinate the budget preparation processes with close coordination with the implementing institutions and submit to the PSC for approval. Budget monitoring will be carried out periodically, at least on quarterly basis and any significant deviations discussed within the project for remedial actions. Approved budget will be coded in the accounting system for ease of monitoring and aligning expenditure when posting.	Substantial
3. Funds flow and Disbursement Arrangements	There is a risk of commingling of funds at the Executing Entity which will be provided with advances for implementation of programme activities. Also, in addition to Adaptation Fund financing, there are Counterpart finances expected to be received from the Government of Eswatini.	Moderate	To mitigate the risk of commingling and facilitate accounting for any advances, funds will be managed through dedicated project accounts or equivalent segregated accounting arrangements, as agreed between IFAD and FAO prior to first disbursement, with monthly reconciliations and financial reporting. All partnering institutions that will receive project funds will have sub- programme accounts for segregating the funds received. There will be monthly financial reports and bank reconciliations by the PMU to enable monitoring operations of sub-accounts and consolidation. All partnering institutions will sign MoUs clearly highlighting the requirements for a separate bank account and financial reporting requirements	moderate

4. Internal Controls	The PMU, established by FAO, will be responsible for overall financial management of the Programme. It will be responsible to release funds against agreed plans, drawn out of the approved AWPBs, disburse funds to implementing agencies and coordinate monitoring and financial reporting for the Programme as a whole. There may be a risk that appropriate controls over Programme funds are not in place, leading to the inefficient or inappropriate use of Programme resources.	Substantial	Internal controls have been instituted in the whole framework of financial and administrative procedures of FAO. The identified controls range from; proper record keeping and posting, authorization of accounting, procurement and administrative documents, physical security of assets, double signing (approval) arrangements, to financial reporting and monitoring. There will be an internal audit function to check overall compliance to internal controls and provide support towards improving systems, procedures and processes. The control environment will be monitored using both internal and external audit and oversight.	Substantial
5. Accounting and Financial Reporting	There is a risk of delays in consolidation of programme financial reports at the PMU. The PMU will be preparing consolidated financial reports for the project. Inaccurate financial reporting may arise due to the complex nature of the project which has multiple project components, outputs, activities and budget line categories. In addition, there is a possibility of delays and inaccuracies in financial reporting due to improper coding of transactions and the multiple currencies that may be used by the project.	Substantial	To mitigate risks on financial reporting, FAO will provide an appropriate accounting software to the PMU. The software should be capable of multiple analysis, in order to allow reporting by financier, component, output, activity, and budget line categories. The software should facilitate reporting by quarter, cumulative for the year and cumulative since start of the project, including recording of memorandum data on any in kind contributions (IKC) made by government or project beneficiaries. The software should have appropriate segregation of duties around data entry, review, approval and posting to ensure accuracy and reliability. FAO shall guide the PMU to establish a standardized chart of accounts for SEASL project, using the policies and definitions of FAO to ease financial reporting.	Substantial
6. External Audit	The audit and assurance modality will be agreed with FAO before the Financing Agreement and subsidiary agreement are signed. Residual risks include inadequate coverage, delays in assurance reporting, or insufficient project-specific information. Mitigation will include explicit audit/assurance provisions in the subsidiary agreement, timely provision of certified financial information, IFAD fiduciary review during supervision, and the ability to require additional or special-purpose assurance were provided for in the applicable agreements	Substantial	FAO shall prepare a comprehensive audit coverage plan, which will ensure adequate audit coverage. The plan shall provide for adequate annual audits at the PMU and implementing agencies. The appointed auditor will prepare a work plan to ensure adequate coverage of the various institutions that receive Programme funds and cover all the major risk areas and adequate coverage as per coverage plan. The audit terms of reference will be approved by IFAD in advance in line with the guidance provided in the IFAD Handbook on Financial Reporting and Auditing of IFAD-financed projects	Substantial
Overall FM Risk @ design		Substantial		Substantial

122. Risk Management and Monitoring

The PMU will maintain a risk register updated at least every half year. Risk status will be reported to the PSC annually and included in the annual PPR to the AF Board. The MTR will include a comprehensive risk reassessment with recommendations for updated mitigation measures.

C. Measures for environmental and social risk management

123. Environmental and social (E&S) risk management for the SEASL project operates through a **single integrated management framework** combining (i) the Adaptation Fund Environmental and Social Policy and Gender Policy, (ii) IFAD's Social, Environmental and Climate Assessment Procedures (SECAP), and (iii) the national Environmental Assessment Regulations 2022 under EMA 2002. The framework is operationalized through the ANNEX 3: Environmental and Social Risks Management Plan and the ANNEX 4 Gender and Social Inclusion Assessment and Action Plan.

124. **Roles and responsibilities.** Responsibility for E&S risk management is distributed across the project's institutional structure as follows:
- **IFAD (Implementing Entity):** ensures compliance with the AF ESP and GP; verifies E&S performance during supervision missions; reports to the AF Board in the annual PPR
 - **FAO (Executing Entity):** oversees day-to-day E&S implementation through the PMU; ensures contractors and sub-grantees comply with E&S commitments; provides technical backstopping on safeguards.
 - **PMU E&S Safeguards Specialist** (dedicated full-time position): operates the ESMP; coordinates with EEA on EIA processes; maintains the safeguards register; supervises contractor compliance; manages the GRM at PMU level; prepares safeguards inputs to PPRs.
 - **PMU Gender Specialist:** operates the GAP; tracks gender- and inclusion-disaggregated indicators; coordinates with women's organizations and youth groups; supervises compliance with leadership quotas; manages GBV-sensitive grievance pathways.

- **Eswatini Environment Authority (EEA):** national environmental regulator; issues Environmental Compliance Certificates (ECCs); represented on the Project Steering Committee.
- **Landscape Associations, CDCs, NRMCS:** community-level safeguards monitoring; first-tier GRM operation; participatory verification of E&S commitments at sub-project level.

125. **Operational measures.** The following operational measures apply to all components:
- **Site-specific screening** for infrastructure and restoration activity for which locations are not exact yet, using screening template in Annex 3 completed before procurement is initiated.
 - **Environmental & Social Management Plans (ESMPs)** verified incl. measurable mitigation commitments, monitoring indicators, and responsible parties. ESMPs are conditions precedent to disbursement at activity level.
 - **Safeguards clauses** embedded in all contracts (construction, restoration, sub-granting). Non-compliance triggers contractual penalties and corrective action.
 - **Free, Prior and Informed Consent (FPIC)** documented for all activities on Swazi Nation Land, with engagement led through traditional authorities and Chiefdom Development Committees.
 - **Two-tier Grievance Redress Mechanism (GRM)** operational from project inception: (i) chiefdom-level GRM rooted in customary structures; (ii) landscape/PMU-level GRM with formal documentation, dedicated phone and email channels, and 30-day resolution target. Independent escalation to IFAD and the AF Board is available at all stages.
 - **Stakeholder Engagement Plan (SEP)** with mandatory community consultation cycles, annual safeguards events , and proactive engagement with women's groups, youth, PWDs, HIV-affected households, and low-literacy groups.
 - **Independent audits** of safeguards compliance during the Mid-Term Review (Year 3) and Terminal Evaluation (Year 5+).
126. **Risk-specific management measures.** The table below presents the potential risks triggered from Section II.K alongside the specific management measures, monitoring indicator, and responsible party. The full register is provided in Annex 3.

Table 37 E&S risk management measures (summary; full version in Annex 3)

ESP Principle / Risk area	Residual risk	Risk Management measure	Monitoring indicator	Responsible
1.Access and Equity	Low	SAPEMP-aligned vulnerability criteria; Targeting protocols; transparent selection; GRM; ESMP	% women, youth, vulnerable groups among beneficiaries (quarterly)	PMU Gender Specialist; FAO; LAs
3.Marginalised & Vulnerable Groups	Low	Targeting protocols; icon-based tools; community-radio formats; GAP; GRM; ESMP; GAP	# of accessible formats produced; reach among vulnerable groups	PMU; Gender Specialist; FAO; community radio partners; LAs
4.Human rights - FPIC & Community Consent	Moderate - FPIC/consent procedures required for SNL activities	FPIC documented for every SNL activity; customary-authority engagement	% sites with documented FPIC; consultations conducted	PMU safeguard Specialist; chiefdoms
5.Gender Equality and Women's Empowerment & GBV	Low	GBV-sensitive siting; female leadership quotas; GRM; ESMP; GAP	% women in LA/CDC/NRMC leadership; GBV cases reported & resolved	PMU Gender Specialist; FAO; LAs
6.Core Labour Rights	Moderate	ILO and Eswatini labour-law compliance clauses in all contracts; PMU compliance check; ESMP; worker GRM channel	% contracts with safeguards clauses; labour grievances closed	PMU; FAO; procurement
9.Protection of Natural Habitats	Moderate	Site-specific habitat screening; alignment with NBSAP; ENTC consultation; Establish and formalize Community Forest Management Groups in Lubombo and Ngwempisi target communities, with elaborated rules on harvesting, benefit sharing, and sanctions - modelled on the Ezikhotheni experience and complemented by sustainable wood fuel revenue streams.	# sites screened; ENTC clearances issued; Forest Management Groups established with rules	PMU; FAO; EEA; ENTC
12.Pollution Prevention and Resource Efficiency	Moderate	IPM-first policy; minimal pesticide use; responsible IAPS disposal protocols; ESMP	Pesticide volume ; IAPS disposal compliance	PMU; FAO; MoA extension
15.Lands & Soil Conservation	Low	Soil-erosion control measures in ESMP; mechanical IAPS removal limited to non-sensitive sites; ESMP	% sites with soil-erosion measures in place	PMU; FAO;

127. **Budgeted resources.** E&S risk management is budgeted under Component 1 (safeguards-related capacity building, GAP operation) and within Project Management costs (E&S Specialist, Gender Specialist, GRM operation, audits). Indicative resourcing cover staff, screening, audits, GRM, FPIC, training, and contingency response.
128. **Reporting and disclosure.** Safeguards performance is reported in every annual PPR to the AF Board, including ESMP compliance, GRM caseload and resolution rate, GAP performance, and any reportable safeguards incident. All safeguards' instruments ESMP, GAP, ESMPs, screening templates, GRM records are publicly disclosed in line with AF and IFAD disclosure policies.
129. **Adaptive management.** If, during implementation, screening of a site reveals risks above moderate, the activity is paused; the case is escalated to IFAD; the design is modified to bring risks back to low / neglectable

and where this is not feasible, the activity is replaced. The PSC reviews any such case at its next regular meeting.

D. Project monitoring and evaluation arrangements

130. The SEASL project will establish a Monitoring and Evaluation (M&E) system to track implementation progress, measure results, ensure accountability, and support adaptive management. The M&E system is designed in compliance with the Adaptation Fund's Evaluation Policy, Environmental and Social Policy, and Gender Policy. It will generate gender- and age-disaggregated data across all indicators, enabling evidence-based decision-making and timely reporting to the AF Board through annual Project Performance Reports (PPRs). The M&E framework aligns with IFAD's results-based management approach and draws on FAO's field monitoring expertise.
131. **M&E Responsibilities:** Monitoring and evaluation responsibilities are distributed across the project's institutional structure:
- **IFAD (Implementing Entity):** Bears overall accountability for M&E vis-à-vis the AF Board. IFAD will commission the mid-term review (MTR) and terminal evaluation using independent consultants, review and submit annual PPRs, and verify M&E performance during biannual supervision missions.
 - **FAO (Executing Entity):** Oversees the M&E system, ensures quality and timeliness of data collection and reporting, and provides technical backstopping to the M&E Specialist.
 - **PMU M&E Specialist:** Day-to-day responsibility for operating the M&E system, including indicator measurement, data collection, management of the project database, preparation of progress reports and PPR drafts, and coordination of baseline and survey activities.
 - **Field staff:** Collect field-level data from the Lubombo and Ngwempisi landscapes, facilitate participatory monitoring with community associations, and provide regular activity progress updates to the PMU.
 - **Project Steering Committee (PSC):** Reviews M&E findings at each semi-annual meeting and provides strategic guidance on corrective actions.
132. **Monitoring Arrangements:** Day-to-day project monitoring is an integral part of project management. The PMU will maintain a geo-referenced project database tracking physical and financial progress against the AWPB, output delivery, and outcome-level indicators. Monitoring costs, including personnel, tools, data collection, travel, and reporting, are integrated into the project execution budget.
133. Key monitoring activities include:
- **Half yearly progress reports:** Prepared by the PMU consolidating physical and financial progress, procurement status, risk updates, and safeguards compliance. Shared with FAO and IFAD.
 - **Annual PPR:** Prepared by the PMU (with consultant support as needed) and submitted by IFAD to the AF Board on an annual basis starting one year after the inception workshop. The PPR covers financial data, procurement, risk assessment, implementation rating, project indicators (baseline, mid-term, and completion values), alignment with the AF Strategic Results Framework, and lessons learned.
 - **Participatory community monitoring:** CDCs and Landscape Associations will participate in activity-level monitoring using community scorecards and participatory assessments, feeding the project MIS, with reporting into the M&E system. Feedback loops will be established to ensure community perspectives inform planning.
 - **Safeguards and gender monitoring:** ESMP compliance and Gender Action Plan indicators will be tracked by the respective PMU specialists and reported as part of quarterly and annual reports.
 - **IFAD supervision missions:** Conducted at least twice per year, assessing implementation progress, fiduciary compliance, safeguards performance, and M&E quality.
134. **Evaluation Activities**
The project's evaluation activities comply with the AF Evaluation Policy, which requires a baseline study, mid-term review, and terminal evaluation for all projects over four years. The overall evaluation budget falls within the 1–5% range of the project budget, as recommended by AF guidance.
135. **Baseline Study**
A comprehensive baseline study will be conducted within the first six months of implementation, immediately following the inception workshop. The baseline will establish benchmark values for all results framework indicators, including biophysical (land degradation, vegetation cover, water availability), socio-economic (income, food security, asset ownership), and institutional (capacity, governance) dimensions. All data will be gender- and age-disaggregated. The baseline report will be submitted to IFAD.
136. **Mid-Term Review**
IFAD will commission an independent MTR at the midpoint of the project. The MTR will assess relevance, effectiveness, efficiency, and early signs of sustainability; review implementation progress and M&E system performance; identify corrective actions, including potential restructuring of activities or budget reallocations; and re-measure key indicators against baseline values. The MTR report will be shared with the AF Board through the PPR cycle, and its recommendations will be formally addressed through a management response.
137. **Terminal Evaluation**
A terminal evaluation will be conducted within the final six months of the project, following AF and IFAD guidelines. The evaluation will assess the overall achievement of project outcomes and objectives, sustainability

of results, contribution to the AF Strategic Results Framework, and lessons learned for future adaptation programming. The terminal evaluation report will be submitted to the AF Board within six months of project completion, serving as the project completion report.

138. **Budgeted M&E Plan**

Table 38 Budget M&E plan

M&E Activity	Responsible	Timeframe	Estimated Cost (USD)
Inception workshop and report	PMU	Month 1–3	5,000
Baseline study	PMU / M&E Specialist (consultant support)	Month 3–6	20,000
Community participatory monitoring	Landscape Associations	Annual	40,000
Mid-term review	IFAD (independent consultants)	Mid-project	25,000
Completion workshop and report	PMU	Completion of project	5,000
Terminal evaluation	IFAD (independent consultants)	Within six months after project completion	50,000
Progress reports	PMU / M&E Specialist	Half-yearly	Covered under M&E specialist budget under execution cost
Field monitoring and data collection	PMU / M&E Specialist / Field staff	Continuous	Covered under M&E specialist budget under execution cost
ESMP and safeguards monitoring	M&E and ESMP Specialist	Continuous	Covered under safeguards specialist budget under execution cost
Gender Action Plan monitoring	M&E Gender & Social Inclusion Specialist	Continuous	Covered under gender specialist budget under execution cost
Annual PPR preparation and submission	PMU / IFAD	Annual (from Year 1)	Covered under M&E specialist budget under execution cost and IE fee
IFAD supervision missions (x2/year)	IFAD	Biannual	Covered under MIE fee
Total M&E Budget			145,000

The M&E budget of USD 145 000 represents approximately 1.45% of the total project budget (USD 10 million), consistent with AF guidance recommending 1–5% of the project budget for evaluation activities. Day-to-day monitoring and data collection by the PMU M&E Specialist are covered under project execution costs; the baseline study and community participatory monitoring are budgeted within component activity costs (Outputs 1.1 and 2.1); and the independent mid-term review and terminal evaluation, together with IFAD supervision missions, are financed from the Implementing Entity fee.

Reporting Schedule

Table 39 Reporting schedule

Reporting Product	Frequency	Submitted To	Due Date
Inception workshop report	Once	AF Secretariat via IFAD	Within 1 month of workshop
Half-year progress reports	Half yearly	FAO and IFAD	End of each half year
Annual PPR	Annual	AF Board via IFAD	Within 2 months of reporting year end
Mid-term review report	Once	AF Board via IFAD	Mid-project
Annual audit report	Annual	IFAD and AF Board	Within 6 months of fiscal year end
Terminal evaluation / completion report	Once	AF Board via IFAD	Within 6 months of project completion

E. Project results framework

139. The Project Results Framework operationalizes the Theory of Change presented in Part I, linking the project's overall objective, four outcomes, and seventeen outputs to measurable, gender- and age-disaggregated indicators, baselines, mid-term and end-of-project targets, data sources, frequency of measurement, and responsible parties. The Framework aligns with the Adaptation Fund's revised Strategic Results Framework (SRF), with explicit mapping to the relevant AF Core Indicator (beneficiaries) and AF Outcome Indicators 1, 2, 3, 5, 6, and 7 detailed in Project alignment with the Results Framework of the Adaptation Fund.

140. **Indicator design principles.** Indicators are SMART (Specific, Measurable, Achievable, Relevant, Time-bound); disaggregated by gender, age, vulnerability group, and landscape; and capture both **adaptation results** (changes in capacity, exposure, or vulnerability) and **process performance** (training, infrastructure delivered, hectares restored). Baselines are established in Year 1 through the integrated baseline study (Output 1.1); mid-term values are captured at the MTR (mid project); end-of-project values are confirmed in the terminal evaluation.

Table 40 Project Results Framework indicators, baselines, targets, data sources, and means of verification

Level	AF SRF alignment	Indicator	Baseline (Y1)	Mid-term (Y3)	End target (Y5)	Data source / MOV	Frequency	Responsible
PROJECT OBJECTIVE Strengthen climate resilience in the Lubombo and Ngwempisi landscapes (linked to AF Core Indicator on beneficiaries)								
Objective	AF Core Ind. (Beneficiaries)	Number of direct beneficiaries with strengthened adaptive capacity (disaggregated by gender, youth, vulnerable group, landscape)	0	≥42,895 cumulative	85,790 (≥40% women; ≥30% youth; ≥5% PWDs; ≥8% PLHIV-affected)	Beneficiary registry (MIS); HH panel survey	Annual + MTR/TE	PMU M&E
		Number of indirect beneficiaries reached (people living in target landscapes)	0	N/A - landscape-wide indirect	301,677 (total population two target landscapes)	Landscape coverage analysis;	Annual + MTR/TE	PMU M&E

				reach confirmed at completion	Net Indirect – 215, 887	LA & chiefdom records		
OUTCOME 1 Highly climate-vulnerable communities and institutions have the evidence base, early warning capacity, and adaptive knowledge required to make informed and equitable decisions (AF Outcomes 1 & 3)								
Outcome 1	AF Ind. 1	Number of individuals using climate-related threat and hazard information provided by the project (disaggregated by gender; low-literacy; PWDs)	0	20,000	≥42,895 (≥40% women), which is 50% of 85,790	EWS subscription data; community-radio reach survey; KAP study	Annual	PMU M&E; MET; NDMA
	AF Ind. 3.1	Number of people with strengthened awareness of climate change risks and how to better address them (by gender, youth)	0	20,000	≥42,895 (≥40% women), which is 50% of 85,790 (≥40% women; ≥30% youth)	KAP study; training attendance records; awareness survey	Annual + MTR/TE	PMU M&E; MoA Extension
Output 1.1	AF Ind. 1.1	Number of risk and vulnerability assessments conducted or updated (by sector and scale)	0	2 (landscape-level)	≥5 (2 landscape + 1 national synthesis + 1 GESI thematic + 1 IAPS/hazard)	Final assessment reports; STOSAR II AIMS database	Y1–Y2 (one-off); refresh at MTR	PMU; FAO; CSARL
Output 1.2	AF Core Ind. 1.2.1	Number of early warning systems established or improved (by hazard and scale)	0 inclusive multi-hazard EWS	2 (landscape-level) upgraded (drought, hail, wildfire)	2 systems (landscape sub-systems, multi-hazard with last-mile dissemination)	MET/NDMA system documentation; supervision-mission verification	Annual	MET; NDMA; PMU
Output 1.2	AF Ind. 1.2.2	Number of people covered by new or improved EWS (by gender)	0	20,000	≥42,895 (≥40% women), which is 50% of 85,790	EWS coverage analysis (SMS, community radio); HH survey	Annual	MET; PMU M&E
Output 1.3	AF Ind. 3.2	Number of climate-resilience knowledge products and/or tools developed and shared	0	5	≥10 (incl. Agri-info portal upgrade, 6 thematic products, GIS layers, lessons syntheses)	STOSAR II AIMS database; PMU KM registry	Annual	PMU KM Officer; FAO
Output 1.4	AF Ind. 3.1	Number of people participating in awareness / risk-reduction activities (by gender, vulnerable group)	0	10,000	≥20,000 (≥40% women; ≥30% youth)	Training attendance registers; community event records	Half-yearly	PMU; FAO; MoA Extension
OUTCOME 2 Landscape-level multi-stakeholder coordination is functional, enabling strategic integrated agroecosystem management and multi-hazard response (AF Outcome 2)								
Outcome 2	AF Ind. 2	Number of institutions with strengthened capacity to understand and address climate risks (by scale and sector)	0	10	≥27 (2 LAs + 20 CDCs/NRMCs + 5 national institutions: MoA, MTEA, NDMA, MET, MoF)	Institutional capacity assessment (pre/post); LA & NRMC records; competency scoring	Annual + MTR/TE	PMU; FAO; MTEA
Output 2.1	AF Ind. 2.1	Number of institutions supported to strengthen capacity (by scale and sector)	0	10	≥27	PMU capacity-building registry; institutional attendance + competency scoring	Half-yearly	PMU; FAO; LAs
	AF Ind. 2.1 (sub)	% of LA/CDC/NRMC leadership positions held by women and by youth	TBD baseline Y1	≥35% women; ≥25% youth	≥40% women; ≥30% youth	LA membership records; gender audit	Annual	PMU Gender Specialist; LAs
Output 2.2	AF Ind. 2.1 (coord track)	Number of multi-hazard response protocols formally adopted and activated (drought, hail, wildfire)	0 protocols ; 0 activations	3 protocols adopted; ≥5 activations executed	3 protocols adopted; ≥12 activations executed; ≥80% rated effective in after-action reviews	LA activation records; after-action reviews; AAR effectiveness scoring	Event-based + annual	LAs; PMU; MTEA; NDMA
OUTCOME 3 Degraded wetlands, rangelands and forests begin self-regenerating, restoring water, soil, biodiversity, and grazing capacity (AF Outcome 5)								
Outcome 3	AF Core Ind. 5	Hectares of ecosystems and natural resources brought under protection, restoration, or improved management (by ecosystem type)	0	5,600 ha (cumulative)	≥12,000 ha (≥1,200 wetland + ≥8,500 rangeland + ≥2,300 agroforestry/woodlot)	GIS verification (satellite + ground-truthing); LA management plans; nursery records	Semi-annual	PMU; FAO; LAs
Outputs 3.1–3.6	AF Ind. 5.1	Number of ecosystem / natural-resource units targeted by protection, restoration, or improved management activities (by type)	0	25 units	≥54 units (2 LA rangeland management plans + 12 wetlands restored + 20 chiefdom woodlot/soil-erosion plans + 2 landscape nurseries + 1 IAPS programme)	PMU activity registry; LA reports; FAO supervision	Annual	PMU; FAO; LAs
Output 3.5	Project-specific (Output 5.1 sub)	Number of water-harvesting structures constructed and operational with documented O&M arrangements	0	≥250	≥600 (100% with documented O&M agreements with LAs/NRMCs)	Infrastructure registry; O&M MoUs; commissioning certificates	Annual	PMU; LAs; EWADE
OUTCOME 4 Poor and climate-vulnerable rural households have diversified, climate-resilient income streams, improved food security, and strengthened adaptive capacity (AF Outcome 6)								
Outcome 4	AF Core Ind. 6.2	Number of households with increased income, or avoided decrease in income (by # of female-headed)	0	2,000 HHS	4,800 HH (disaggregated by female-headed households)	HH income survey (annual panel); value-chain platform records	Annual + MTR/TE	PMU M&E; FAO

	Project-specific (Outcome 6 sub)	Average incremental annual income per participating HH (USD)	USD 0	USD 150	USD 350–600	HH income survey; enterprise records	Annual	PMU M&E
Outputs 4.1–4.5	AF Ind. 6.1	Number of people receiving targeted support for new and/or improved livelihoods to manage climate risk (by gender, by type of support)	0	8,000	≥20,000 individuals (across beekeeping, drought-tolerant seed, CSA, value-chain platforms, value addition); ≥40% women; ≥30% youth	Beneficiary registry; enterprise records; HH survey; HGSF/EADF/private buyer contracts	Annual	PMU; FAO; MoA; HGSF
Output 4.4	Project-specific (Output 6.1 sub)	Volume of off-take contracted via HGSF, EADF and private buyers (cumulative USD)	USD 0	≥USD 1.5M cumulative	≥USD 4.5M cumulative	Contract registry; HGSF off-take records	Annual	PMU; MoA; HGSF
Output 4.1–4.5	Project-specific (Output 6.1 sub)	# of youth-led enterprises operational; complementary referrals to national enterprise-financing services tracked separately	0	≥30	≥100	Enterprise registry	Annual	PMU; EYEOP-linked
Outcome 2 (LLA)	AF Ind. 3.3.1	Number of local institutions and/or communities responsible for decision-making over adaptation solutions (LAs, CDCs, NRMCS)	0	12	≥22 (2 LAs + 20 CDCs/NRMCS)	LA/NRMC governance records; competency scoring	Annual	PMU; MTEA; LAs
Outputs 3.4 & 3.5	AF Core Ind. 4	Number of physical assets made more resilient to climate variability and change (by point/linear asset type)	0	≥250	≥600 water-harvesting structures + 6 hail-protective nurseries (reported against Core Ind. 4; no separate grant, to avoid double-counting with Outcomes 3 & 4)	Infrastructure registry; commissioning certificates	Annual	PMU; EWADE; LAs
Outputs 2.1–2.2	AF Core Ind. 7.1.1	Number of policies, strategies and/or plans developed or adjusted to integrate climate-risk considerations	0	≥5	≥25 (LILMP & NILMP updated; 20 Chiefdom Development Plans; LA by-laws; 3 multi-hazard response protocols)	Adopted plans/by-laws; PSC & LA records	Annual + MTR/TE	PMU; MTEA; LAs

141. **Gender and inclusion indicators.** All beneficiary indicators are mandatorily disaggregated by gender, age (youth ≤ 35), and vulnerability category (women-headed households, HIV-affected, PWDs, low-literacy). The Gender Action Plan specifies additional gender-transformative indicators tracked half-yearly.
142. **Data quality assurance.** The PMU M&E Specialist applies a data-quality assurance protocol comprising (i) standardized data-collection templates; (ii) sample-based spot verification by field staff; (iii) annual third-party data audits; and (iv) independent verification by IFAD supervision missions. Data are managed in the project MIS, with role-based access and full audit trail.
143. **Linkage to AF SRF and PPRs.** The Results Framework is explicitly mapped to the AF Strategic Results Framework in Section III.F. Annual PPRs report against both the Project Results Framework and the AF SRF indicators, including the AF Core Indicator on beneficiaries (with full disaggregation) and Core Indicators 1.2.1, 5, 6.2, and 7.1.1.

F. Project alignment with the Results Framework of the Adaptation Fund

144. The SEASL project aligns with the Adaptation Fund's (AF) revised Strategic Results Framework (SRF), approved by the AF Board at its 45th meeting under Decision B.45/3 (document AFB/B.45/8, September 2025). The revised SRF streamlines the indicator set from 33 to 27 indicators, expands the core indicators from five to six—adding a core indicator on policies, strategies, and/or plans—and reflects the Fund's enhanced emphasis on locally led adaptation (LLA). The project contributes directly to six of the eight AF Strategic Outcome areas (Outcomes 1, 2, 3, 5, 6, and 7) and to five of the six AF Core Indicators: number of beneficiaries; early warning systems established or improved (Core Indicator 1.2.1); ecosystems and natural resources brought under protection, restoration, or improved management (Core Indicator 5); households with increased income, or avoided decrease in income (Core Indicator 6.2); and—through the development and adjustment of Chiefdom Development Plans, the Lubombo and Ngwempisi integrated landscape management plans (LILMP/NILMP), Landscape Association by-laws, and multi-hazard (wildfire, drought, water-allocation, and post-hail) response protocols—policies, strategies, and/or plans developed or adjusted to integrate climate risk considerations (Core Indicator 7.1.1). Consistent with the LLA theme of the AF Medium-Term Strategy II, community-level decision-making through Landscape Associations, Chiefdom Development Committees, and Natural Resource Management Committees is captured under Indicator 3.3.1 (local institutions and/or communities responsible for decision-making over adaptation solutions). In line with Decision B.45/3, the project will report on the revised SRF indicators relevant to its context using the revised PPR templates, with mandatory alignment to at least one core indicator. The alignment table below maps the project objective and project outcome to the relevant AF Fund-level outcomes, Fund-level outputs, SRF indicators, and corresponding grant amounts. In addition, the climate-resilient physical assets delivered under Output 3.4 (hail-protective nursery structures) and Output 3.5 (ferro-cement rainwater-harvesting infrastructure and rehabilitation of existing structures) will be reported against AF Core Indicator 4 (physical assets improved or constructed to withstand climate variability and change), disaggregated by point and linear infrastructure. This reporting carries no separate grant

allocation, to avoid double-counting against Outcomes 3 and 4, and enables reporting against Core Indicator 4 where applicable, without double-counting grant allocations already mapped to the relevant AF outcomes.

Table 41 Overview of project alignment with the AF results framework

Project Objective(s)	Project Objective Indicator(s)	Adaptation Fund Outcome	Adaptation Fund Outcome Indicator	Grant Amount (USD)
Objective: To strengthen climate resilience in the Lubombo and Ngwempisi landscapes of Eswatini by restoring degraded agroecosystems, enhancing early warning and adaptive knowledge systems, and diversifying climate-resilient livelihoods, thereby reducing the vulnerability of rural communities with priority attention to women, youth, and vulnerable households to the increasing impacts of drought, hailstorms and wildfires.	Indicator: Number of people [# of people, disaggregated by direct and indirect beneficiaries, by gender, by vulnerable groups, and by sector] benefitting from the project	Outcome 1: Reduced exposure to climate-related hazards and threats	Indicator 1. People using climate-related threat and hazard information [# of individuals, by gender]	475,000
		Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	Indicator 2. Institutions with strengthened capacity to understand and better address climate risks and resilience [# of institutions, by scale and sector]	1,140,000
		Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes	Indicator 3.1. People with strengthened awareness of climate change risks and how to better address them [# of people, by gender]	730,000
		Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	Core Indicator (5): Ecosystems and natural resources brought under protection, restoration, or improved management in response to climate variability and change [# hectares, disaggregated by land, marine, coastal and cultural heritage area]	4,230,000
		Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	Core Indicator (6.2): Households with increased income, or avoided decrease in income [# of households, disaggregated by # female-headed households]	1,767,000
Total objective level grant amount				8,342,000
Outcome 1: <i>Highly climate-vulnerable communities and institutions have the evidence base, early warning capacity, and adaptive knowledge required to make informed and equitable decisions on climate-resilient land and ecosystem management</i> *(Component 1, Outputs 1.1–1.4)	Outcome 1 indicator: Percentage of targeted community members (disaggregated by gender and vulnerable group) who report using climate and early warning information to make ecosystem management decisions, by end of project.	Output 1.1: Risk and vulnerability assessments conducted and updated Output 1.2: Targeted population groups covered by warning and advisory services for climate-related hazards and threats Output 3.1: Targeted population groups participating in adaptation and risk reduction awareness activities Output 3.2: Strengthened capacity of national and subnational stakeholders to capture and disseminate knowledge and learning Output 3.3: Increased ownership of adaptation and climate risk reduction processes	Indicator 1.1: Risk and vulnerability assessments conducted or updated [# by sector and scale] Core Indicator (1.2.1): Early warning systems established or improved [# by hazard and scale] Indicator 1.2.2: People covered by new or improved early warning systems [# by gender] Indicator 3.1: People participating in activities to improve awareness of climate risks [# by gender and vulnerable groups] Indicator 3.2: Climate resilience knowledge products/tools developed and shared [# of products/tools] Indicator 3.3: Local institutions/communities responsible for decision-making over adaptation solutions [#]	1,615,000
Outcome 2: Landscape-level multi-stakeholder coordination is functional, enabling strategic, integrated agroecosystem management at chiefdom and community levels, with explicit mandates for wildfire management, drought response, water allocation, and post-hail protocols, targeting climate-vulnerable communities with priority inclusion of women-headed households, youth, land-poor households, persons with disabilities, and HIV-affected households. *(Component 2, Outputs 2.1–2.2)	Outcome 2 indicator: Number of Landscape Associations (LAs), Chiefdom Development Committees (CDCs), and Natural Resource Management Committees (NRMCs) with strengthened capacity to manage climate risks and coordinate multi-hazard response protocols.	Output 2.1: Strengthened capacity of institutions to understand and better address climate risks	Indicator 2.1: Institutions supported to strengthen capacity to understand and address climate risks and resilience [# of institutions, by scale and sector]	730,000
Outcome 3: Degraded wetlands, rangelands, and forests begin self-regenerating,	Outcome 3 indicator: Hectares of degraded wetlands, rangelands,	Output 5.1: Vulnerable ecosystem services and natural resource assets	Indicator 5.1: Ecosystems and natural resources targeted by activities to improve protection,	4,230,000

restoring the ecosystem services on which climate-vulnerable households depend, restoring water, soil, biodiversity, and grazing capacity that underpin climate resilience, food security, and sustainable livelihoods for climate-vulnerable households. *(Component 3, Outputs 3.1–3.6)	and woodlots/forests brought under improved protection, restoration, or management, showing measurable recovery indicators (vegetation cover, water table, or grazing capacity), disaggregated by ecosystem type and landscape.	strengthened in response to climate change impacts, including variability	restoration, and/or management [# of resources, by type]	
Outcome 4: Poor and climate-vulnerable rural households in SAPEMP-targeted chiefdoms, particularly women-headed households, unemployed and under-employed youth, land-poor households, and pastoral households, have diversified, climate-resilient income streams, improved food security, and strengthened adaptive capacity through inclusive market systems and climate-resilient value chains. *(Component 4, Outputs 4.1–4.5)	Outcome 4 indicator: Number of climate-vulnerable households with increased income or avoided decrease in income attributable to project-supported climate-resilient livelihoods and value chains, disaggregated by female-headed households.	Output 6.1: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	Indicator 6.1: People receiving targeted support for new and/or improved livelihoods to manage climate risk [# of people, by gender and type of support]	1,767,000
Total output level grant amount				8,342,000

G. Project detailed budget

145. The total Adaptation Fund grant requested for the SEASL project is **USD 10,000,000**, covering all project costs over the five-year implementation period. The budget has been constructed bottom-up from output-level activity costing, triangulated against unit-cost benchmarks from comparable IFAD, FAO, GEF, and AF projects in Southern Africa, and validated through Eswatini-specific procurement references.
146. **Budget summary by component and year.** The component-level budget allocates the majority of resources to direct adaptation activities (Components 1–4), with Project Execution Costs (PEC) of USD 875,000 (9.49% of the project amount, within the AF 9.5% cap) and an Implementing Entity Fee of USD 783,000 (8.495% of the project amount, within the AF 8.5% cap). The yearly distribution below follows the planned implementation timing of each activity (months and years) as set out in the project results framework, rather than a uniform annual phasing. Years 1–2 are weighted toward assessments, baselines, plans, capacity building and procurement of long-lead infrastructure, while Years 4–5 consolidate restoration, livelihoods scale-up and exit arrangements.

Table 42 SEASL detailed project budget by component and year (USD)

Component / Output	Y1 (2027)	Y2 (2028)	Y3 (2029)	Y4 (2030)	Y5 (2031)	Total (USD)
C1. Evidence, EWS & Adaptive Knowledge						
Output 1.1 Integrated vulnerability & agroecosystem assessment & baseline	140,000	120,000	0	0	0	260,000
Output 1.2 Inclusive EWS & last-mile climate information	125,000	90,000	0	0	0	215,000
Output 1.3 Digital knowledge management & equitable knowledge governance	475,000	230,000	80,000	80,000	0	865,000
Output 1.4 Inclusive community capacity building & training systems	150,000	125,000	0	0	0	275,000
Subtotal C1	890,000	565,000	80,000	80,000	0	1,615,000
C2. Multi-Stakeholder Coordination						
Output 2.1 Institutional capacity building (LAs, CDCs, NRMCS)	310,000	260,000	0	0	0	570,000
Output 2.2 Coordination arrangements & multi-hazard response protocols	80,000	80,000	0	0	0	160,000
Subtotal C2	390,000	340,000	0	0	0	730,000
C3. Ecosystem Restoration						
Output 3.1 Rangeland management planning & grazing rights	375,000	480,000	265,000	0	0	1,120,000
Output 3.2 Wetland fencing & restoration at scale	135,000	85,000	10,000	10,000	10,000	250,000
Output 3.3 Woodlot management, soil erosion control & IAPS control	215,000	170,000	100,000	160,000	160,000	805,000
Output 3.4 Nurseries with hail-protective structures & business plans	0	210,000	300,000	90,000	0	600,000

Output 3.5 Water harvesting infrastructure (rehabilitation)	210,000	185,000	205,000	205,000	100,000	905,000
Output 3.6 Agroforestry with climate-appropriate species	5,000	150,000	205,000	95,000	95,000	550,000
Subtotal C3	940,000	1,280,000	1,085,000	560,000	365,000	4,230,000
C4. Climate-Smart Livelihoods						
Output 4.1 Beekeeping VC with training, equipment & secured contracts	105,000	110,000	152,000	95,000	55,000	517,000
Output 4.2 Drought-tolerant indigenous varieties & seed multiplication	30,000	20,000	125,000	130,000	90,000	395,000
Output 4.3 CSA technologies scaled	0	105,000	145,000	65,000	65,000	380,000
Output 4.4 Value chain platforms & formal market linkages	95,000	65,000	15,000	15,000	15,000	205,000
Output 4.5 Value addition & traceability programmes	0	55,000	85,000	65,000	65,000	270,000
Subtotal C4	230,000	355,000	522,000	370,000	290,000	1,767,000
Total Project Components	2,450,000	2,540,000	1,687,000	1,010,000	655,000	8,342,000
Project Execution Costs	257,000	266,000	177,000	106,000	69,000	875,000
Total project costs (Components + PEC)	2,707,000	2,806,000	1,864,000	1,116,000	724,000	9,217,000
Project Cycle management fee charged by the Implementing Entity	230,000	238,000	158,000	95,000	62,000	783,000
Amount of Financing Requested	2,937,000	3,044,000	2,022,000	1,211,000	786,000	10,000,000

147. **Project Execution Costs (PEC).** PEC totals USD 875,000. PEC covers the Project Coordinator and core PMU staff (M&E Specialist, Climate Specialist, Gender Specialist, E&S Safeguards Specialist, Knowledge Management & Communications Officer, Procurement & Finance Officer), operational overheads, annual external audits, GRM operations, and statutory project administration. PMU technical staff time directly attributable to component delivery is allocated to the relevant component, not to PEC.
148. **Implementing Entity Fee.** The IFAD IE Fee is set at USD 783,000, equivalent to **8.495% of the project amount of USD 9,217,000 (activities USD 8,342,000 + PEC USD 875,000)** within the AF 8.5% cap. The fee covers IFAD's fiduciary oversight, AF Board reporting, supervision missions, mid-term and terminal evaluation oversight, AF reporting compliance, and overall accountability obligations as Multilateral Implementing Entity.
149. **Gender-responsive budgeting.** In line with the Adaptation Fund Gender Policy, adequate resources have been allocated in the project budget for gender-responsive implementation. Budgets are directly attributable to activities with explicit gender-responsive design features, including participatory gender-responsive baselines and intra-household analyses (Output 1.1), women- and youth-led EWS dissemination groups and gender-balanced training cohorts (Outputs 1.2 and 1.4), gender-balanced community planning and GESI-based rangeland, wetland and nursery management plans (Outputs 2.1, 3.1, 3.2 and 3.4), women- and youth-focused enterprise, beekeeping and value-chain incubation pathways (Outputs 3.6, 4.1, 4.2 and 4.4–4.5), and a dedicated Gender Specialist within the PMU (PEC.4, USD 53,750) who provides technical oversight, capacity-building and monitoring of gender-responsive delivery across all components. Where budget notes specify quantitative gender targets (e.g. minimum 40% women and 30% youth participation in trainings, committees and enterprise groups), the corresponding activity costing in Table 43 reflects the staffing, logistics and stipend provisions needed to achieve these targets, ensuring women are resourced as active implementers rather than passive beneficiaries.

Table 43 Activity budget overview, implementation period and budget notes (qty / unit cost / modality / trainings)

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
C1. Evidence, EWS & Adaptive Knowledge				
01.1	Output 1.1 Integrated vulnerability & agroecosystem assessment & baseline		260,000	
1.1.1	By Month 9, map climate hazard impacts (drought, hailstorm, wildfire, + IAPS) to specific agroecosystems and...	Y1	54,167	Qty: 20 chiefdoms × hazard layers (drought, hailstorm, wildfire, IAPS) Unit cost: ~ USD 2,700/community/chiefdom for GIS hotspot mapping (cf. SAPEMP unit cost) Modality: FAO LTA with GIS service provider; STOSAR II protocols Note: GIS + participatory vulnerability baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
1.1.2	By Month 9, update and validate community vulnerability baselines using participatory gender-responsive...	Y1	108,332	Qty: 20 communities/chiefdoms × ~150 HH surveys each (≈ 3000 HHs) Unit cost: ~ USD 19/HH participatory baseline (FAO STOSAR II) Modality: Service contract via FAO procurement; sub-contracts with local enumerators Trainings: 1 enumerator training × USD 8,000 Note: GIS + participatory baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
1.1.3	By Month 12, produce validated GIS hotspot maps for rangeland degradation, wetland condition, drought/water...	Y1	54,167	Qty: 5 hazard map sets × 20 chiefdoms Unit cost: ~ USD 2,700/chiefdom validated GIS deliverable Modality: Service contract; same provider as 1.1.1 (efficiency) Note: GIS + participatory baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
1.1.4	By Month 12, conduct community inventory of indigenous drought-tolerant seed varieties and gene banks in all...	Y1	21,667	Qty: 20 IK varieties × 20 chiefdoms documented Unit cost: ~ USD 1,080/chiefdom (community-led inventory) Modality: Sub-grants to NRMCS via PMU; honoraria for seed custodians Trainings: 20 community workshops × USD 1,080

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
				Note: Nursery rehab + GAP cert. linked to HGSP procurement; women/youth as co-owners.
1.1.5.	By Month 12, conduct participatory intra-household analysis (access/control over resources, labour division...	Y1	21,667	Qty: 20 chiefdoms × intra-HH analysis Unit cost: ~ USD 1,080/chiefdom Modality: Service contract with Gender consultancy via competitive RfP Note: GIS + participatory vulnerability baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
O1.2	Output 1.2 Inclusive EWS & last-mile climate information		215,000	
1.2.1	By year 1, integrate the CDI-E (Composite Drought Index for Eswatini) as the standard drought indicator...	Y1	59,723	Qty: 1 CDI-E integration + national protocol with NDMA/SADC-CSC Unit cost: USD ~ 59,000 lump sum Modality: LoA with NDMA; technical assistance via FAO LTA Note: CDI-E adoption & data-sharing with NDMA / SADC-CSC; one-off Y1 setup.
1.2.2	By year 1, adopt MERP-ENTC's validated Communication and Environmental Education Awareness (CEEa) Strategy as...	Y1	11,944	Qty: 1 CEEa strategy adaptation + ~ 12 Y1 community products Unit cost: ~ USD 12,000 lump sum Modality: Sub-contract to MERP-ENTC communications team Note: Uses MERP-ENTC validated CEEa strategy; siSwati low-literacy formats.
1.2.3	By Year 1, month 6 end, train Eswatini Meteorological Service (EMS) staff to downscale SADC-CSC regional...	Y1	35,833	Qty: ~ 12 EMS staff trained; quarterly advisories established Unit cost: ~ USD 2,960/trainee Modality: Sub-contract with EMS; technical assistance via FAO LTA Trainings: 2 trainings × USD 17,700 (incl. mentoring) Note: Training cohorts (CSARL FFS model); training-before-equipment sequencing.
1.2.4	By Year 2, design and implement targeted EWS access strategies for the documented 25% of communities with no...	Y1–Y2	59,723	Qty: 20 chiefdoms × tailored last-mile EWS access Unit cost: USD 6-12/HH last-mile (cf. Part II.C Table 24) Modality: Service contracts with mobile operators (SMS), community radio LoAs, focal-point stipends Note: USD 6–12/HH EWS last-mile via SMS & community radio (siSwati, low-literacy).
1.2.5	By Year 2, train farmers and extension workers — prioritizing youth and young women — on EWS tools, with a...	Y1–Y2	23,889	Qty: ~ 800 farmers + extension workers trained Unit cost: ~ USD 30/trainee Modality: Sub-contract with MoA Extension; FFS-style delivery Trainings: ~ 16 training cohorts × USD 1,480 Note: Training cohorts (CSARL FFS model); training-before-equipment sequencing.
1.2.6	From Year 1 month 6, coordinate at least 52 weekly radio bulletins per year and 4 quarterly reports on...	Y1–Y5	11,944	Qty: 52 weekly radio bulletins × 5 yrs (260 total) Unit cost: ~ USD 45/bulletin Modality: LoAs with national & community radio; siSwati content Note: USD 6–12/HH EWS last-mile via SMS & community radio (siSwati, low-literacy).
1.2.7.	By Year 2, establish and resource women- and youth-led EWS dissemination groups (one per chiefdom), each...	Y1–Y2	11,944	Qty: 20 chiefdoms × 1 women/youth EWS dissemination group Unit cost: ~ USD 600/group/yr (stipends + refreshers) Modality: Sub-grants via NRMCS; performance-based Trainings: 20 group orientation sessions × USD 600 Note: USD 6–12/HH EWS last-mile (SMS + radio); aligned with NDMA/SADC-CSC and EMS.
O1.3	Output 1.3 Digital knowledge management & equitable knowledge governance		865,000	
1.3.1	By Month 6, establish a protocol between SEASL and FAO STOSAR II to align data platforms, co-schedule field...	Y1	54,063	Qty: 1 SEASL-FAO protocol; annual review Unit cost: USD 54,000 lump sum Modality: LoA between FAO IE and FAO STOSAR II team Note: Knowledge products & data via STOSAR II AIMS; cross-landscape exchange visits.
1.3.2	By Month 6, establish a formal data-sharing protocol with FAO (STOSAR II) to feed SEASL's community-level...	Y1	108,125	Qty: 1 AIMS data-sharing protocol Unit cost: USD 108,000 lump sum Modality: LoA with FAO STOSAR II; data-platform integration via TA Note: Inter-agency protocol (LoA-based); minimal recurrent cost.
1.3.3	By Year 1, strengthen land degradation monitoring coverage from existing SNPAS and CSARL areas to all target...	Y1	108,125	Qty: 20 chiefdoms × quarterly satellite reports; 37 NRMCS members trained Unit cost: ~ USD 5,400/chiefdom (5-year coverage) Modality: Service contract with GIS provider; NRMCS sub-grants Trainings: 20 community monitoring trainings × USD 1,080 Note: Community-based land-degradation monitoring; feeds into STOSAR II AIMS.
1.3.4	By Year 1 month 6, build long-term capacity of MoA staff across both landscapes in GIS-based land degradation...	Y1	162,188	Qty: ~ 25 MoA staff trained across landscapes Unit cost: ~ USD 6,500/trainee (3 sessions + mentoring) Modality: Sub-contract with MoA; co-delivered with STOSAR II Trainings: 3 structured sessions × USD 54,000 incl. mentoring Note: Community-based land-degradation monitoring; feeds into STOSAR II AIMS.
1.3.5	By Year 1 month 6, research and document lessons from SNPAS, CSARL, SMLP, MERP, LUSIP, and FINCLUDE on EbA...	Y1	108,125	Qty: 1 lessons-learned synthesis report; ~ 15 case studies Unit cost: ~ USD 7,200/case study Modality: Service contract with research consultancy (RfP) Note: Knowledge products & data via STOSAR II AIMS; cross-landscape exchange visits.
1.3.6	By Year 1 month 6, use the climate vulnerability baselines to update NRM plans in all target chiefdoms...	Y1	162,188	Qty: 20 chiefdom NRM plans updated Unit cost: ~ USD 8,109/plan (incl. validation workshops) Modality: Sub-grants to NRMCS via PMU; technical support by Climate Specialist Trainings: 20 plan-update workshops × USD 2,700 Note: GIS + participatory baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
1.3.7	By Year 4, produce targeted knowledge products. develop tailored knowledge products for different groups...	Y3–Y4	54,063	Qty: ~ 6 tailored knowledge products (women, youth, livestock, land-poor, etc.) Unit cost: ~ USD 9,000/product Modality: Sub-contract with communications consultancy; siSwati / low-literacy formats

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
				Note: Knowledge products & data via STOSAR II AIMS; cross-landscape exchange visits.
1.3.8	By Year 4, organize cross-landscape exchange visits and peer learning sessions with ≥40% women and ≥30% youth...	Y3–Y4	108,123	Qty: ~ 12 cross-landscape exchange visits × ~ 25 participants Unit cost: ~ USD 9,000/visit Modality: Direct PMU implementation; transport via FAO LTA Trainings: 12 peer-learning sessions × USD 9,000 Note: Cross-landscape exchange visits; pre/post surveys; ≥40% women, ≥30% youth.
O1.4	Output 1.4 Inclusive community capacity building & training systems		275,000	
1.4.1	By Month 6, conduct a structured stakeholder mapping at landscape, chiefdom, and community level across all...	Y1	10,577	Qty: 20 chiefdoms stakeholder mapping Unit cost: ~ USD 530/chiefdom Modality: Direct PMU implementation (Project Coordinator + Gender Specialist) Note: Stakeholder/coordination scoping; one-off Y1 cost; shared with MERP, SAPEMP, ELVCDP.
1.4.2	By Year 1, design a multi-year cascading training model with annual refresher cycles and an embedded GESI...	Y1	52,885	Qty: 1 multi-year cascading training curriculum + GESI module Unit cost: USD 53,000 lump sum Modality: Service contract with training consultancy (CSARL FFS-aligned) Note: Cascading FFS training (CSARL-derived); GESI quotas ≥40% women, ≥30% youth.
1.4.3	By Year 1 month 6, train Landscape Association leaders as lead ambassadors (≥40% women, ≥30% youth) ...	Y1	52,885	Qty: ~ 90 LA leaders trained (40% women, 30% youth); ~ 12 focal points designated Unit cost: ~ USD 590/trainee Modality: Sub-contract with MoA Extension + Gender Specialist Trainings: 3 leadership cohorts × USD 17,800 Note: Training cohorts (CSARL FFS model); training-before-equipment sequencing.
1.4.4	By Year 2, produce community-level awareness materials on EbA and the climate–food security nexus using...	Y1–Y2	52,885	Qty: ~ 8 community awareness product types (audio, visual, low-literacy) Unit cost: ~ USD 6,700/product Modality: Sub-contract with communications consultancy; uses MERP-ENTC CEEA Note: Uses MERP-ENTC validated CEEA strategy; siSwati low-literacy formats.
1.4.5	From Year 1 (training) and Year 2 (inputs), deploy lead ambassadors to train communities on climate...	Y1–Y2	105,768	Qty: ~ 200 lead-ambassador deployments across 20 chiefdoms Unit cost: ~ USD 530/deployment Modality: Sub-grants to LAs/NRMCs; training-before-inputs sequencing enforced by PMU Trainings: ~ 30 cascading training cohorts × USD 3,550 Note: Cascading FFS training (CSARL-derived); GESI quotas ≥40% women, ≥30% youth.
C2. Multi-Stakeholder Coordination				
O2.1	Output 2.1 Institutional capacity building (LAs, CDCs, NRMCs)		570,000	
2.1.1	By Month 6, conduct a joint geographic scoping exercise with ENTC (MERP project) and ELVCDP to produce a...	Y1	46,721	Qty: 1 joint scoping mapping (MERP-ENTC, ELVCDP) Unit cost: USD 47,000 lump sum Modality: LoA between FAO IE, ENTC and ELVCDP Note: Institutional capacity building via LAs, CDCs, NRMCs; co-scheduled with MERP-ENTC & SAPEMP.
2.1.2	By Year 2, establish new CDCs and NRMCs only in chiefdoms confirmed not yet covered by MERP-ENTC, CSARL, or...	Y1–Y2	233,607	Qty: New CDCs/NRMCs in confirmed uncovered chiefdoms (~ 15 chiefdoms) Unit cost: ~ USD 15,500/chiefdom Modality: Sub-grants via MoA & Ministry of Tinkhundla; MERP-ENTC capacity-building model Trainings: ~ 15 multi-day capacity-building cohorts × USD 8,700 Note: Institutional capacity building via LAs, CDCs, NRMCs; co-scheduled with MERP-ENTC & SAPEMP.
2.1.3	By Year 2, provide structured capacity building to Landscape Associations in NRM framework implementation...	Y1–Y2	79,427	Qty: 3 Landscape Associations × structured capacity building + EADF/EEF/RDF linkages Unit cost: ~ USD 26,400/LA Modality: Sub-grants via FAO; technical assistance by Project Coordinator Trainings: 3 LA capacity-building cohorts × USD 18,500 Note: USD 6–12/HH EWS last-mile via SMS & community radio (siSwati, low-literacy).
2.1.4	By Year 2, organize gender age and vulnerable groups-balanced community planning sessions in all targets...	Y1–Y2	210,245	Qty: 20 chiefdom CDP-update planning sessions × 2 rounds (incl. safe-space women/youth) Unit cost: ~ USD 5,250/chiefdom-session Modality: Sub-grants to LAs/NRMCs; Gender Specialist oversight Trainings: 74 planning sessions × USD 5,250 Note: Institutional capacity building via LAs, CDCs, NRMCs; co-scheduled with MERP-ENTC & SAPEMP.
O2.2	Output 2.2 Coordination arrangements & multi-hazard response protocols		160,000	
2.2.1	By Month 6, conduct a mapping exercise of all active coordination platforms involving MERP-ENTC, ELVCDP...	Y1	3,511	Qty: 1 cross-project coordination platform mapping Unit cost: USD 3,500 lump sum Modality: Direct PMU implementation Note: Stakeholder/coordination scoping; one-off Y1 cost; shared with MERP, SAPEMP, ELVCDP.
2.2.2	By Month 6, establish agreements between SEASL (FAO), ENTC (MERP), and the Ministry of Tinkhundla to: (i)...	Y1	1,003	Qty: 3 inter-agency agreements (FAO-ENTC-Tinkhundla) Unit cost: USD 1,000 lump sum Modality: LoAs negotiated by PMU Note: Uses MERP-ENTC validated CEEA strategy; siSwati low-literacy formats.
2.2.3	By Year 2, organize minimum 3 structured study visits per landscape (6 total) to SNPAS's award-winning...	Y1–Y2	20,063	Qty: 6 study visits to SNPAS wetland chiefdom × 20 CDC/NRMC leaders Unit cost: ~ USD 3,400/visit Modality: Direct PMU implementation; transport via FAO LTA Trainings: 6 peer motivation visits × USD 3,400

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
				Note: Cross-landscape exchange visits; pre/post surveys; ≥40% women, ≥30% youth.
2.2.4	By Year 2, develop and implement wildfire response protocols, post-hail rangeland recovery checklists, and...	Y1–Y2	135,423	Qty: 20 chiefdoms × multi-hazard response protocols (wildfire, drought, hail) + 1 simulation/chiefdom Unit cost: ~ USD 7770/chiefdom Modality: Sub-grants to NRMCS; technical input from EMS, NDMA, MoA Trainings: 37 simulation exercises × USD 2700 + protocol-development workshops Note: CDI-E adoption & data-sharing with NDMA / SADC-CSC; one-off Y1 setup.
C3. Ecosystem Restoration				
O3.1	Output 3.1 Rangeland management planning & grazing rights		1,120,000	
3.1.1	By Month 6, establish coordination protocol with the Department of Veterinary and Livestock Services and...	Y1	27,565	Qty: 1 Lubombo rangeland coordination protocol (Vet Services + ELVCDP) Unit cost: USD 27,600 lump sum Modality: LoA with Dept of Veterinary and Livestock Services + ELVCDP Note: Inter-agency protocol (LoA-based); minimal recurrent cost.
3.1.2	By Year 1, facilitate community-led assessments of unsustainable rangeland practices (overstocking, IAPS...	Y1	123,316	Qty: 20 chiefdoms × community-led rangeland assessments (Year 1 cohort) Unit cost: ~ USD 6,160 /chiefdom Modality: Sub-grants to NRMCS; standardized scorecards via FAO LTA Trainings: 20 community scorecard workshops × USD 1,200 Note: USD 150–300/ha rangeland management ELVCDP for Lubombo livestock corridor.
3.1.2	By Year 2, conduct rangeland health assessments in all 37 chiefdoms, identifying degradation hotspots and...	Y1–Y2	166,840	Qty: 20 chiefdoms × rangeland health assessments; ≥ 5 drought-tolerant species/landscape Unit cost: ~ USD 8,340 /chiefdom Modality: Service contract via FAO; co-delivered with MoA Dept of Rangeland management Note: USD 150–300/ha rangeland management; ELVCDP for Lubombo livestock corridor.
3.1.3	By Year 2, mobilize communal resource users across all target chiefdoms and develop costed, multi-year...	Y1–Y2	253,885	Qty: 20 chiefdom multi-year rangeland management plans (GESI-based) Unit cost: ~ USD 12,690/plan Modality: Sub-grants to NRMCS; Gender Specialist oversight; LA validation Trainings: 20 plan-development workshops × USD 4,000 Note: USD 150–300/ha rangeland management; ELVCDP for Lubombo livestock corridor.
3.1.4	By Year 3, support MoA's Department of Rangeland Management to introduce perennial fodder species (including...	Y2–Y3	507,772	Qty: ~ 3,500 ha intensive rangeland management (perennial fodder, incl. Lucerne) Unit cost: USD 145/ha (cf. Part II.C Table 24: USD 150–300/ha range) Modality: Sub-contracts with MoA Dept of Rangeland management; coordinated with ELVCDP Trainings: ~ 12 fodder-establishment training cohorts × USD 4,800 Note: USD 150–300/ha rangeland management; ELVCDP for Lubombo livestock corridor.
3.1.5	By Year 3, produce published rangeland management plans and investment case documents designed to attract...	Y2–Y3	27,565	Qty: ~ 2 published rangeland investment cases (EADF/EEF/private) Unit cost: ~ USD 13,800/case Modality: Sub-contract with consultancy via RfP Note: USD 150–300/ha rangeland management; ELVCDP for Lubombo livestock corridor.
3.1.6	By Month 6, establish coordination protocol with the Department of Veterinary and Livestock Services and...	Y1	13,057	Qty: 1 ELVCDP coordination follow-up & Y1 reporting Unit cost: USD 13,100 lump sum Modality: PMU + Climate Specialist; LoA addendum with ELVCDP Note: Inter-agency protocol (LoA-based); minimal recurrent cost.
O3.2	Output 3.2 Wetland fencing & restoration at scale		250,000	
3.2.1	By year 1, Identify degraded wetlands using SNPAS's 7 existing management plans as the baseline for Ngwempisi...	Y1	106,250	Qty: ~ 20 degraded wetlands assessed (SNPAS 7 baseline + Lubombo additions) Unit cost: ~ USD 5,346/wetland Modality: Service contract with hydrologist consortium via FAO RfP Note: GIS + participatory baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
3.2.2	By Year 2, design wetland restoration sites with water-for-multiple-uses as a core principle: each restored...	Y1–Y2	21,875	Qty: 300 ha wetland restoration (multi-use design verified by hydrologist) Unit cost: USD ~ 73/ha (catalytic costs only; physical works mostly community labour) Modality: Sub-grants to wetland management committees; hydrologist sign-off mandatory Note: Wetland restoration unit costs USD 350–600/ha; updates SNPAS plans, no duplication.
3.2.3	By Year 2, mobilize communities and develop inclusive wetland management plans for all target wetlands and...	Y1–Y2	65,625	Qty: ~ 20 wetland management plans + fencing (40% women on committees) Unit cost: ~ USD 3,302/wetland (plan + 1 km fencing avg) Modality: Sub-grants to committees; fencing materials via FAO LTA Trainings: 20 wetland committee orientation sessions × USD 1,200 Note: Wetland restoration unit costs USD 350–600/ha; updates SNPAS plans, no duplication.
3.2.4	From Year 1, systematically deploy SNPAS's 24-month wetland regeneration success story as the primary...	Y1–Y5	43,750	Qty: ~ 18,500 HH-reach via SNPAS 24-month success story (study visits, docs, radio) Unit cost: ~ USD 2.4/HH (multi-channel) Modality: Sub-contract with communications consortium + community radio LoAs Note: Cross-landscape exchange visits; pre/post surveys; ≥40% women, ≥30% youth.
3.2.5	By Year 1, engage MNRE and the Environmental Authority for all wetland restoration activities; update — not...	Y1	12,500	Qty: 20 wetland environmental compliance sign-offs from MNRE/EEA Unit cost: ~ USD 625/sign-off Modality: Statutory fees + PMU coordination Note: Wetland restoration unit costs USD 350–600/ha; updates SNPAS plans, no duplication.

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
O3.3	Output 3.3 Woodlot management, soil erosion control & IAPS control		805,000	
3.3.1	By Year 1, assess IAPS-threatened areas using GIS mapping and participatory micro-zoning, building on...	Y1	69,180	Qty: 20 chiefdom IAPS priority maps (Black wattle, chromolaena, bugweed, Lantana) Unit cost: ~ USD 3,460/chiefdom Modality: Service contract; coordinated with EEA/Forestry national IAPS strategy Note: IAPS clearing WfW model: stipends + biomass revenues; coordinated with MERP-ENTC.
3.3.2	By Year 1, research and document IAPS eradication methods for Black Wattle, chromolaena, bugweed, and Lantana...	Y1	56,601	Qty: 1 IAPS eradication-method study + 1 economic case brief Unit cost: USD 56,000 lump sum Modality: Service contract with research consortium via RfP Note: IAPS clearing WfW model: stipends + biomass revenues; coordinated with MERP-ENTC.
3.3.3	By Year 2, mobilize communities in all target chiefdoms and develop costed multi-year IAPS management plans...	Y1–Y2	100,625	Qty: 20 chiefdom IAPS management plans Unit cost: ~ USD 5,030/plan Modality: Sub-grants to NRMCS; coordinated with MERP-ENTC Trainings: 37 IAPS plan-development workshops × USD 1,200 Note: IAPS clearing WfW model: stipends + biomass revenues; coordinated with MERP-ENTC.
3.3.4	By Year 1, develop IEC awareness materials with the Forestry Department and EEA on IAPS identification...	Y1–Y2	37,734	Qty: ~ 8 IAPS IEC awareness product types; permits for 37 chiefdoms Unit cost: ~ USD 4,700/product + permit fees Modality: Sub-contract with EEA/Forestry; permits via statutory route Note: Uses MERP-ENTC validated CEEA strategy; siSwati low-literacy formats.
3.3.5	From Year 4, revegetate degraded soils with CSARL-validated native species gully reclamation techniques...	Y4–Y5	150,938	Qty: ~ 146 ha critical donga revegetation (Tshaneni, Nsoko, Ndzevane priority) Unit cost: ~ USD 1,035/ha (donga revegetation) Modality: Sub-contract with Forestry Dept + community labour sub-grants Note: IAPS clearing WfW model: stipends + biomass revenues; coordinated with MERP-ENTC.
3.3.6	From Year 1, link IAPS clearing areas formally to community fire management protocols under Output 2.2 and...	Y1–Y5	88,047	Qty: ~ 20 chiefdom IAPS↔fire-management registry integrations + annual simulations Unit cost: ~ USD 4,420/chiefdom over 5 years Modality: Sub-grants to NRMCS; aligned with fire response protocols (Output 2.2) Trainings: 37 fire-management simulation drills × USD 800 Note: IAPS clearing WfW model: stipends + biomass revenues; coordinated with MERP-ENTC.
3.3.7	By Year 3, produce IAPS investment case documents designed to attract private sector, government, and...	Y2–Y3	31,445	Qty: ~ 2 IAPS investment cases for private/public financing Unit cost: ~ USD 15,700/case Modality: Service contract via RfP Note: IAPS clearing WfW model: stipends + biomass revenues; coordinated with MERP-ENTC.
3.3.8	From Year 2, train communities on IAPS control tools and pilot a Working for Water Eswatini (WfW) model in...	Y2–Y5	270,430	Qty: Working for Water Eswatini pilot — ~ 250 youth/women clearing teams over 4 yrs Unit cost: ~ USD 1,080/team-member-year (stipend + biomass uplift) Modality: Sub-grants via FAO; performance-based pay; WfW South Africa model Trainings: ~ 20 IAPS-control & safety trainings × USD 4,500 Note: WfW model: clearing teams paid stipends + biomass revenues; youth & FHH priority.
O3.4	Output 3.4 Nurseries with hail-protective structures & business plans		600,000	
3.4.1	By Year 3, rehabilitate 6 nurseries (4 community, 2 public) and install hail-protective structures at each...	Y2–Y3	166,668	Qty: 6 nurseries rehabilitated (4 community + 2 public) with hail-protective structures Unit cost: ~ USD 27,750/nursery Modality: Civil works via competitive procurement; FAO RfP per nursery Note: Shade nets / hail protection at confirmed hailstorm hotspots (Activity 1.1.1 hazard map).
3.4.2	By Year 3, develop 6 nursery management manuals specifying only climate-appropriate, drought-tolerant...	Y2–Y3	44,445	Qty: 6 nursery management manuals with species exclusion list Unit cost: ~ USD 7,400/manual Modality: Sub-contract with botanical consortium; validated by MoA/Forestry Note: Nursery rehab + GAP cert. linked to HGSP procurement; women/youth as co-owners.
3.4.3	By Year 3, document and validate propagation techniques for priority species confirmed effective under...	Y2–Y3	27,777	Qty: 6 propagation protocol guides (drought-validated species) Unit cost: ~ USD 4,625/protocol Modality: Sub-contract with botanical/seed-system experts Note: Nursery rehab + GAP cert. linked to HGSP procurement; women/youth as co-owners.
3.4.4	From Year 2 (training) and Year 3 (tools), train community members in climate-resilient nursery operations...	Y2–Y3	66,666	Qty: ~ 1,200 nursery operators trained (40% women, 30% youth) Unit cost: ~ USD 55/trainee Modality: Sub-contract with MoA Forestry + technical institutions Trainings: ~ 12 FFS-style cohorts × USD 5,550 Note: Nursery rehab + GAP cert. linked to HGSP procurement; women/youth as co-owners.
3.4.5	By Year 4, support Good Agricultural Practice (GAP) certification for all 6 nurseries, with first...	Y3–Y4	66,666	Qty: 6 GAP-certified nurseries (HGSP/FAO supply chain ready) Unit cost: ~ USD 11,100/certification Modality: Service contract with GAP-accredited certifier via RfP Note: Formal offtake MoUs (HGSP, SAPEMP coops) signed BEFORE Y3 production scale-up.
3.4.6	By Year 4, expand the species portfolio at all 6 nurseries to include additional indigenous varieties with...	Y3–Y4	50,000	Qty: 6 nurseries × expanded multi-hazard-resilient species portfolio Unit cost: ~ USD 8,325/nursery Modality: Sub-grants to nursery enterprises; species validation via MoA Note: Nursery rehab + GAP cert. linked to HGSP procurement; women/youth as co-owners.
3.4.7	By Year 4, increase production of edible native species (fruits,	Y3–Y4	61,111	Qty: Edible native species lines at 6 nurseries (drought-tolerant + nutritionally dense)

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
	medicinal plants) at nurseries, targeting...			Unit cost: ~ USD 10,175/nursery Modality: Sub-grants to nursery enterprises; women processing & sales pathway support Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
3.4.8	By Year 3, develop formal nursery business plans for all 6 nurseries with: (i) confirmed HGSF and government...	Y2–Y3	50,000	Qty: 6 nursery business plans + HGSF/government reforestation MoUs Unit cost: ~ USD 8,325/plan Modality: Sub-contract with enterprise dev consultancy; MoUs via HGSF/FAO Note: USD 6–12/HH EWS last-mile via SMS & community radio (siSwati, low-literacy).
3.4.9	By Year 3, establish 6 community seed and gene banks at nursery sites, with formal protocols for collection...	Y2–Y3	66,667	Qty: 6 community seed & gene banks at nursery sites Unit cost: ~ USD 11,100/bank Modality: Civil works + protocols via FAO RfP; MoA seed-system integration Trainings: 6 seed-custodian trainings × USD 2,200 Note: Nursery rehab + GAP cert. linked to HGSF procurement; women/youth as co-owners.
O3.5	Output 3.5 Water harvesting infrastructure (rehabilitation)		905,000	
3.5.1	By year 1 month 6, conduct participatory water needs assessments in all target chiefdoms, covering household...	Y1	52,792	Qty: 20 chiefdoms × participatory water-needs assessments Unit cost: ~ USD 2,640/chiefdom Modality: Sub-grants to NRMCS; technical input from FAO Climate Specialist Note: Water infra (ferro-cement tanks USD 350–500/HH, reticulation); placed in confirmed water-stress sites.
3.5.2	By year 1 month 6, rank and map water-stressed sites across both landscapes using GIS analysis linked to...	Y1	75,417	Qty: 1 cross-landscape water infrastructure priority map (GIS) Unit cost: USD 75,000 lump sum Modality: Service contract with GIS provider; integrated with rangeland/wetland mapping Note: Water infra (ferro-cement tanks USD 350–500/HH, reticulation); placed in confirmed water-stress sites.
3.5.3	From Year 2, design and install nature-based solutions, incl. household ferro-cement rainwater tanks and...	Y2–Y5	414,791	Qty: 1,500 ferro-cement rainwater tanks + ~ 20 community reservoirs/water points Unit cost: USD 350–500/HH tank (cf. Part II.C Table 24; CSARL design); reservoirs ~ USD 5,000 each Modality: Civil works via FAO competitive procurement; community-labour cost-share for tanks; priority FHH/youth/PWDs Trainings: ~ 20 community O&M training rounds × USD 2,800 Note: USD 350–500/HH ferro-cement tank (CSARL design); priority FHH, youth, PWDs.
3.5.4	By Year 2 (before any infrastructure is installed), train NRMCM members in water source management; establish...	Y1–Y2	105,584	Qty: ~ 250 NRMCM water-mgmt members trained; 1 maintenance technician/site Unit cost: ~ USD 420/trainee + USD 600/technician orientation Modality: Sub-contract with technical training institute Trainings: ~ 15 NRMCM water-mgmt cohorts × USD 7,000 Note: Training cohorts (CSARL FFS model); training-before-equipment sequencing.
3.5.5	By Year 2, assess groundwater recharge potential from restored wetlands and coordinate with the GEF-UNDP...	Y1–Y2	60,334	Qty: 1 groundwater-recharge study (Incomati-Maputo transboundary alignment) Unit cost: USD 60,000 lump sum Modality: LoA with GEF-UNDP transboundary water project; sub-contract for fieldwork Note: Water infra (ferro-cement tanks USD 350–500/HH, reticulation); placed in confirmed water-stress sites.
3.5.6	By Year 4, install water reticulation systems for livestock water points across rangeland areas, coordinated...	Y3–Y4	158,376	Qty: ~ 20 livestock water-reticulation systems in rangeland sites Unit cost: ~ USD 7916/installation Modality: Civil works via FAO competitive procurement; coordinated with ELVCDP Note: Drip/reticulation only where Output 3.5 confirms supply; co-located with ELVCDP livestock infra.
3.5.7	By Year 4, test water quality at restored water sources using standard WHO parameters; flag unsafe sources...	Y3–Y4	37,706	Qty: ~ 80 water-quality test points (WHO parameters) Unit cost: ~ USD 470/site/yr Modality: Sub-contract with accredited water-quality lab Note: Water infra (ferro-cement tanks USD 350–500/HH, reticulation); placed in confirmed water-stress sites.
O3.6	Output 3.6 Agroforestry with climate-appropriate species		550,000	
3.6.1	By Year 1 month 6, conduct agroforestry species selection for both landscapes, shortlisting only...	Y1	6,362	Qty: 1 agroforestry species shortlist per landscape (2 total) — drought+heat+hail tolerant Unit cost: USD 6,340 lump sum Modality: Sub-contract with MoA/Forestry; validated against CSARL/SNPAS data Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
3.6.2	From Year 2 (training) and Year 3 (planting), train HHs on improving agricultural micro-climate through...	Y2–Y3	86,750	Qty: ~ 1,400 HHs trained on agroforestry + small-scale processing Unit cost: ~ USD 62/trainee Modality: Sub-contract with MoA Forestry Extension; FFS model Trainings: ~ 14 FFS cohorts × USD 6,180 Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
3.6.3	From Year 3, plant climate-appropriate trees (CSARL- and LUSIP-proven species from the Year 1 month 6...	Y3–Y5	138,802	Qty: ~ 170 ha agroforestry tree planting (CSARL/LUSIP-proven species) Unit cost: USD 450–800/ha (cf. Part II.C Table 24); SEASL avg ~ USD 815/ha incl. gap-filling Modality: Civil works + community labour; seedlings from project nurseries (Output 3.4) Trainings: ~ 12 planting & post-planting monitoring trainings × USD 1,725 Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
3.6.4	From Year 2, promote commercial woodlot pilot sites	Y2–Y5	104,101	Qty: ~ 130 ha commercial woodlot pilot (wattle-infested rangelands) Unit cost: ~ USD 800/ha incl. buyer linkage development

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
	in wattle-infested rangelands, directly linked to the WfW...			Modality: Sub-grants to youth enterprises (WfW model link); buyer MoUs prior to scale-up Note: WfW model: clearing teams paid stipends + biomass revenues; youth & FHH priority.
3.6.5	From Year 2, introduce leguminous shrub species per landscape (selected for hailstorm tolerance where...	Y2–Y5	98,318	Qty: ~ 130 ha leguminous fodder shrubs (hail-tolerant where applicable) Unit cost: ~ USD 755/ha Modality: Sub-contract with MoA Forestry + ELVCDP for livestock fodder coordination Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
3.6.6	From Year 2 (training) and Year 3 (assets), establish youth agroforestry incubation pathways for youth...	Y2–Y3	115,667	Qty: ~ 150 youth agroforestry incubates + group land-access arrangements Unit cost: ~ USD 770/incubate (training + starter kit) Modality: Sub-grants via EYEOP Imakhete platform; starter kits via FAO LTA Trainings: ~ 8 incubation cohorts × USD 14,400 Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
C4. Climate-Smart Livelihoods				
O4.1	Output 4.1 Beekeeping VC with training, equipment & secured contracts		517,000	
4.1.1	By Year 1 month 6, identify and formally map apiary sites across both landscapes, linking each site to...	Y1	48,606	Qty: ~ 60 apiary sites mapped & linked to wetlands/woodlots Unit cost: ~ USD 817/site (incl. ecosystem-stewardship agreement) Modality: Sub-grants to NRMCS; coordinated with Output 3 site selection Note: USD 280–400/beneficiary beekeeping kit; training before equipment.
4.1.2	From Year 2 (training) and Year 3 (equipment), train HHs (≥40% women, ≥30% youth, prioritizing unemployed...	Y2–Y3	114,889	Qty: ~ 1,500 HHs trained on hive-making, colony management, safety, business dev (incl. ~ 300 youth-track) Unit cost: ~ USD 77/trainee Modality: Sub-contract with apiculture institute; FFS + cooperative model Trainings: ~ 15 FFS cohorts × USD 7,720 Note: USD 280–400/beneficiary beekeeping kit; training before equipment.
4.1.3	By Year 1 month 6 end (before any production scale-up), secure formal offtake agreements and market contracts...	Y1	57,445	Qty: Offtake MoUs with HGSF + SAPEMP cooperatives (~ 4 contracts) Unit cost: ~ USD 14,480/contract development Modality: PMU + SAPEMP coordination; contracts reviewed annually Note: Formal offtake MoUs (HGSF, SAPEMP coops) signed BEFORE Y3 production scale-up.
4.1.4	By Year 4, produce documented case studies on beekeeping as a climate-resilient livelihood model, featuring...	Y3–Y4	22,094	Qty: ~ 4 documented case studies (women & youth beekeeping) Unit cost: ~ USD 5,570/case study Modality: Sub-contract with communications consultancy; disseminated via STOSAR II AIMS Note: USD 280–400/beneficiary beekeeping kit; training before equipment.
4.1.5	By Year 4, develop climate-contingency sustainability plans for cooperatives/FFS, including: (i) income...	Y3–Y4	53,026	Qty: ~ 8 cooperative/FFS sustainability plans with climate-contingency provisions Unit cost: ~ USD 6,685/plan Modality: Sub-contract with enterprise dev consultancy; FAO oversight Note: USD 280–400/beneficiary beekeeping kit; offtake via HGSF & SAPEMP cooperatives.
4.1.6	From Year 2 (only after training verified under 4.1.2), provide beekeeping production and processing...	Y2–Y5	132,564	Qty: ~ 1,200 beekeeping kits (hives, protective gear, extraction tools, wax/propolis supplies) Unit cost: USD 280–400/beneficiary kit (cf. Part II.C Table 24) Modality: Competitive procurement via FAO; equipment released only after 4.1.2 training sign-off Note: USD 280–400/beneficiary beekeeping kit; training before equipment.
4.1.7	From Year 2, establish youth beekeeping incubation pathways for youth (≥40% young women, ≥30% land-poor...	Y2–Y5	88,376	Qty: ~ 300 youth beekeeping incubates (group apiary model, mentorship, starter kits) Unit cost: ~ USD 297/incubate Modality: Sub-grants via EYEOP Imakhete; group apiary infrastructure Trainings: ~ 6 incubation cohorts × USD 14,850 Note: USD 280–400/beneficiary beekeeping kit; training before equipment.
O4.2	Output 4.2 Drought-tolerant indigenous varieties & seed multiplication		395,000	
4.2.1	By Year 1 month 6, update the agricultural production baseline for all target chiefdoms, building on CSARL's...	Y1	28,727	Qty: 20 chiefdoms × agricultural production baseline update (crop, variety, climate perf.) Unit cost: ~ USD 1,430/chiefdom Modality: Sub-contract with agricultural statistics consortium Note: GIS + participatory baselines (FAO STOSAR II protocols); one-off Y1–2 cost.
4.2.2	From Year 2, build community capacity on erosion control and conservation agriculture across HHs, using...	Y2–Y5	71,818	Qty: ~ 1,800 HHs trained on erosion control & conservation agriculture (≥ 40% women) Unit cost: ~ USD 40/trainee Modality: Sub-contract with MoA + CSARL trainers Trainings: ~ 18 CA training cohorts × USD 3,990 Note: Cascading FFS training (CSARL-derived); GESI quotas ≥40% women, ≥30% youth.
4.2.3	From Year 3, promote growing of IK drought-tolerant varieties documented in Activity 1.1.4, with technical...	Y3–Y5	86,181	Qty: ~ 20 IK drought-tolerant varieties promoted + planting-calendar adjustment Unit cost: ~ USD 4,313/variety incl. propagation TA Modality: Sub-contract with MoA + community seed custodians Note: Drought-tolerant IK varieties & seed multiplication; women as recognized custodians.
4.2.4	From Year 3, promote drought-tolerant open-pollinated varieties and indigenous fruit tree species across both...	Y3–Y5	57,455	Qty: Drought-tolerant OPV seed multiplication + indigenous fruit-tree promotion Unit cost: Programmatic (combines seed lots, training, demo plots) ~ USD 2,870/chiefdom across 20 priority chiefdoms

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
				Modality: Sub-contract with seed multipliers; exclusion list for water-scarce sites Note: Drought-tolerant IK varieties & seed multiplication; women as recognized custodians.
4.2.5	By Year 4, improve pasture resilience in water-stressed rangeland sites through water reticulation...	Y3–Y4	79,000	Qty: ~ 18 rangeland water-reticulation installations (water-stress sites) Unit cost: ~ USD 4,393/installation Modality: Civil works coordinated with Output 3.5; ELVCDP de-confliction Note: Drip/reticulation only where Output 3.5 confirms supply; co-located with ELVCDP livestock infra.
4.2.6	From Year 3, establish community seed multiplication systems for documented IK varieties in all targets...	Y3–Y5	71,819	Qty: ~ 20 chiefdom community seed multiplication systems Unit cost: ~ USD 3,590/chiefdom-system Modality: Sub-grants to seed custodians; HGSF + GEF-FAO sustainable food systems linkage Trainings: 20 community seed-custodian trainings × USD 600 Note: Drought-tolerant IK varieties & seed multiplication; women as recognized custodians.
O4.3	Output 4.3 CSA technologies scaled		380,000	
4.3.1	From Year 2 (only where Output 3.5 confirms adequate water supply), convert furrow to drip irrigation for...	Y2–Y5	149,479	Qty: ~ 15 SAPEMP farmer-group drip irrigation conversions Unit cost: ~ USD 9,943/group conversion (cf. Part II.C: USD 400/ha motor-pump; SEASL packs incl. tubing + training) Modality: Civil works + equipment via FAO LTA; only where Output 3.5 confirms water supply Trainings: 15 drip-irrigation operation trainings × USD 1,200 Note: Drip/reticulation only where Output 3.5 confirms supply; co-located with ELVCDP livestock infra.
4.3.2	From Year 2 (training) and Year 3 (equipment), provide climate-smart mechanization (no-till planters) across...	Y2–Y3	61,232	Qty: ~ 12 climate-smart mechanization packages (no-till planters) across RDAs Unit cost: ~ USD 5,091/package Modality: Procurement via FAO LTA; training-before-equipment sequencing Trainings: 12 no-till mechanization trainings × USD 1,800 Note: CSA technologies (drip, no-till, shade nets); training-before-equipment sequencing.
4.3.3	From Year 3, install shade nets and hail-protective structures (not greenhouses) at hailstorm hotspot sites...	Y3–Y5	90,047	Qty: ~ 80 shade-net/hail-protective structures (hailstorm hotspots; no greenhouses) Unit cost: ~ USD 1,123/structure Modality: Civil works via FAO LTA; priority HHs with documented hail losses Note: Shade nets / hail protection at confirmed hailstorm hotspots (Activity 1.1.1 hazard map).
4.3.4	From Year 2, pilot fertilizer tea trial sites across both landscapes; evaluate results by Year 3 before...	Y2–Y3	79,242	Qty: ~ 12 fertilizer-tea pilot sites + evaluation Unit cost: ~ USD 6,589/pilot site Modality: Sub-contract with agronomic research; no scale-up without trial evidence Trainings: ~ 8 pilot operator trainings × USD 2,400 Note: CSA technologies (drip, no-till, shade nets); training-before-equipment sequencing.
O4.4	Output 4.4 Value chain platforms & formal market linkages		205,000	
4.4.1	By year 1, map existing producer groups against CSARL, FINCLUDE, SAPEMP, EADF, ELVCDP, FAO, and EYEOP to...	Y1	33,162	Qty: 1 cross-project producer-group mapping (CSARL/FINCLUDE/SAPEMP/EADF/ELVCDP/FAO/EYEOP) Unit cost: USD 33,000 lump sum Modality: PMU + Climate Specialist; LoA-based data sharing with partners Note: Value-chain platforms & HGSF/EYEOP market linkages; no parallel SEASL marketing.
4.4.2	By Year 2, formalize offtake agreements with HGSF, SAPEMP cooperatives/FFS, and formal private sector for...	Y1–Y2	48,236	Qty: ~ 6 value-chain offtake agreements (beekeeping, agroforestry, horticulture) Unit cost: ~ USD 8,019/agreement Modality: PMU + SAPEMP/FAO; annual review Note: USD 450–800/ha agroforestry; species validated against CSARL/SNPAS survival data.
4.4.3	By year 2, formalize agreements with HGSF/FAO and WFP for HGSF school feeding programme procurement from...	Y1–Y2	54,265	Qty: HGSF/FAO + WFP MoUs operational; first purchase orders before Y3 scale-up Unit cost: ~ USD 27,064 lump sum Modality: LoA with HGSF/FAO; WFP MoU Note: Formal offtake MoUs (HGSF, SAPEMP coops) signed BEFORE Y3 production scale-up.
4.4.4	From Year 2, train women entrepreneurs and youth entrepreneurs on business planning, focusing on processing...	Y2–Y5	69,337	Qty: ~ 600 women & youth entrepreneurs trained (start-up + semi-commercial tracks) Unit cost: ~ USD 115/trainee Modality: Sub-contract with enterprise dev consultancy; EYEOP Imakhete channel for youth Trainings: ~ 12 entrepreneurship cohorts × USD 5,760 Note: Business plans with confirmed market linkages & climate contingency provisions.
4.4.5	From Year 2, develop climate-smart marketing training tools integrating STOSAR II's AIIS market information...	Y2–Y5	0	Qty: AIIS-based marketing tools + training for producer-group leaders Unit cost: Funded under Output 1.3 (KM doc) and 1.2 (EWS) — zero direct cost here Modality: Integrated with STOSAR II AIIS via LoA Trainings: ~ 8 AIIS training sessions (cost absorbed by Outputs 1.2/1.3) Note: Training cohorts (CSARL FFS model); training-before-equipment sequencing.
4.4.6	From Year 2, provide structured enterprise coaching to entrepreneurs (≥40% women, ≥30% youth) using the...	Y2–Y5	0	Qty: Enterprise coaching via EYEOP/EYEP skills-capital-market model Unit cost: Channeled through EYEOP — zero parallel cost here Modality: LoA with EYEOP; youth grants via EYEOP mechanism Note: Value-chain platforms & HGSF/EYEOP market linkages; no parallel SEASL marketing.
O4.5	Output 4.5 Value addition & traceability programmes		270,000	

Ref.	Activity (abbreviated)	Period	USD	Budget notes (qty / unit cost / modality / trainings)
4.5.1	From Year 2, promote aggregation models for value addition of honey sub-products (wax, propolis, honey-based...	Y2–Y5	49,655	Qty: ~ 8 honey aggregation centers for sub-product value addition (wax, propolis) Unit cost: ~ USD 6,160/center Modality: Sub-grants to enterprises; HGSP + SAPEMP market linkages Note: Value addition via FFS/aggregation centers; ≥40% women / ≥30% youth as enterprise members.
4.5.2	From Year 2, support women and youth enterprises through climate-controlled storage facilities and EYEOP's...	Y2–Y5	37,241	Qty: ~ 10 climate-controlled storage facilities for women/youth enterprises Unit cost: ~ USD 3,697/facility Modality: Civil works via FAO LTA; EYEOP Imakhete digital marketing linkage Note: Value addition & traceability via FFS/aggregation; EYEOP Imakhete platform for youth.
4.5.3	From Year 2, develop Farmer Field Schools (FFS) and aggregation centers across both landscapes, formally...	Y2–Y5	55,862	Qty: ~ 12 FFS + aggregation centers established across landscapes Unit cost: ~ USD 4,621/center Modality: Sub-grants via EADF/SAPEMP/FAO market channels Trainings: ~ 12 FFS facilitator orientations × USD 2,310 Note: Value addition via FFS/aggregation centers; ≥40% women / ≥30% youth as enterprise members.
4.5.4	From Year 2 (knowledge) and Year 3 (application), train community members (≥40% women, ≥30% youth) on value.	Y2–Y3	0	Qty: Value-addition, financial-literacy & climate-risk training (≥ 40% women, ≥ 30% youth) Unit cost: Funded under Output 4.4 entrepreneurship training — zero direct cost here Modality: Integrated with 4.4.4 cohorts; AIIS market info via STOSAR II Trainings: ~ 12 cohorts (cost absorbed by 4.4.4) Note: Training cohorts (CSARL FFS model); training-before-equipment sequencing.
4.5.5	From Year 3 (only after training under 4.5.4 verified and market contracts under 4.4.1 signed), provide...	Y3–Y5	86,897	Qty: ~ 20 post-harvest value-addition equipment kits (dryers, processing, packaging) Unit cost: ~ USD 4,312/kit Modality: Competitive procurement via FAO; released only after 4.5.4 training + 4.4.1 market contracts Note: Formal offtake MoUs (HGSP, SAPEMP coops) signed BEFORE Y3 production scale-up.
4.5.6	From Year 2, promote post-harvest support for climate-resilient varieties and small livestock; develop and...	Y2–Y3	40,345	Qty: Post-harvest support + contingency protocols (ELVCDP FMD response model) Unit cost: ~ USD 11,442/contingency protocol with simulation Modality: Sub-grants to enterprises; ELVCDP veterinary services integration Trainings: ~ 4 protocol simulation exercises × USD 4,000 Note: Value addition & traceability via FFS/aggregation; EYEOP Imakhete platform for youth.
	Total Project Activities (C1–C4)		8,342,000	

*Where chiefdom is mentioned, it equates to community

150. Project Execution Costs (PEC) detailed breakdown. The PEC envelope of USD 875,000 (9.49% of the project amount, within the AF 9.5% cap) is composed of: (A) seven core PMU staff (Project Coordinator and six specialists, all directly hired by FAO under a Letter of Agreement with competitive recruitment per FAO HR rules); (B) operational overheads (office, vehicles, ICT, supplies, banking); (C) annual external audits; (D) the project-wide Grievance Redress Mechanism (GRM) covering all 37 chiefdoms; and (E) statutory project administration (PSC and technical working groups, AF/IFAD reporting, and inception and completion events at USD 5,000 each). PMU FTEs are concentrated in Years 1–3 and taper in Years 4–5 as activities consolidate.

Table 44 Detailed Project Execution Costs (PEC) by line item and year (USD)

Ref.	Line item / FTE / modality	Y1	Y2	Y3	Y4	Y5	Total
A. PMU core staff (direct hire by FAO under LoA; competitive FAO HR recruitment)							
PEC.1	Project Coordinator FTE: 100% Y1-3, 50% Y4, 35% Y5 · Unit cost: USD 38,000/yr (full-FTE)	38,000	38,000	38,000	19,000	13,300	146,300
PEC.2	M&E Specialist FTE: 100% Y1-3, 40% Y4, 30% Y5 · Unit cost: USD 30,000/yr (full-FTE)	30,000	30,000	30,000	12,000	9,000	111,000
PEC.3	Climate Specialist FTE: 100% Y1-3, 25% Y4, 15% Y5 · Unit cost: USD 30,000/yr (full-FTE)	30,000	30,000	30,000	7,500	4,500	102,000
PEC.4	Gender Specialist FTE: 60% Y1-3, 20% Y4, 15% Y5 · Unit cost: USD 25,000/yr (full-FTE)	15,000	15,000	15,000	5,000	3,750	53,750
PEC.5	E&S Safeguards Specialist FTE: 50% Y1-3, 20% Y4, 15% Y5 · Unit cost: USD 25,000/yr (full-FTE)	12,500	12,500	12,500	5,000	3,750	46,250
PEC.6	KM & Comms Officer FTE: 50% Y1-3, 20% Y4, 15% Y5 · Unit cost: USD 22,000/yr (full-FTE)	11,000	11,000	11,000	4,400	3,300	40,700
PEC.7	Procurement & Finance Officer FTE: 60% Y1-3, 30% Y4, 20% Y5 · Unit cost: USD 24,000/yr (full-FTE)	14,400	14,400	14,400	7,200	4,800	55,200
	Subtotal A. PMU staff	150,900	150,900	150,900	60,100	42,400	555,200
B. Operational overheads (rent, utilities, security; vehicles; ICT; supplies; bank charges)							
PEC.8	Office rent, utilities, security Modality: Shared lease (PMU office, Mbabane); utilities at metered cost	18,000	20,100	4,500	6,000	2,300	50,900
PEC.9	Vehicles & field travel Modality: AF-financed project field mobility costs, including vehicle access/lease arrangements, fuel and field travel required for SEASL implementation. Any	32,000	46,000	2,000	11,500	2,000	93,500

Ref.	Line item / FTE / modality	Y1	Y2	Y3	Y4	Y5	Total
	Government logistical support provided through existing institutional resources will be complementary and will not be required for delivery of project outputs or achievement of project outcomes.						
PEC.10	ICT, software & connectivity Modality: ICT bundle: laptops, M&E tablets, GIS software, connectivity	13,800	7,300	800	3,000	600	25,500
PEC.11	Office supplies, stationery & printing Modality: Local procurement; framework agreement via FAO	4,000	5,000	1,000	1,500	300	11,800
PEC.12	Bank charges & FX handling Modality: Pass-through bank fees + FX (FAO Treasury)	1,600	2,000	1,100	1,200	400	6,300
	Subtotal B. Operational overheads	69,400	80,400	9,400	23,200	5,600	188,000
C. Annual external audit (independent assurance)							
PEC.13	Annual external audit Modality: Audit and assurance arrangements to be agreed between IFAD and FAO before financing/subsidiary agreements are signed; indicative budget envelope retained for required project audit/assurance costs	8,000	8,000	8,000	8,000	8,000	40,000
	Subtotal C. External audit	8,000	8,000	8,000	8,000	8,000	40,000
D. Grievance Redress Mechanism (operations across 37 chiefdoms)							
PEC.14	GRM set-up & operations Includes chiefdom-level GRM focal points, hotline, case-mgmt platform, awareness Modality: Sub-grants to NRMCS + service contract for case-mgmt platform	12,500	12,500	1,500	5,500	1,000	33,000
	Subtotal D. GRM	12,500	12,500	1,500	5,500	1,000	33,000
E. Statutory project administration (PSC, reporting, inception & completion events)							
PEC.15	PSC & technical meetings Modality: PSC twice-yearly + technical working groups; venue, travel, DSA	6,700	6,700	6,700	6,700	6,700	33,500
PEC.16	Statutory reporting Modality: AF / IFAD statutory reports (PPRs, financial, safeguards, GESI)	4,500	7,500	500	2,500	300	15,300
PEC.17	Inception & completion events Modality: Inception workshop (Y1) and closure event (Y5)	5,000	0	0	0	5,000	10,000
	Subtotal E. Statutory project administration	16,200	14,200	7,200	9,200	12,000	58,800
	TOTAL PROJECT EXECUTION COSTS (PEC)	257,000	266,000	177,000	106,000	69,000	875,000

H. Project Disbursement schedule

151. Disbursement of the AF grant is structured to align IFAD's responsibilities as Implementing Entity with FAO's responsibilities as proposed Executing Entity. The schedule is indicative and will be finalized in accordance with the AF Legal Agreement and the agreed IFAD-FAO financial arrangements. Any subsequent change to the Adaptation Fund disbursement schedule will be subject to the applicable Adaptation Fund approval requirements, including AF Board approval where required.
152. Front-loading rationale. The higher Years 1-2 disbursements reflect the sequencing of baseline and targeting work, establishment of institutional and early-warning systems, procurement and mobilization for restoration and water-harvesting activities, and early capacity building required before physical inputs are released. Subsequent transfers remain subject to satisfactory reporting and financial accountability, approved AWPBs and cash forecasts, and the requirements of the Adaptation Fund Legal Agreement and agreed IFAD-FAO financial arrangements.
153. **Disbursement flow.** The AF Board disburses to IFAD (Implementing Entity), which in turn disburses to FAO (Executing Entity) under the subsidiary agreement between IFAD and FAO. FAO manages activity-level disbursements to executing partners, contractors, and sub-grantees (Landscape Associations, community groups) under its own financial regulations and procurement rules, with safeguards and AF compliance conditions attached to every disbursement.
154. Disbursement conditions will follow the AF Legal Agreement and applicable Adaptation Fund procedures, including required project effectiveness documentation, approved reporting and satisfactory financial accountability for prior disbursements. SEASL does not assume an Adaptation Fund flexibility or utilization threshold for amending the disbursement schedule; any amendment will follow the applicable AF approval process.
- 155.

Table 45 SEASL indicative disbursement schedule (USD)

	Year 1 (Sep 2027–Aug 2028)– Initial disbursement following legal	Year 2 Sep 2028–Aug 2029 (indicative Q3 2028)	Year 3 Sep 2029–Aug 2030 (indicative Q3 2029)	Year 4 Sep 2030–Aug 2031 (indicative Q3 2030)	Year 5 Sep 2031–Aug 2032 (indicative Q3 2031)	

	agreement effectiveness					
Scheduled date	Q3 2027 (indicative)	Q3 2028 (indicative)	Q3 2029 (indicative)	Q3 2030 (indicative)	Q3 2031 (indicative)	—
Time-bound milestone(s)	AF Board approval; signed Project Agreement;	PPR Y1 submitted & accepted; Y1 SoE certified; AWPB Y2 approved	PPR Y2 submitted; Y2 SoE certified; AWPB Y3 approved; MTR scoping confirmed	PPR Y3 submitted; MTR completed and findings reflected in AWPB Y4; Y3 SoE certified	PPR Y4 submitted; Y4 SoE certified; AWPB Y5 approved; terminal evaluation ToR endorsed	—
Project Funds (Activities & PEC)	2,707,000	2,806,000	1,864,000	1,116,000	724,000	9,217,000
Implementing Entity Fee	230,000	238,000	158,000	95,000	62,000	783,000
Total Disbursement	2,937,000	3,044,000	2,022,000	1,211,000	786,000	10,000,000

156. Final disbursement and project completion. All Adaptation Fund project funds will be spent or committed by the project completion date in accordance with the AF Legal Agreement. The terminal evaluation will be completed within six months after project completion. Any unutilized balance will be handled in accordance with the applicable Adaptation Fund legal and financial requirements.
157. Audit and supervision. Audit and assurance arrangements will follow the modality agreed between IFAD and FAO before the financing and subsidiary agreements are signed. IFAD will conduct supervision missions throughout implementation and will exercise the access, fiduciary oversight and assurance rights established in the applicable agreements, including any special-purpose review or audit rights required to comply with the AF Legal Agreement.

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

A. Record of endorsement on behalf of the government²

Dlamini Hlobisile Acting Principal Secretary Tourism and Environmental Affairs Ministry of Tourism and Environmental Affairs	Date: 5 August 2026
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KINGDOM OF ESWATINI

MINISTRY OF TOURISM AND ENVIRONMENTAL AFFAIRS

OUR REF: TEA 3/3/1
DATE: 5 August 2026

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

Dear Sir/Madam

Subject: Endorsement for project titled "Strengthening Ecosystem-based adaptation for Sustainable Livelihoods within Landscapes"

In my capacity as designated authority for the Adaptation Fund in Eswatini, I confirm that the above national project 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 project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by International Fund for Agriculture Development (IFAD), while Food and Agriculture Organization of the United Nations (FAO) shall be the Executing Entity.

Sincerely,



DLAMINI HLOBISILE
ADAPTATION FUND FOCAL POINT
NATIONAL DESIGNATED AUTHORITY

MINISTRY OF TOURISM AND ENVIRONMENTAL AFFAIRS
UNDER SECRETARY
27 AUG 2026

Physical Address: Inter- Old Income Tax Building, 2nd Floor, Mhlambanyatsi Road, Mbabane, Eswatini
Postal Address: P.O. Box 2652, Mbabane, Eswatini
Tel: +268 2404 6632 Email: ps_tourism@gov.sz

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: Mr. Pierre Yves, Lead Climate and Environment Funds, ECG Division 	Email: p.guedez@ifad.org
Mr. Juan Carlos Mendoza Casadiegos, Director, Environment, Climate, Gender and Social Inclusion Division	
Date: 13/08/2026	Email: ecgmailbox@ifad.org
Project contact persons	
Mr. Claus Reiner, Regional Lead Climate and Environment Specialist	Email: c.reiner@ifad.org
Mr. Francesco Rispoli, IFAD Country Director for Eswatini	Email: f.rispoli@ifad.org



KINGDOM OF ESWATINI

MINISTRY OF TOURISM AND
ENVIRONMENTAL AFFAIRS

OUR REF: TEA 3/3/1

DATE: 5 August 2026

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

Dear Sir/Madam

Subject: Endorsement for project titled "Strengthening Ecosystem-based adaptation for Sustainable Livelihoods within Landscapes"

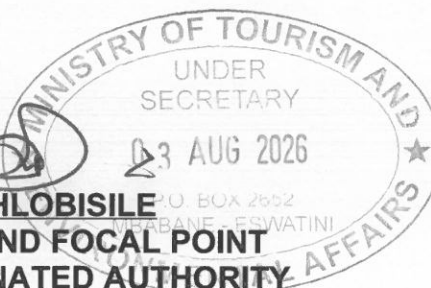
In my capacity as designated authority for the Adaptation Fund in Eswatini, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Eswatini.

Accordingly, I am pleased to endorse the above project/programme proposal with support from the Adaptation Fund. If approved, the project/programme will be implemented by International Fund for Agriculture Development (IFAD), while Food and Agriculture Organization of the United Nations (FAO) shall be the Executing Entity.

Sincerely,

DLAMINI HLOBISILE

ADAPTATION FUND FOCAL POINT
NATIONAL DESIGNATED AUTHORITY



ANNEX 1: Climate Risk Assessment, Spatial Targeting & M&E Framework

List of Acronyms

Acronym	Full Name
AF	Adaptation Fund
AVI	Advanced Vegetation Index
BSI	Bare Soil Index
CBNRM	Community-Based Natural Resource Management
CHIRPS	Climate Hazards Group InfraRed Precipitation with Station data
CMIP6	Coupled Model Intercomparison Project Phase 6
DEM	Digital Elevation Model
DOY	Day of Year
EbA	Ecosystem-based Adaptation
FAO	Food and Agriculture Organization
GEE	Google Earth Engine
IAPS	Invasive Alien Plant Species
IFAD	International Fund for Agricultural Development
IUCN	International Union for Conservation of Nature
LDN	Land Degradation Neutrality
LILMP	Lubombo Integrated Landscape Management Plan
M&E	Monitoring and Evaluation
NAP	National Adaptation Plan
NBRI	Normalized Burn Ratio Index
NBSAP	National Biodiversity Strategy and Action Plan
NC4	Fourth National Communication to the UNFCCC
NDC	Nationally Determined Contribution
NDMI	Normalized Difference Moisture Index
NDVI	Normalized Difference Vegetation Index
NDWI	Normalized Difference Water Index
NEX-GDDP	NASA Earth Exchange Global Daily Downscaled Projections
NLP	Ngwempisi Landscape Programme
NPCRI	Normalized Pigment Chlorophyll Ratio Index
SEASL	Strengthening Ecosystem-based adaptation for Sustainable Livelihoods
SI	Soil Index
SLM	Sustainable Land Management
SNPAS	Strengthening the National Protected Areas System of Eswatini
SOS	Start of Season
SPI	Standardized Precipitation Index
SSP	Shared Socioeconomic Pathway
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

This report presents the findings of a comprehensive climate vulnerability and risk assessment conducted for the IFAD Adaptation Fund proposal on ecosystem restoration and climate resilience in the Lubombo and Ngwempisi Landscapes. The assessment fulfils five deliverables: a climate vulnerability and risk assessment, GIS maps of degraded landscapes and hazard areas, climate rationale and targeting logic, spatial overlays integrating environmental and socioeconomic data, and climate indicators and baseline data for monitoring and evaluation.

Using the IPCC Sixth Assessment Report vulnerability framework, which defines risk as a function of hazard, exposure, and vulnerability, the assessment applied a four-phase analytical structure across 128 sub-areas covering a total population of 301,677 people. The analysis integrates 44 years of rainfall records from the CHIRPS satellite product, future climate projections from the CMIP6 EC-Earth3-Veg-LR model under two emissions scenarios, Sentinel-2 multispectral imagery processed in Google Earth Engine, and community-level socioeconomic data. The result is a reproducible, spatially explicit ranking of sub-areas by composite climate risk that directly informs intervention targeting and the Adaptation Fund proposal.

The rainfall analysis reveals a marked intensification of drought conditions across both landscapes, especially since 2010. Drought frequency, measured as the proportion of months with a three-month Standardized Precipitation Index below the World Meteorological Organization moderate-drought threshold, more than doubled from ~ 8 % of months in the 1981 to 1990 baseline decade to 23 % in the 2015 to 2025 period. Future projections under the moderate emissions scenario (SSP2-4.5) indicate a 7 to 10 % reduction in mean annual rainfall and a dramatic increase in heat stress days, rising from a current baseline of 15 to 30 days above 35°C per year to 40 to 60 days in the near-term projection window of 2041 to 2060, and to 80 to 120 days under the high-emissions scenario (SSP5-8.5). Growing seasons are also shifting, with statistically significant delays of up to 41 days observed in multiple sub-areas, threatening food production calendars that rural communities have depended on for generations.

The composite risk scoring system integrates nine dimensions covering rainfall hazard, drought, flood risk, growing season shift, biophysical degradation, heat stress projections, temperature trajectories, rainfall change projections, and population exposure, with a maximum possible score of approximately 26 points. Applying empirical thresholds derived from the full dataset, the two highest-priority sub-areas, Mbadlane in the Lubombo landscape (combined score 19, classified as CRITICAL) and Lukhula (combined score 17, also CRITICAL), represent the most urgent convergence of climate hazard and population exposure in the entire landscape, with Mbadlane facing heat stress projections of 62 days per year and a 37-day growing season delay, and Lukhula sheltering 12,412 people at a drought frequency of 14.2 %. Across the full portfolio, the 30 highest-priority sub-areas collectively have more than 95,000 people, representing 38 % of the total landscape population.

Seven community consultation sessions conducted in February 2026 confirmed the spatial patterns identified by the satellite analysis and added critical qualitative texture to the risk picture. Community members across all seven sessions ranked drought and extreme heat as their primary hazard. The community priority ranking places wetland fencing and restoration first, followed by water harvesting infrastructure, rangeland management, beekeeping and pollinator support, drought-tolerant and indigenous crop varieties, agroforestry, and capacity building before external inputs. These priorities directly align with the Ecosystem-based Adaptation interventions designed for each agroecological zone and provide the community ownership foundation essential for the long-term success of SEASL.

Climate Vulnerability and Risk Assessment

Background

Eswatini is among the most climate-vulnerable countries in southern Africa, a classification that reflects not merely its biophysical exposure to increasingly variable and extreme weather but also the depth of its dependence on natural ecosystems and rainfed agriculture for rural livelihoods. The country's smallholder farming communities, which occupy some of the most ecologically productive and simultaneously most degraded landscapes, face a convergence of long-term drought intensification, rising temperatures, invasive alien plant species expansion, and land degradation that threatens both food security and the ecosystem services that support sustainable livelihoods. In this context, the Adaptation Fund proposal for ecosystem restoration and climate resilience in the Lubombo and Ngwempisi Landscapes represents not merely an environmental investment but a structural intervention in the climate adaptation pathway of the country.

The Terms of Reference for this technical assessment define five deliverables that together constitute the evidence base for the Adaptation Fund proposal. The first deliverable requires a climate vulnerability and risk assessment disaggregated by agroecological zone and population group. The second requires GIS maps of degraded landscapes, hazard areas, and intervention sites. The third requires a clear climate rationale and targeting logic that explains why specific sub-areas have been selected for intervention. The fourth requires spatial overlays integrating environmental and socioeconomic data to demonstrate the compound nature of vulnerability in priority sites. The fifth requires climate indicators and baseline data that will anchor the project's monitoring and evaluation framework. Moreover, it should be noted that these deliverables are not entirely independent of one another. For example, the mapping of degraded areas and the identification of proposed intervention sites are intrinsically linked and are therefore addressed within a single, integrated spatial analysis rather than as discrete outputs. Where such interdependencies exist, deliverables have been consolidated to ensure analytical coherence and avoid artificial separation of closely related findings.

Climate Context

Eswatini consists of four distinct agro-ecological zones characterized by elevation gradients and corresponding precipitation patterns that fundamentally structure ecosystem function and livelihood systems. The Highveld, occupying elevations between 900 and 1,800 m, receives annual precipitation exceeding 1,000 mm (700 – 1550 mm)⁶³ in many areas and supports grassland ecosystems and highland forests. The Middleveld, at elevations between 400 and 900 m, experiences annual rainfall ranging from 550 to 850 mm and supports mixed woodland, savanna, and grassland systems (see Figure 16). The Lowveld, at elevations between 150 and 400 m, receives 400 to 700 mm of annual precipitation and supports semi-arid savanna and thicket ecosystems. The Lubombo Plateau, at elevations between 450 and 750 meters, receives 400 to 700 mm and functions as a transition zone between the Lowveld and higher elevation areas.

Study Area Description

Lubombo Landscape

The Lubombo Landscape is ~ 3,902.8 km² (390,275.46 ha), comprising a substantial portion of the Maputaland-Albany biodiversity hotspot, a globally recognized ecoregion of exceptional conservation significance. This biodiversity hotspot crosses three countries, encompassing portions of Eswatini, Mozambique, and South Africa,

Figure 17 Agro-ecological zones of Eswatini.

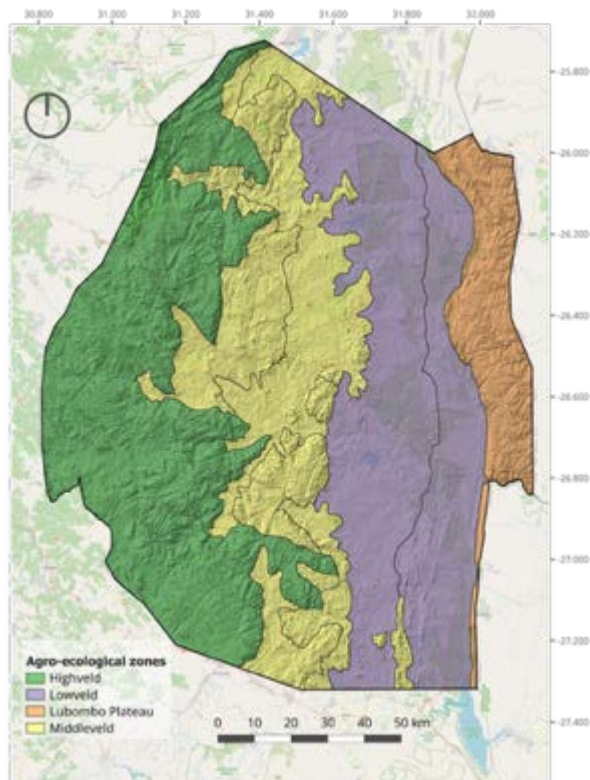
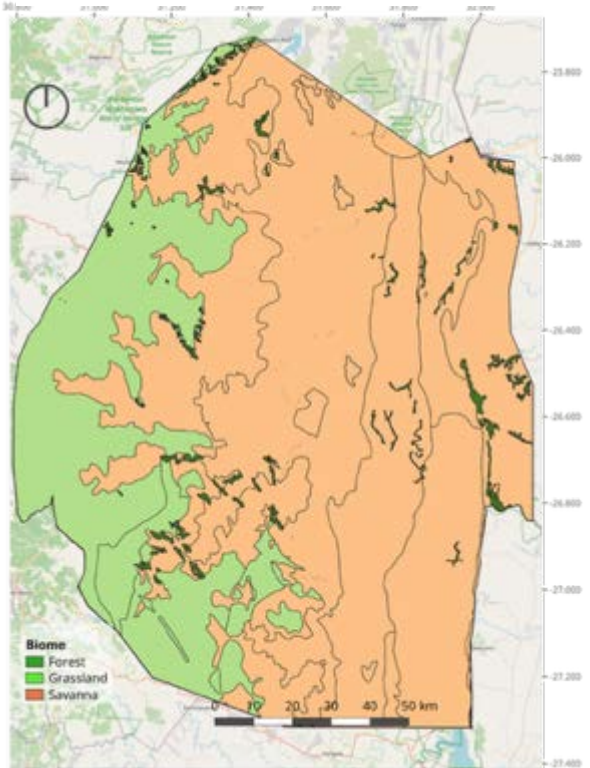


Figure 18 Eswatini's main biomes.



⁶³ ESEPARC, *Eswatini National Circumstances on Climate Change* (Eswatini Economic Policy Analysis and Research Centre, 2021).

and contains remarkable plant and animal diversity reflecting transitions between multiple ecosystem types. The landscape exhibits pronounced elevation gradients extending from the Lowveld at 150 to 400 m above sea level through the transitional Lubombo Plateau at 450 to 600 m. These elevation differences translate into gradual shifts in vegetation, soils, and species composition, creating a complex mosaic of ecological communities.

The landscape incorporates a substantial network of formally protected conservation areas established to safeguard biodiversity and ecosystem services. Core protected areas include Mlawula National Nature Reserve, the largest protected area within the landscape; Hlane Royal National Park; Jozini Royal Private Game Reserve; Mbuluzi Game Reserve; Muti-Muti Conservancy; Mhlosinga-Big Bend Conservancy; Shewula Community Conservation Area; Mhlumeni Conservation Area; Jilobe Community Forests; and Mambane Community Nature Reserve⁶⁴. Botanical surveys conducted through the Shiselweni and North Highveld Protected Area Surveys initiative documented 1,155 plant species across the landscape, representing ~ 81 % of Eswatini's documented flora. Among surveyed conservation areas, Shewula Community Conservation Area exhibited the highest species richness, with 940 plant species recorded, substantially exceeding richness values for other protected areas. The landscape is traversed by major river systems including the Mbuluzi River, the Great Usuthu River which functions as a transboundary watercourse between Eswatini and Mozambique. These river systems provide critical ecosystem services including water supply, aquatic habitat, and groundwater recharge. The landscape experiences semi-arid climatic conditions with annual precipitation ranging from 400 to 700 mm, concentrated during the summer months from November through March.

The landscape exhibits a more diverse land use pattern, with a notable balance between natural vegetation, agriculture, and human settlement. Forests constitute the dominant land cover class, accounting for approximately 50% of the total landscape area. Rangelands represent 24% of the landscape, while cropland covers around 22%, underscoring the importance of agriculture to local livelihoods and the broader rural economy. The remaining 4% of the landscape is shared among waterbodies, bare land, flooded vegetation, and built-up areas.

The human geography of the landscape is equally complex. The Lubombo Landscape contains several rural communities, which are interspersed among multiple private properties, and is heavily influenced by the large-scale commercial agriculture sector centered on multiple Sugar Estates and associated irrigation infrastructure in the northern Lowveld. Most of the rural population depends on rainfed subsistence and semi-commercial smallholder agriculture, with livestock keeping and natural resource harvesting providing critical supplementary livelihoods.

The Lubombo Landscape Integrated Management Plan⁶⁵ (LILMP 2020 to 2030) provides the overarching governance framework for landscape-scale land management in this corridor, and its targets for invasive alien plant species control, rangeland restoration, and riparian rehabilitation directly inform the intervention design embedded in this assessment. The landscape is particularly vulnerable to climate change because its Lowveld zone receives the lowest and most variable rainfall in the country and is projected to experience the most severe heat stress intensification, with annual days above 35 °C expected to nearly triple under the moderate emissions scenario by the 2041 to 2060 period.

The Landscape is further covered by Lowveld Bushveld, a semi-arid savanna ecosystem adapted to the hotter, drier conditions of the eastern lowlands. The Lebombo Bushveld sub-type, occurring along the Lebombo Mountains escarpment, supports distinct plant communities of high conservation value, including endemic succulents and dry forest species. Natural Forest fragments within this

Figure 19 The Ngwempisi and Lubombo landscapes DEM along with existing boreholes and river network.

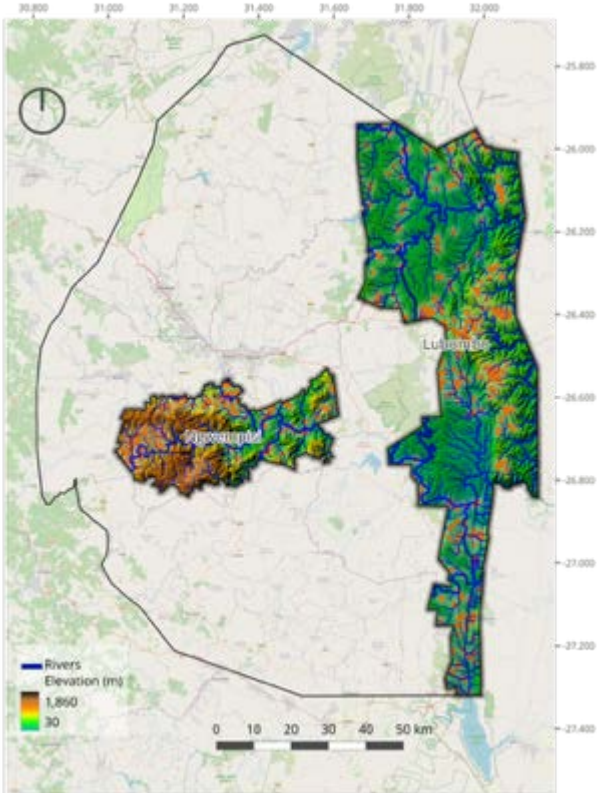
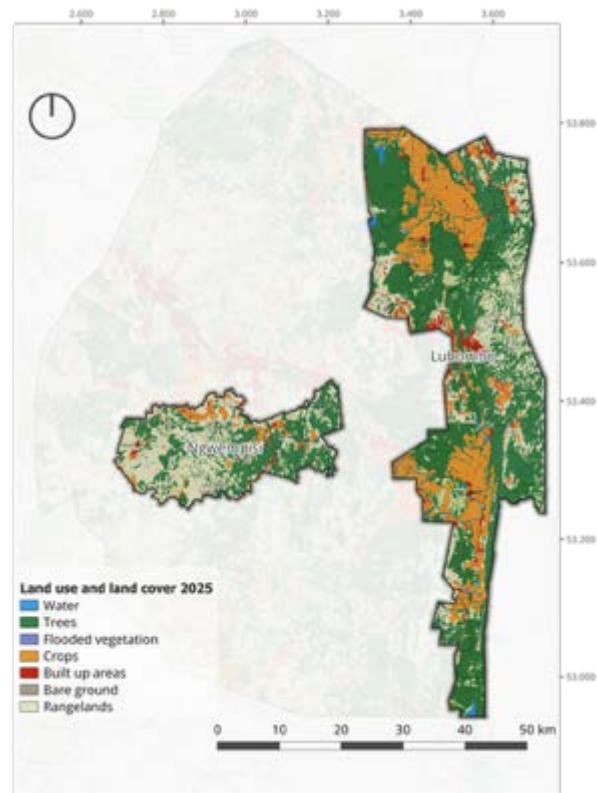


Figure 20 Land use and land cover in the landscapes.



⁶⁴ Lubombo Landscape Association, “Lubombo Integrated Landscape Management Plan 2020 - 2030,” Lubombo, 2020.
⁶⁵ Lubombo Landscape Association, “Lubombo Integrated Landscape Management Plan 2020 - 2030.”

landscape are concentrated along perennial watercourses and represent critical refugia for biodiversity and local water regulation services. Commercial sugarcane monocultures occupy extensive areas in the northern Lowveld, creating an abrupt land-cover boundary that has significant implications for wildlife connectivity and water regime management in adjacent natural areas. Degraded rangeland dominated by invasive alien plant species, bare soil, and degraded grassland covers substantial portions of the communal land areas.

Ngwempisi Landscape

The Ngwempisi Landscape occupies mostly the Middleveld of central-western Eswatini, situated between 400 and 900 meters above sea level and receiving mean annual rainfall of 550 to 850 mm, a rainfall regime that is substantially more reliable than the Lubombo landscape but is now showing statistically significant signs of destabilization in both seasonal timing and inter-annual variability. The landscape is defined by the Ngwempisi River Basin, whose tributaries drain eastward into the Usuthu River, and by a mosaic of communal smallholder agriculture, degraded rangeland, and remnant riparian and wetland ecosystems that represent both the landscape's greatest vulnerability and its greatest restoration potential.

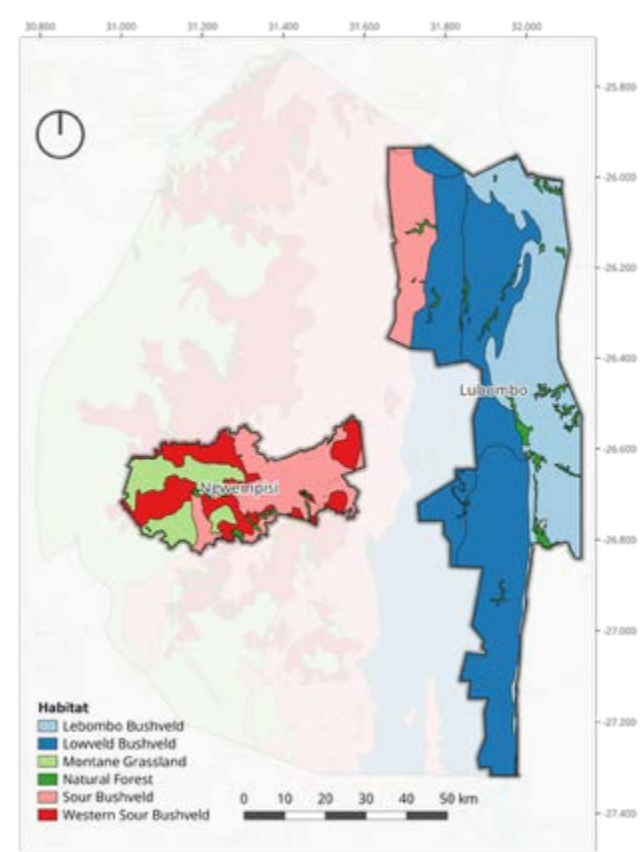
The Landscape is dominated by Western Sour Bushveld, which is characterized by nutrient-poor soils and high susceptibility to degradation under conditions of overgrazing and reduced rainfall. This is interspersed with Sour Bushveld and patches of Montane Grassland in the higher-elevation western portions, with small but ecologically significant stands of Natural Forest confined largely to riparian corridors and sheltered slopes. The heterogeneity of this landscape highlights both its ecological sensitivity and the diversity of ecosystem-based adaptation (EbA) interventions required to restore degraded areas. The spread of Black Wattle (*Acacia mearnsii*), *Chromolaena odorata*, and *Bugweed* (*Solanum mauritianum*) across both landscapes has significantly altered the ecological character of communal land areas, replacing indigenous grass-forb communities with dense invasive thicket that reduces forage quality, depletes soil moisture, and creates fire fuel loads that amplify the wildfire hazard.

It is further characterized by natural land cover, with forest land and rangelands together accounting for nearly 90% of the total area. Forest land is the single largest land cover class at 46%, followed closely by rangelands at 43%. Cropland occupies a comparatively modest share of the landscape at ~ 8%, reflecting the relatively limited extent of agricultural intensification in this area. Built-up areas cover just over 2% of the landscape, while the remaining 1% is distributed across waterbodies, flooded vegetation, and bare land.

The Ngwempisi Landscape holds the distinction of being one of Eswatini's five national Land Degradation Neutrality (LDN) hotspots, a classification that reflects the compound effect of population pressure, overgrazing, repeated fire events, and the unchecked spread of invasive alien plant species that have collectively degraded large portions of the landscape's productive capacity. The landscape contains 41 chiefdoms across 38 sub-areas, with a total population of 89,164 people at a mean density of 54.4 people per km2, somewhat denser than the Lubombo Landscape, which reflects the Middleveld's historically more favorable agricultural conditions.

The Ngwempisi Landscape Programme⁶⁶ (NLP), which is the landscape operational vehicle, is structured around three operational components that directly align with the intervention categories emerging from this climate assessment. The Sustainable Land Management (SLM) component addresses rangeland degradation and soil erosion in the broader landscape. The Community-Based Natural Resource Management (CBNRM) component, anchored at Luzwelweni, promotes community governance of shared natural resources. The Wetlands Management component, centered on the Ntondozi and Khalangilile wetland systems, represents perhaps the most urgent ecological priority in the landscape, as these water-regulating systems are under intense pressure from encroachment, overgrazing, and hydrological alteration. Community consultations conducted at Ntondozi during February 2026 community consultations confirmed that wetland fencing, and restoration was the single most consistently articulated priority across all sessions, a finding that aligns with the spectral analysis demonstrating severe water stress signatures in the Middleveld sub-areas surrounding these systems.

Figure 21 Habitat types within the landscapes.



⁶⁶ Ngwempisi Landscape Association, "Ngwempisi Landscape Program," 2018.

Methodology

Analytical Framework and Computational Infrastructure

The methodological framework for this assessment is based on the IPCC Sixth Assessment Report (AR6) conceptual framework (see Figure 20) which defines climate risk as a function of three interacting components: hazard (the physical climate drivers of risk, including drought, heat, and flooding), exposure (the presence of people, livelihoods, and assets in affected areas), and vulnerability (the predisposition of those people and systems to suffer harm, shaped by biophysical sensitivity and adaptive capacity). This three-dimensional framework is operationalized through a four-phase analytical structure that moves systematically from climate hazard characterization to biophysical sensitivity assessment to socioeconomic exposure integration to composite risk scoring and spatial prioritization.

The entire analytical workflow was implemented in a cloud-based, fully reproducible computing environment. Google Earth Engine (GEE) provided the satellite image processing and cloud-based geospatial computation platform, operated under the project identifier "samkelet". Google Collaboratory (Colab) provided the Python 3 environment for statistical analysis, time series computation, and data integration, with all dependencies managed through the standard Python scientific stack including NumPy, Pandas, SciPy, and xarray. QGIS version 3.44 was used for final cartographic production and spatial overlay operations, with all spatial data projected in WGS 84 UTM Zone 36S (EPSG:32736) to ensure consistent metric accuracy across both landscapes. The analysis covers 128 sub-areas (see Figure 21) across both landscapes. The sub-areas refer to the enumeration areas (EAs) that are used during population census as these were finer than the initially proposed agro-ecological zones thus improving spatial resolution.

Phase I: Hydrometeorological Hazard Assessment

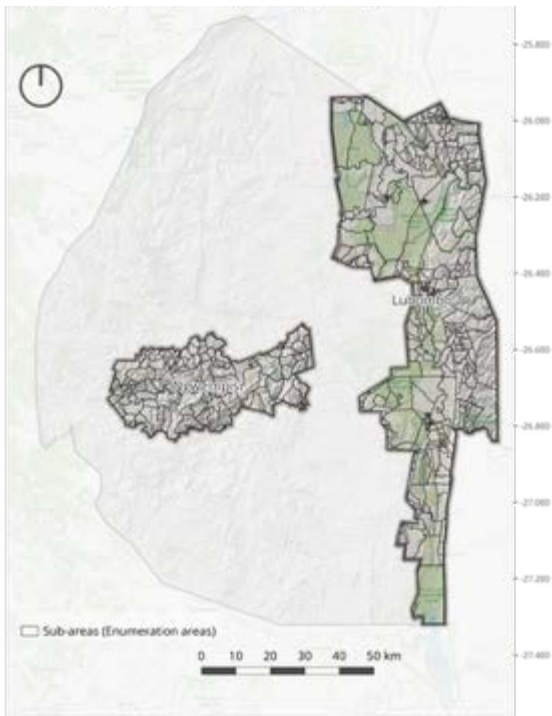
Phase I quantifies the physical climate hazards threatening rainfed agriculture, water security, and ecosystem integrity across the 128 AF sub-areas. It draws on three primary data streams: historical rainfall records from the CHIRPS 2.0 satellite product, future climate projections from the CMIP6 ensemble, and phenological trend analysis derived from the MODIS NDVI time series.

Daily precipitation time series were sourced from the Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS)⁶⁷ version 2.0, at 0.05° spatial resolution, covering 1981 to 2025. CHIRPS was selected for this analysis because of its exceptional record length, its demonstrated accuracy in semi-arid southern African environments⁶⁸, and its integration of station-based gauge data with satellite-derived precipitation estimates that reduces the bias common to pure remotely sensed products over complex topography. Although CHIRPS 3.0 is now available, it has not yet been evaluated for performance in Eswatini, whereas CHIRPS 2.0 has been validated against local rain gauge observations in the country⁶⁹. Agricultural drought was quantified using the three-month Standardized Precipitation Index (SPI-3), computed at monthly timesteps for each sub-area using the *climate indices* Python library with a 1981 to 2010 reference period. The three-month accumulation window was chosen because it corresponds most closely to growing-season moisture availability⁷⁰, capturing the integrated soil moisture deficit that directly affects crop germination, vegetative growth, and ultimately yield. Drought classification followed the adopted World Meteorological Organization standard thresholds: SPI-3 values⁷¹ below -1.0 indicate moderate drought, below -1.5 indicate severe drought, and below -2.0 indicate extreme drought. Values above 1.5 were used as a flood and extreme wet event proxy.

Figure 22 Climate risk conceptual framework.



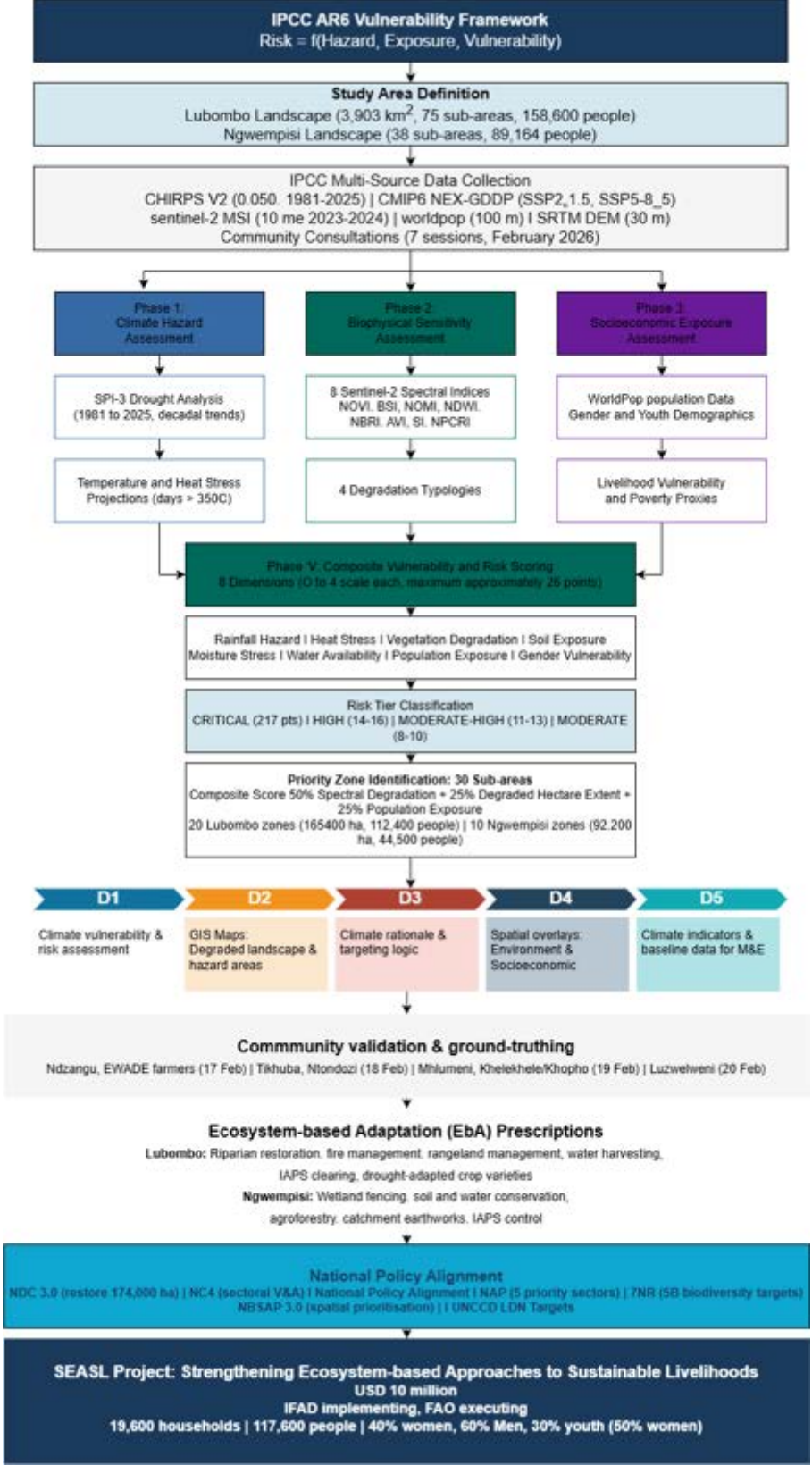
Figure 23 The sub-areas used for the analysis based on the 2017 Census enumeration areas.



⁶⁷ P. Peterson et al., "The Climate Hazards Group InfraRed Precipitation (CHIRP) with Stations (CHIRPS): Development and Validation," *AGU Fall Meeting Abstracts*, 2013, 1417–1417.
⁶⁸ Zhehui Shen et al., "Recent Global Performance of the Climate Hazards Group Infrared Precipitation (CHIRP) with Stations (CHIRPS)," *Journal of Hydrology*, ahead of print, 2020, <https://doi.org/10.1016/j.jhydrol.2020.125284>.
⁶⁹ Wisdom M. D. Dlamini and Samkele S. Tfwala, "The Performance of a High-Resolution Satellite-Derived Precipitation Product over the Topographically Complex Landscape of Eswatini," *Geoscience Data Journal* 12, no. 1 (2025): e278, <https://doi.org/10.1002/gdj3.278>.
⁷⁰ Sorin Cheval, "The Standardized Precipitation Index – an Overview," *Romanian Journal of Meteorology* 12 (01 2015): 17–64.
⁷¹ T. B. McKee et al., "The Relationship of Drought Frequency and Duration to Time Scales," January 17, 1993, 179–84.

The Start of Season (SOS) phenological trend analysis was derived from the MODIS Terra MOD13A2 NDVI product at 500-metre resolution for the period 1982 to 2025. The Day of Year on which the growing season begins was extracted per sub-area using the seasonal *greenup detection* algorithm implemented in GEE, and linear regression was applied to the annual SOS time series per sub-area using *scipy.stats.linregress* in Colab, yielding a trend in days per year. Statistical significance was assessed at the $p < 0.05$ level. Positive trends, indicating increasingly delayed growing-season onset, were observed across most Lubombo sub-areas, with some sites showing statistically significant delays of more than 40 days compared to the 1982 to 2000 baseline, a shift with profound implications for crop planning and food security.

Figure 24 Methodological framework for the climate vulnerability and risk assessment, showing the four-phase analytical structure from data collection through composite scoring to EbA interventions.



Future climate projections were sourced from the NASA Earth Exchange Global Daily Downscaled Projections⁷² (NEX-GDDP-CMIP6), specifically the EC-Earth3-Veg-LR global climate model, accessed from the AWS S3 public

⁷² NASA, "NASA Earth Exchange Global Daily Downscaled Projections (NEX-GDDP-CMIP6)," 2026, <https://www.nccs.nasa.gov/services/data-collections/land-based-products/nex-gddp-cmip6>.

mirror. This model was selected following the findings of Gashaw et al⁷³ who found that the EC³Earth3 model was among the top tier CMIP6 models for simulating seasonal and annual rainfall and near surface temperature in several eastern and southern African basins and its availability in the NEX-GDDP-CMIP6 collection. Three climate variables were extracted and summarized per sub-area for two emissions scenarios: the moderate stabilization pathway (SSP2-4.5) and the high-emissions fossil-fuel pathway (SSP5-8.5). Annual mean daily maximum temperature, annual mean daily minimum temperature, and mean daily precipitation were extracted for the projection period 2041 to 2060 and compared against the historical baseline period 1981 to 2014. Heat stress days⁷⁴, defined as days on which the daily maximum temperature exceeds 35 °C, were counted per sub-area for both the historical baseline and each projection scenario.

Phase II: Biophysical Sensitivity and Land Degradation Tracking

Phase II assesses the current biophysical state of the landscape by quantifying how vegetation cover, soil health, moisture regimes, and ecosystem integrity are responding to the climate hazards identified in Phase I. The analytical foundation is a cloud-masked Sentinel-2 median composite image produced in GEE from the Surface Reflectance Harmonized product, covering the wet season period 2022 to 2025 to capture peak vegetation conditions. The cloud masking procedure used the scene classification layer embedded in the Sentinel-2 Level-2A product to exclude cloud, cloud shadow, and saturated pixels, and a median composite was generated from the remaining valid observations to suppress remaining noise and produce a spatially complete biophysical snapshot of each sub-area.

Eight spectral indices were computed from the Sentinel-2 median composite, each targeting a specific dimension of ecosystem health and degradation. The Normalized Difference Vegetation Index (NDVI) measures overall photosynthetic vigor, with values < 0.45 indicating critically reduced vegetation cover. The Bare Soil Index (BSI) quantifies exposed mineral soil, with values > 0.10 indicating problematic soil exposure. The Normalized Difference Moisture Index (NDMI) captures vegetation water content, with values < -0.05 indicating moisture stress. The Normalized Difference Water Index (NDWI) measures surface water availability, with values < -0.58 indicating critically reduced water availability. The Normalized Burn Ratio Index (NBRI) detects fire-damaged vegetation, with values > 0.30 indicating significant burn damage. The Advanced Vegetation Index (AVI) measures photosynthetic vigor, with values < 0.28 indicating critical degradation. The Soil Index (SI) quantifies mineral soil exposure, with values > 0.15 indicating significant bare soil. The Normalized Pigment Chlorophyll Ratio Index (NPCRI) assesses plant chlorophyll content and stress, with values > 0.28 indicating chlorophyll deficiency. Together these eight indices constitute a comprehensive biophysical fingerprint of each sub-area that enables both the quantification of degradation intensity and the identification of the dominant degradation mechanism, the latter being essential for designing appropriate Ecosystem-based Adaptation interventions.

Total degraded land extent per sub-area was quantified by applying a multi-index threshold classification to the Sentinel-2 composite. A pixel was classified as degraded if it simultaneously met the prescribed thresholds for two or more indices, reflecting the compound nature of land degradation in which soil exposure, vegetation loss, and moisture stress co-occur. Each sub-area was then assigned a dominant degradation typology based on the combination of index values exceeding critical thresholds, yielding four primary typology categories: Multiple or Mixed degradation (simultaneous failures across three or more indices), Vegetation Collapse (primary signal in NDVI and AVI with limited soil exposure), Water Stress + Bare Soil (moisture deficit accompanied by exposed mineral soil), and Water Stress alone (isolated moisture deficit with intact vegetation structure).

Phase III: Socioeconomic Exposure Integration

Phase III integrates population size and spatial density into the vulnerability framework, translating ecological and climatic risk into human vulnerability and ensuring that the composite scoring system reflects not only where hazards are most severe, but where the greatest concentrations of exposed and potentially vulnerable people reside. Population data were sourced from the Global 2 WorldPop⁷⁵ dataset, providing population counts and area measurements at the sub-area level. Population density was calculated as total population per km². Population exposure was scored using a quintile-based approach to prevent peri-urban settlements from dominating the rural vulnerability ranking. A sub-area with a population at or above the 75th percentile of the dataset received two population points. A sub-area at or above the 50th percentile received one population point. A sub-area at or above the 75th percentile for density received an additional one population point, capped at three total population points. This approach ensures that highly populated urban centers, which typically have greater adaptive capacity through infrastructure, services, and market access, do not crowd out genuinely vulnerable rural communities from the priority ranking. For example, three peri-urban sub-areas in the Siteki corridor were explicitly flagged with an urban caution designation and are interpreted with appropriate caveats in the results discussion.

Phase IV: Composite Risk Scoring and Spatial Prioritization

Phase IV integrates the outputs of the three preceding phases into a single composite risk score per sub-area, enabling a transparent, evidence-based ranking of the 128 sub-areas by overall climate vulnerability and risk. The composite scoring system applies nine independently derived risk dimensions; each scored on a discrete ordinal scale using empirically calibrated thresholds drawn from the full dataset distribution. The system was designed to be additive rather than multiplicative, ensuring that the contribution of each dimension is transparent and auditable, and to use ordinal rather than continuous scoring, ensuring robustness to measurement error in individual index

⁷³ Temesgen Gashaw et al., “Performance Evaluations of CMIP6 Model Simulations and Future Projections of Rainfall and Temperature in the Bale Eco-Region, Southern Ethiopia,” *Theoretical and Applied Climatology* 155, no. 6 (2024): 5069–92, <https://doi.org/10.1007/s00704-024-04904-y>.

⁷⁴ IPCC, *Annex VI: Climatic Impact-Driver and Extreme Indices* (Cambridge, United Kingdom and New York, NY, USA, 2021).

⁷⁵ WorldPop SDI, “Population Counts,” n.d., <https://hub.worldpop.org/geodata/listing?id=135>.

values. (Table 10) presents the nine dimensions, their scoring thresholds, maximum point allocations, and the analytical phase from which each is drawn.

Table 46. Nine-dimension composite risk scoring matrix with empirical thresholds and maximum point allocations.

#	Risk Dimension	Threshold Criteria and Scoring	Max Pts	Phase
1	Drought frequency (SPI-3, 1981-2025)	≥16% months: 4 pts 14-16%: 3 pts 12-14%: 2 pts <12%: 1 pt	4	Phase I
2	2010s drought decade burden	≥9 drought years: 3 pts 7-8 years: 2 pts 5-6 years: 1 pt	3	Phase I
3	Flood / extreme wet risk (SPI-3 > +1.5)	≥10% of months above +1.5: 2 pts 9-10%: 1 pt	2	Phase I
4	Growing season shift (SOS DOY trend)	SOS ≥30 days later: 3 pts 20-30 days: 2 pts 10-20 days: 1 pt	3	Phase I
5	Land degradation intensity (Sentinel-2 composite score)	Score ≥9-12: 4 pts 7-8: 3 pts 5-6: 2 pts <5: 1 pt	4	Phase II
6	Heat stress days projected (SSP2-4.5, 2041-2060)	≥60 days/yr: 3 pts 45-60: 2 pts 30-45: 1 pt	3	Phase I/IV
7	Projected maximum temperature (SSP2-4.5, 2041-2060)	Projected T _{max} ≥31°C: 2 pts ≥30°C: 1 pt	2	Phase I/IV
8	Projected rainfall change (SSP2-4.5, 2041-2060)	Decline ≤-9%: 2 pts -7 to -9%: 1 pt	2	Phase I/IV
9	Population exposure (quintile-based)	Population ≥75 th percentile: 2 pts ≥50 th : 1 pt Density ≥75 th : +1 pt	3	Phase III
TOTAL		Maximum achievable combined score: approximately 26 points	~26	I-IV

Risk tiers were defined based on the distribution of combined scores across the full dataset. Sub-areas with a combined score of 17 or above were classified as CRITICAL, indicating that multiple climate thresholds have been simultaneously exceeded and that urgent, comprehensive intervention is required. Sub-areas scoring 14 to 16 were classified as HIGH, indicating strong multi-hazard evidence with two or more climate dimensions at critical levels. Sub-areas scoring 11 to 13 were classified as MODERATE-HIGH, indicating compound risk with at least two dimensions at warning levels. Sub-areas scoring 8 to 10 were classified as MODERATE, indicating background climate stress warranting monitoring and preparatory resilience building. Sub-areas below 8 were classified as LOW.

For ecosystem restoration intervention targeting, a complementary Integrated Spectral Priority Score was applied that combines ecological degradation intensity, landscape extent, and population exposure into a single 0 to 1 scaled index. The formula assigns 50 % weight to the spectral degradation composite score, 25 % weight to the degraded hectare extent (normalized across all rural sub-areas), and 25 % weight to population exposure (normalized composite of population size weighted at 60 % and density weighted at 40 %). Threshold tiers for the integrated spectral score were set at 0.45 or above for CRITICAL, 0.37 to 0.44 for HIGH, 0.32 to 0.36 for MODERATE-HIGH, and < 0.32 for MODERATE. Table 11 presents the primary data sources for the entire analytical framework.

Table 47. Primary data sources underpinning the four-phase analytical framework.

Dataset	Resolution	Temporal Coverage	Role in Analysis
CHIRPS v2.0	0.05° (~5.5 km)	1981-2025 (daily)	SPI-3 drought analysis, flood proxy, rainfall baseline
NEX-GDDP-CMIP6 ⁷⁶ EC-Earth3-Veg-LR	~25 km (0.25°)	1981-2014 / 2041-2060	Temperature and rainfall projections (SSP2-4.5 and SSP5-8.5)
Sentinel-2 SR Harmonized	10-20 m	2022-2025 (wet season)	Eight spectral indices, degraded hectare mapping, typology classification
MODIS MOD13A2	500 m (16-day)	1982-2025	Start of Season DOY extraction and phenological trend analysis
EA Population Data	100 m & EA polygons	2017 census base	Population exposure scoring, density, people-at-risk metrics
Landscape Boundary	EA polygons	Current 2025	Landscape attribution for all 128 sub-areas (Lubombo / Ngwempisi)

Results

Climate Hazard Assessment Vulnerability and Risk Assessment

Rainfall Hazard and Drought Trends

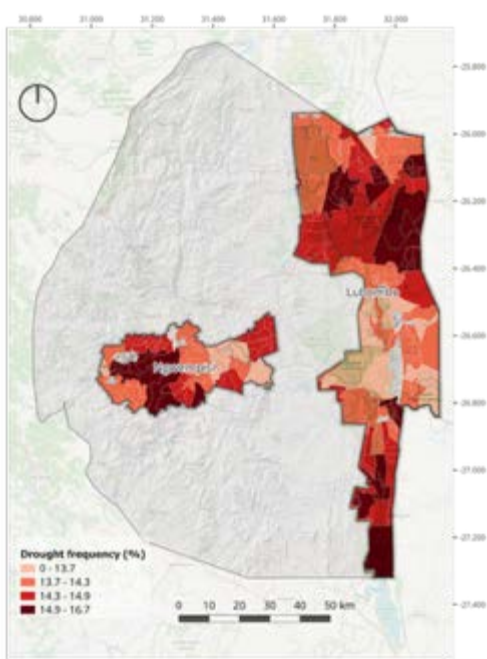
The 44-year CHIRPS rainfall record reveals a profound and accelerating shift in the precipitation regime of both the Lubombo and Ngwempisi Landscapes. In the Lubombo landscape, which represents the zone of greatest hydrometeorological vulnerability, drought frequency measured as the proportion of months with SPI-3 for selected SPI-3 graphs) < -1.0 increased from ~ 8 % of months in the 1981 to 1990 baseline decade to 23 % in the most recent decade from 2015 to 2025, representing a near-tripling of drought frequency within a single 40-year observational record. This trajectory is not simply a reflection of a single exceptional drought event but rather a

⁷⁶ NASA, “NASA Earth Exchange Global Daily Downscaled Projections (NEX-GDDP-CMIP6).”

persistent structural shift in the seasonal moisture balance, with multi-year drought sequences becoming increasingly common from the 2000s onward.

Across the 30 highest-priority sub-areas, drought frequency ranges from 13.3 to 15.9 % of all months over the full 1981 to 2025 period, with the highest frequencies concentrated in the Lubombo landscape stretching from Mhlumeni (15.9 %) and Dilini (15.8 %) through Mabovini and Shewula (both at 15.4 %) to the top-ranked Mbadlane (13.6 %), whose exceptional overall risk score reflects not merely drought frequency but the compound effect of an extreme growing-season delay and very high heat stress projections.

Figure 27 Drought frequency (1981-2025) in the landscapes.



The Ngwempisi sub-areas cluster somewhat lower in drought frequency at 13.3 to 15.4 %, reflecting the more reliable Middleveld rainfall, but this relative advantage is offset by the particularly severe degradation scores recorded across Ngwempisi sites, suggesting that ecosystem sensitivity to climate variability is at least as important as raw drought frequency in determining compound vulnerability.

The flood and extreme wet event proxy, derived from months with SPI-3 >1.5 reveals a dimension of compound risk that is often overlooked in drought-focused analyses. Several Lubombo sub-areas exhibit flood risk frequencies at or above the 10 % threshold that triggers the maximum score in this dimension, for example Vuvulane at ~ 10 %, and Manzana in the Ngwempisi Middleveld at 10.2 %. This dual drought-flood signal reflects the highly variable nature of rainfall in these landscapes, where extended dry spells are punctuated by intense rainfall events that exceed the infiltration capacity of degraded, bare soils, generating surface runoff and localized flooding rather than groundwater recharge. The practical consequence for rural communities is that they face soil moisture deficits

Figure 25 SPI-3 time series (1981-2025) for Mhlume sub-area, Lubombo Landscape, showing intensification of drought frequency from the 2000s onward.

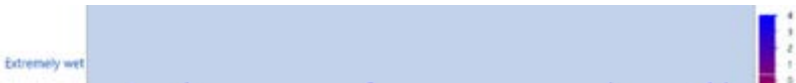


Figure 26 SPI-3 time series (1981-2025) for Mbadlane sub-area, showing the compound drought.

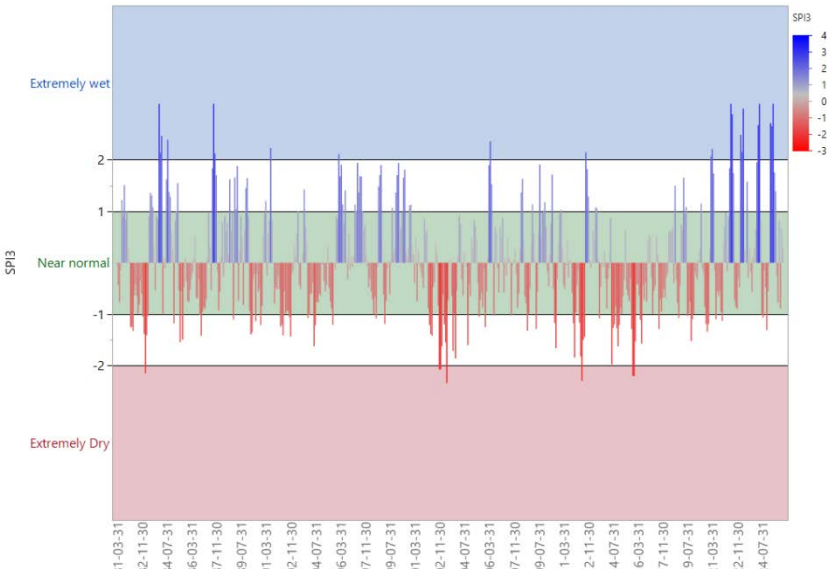
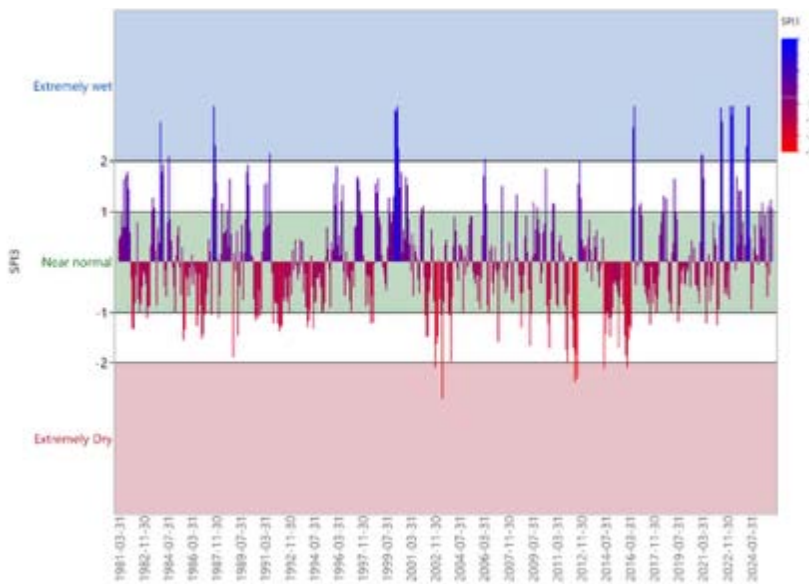


Figure 28 Figure 21 SPI-3 time series (1981-2025) for Mbadlane sub-area, showing the compound drought and flood signature in the highest-priority CRITICAL sub-area.



during the growing season, when reliable moisture is most needed, and flash flooding during intense events, when crop damage and infrastructure destruction add to livelihood losses.

Figure 31 Extreme months in percentage where SPI-3 >1.5 over the study period.

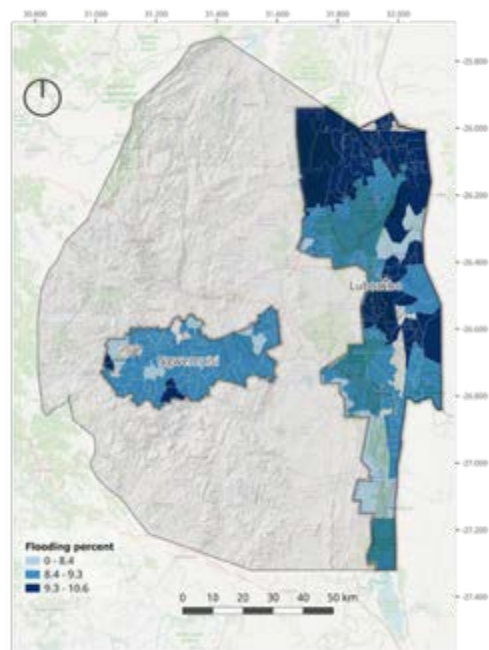
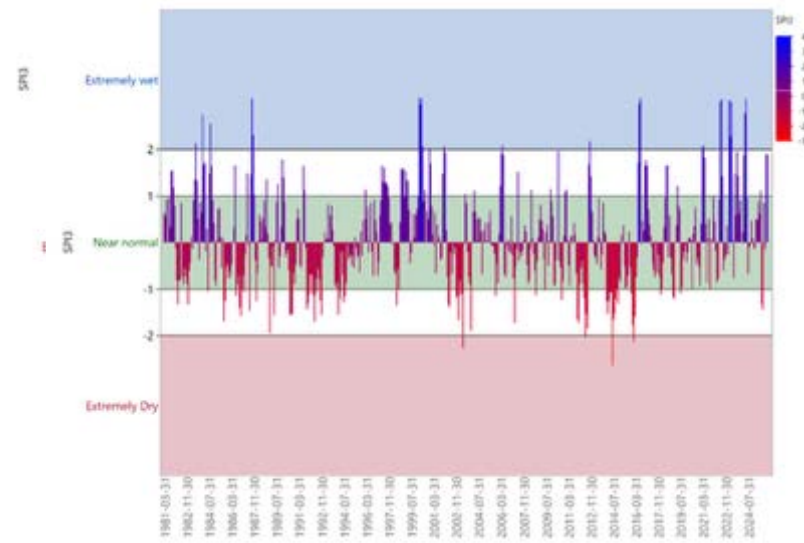


Figure 29 SPI-3 time series for Bhadzeni sub-area, Ngwempisi Landscape, illustrating the compound drought-flood pattern in a Middleveld Moderate-High risk site.

Figure 30 SPI-3 time series for Nkalashane sub-area, showing elevated flood risk frequency alongside drought conditions in the Lomahasha corridor.



Temperature and Heat Stress Projections

The CMIP6 EC-Earth3-Veg-LR projections under the SSP2-4.5 moderate emissions scenario indicate a consistent warming trajectory across both landscapes for the 2041 to 2060 projection window. The Lubombo landscape, which already experiences the highest temperatures in the country with baseline annual maximum temperatures reaching 29 to 30 °C, is projected to see these values rise to 30 to 31 °C under SSP2-4.5, with the hottest sub-areas in Nkilongo, particularly Mndobandoba which already records the highest heat stress metrics in the dataset at a projected 69.4 heat days per year under SSP2-4.5, approaching or exceeding 31 °C mean annual maximum. Under the SSP5-8.5 high-emissions scenario, these projections become substantially more severe, with the entire landscape likely to experience mean annual daily maximum temperatures above 32 °C and heat stress day counts well above 100 per year.

Heat stress days, defined as days on which the daily maximum temperature exceeds 35 °C, increase dramatically across all sub-areas from the historical baseline. The current baseline of 15 to 30 heat stress days per year across Lubombo is projected to rise to 40 to 60 days under SSP2-4.5 and to 80 to 120 days under SSP5-8.5. Mbadlane, the top-ranked CRITICAL sub-area, is projected to experience 62.4 heat stress days per year under SSP2-4.5, representing a more than 200 % increase from the baseline and placing the community's maize-based agricultural systems and livestock herds under severe physiological stress. Community consultations at Mhlumeni confirmed that livestock mortality during extreme heat events, particularly among poultry, has already become a significant livelihood shock affecting women who manage poultry enterprises as a primary source of household income.

Growing Season Shift

Figure 32 Start of Season (SOS) in the landscapes.

The Start of Season (SOS) analysis reveals statistically significant delays in growing-season onset across a substantial proportion of the Lubombo sub-areas. The most extreme case is Lokhayiza in the Mpolonjeni Inkhundla, where a growing-season delay of 40.5 days has been recorded over the observation period, a shift equivalent to changing planting calendars by almost six weeks and representing a fundamental disruption to the agricultural practices developed by farming communities over generations. Mbadlane records a delay of 37 days, Mayaluka a delay of 35 days, and Khushweni a delay of 46 days, all statistically significant at the $p < 0.05$ level. In the Ngwempisi landscape, SOS shifts are more heterogeneous: Sibovini records a 14-day delay, Mambatfweni a five-day delay, and Khalangilile a nine-day delay, while Manzana records an earlier onset of 36 days, suggesting that Middleveld sub-areas are experiencing greater

inter-annual variability rather than a simple unidirectional shift, with erratic rather than merely delayed rainfall onset emerging as the dominant challenge.

The practical implications of these SOS shifts for rural livelihoods are substantial. Communities that have historically planted maize and sorghum in September and early October based on traditional ecological knowledge signals are now finding that reliable soil moisture does not accumulate until November or even December, a shift that compresses the growing season, increases exposure to end-of-season moisture stress during grain filling, and reduces total yield potential. Combined with the rainfall decline projections of 7 to 10 % under SSP2-4.5, the SOS shift evidence creates a compelling case for the promotion of drought-tolerant and early maturing crop varieties as a core Ecosystem based Adaptation (EbA) intervention, a priority that was independently articulated by community members across multiple consultation sessions.

Community Consultation

Seven community consultation sessions were conducted across both landscapes (in February 2026, engaging farming communities at Ndzangu and Eswatini Water and Agricultural Development Enterprises (EWADE) farmers (17 February); Tikhuba, Mphini and Ndinda (18 February); Mhlumeni, Khelekhele and Khopho (19 February) and Luzwelweni (20 February). The sessions combined structured participatory rapid appraisal tools with open discussion, producing community-level validation of the satellite-derived hazard and degradation patterns and generating locally grounded priority rankings for adaptation interventions.

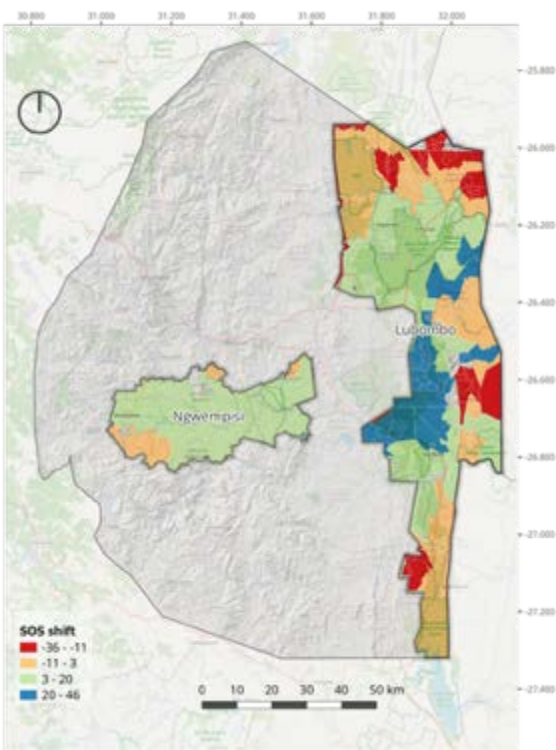


Figure 33. Selected stakeholder consultations at a) Ndzangu, b) EWADE farmers, c) Tikhuba and d) Khelekhele and Khopho.

Across all seven sessions, drought and extreme heat emerged without exception as the primary climate hazard, consistently ranked above hailstorms, erratic rainfall, wildfires, and invasive alien plant species. Community members described the changing nature of drought not merely as reduced total rainfall but as increasingly unpredictable seasonal timing, with the traditional signals used to determine planting dates, including the flowering of specific indigenous trees and the arrival of certain migratory birds, no longer reliably predicting rainfall onset. Hailstorms were reported to occur two to three times per year in some communities, causing direct crop and

infrastructure damage, and wildfires were described as annual events in most sites, compounding the vegetation degradation captured in the Sentinel-2 analysis.

The barrier analysis conducted during the sessions identified water scarcity during the dry season as the most pervasive structural constraint, followed by the absence of fencing for wetlands, water points, and garden plots, which allows unrestricted livestock access and prevents the recovery of riparian vegetation and wetland systems. Weak agricultural extension services were cited as a critical gap, with communities reporting that the knowledge and inputs needed to shift toward climate-resilient farming practices are simply not reaching most households. Limited market access for general and surplus production, and poor inter-community cooperation on collective natural resource management round out the top five barriers.

The community priority ranking, aggregated across all seven sessions, placed wetland fencing and restoration as the priority, a finding that resonates strongly with the spectral analysis showing severe water stress signatures across Middleveld sub-areas surrounding the Ntondozi and Khalangilile wetland systems. Water harvesting infrastructure ranked second, reflecting the seasonal water scarcity identified as the primary barrier. Rangeland management and rehabilitation ranked third, consistent with the Multiple and Mixed degradation typology dominating both landscapes. Beekeeping and pollinator support ranked fourth, reflecting an understanding of ecosystem services and diversified livelihood opportunities that extends beyond subsistence agriculture. Drought-tolerant and indigenous crop variety promotion ranked fifth, aligning directly with the SOS shift evidence. Agroforestry ranked sixth, and community members across multiple sessions emphasized that capacity building and training must precede rather than accompany the provision of physical inputs if interventions are to generate lasting change rather than temporary dependency. At Luzwelweni, one community member offered the memorable observation that project interventions should be as fruitful and rewarding as cannabis, expressing a community aspiration for interventions with genuinely transformative and quick return livelihood impacts.

Degradation Typology and Invasive Alien Plant Species

The Sentinel-2 multi-index analysis identifies four dominant degradation typologies across the 128 AF sub-areas. The Multiple or Mixed typology, in which three or more spectral indices simultaneously exceed their critical degradation thresholds, is the most prevalent and most severe typology, characterizing the top-ranked intervention areas including Tshaneni, Nsoko, Lukhula, Ndzevane, and Mndobandoba in the Lubombo and Khalangilile and Ndlinilembi in the Ngwempisi landscape. This typology reflects a compound degradation state in which vegetation collapse, soil exposure, moisture stress, and fire damage co-occur, indicating that the ecosystem's self-recovery capacity has been significantly eroded and that active restoration intervention is required rather than passive protection alone.

The Water Stress + Bare Soil typology, characterized by simultaneous failures in the NDMI, NDWI, and BSI dimensions, is predominant across the Ngwempisi sub-areas including Ngcoseni, Mambatfweni, Bhadzeni, Ndinda, and Mhlatane. This typology reflects the progressive desiccation of Middleveld ecosystems under intensifying drought conditions, where reduced soil moisture leads to vegetation dieback that in turn exposes mineral soil, accelerating runoff and further reducing soil moisture retention in a self-reinforcing degradation cycle. The Vegetation Collapse typology, characterized primarily by low NDVI and AVI values with limited accompanying soil exposure, is concentrated in Mndobandoba and several other Lowveld (Lubombo) sub-areas experiencing extreme heat stress, where the direct physiological impacts of high temperatures on plant water use efficiency are reducing vegetation cover independently of rainfall deficit.

Three invasive alien plant species are responsible for a significant proportion of the ecological degradation recorded across both landscapes. Bugweed, a fast-growing shrub capable of colonizing disturbed grassland and forest margins rapidly, is widespread across the higher-elevation margins of the Lubombo and in disturbed areas of the Ngwempisi landscape. *Chromolaena odorata*, a pioneer shrub native to Central and South America that produces dense, fire-promoting thickets, is particularly problematic in the Lubombo landscape, where it outcompetes

Figure 34 Community consultation sites.

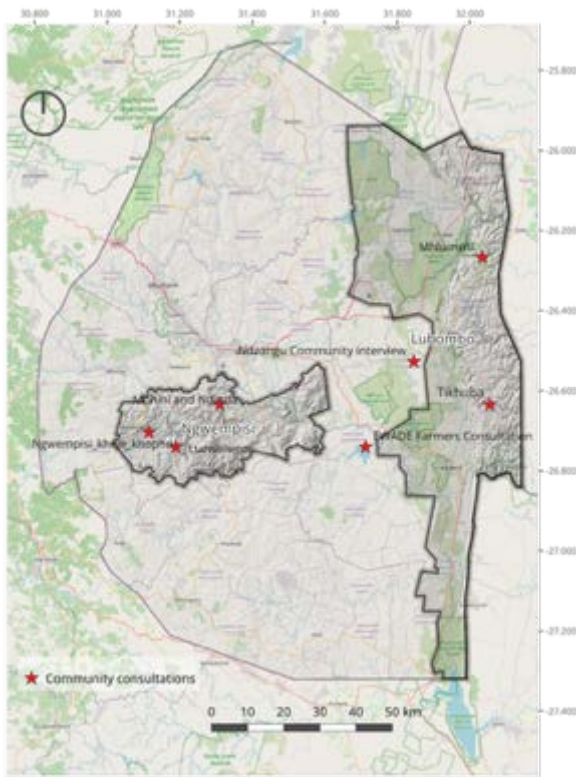
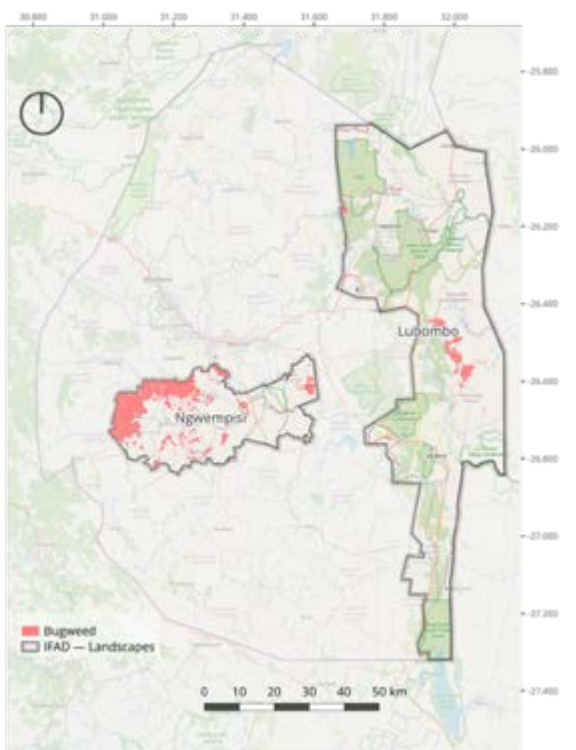


Figure 35 Bugweed (*Solanum mauritianum*) infestation in the Landscapes.



indigenous grass species and creates fire fuel loads that amplify wildfire frequency and severity. *Lantana camara*, an ornamental shrub that has become one of the world's most invasive plants, forms dense thickets in riparian zones and disturbed areas, blocking water access and suppressing indigenous riparian vegetation that would otherwise contribute to bank stabilization and dry season baseflow maintenance.

Composite Risk and Priority Sub-Areas

Applying the nine-dimension composite scoring matrix from Table 10 to all 128 sub-areas produces a ranked priority list that reflects the integrated weight of climate hazard, biophysical sensitivity, and population exposure. Two sub-areas achieve CRITICAL tier status with combined scores of 17 or above. Mbadlane in the Mpolonjeni Inkhundla achieves the highest combined score in the dataset at 19, driven by a climate risk score of 17 reflecting the compound of the maximum SPI-3 drought score, a 37-day growing season delay, a projected 62.4 heat stress days per year under SSP2-4.5, and a 9.7 % rainfall decline projection, together with a population exposure score of + 2 for its 5,166 rural inhabitants. Lukhula achieves a combined score of 17, with a climate risk score of 14 that reflects 50 drought years in the 2010 decade, a projected 45.2 heat stress days per year, and a 10.2 % projected rainfall decline, elevated to the CRITICAL tier by the population exposure score of + 3 for the landscape's largest sub-area population of 12,412 people at 90 people per square kilometer.

Five sub-areas achieve HIGH tier status with combined scores of 14 to 16. Matsenjwa (combined score 16) in the Rafsanjani North Inkhundla faces 51 heat stress days per year under SSP2-4.5 and a 9.7 % rainfall decline affecting 3,313 people. Manzana, Mndobandoba, and Vuvulane (all combined score 15) represent a cluster of Lubombo sites facing extreme heat exposure, with Mndobandoba recording the highest projected temperature at 31.2 °C under SSP2-4.5 and 69.4 heat days per year. Sibovini in the Ngwempisi landscape achieves a combined score of 14 driven by a degradation score of 9 out of 12, the highest in the HIGH tier, and a population density of 104 people per km², the densest rural community in any HIGH or CRITICAL sub-area. The remaining 23 sub-areas in the top 30 are classified as MODERATE-HIGH with combined scores of 11 to 13, collectively sheltering more than 75,000 people and representing the core intervention ring for ecosystem restoration activities in the SEASL project design. Table 12 presents the 30 highest-priority sub-areas with their key risk dimensions.

Figure 36 *Chromolaena odorata* infestation in the landscapes.

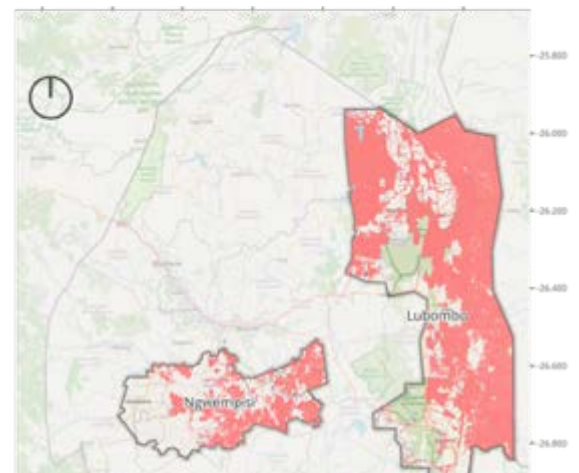


Figure 37 *Lantana camara* invasion of riparian corridors in the Landscapes.

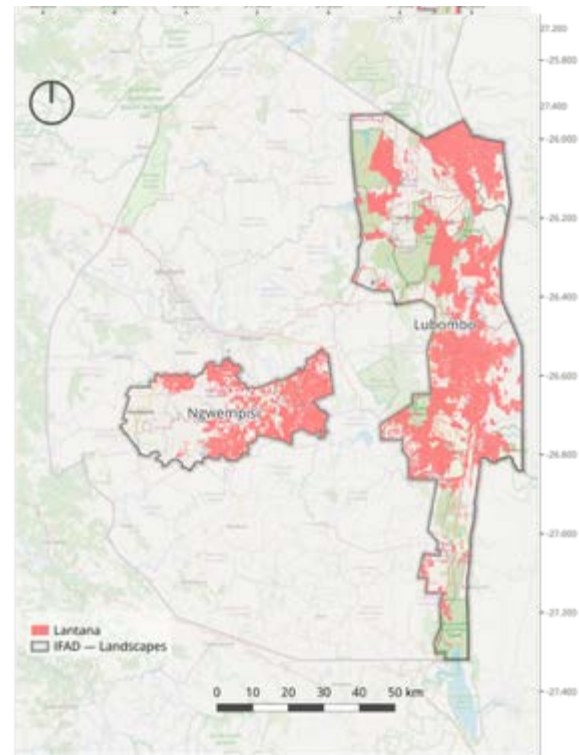


Table 48. Top 30 priority sub-areas by composite climate and population risk score, showing key risk dimensions.

#	Sub-Area	Landscape	Zone	Risk Tier	Combined Score	Population	Drought Freq.	Degrade Score
1	Mbadlane	Lubombo	Lowveld	CRITICAL	19	5,166	13.6%	5
2	Lukhula	Lubombo	Lowveld	CRITICAL	17	12,412	14.2%	6
3	Matsenjwa	Lubombo	Lowveld	HIGH	16	3,313	14.1%	5
4	Manzana	Lubombo	Middleveld	HIGH	15	878	14.7%	7
5	Mndobandoba	Lubombo	Lowveld	HIGH	15	2,253	14.2%	8
6	Vuvulane	Lubombo	Lowveld	HIGH	15	2,464	14.9%	4
7	Sibovini	Ngwempisi	Middleveld	HIGH	14	2,243	14.7%	9
8	Panatha Ranch	Lubombo	Lowveld	MOD-HIGH	13	212	14.6%	4
9	Mbutfu	Lubombo	Lowveld	MOD-HIGH	13	1,815	15.1%	6
10	Mambatfweni	Ngwempisi	Middleveld	MOD-HIGH	13	2,576	15.3%	10
11	Shewula	Lubombo	Lowveld	MOD-HIGH	13	5,559	15.4%	6
12	Lokhayiza	Lubombo	Lowveld	MOD-HIGH	13	5,293	13.6%	6
13	Bulunga	Ngwempisi	Middleveld	MOD-HIGH	12	731	14.0%	5
14	Nkalashane	Lubombo	Lowveld	MOD-HIGH	12	4,653	14.1%	6
15	Mayaluka	Lubombo	Lowveld	MOD-HIGH	12	4,249	13.6%	4
16	Bhadzeni	Ngwempisi	Middleveld	MOD-HIGH	12	2,041	13.8%	9
17	Mhlabatsini	Lubombo	Lowveld	MOD-HIGH	12	2,225	14.8%	7
18	Sikhuphe	Lubombo	Lowveld	MOD-HIGH	12	5,329	14.7%	8
19	Mabovini	Ngwempisi	Middleveld	MOD-HIGH	12	3,907	15.4%	7
20	Khushweni	Lubombo	Lowveld	MOD-HIGH	11	823	14.7%	6
21	Mhlumeni	Lubombo	Lowveld	MOD-HIGH	11	979	15.9%	7
22	Dilini	Ngwempisi	Middleveld	MOD-HIGH	11	69	15.8%	8
23	Hlane	Lubombo	Lowveld	MOD-HIGH	11	3,439	14.5%	6
24	Tabankulu	Lubombo	Lowveld	MOD-HIGH	11	4,666	15.1%	4
25	Ndlinilembi	Ngwempisi	Middleveld	MOD-HIGH	11	5,798	14.0%	6
26	Mhlabubovu	Lubombo	Lowveld	MOD-HIGH	11	2,849	14.1%	6
27	Matfuntini	Lubombo	Lowveld	MOD-HIGH	11	1,503	14.5%	7

28	Khalangilile	Ngwempisi	Middleveld	MOD-HIGH	11	5,880	14.9%	6
29	Ngcoseni	Ngwempisi	Middleveld	MOD-HIGH	11	6,636	14.3%	7
30	Macudvulwini	Ngwempisi	Middleveld	MOD-HIGH	11	2,579	13.3%	7

From the priority sub-areas, Lubombo dominates the upper portion of the ranking, with 20 of the top 30 sub-areas located in this landscape, reflecting the convergence of low baseline rainfall, high temperature trajectories, and significant land degradation. Ngwempisi sub-areas that enter the top 30, including Sibovini, Mambatfweni, Bhadzeni, Mabovini, Ngcoseni, Ndinilembi, Khalangilile, and Macudvulwini, are characterized by consistently high degradation scores rather than extreme drought frequencies, indicating that biophysical sensitivity rather than climatic exposure alone is the primary driver of compound vulnerability in the Middleveld. The population-adjusted ranking reveals several sub-areas, including Shewula, Lokhayiza, Khalangilile, and Ngcoseni, where the population weight transforms what would be a moderate climate risk score into a high-priority combined score, reflecting the reality that large numbers of people exposed to even moderate climate stress represent a substantial societal risk that demands intervention.

Climate Rationale and Targeting Logic

Theory of Change

The climate rationale supporting the SEASL intervention design rests on a coherent theory of change that links the empirical evidence from the composite risk assessment to specific ecosystem-based adaptation outcomes. The central argument is that the degradation of natural ecosystems in the Lubombo and Ngwempisi Landscapes has reduced the capacity of those ecosystems to buffer communities against climate variability, and that restoring ecosystem integrity through targeted, evidence-based EbA interventions will simultaneously reduce climate risk exposure, restore ecosystem services, and diversify the livelihood options available to rural communities, creating a compound resilience dividend that extends beyond any individual intervention.

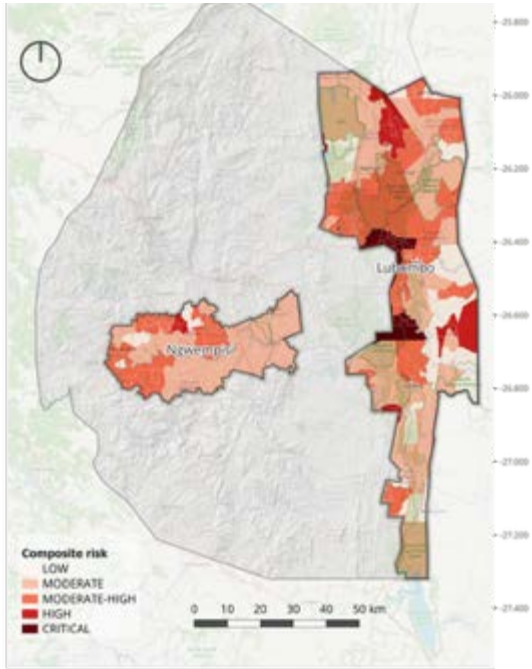
The causal chain operates through three interconnected pathways. The first is the hydrological pathway: riparian restoration, wetland fencing, water harvesting infrastructure, and invasive species control in riparian zones collectively increase landscape water retention, reduce runoff velocity, enhance groundwater recharge, and extend dry season baseflow in the rivers and streams on which communities depend for drinking water, livestock watering, and garden irrigation. The second is the agronomic pathway: the promotion of drought-tolerant and indigenous crop varieties, agroforestry systems, and rangeland management practices directly addresses the growing-season compression and moisture deficit identified in the SOS and SPI-3 analysis, enabling communities to maintain or increase crop production under a more variable and drier climate. The third is the income diversification pathway: beekeeping, sustainable natural product harvesting, and ecotourism enterprises supported by restored ecosystems provide additional income streams that reduce household dependence on rainfed agriculture as the primary livelihood, thereby reducing the vulnerability exposure that makes climate variability so damaging.

Zone-Specific EbA Interventions

The Ecosystem-based Adaptation prescription for the Lubombo landscape addresses a degradation context characterized by severe rainfall deficit, extreme heat stress projections, growing-season delays, and the compound Multiple or Mixed degradation typology that dominates the highest-priority sub-areas. Six primary interventions are prescribed for this landscape. Riparian restoration, including the removal of *Chromolaena odorata*, *Lantana camara*, and other invasive species from riverbanks and high dense areas, and the replanting of indigenous riparian trees and shrubs, is prioritized to restore the hydrological connectivity and bank stabilization functions of the associated drainage systems. Community-based fire management, including the establishment of firebreaks, the training of community fire management teams, and the development of controlled burn protocols that replicate the role of natural fire in maintaining grassland integrity without the destructive intensity of uncontrolled late dry-season fires, addresses the fire degradation signature captured in the NBRI spectral analysis. Rangeland management encompassing paddocking, rotational grazing, and the rehabilitation of overgrazed areas with indigenous grass seed mixes addresses the soil exposure and vegetation collapse typologies that characterize the Lowveld (under Lubombo) degradation. Water harvesting infrastructure, including rock catchments, subsurface weirs, and rainwater tanks, directly responds to the water scarcity barrier identified in community consultations and the drought frequency evidence from the SPI-3 analysis. The promotion of drought-adapted and early maturing crop varieties responds directly to the growing-season shift evidence, enabling communities to maintain crop production within the compressed growing window projected under future climate scenarios.

The EbA prescription for the Ngwempisi landscape addresses a fundamentally different degradation context, one characterized by compound water stress and bare soil degradation in a more densely settled landscape with higher population exposure and critical wetland systems under severe pressure. Wetland fencing and restoration represents the highest-priority intervention in this landscape, consistent with community rankings from all

Figure 38 Composite climate and population risk categories.



Ngwempisi landscape consultation sessions and with the spectral evidence of severe water stress signatures. Soil and water conservation works, including contour bunds, grass waterways, and gully rehabilitation, address the soil erosion dynamics captured in the BSI and SI spectral dimensions and help to slow the conversion of vegetated land to bare exposed substrate that drives the degradation cycle. Agroforestry system establishment, integrating nitrogen-fixing trees and fruit-bearing species into existing crop fields and rangeland, addresses multiple dimensions simultaneously, improving soil organic matter, reducing water loss through improved root architecture, diversifying income, and providing fodder during dry periods when grazing resources are exhausted. Catchment earthworks and runoff harvesting systems address the dry-season water deficit that community members identified as the primary structural constraint on livelihood improvement.

National Policy Alignment

The targeting logic and intervention design of the SEASL project aligns directly with six major national and international policy frameworks, providing both the political legitimacy and the institutional accountability structures that are prerequisites for Adaptation Fund project approval. Eswatini's NDC 3.0⁷⁷ commits to restoring 174,000 ha of degraded land, a target that the SEASL project directly contributes to through the priority ecosystem restoration activities in the Lubombo and Ngwempisi Landscapes. The National Adaptation Plan⁷⁸ identifies agriculture, water resources, health, biodiversity, and human settlements as the five priority adaptation sectors, and the SEASL intervention package addresses four of these five sectors simultaneously through its integrated ecosystem and livelihood approach. The NBSAP 3.0⁷⁹ introduces spatial prioritization mandates for biodiversity conservation and ecosystem restoration that are fulfilled by the GIS-based targeting methodology documented in this analysis, which identifies the highest-priority sub-areas based on compound biophysical and socioeconomic evidence rather than administrative convenience or historical project geography.

The Fourth National Communication⁸⁰ to the UNFCCC (NC4) presents sectoral vulnerability and adaptation analyses across all major climate-sensitive systems and provides the national-scale climate baseline against which the sub-area level findings in this report are situated. The Seventh National Report to the Convention on Biological Diversity (7NR) articulates 58 biodiversity targets for the 2021 to 2030 decade, of which the invasive alien species control, riparian restoration, wetland management, and rangeland rehabilitation components of SEASL directly contribute to the achievement of at least 12. The UNCCD Land Degradation Neutrality framework, under which Eswatini has committed to specific national targets for no net loss of productive land and the rehabilitation of degraded land, provides the accounting framework within which the degraded hectare mapping and restoration intervention design in this assessment is anchored.

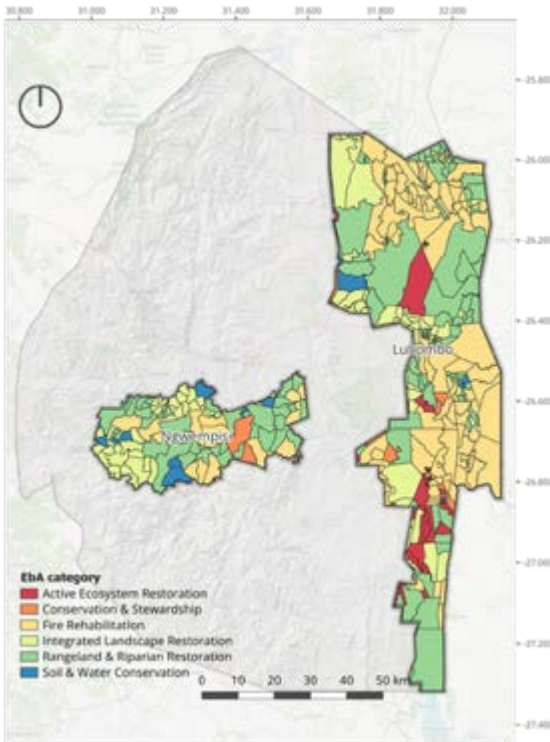
SEASL Project Overview and Community Alignment

The SEASL project represents the operational vehicle through which this assessment's recommendations will be implemented. Funded at 10 million USD and implemented by IFAD with FAO serving as the executing agency, SEASL targets 14,298 households representing 85,790 direct beneficiaries across both landscapes, with a deliberate focus on equity: >40 % of beneficiaries are women and 30 % are youth (40% women). The project design is grounded in the principle that ecosystem restoration and livelihood strengthening are not competing objectives but mutually reinforcing pathways to climate resilience, a principle that this technical assessment validates through the integration of biophysical degradation evidence, climate hazard trajectories, and community-articulated priorities.

The project geography is defined by the 20 priority community sub-areas selected for SEASL intervention from the composite risk ranking, with the top-tier CRITICAL and HIGH sub-areas receiving the most intensive intervention packages and the MODERATE-HIGH sub-areas receiving a combination of community capacity building, livelihood diversification support, and targeted ecosystem restoration.

The alignment between the satellite-derived intervention priorities and the community-articulated priorities validated through the February 2026 consultation sessions is striking and provides powerful confirmation that the analytical methodology is capturing the real-world risk landscape rather than producing artefacts of the data processing pipeline. Communities at Khalangilile and Khopho, whose sub-areas rank among the highest-priority Ngwempisi sites in the spectral analysis, specifically cited wetland management as a visible and immediate need, noting that early restoration efforts under the previous SNPAS programme had already produced observable improvements in wetland condition and requesting that SEASL expand on this foundation. Communities at Mhlumeni, whose sub-

Figure 39 Proposed EbA groupings.



⁷⁷ Kingdom of Eswatini, *Third Nationally Determined Contributions (NDC 3.0)* (Government, 2025).
⁷⁸ Government of Eswatini, "Eswatini Initial Adaptation Communication to the United Nations Framework Agreement on Climate Change. (Editors). Ministry of Tourism and Environmental Affairs, Mbabane, Eswatini.," ed. S. S. Tfwala et al., UNFCCC, 2021.
⁷⁹ ENTC, *Draft Spatial Prioritization Framework and Action Plan for Area-Based Targets in the Kingdom of Eswatini* (ENTC, 2026).
⁸⁰ Kingdom of Eswatini, *Eswatini 4th National Communication to the United Nations Framework on Climate Change* (Government, 2025).

area records the highest drought frequency in the dataset at 15.9 % of months, spoke with urgency about water scarcity during the dry season and the need for water harvesting infrastructure that can bridge the months between the rains. The Luzwelweni community, whose aspirational framing of project interventions as comparable in reward to cannabis cultivation reflects a deep community understanding that genuine livelihood transformation requires interventions of equivalent productivity and market value to the informal economy alternatives currently available to young people, underlines the importance of building economically compelling intervention packages rather than relying on conservation arguments alone to motivate community participation.

Spatial Overlays: Environmental and Socioeconomic

Integrated Spectral Priority Scoring

The integrated spectral priority scoring framework combines three evidence streams into a single 0 to 1 scaled index that identifies the sub-areas where Sentinel-2 biophysical degradation evidence, degraded hectare extent, and population exposure converge most powerfully. The formula weights spectral degradation intensity at 50 %, reflecting the analytical primacy of the satellite-derived ecological evidence in identifying where ecosystems are most severely compromised. Degraded hectare extent contributes 25 % to the score, capturing the landscape-scale significance of degradation beyond what is reflected in a per-pixel intensity measure. Population exposure, calculated as the normalized composite of population size weighted at 60 % and density weighted at 40 % within this component, contributes the remaining 25 %, ensuring that the ecological evidence is calibrated to the human vulnerability context in each sub-area.

The key insight from the integrated scoring framework is that the spatial pattern of spectral degradation does not map perfectly onto the spatial pattern of climate risk, and this complementarity rather than redundancy between the two analytical systems is what gives the combined targeting approach its analytical power. Tshaneni in the Mhlume corridor achieves the highest integrated spectral score in the dataset at 0.512 (CRITICAL) primarily because of its exceptionally high degraded hectare extent of 67.4 ha, the largest of any sub-area in the dataset, combined with a moderate-to-high spectral degradation score. Nsoko in the Lubuli corridor achieves the second-highest score at 0.475 (CRITICAL) based on a high spectral score driven by Multiple and Mixed degradation across BSI, NDVI, and NDWI dimensions, combined with 39.5 ha of degraded land and a population of 4,884. Lukhula achieves the third-highest integrated score at 0.448 (HIGH) primarily through its exceptional population exposure component, which reflects the largest sub-area population in the dataset at 12,412 people, partially offsetting a more modest degraded hectare extent of 11.8 ha.

Top 20 Intervention Priority Sub-Areas

Table 13 presents the 20 highest-priority sub-areas ranked by integrated spectral priority score, the analytical output that forms the direct evidence base for ecosystem restoration intervention targeting in the SEASL project design.

Table 49. The 20 highest-priority sub-areas ranked by integrated spectral priority score.

#	Sub-Area	Landscape	Zone	Tier	Integ. Score	Population	Deg. Ha	Degradation Type
1	Tshaneni	Lubombo	Lowveld	CRITICAL	0.512	3,121	67.4	Multiple / Mixed
2	Nsoko	Lubombo	Lowveld	CRITICAL	0.475	4,884	39.5	Multiple / Mixed
3	Lukhula	Lubombo	Lowveld	HIGH	0.448	12,412	11.8	Multiple / Mixed
4	Ndzevane	Lubombo	Lowveld	HIGH	0.396	2,315	39.2	Multiple / Mixed
5	Ngcoseni	Ngwempisi	Middleveld	HIGH	0.395	6,636	1.3	Water Stress + Bare Soil
6	Sikhuphe	Lubombo	Lowveld	HIGH	0.395	6,456	1.5	Water Stress + Bare Soil + Veg. Collapse
7	Mambatfweni	Ngwempisi	Middleveld	HIGH	0.383	2,576	0.4	Water Stress + Bare Soil + Veg. Collapse
8	Lomahasha	Lubombo	Lowveld	HIGH	0.380	3,090	0.3	Water Stress + Bare Soil + Veg. Collapse
9	Ngulubeni	Lubombo	Lowveld	HIGH	0.376	1,367	0.3	Water Stress + Bare Soil + Veg. Collapse
10	Mndobandoba	Lubombo	Lowveld	HIGH	0.373	3,004	13.2	Vegetation Collapse
11	Khalangilile	Ngwempisi	Middleveld	HIGH	0.370	8,970	2.4	Multiple / Mixed
12	Ubombo Ranches	Lubombo	Lowveld	MOD-HIGH	0.370	3,226	34.7	Multiple / Mixed
13	Ndlinilembi	Ngwempisi	Middleveld	MOD-HIGH	0.369	8,939	5.5	Multiple / Mixed
14	Bhadzeni	Ngwempisi	Middleveld	MOD-HIGH	0.364	2,041	0.2	Water Stress + Bare Soil + Veg. Collapse
15	Ndinda	Ngwempisi	Middleveld	MOD-HIGH	0.363	3,124	0.8	Water Stress + Bare Soil
16	Sidvokodvo	Ngwempisi	Middleveld	MOD-HIGH	0.360	2,078	26.2	Multiple / Mixed
17	Mabovini	Ngwempisi	Middleveld	MOD-HIGH	0.359	4,934	2.1	Water Stress
18	Mhlatane	Ngwempisi	Middleveld	MOD-HIGH	0.359	622	0.1	Water Stress + Bare Soil + Veg. Collapse
19	Mbadlane	Lubombo	Lowveld	MOD-HIGH	0.358	5,166	10.7	Multiple / Mixed
20	Mpaka	Lubombo	Lowveld	MOD-HIGH	0.357	829	0.1	Water Stress + Bare Soil + Veg. Collapse

Several patterns in the 20-area portfolio are analytically significant for intervention design. The Lowveld corridor from Tshaneni through Nsoko, Ndzevane, Mndobandoba, Ubombo Ranches, and Mbadlane concentrates the highest degraded hectare extents in the dataset, reflecting the physical extent of land degradation across the large pastoral and agroforestry landscapes of the Lubombo. This corridor warrants large-scale landscape restoration interventions such as invasive species clearance across extensive areas, community-wide fire management protocols, and broad rangeland rehabilitation rather than the site-specific interventions more appropriate to smaller,

more intensely degraded Middleveld sub-areas. The Middleveld cluster within the 20-area portfolio, encompassing Ngcoseni, Mambatfweni, Khalangilile, Ndinilembi, Bhadzeni, Ndinda, Sidvokodvo, Mabovini, and Mhlatane, is characterized by very high spectral degradation scores but smaller degraded hectare extents, reflecting the concentrated, intense nature of Middleveld degradation around specific pressure points such as water access points, livestock trails, and wetland margins rather than diffuse landscape-scale degradation. This pattern points to precision interventions: targeted wetland fencing, specific water point rehabilitation, and focused invasive control rather than broad-scale landscape clearing.

The convergence analysis, identifying sub-areas that appear in both the 30-area climate risk portfolio and the 20-area spectral intervention portfolio, reveals the sites of dual-evidence priority where both the climate hazard trajectory and the current biophysical degradation state justify immediate and comprehensive intervention. Lukhula appears in both lists, ranking CRITICAL in the climate analysis and HIGH in the spectral analysis, representing the landscape's most significant convergence of population exposure and ecological degradation. Sikhuphe, Mambatfweni, Khalangilile, Ndinilembi, Bhadzeni, Ngcoseni, and Mbadlane also appear in both portfolios, constituting a core set of nine sub-areas where the compound evidence for intervention is overwhelming and where SEASL investment intensity should be concentrated to maximize both ecological and livelihood outcomes. Mbadlane stands as the most compelling single site in the entire assessment: it ranks first in the climate risk analysis and 19th in the spectral analysis, and its appearance in both lists at high priority tier levels under both methodologies constitutes the strongest possible evidence-based case for immediate, comprehensive intervention.

Climate Indicators and Baseline Data for M&E

Indicator Framework

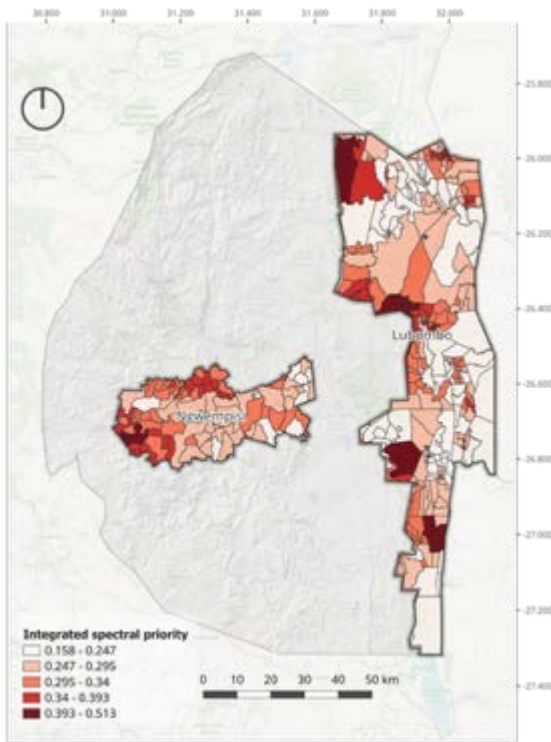
The monitoring and evaluation framework for the SEASL project is designed to track change across three indicator categories that correspond directly to the three-phase structure of the vulnerability assessment: climate hazard indicators drawn from the hydrometeorological analysis, biophysical condition indicators drawn from the Sentinel-2 spectral analysis, and socioeconomic exposure and adaptive capacity indicators drawn from the population and community data. This three-category structure ensures that the M&E framework tracks not merely project outputs (activities completed, areas treated, households reached) but the underlying risk drivers that the project is designed to address, enabling the project to demonstrate a causal link between its interventions and changes in the vulnerability conditions of the target communities. The climate hazard indicators include the SPI-3 drought frequency rate, reported annually per priority sub-area and aggregated across both landscapes, against the 1981 to 2025 baseline frequency established in the Phase I analysis. Heat stress day count, defined as annual days > 35 °C per sub-area, provides a directly trackable indicator of the temperature trajectory against which the project's heat-adaptation interventions can be evaluated. The SOS Day of Year, extracted annually from the MODIS NDVI product using the same protocol established for the baseline analysis, provides a continuous measure of growing-season stability or further destabilization over the project lifetime. Flood event frequency, derived from SPI-3 values > 1.5 monthly, rounds out the climate hazard indicator set.

The biophysical condition indicators draw directly on the eight Sentinel-2 spectral indices established as the analytical core of the Phase II assessment. The primary tracking indicators are the NDVI mean value per sub-area, measured against the 2022 to 2025 baseline composite, and the total degraded hectare count per sub-area, measured using the same multi-index threshold classification protocol applied in the baseline analysis. These two indicators are designed to be remeasured on a biennial basis using new Sentinel-2 wet season composite imagery, enabling the project to quantify whether EbA interventions are generating measurable improvements in vegetation cover and reductions in degraded land extent at the sub-area level. The NDMI and BSI dimensions provide secondary tracking indicators for moisture stress and bare soil exposure respectively, allowing the project team to identify whether observed changes in NDVI are being driven by improved moisture availability (indicating hydrological restoration success) or simply by above-average rainfall years (indicating natural variability rather than project impact).

The socioeconomic and adaptive capacity indicators include the number of households with access to improved water sources disaggregated by gender of household head, the number of ha under community-managed fire management protocols, the number of invasive alien plant species control areas established with maintained clearing, the percentage of farming households using drought-tolerant or climate-smart crop varieties, and the number of women and youth engaged in diversified livelihood enterprises supported by restored ecosystem services. These indicators are designed to be collected through annual project surveys and to be gender-disaggregated throughout, reflecting the SEASL project's commitment to tracking differential vulnerability and differential benefit by gender and age group.

Baseline Conditions and Data Sources

Figure 40 Integrated spectral priority score spatial distribution across all 128 sub-areas, both landscapes.



The baseline conditions for all three indicator categories are established by this technical assessment, providing the reference points against which mid-term and end-of-project monitoring data will be compared. For the climate hazard indicators, the baseline is the full 1981 to 2025 CHIRPS and MODIS record, summarized per sub-area. For the biophysical indicators, the baseline is the 2022 to 2025 wet season Sentinel-2 median composite, with per-sub-area spectral index values and degraded hectare counts. For the population exposure indicators, the baseline is the 2017 census EA data or WorldPop data, noting that updated population estimates should be incorporated from the next census round when available.

The reproducibility of the baseline analysis is ensured by the complete documentation of data sources, processing protocols, and computational workflows. One critical methodological note for the M&E team is that the detection of biophysical improvement in the Sentinel-2 indicators requires careful attribution analysis, since annual and inter-annual rainfall variability will naturally produce fluctuations in NDVI, NDMI, and degraded hectare counts that do not reflect project impact. The protocol for separating project-driven change from natural variability is to use the SPI-3 values for the imagery acquisition year as a covariate in the comparison, comparing biophysical indicator values in treated sub-areas against a control set of similarly sized sub-areas with comparable rainfall histories that are not receiving project interventions. This controlled comparison approach, combined with the biennial rather than annual measurement frequency for the Sentinel-2 indicators to reduce noise, will provide the strongest possible

ANNEX 2: Overview of consultations conducted

Table 50 Overview of consultations conducted during the concept note phase

TITLE OF CONSULTATION	LIST OF STAKEHOLDERS														
NDA & MoA, Inception meeting on proposed concepts Date: 3 March 2022 Venue: Mbabane	<table><tr><th colspan="2">OUTCOME OF MEETING BETWEEN MTEA-NDA, MOA & FAO</th></tr><tr><td>Date:</td><td>03 March 2022</td></tr><tr><td>Time:</td><td>10:30-12:00</td></tr><tr><td>Venue:</td><td>MTEA Board Room, Mbabane Head Quarters</td></tr><tr><td>Participants:</td><td>1. Khangeziwe Mabuza (PS-MTEA) 2. Dudu Masina-Nhlengethwa (MTEA) 3. Lindani Mavimbela (FAO) 4. Theophilus Dlamini (FAO) 5. Howard Mbuyisa (MOA) 6. Sipho Shiba (MOA) 7. Patric Dlamini (MOA) 8. Constance Dlamini (MTEA) 9. Mbhekeni Nxumalo (MTAE)</td></tr></table>					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. Theophilus Dlamini (FAO) 5. Howard Mbuyisa (MOA) 6. Sipho Shiba (MOA) 7. Patric Dlamini (MOA) 8. Constance Dlamini (MTEA) 9. Mbhekeni Nxumalo (MTAE)
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Development of log-frame for Concept note. Date: 18 May 2022 Venue: Piggs peak	Name of participant	Institution	Designation	Gender (M/F)	Email address										
	Thulani Sibiya	Ministry of Agriculture	Planner	M	osibiya@gmail.com										
	Thapelo Hlatshwako	Ministry of Agriculture	R.M.O	M	thapelo.hlatshwako@yahoo.com										
	Ntokozo Dlamini	Ministry of Agriculture	Agriculture Officer	M	jimmynd247@gmail.com										
	Louis Musa Kuhlase	Ministry of Agriculture	SAO	M	klouismusa7@gmail.com										
	Colani Mkhabela	Ministry of Agriculture -Land Use Planning Department	SWCE	M	colanimkhabela3@gmail.com										
	Patrick Dlamini	Ministry of Agriculture -Land Use Planning Department	Soil Surveyor	M	patrickdlamini@gmail.com										
	Theophilus Dlamini	FAO	Programme Assistant	M	theophilus.dlamini@fao.org										
	Christopher Mthethwa	Ministry of Agriculture -DAE	Senior Agricultu	M	mthethwa.chris003@gmail.com										
	Sifiso Msibi	Ministry of Agriculture -DVLS	R.M.O	M	sifisom@gmail.com										
	Howard Mbuyisa	Ministry of Agriculture	Senior Economist	M	howardveli@yahoo.com										
	Phumzile Mhlanga	Ministry of Agriculture	Senior Aquaculture Officer	F	mhlangap@gmail.com										
	Nkosinathi Mavimbela	MoF	SNR Finance Officer	M	mavimbelank@gmail.com										
	Lindani Mavimbela	FAO	Programme Coordinator	M	lindani.mavimbela@fao.org										
	Cuthbert Kambanje	FAO	Technical Officer	M	cuthbert.kambanje@fao.org										
	James Mavimbela	World Food Programme	-	M	james.mavimbela@wfp.org										
	Naad D Pires	World Food Programme	-	F	maypires@wfp.org										

Technical Committee (TC) meeting Date: 29 July 2022 Venue: Mbabane	<table><tr><th colspan="2">OUTCOME OF MEETING BETWEEN MTEA-NDA, MOA & FAO</th></tr><tr><td>Date:</td><td>29 July 2022</td></tr><tr><td>Time:</td><td>09:30-12:00</td></tr><tr><td>Venue:</td><td>MoA Board Room, Mbabane Head Quarters</td></tr><tr><td>Participants:</td><td> 1. Mr Thulani Sibiya (MOA) 2. Dr Cuthbert Kambanje (FAO) 3. Dr Lindani Mavimbela (FAO) 4. Mr Theophilus Dlamini (FAO) 5. Mr Sifiso Muzi (MOA) 6. Mr Sipho Shiba (MOA) 7. Ms. Constance Dlamini (MTEA) 8. Mr Mbhekani Nxumalo (MTEA) 9. Mr Ntokozo Dlamini (MoA) 10. Mr Victor Mahulele (NDMA) 11. Mr Nkosinathi Mavimbela (Mof) 12. Dr Coll Ndzabandaba (Red Cross) 13. Mr Spencer Green Thompson (MNRE) 14. Mr Socolo Sanele (DPMO) </td></tr></table>	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 Theophilus Dlamini (FAO) 5. Mr Sifiso Muzi (MOA) 6. Mr Sipho Shiba (MOA) 7. Ms. Constance Dlamini (MTEA) 8. Mr Mbhekani Nxumalo (MTEA) 9. Mr Ntokozo Dlamini (MoA) 10. Mr Victor Mahulele (NDMA) 11. Mr Nkosinathi Mavimbela (Mof) 12. Dr Coll Ndzabandaba (Red Cross) 13. Mr Spencer Green Thompson (MNRE) 14. Mr Socolo Sanele (DPMO)
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	<table><tr><td>Ndoda Msibi</td><td colspan="3">Ministry of Agriculture -NPPO</td><td>RPPO</td><td>M</td><td colspan="2">ndodamsibi@gmail.com</td></tr></table>												Ndoda Msibi	Ministry of Agriculture -NPPO			RPPO	M	ndodamsibi@gmail.com																																																																																																																																																																																																																																																					
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Landscapes (Lubombo and Ngwempisi) Community Consultation Date: 20-23 June 2023 Venue: Shewula and Tikhuba Community/ Chiefdom centers for Lubombo Landscape Venue: KaZulu and Luzelweni Community/ Chiefdom centers for Ngwempisi Landscape	<table><tr><th>Name</th><th>Gender</th><th>Designation</th><th>Name</th><th>Gender</th><th>Designation</th><th>Name</th><th>Gender</th><th>Designation</th><th>Name</th><th>Gender</th><th>Designation</th></tr><tr><td colspan="3">Shewula</td><td>Sibongile Mnisi</td><td>F</td><td>Chiefdom Development Committee</td><td>Goodness Matsenjwa</td><td>F</td><td>Chiefdom Development Committee</td><td>Sihlangu Gwebu</td><td>F</td><td>Extension Officer-MoA</td></tr><tr><td>Musa Masilela</td><td>M</td><td>Inner concillor</td><td>Gcinile Madolo</td><td>F</td><td>Chiefdom Development Committee</td><td>Ncobile Dlamini</td><td>F</td><td>Chiefdom Development Committee</td><td>Gladies Methula</td><td>F</td><td>NGO</td></tr><tr><td>Jim Dladla</td><td>M</td><td>Inner concillor</td><td>Dely Mabila</td><td>F</td><td>Chiefdom Development Committee</td><td>Nompumelelo Nyaba</td><td>F</td><td>Chiefdom Development Committee-Chair</td><td>Musa Ngcamphalala</td><td>M</td><td>Extension Officer-MoA</td></tr><tr><td>Xolile Dlamini</td><td>F</td><td>Chiefdom Development Ccommittee</td><td>Phumlani Nhlabatsi</td><td>M</td><td>Trust</td><td>Phindile Dlamini</td><td>F</td><td>Trust</td><td colspan="3">KaZulu</td></tr><tr><td>Jeneth Mahlalela</td><td>F</td><td>Board Member</td><td>Lindiwe Sifundza</td><td>F</td><td>Trust</td><td>Phumlile Matsenjwa</td><td>F</td><td>Trust</td><td>Elizabeth Dlamini</td><td>F</td><td>Inner Council</td></tr><tr><td>Thumeli Masilela</td><td>F</td><td>Chiefdom Development Committee</td><td>Khetsiwe Mkhabela</td><td>F</td><td>Trust</td><td>Khanyisile Dlamin</td><td>F</td><td>Inner Council</td><td>Zandile Dlamini</td><td>F</td><td>Inner Council</td></tr><tr><td>Magareth Khumalo</td><td>F</td><td>Rural Health Officer</td><td>Lungile Magagula</td><td>F</td><td>Community Member</td><td>Calton Gamedze</td><td>M</td><td>Trust</td><td>Thembsile Mkumba</td><td>F</td><td>Inner Council</td></tr><tr><td>Hlobsile Ngomane</td><td>F</td><td>Rural Health Officer</td><td>Phillile Ndwandwe</td><td>F</td><td>Community Member</td><td>Elias Matsenjwa</td><td>M</td><td>Community Member</td><td>Makhosi Nhlabatsi</td><td>M</td><td>Chiefdom Development Committee</td></tr><tr><td>Daniel Ndzabandzaba</td><td>M</td><td>Com.member</td><td>Khetsiwe Mamba</td><td>F</td><td>Community Member</td><td>Nomcebo Vilane</td><td>F</td><td>Farmer</td><td>Thandiwe Shongwe</td><td>F</td><td>Community Member</td></tr><tr><td>Dumsani Mabuza</td><td>M</td><td>Chairperson-ECC</td><td>Phumzile Mnisi</td><td>F</td><td>Community Member</td><td>Antony Matsenjwa</td><td>M</td><td>Chiefdom Development Committee-Chair</td><td>Mzwandile Tsela</td><td>M</td><td>Chiefdom Development Committee</td></tr><tr><td>Samuel Maziya</td><td>M</td><td>Chiefdom Development Committee</td><td>Goodness Vilakati</td><td>F</td><td>Community Member</td><td>Bayeza Nkonyane</td><td>M</td><td>Farmer</td><td>Abel Vilakati</td><td>M</td><td>Inner Council</td></tr><tr><td>Elias Bhuky</td><td>M</td><td>Inner concillor</td><td>Mandla Makhanya</td><td>M</td><td>ENTC</td><td>Mfana Nhlabatsi</td><td>M</td><td>Trust</td><td>Nkinase Shongwe</td><td>M</td><td>Chiefdom Development Committee</td></tr><tr><td>Jenneth Nkonyane</td><td>F</td><td>Chiefdom Development Officer</td><td colspan="3">Luzelweni</td><td>Colani Matsenjwa</td><td>M</td><td>Temvelo</td><td>Ireen Ngambi</td><td>F</td><td>NGO-Tenvelo</td></tr><tr><td>Mahlasela Mabila</td><td>M</td><td>Chiefdom Development Officer</td><td>Joseph Khoza</td><td>M</td><td>Chiefdom Development Committee</td><td>Mbuso Gamedze</td><td>M</td><td>Chiefdom Development Committee-VC</td><td>Tenele Nxumalo</td><td>F</td><td>MoA-Extension Officer</td></tr><tr><td>Samuel Nyoni</td><td>M</td><td>Chiefdom Development Committee</td><td>Melvin Dlamini</td><td>M</td><td>Chiefdom Development Committee</td><td>Thando Dlamini</td><td>F</td><td>Community Member</td><td>Winile Maseko</td><td>F</td><td>Community Member</td></tr><tr><td>Caphas Msibi</td><td>M</td><td>Chiefdom Development Committee-Chair</td><td>Thutha Dlamini</td><td>M</td><td>Chiefdom Development Committee</td><td>Thandi Wilson</td><td>F</td><td>Community Member</td><td>Siphesihle Hlophe</td><td>F</td><td>Community Member</td></tr><tr><td>Thandi Mhlanga</td><td>F</td><td>Manager</td><td>Gugu Gwebu</td><td>F</td><td>Chiefdom Development Committee</td><td>Alfred Dlamini</td><td>M</td><td>CD</td><td>Fisiwe Shabangu</td><td>F</td><td>Community Member</td></tr><tr><td>Danger Nhlabatsi</td><td>M</td><td>Inner concillor</td><td>Cebile Matsenjwa</td><td>F</td><td>Chiefdom Development Committee</td><td>Khetsiwe Vilakati</td><td>F</td><td>Community Member</td><td>Temadleni Dlamini</td><td>F</td><td>Community Member</td></tr><tr><td>Sikhumbuzo 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Committee-Chair	Musa Ngcamphalala	M	Extension Officer-MoA	Xolile Dlamini	F	Chiefdom Development Ccommittee	Phumlani Nhlabatsi	M	Trust	Phindile Dlamini	F	Trust	KaZulu			Jeneth Mahlalela	F	Board Member	Lindiwe Sifundza	F	Trust	Phumlile Matsenjwa	F	Trust	Elizabeth Dlamini	F	Inner Council	Thumeli Masilela	F	Chiefdom Development Committee	Khetsiwe Mkhabela	F	Trust	Khanyisile Dlamin	F	Inner Council	Zandile Dlamini	F	Inner Council	Magareth Khumalo	F	Rural Health Officer	Lungile Magagula	F	Community Member	Calton Gamedze	M	Trust	Thembsile Mkumba	F	Inner Council	Hlobsile Ngomane	F	Rural Health Officer	Phillile Ndwandwe	F	Community Member	Elias Matsenjwa	M	Community Member	Makhosi Nhlabatsi	M	Chiefdom Development Committee	Daniel Ndzabandzaba	M	Com.member	Khetsiwe Mamba	F	Community Member	Nomcebo Vilane	F	Farmer	Thandiwe Shongwe	F	Community Member	Dumsani Mabuza	M	Chairperson-ECC	Phumzile Mnisi	F	Community Member	Antony Matsenjwa	M	Chiefdom Development Committee-Chair	Mzwandile Tsela	M	Chiefdom 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Dlamini	M	CD	Fisiwe Shabangu	F	Community Member	Danger Nhlabatsi	M	Inner concillor	Cebile Matsenjwa	F	Chiefdom Development Committee	Khetsiwe Vilakati	F	Community Member	Temadleni Dlamini	F	Community Member	Sikhumbuzo Maseko	M	MoA-LUPD	Sipho Mazibuko	M	ENTC	Ntombikayise Fakudze	F	NGO	Thandi Tsela	F	Community Member	Nonhlanhla Bhembe	F	Trust	Lisaya Nshalinshali	F	Chiefdom Development Committee	Sihlangu Gwebu	F	Extension Officer-MoA	Tandzile Tsela	F	Community Member
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	Juliet Shabangu	F	Community Member	Lindiwe Sukati	F	Community Member	Fikile Mndzebele	F	Community Member	
	Happiness Tsela	F	Community Member	Mabusi hlophe	F	Community Member	Happy Sacolo	F	Chieftdom Development Committee	
	Lungile Makhanya	F	Community Member	Ema Sacolo	F	Community Member	Mayenziwe Sacolo	F	Community Member	
	Phiness Tsela	M	Community Member	Amos Manana	M	Community Member	Mkhabeko Sacolo	M	Community Member	
	Gabsile Maseko	F	Community Member	Vusi Vilakati	M	Community Member	Lindiwe Hlophe	F	Community Member	
	Simphiwe Tsela	F	Community Member	Mlandvo Sacolo	M	Community Member	Thabiso Sacolo	M	Community Member	
	Celiwe Tsela	F	Community Member	Thembeka Mavuso	M	Community Member	Titsele Sacolo	M	Community Member	
	Tikhuba			Mazy Khumalo	F	Community Member	Winile Lukhele	F	Inner Council	
	Petros Sacolo	M	Advisor	Ncamsile Dlamini	F	Community Member	Julien Van Vuren	F	Chieftdom Development Committee	
	Aenies Sacolo	F	Inner Council	Zodwa Dlamini	F	Community Member	Juba Dlamini	M	Community Member	
	Fikile Ndzabukelwalo	F	Advisor	Mlungisi Hlophe	M	Community Member	Satile Sacolo	M	Community Member	
	Thandiwe Sacolo	F	Community Member	Makhosazane Vilakati	M	Community Member	Themba Gwebu	M	Runner	
	Nombuso Sacolo	F	Community Member	Marry Van Vuren	F	Chieftdom Development Committee	Amos Sacolo	M	Community Member	
	Buyisile Ntshalinshali	F	Health Advisor	Sicelele Sacolo	M	Community Member	Zola Sacolo	M	Community Member	
	Welile Dlamini	F	Health Advisor	Thubelihle Simelane	M	Community Member	Zakhele Sacolo	M	Community Member	
	Lucy Ntshalinshali	F	Community Member	Sibusiso Sacolo	M	Trust	Busisiwe Dlamini	F	Community Member	
	Ruth Sacolo	F	Community Member	Bongekile Sacolo	F	Community Member	Muzi Hlophe	M	Community Member	
	Peter Maseko	M	Chieftdom Development Committee	Philiwe Lushaba	F	Community Member	Mandla Makhanya	M	ENTC	
	Khathiwe Mavuso	F	Community Member	Khatriana Maseko	F	Community Member	Ireen Ng"ambi	F	TENVELO	
	Goodness Mhlanga	F	Community Member	Sotunwane Sacolo	M	Chief	Scelo Ntshalintshali	M	Chieftdom Development Committee	

Table 51 Overview of consultations conducted during the full proposal phase

Table 52 Overview of communities consulted during the full proposal development phase

#	Community	Total Participants	% Women (n)	% Men (n)	Youth (n)	Farmers (n)	Disabled (n)	Other Roles / Types
1	Emphini	3	0% (0)	100% (3)	-	3	-	-
2	Etjebovu	2	100% (2)	0% (0)	-	2	-	-
3	Ka-Ndinda	11	36% (4)	64% (7)	-	5	-	Bandlancane/Community council (3), Indvuna (1), Pastor (1), Bucopho (1)
4	Lukhetseni	8	50% (4)	50% (4)	1	1	-	Trust (2), Bucopho (1), Community veteran (1), Bandlancane (1), Focus Group (1)
5	Luzelweni	14	21% (3)	79% (11)	-	9	-	Indvuna (2), Broadcasting (1), Mahalane (1), Chief (1)
6	Mambane	2	100% (2)	0% (0)	-	-	-	Focus Group (1), Trust (1)
7	Maphungwane	3	67% (2)	33% (1)	-	-	-	CDC (2), Trust (1)
8	Membane	4	0% (0)	100% (4)	-	-	-	Trust (2), Bucopho (1), Indvuna (1)
9	Mhlumeni	10	40% (4)	60% (6)	1	-	-	Bush Camp (3), Bandlancane (2), Chairperson (2), Trust (1), Tentfuntfuko (1)
10	Mphini	6	67% (4)	33% (2)	-	4	-	Bandlancane (2)
11	Ntontozi	12	33% (4)	67% (8)	-	9	1	CDC (2)
12	Tikhuba	4	50% (2)	50% (2)	1	-	-	Trust (2), Assistant Extension Officer (1)
13	Velezizweni	22	32% (7)	68% (15)	-	20	-	Royalty (1), Bandlancane/Community council (1)
	TOTAL (13 communities)	101	38% (38)	62% (63)	3	53	1	

Full Name	Community	Position/Role	Gender	Grouped Role
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Catherine Dlamini	Velezizweni	Farmer	F	Farmer
Celiwe Dlamini	Velezizweni	Farmer	F	Farmer
Nomvuyo Shiba	Velezizweni	Farmer	F	Farmer
Siphomandla Dlamini	Velezizweni	Farmer	M	Farmer
Fanele Ngwenya	Velezizweni	Farmer	M	Farmer
Winile Dlamini	Velezizweni	Farmer	F	Farmer
Tlobile Mabeleza	Velezizweni	Farmer	F	Farmer
Nokwanda Mkonyane	Velezizweni	Farmer	F	Farmer
France Nkomo	Velezizweni	Farmer	M	Farmer
Mlungisi Hlubi	Velezizweni	Farmer	M	Farmer
Colani Simelane	Velezizweni	Farmer	M	Farmer
Melusi Zitha	Velezizweni	Farmer	M	Farmer
Mpendulo Mkhaliphi	Velezizweni	Farmer	M	Farmer
Mzwandile Dlamini	Velezizweni	Farmer	M	Farmer
Celonkhosi Dlamini	Velezizweni	Farmer	M	Farmer
Melusi Isabedze	Velezizweni	Farmer	M	Farmer
Catherine Dlamini	Velezizweni	Farmer	M	Farmer
Celucolo Mabuza	Velezizweni	Farmer	F	Farmer
Sakhile Ngubeni	Velezizweni	Farmer	M	Farmer
Cynthia Sukati	Velezizweni	Farmer	M	Farmer
Siphiwe Nsibandze	Etjebovu	Farmer	F	Farmer
Funeki Tsela	Etjebovu	Farmer	F	Farmer
Makhosemvelo Dlamini	Velezizweni	Royalty	M	Royalty
Simon M. Vilane	Velezizweni	Bandlancane/ Community council	M	Bandlancane
Samson Maziya	Mhlumeni	Bush Camp Manager	M	Bush Camp
Samuel Dlamini	Mhlumeni	Bandlancane/ Community council	M	Bandlancane
Twobile Mdluli	Mhlumeni	Bush Camp Staff	F	Bush Camp
David Fabula	Mhlumeni	Bandlancane/ Community council	M	Bandlancane
Thabsile Khumalo	Mhlumeni	Bush Camp Trust Secretary	F	Trust

Gcinile Motsa	Mhlumeni	Tentfuntfuko	F	Tentfuntfuko
Ayanda Shongwe	Mhlumeni	Youth	M	Youth
Sizakele Matsenjwa	Mhlumeni	Mhlumeni Bush Camp	F	Bush Camp
Sandile Matsenjwa	Mhlumeni	Chairperson Diptank	M	Chairperson
Mfanizile Sifundza	Mhlumeni	Chairperson	M	Chairperson
Bensen Dlamini	Luzelweni	Farmer	M	Farmer
Petros Sacolo	Luzelweni	umSumphe / Indvuna	M	Indvuna
Alfred Mhlonta	Luzelweni	Farmer	M	Farmer
Majahani Sacolo	Luzelweni	Farmer	M	Farmer
Sicetele Sacolo	Luzelweni	Farmer	F	Farmer
Khanyisile Sacolo	Luzelweni	Broadcasting	F	Broadcasting
Vunile Sacolo	Luzelweni	Mahalane	F	Mahalane
Sifundvane Sacolo	Luzelweni	Chief	M	Chief
Mmu Mbu Mimine	Luzelweni	Indvuna	M	Indvuna
Mlandvo Sacolo	Luzelweni	Farmer	M	Farmer
James Tsela	Luzelweni	Farmer	M	Farmer
Muzi Sacolo	Luzelweni	Farmer	M	Farmer
Amos Manana	Luzelweni	Farmer	M	Farmer
Elijah Madzab	Luzelweni	Farmer	M	Farmer
Zeblon K. Dlamini	Ntontozi	Farmer Maize	M	Farmer
Thulani Hlubi	Ntontozi	Farmer Maize	M	Farmer
Jabu Madau	Ntontozi	Farmer	F	Farmer
Mandla Nene	Ntontozi	Disability	M	Disability
Kuanyisile Dlamini	Mphini	Bandlancane	F	Bandlancane
Vuyisile Mdluli	Mphini	Farmer	F	Farmer
Errow Kunene	Ntontozi	CDC	M	CDC
Themba Dlamini	Mphini	Bandlancane/ Community council	M	Bandlancane
Phindile Maphosa	Mphini	CDC, Farmer	F	Farmer
Thembi Hlophe	Mphini	Farmer	F	Farmer

Nomsikilelo Dlamini	Ntontozi	Farmer	F	Farmer
Mbongen Dlamini	Emphini	Farmer	M	Farmer
Happy Dlamini	Ka-Ndinda	CDC Chairperson, Farmer	F	Farmer
Nesta Bhalisile Dlamini	Ka-Ndinda	Farmer Maize	F	Farmer
Ntombe Bulunga	Ntontozi	Farmer	F	Farmer
Lucia Vilakati	Ntontozi	CDC	F	CDC
Thabile Dlamini	Ka-Ndinda	Farmer	F	Farmer
Fezile Hlophe	Ka-Ndinda	Farmer	F	Farmer
Nkosivile Kunene	Ka-Ndinda	Bandlancane/ Community council	M	Bandlancane
Sicelo Dlamini	Ka-Ndinda	Vegetable Farmer	M	Farmer
Sabelo Dlamini	Emphini	Vegetable Farmer	M	Farmer
Sifiso Fassie	Ntontozi	Farmer	M	Farmer
Nkosinathi Dlamini	Ntontozi	Farmer	M	Farmer
Zakhi Thomas Dlamini	Ntontozi	Herb Farmer / Bucopho	M	Farmer
Vusi Dlamini	Ka-Ndinda	Indvuna	M	Indvuna
Leslie Balida	Ntontozi	NCBG Original Farmer	M	Farmer
Siboniso Dlamini	Emphini	Farmer (Veg)	M	Farmer
Elliot Dlamini	Mphini	Vegetable Farmer	M	Farmer
Andreas Dikiza	Ka-Ndinda	Bandlancane/ Community council	M	Bandlancane
Isaac Mtsetfwa	Ka-Ndinda	Bandlancane/ Community council	M	Bandlancane
Msholuzi Mkhali	Ka-Ndinda	Pastor	M	Pastor
Malungisa Mtsetfwa	Ka-Ndinda	Bucopho	M	Bucopho
Sandile Matsenjwa	Membane	Bucopho	M	Bucopho
Samukelo Maduvane	Membane	Trust	M	Trust
Makhombela Zandile	Lukhetseni	Bucopho	F	Bucopho
Maziya Meliswa	Lukhetseni	Youth	F	Youth
Sikhumbuzo Gwebu	Tikhuba	Assistant Extension Officer	M	Assistant Extension Officer
Bongiwe Hlophe	Tikhuba	Youth	F	Youth
Mandla Dlamini	Lukhetseni	Community veteran	M	Community veteran

Masu Dlamini	Maphungwane	CDC	M	CDC
Sipho Mabuzo	Membane	Trust / ENTC (Memb)	M	Trust
Mmamatsala Nthela	Lukhetseni	Trust	M	Trust
Dumisa Vilane	Lukhetseni	Bandlancane/ Community council	M	Bandlancane
Mkhatshane Myeni	Membane	Indvuna Sigodzi	M	Indvuna
Thetha Dlamini	Lukhetseni	Focus Group	M	Focus Group
Phindile Dlamini	Lukhetseni	Farmer	F	Farmer
Phindile Dlamini	Lukhetseni	Trust	F	Trust
Joseph Khosa	Tikhuba	Tikhuba Trust	M	Trust
Alice Shabangu	Maphungwane	CDC	F	CDC
Nomfundo Shiba	Maphungwane	Trust	F	Trust
Busisiwe Matimba	Tikhuba	Trust	F	Trust
Meatile Mamba	Mambane	Focus Group Copse	F	Focus Group
Annie Dlamini	Mambane	Mambane Trust	F	Trust

ANNEX 3: Environmental and Social Risks Management Plan

1. Introduction and purpose

This Environmental and Social Management Plan (ESMP) sets out how environmental and social (E&S) risks and impacts of the SEASL project will be avoided, minimized, mitigated, monitored and managed throughout the project life. It operationalizes the E&S screening presented in Part II.E and Part II.K of the proposal and constitutes the project's principal safeguards management instrument under the Adaptation Fund (AF) Environmental and Social Policy (ESP).

The ESMP is designed to satisfy three concurrent frameworks operating as a single integrated management system: (i) the AF ESP and Gender Policy; (ii) IFAD's Social, Environmental and Climate Assessment Procedures (SECAP); and (iii) Eswatini's national environmental legal framework, principally the Environment Management Act (EMA) 2002 and the Environmental Assessment Regulations 2022 administered by the Eswatini Environment Authority (EEA).

Scope. Because several SEASL sites (wetland fencing locations, nurseries, water-harvesting infrastructure, grazing infrastructure and aggregation/storage facilities) are community-demand-driven and will be selected during implementation, these ESMP functions both as a fixed management plan for known risks and as a management framework for unidentified sub-projects (USPs). Section 8 sets out the mandatory site-specific screening and assessment procedure that governs every site selected after approval.

Core sequencing principles

- No physical work, vegetation clearance, land disturbance, water abstraction or procurement of physical inputs may commence at any site until (a) site-specific E&S screening is completed and (b) all environmental authorizations required by the EEA and the Department of Water Affairs (DoWA) have been obtained.
- Inputs follow training and works follow clearances: site-specific ESMP/mitigation measures are conditions precedent to disbursement at activity level.

2. Policy, legal and institutional basis

The ESMP is anchored in the following instruments:

- **Adaptation Fund ESP and Gender Policy** - screening against the 15 ESP principles, Category B management requirements, grievance redress, monitoring and disclosure obligations.
- **IFAD SECAP** - moderate-risk classification, Environmental and Social Review Note (ESRN), ESMP, and supervision through IFAD missions and the Project Performance Report (PPR).
- **National framework** - EMA 2002 and Environmental Assessment Regulations 2022 (Project Brief / IEE / EIA pathway and Environmental Compliance Certificate, ECC); Water Act 2003 (water-use authorization, DoWA); Pesticides Management Act 2017; Plant Health Protection Act 2020; Seeds and Plant Varieties Act 2000; Forestry Act and Policy; NBSAP, NDC and the Land Degradation Neutrality framework.

3. Project description and risk-bearing activities

SEASL is structured in four components. The E&S risk profile is concentrated on the physical interventions of Components 3 and 4; Components 1 and 2 carry primarily social inclusion and safeguarding risks. The risk-bearing outputs are summarized below.

Table 53 Risk-bearing outputs and physical footprint

Output	Intervention	Indicative footprint / nature
1.1	Rangeland management; grazing infrastructure (kraals, firebreaks, paddock fencing, livestock corridors)	8,500 ha communal rangeland under management

Output	Intervention	Indicative footprint / nature
1.2	Wetland fencing and riparian restoration	1,200 ha degraded wetland (environmentally sensitive areas)
1.3	Communal woodlots; soil-erosion control earthworks; IAPS control (manual / mechanical / chemical)	Part of 2,300 ha tree cover; localized earthworks; controlled herbicide use
1.4	Plant nurseries with hail-protective structures	Permanent / semi-permanent small structures, multiple sites
1.5	Water-harvesting infrastructure (ferro-cement tanks, community reservoirs, livestock water points, reticulation)	Small civil works on or near water bodies
1.6	Agroforestry with climate-appropriate indigenous species	Planting on existing farmland / degraded land
1.7	Climate-smart agriculture (drip irrigation conversion, no-till, shade nets)	On-farm water abstraction at household / small-group scale
1.8	Value addition, traceability and aggregation/storage centres	Construction or renovation of small permanent structures

4. Environmental and social risk categorization

Overall classification: Category B - Moderate. No SEASL activity is expected to cause significant, large-scale, irreversible or unprecedented adverse E&S impacts. All identified potential risks are site-specific, predictable, and manageable through standard, proven mitigation measures applied through this ESMP. The category is reaffirmed at every site through the screening procedure in Section 8; should any site screening return a higher risk, the activity is escalated to the EEA for full Environmental Impact Assessment (EIA) and reported to IFAD before any works proceed.

5. Screening against the 15 AF ESP principles

The table below records the residual risk rating against each of the 15 ESP principles, the underlying risk driver, and the management instrument carried into the risk register (Section 7) and budget (Section 14).

Table 54. Screening of SEASL against the 15 AF ESP principles

AF ESP Principle	Rating	Key risk driver	Management instrument
1. Compliance with the Law	Not triggered	National permits required (EIA/IEE, ECC, water-use)	Compliance schedule (Part II.E); PSC oversight by EEA/MNRE; Section 8 procedure
2. Access and Equity	Low	Elite capture in beneficiary selection	SAPEMP-aligned vulnerability criteria; transparent, validated selection; GRM
3. Marginalized and Vulnerable Groups	Low	Exclusion of low-literacy, HIV-affected, PWD, female-headed households	Targeting protocols; icon-based and community-radio formats; GAP; GRM
4. Human Rights	Not triggered	Non-consent on community activities	FPIC for all Swazi Nation Land (SNL) activities; multi-tier GRM
5. Gender Equality and Women's Empowerment	Low	Unequal participation; GBV/SEA-SH near infrastructure	GBV-sensitive siting; ≥40% women leadership quotas; SEA/SH protocol; GAP; women-accessible GRM
6. Core Labour Rights	Moderate	Contracted labour (construction, restoration, IAPS clearing)	ILO core-labour and Eswatini labour-law clauses in all contracts; Worker Code of Conduct (3C); OHS; worker GRM
7. Indigenous Peoples	Not triggered	No indigenous peoples (as defined under ESP) present	FPIC and customary-authority engagement on all SNL activities
8. Involuntary Resettlement	Low	Excluded by design	Explicit exclusion clause (Section 6); reaffirmed at every site
9. Protection of Natural Habitats	Moderate	Restoration in habitats of conservation value (Maputaland-Albany hotspot); potential tree cutting	Site-specific habitat screening; NBSAP alignment; ENTC consultation; Community Forest Management Groups with harvesting/benefit-sharing rules

AF ESP Principle	Rating	Key risk driver	Management instrument
10. Conservation of Biological Diversity	Not triggered	Introduction of non-native / invasive species via nurseries / agroforestry	All species cleared against IAPS register pre-procurement; ENTIC review; nursery biosecurity
11. Climate Change	Moderate	Infrastructure exposed to drought, hail, flood, heat	Climate-proofed design specs; no flood-zone siting; hail-protective structures
12. Pollution Prevention and Resource Efficiency	Moderate	Pesticide/herbicide use; IAPS biomass disposal	IPM-first policy; registered products only; Pesticide Use Plan; responsible IAPS disposal
13. Public Health	Low	Water-borne disease around restored wetlands and water points	Site-specific health screening; community hygiene training; livestock-watering separation
14. Physical and Cultural Heritage	Moderate	Disturbance of cultural sites/graves on SNL	Chance-Find Procedure (3B) in all civil-works contracts; consultation with traditional authorities
15. Lands and Soil Conservation	Low	Soil disturbance during construction and IAPS removal	Soil-erosion controls; mechanical IAPS removal limited to non-sensitive sites; post-construction monitoring

6. Activities excluded ex-ante

Activities capable of triggering high-risk ESP categories are excluded by design and at every site screening.

The project will not:

- involve involuntary physical or economic resettlement;
- construct large dams or large-scale irrigation schemes;
- introduce non-native or invasive species;
- operate in legally protected areas without prior MTEA/EEA authorization and FPIC;
- procure or use agro-chemicals prohibited under the Stockholm or Rotterdam Conventions;
- undertake activities incompatible with customary tenure on Swazi Nation Land; or
- undertake any activity on land subject to unresolved tenure disputes.

7. Output-level E&S risk register and mitigation plan

The register below is the operational core of the ESMP. Each entry links a residual risk to its mitigation/management measure, a monitoring indicator with means of verification, the responsible party, the timing trigger, and the cost reference in the ESMP budget (Section 14). Mitigation measures are conditions precedent to disbursement at activity level.

Table 55. SEASL E&S risk register and mitigation plan

Ref / Output	E&S risk or impact	Mitigation / management measure	Monitoring indicator & means of verification	Responsible	Timing	Cost ref.
1.4 & cross-cutting	GBV / SEA-SH and safeguarding failures during FFS, training and field works	SEA/SH prevention protocol; Worker Code of Conduct (Sub-Annex 3C) signed by all staff and contractors; safeguarding clauses embedded in training materials; women-accessible, confidential GRM operational before first FFS cohort	% staff/contractors who signed CoC; # safeguarding incidents reported and resolved; GRM operational (Y/N). MoV: signed CoC register, GRM log	PMU Gender & Social Inclusion Specialist; E&S Safeguards Specialist; FAO	Before first FFS cohort; continuous	B3, B4, C
2.1	Elite capture; exclusion of low-literacy, HIV-affected, PWD and female-headed households	SAPEMP-aligned vulnerability criteria; transparent, community-validated selection; GESI quotas ($\geq 40\%$ women, $\geq 30\%$ youth, $\geq 5\%$ PWD); icon-based and community-radio formats	% women / youth / PWD / vulnerable among beneficiaries (quarterly); # accessible formats produced. MoV: beneficiary database, selection minutes	PMU Gender Specialist; Landscape Associations; FAO	Beneficiary-selection stages; continuous	B6, C, D
3.1	Paddock fencing blocks transhumance routes; grazing exclusion; SNL tenure/access conflict	FPIC; rangeland plans validated by MoA Rangeland Dept and Chiefs before any restriction; agreed livestock corridors signed off by all affected livestock-keeping households prior to fencing; women's/youth grazing rights in updated by-laws; Project Brief to EEA for physical grazing infrastructure	# corridor agreements signed before fencing; # grazing-exclusion grievances; rangeland plans validated (Y/N per site). MoV: signed corridor agreements, validation records	PMU E&S Specialist; MoA Rangeland Dept; Traditional Authorities; NRMCS	Before any fencing or restriction; per site	A1, A2, D1
3.2	Ecological disturbance to wetlands (environmentally sensitive areas; Maputaland-Albany hotspot); construction-phase impacts	PRIORITY Project Brief to EEA mandatory before works; EEA screening (likely Category 2 $\rightarrow$ IEE + CMP; full EIA if large/multiple wetlands); ECC before works; seasonal timing restrictions (avoid breeding seasons); DoWA consultation; FPIC; post-fencing ecosystem monitoring	ECC obtained before works (Y/N); # sites with IEE/CMP; ecosystem-recovery monitoring reports. MoV: ECC, EEA decision letters, monitoring reports	PMU E&S Specialist; EEA; ENTC; DoWA	Before any wetland works; per site	A1–A4, E2
3.3	Uncontrolled prescribed-burn spread; herbicide pollution; soil disturbance from earthworks; cleared IAPS areas becoming wildfire corridors	Manual/mechanical clearing prioritized; prescribed burns only under Output 2.2 fire protocols; IPM-first with registered herbicides only; Pesticide Use Plan approved by MoA before any application; Project Brief to EEA for earthworks > 1 ha or chemical use; cleared areas registered in fire-management maps; species cleared against IAPS register	Pesticide volume and % registered products; # fire incidents; % earthwork sites with erosion controls; cleared areas in fire maps (Y/N). MoV: Pesticide Use Plan, application logs, fire maps	PMU E&S Specialist; MoA Plant Health Services; ENTC; NRMCS	Before clearing / chemical use; continuous	A2–A3, B1, B2
3.4	Introduction of non-native / invasive species via nurseries; unsafe structures	EEA-validated species list; species cleared against IAPS register pre-procurement; nursery biosecurity protocols; building-standards compliance (MoPWT) for permanent structures; Project Brief to EEA for permanent structures on sensitive sites	% species cleared against IAPS register; # nurseries with biosecurity protocol; structures certified (Y/N). MoV: species clearance records, biosecurity SOPs	PMU E&S Specialist; MoA Forestry/Horticulture; ENTC	Before nursery establishment; per site	A1–A2, B2

Ref / Output	E&S risk or impact	Mitigation / management measure	Monitoring indicator & means of verification	Responsible	Timing	Cost ref.
3.5	Soil erosion / donga formation; upstream–downstream water conflict; water-borne disease; GBV near water points; small-reservoir safety	PRIORITY Project Brief to EEA for reservoirs and multiple-use storage (Category 2 → IEE + CMP); DoWA water-use authorization in all cases; soil-suitability assessments and erosion controls; post-construction monitoring; NRM water-allocation protocols agreed before commissioning; water-quality baseline and periodic testing (WHO standards); GBV-sensitive siting (lighting, proximity, women consulted); livestock-watering separation; small-reservoir design and safety review	ECC / authorization before works; # water-allocation protocols agreed; water-quality test results; # GBV grievances near water points; % sites with erosion controls. MoV: ECC, DoWA permits, water-test certificates, GRM log	PMU E&S Specialist; DoWA; EEA; NRMCS; Gender Specialist	Before civil works; per site; continuous	A1–A5, B6, E2
3.6	Clearing of natural vegetation; invasive species; women/youth land-use rights	No clearing of natural vegetation without EEA clearance; planting confined to existing farmland / degraded land; species validated by MoA Forestry and IAPS register; SNL tenure/user-rights documentation for women and youth before planting	# clearance approvals; % species validated; # women/youth with documented use rights. MoV: EEA clearance, species list, tenure records	PMU E&S Specialist; MoA Forestry; ENTC	Before planting season; per site	A1, B2, D1
4.3	Over-abstraction of water; equipment safety in drip-irrigation conversion	DoWA water-use consultation per drip-conversion cluster; conversion only where Output 3.5 confirms adequate supply (sites below the drought-frequency threshold excluded); CSA equipment specs validated against MoA standards	# DoWA consultations completed; # sites confirmed adequate supply. MoV: DoWA records, water-balance confirmation	PMU E&S Specialist; DoWA; MoA	Before equipment procurement; per cluster	A5
4.5	Construction footprint of new aggregation/storage facilities; food-safety and hygiene	Site-specific screening; Project Brief to EEA for new permanent structures (Category 2 → IEE + CMP); no EIA if renovation of existing structures; MoA/Ministry of Health food-safety pre-inspection; HACCP-aligned handling training before first storage season	# sites screened; ECC where required; food-safety inspection passed (Y/N). MoV: screening forms, inspection certificates	PMU E&S Specialist; EEA; Ministry of Health; MoA	Before construction; per site	A1–A3
Cross-cutting	Contracted labour below standards; child / forced labour; occupational health and safety hazards	ILO core-labour and Eswatini labour-law compliance clauses in all contracts; Worker Code of Conduct; OHS provisions and PPE; prohibition of child and forced labour; worker GRM channel; PMU compliance checks before payment certification	% contracts with safeguards/labour clauses; # labour grievances closed; # OHS incidents. MoV: contract register, grievance log, incident reports	PMU E&S Specialist; FAO Procurement	All contracts; continuous	B4, C
Cross-cutting	Disturbance of cultural/heritage sites or graves on SNL during earthworks	Chance-Find Procedure (Sub-Annex 3B) included in all civil-works contracts; consultation with traditional authorities; works stop and notification on any find	Chance-find procedure in contracts (Y/N); # chance-find events managed per procedure. MoV: contract clauses, chance-find reports	PMU E&S Specialist; contractors; Traditional Authorities	All earthworks	B5
Cross-cutting	Pesticide/herbicide residues; IAPS biomass disposal; construction waste	IPM-first; minimal and registered pesticides only; safe storage and disposal; responsible IAPS disposal; construction-waste management provisions in all CMPs	Pesticide volume; IAPS disposal compliance; # CMPs with waste provisions. MoV: application logs, disposal records, CMPs	PMU E&S Specialist; MoA extension	Continuous	B1, B2

8. Management of unidentified sub-projects (site-specific procedure)

Several SEASL interventions are community-demand-driven and their precise locations will be confirmed during implementation. For every such site, the following mandatory procedure applies. No procurement, land disturbance, vegetation clearance, water abstraction or construction may begin until the procedure is complete and all required clearances are held.

Step 1 - Site identification and preliminary design. The PMU, with the relevant Landscape Association and line ministry, identifies the site, confirms tenure status, and prepares preliminary designs and bills of quantities.

Step 2 - Site-specific E&S screening. The PMU E&S Safeguards Specialist completes the screening checklist (Sub-Annex 3A) in consultation with the EEA, EWAD/DoWA and the Landscape Association. The exclusion list (Section 6) is reaffirmed; any excluded feature voids the site.

Step 3 - Categorization. The screening assigns one of four pathways: (a) no further environmental authorization required (desktop / low-footprint activity); (b) Project Brief to EEA; (c) Initial Environmental Evaluation (IEE) plus Comprehensive Mitigation Plan (CMP); or (d) full EIA where the EEA is so determined.

Step 4 - Authorization. Where required, Project Brief is submitted to the EEA after site selection and preliminary design and before any works; the EEA screening decision is obtained; the IEE/CMP or EIA is prepared and the Environmental Compliance Certificate (ECC) secured; DoWA water-use authorization is obtained for any abstraction or water-related works.

Step 5 - Contracting. Site-specific mitigation measures (and any CMP) are written into works contracts as enforceable obligations and treated as conditions precedent to disbursement at activity level.

Step 6 - Implementation, monitoring and reporting. Compliance is monitored during and after works; categorization results and outcomes are communicated to IFAD as Implementing Entity and reported in annual PPRs to the AF Board.

Escalation rule

If any site screening returns a risk higher than Category B (e.g., large or multiple wetlands, protected-area proximity, or EEA classification as Category 1), the activity is escalated for full EIA, the new risk and any new mitigation are reflected in an updated site-level ESMP, and the matter is reported to IFAD and where it changes the project's overall risk profile to the AF Board, before works proceed.

9. Arrangements and responsibilities

Table 56 ESMP roles and responsibilities

Actor	ESMP responsibility
IFAD (Implementing Entity)	Overall safeguards accountability to the AF; SECAP/ESP compliance oversight; reviews and clears site categorizations and any escalations; conducts two supervision missions per year; submits annual PPRs to the AF Board.
FAO (Executing Entity)	Operationalizes all safeguards instruments; ensures procurement, contracting and implementation procedures incorporate ESMP requirements; secretary to the PSC.
PMU E&S Safeguards (ESMP) Specialist	Day-to-day safeguards focal point: operates the ESMP and the Section 8 procedure; maintains the safeguards monitoring log; supervises contractor compliance; runs the GRM at PMU level; coordinates with the EEA; prepares safeguards inputs to PPRs.
PMU Gender & Social Inclusion Specialist	Leads SEA/SH prevention, GESI targeting, women-accessible GRM channel, and Gender Action Plan monitoring.
PMU M&E Specialist	Integrates ESMP indicators into the project M&E system and reporting cycle.
Eswatini Environment Authority (EEA)	Screens Project Briefs; determines IEE/EIA requirements; issues the ECC; PSC member for compliance oversight.
DoWA / MNRE	Issues water-use authorizations; advise on water-related works and abstraction.
ENTC	Advises on habitats of conservation value, species lists and IAPS clearance; co-manages the natural-habitat principle.
MoA (Rangeland, Forestry, Plant Health, extension)	Validates rangeland and species/management plans; approves the Pesticide Use Plan; food-safety inspection.
Traditional authorities; Landscape Associations; CDCs; NRMCS	FPIC; corridor and water-allocation agreements; community-level GRM uptake and validation.

Actor	ESMP responsibility
Contractors / service providers	Comply with contract safeguards clauses, the Worker Code of Conduct, OHS, the Chance-Find Procedure and site-level CMPs.
Project Steering Committee (PSC)	Endorses AWPBs and the engagement map; whole-of-government compliance oversight (EEA, MoA, MNRE, ENTC, NDMA represented).

10. Capacity building for ESMP implementation

ESMP delivery is supported by a structured capacity-building programme: induction of PMU and FAO staff on AF ESP, SECAP and national procedures; annual safeguards training for Landscape Associations, CDCs and NRMCS; contractor briefings on the Worker Code of Conduct, OHS and the Chance-Find Procedure prior to mobilization; and refresher training tied to each implementation phase. Costs are reflected in budget line E1.

11. Grievance Redress Mechanism (GRM)

A multi-tier, accessible and confidential GRM operates throughout the project and is established before any physical activity in a landscape. It does not impede access to judicial or administrative remedy.

Tier 1 - Community / chieftdom level: uptake through Landscape Associations, CDCs and NRMCS; oral, written and icon-based channels for low-literacy users.

Tier 2 - Landscape Association level: logging, acknowledgement and first-instance resolution.

Tier 3 - PMU level: E&S Specialist manages unresolved or sensitive cases; maintains the central grievance log.

Tier 4 - IFAD: matters not resolved at project level, consistent with IFAD's complaints procedures and the AF.

Dedicated SEA/SH and worker channels. A confidential, survivor-centred and women-accessible channel handles SEA/SH grievances, and a worker grievance channel is established for all contracted labour. Caseload, resolution rate and timeliness are reported in every annual PPR. Costs are reflected in budget line C.

12. Monitoring, supervision and reporting

The E&S Safeguards Specialist maintains a continuous safeguards monitoring log capturing screening status, authorizations held, mitigation compliance and incidents.

Internal compliance monitoring is quarterly; site-level compliance verification is a condition precedent to disbursement.

An independent safeguards compliance audit is conducted at mid-term (budget line E3).

IFAD conducts two supervision missions per year covering safeguards performance.

Safeguards performance is reported in every annual PPR to the AF Board: ESMP compliance, GRM caseload and resolution rate, GAP performance, and any reportable safeguards incident.

13. Disclosure

All safeguards instruments this ESMP, site-specific screening results, Project Briefs/IEE/CMP/EIA, ECCs, and GRM records (suitably anonymized) are publicly disclosed in line with AF and IFAD disclosure policies, including accessible and SiSwati-language formats for affected communities.

14. ESMP implementation budget

The dedicated ESMP budget is USD 250,000, equivalent to 2.5% of total project cost a level consistent with adequate safeguards resourcing for a Category B project. These are the operational costs of safeguards delivery and are drawn from project execution and the relevant component budgets. To avoid double counting, costs already provided for elsewhere are noted separately below the table and are not added to this total. The GRM provision shown here (USD 32,000) corresponds to line PEC.14 in the execution-cost table (USD 33,000) and is counted once, not in addition.

Table 57. ESMP dedicated implementation budget (USD)

Line	ESMP activity	Basis / unit assumption	Cost (USD)
	A. Screening and assessment of unidentified sub-projects		
A1	Site-specific E&S screening of unidentified sites	45 sites × USD 600	27,000
A2	Project Briefs to EEA for Category 2 activities	12 × USD 1,500	18,000
A3	IEE / Comprehensive Mitigation Plans where required by EEA	6 × USD 4,000	24,000
A4	EEA review and ECC application fees	Lump sum	8,000
A5	DoWA water-use authorization and water-quality baseline / periodic testing	Per site cluster	13,000
	Subtotal A		90,000
	B. Specialist mitigation instruments		
B1	IPM / Pesticide Use Plan and registered-product verification	Lump sum	7,000
B2	IAPS biosecurity, species-clearance and disposal protocols	Lump sum	6,000
B3	SEA/SH and safeguarding protocol development and training	Lump sum + rollout	15,000
B4	Worker Code of Conduct rollout and labour-compliance monitoring	Lump sum + monitoring	8,000
B5	Chance-Find Procedure training and site signage	Lump sum	4,000
B6	Community public-health and hygiene training (water points / wetlands)	Across landscapes	10,000
	Subtotal B		50,000
	C. Grievance Redress Mechanism		
C1	GRM establishment (community, worker and women-accessible channels)	Lump sum	12,000
C2	GRM operation, awareness and case handling	USD 5,000/yr × 4	20,000
	Subtotal C		32,000
	D. Consultation, FPIC and disclosure		
D1	FPIC documentation (livestock-corridor and water-allocation agreements)	Across sites	10,000
D2	Safeguards disclosure in accessible / SiSwati formats	Annual	6,000
	Subtotal D		16,000
	E. Monitoring, capacity and audit		
E1	Safeguards capacity building (PMU, contractors, LAs, NRMCS)	Annual programme	18,000

Line	ESMP activity	Basis / unit assumption	Cost (USD)
E2	ESMP compliance field monitoring and supervision (transport, field costs)	Continuous	22,000
E3	Independent safeguards compliance audit	Mid-term, once	15,000
	Subtotal E		55,000
F	Contingency (3%)	Unforeseen safeguards costs	7,000
	TOTAL ESMP DEDICATED BUDGET	2.5% of total project cost	250,000

Costs provided elsewhere (not double-counted above):

- **E&S Safeguards Specialist and Gender & Social Inclusion Specialist (full-time PMU positions)** salaries are funded under project execution / management costs.
- **Engineering-integrated mitigation** - climate-proofed and hail-protective design, soil-erosion/gabion works, and small-reservoir safety design is costed within the relevant Output 3.x investment budgets.
- **Full EIA (if the EEA escalates beyond Category 2)** - met with the relevant component budget and contingency, and reported to IFAD before works proceed.

Sub-Annex 3A: Site-specific E&S screening checklist

Completed by the PMU E&S Safeguards Specialist for every site selected after approval, in consultation with the EEA, DoWA/EWADE and the relevant Landscape Association, before procurement or works. A 'Yes' to any exclusion question voids the site.

#	Screening question	Y / N	Note / required action
	Site identification		
1	Site name, GPS coordinates, chiefdom, landscape, and output/activity recorded?		
2	Land tenure confirmed and free of unresolved disputes? (FPIC obtained)		
	Exclusions (any 'Yes' voids the site)		
3	Does the activity require involuntary physical or economic resettlement?		
4	Does it involve a large dam or large-scale irrigation scheme?		
5	Does it introduce any non-native or invasive species?		
6	Is the site within a legally protected area without EEA/MTEA authorization and FPIC?		
7	Does it use agro-chemicals prohibited under the Stockholm/Rotterdam Conventions?		
	Environmental sensitivity		
8	Is the site a wetland, riparian zone or other environmentally sensitive area?		If Yes → priority Project Brief to EEA
9	Is the site within / adjacent to a habitat of conservation value (Maputaland-Albany)?		If Yes → ENTC consultation; habitat screening
10	Will earthworks exceed 1 ha or involve significant soil disturbance?		If Yes → erosion controls; Project Brief
11	Will the activity abstract water or affect a watercourse?		If Yes → DoWA authorization
12	Will chemical IAPS control / pesticides be used?		If Yes → Pesticide Use Plan; registered products
13	Will a permanent structure be constructed on a new footprint?		If Yes → building standards; Project Brief
	Social		
14	Could the activity block transhumance routes or restrict grazing/access?		If Yes → corridor agreements before works
15	Could it create GBV/SEA-SH exposure (e.g., water points, labour influx)?		If Yes → GBV-sensitive siting; SEA/SH protocol
16	Will contracted labour be engaged?		If Yes → labour clauses; Worker CoC; OHS
17	Are cultural/heritage sites or graves present or possible?		If Yes → Chance-Find Procedure in contract
	Categorization and sign-off		
18	Assigned pathway: (a) no further authorization; (b) Project Brief; (c) IEE + CMP; (d) full EIA		
19	Required clearances obtained before works? (ECC / DoWA / MoA)		
20	Site ESMP/CMP measures written into the works contract?		
Screened by / date:		Cleared by IFAD / date:	

Sub-Annex 3B: Chance-Find Procedure

This procedure is incorporated into all civil-works contracts and applies to any previously unknown archaeological, historical, cultural or burial remains encountered during works.

- 1. Stop work.** Immediately halt all works in the vicinity of the find and secure the area to prevent disturbance, removal or damage.
- 2. Notify.** The contractor notifies the site foreman, who notifies the PMU E&S Safeguards Specialist within 24 hours; the Specialist notifies the relevant traditional authority and the National Museum / responsible heritage authority.
- 3. Protect and record.** Demarcate and protect the site; do not touch or move objects; photograph and record location and context.
- 4. Assess.** The heritage authority and traditional authority assess the significance of the find and determine appropriate handling (e.g., recording, relocation of works, or recovery).
- 5. Resume.** Works in the affected area resume only on written authorization from the PMU E&S Safeguards Specialist confirming heritage-authority clearance. For human remains, customary and legal protocols led by traditional authorities take precedence.
- 6. Record.** The event and its resolution are logged in the safeguards monitoring log and reported in the next PPR.

Sub-Annex 3C: Worker Code of Conduct

All project staff, contractors, sub-contractors and service providers sign this Code before mobilization. It is binding and enforceable through the contract and the worker grievance channel.

I commit to:

- treat all community members, colleagues and beneficiaries with respect, without discrimination on the basis of sex, age, disability, health status, ethnicity or social status;
- refrain absolutely from any form of sexual exploitation, abuse or harassment (SEA/SH), including any sexual activity with a person under 18 and any transactional or coerced sexual conduct;
- uphold core labour rights: no child labour, no forced labour, freedom of association, fair wages and working hours in line with ILO conventions and Eswatini labour law;
- comply with all occupational health and safety requirements, wear provided personal protective equipment, and report hazards and incidents;
- protect the environment: follow the site ESMP/CMP, avoid unnecessary vegetation clearance, prevent pollution, and observe the Chance-Find Procedure;
- not engage in bribery, fraud, theft or misuse of project assets; and
- report any breach of this Code through the project grievance channels without fear of retaliation.

Acknowledgement: I have read and understood this Code and agree to be bound by it. Breach may result in disciplinary action, contract termination and, where applicable, referral to the authorities.

Name: _____ Signature: _____ Date: _____

Sub-Annex 3D: Indicative integrated pest / IAPS management guidance

Pesticide and herbicide use under SEASL is governed by an IPM-first principle and the Pesticides Management Act 2017. The following minimum requirements apply to any chemical use (principally IAPS control under Output 3.3 and CSA under Component 4):

- Mechanical and biological control methods are prioritized; chemical control is used only where mechanical/biological options are insufficient.
- Only products registered in Eswatini and not listed under the Stockholm or Rotterdam Conventions may be procured or applied; no WHO Class Ia/Ib products.
- A Pesticide Use Plan, listing the specific registered products, target species, application method, rates and operators, is approved by MoA Plant Health Services before any application.
- Applicators are trained and equipped with PPE; mixing, storage, transport and triple-rinse container disposal follow label and national requirements.
- Buffer zones protect watercourses, wetlands, apiaries and homesteads; no application in or adjacent to restored wetlands.
- IAPS biomass is disposed of to prevent re-establishment and fire risk; cleared areas are registered in fire-management maps under Output 2.2.
- Application records (product, volume, location, date, operator) are kept and feed the pollution-prevention indicator in the risk register.

ANNEX 4 Gender and Social Inclusion Assessment and Action Plan

The SEASL proposal commits to reaching 40% women beneficiaries and 30% youth, of whom 50% will be young women. Achieving these targets requires clear operational pathways, effective targeting mechanisms and a structured Gender and Youth Action Plan to ensure meaningful participation and equitable benefit sharing.

The project focuses on the Lubombo and Ngwempisi landscapes, where rural livelihoods depend heavily on climate-sensitive natural resources under customary governance systems and agricultural activities. Women and youth in Eswatini face structural barriers in land access, control over productive resources, financial services, and decision-making authority. Climate change exacerbates these inequalities. At the same time, ecosystem-based adaptation provides strong entry points for economic empowerment, strengthened land-use and resource rights, enhanced climate resilience and transformative leadership opportunities.

1. Background: Gender-specific socio-economic, political, cultural and legal context

Eswatini has a population of approximately 1.2 million people, about 51% of whom are women. Around 75% of the population resides in rural areas, where customary systems shape access to land and resources. While there is near parity in education between women and men, significant gender inequalities persist in access to assets, economic opportunities, and decision-making power. Women contribute an estimated 70–80% of agricultural labour. Their burden is intensified by male out-migration to urban areas. Women consequently shoulder most of the physical farming work, however, men often continue to provide financial inputs and retain control over agricultural income. There are examples where land allocation through chiefdoms does extend to vulnerable groups, including women and youth, however, plots are often located in remote areas, creating barriers to accessing inputs, extension services, and markets. Men continue to dominate land ownership and livestock control, leaving women with limited land rights, reduced control over income, and lower participation in irrigation schemes and governance structures. These challenges are compounded by limited market access and linkages for both women and youth, as well as broader employment constraints, particularly among rural, poorer, and younger women, with one-third of citizens reporting that women's ability to work is restricted by spouses or family members. As a result, a pronounced gap in power and asset control persists, with rural women being more dependent on natural resources and disproportionately exposed to climate-related shocks.

Control over productive resources

Access to and control over land, financial and human capital resources and markets in Eswatini are predominantly shaped by customary tenure systems and patriarchal social norms. Approximately 54% of land is Swazi Nation Land (SNL), held in trust by the King and allocated by chiefs under customary arrangements, while 46% is Title Deed Land (TDL). Most rural households in the target landscapes depend on SNL, where land allocation is mediated through traditional authorities and typically registered in men's names.

Although women can legally own land under statutory law, in practice access is mediated by husbands, fathers or male relatives. Married women generally cannot request land allocation independently. Widows frequently face tenure insecurity, and inheritance practices favour sons. Youth rarely hold independent land rights.

61% of SNL farm holdings are less than one hectare, reflecting high land pressure and fragmentation. Limited land size restricts having enough collateral, which limits access to formal credit and constrains investment for example in climate-resilient technologies or quality inputs.

At the same time women provide more than 60% of agricultural labour, which is intensified due to migration of men in order to find jobs. They are primarily responsible for crop production for household consumption (e.g. maize, legumes), water and fuelwood collection, household care and food preparation. Men on the other hand predominantly control livestock management, commercial agriculture, public decision-making structures and are in charge of the major household income.

Women often cultivate land but do not control its allocation or long-term use rights. Livestock ownership is predominantly male, reinforcing gender disparities in rangeland-related interventions.

On Swazi Nation Land, forest and communal resources are allocated under customary authority. Community forests and woodlots are generally considered communal assets, but control and benefit distribution are mediated by male-dominated structures and committees. Women and youth often access forest products (fuelwood, reeds, wild foods) but do not control commercial revenues derived from forest resources.

Access to financial resources and other services

While access to bank accounts is relatively similar between men and women in Eswatini, women have more limited access to formal credit and tend to rely on informal savings groups. These constraints are particularly pronounced for female-headed households, who often lack collateral due to insecure land tenure and face greater difficulty accessing loans and productive investments. Youth, especially young women and landless youth, encounter even greater barriers to financial services, driven by limited asset ownership, lack of formal employment, and exclusion from traditional collateral systems. At the same time, agricultural extension services have historically targeted male farmers, particularly livestock owners, resulting in lower outreach to women and youth. These structural inequalities also affect access to new technologies and climate information: women, youth, and poorer households often have more limited access to mobile devices, digital literacy, and network coverage. As a result, without deliberate inclusive design, digital climate advisory and service systems risk reinforcing existing disparities rather than reducing them.

Women's leadership and political participation

Women held 21.6% of parliamentary seats in 2024, below the constitutional target of 30%. While Eswatini has ratified CEDAW and adopted a National Gender Policy (2010), implementation remains constrained by entrenched social norms.

Women remain underrepresented in natural resource committees, chiefdom-level decision-making bodies, landscape governance structures.

Gender-Based Violence

Gender-based violence (GBV) remains a significant and persistent challenge in Eswatini, reflecting deep-rooted structural inequalities that also influence control over land, resources, and decision-making. National data indicate that approximately 48% of women have experienced sexual violence in their lifetime, while 17.7% reported intimate partner violence (IPV) within the past 12 months (2018). More recent data (MICS 2021–2022) show that physical violence is particularly prevalent within intimate relationships, with up to 1 in 2 women reporting abuse by a current or former partner. Rates are highest among ever-married women (66.5%) and formerly married women (71.8%), compared to 36.3% among unmarried women. GBV is also closely associated with socio-economic vulnerability: women with lower educational level and those in poorer households face significantly higher risks of violence. Among adolescents and young women (aged 13–24), sexual violence is the most commonly reported form (8.1%), followed by physical violence (5%), although encouragingly, overall prevalence has declined since 2007, likely reflecting strengthened national GBV prevention efforts.

These patterns are highly relevant in the context of climate change and natural resource management. Climate-induced stressors, such as drought, resource scarcity, and declining livelihoods, can exacerbate intra-household tensions, increasing the risk of economic, emotional, and physical violence, particularly related to control over assets, income, and adaptation benefits. Women's limited control over productive resources within customary systems further heightens their vulnerability, especially where adaptation interventions introduce new assets or income streams. Poor, rural, and female-headed households are particularly at risk of both economic exclusion and GBV, underscoring the need for climate resilience programmes to integrate strong safeguards. This includes gender-responsive design, equitable benefit-sharing mechanisms, and accessible, confidential grievance redress systems with specific provisions for GBV and sexual exploitation, harassment and abuse (SEAH), ensuring that interventions do not inadvertently reinforce existing inequalities or expose women and vulnerable groups to additional harm.

Youth context

In Eswatini, youth aged 15–35 make up approximately 30% of the population, with around 73% living in rural areas, facing persistently high unemployment rates exceeding 45%, particularly among young women. Youth engagement in agriculture remains low due to structural barriers including limited access to land, access to finance and costly inputs, weak market linkages, and limited participation in governance. Agriculture is widely perceived by youth as unprofitable and associated with poverty, prompting many to seek faster-return opportunities, including outmigration in search of wage employment or, in some cases, engagement in illegal crop production.

These challenges are not uniform across youth groups. Landless youth, young women, and youth living with HIV/AIDS face heightened vulnerabilities. Younger youth (15–25) are particularly asset-constrained, while young women experience compounded disadvantages, including higher HIV risk, early pregnancies, lower economic opportunities, and heavy involvement in unpaid care and household agricultural labour, often with limited independent roles due to lack of land and capital. Young men, by contrast, are more likely to migrate or disengage from agriculture altogether. Across groups, youth frequently operate as casual labourers or assistants within household farming systems, with limited access to formal markets and difficulties obtaining fair prices, further constraining their ability to establish viable, independent livelihoods. Youth are drawn to illegal crops for fast and high returns; youth don't perceive farming as profitable

2. Legal and policy frameworks

Eswatini operates a dual legal system: a common law, based on Roman Dutch law and customary law, which is based on Swazi cultural law. The country consequently has two distinct court systems: the traditional courts and the common law courts.

In Eswatini, a comprehensive legal and policy framework supports gender equality and climate-responsive development. The Constitution of Eswatini guarantees equality before the law, while the Sexual Offences and Domestic Violence Act provides a basis for addressing gender-based violence. The National Gender Policy further commits the government to gender mainstreaming across sectors, supported by Gender Focal Points in key ministries. However, despite these progressive provisions, implementation gaps persist due to entrenched customary norms, limited enforcement capacity, and resource constraints.

Legally, women have the right to own land and property and to enter contracts. In practice, however, customary tenure systems, which are particularly dominant in rural areas such as Lubombo and Ngwempisi, mediate access to land through male relatives and traditional authorities, rendering women's land rights often secondary and insecure. Widows frequently face tenure insecurity, and inheritance practices tend to favour male heirs. Youth, especially young women, rarely hold independent land rights, limiting their ability to invest in agriculture. These constraints are most acute for poorer, rural, and female-headed households, who experience the greatest legal and practical exclusion, while HIV-affected households often also have weaker asset security.

In the climate and development sphere, Eswatini has adopted the National Climate Change Policy and updated its Nationally Determined Contribution (2021), alongside broader national development strategies, all of which recognise the country's high vulnerability to climate change. However, stronger operational integration of gender and youth considerations is required to ensure that adaptation investments equitably benefit women, youth, and other vulnerable groups.

3. Gender and social differences and risks in relation to project activities

Some of the risks around the project activities evolve around customary land tenure, which is mediated by male authorities, male dominance in livestock ownership, youth and women's exclusion from leadership positions and structures managing natural resources, unequal intra-household distribution of labour, risk of elite capture, limited access to resources, knowledge and inputs for women and youth in agriculture and systemic and physical barriers for persons living with disabilities and other vulnerable groups.

Component 1: Evidence Base, Early Warning Capacity, and Adaptive Knowledge

Under Component 1, there are several gender and social inclusion risks that require proactive mitigation. Under Output 1.1, the integrated agroecosystem assessments may remain procedurally rather than substantively inclusive if consultations primarily engage traditional leaders and male farmers, thereby underrepresenting women's informal resource use, youth perspectives, and the needs of female-headed households, persons with disabilities (PWDs), and people living with HIV/AIDS (PLHIV). Digital knowledge systems and early warning services risk reinforcing the digital divide, as women, poorer households, elderly persons, and some youth may have limited access to mobile devices, connectivity or digital literacy, while advisories may not be delivered in accessible formats for PWDs. As a result, climate information could disproportionately benefit better-resourced and better-connected farmers. Under Output 1.3, knowledge products and monitoring systems may privilege technical or male-dominated perspectives if women's traditional ecological knowledge is not integrated and if data are not disaggregated by sex, age and vulnerability status. Strengthened monitoring and enforcement of natural resource use could unintentionally restrict access for poorer and highly resource-dependent households, particularly women. Finally, without robust gender- and age-sensitive monitoring frameworks, the project risks meeting participation targets numerically without achieving substantive empowerment, equitable benefit-sharing or improved decision-making power for women, youth and other vulnerable groups.

Component 2: Strengthening Multi-Stakeholder Institutional Coordination

Under Component 2, the primary gender and social inclusion risks relate to reinforcing existing power hierarchies within customary and institutional governance systems. Under Outcome 2.1, training-of-trainers modules and institutional capacity-building efforts may disproportionately benefit already established, male-dominated leadership structures, particularly traditional authorities and better-off farmers, if selection criteria are not explicitly inclusive. Women and youth may be included only nominally, without meaningful decision-making authority, thereby reinforcing patriarchal norms in landscape governance. Female-headed households, persons with disabilities and people living with HIV/AIDS may remain excluded from leadership roles due to social stigma, limited mobility or time constraints. Regional observatory learning and exposure opportunities may similarly favour senior male representatives, concentrating knowledge, networks and influence among older men while limiting intergenerational and gender-transformative participation. Without deliberate quotas, transparent representation criteria and leadership support mechanisms, capacity building and leadership training, this component risks strengthening institutional coordination in ways that consolidate existing inequalities in land allocation, resource governance and benefit distribution rather than transforming them.

Component 3: Ecosystems Restoration

Under Component 3, the most significant gender and social inclusion risks arise from unequal access to land, water and productive assets under customary tenure systems. Under Outcome 3.1, rangeland management plans are likely to disproportionately benefit livestock owners, predominantly men, while poorer households, women and youth with limited or no cattle derive fewer gains. Destocking measures or grazing controls may also disproportionately affect poorer livestock holders. Wetlands management and restoration interventions, including fencing or access restrictions, risk limiting women's traditional use of reeds, water and wild foods, potentially constraining subsistence livelihoods unless alternative access arrangements are secured. Similarly, communal woodlot management and control over invasive species may reinforce male dominance over commercially valuable forest products, while restrictions on fuelwood harvesting could increase women's labour burdens.

Under Outcome 3.4 and 3.5, restoration infrastructure such as nurseries, water reservoirs and ponds may be captured by better-resourced farmers or male-dominated committees if governance arrangements are not inclusive and transparent. Nursery employment and restoration activities risk reinforcing gendered labour segmentation, with women concentrated in lower-paid roles and persons with disabilities excluded from physically demanding tasks. Investments in irrigation or water infrastructure may primarily benefit landholders located near water sources, excluding land-poor households and youth without secure plots. Adoption of agroforestry and related technologies may further reinforce land tenure inequalities, as long-term returns accrue mainly to those with recognized land rights, typically men, while women's labour contributions may increase without corresponding control over tree-based income. Without explicit safeguards, benefit-sharing mechanisms and attention to labour implications, this component risks consolidating existing gender, age and wealth disparities in access to ecosystem services and climate-resilient livelihood opportunities.

Component 4: Upscaling Climate-Smart Livelihoods

Under Component 4, key gender and social inclusion risks relate to unequal access to productive assets, finance, markets and decision-making power. Increased commercialization may also intensify women's workload without strengthening their control over income. Resource access restrictions linked to conservation objectives could disproportionately affect poorer, resource-dependent women unless alternative livelihood pathways are secured. Apiary development may favour individuals with land rights and start-up capital, often men or better-connected youth, potentially excluding young women, land-poor households, persons with disabilities and people living with HIV/AIDS unless inclusive targeting and tailored support are embedded.

Under Outcome 4.2, promotion of drought-tolerant crops and climate-smart technologies may be more readily adopted by wealthier farmers with capital, irrigation access or extension linkages, reinforcing existing inequalities. Women farmers may face barriers to accessing improved seeds, inputs and advisory services, while increased productivity could inadvertently raise women's unpaid labour burdens if labour-saving technologies are not integrated.

Under Outcome 4.4 capacity-building for value addition may similarly exclude women constrained by care responsibilities and persons with disabilities if training modalities are not accessible. Additionally access to finance is still a challenge for women and youth or trainings or capacity building interventions might target more advanced entrepreneurs. Without explicit inclusion criteria, gender-responsive enterprise support and equitable market linkage strategies, this component risks consolidating existing disparities in income generation, market participation and control over productive benefits derived from ecosystem-based adaptation investments.

4. Gender and social differentiated impacts of climate change

Eswatini is highly vulnerable to recurrent droughts, erratic rainfall, land degradation and flooding, particularly in the Lowveld, with cascading impacts on water availability, agricultural productivity, ecosystems, infrastructure and human health. These climate risks have differentiated social impacts shaped by gender, age and socio-economic status. Rural women are disproportionately affected due to their primary responsibility for subsistence agriculture, water and fuelwood collection, and household food security. Drought and water scarcity increase women's unpaid labour burden, extend time spent collecting water, reduce crop yields and heighten food insecurity, particularly among female-headed households that often have lower livestock ownership and limited adaptive capital. Women's constrained access to land rights, financial services, education and climate information further limits their capacity to adopt climate-smart practices or recover from climate-induced shocks. Climate variability also exacerbates indoor air pollution risks and reduces income derived from small-scale agricultural production, thereby deepening economic vulnerability. Young women face compounded risks due to high unemployment, limited asset ownership and elevated HIV prevalence, while youth more broadly confront declining agricultural viability and heightened livelihood insecurity, contributing to migration pressures and social instability. Men are particularly affected through livestock losses and climate-related out-migration, which in turn increases the care and productive burdens on women. People living with HIV, persons with disabilities and the rural poor experience heightened vulnerability as climate shocks disrupt access to food, water and health services. Overall, climate stress interacts with existing structural inequalities, exacerbating poverty and reinforcing gender and generational disparities in adaptive capacity across the Lubombo and Ngwempisi landscapes.

5. Gendered division of labour

Women primarily manage crop production, water and fuelwood collection, and household care. Men focus on livestock and commercial agriculture.

Ecosystem restoration activities such as tree planting and wetland fencing risk increasing women's workload if not carefully designed. However, nursery management, agroforestry and value addition activities offer opportunities for women's income diversification if supported by equitable benefit-sharing arrangements and women's labour-saving technologies.

6. Gender and age-based power structures

Decision-making structures in Eswatini, particularly at chiefdom and community levels, are predominantly male-dominated and rooted in customary governance systems. Land allocation, resource management and conflict resolution on Swazi Nation Land are administered through chiefs and inner councils, which are traditionally composed of men. As a result, authority over land use, grazing arrangements, water access and communal forests is largely concentrated in male leadership structures. Women, although central to agricultural production and natural resource use, often participate indirectly or through male relatives and have limited formal influence over strategic decisions affecting land and ecosystem governance.

Women's representation at the national level, at approximately 21% in parliament, reflects this broader structural exclusion and falls below the constitutional aspiration of 30%. While policy frameworks promote gender equality, entrenched social norms continue to limit women's participation in public leadership and decision-making roles. At the household level, men frequently retain authority over major economic decisions, including the sale of livestock and control over income, even where women contribute substantially to agricultural labour.

Age-based hierarchies further shape participation dynamics. Younger women and men are generally expected to defer to elders in public forums, limiting their voice in chiefdom meetings, natural resource committees and landscape associations. Youth representation in governance structures is often informal or tokenistic, with limited decision-making power. Young women face compounded barriers linked to both age and gender, restricting their mobility, access to assets and public engagement. These gendered and generational power asymmetries are particularly relevant for SEASL, as ecosystem-based adaptation investments and resource governance reforms may unintentionally reinforce existing hierarchies unless deliberate measures are taken to ensure meaningful participation, representation quotas, leadership development and intergenerational dialogue mechanisms.

7. Indigenous Peoples

Based on available demographic and legal frameworks, there are no officially recognised Indigenous Peoples in Eswatini under IFAD’s Indigenous Peoples Policy or UNDRIP definitions. The population is predominantly Swazi, including in Lubombo and Ngwempisi. Minority ethnic communities exist but are not formally recognised as distinct Indigenous Peoples under international standards.

8. Persons with disabilities and other vulnerable groups

Eswatini has one of the highest HIV prevalence rates globally, with adult prevalence estimated at approximately 27% and significantly higher rates among women, particularly adolescent girls and young women. HIV intersects directly with climate vulnerability by reducing physical resilience, constraining household labour availability and increasing exposure to food insecurity during climate shocks such as droughts and flooding. Stigma and discrimination may further limit participation in community decision-making and access to livelihood opportunities. Female-headed households affected by HIV often face compounded burdens, including increased caregiving responsibilities, reduced productive labour, heightened economic vulnerability and, in some cases, weakened tenure security under customary land systems. These intersecting vulnerabilities can limit their capacity to adopt climate-smart technologies or participate fully in ecosystem-based adaptation initiatives.

Similarly, persons with disabilities encounter systemic, attitudinal and environmental barriers that restrict their engagement in agriculture and related value chains. Agricultural tools, restoration activities, infrastructure and training venues are frequently not designed with accessibility considerations, limiting participation in project-supported interventions. To ensure equitable inclusion, the project will need to incorporate accessible training formats and venues, promote adapted agricultural tools and technologies, ensure inclusive early-warning and information systems, facilitate meaningful representation of persons with disabilities in governance structures, and establish confidential and stigma-sensitive targeting mechanisms for HIV-affected households. These measures are critical to prevent further marginalization and to strengthen the adaptive capacity of the most vulnerable groups within the target landscapes.

9. Gender and Youth Sensitive Consultations: 18th & 19th of February 2026

During consultations the following elements were raised:

- Limited and inequitable access to land: While chiefdoms allocate land to women and youth, plots are often located in remote areas, creating barriers to access, production, and extension services and inputs.
- Weak market access and low profitability: Women and youth face significant constraints in accessing formal markets and securing fair prices, reducing incentives to engage in agriculture.
- High incidence of crop theft: Theft undermines agricultural viability, particularly for small-scale and vulnerable producers, discouraging investment in farming.
- Gendered labour and control imbalances: Women constitute the majority of the agricultural labour force (estimated 80%) due to male outmigration, yet men often retain control over financial inputs and income from production.
- Low youth engagement in agriculture: Youth participation is limited (estimated 20%), with agriculture perceived as unprofitable and unattractive compared to alternative income sources with fast and high returns.
- Shift toward illegal livelihood activities: Youth engagement in illegal crop production (e.g. cannabis) is driven by the availability of quick and higher financial returns compared to traditional agriculture.
- Financial barriers to entry: Limited access to finance and start-up capital significantly constrains youth participation in farming and agribusiness.
- Collapse of past communal farming initiatives: Previous models (e.g. NERCHA-supported communal fields) failed due to weak governance, interpersonal conflicts, and poor targeting (e.g. inputs allocated to individuals unable to utilise them), leaving assets underutilised.
- Inadequate social protection and targeting mechanisms: There is a need for stronger safety nets and more inclusive, transparent approaches to supporting vulnerable groups in agriculture.
- Insufficient access to productive resources and infrastructure (youth): Youth identified key gaps in water access (for gardening and poultry), fencing, start-up funding, and access to high-value, quick-return value chains.
- Capacity and business skills gaps (youth): Limited access to business planning, enterprise development, and incubation support restricts youth’s ability to engage in viable agribusiness.
- Livestock production constraints (women): Women face challenges in accessing fencing for livestock management, limited livestock-related skills, and long distances to grazing areas.
- Rangeland access and conflict issues: Women experience conflicts with private landowners over access to grazing land, further constraining livestock-based livelihoods.

Community consultations highlighted the following priority actions to enhance meaningful and sustained youth participation in the project:

- Demonstrate agricultural viability: Organise exposure visits and targeted capacity building to showcase profitable farming models and shift perceptions of agriculture as a low-return activity.

- Promote structured access to land for youth: Adapt and improve previous communal farming models (e.g. NERCHA approach) by allocating plots to youth, while ensuring stronger governance, accountability, and long-term sustainability.
- Integrate life and business skills development: Incorporate approaches similar to the IFAD-supported GASI programme, combining agricultural training with life skills, goal setting, and farm/business planning.
- Leverage digital platforms for youth engagement: Support farmer networking, peer learning, and information sharing through digital tools, coupled with group-based approaches and capacity building to ensure accessibility and uptake.
- Prioritise high-value, climate-resilient enterprises: Promote youth engagement in profitable and fast-return activities such as agroforestry (including avocado production), baby vegetables, and frost-tolerant crops to provide viable alternatives to informal or illegal income sources.

10. Opportunities to address women and youth's needs through SEASL

SEASL offers multiple entry opportunities for youth, women and other vulnerable groups. Specific, transparent and inclusive targeting criteria will have to be applied prioritising female-headed households, landless youth, and highly vulnerable groups, with tailored support packages reflecting diverse needs and constraints, offering graduation pathways to empower women and youth sustainably.

For Women (including female-headed households and poorer rural women)

- Promote women-led agroforestry (including nutritious, drought-tolerant and multi-purpose species), nurseries, and community seed systems, ensuring secure use rights, proximity to homesteads, and prioritised access for female-headed households.
- Prioritise women's access to water harvesting infrastructure, small-scale irrigation, energy-saving technologies, and climate-smart inputs, reducing labour burdens and increasing productivity.
- Support women's participation in food processing, non-timber forest products, beekeeping, and other value-added activities, with pre-established market linkages and mechanisms to strengthen women's control over income (e.g. direct payments, women-led cooperatives).
- Increase women's representation and decision-making power in Natural Resource Management Committees (NRMCS), Landscape Associations, and value chain platforms, combined with leadership, negotiation and governance training.
- Apply tools such as Gender Action Learning Systems (GALS) to strengthen intra-household decision-making, joint planning, and equitable benefit sharing.
- Improve women's access to land (including negotiated use rights), extension services, climate information, financial services, and climate-smart technologies, addressing systemic barriers.
- Integrate gender-responsive grievance redress mechanisms (GRM), GBV/SEAH awareness, and referral pathways to ensure safe participation and benefit from project activities.

For Youth (including landless youth, young women, and youth living with HIV/AIDS)

- Establish structured incubation programmes in beekeeping, agroforestry, invasive species (IAPS) management, and other green enterprises, combining technical training, business development, mentorship, start-up kits, and guaranteed market linkages.
- Facilitate youth access to land through group-based production models, leasing arrangements, use of communal/chiefdom land, and intergenerational land-sharing agreements, with targeted support for landless youth.
- Provide tailored training in climate-smart agriculture, agroforestry, digital agriculture, and entrepreneurship, differentiating support for start-ups, semi-commercial youth, and highly vulnerable groups.
- Link youth to savings groups, youth enterprise funds, performance-based grants (e.g. EYEOP), and input packages, reducing entry barriers to agribusiness.
- Prioritise youth engagement in profitable and fast-return enterprises (e.g. horticulture, agroforestry products, beekeeping, processing/value addition) to provide viable alternatives to informal or illicit activities.
- Engage youth as digital extension agents and intermediaries for climate information and early warning systems, creating employment while strengthening last-mile service delivery.
- Facilitate exchange visits, demonstration sites, and peer learning platforms to showcase profitable farming models and shift perceptions of agriculture.
- Ensure youth representation and active roles in landscape governance structures, producer organisations, and value chain platforms.
- Provide flexible participation modalities for young women, and link youth living with HIV/AIDS to integrated livelihood and support services.

For other vulnerable groups

- Female-headed households: Targeted support through labour-saving technologies, proximity-based production systems, and income stabilisation measures.
- People living with HIV/AIDS: Reduced labour burden through adapted technologies and crops, and strengthened access to nutrition-sensitive and climate-resilient livelihoods.

- Persons with disabilities: Ensure accessible infrastructure, adapted tools, inclusive training approaches, and participation in planning and decision-making processes.

Cross-cutting and integrated approaches

- Ensure women and youth are recognised as resource users, asset holders, and decision-makers in land, water, and ecosystem governance—not only as beneficiaries.
- Link climate-resilient production systems with improved nutrition outcomes (e.g. indigenous crops, diversified diets) and income generation, particularly targeting women and vulnerable households.
- Position youth as key actors in ecosystem restoration (e.g. IAPS clearing, nurseries, agroforestry) and green enterprise development, creating sustainable alternatives to unsustainable or illicit livelihoods.

11. Inclusive and regular consultations and closed feedback loops

Regular, inclusive consultations and continuous feedback loops are essential to ensure that project design and implementation remain responsive to the evolving needs of women, youth, and other vulnerable sub-groups, including female-headed households, persons with disabilities, and HIV-affected communities. Establishing structured, periodic engagement mechanisms, at times and locations accessible to all groups, will help capture differentiated experiences, address barriers in real time, and strengthen accountability. This should be complemented by a gender-responsive and accessible Grievance Redress Mechanism (GRM), with confidential and survivor-centred reporting channels for gender-based violence (GBV) and sexual harassment/exploitation and abuse (SHEA). Such a GRM must be widely communicated, culturally appropriate, and safe to use for all community members, ensuring that concerns can be raised without fear of stigma or retaliation, thereby reinforcing trust, inclusion, and equitable project outcomes.

12. Monitoring & evaluation

The project shall adopt a gender- and youth-responsive Monitoring, Evaluation and Learning (MEL) framework to systematically track progress, outcomes, and impacts across diverse beneficiary groups. The MEL system will go beyond standard sex- and age-disaggregated data to incorporate an intersectional approach, capturing differentiated outcomes for sub-groups including female-headed households, young women and men, landless youth, persons with disabilities, and HIV-affected households. This will ensure that the project responds to the distinct needs, constraints, and opportunities of different population groups within the target landscapes.

Monitoring should focus not only on participation and access to services, but also on changes in agency, decision-making power, and control over resources. Key indicators will therefore track: (i) women’s and youth’s access to and control over productive assets (land, water, livestock, inputs); (ii) participation and leadership in community governance structures; (iii) uptake of climate-resilient practices and use of climate information services; (iv) income diversification and stability, particularly in response to climate shocks; and (v) reductions in unpaid labour burdens, particularly for women. Where feasible, indicators will also assess the sustainability of youth-led enterprises and livelihood activities over time.

A participatory monitoring approach should be encouraged to strengthen ownership, accountability, and learning. Community-based monitoring mechanisms, with meaningful representation of women and youth, will be established or strengthened to track the distribution of project benefits, identify emerging challenges, and inform adaptive management. Tools such as community scorecards, beneficiary feedback sessions, and periodic reflection workshops will be used to ensure continuous learning and course correction.

The project will also monitor potential risks and unintended negative impacts, including elite capture of benefits, increased labour burdens on women, exclusion of youth from profitable value chains, and risks related to gender-based violence (GBV) and sexual exploitation and abuse (SEA). Data from the Grievance Redress Mechanism (GRM) will be systematically analysed to inform mitigation measures and strengthen accountability.

The MEL framework shall include structured learning processes, including annual gender and youth reviews, to document lessons, identify good practices, and inform scaling and policy engagement. Findings will be used to continuously refine targeting, delivery mechanisms, and activity design, ensuring that the project remains responsive to the evolving climate and socio-economic context.

58. Gender and Social Inclusion Action Plan

Project overarching					
Activities	Indicators	Targets	Timeline	Responsibilities	Costs USD
Recruit dedicated Gender & Social Inclusion Officer within PMU	Officer recruited and operational	1 full-time specialist	Within first 3 months	PMU / FAO	180,000 (for 5 years)
Establish and operationalise a gender-responsive GRM with confidential GBV/SHEA reporting channels, including survivor-centred response protocols, referral pathways, and monitoring of cases	GRM operational and publicized	At least 3 confidential reporting channels	Within first 6 months	PMU	

and resolution timelines					
GBV/SHEA sensitization training for implementing partners and support in developing robust policies and procedures	% partners trained	100% partners trained annually	Annually	Gender & Social Inclusion officer at PMU	Included in ESMP
Capacity building on gender, women's empowerment and social inclusion	# capacity building sessions	100% of partners, stakeholders and PMU trained	Within first 6 – 12 months	Gender & Social Inclusion officer at PMU / FAO	10,000
Develop and implement Gender- and Youth-responsive MEL framework (aligned with project logframe)	Operational MEL framework Track transformative indicators beyond participation, including: decision-making power, control over income, asset ownership, enterprise sustainability, and reduction in unpaid labour % women/youth in leadership with real decision-making roles Reduction in unpaid labour (hours/day) % youth enterprises sustained after 2+ years % women controlling income from enterprises	Framework in place Year 1	Year 1	PMU / FAO	
Support revision of CDC, NRMCC, and Landscape Association bylaws to institutionalize ≥40% women and ≥30% youth representation, decision-making authority, and leadership roles		# governance bodies with revised bylaws			
Develop and enforce guidelines ensuring women's and youth's ownership and control over productive assets and income (e.g. cooperative constitutions, direct payment systems)		% women and youth controlling income			15,000
Apply Free, Prior and Informed Consent (FPIC) procedures for all land-use and restoration interventions		FPIC applied in all sites			
Component 1: Evidence Base, Early Warning Capacity, and Adaptive Knowledge Participatory gender sensitive capacity development and knowledge management Outcome 1: Communities and institutions have the evidence base, early warning capacity, and adaptive knowledge to make informed decisions about climate-resilient land and ecosystem management. Output 1.1: Integrated Agroecosystem & Climate Vulnerability Assessment and Baseline Output 1.2: Climate Information & Early Warning Systems Integrated with Indigenous Knowledge Output 1.3: Digital Knowledge Management, Agriculture Information Sharing & Knowledge Products Output 1.4: Community Training Curriculum for Operation & Maintenance					
Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
Output 1.1. Integrated Agroecosystem & Climate Vulnerability Assessment and Baseline					
1.1.1 & 1.1.2. Inclusive agroecosystem assessment and ecosystem mapping and updated vulnerability baseline	Ensure gender- and youth-balanced consultation teams; separate focus groups for women, youth and PWDs; include vulnerability analysis for other vulnerability criteria ensuring an intersectional vulnerability assessment considering young women,	≥50% women consulted; youth sub-groups mapped; disability inclusion analysis integrated, vulnerability profiles produced for at least 5 sub-groups	Year 1	PMU + Consultants	

	PWDs, PLWHIV/AIDS, female headed households etc. Capturing access and control over assets and income Mapping land access constraints such as location, tenure type and usability as well				
1.1.5	Conduct participatory intra-household analysis (e.g. access/control over resources/income, labour division, decision-making) to inform equitable benefit design Use findings to inform targeting criteria and benefit distribution mechanisms	#intrahousehold surveys conducted; findings integrated into targeting criteria	Annually	PMU + Consultants	40,000
	Conduct baseline, mid-line and endline time-use surveys to measure unpaid labour burdens of women and youth	% reduction in time burden	3 times	PMU + consultants	Included in MEL budget
Output 1.2 Climate Information & Early Warning Systems Integrated with Indigenous					
1.2 Early warning systems	Strengthen inclusive early warning systems ensuring accessibility for women, youth, PWDs and low-literacy groups through SMS, radio, and community dissemination channels Establish women- and youth-led EWS dissemination groups at community level and conduct participatory design workshops Develop tailored training modules for low-literacy and first-time users, and train youth as EWS technicians and managers Establish women- and youth-led EWS dissemination group	70% women report access to advisories ≥50% of dissemination roles held by women/youth #modules developed ≥30% youth trained	Years 1–4	PMU & Technical Partner	15,000
Output 1.3 Digital Knowledge Management, Agriculture Information Sharing & Knowledge Products					
1.3.2 Community-based monitoring systems	Establish inclusive community-based natural resource monitoring systems with quotas for women and youth and decision-making roles for women and youth	≥40% youth; ≥50% women in monitoring committees % of leadership roles youth and women	Years 2–5	Landscape Committees & PMU	
1.3.7 Knowledge products	Produce simplified, local-language, audio-visuals and highlight women and youth as climate champions and tailor to different groups (young women entrepreneurs, livestock-owning men, land-poor youth, etc.). Include nutrition messaging (recipes, indigenous foods, climate-resilient diets)	≥50% case studies feature women/youth nutrition content integrated	Years 2–5	KM Specialist, Gender & SI specialist at PMU	30,000
1.3.8 Exchange visits	Organize exchange visits and peer learning with focus on youth and women, including exposure to profitable enterprises	# of exchange visits conducted; participation disaggregated	Years 2–5	KM Specialist, Gender & SI specialist at PMU	50,000
Output 1.4 Community Training Curriculum for Operation & Maintenance					
1.4.3.	Organize women and youth leadership trainings, negotiation skills to encourage women/youth participation in Landscape Associations and other coordination platforms Trainings addressing social norms and barriers, such as GALS	# trained; % assuming leadership roles	Years 1–3	PMU	100,000
	Provide childcare support, flexible schedules, and	#of trainings incorporating			40,000

	accessible venues to enable participation of women and vulnerable groups	flexible schedules and providing childcare support			
1.4.5 Community ambassadors	Train and support women and youth as community climate adaptation ambassadors, including provision of incentives to sustain engagement	% ambassadors who are women/youth; retention rate	Years 1–5	PMU	80,000
Component 2: Multi-Stakeholder Coordination					
Outcome 2: Landscape-level multi-stakeholder coordination will be functional, enabling strategic, integrated agroecosystem management at chiefdom and community levels, with explicit mandates for wildfire management, drought response, water allocation and post-hail protocols.					
Output 2.1: Institutional Capacity Building including inclusive management and promotion of women and youth in leadership positions for LA Associations, Chiefdom development Committees (CDC's) and Natural Resources Management Committees (NRMCC)					
Output 2.2: Coordination Arrangements with Wildfire, Post-Hail & Drought Response Protocols					
Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
Output 2.1: Institutional Capacity Building for LA Associations, CDCs & NRMCCs					
2.1.1 Institutional capacity building	Introduce quotas in land management committees through bylaw reform	≥40% women; ≥20% youth in committees	Years 1–5	Chiefdom + PMU	
	Combine with women and youth leadership trainings				
	Women and youth in formal roles in wildfire, drought and water governance systems	% of women and youth in formal roles			
Component 3: Ecosystem Restoration					
Output 3.1: Rangeland Management					
Output 3.2: Wetland Fencing & Restoration at Scale					
Output 3.3: Communal Woodlot Management, Soil Erosion Control & IAPS Control					
Output 3.4: Nurseries with Hail-Protective Structures & Business Plans					
Output 3.5: Water Harvesting Infrastructure (Foundational Enabler)					
Output 3.6: Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives					
Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
Output 3.1 Rangeland Management					
3.1.3 Rangeland plans	Prioritize women livestock keepers; address tenure security concerns by including quotas in rangeland committees, and ensuring inclusion in written by-laws within rangeland management plans recognizing, Women's grazing rights, Youth-managed herds	Women livestock keepers represented in 100% of plans	Years 2–4	Technical Team	
Output 3.2 Wetland Fencing & Restoration at Scale					
3.2.2 Wetland restoration	Conduct gender-sensitive water needs assessments and design water access solutions benefiting women and youth, especially near homesteads	Inclusion of vulnerable groups in all assessments % of women and youth benefitting from access to solutions	Years 2–5	Contractors + PMU	
	Apply FPIC and participatory consent processes before wetland fencing and access restrictions				
3.2.3 Wetlands plans	Develop inclusive wetland management plans with labour-saving measures and equitable benefit-sharing	60% women participation	Years 2–4	Landscape Teams	
Output 3.3: Communal Woodlot Management, Soil Erosion Control & IAPS Control					
3.3.3 Woodlot plans	Develop inclusive woodlot and IAPS management plans and link to alternative livelihood opportunities for women and youth	50% women representation	Years 2–4	PMU	
3.3.8. Community training on IAPS	Train communities on IAPS control through inclusive employment models ensuring equal pay, safe working conditions, and youth/women leadership roles	≥50% women; ≥30% youth participation	Years 2–5	PMU	
Output 3.4: Nurseries with Hail-Protective Structures & Business Plans					
3.4. Nurseries	Establish women & youth-led nurseries; Train youth and persons with disabilities to be included	4 nurseries; 60% youth employed; 50% women	Years 2–5	PMU & Implementing Partner	90,000

	Ensure women and youth are also co-owners and manager of the nurseries Include roles accessible to PWD	# of PWD employed			
Output 3.5: Water Harvesting Infrastructure (Foundational Enabler)					
3.5.3 Water harvesting solutions	Prioritize female-headed households, land-poor youth, and vulnerable households in allocation of water harvest infrastructure, ensuring the infrastructure benefits women and saves labour for women, especially young women Track reduction in time spent collecting water by women and girls (labour-saving impact indicator)	% of beneficiaries from target groups Hours saved	Years 2–5	PMU	
Output 3.6: Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives					
3.6.Agroforestry	Agroforestry plots for women/youth, ensuring youth and women have secure rights over trees and derived income Include fruit/nut trees and small-scale processing for income diversification for women and youth	500 women; 300 youth beneficiaries	Years 2–5	PMU & Extension Services	85,000
3.6.6	Develop youth agroforestry incubation pathways: site allocation (through negotiated access arrangements (e.g. group-based plots, leasing agreements, use of communal or chiefdom land, and intergenerational land-sharing models) + training + starter kits + guaranteed HGSP buyers before scale-up, channeled through EYEOP's Imakhete registry, with specific quotas and tailored support for young women and land-poor youth.	# youth enterprises established; % young women	Years 2–5	PMU	150,000
Component 4: Climate-Smart Livelihoods Outcome 4: Vulnerable communities will have diversified, climate-resilient income streams and reduced food insecurity, with improved market access sustaining gains beyond project life, with markets secured and capacity built before production is promoted, and livelihoods explicitly framed as drought-resilient income diversification. Output 4.1: Beekeeping Value Chain with Training, Equipment & Secured Market Contracts Output 4.2: Drought-Tolerant Indigenous Varieties & Seed Multiplication Systems Output 4.3: Climate-Smart Agriculture Technologies Scaled Output 4.4: Value Chain Platforms & Formal Market Linkages Before Production Output 4.5: Value Addition & Traceability Programmes					
Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
4.2.2 Switch to CSA	Youth climate innovation grants; revolving youth enterprise fund linkages	300 youth supported; 40% young women	Years 2–5	PMU	300,000
Output 4.1: Beekeeping Value Chain with Training, Equipment & Secured Market Contracts					
4.1.1 & 4.1.2 Apiary sites	Establish youth and women apiary cooperatives, include a dedicated youth and women training track focused on business development, enterprise management, and cooperative formation with adapted modules for first-time entrepreneurs;	200 youth; 150 women supported	Years 2–5	PMU	185,000
4.1.7 Youth beekeepers	Establish youth beekeeping enterprise incubation pathways, including group-based apiary models, tailored technical and business training, mentorship from experienced beekeepers, and AF-financed start-up support (kits, initial inputs), with phased graduation toward independent enterprises; where available, facilitate	# youth enterprises established and sustained	Years 2–5	PMU	120,000

	voluntary referral to existing national financial services and enterprise funds as complementary support that is not required for achievement of SEASL results.				
Output 4.2: Drought-Tolerant Indigenous Varieties & Seed Multiplication Systems					
	Promote seed systems recognizing women and youth as custodians, integrating nutrition education and diverse diets	% women/youth seed custodians; nutrition awareness improved	Years 2–5	PMU	
Output 4.3: Climate-Smart Agriculture Technologies Scaled					
	Support youth innovation grants and enterprise financing mechanisms linked to climate-smart agriculture	300 youth supported; ≥40% young women	Years 2–5	PMU	
Output 4.4: Value Chain Platforms & Formal Market Linkages Before Production					
4.4 Value chain platform	Women & youth representation in platform governance Select women and youth owned agroecosystems businesses Train youth entrepreneurs on niche opportunities for agroecosystems businesses	≥40% women; ≥30% youth	Years 2–5	PMU and implementation partner	
4.4.4	Train youth and women on business planning focusing on processing and other value chain nodes, channeling youth through EYEOP's Imakhete registry. Tailor business training for different youth segments (start-ups vs. semi-commercial farmers and different vulnerability criteria of youth)	# trained; improved market access	Years 2–5	PMU	120,000
Output 4.5: Value Addition & Traceability Programmes					
4.5. Value addition training	Provide entrepreneurship, financial literacy and value addition training, including storage and processing technologies	600 women; 400 youth trained	Years 2–5	Business Development Partner & PMU	180,000

Overview of consultations conducted

A. Project consultative process

1. This section describes the comprehensive, gender-responsive consultative process undertaken during both the concept note preparation phase (2022–2024) and the full proposal development phase (2024–2026), in compliance with the Adaptation Fund's Environmental and Social Policy (ESP) and Gender Policy. For each phase, the section identifies stakeholders consulted, the principles of their selection and their role ascription, the techniques used, the key findings arising, and the concrete ways in which those findings shaped the project design.
2. **Overview and Guiding Principles:** The consultative process for SEASL was designed to be inclusive, iterative, and gender-responsive, guided by three principles aligned with the AF ESP and Gender Policy:
 - **Comprehensiveness** all direct and indirect project stakeholders were engaged, from national government ministries and landscape governance bodies to community women's groups and youth.
 - **Gender-responsiveness** special measures were taken at each stage to ensure women's meaningful participation, recognizing that women constitute the majority of subsistence farmers in rural Eswatini and face structural barriers to resource access and decision-making.
 - **Iteration and uptake** consultation findings were not only documented but actively used to revise and co-design project components, activities, and safeguards arrangements. The AF secretariat's technical reviews confirmed that consultation feedback was systematically addressed in successive proposal versions.

The consultative process followed a two-phase structure that mirrors the two-step AF submission process: an initial consultative process conducted during concept note preparation, and a deepened, comprehensive consultative process conducted during full proposal development.

3. Phase 1: Consultations During Concept Note Preparation (2022–2024)

3.1. Institutional Stakeholder Consultations

During concept note development, IFAD and FAO conducted a structured series of consultations with national institutions to validate the project rationale, align with existing mandates, and build institutional ownership.

Technical Working Group (TWG): Three TWG meetings were convened. The TWG brought together representatives of the Ministry of Tourism and Environmental Affairs (MTEA), Ministry of Agriculture (MoA), Eswatini Environment Authority (EEA), Eswatini National Trust Commission (ENTC), National Disaster Management Agency (NDMA), Eswatini Meteorological Service (EMS), and relevant technical staff from FAO and IFAD.

Selection principles: TWG members were selected based on their statutory mandate over land, water, ecosystem management, and agricultural adaptation in Eswatini.

Role ascription: Technical validation of project rationale, review of climate risk analysis, alignment with national plans (NDP 2023–2028, National Climate Change Policy 2016, National Adaptation Plan), and identification of regulatory compliance requirements.

Key issues raised and how they shaped the design:

- The TWG flagged the need to align project activities with the Lubombo Integrated Landscape Management Plan (ILMP 2020–2030) and Ngwempisi Integrated Landscape Management Plan (NILMP 2020–2030), developed under the SNPAS project. This led to the project being explicitly anchored to these landscape frameworks.

- The TWG raised concern about duplication with the GEF-funded SNPAS project (ended 2021). The design was revised to focus on filling the post-SNPAS gap: transitioning from protected area management to community-level agroecosystem adaptation, avoiding overlap while building on SNPAS biodiversity baselines.
- NDMA representatives highlighted the absence of climate risk early warning systems accessible to community level, directly influencing Output 1.2 (Inclusive Climate Information and Early Warning Systems Integrated with Indigenous Knowledge for Last-Mile Adaptation Response).
- EEA determines the instrument per site after screening (Project Brief, then IEE/CMP, or full EIA only where warranted); most works are expected in Category 2, shaping the compliance pathway documented in Section II.E.

Technical Committee (TC): Three TC meetings were held with a broader range of sectoral line ministries including MoA's Rangeland Management Department, the Forestry Department, Water Division (Ministry of Natural Resources), and representatives from civil society organizations.

Key issues raised:

- Rangeland degradation and bush encroachment by Alien and Invasive Plant Species (IAPS) were identified as the primary stressor undermining both livestock productivity and ecosystem water regulation. This concern directly shaped the design of Outputs 3.1 (Rangeland management planning, beneficiary selection, and allocation of grazing access rights) and 3.3 (Communal Woodlot Management, Soil Erosion Control & IAPS Control)
- The TC confirmed the absence of communal woodlots management plans and tree nursery capacity in the target landscapes, informing Output 3.4 (Nurseries with Hail-Protective Structures and Business Plans) and Output 3.6 (Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives).

Project Steering Committee (PSC): One PSC meeting was held during concept note preparation, establishing the multi-stakeholder oversight body and confirming government endorsement and coordination modalities with MTEA as Designated Authority (DA).

National Designated Authority (NDA) Office: Two meetings were held with the NDA to confirm alignment with the AF country programme strategy, validate the country eligibility pathway, and confirm the endorsement letter process. The NDA confirmed that SEASL aligns with Eswatini's NDC 3.0 (2025) priorities for ecosystem-based adaptation and climate-resilient agriculture.

UN System Coordination: Consultations were also held with UNDP and UNEP, primarily to verify complementarity and avoid overlap with the GEF Small Grants Programme (UNEP), the UNDP country programme for natural resource management, and to leverage FAO's Country Programming Framework 2022–2025 as a coordination mechanism.

3.2. Community Consultations in the Target Landscapes

Community consultations were conducted in four representative communities across the two target landscapes. The consultation approach used participatory rural appraisal (PRA) methods, Focus Group Discussions (FGDs), and field observation walks. Separate sessions were held for women's groups, mixed groups, and community governance structures (Community Development Committees / CDCs and Traditional Authorities / Inkhundla). Meeting times and venues were selected in consultation with community leaders to maximize participation by women and elderly persons.

Table 29 Consultation outcomes in Lubombo Landscape Shewula and Tikhuba Communities

Issue Raised	Source Stakeholder Group	How It Shaped the Design
Limited and labor-intensive conservation agriculture implements	Subsistence farmers (mixed group)	Informed Output 4.3: Climate-Smart Agriculture Technologies Scaled
High agricultural input prices and lack of affordable seed	Women farmers' groups	Supported inclusion of drought-tolerant seed support under Output 4.2
Livestock and crop losses due to poor transboundary fencing and rangeland degradation	Livestock keepers (mostly men)	Directly generated Output 3.1 (Rangeland Management Plans)

Invasion by IAPS degrading grazing land and wetlands	CDCs and Traditional Authorities	Generated Output 3.3 (IAPS Control, Communal Woodlot Management, Soil Erosion Control) using nature-based methods
Absence of functioning wetland management and water shortages for irrigation	Women's groups (primary water collectors)	Generated Output 3.2 (Wetland Fencing and Restoration at Scale)
Interest in agroforestry and tree nurseries	Youth and women	Generated Output 3.4 (Nurseries with Hail-Protective Structures) and Output 3.6 (Agroforestry with Climate-Appropriate Species)
Limited market access for agricultural produce	Mixed group	Informed Output 4.4 (Value Chain Platforms and Formal Market Linkages) and Output 4.5 (Value Addition and Traceability)

Community members in the Lubombo landscape ranked wetland fencing and rehabilitation as their top priority adaptation intervention, citing groundwater recharge and the direct link to women's livelihoods through reed crafts and vegetable gardening. This ranking directly determined the budget allocation priority for Component 3.

Table 30 Consultation outcomes in Ngwempisi Landscape KaZulu and LuZelweni Communities

Issue Raised	Source Stakeholder Group	How It Shaped the Design
Low women's participation in CDC decision-making	Women's groups	Led to gender-responsive governance requirements in Output 2.1 (30% women quota in CDC/NRMC leadership) and multi-hazard response protocol requirements in Output 2.2
Labour-intensive conservation agriculture without mechanization support	Smallholder farmers	Reinforced Output 4.3 (Climate-Smart Agriculture Technologies: no-till, drip irrigation, shade nets) for the Ngwempisi context
Crop pest and disease outbreaks aggravated by climate variability	Farmer groups	Informed integrated management approaches embedded in Output 4.2 (Indigenous Varieties and Seed Multiplication)
Loss of soil health due to pesticide overuse	Women farmers (household food production)	Triggered inclusion of soil health management and fertilizer tea approaches in Output 4.3
Lack of CDC capacity on natural resource management and EbA principles	CDCs	Directly generated Output 2.1 (Institutional Capacity Building: LAs, CDCs, NRMCs) and Output 2.2 (Wildfire, Drought, Hail Response Protocols)
IAPS invasion in rangelands and wetlands; absence of palatable grass	Livestock keepers	Shaped Output 3.3 (Communal Woodlot Management, IAPS Control) for the Ngwempisi landscape
High transport costs reducing market access; no cold storage	Women traders	Informed Output 4.4 (Value Chain Platforms) and Output 4.5 (Value Addition, Traceability, and Aggregation Centers)
Strong community interest in beekeeping as climate-resilient livelihood	Youth and women	Generated Output 4.1 (Beekeeping Value Chain with Training, Equipment and Secured Market Contracts) as a distinct and dedicated output

Community members in the Ngwempisi landscape ranked capacity building for CDCs as the most urgent need before any physical infrastructure investment an explicit expression of the "capacity before inputs" principle. This finding was pivotal in structuring the project's sequencing logic: Component 1 (awareness and knowledge) and Component 2 (institutional capacity) precede the investments in Components 3 and 4.

3.3. Gender and Inclusion Dimensions of Phase 1 Consultations

Across all Phase 1 community consultations, women's participation averaged 52% of attendees. Specific measures deployed included:

- FGDs held separately for women to provide a safe space for raising gender-specific concerns without social pressure from male household members
- Consultations held at locations and times that avoid conflicts with domestic care responsibilities (early morning, at community centers)
- Use of local SiSwati language facilitated by female local facilitators from ENTC's community extension cadre

Women's consultation inputs established that gender dynamics differ markedly between the two landscapes:

- In the **Lubombo landscape**, women are primary collectors of water and firewood and have well-established wetland-based craft and medicinal plant enterprises but lack formalized governance roles. This shaped gender-responsive outputs around wetland governance committees with mandated women's representation.

- In the **Ngwempisi landscape**, women are the majority of smallholder food producers but are largely excluded from CDC decision-making on rangeland allocation. This shaped the governance reform requirements under Output 2.2 and the gender action plan under Component 1.

4. Phase 2: Consultations During Full Proposal Development (2024–2026)

Following concept note approval in principle by the AF Board, a deepened and expanded consultative process was conducted during full proposal development. This phase was designed to address AF secretariat comments from the three technical review rounds, in particular: the need for comprehensive gender balance reporting across all consultation types, specific information on how women's perspectives influenced project design, landscape-specific gender dynamics, and a systematic identification and documentation of potential environmental and social risks and impacts of proposed project activities with corresponding mitigation measures.

4.1. Expanded Institutional Consultations

Multi-Ministry Technical Workshops (2024–2025): Two multi-ministry technical workshops were convened by FAO/IFAD with MTEA, MoA, ENTC, EEA, NDMA, EMS, Ministry of Finance, and the newly established Climate Change Unit (CCU). These workshops served to:

- Validate the expanded project logic and output-level design emerging from SMART activity formulation
- Confirm institutional roles and MoU requirements under the project management arrangements (Section III.A)
- Review the ESMP and environmental and social risk assessment
- Review the Gender Action Plan (GAP) and confirm sex-disaggregated targets

Key outcomes that shaped the full proposal design:

- MoA's Rangeland Management Department confirmed that the Rangeland Management Regulations require submission and formal approval of chiefdom-level Rangeland Management Plans. This compliance requirement is now embedded in Output 3.1 activities and the compliance pathway in Section II.E
- ENTC confirmed its statutory mandate under the Swaziland Environment Authority Act to approve the Integrated Landscape Management Plan (ILMP) updates, which is now built into Output 2.1 milestones and the coordination arrangements under Output 2.2.
- MoF confirmed that the project must comply with Public Finance Management Act (PFMA) requirements for grant disbursements, shaping the in-kind grant and enterprise support protocols designed under Outputs 4.1, 4.3, and 4.5.
- The Climate Change Unit flagged alignment requirements with Eswatini's NDC 3.0 (2025), which specifically lists EbA in the Lubombo and Ngwempisi landscapes as a priority adaptation measure.

Coordination Meetings with Complementary Projects: To operationalize the project complementarity framework (Section II.F), IFAD and FAO convened coordination meetings with the implementing teams of SAPEMP, ELVCLDP (SheTrades Eswatini), and the GEF-FAO Catalyzing Sustainable Food Systems project. These consultations confirmed:

- The joint geographic scope delineation to prevent overlap between SAPEMP (northern Lubombo) and SEASL (southern Lubombo and all of Ngwempisi)
- The market linkage referral mechanism that connects SEASL beneficiaries to SAPEMP's established aggregation and market infrastructure
- The commitment to also cover the rangeland early warning system under ENTC-MERP, confirmed as a formal arrangement in the project budget.

Grievance Mechanism Consultations: A dedicated consultation was held with MTEA's Community Affairs Department and representatives of the Lubombo and Ngwempisi Landscape Associations to design the project's Grievance Redress Mechanism (GRM). Community representatives validated that the proposed three-tier GRM (community level → PMU level → IFAD

level) is accessible and consistent with existing traditional dispute resolution practices (emakhanselo), while providing escalation pathways that do not rely solely on traditional authority channels that may be less accessible to women.

4.2. Community Consultations in the Target Landscapes (Full Proposal Phase)

Deepened community-level consultations were conducted in February 2026 across 13 communities/chiefdoms (101 people of which 38 % women) in the two target landscapes, covering all project target communities. This expanded consultation round was structured to:

- Validate and refine activities developed from the concept note consultation findings
- Conduct a participatory beneficiary mapping and vulnerability profiling exercise
- Conduct FPIC (Free, Prior and Informed Consent) consultations with communities on all interventions involving land use change (rangeland fencing, wetland demarcation, woodlot establishment)
- Identify potential environmental and social risks and impacts and identify risk mitigation measures
- Conduct separate gender consultations to finalize women's priority rankings and validate gender-responsive design features

All consultations were facilitated in SiSwati. Separate women-only FGDs were held in each chiefdom. Youth sessions were held at Inkhundla centers. Participatory mapping using physical landscape maps was used to co-identify sites for wetland rehabilitation, rangeland fencing, woodlot establishment, water harvesting structures, and tree nurseries.

Key findings from the February 2026 community consultations and how they shaped the full proposal:

- **Community prioritization of wetland fencing** emerged as the top-ranked intervention, confirming the concept-phase findings and validating the budget weight of Output 3.2 (Wetland Fencing and Restoration at Scale). Women's groups explicitly linked wetland rehabilitation to reduced walking distances for water collection (currently averaging 3–5 km one way in dry season).
- **Water harvesting** (earth dams and water retention structures) was ranked as the second priority (while prioritizing rehabilitating existing structures). This confirmed Output 3.5 (Water Harvesting Infrastructure Foundational Enabler) and resulted in its elevation in the activity design with larger per-chiefdom infrastructure targets than in the concept note.
- **Rangeland management** was the third ranked priority, with communities specifying the need for paddocking systems and rotational grazing protocols in addition to fencing. Community input on paddock layout directly informed the technical specifications for Output 3.1 (Rangeland Management Planning, Beneficiary Selection, and Allocation of Grazing Access Rights).
- **Beekeeping** was confirmed as the top preferred alternative livelihood activity by women's groups, validating Output 4.1 (Beekeeping Value Chain with Training, Equipment and Secured Market Contracts) and triggering the allocation of a dedicated budget line for beekeeping starter kits for women and youth.
- **Indigenous knowledge (IK) seed varieties** were requested by women farmers, particularly drought-tolerant sorghum and cowpea landraces. This finding shaped Output 4.2 (Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems), including the seed bank component now embedded in Activity 4.2.x.
- **Agroforestry** (particularly multi-use trees: fruit trees, fodder species, and woodlot species) was ranked as the preferred landscape-greening activity. Community members specified the priority species mix, which is now reflected in the species selection criteria for Output 3.6 (Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives) and the nursery species lists for Output 3.4.
- **Capacity building before infrastructure:** Communities in both landscapes consistently stated that training and governance capacity must precede physical investment an explicit demand that confirmed and reinforced the project's sequencing logic, codified in Output 1.4 (Inclusive Community Capacity Building and Climate Adaptation Training Systems,

including Operation and Maintenance) and applied as a binding sequencing rule across all Outputs in Components 3 and 4.

Market connectivity was raised as a cross-cutting concern, with communities citing lack of access to markets as the primary reason post-harvest losses occur. This validated the design of Output 4.4 (Value Chain Platforms and Formal Market Linkages Before Production) and Output 4.5 (Value Addition, Traceability Programmes, and Aggregation Centers) and triggered the inclusion of aggregation center infrastructure under Activity 4.5.3.

- **FPIC on rangeland fencing:** Community members raised concerns about the potential exclusion of transhumance livestock movement routes when installing rangeland paddock fencing. This concern was incorporated into the ESMP (Output-level risk mitigation measure for Output 3.1), requiring that paddocking designs include agreed livestock corridors developed with all affected livestock-keeping households prior to fencing.
- **Gender-specific barriers in Ngwempisi:** Women in the Ngwempisi landscape consultations confirmed that existing CDC bylaws do not permit women to hold executive roles, a structural barrier to the project's governance reform objectives. This led to the explicit inclusion of CDC bylaw reform support in Output 2.1 and Output 2.2, and to the Gender Action Plan commitment to support 30% women's leadership in all chiefdom-level governance bodies by Year 2.

4.3. Environmental and Social Risks, Impacts, and Mitigation Measures Identified Through Community Consultations

The February 2026 community consultations were structured to also identify potential environmental and social risks and impacts of proposed project activities, in compliance with the AF ESP and GP. The following section synthesizes findings from community FGDs, women-only sessions, and institutional consultations across all chiefdoms, organized by risk category and linked to the corresponding ESMP mitigation measures. This information directly informed the ESMP and ESRN prepared under IFAD's Social, Environmental and Climate Assessment Procedures (SECAP).

Social Risks and Impacts: The following social risks and impacts were identified through community and institutional consultations and are addressed through ESMP, Gender Action Plan, and project design mitigation measures:

- **Risk: Elite capture and exclusion of vulnerable groups from project benefits.** Across the communities consulted in February 2026, participants raised the risk that project benefits including rangeland access rights, beekeeping starter kits, water infrastructure, and enterprise support could be captured by better-connected community members at the expense of women, youth, elderly persons, and persons with disabilities. In Luzwelweni, this risk was illustrated by the failure of a prior NERCHA communal farming initiative, where inputs were misallocated to community members unable to utilize them, and where the initiative eventually collapsed due to conflicts.
Mitigation: Transparent, criteria-based beneficiary selection processes to be developed under Output 1.4, with community validation and CDC oversight; selection criteria to apply positive discrimination for women-headed households, youth-headed households, and vulnerable groups; beneficiary lists to be publicly posted at chiefdom level; independent verification of beneficiary selection by the PMU the project's three-tier GRM to be operational from project inception to allow affected community members to challenge selection decisions.
- **Risk: Reinforcement of male-dominated governance structures and tokenistic women's and youth's participation.** Institutional consultations and women's FGDs in both landscapes identified the risk that project governance structures Landscape Associations, CDCs, NRMCS could default to male-dominated leadership, replicating existing structural inequalities even when women's participation targets are formally set. Women in Ngwempisi confirmed that existing CDC bylaws explicitly prohibit women from holding executive roles.
- **Mitigation:** CDC bylaw reform support incorporated in Output 2.1 as a pre-condition for project investments in Ngwempisi chiefdoms; 30% minimum women's leadership quota

mandated in all project governance bodies as a binding PMU-verified requirement; women-only enterprise groups required under Outputs 4.1, 4.2, and 4.3 to prevent default to male leadership in mixed groups; training-first principle for all livelihood activities ensures skills transfer to women prior to input distribution.

- **Risk: Increased labour burdens on women and vulnerable groups.** Women's FGDs in both landscapes confirmed that most agricultural labour including water collection (averaging 3–5 km one way in dry season), firewood collection, crop management, and household food production is already performed predominantly by women. Poorly designed project activities (e.g., labor-intensive restoration works without mechanization support, or input distribution without training) could increase women's time burdens without proportional benefits.
Mitigation: Labour-saving technology prioritization embedded in Output 4.3 (no-till implements, drip irrigation, shade nets); time use and labour burden analysis and quantified reduction targets to be conducted as part of baseline study within first six months; Gender Action Plan to include measurable time-saving activity targets; M&E system to track sex-disaggregated labour time indicators and reduction outcomes.
- **Risk: Conflicts over natural resource access and use rights, including transhumance route disruption and upstream-downstream water conflicts.** Community consultations in x chiefdoms identified that installation of rangeland paddock fencing risks blocking established livestock movement routes used by transhumance keepers, creating conflicts with affected households. In Ntondozi, upstream illegal farming practices (blocking streams, cutting irrigation pipes) were cited as a recurring source of conflict that project water infrastructure could inadvertently exacerbate.
Mitigation: Paddock designs must include agreed livestock corridors, with corridor alignments developed and signed off by all affected livestock-keeping households prior to fencing (ESMP measure for Output 3.1); corridors and water use agreements to be formally documented; multi-stakeholder NRM water allocation protocols required prior to commissioning water infrastructure (Output 3.5); GRM accessible to community members who experience exclusion or resource conflicts.
- **Risk: Social tensions and community cohesion challenges linked to past project failures.** Multiple communities particularly Luzwelweni and Ntondozi cited poor cooperation, dependency culture, and interpersonal conflicts as reasons why past agricultural and restoration projects failed. Community members explicitly warned that rapid input distribution without adequate capacity building or transparent process management would repeat these failures and damage trust in the SEASL project.
Mitigation: "Capacity before inputs" sequencing rule applied as a binding PMU-enforced protocol across all Outputs 4.1–4.5; community-led activity planning processes embedded in Output 2.1; exit strategies and maintenance plans required from inception for all infrastructure investments; participatory community monitoring with feedback loops to detect and address emerging social tensions.
- **Risk: Exclusion of youth from project benefits and perpetuation of illegal livelihood alternatives.** Youth consultations across all communities confirmed that youth participation in agriculture is approximately 2 in 10, and that illegal crop farming (cannabis) offers perceived higher and quicker returns than formal agriculture. Without targeted and attractive economic alternatives, youth exclusion from project benefits could perpetuate illegal livelihoods and undermine community governance.
Mitigation: 30% youth participation target across all SEASL outputs; high-value, quick-return enterprise alternatives (agroforestry with fruit trees, beekeeping, baby vegetables) prioritized under Outputs 4.1 and 3.6; youth incubation pathways including training, starter kits, financing, and market linkages; youth innovation exposure visits and capacity building on farming profitability embedded in Output 1.4; digital platforms for farmer networking and peer learning designed for youth access; youth-specific sessions maintained throughout implementation monitoring.
- **Risk: Misuse or misappropriation of project inputs, particularly in enterprise activities.** Women's FGDs in both landscapes reported that in mixed households,

agricultural inputs distributed directly to women are frequently redirected to male household members, undermining the gender-responsive targeting of enterprise activities.

Mitigation: Training-first principle enforced as a binding PMU-verified sequencing rule: skills training and enterprise planning must be completed and verified before any input distribution; women-only enterprise groups established as the default modality for Outputs 4.1, 4.2, and 4.3; group-based accountability mechanisms (savings groups, cooperative bylaws) required as a condition for enterprise support disbursement.

- **Risk: Digital divide in access to climate information systems.** Consultations with communities and NDMA highlighted that formal early warning systems are currently not accessible at community level, and that radio broadcasts are the primary information source. Introduction of digital EWS platforms risks reinforcing the digital divide between youth and the elderly and between men and women.

Mitigation: Multi-channel information delivery required under Output 1.2, including SMS alerts in SiSwati for non-smartphone users, radio integration, and community-based IK indicator integration; community early warning interpreters (trained as part of Output 1.4) to serve as the last-mile interface; digital EWS designed with accessible visual formats for low-literacy users; monitoring of actual access and use of EWS across gender and age groups.

- **Risk: Gender-based violence (GBV), sexual exploitation and abuse (SEA/H)**
Project-induced changes in income flows, resource access, and participation in mixed group may increase risks of intra-household conflict, harassment, or exploitation.
Mitigation: Establishment of a GBV-sensitive GRM with confidential reporting and referral pathways; codes of conduct for all staff, contractors, and community facilitators; mandatory GBV awareness training; partnerships with local service providers for survivor support; integration of GBV safeguards into all community engagement processes.

Environmental Risks and Impacts: The following environmental risks and impacts were identified through consultations and are addressed through ESMP mitigation measures:

- **Risk: Ecological disturbance during wetland fencing and restoration works.** Communities and ENTC technical staff noted that inappropriate siting of fencing lines or works conducted during ecologically sensitive periods (bird nesting, fish spawning), could temporarily disturb wetland ecosystems.
Mitigation: Site-specific EIAs required under the Environment Management Act 2002; fencing alignments to be validated with ENTC and wetland ecologists prior to construction; civil works prohibited during ecologically sensitive periods as determined by seasonal assessment; post-fencing monitoring of wetland recovery indicators (water yield, reed and grass regeneration, wildlife use) integrated into monitoring protocols.
- **Risk: Uncontrolled or premature burning during IAPS clearing and rangeland management works.** Community consultation in Ntandozi and Ngwempisi highlighted that IAPS clearing programmes have historically involved fire use that spread beyond intended areas, burning crops, fences, and rangeland consistent with the annual wildfire problem reported across all chiefdoms.
Mitigation: All IAPS clearing activities to use manual and mechanical methods as the primary approach; prescribed burning, where required, to be conducted only under approved fire management protocols developed under Output 2.2, with firebreaks established prior to burn operations and community fire management brigades trained and operational.
- **Risk: Soil erosion and donga formation associated with construction of water harvesting structures, earth dams, and conveyance canals.** Communities in Ntandozi (Mphini and Ndinda) noted that local soil types do not retain water well and that poorly sited dam construction has historically contributed to donga formation one of the most serious environmental concerns raised across all sites.
Mitigation: Interventions to be small and local only and rehabilitation of existing structures will be prioritized; Soil suitability assessment required prior to final siting of all water retention structures; civil designs to incorporate erosion control measures (gabions,

vegetated buffer strips, energy dissipators); donga rehabilitation measures (tree planting, fencing of gully heads, reseeding with indigenous grasses) to be integrated alongside infrastructure installation; Output 3.5 to include post-construction monitoring of sedimentation and erosion indicators.

- **Risk: Introduction or unintentional spread of non-target species through nursery activities and agroforestry.** Technical committee consultations raised concern that poorly managed nurseries or unvalidated species selection could introduce non-indigenous species that become invasive, compounding the existing IAPS problem.

Mitigation: Species selection for nurseries and agroforestry to be validated against the EEA-approved list of climate-appropriate indigenous and non-invasive exotic species; ENTC to review and approve species lists prior to procurement; nursery staff trained on biosecurity protocols; introduced species monitored for invasiveness over the project lifetime.

- **Risk: Water use conflicts resulting from increased irrigation and water harvesting activities.** Communities in multiple sites particularly downstream farmers in the Lubombo landscape noted that upstream water use (illegal crop farming, stream blocking) already causes conflicts, and that expanded irrigation under the project could exacerbate competition.

Mitigation: Water use agreements to be formalized through multi-stakeholder water allocation committees (NRMCS) established under Output 2.2 prior to commissioning water infrastructure; water allocation protocols to incorporate downstream flow requirements; water yield monitoring from restored wetlands to form the evidence base for adaptive water management decisions.

4.4. Consultation with Women's Groups and Gender-Specific Sessions

In compliance with the AF Gender Policy requirement for a comprehensive gender-responsive consultative process at the full proposal stage, dedicated gender consultations were conducted as follows:

- **Lubombo Landscape:** Three landscape-level women's workshops convened at Shewula, Tikhuba, and Lomahasha Inkhundla centers; approximately 280 women participated. Sessions focused on: (i) validation of gender-differentiated climate vulnerability findings from the CRVA; (ii) validation of the Gender Action Plan activities, targets, and indicators; (iii) women's preferences for enterprise types under Component 4; (iv) gender-responsive safeguards (particularly FPIC procedures and GRM accessibility for women).
- **Ngwempisi Landscape:** Two landscape-level women's workshops conducted at KaZulu and Luzelweni Inkhundla centers; approximately 190 women participated. Sessions focused on: (i) CDC governance reform and women's leadership; (ii) women-led natural resource management models from other IFAD projects (SheTrades governance model); (iii) land access barriers for women smallholders; (iv) validation of beekeeping and IK seed variety activities as women-led enterprise priorities.

How gender consultation findings shaped the full proposal:

- The requirement for **separate women-only enterprise groups** under Outputs 4.1, 4.2, and 4.3 (rather than mixed groups) was a direct outcome of women's consultation feedback that mixed production groups default to male leadership in Eswatini's social context.
- The **training-first principle** for all livelihood activities (Component 4): women explicitly requested that skills training precede any input distribution to avoid misappropriation by male household members a principle now codified in Output 1.4 and enforced as a binding PMU-verified sequencing rule across all Outputs 4.1–4.5.
- The **gender-disaggregated target of 40% women beneficiaries** across all SEASL outputs is grounded in community consultation findings that established women as the primary managers of household food security and water access in both target landscapes.

5. Overview of How Consultation Findings Shaped the Project Design

The table below provides a consolidated view of how consultation findings from both phases including environmental and social risk findings are directly traceable to project components, outputs, activities, and safeguard instruments in Section II.A and Section II.E.

Table 31 Overview of consultation findings and how they shaped the project design

Consultation Finding	Phase	Stakeholder Source	Influenced Project Element / Safeguard Instrument
Wetland fencing and rehabilitation ranked #1 community priority	Phase 1 & 2	Communities, women's groups (Lubombo & Ngwempisi)	Output 3.2 Wetland Fencing and Restoration at Scale
Water harvesting ranked #2 community priority; canal works may affect homesteads (social risk)	Phase 1 & 2	Communities, mixed groups	Output 3.5 Water Harvesting Infrastructure with prioritization of rehabilitating existing infrastructure and conducting pre-feasibility studies with the department of water affairs; ESMP: water use agreements prior to civil works
"Capacity before inputs" sequencing principle	Phase 1 & 2	CDCs, women's groups (all chiefdoms)	Output 1.4 Capacity Building system; binding sequencing rule enforced across all Outputs 4.1–4.5
CDC governance reform needed for women's leadership; CDC bylaws exclude women from executive roles (social risk)	Phase 1 & 2	Women's groups (Ngwempisi)	Output 2.1 Institutional Capacity (CDC bylaw reform); Output 2.2 multi-hazard coordination with gender mandates
Beekeeping as top women/youth livelihood preference	Phase 1 & 2	Women's groups and youth	Output 4.1 Beekeeping Value Chain with Training, Equipment and Secured Market Contracts
IK drought-tolerant seed varieties requested	Phase 2	Women farmers (29/37 chiefdoms)	Output 4.2 Drought-Tolerant Indigenous Varieties and Seed Multiplication Systems
Rangeland paddocking risks blocking transhumance routes (social/environmental risk)	Phase 2	Livestock keepers	Output 3.1 Rangeland Management Plans; ESMP: agreed livestock corridors required prior to fencing
Soil erosion and donga formation risk from water infrastructure (environmental risk)	Phase 1 & 2	Communities (Ntondozi, Ngwempisi)	Output 3.5; ESMP: soil suitability assessments, erosion control measures, post-construction monitoring
IAPS clearing fire risk uncontrolled spread of prescribed burns (environmental risk)	Phase 1 & 2	Communities (all landscapes)	Output 3.3 IAPS Control; ESMP: manual/mechanical clearing priority; prescribed burns only under Output 2.2 fire protocols
Ecological disturbance risk from wetland fencing (environmental risk)	Phase 2	ENTC, EEA	Output 3.2; ESMP: Minimized by design (small, disturbed footprints, no large dams/irrigation, avoid sensitive habitats). Where full EIA would be triggered, re-site or re-scope where feasible; otherwise complete the EIA before works. Residual likelihood is low; timing restrictions; post-fencing ecosystem monitoring
Elite capture and exclusion of women, youth, and vulnerable groups (social risk)	Phase 1 & 2	All communities (esp. Luzwelweni)	Output 1.4 beneficiary selection protocols; GRM from project inception; positive discrimination criteria
Increased labour burdens for women (social risk)	Phase 2	Women's FGDs (all landscapes)	Output 4.3: labor-saving technologies; GAP: time use baseline; sex-disaggregated labour time M&E indicators
Digital divide risk in EWS access (social risk)	Phase 2	Communities, NDMA	Output 1.2: multi-channel delivery (SMS, radio, IK integration); trained community EWS interpreters
Input misappropriation by male household members (social risk)	Phase 2	Women's FGDs (all landscapes)	Training-first binding rule; women-only enterprise groups; group accountability mechanisms
Upstream-downstream water conflicts risk from expanded irrigation (social/environmental risk)	Phase 2	Communities (Lubombo, Ntondozi)	Output 2.2 NRMC water allocation protocols; water use agreements prior to infrastructure commissioning
Market access and post-harvest losses	Phase 1 & 2	Mixed groups, women traders	Output 4.4 Value Chain Platforms and Market Linkages; Output 4.5 Value Addition, Traceability and Aggregation Centers
IAPS invasion as primary rangeland/wetland threat	Phase 1 & 2	CDCs, livestock keepers	Output 3.3 Communal Woodlot Management, Soil Erosion Control, and IAPS Control
Absence of community-level EWS	Phase 1	TWG (NDMA, EMS)	Output 1.2 Early Warning Systems and agricultural advisories
Alignment with ILMP/NILMP required	Phase 1	TWG (ENTC, MTEA)	Output 2.1 Institutional Capacity (ILMP update milestones); Output 2.2 coordination protocols
Tree nursery absence and species survival failures; risk of invasive species introduction (environmental risk)	Phase 1 & 2	TC, youth and women's groups	Output 3.4 Nurseries with Hail-Protective Structures; ESMP: EEA-validated species list; nursery biosecurity protocols
Agroforestry as preferred landscape-greening activity	Phase 1 & 2	Communities	Output 3.6 Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives
Conservation agriculture and climate-smart inputs	Phase 1 & 2	Smallholder farmers, mixed groups	Output 4.3 Climate-Smart Agriculture Technologies Scaled
Training-first principle for enterprise activities; input misuse risk	Phase 2	Women's groups (all landscapes)	Binding sequencing rule across Outputs 4.1–4.5; codified in Output 1.4

Women-only enterprise groups preferred	Phase 2	Women's groups	Implementation modality for Outputs 4.1, 4.2, 4.3
GRM design using emakhanselo tradition; women's GRM access concerns	Phase 2	Community Affairs Dept, Landscape Associations, Women's FGDs	Three-tier GRM design (community → PMU → IFAD); female focal points; private reporting channels
NDC 3.0 alignment with EbA in target landscapes	Phase 2	NDA, CCU	Full cost of adaptation rationale (Section II.I)
SAPEMP geographic scope delineation	Phase 2	SAPEMP implementing team	Section II.F complementarity framework; geographic targeting in Components 3–4

6. Safeguard Instruments Prepared in Response to Consultation Findings

The environmental and social risk and impact findings documented through the consultative process have been addressed through the preparation of the following safeguard instruments, in accordance with IFAD's SECAP requirements and the AF ESP and GP:

- **Environmental and Social Review Note (ESRN):** documents the project's environmental and social risk classification and the basis for the ESMP requirement, drawing on community-identified environmental risks related to wetland disturbance, IAPS clearing, water infrastructure, and nursery activities.
- **Environmental and Social Management Plan (ESMP):** provides output-level mitigation measures for all significant environmental and social risks identified through consultation, including livestock corridor requirements, soil erosion controls, wetland work timing restrictions, beneficiary selection protocols, and women-specific GRM access arrangements.
- **Gender and Social Inclusion Analysis:** documents the gender-differentiated vulnerability and risk findings from community consultations, informs the Gender Action Plan targets and indicators, and provides the evidence base for women-only enterprise group modalities and the training-first sequencing rule.
- **Stakeholder Engagement Plan:** formalizes the continued engagement approach for project implementation, building on the consultative process documented in this section, with specific provisions for women's and youth engagement, SiSwati facilitation, and landscape-level validation platforms.
- **Grievance Redress Mechanism (GRM):** three-tier mechanism (community → PMU → IFAD) designed in direct response to community consultation findings on accessibility, emakhanselo tradition alignment, and women's need for private reporting channels.

Table 50 Overview of consultations conducted during the concept note phase

TITTLE OF CONSULTATION	LIST OF STAKEHOLDERS																																																																																					
NDA & MoA, Inception meeting on proposed concepts Date: 3 March 2022 Venue: Mbabane																																																																																						
Development of log-frame for Concept note. Date: 18 May 2022 Venue: Piggs peak	<table><tr><th>Name of participant</th><th>Institution</th><th>Designation</th><th>Gender (M/F)</th><th>Email address</th></tr><tr><td>Thulani Sibiya</td><td>Ministry of Agriculture</td><td>Planner</td><td>M</td><td>osibiya@gmail.com</td></tr><tr><td>Thapelo Hlatshwako</td><td>Ministry of Agriculture</td><td>R.M.O</td><td>M</td><td>thapelo.hlatshwako@yahoo.com</td></tr><tr><td>Ntokozo Dlamini</td><td>Ministry of Agriculture</td><td>Agriculture Officer</td><td>M</td><td>jimmynd247@gmail.com</td></tr><tr><td>Louis Musa Kuhlase</td><td>Ministry of Agriculture</td><td>SAO</td><td>M</td><td>klouismusa7@gmail.com</td></tr><tr><td>Colani Mkhabela</td><td>Ministry of Agriculture -Land Use Planning Department</td><td>SWCE</td><td>M</td><td>colanimkhabela3@gmail.com</td></tr><tr><td>Patrick Dlamini</td><td>Ministry of Agriculture -Land Use Planning Department</td><td>Soil Surveyor</td><td>M</td><td>patrickdlamini@gmail.com</td></tr><tr><td>Theophilus Dlamini</td><td>FAO</td><td>Programme Assistant</td><td>M</td><td>theophilus.dlamini@fao.org</td></tr><tr><td>Christopher Mthethwa</td><td>Ministry of Agriculture -DAE</td><td>Senior Agricultu</td><td>M</td><td>mthethwa.chris003@gmail.com</td></tr><tr><td>Sifiso Msibi</td><td>Ministry of Agriculture -DVLS</td><td>R.M.O</td><td>M</td><td>sifisom@gmail.com</td></tr><tr><td>Howard Mbuyisa</td><td>Ministry of Agriculture</td><td>Senior Economist</td><td>M</td><td>howardveli@yahoo.com</td></tr><tr><td>Phumzile Mhlanga</td><td>Ministry of Agriculture</td><td>Senior Aquaculture Officer</td><td>F</td><td>mhlangap@gmail.com</td></tr><tr><td>Nkosinathi Mavimbela</td><td>MoF</td><td>SNR Finance Officer</td><td>M</td><td>mavimbelank@gmail.com</td></tr><tr><td>Lindani Mavimbela</td><td>FAO</td><td>Programme Coordinator</td><td>M</td><td>lindani.mavimbela@fao.org</td></tr><tr><td>Cuthbert Kambanje</td><td>FAO</td><td>Technical Officer</td><td>M</td><td>cuthbert.kambanje@fao.org</td></tr><tr><td>James Mavimbela</td><td>World Food Programme</td><td>-</td><td>M</td><td>james.mavimbela@wfp.org</td></tr><tr><td>Naad D Pires</td><td>World Food Programme</td><td>-</td><td>F</td><td>maypires@wfp.org</td></tr></table>	Name of participant	Institution	Designation	Gender (M/F)	Email address	Thulani Sibiya	Ministry of Agriculture	Planner	M	osibiya@gmail.com	Thapelo Hlatshwako	Ministry of Agriculture	R.M.O	M	thapelo.hlatshwako@yahoo.com	Ntokozo Dlamini	Ministry of Agriculture	Agriculture Officer	M	jimmynd247@gmail.com	Louis Musa Kuhlase	Ministry of Agriculture	SAO	M	klouismusa7@gmail.com	Colani Mkhabela	Ministry of Agriculture -Land Use Planning Department	SWCE	M	colanimkhabela3@gmail.com	Patrick Dlamini	Ministry of Agriculture -Land Use Planning Department	Soil Surveyor	M	patrickdlamini@gmail.com	Theophilus Dlamini	FAO	Programme Assistant	M	theophilus.dlamini@fao.org	Christopher Mthethwa	Ministry of Agriculture -DAE	Senior Agricultu	M	mthethwa.chris003@gmail.com	Sifiso Msibi	Ministry of Agriculture -DVLS	R.M.O	M	sifisom@gmail.com	Howard Mbuyisa	Ministry of Agriculture	Senior Economist	M	howardveli@yahoo.com	Phumzile Mhlanga	Ministry of Agriculture	Senior Aquaculture Officer	F	mhlangap@gmail.com	Nkosinathi Mavimbela	MoF	SNR Finance Officer	M	mavimbelank@gmail.com	Lindani Mavimbela	FAO	Programme Coordinator	M	lindani.mavimbela@fao.org	Cuthbert Kambanje	FAO	Technical Officer	M	cuthbert.kambanje@fao.org	James Mavimbela	World Food Programme	-	M	james.mavimbela@wfp.org	Naad D Pires	World Food Programme	-	F	maypires@wfp.org
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Technical Committee (TC) meeting																																																																																						

Date: 29 July 2022
Venue: Mbabane

Steering Committee Meeting
Date: 21 September 2022
Venue: Mbabane

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 Mabusa

Finalization of Agro-ecological Concept Note
Date: 22 November 2022
Venue: Zulwini

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Landscapes (Lubombo and Nqwempisi) Community Consultation
Date: 20-23 June 2023
Venue: Shewula and Tikhuba Community/ Chiefdom centers for Lubombo Landscape

Name	Gender	Designation	Name	Gender	Designation	Name	Gender	Designation	Name	Gender	Designation
Shewula			Sibongile Mnisi	F	Chiefdom Development Committee	Goodness Matsenjwa	F	Chiefdom Development Committee	Sihlangu Gwebu	F	Extension Officer-MoA
Musa Masilela	M	Inner concillor	Gcinile Madolo	F	Chiefdom Development Committee	Ncobile Dlamini	F	Chiefdom Development Committee	Gladies Methula	F	NGO

<u>Venue: KaZulu and Luzelweni Community/Chiefdom centers for Ngwempisi Landscape</u>	Jim Dladla	M	Inner concillor	Dely Mabila	F	Chiefdom Development Committee	Nompumelelo Nyaba	F	Chiefdom Development Committee-Chair	Musa Ngcamphalala	M	Extension Officer-MoA
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	Jeneth Mahlalela	F	Board Member	Lindiwe Sifundza	F	Trust	Phumlile Matsenjwa	F	Trust	Elizabeth Dlamini	F	Inner Council
	Thumeli Masilela	F	Chiefdom Development Committee	Khetsiwe Mkhabela	F	Trust	Khanyisile Dlamini	F	Inner Council	Zandile Dlamini	F	Inner Council
	Magareth Khumalo	F	Rural Health Officer	Lungile Magagula	F	Community Member	Calton Gamedze	M	Trust	Thembsile Mkumba	F	Inner Council
	Hlobisile Ngomane	F	Rural Health Officer	Phillile Ndwandwe	F	Community Member	Elias Matsenjwa	M	Community Member	Makhosi Nhlabatsi	M	Chiefdom Development Committee
	Daniel Ndzabandzaba	M	Com.member	Khetsiwe Mamba	F	Community Member	Nomcebo Vilane	F	Farmer	Thandiwe Shongwe	F	Community Member
	Dumsani Mabuza	M	Chairperson-ECC	Phumzile Mnisi	F	Community Member	Antony Matsenjwa	M	Chiefdom Development Committee-Chair	Mzwandile Tsela	M	Chiefdom Development Committee
	Samuel Maziya	M	Chiefdom Development Committee	Goodness Vilakati	F	Community Member	Bayeza Nkonyane	M	Farmer	Abel Vilakati	M	Inner Council
	Elias Bhuky	M	Inner concillor	Mandla Makhanya	M	ENTC	Mfana Nhlabatsi	M	Trust	Nkinase Shongwe	M	Chiefdom Development Committee
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	Thandi Mhlanga	F	Manager	Gugu Gwebu	F	Chiefdom Development Committee	Alfred Dlamini	M	CD	Fisiwe Shabangu	F	Community Member
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	Sikhumbuzo Maseko	M	MoA-LUPD	Sipho Mazibuko	M	ENTC	Ntombikayise Fakudze	F	NGO	Thandi Tsela	F	Community Member
	Nonhlanhla Bhembe	F	Trust	Lisaya Nshalinshali	F	Chiefdom Development Committee	Sihlangu Gwebu	F	Extension Officer-MoA	Tandzile Tsela	F	Community Member
	Juliet Shabangu	F	Community Member	Lindiwe Sukati	F	Community Member	Fikile Mndzebele	F	Community Member			
	Happiness Tsela	F	Community Member	Mabusi hlophe	F	Community Member	Happy Sacolo	F	Chiefdom Development Committee			
	Lungile Makhanya	F	Community Member	Ema Sacolo	F	Community Member	Mayenziwe Sacolo	F	Community Member			
	Phiness Tsela	M	Community Member	Amos Manana	M	Community Member	Mkhabeko Sacolo	M	Community Member			

	Gabsile Maseko	F	Community Member	Vusi Vilakati	M	Community Member	Lindiwe Hlophe	F	Community Member
	Simphiwe Tsela	F	Community Member	Mlandvo Sacolo	M	Community Member	Thabiso Sacolo	M	Community Member
	Celiwe Tsela	F	Community Member	Thembeke Mavuso	M	Community Member	Titselo Sacolo	M	Community Member
	Tikhuba			Mazy Khumalo	F	Community Member	Winile Lukhele	F	Inner Council
	Petros Sacolo	M	Advisor	Ncamsile Dlamini	F	Community Member	Julien Van Vuren	F	Chieftom Development Committee
	Aenies Sacolo	F	Inner Council	Zodwa Dlamini	F	Community Member	Juba Dlamini	M	Community Member
	Fikile Ndzabukelwalo	F	Advisor	Mlungisi Hlophe	M	Community Member	Satile Sacolo	M	Community Member
	Thandiwe Sacolo	F	Community Member	Makhosazane Vilakati	M	Community Member	Themba Gwebu	M	Runner
	Nombuso Sacolo	F	Community Member	Marry Van Vuren	F	Chieftom Development Committee	Amos Sacolo	M	Community Member
	Buyisile Ntshalinshali	F	Health Advisor	Sicelele Sacolo	M	Community Member	Zola Sacolo	M	Community Member
	Welile Dlamini	F	Health Advisor	Thubelihle Simelane	M	Community Member	Zakhele Sacolo	M	Community Member
	Lucy Ntshalinshali	F	Community Member	Sibusiso Sacolo	M	Trust	Busisiwe Dlamini	F	Community Member
	Ruth Sacolo	F	Community Member	Bongekile Sacolo	F	Community Member	Muzi Hlophe	M	Community Member
	Peter Maseko	M	Chieftom Development Committee	Philisiwe Lushaba	F	Community Member	Mandla Makhanya	M	ENTC
	Khathiwe Mavuso	F	Community Member	Khatrina Maseko	F	Community Member	Ireen Ng"ambi	F	TENVELO
	Goodness Mhlanga	F	Community Member	Sotunwane Sacolo	M	Chief	Scelo Ntshalintshali	M	Chieftom Development Committee

Table 51 Overview of consultations conducted during the full proposal phase

Table 52 Overview of communities consulted during the full proposal development phase

#	Community	Total Participants	% Women (n)	% Men (n)	Youth (n)	Farmers (n)	Disabled (n)	Other Roles / Types
1	Emphini	3	0% (0)	100% (3)	-	3	-	-
2	Etjebovu	2	100% (2)	0% (0)	-	2	-	-
3	Ka-Ndinda	11	36% (4)	64% (7)	-	5	-	Bandlancane/Community council (3), Indvuna (1), Pastor (1), Bucopho (1)
4	Lukhetseni	8	50% (4)	50% (4)	1	1	-	Trust (2), Bucopho (1), Community veteran (1), Bandlancane (1), Focus Group (1)
5	Luzelweni	14	21% (3)	79% (11)	-	9	-	Indvuna (2), Broadcasting (1), Mahalane (1), Chief (1)
6	Mambane	2	100% (2)	0% (0)	-	-	-	Focus Group (1), Trust (1)
7	Maphungwane	3	67% (2)	33% (1)	-	-	-	CDC (2), Trust (1)
8	Membane	4	0% (0)	100% (4)	-	-	-	Trust (2), Bucopho (1), Indvuna (1)
9	Mhlumeni	10	40% (4)	60% (6)	1	-	-	Bush Camp (3), Bandlancane (2), Chairperson (2), Trust (1), Tentfuntfuko (1)
10	Mphini	6	67% (4)	33% (2)	-	4	-	Bandlancane (2)
11	Ntontozi	12	33% (4)	67% (8)	-	9	1	CDC (2)
12	Tikhuba	4	50% (2)	50% (2)	1	-	-	Trust (2), Assistant Extension Officer (1)
13	Velezizweni	22	32% (7)	68% (15)	-	20	-	Royalty (1), Bandlancane/Community council (1)
	TOTAL (13 communities)	101	38% (38)	62% (63)	3	53	1	

Full Name	Community	Position/Role	Gender	Grouped Role
Catherine Dlamini	Velezizweni	Farmer	F	Farmer
Celiwe Dlamini	Velezizweni	Farmer	F	Farmer
Nomvuyo Shiba	Velezizweni	Farmer	F	Farmer
Siphomandla Dlamini	Velezizweni	Farmer	M	Farmer

Fanele Ngwenya	Velezizweni	Farmer	M	Farmer
Winile Dlamini	Velezizweni	Farmer	F	Farmer
Tlobile Mabeleza	Velezizweni	Farmer	F	Farmer
Nokwanda Mkonyane	Velezizweni	Farmer	F	Farmer
France Nkomo	Velezizweni	Farmer	M	Farmer
Mlungisi Hlubi	Velezizweni	Farmer	M	Farmer
Colani Simelane	Velezizweni	Farmer	M	Farmer
Melusi Zitha	Velezizweni	Farmer	M	Farmer
Mpendulo Mkhaliphi	Velezizweni	Farmer	M	Farmer
Mzwandile Dlamini	Velezizweni	Farmer	M	Farmer
Celonkhosi Dlamini	Velezizweni	Farmer	M	Farmer
Melusi Isabedze	Velezizweni	Farmer	M	Farmer
Catherine Dlamini	Velezizweni	Farmer	M	Farmer
Celucolo Mabuza	Velezizweni	Farmer	F	Farmer
Sakhile Ngubeni	Velezizweni	Farmer	M	Farmer
Cynthia Sukati	Velezizweni	Farmer	M	Farmer
Siphiwe Nsibandze	Etjebovu	Farmer	F	Farmer
Funeki Tsela	Etjebovu	Farmer	F	Farmer
Makhosemvelo Dlamini	Velezizweni	Royalty	M	Royalty
Simon M. Vilane	Velezizweni	Bandlancane/ Community council	M	Bandlancane
Samson Maziya	Mhlumeni	Bush Camp Manager	M	Bush Camp
Samuel Dlamini	Mhlumeni	Bandlancane/ Community council	M	Bandlancane
Twobile Mdluli	Mhlumeni	Bush Camp Staff	F	Bush Camp
David Fabula	Mhlumeni	Bandlancane/ Community council	M	Bandlancane
Thabsile Khumalo	Mhlumeni	Bush Camp Trust Secretary	F	Trust
Gcinile Motsa	Mhlumeni	Tentfuntfuko	F	Tentfuntfuko
Ayanda Shongwe	Mhlumeni	Youth	M	Youth
Sizakele Matsenjwa	Mhlumeni	Mhlumeni Bush Camp	F	Bush Camp
Sandile Matsenjwa	Mhlumeni	Chairperson Diptank	M	Chairperson

Mfanizile Sifundza	Mhlumeni	Chairperson	M	Chairperson
Bensen Dlamini	Luzelweni	Farmer	M	Farmer
Petros Sacolo	Luzelweni	umSumphe / Indvuna	M	Indvuna
Alfred Mhlonta	Luzelweni	Farmer	M	Farmer
Majahani Sacolo	Luzelweni	Farmer	M	Farmer
Sicetele Sacolo	Luzelweni	Farmer	F	Farmer
Khanyisile Sacolo	Luzelweni	Broadcasting	F	Broadcasting
Vunile Sacolo	Luzelweni	Mahalane	F	Mahalane
Sifundvane Sacolo	Luzelweni	Chief	M	Chief
Mmu Mbu Mimine	Luzelweni	Indvuna	M	Indvuna
Mlandvo Sacolo	Luzelweni	Farmer	M	Farmer
James Tsela	Luzelweni	Farmer	M	Farmer
Muzi Sacolo	Luzelweni	Farmer	M	Farmer
Amos Manana	Luzelweni	Farmer	M	Farmer
Elijah Madzab	Luzelweni	Farmer	M	Farmer
Zeblon K. Dlamini	Ntontozi	Farmer Maize	M	Farmer
Thulani Hlubi	Ntontozi	Farmer Maize	M	Farmer
Jabu Madau	Ntontozi	Farmer	F	Farmer
Mandla Nene	Ntontozi	Disability	M	Disability
Kuanyisile Dlamini	Mphini	Bandlancane	F	Bandlancane
Vuyisile Mdluli	Mphini	Farmer	F	Farmer
Errow Kunene	Ntontozi	CDC	M	CDC
Themba Dlamini	Mphini	Bandlancane/ Community council	M	Bandlancane
Phindile Maphosa	Mphini	CDC, Farmer	F	Farmer
Thembi Hlophe	Mphini	Farmer	F	Farmer
Nomsikilelo Dlamini	Ntontozi	Farmer	F	Farmer
Mbongen Dlamini	Emphini	Farmer	M	Farmer
Happy Dlamini	Ka-Ndinda	CDC Chairperson, Farmer	F	Farmer
Nesta Bhalisile Dlamini	Ka-Ndinda	Farmer Maize	F	Farmer

Ntombe Bulunga	Ntontozi	Farmer	F	Farmer
Lucia Vilakati	Ntontozi	CDC	F	CDC
Thabile Dlamini	Ka-Ndinda	Farmer	F	Farmer
Fezile Hlophe	Ka-Ndinda	Farmer	F	Farmer
Nkosivile Kunene	Ka-Ndinda	Bandlancane/ Community council	M	Bandlancane
Sicelo Dlamini	Ka-Ndinda	Vegetable Farmer	M	Farmer
Sabelo Dlamini	Emphini	Vegetable Farmer	M	Farmer
Sifiso Fassie	Ntontozi	Farmer	M	Farmer
Nkosinathi Dlamini	Ntontozi	Farmer	M	Farmer
Zakhi Thomas Dlamini	Ntontozi	Herb Farmer / Bucopho	M	Farmer
Vusi Dlamini	Ka-Ndinda	Indvuna	M	Indvuna
Leslie Balida	Ntontozi	NCBG Original Farmer	M	Farmer
Siboniso Dlamini	Emphini	Farmer (Veg)	M	Farmer
Elliot Dlamini	Mphini	Vegetable Farmer	M	Farmer
Andreas Dikiza	Ka-Ndinda	Bandlancane/ Community council	M	Bandlancane
Isaac Mtsetfwa	Ka-Ndinda	Bandlancane/ Community council	M	Bandlancane
Msholuzi MkhaliPhi	Ka-Ndinda	Pastor	M	Pastor
Malungisa Mtsetfwa	Ka-Ndinda	Bucopho	M	Bucopho
Sandile Matsenjwa	Membane	Bucopho	M	Bucopho
Samukelo Maduvane	Membane	Trust	M	Trust
Makhombela Zandile	Lukhetseni	Bucopho	F	Bucopho
Maziya Meliswa	Lukhetseni	Youth	F	Youth
Sikhumbuzo Gwebu	Tikhuba	Assistant Extension Officer	M	Assistant Extension Officer
Bongiwe Hlophe	Tikhuba	Youth	F	Youth
Mandla Dlamini	Lukhetseni	Community veteran	M	Community veteran
Masu Dlamini	Maphungwane	CDC	M	CDC
Sipho Mabuzo	Membane	Trust / ENTC (Memb)	M	Trust
Mmamatsala Nthela	Lukhetseni	Trust	M	Trust
Dumisa Vilane	Lukhetseni	Bandlancane/ Community council	M	Bandlancane

Mkhatshane Myeni	Membane	Indvuna Sigodzi	M	Indvuna
Thetha Dlamini	Lukhetseni	Focus Group	M	Focus Group
Phindile Dlamini	Lukhetseni	Farmer	F	Farmer
Phindile Dlamini	Lukhetseni	Trust	F	Trust
Joseph Khosa	Tikhuba	Tikhuba Trust	M	Trust
Alice Shabangu	Maphungwane	CDC	F	CDC
Nomfundo Shiba	Maphungwane	Trust	F	Trust
Busisiwe Matimba	Tikhuba	Trust	F	Trust
Meatile Mamba	Mambane	Focus Group Copse	F	Focus Group
Annie Dlamini	Mambane	Mambane Trust	F	Trust

1. ANNEX 4 Gender and Social Inclusion Assessment and Action Plan

The SEASL proposal commits to reaching 40% women beneficiaries and 30% youth, of whom 50% will be young women. Achieving these targets requires clear operational pathways, effective targeting mechanisms and a structured Gender and Youth Action Plan to ensure meaningful participation and equitable benefit sharing.

The project focuses on the Lubombo and Ngwempisi landscapes, where rural livelihoods depend heavily on climate-sensitive natural resources under customary governance systems and agricultural activities. Women and youth in Eswatini face structural barriers in land access, control over productive resources, financial services, and decision-making authority. Climate change exacerbates these inequalities. At the same time, ecosystem-based adaptation provides strong entry points for economic empowerment, strengthened land-use and resource rights, enhanced climate resilience and transformative leadership opportunities.

1. Background: Gender-specific socio-economic, political, cultural and legal context

Eswatini has a population of approximately 1.2 million people, about 51% of whom are women. Around 75% of the population resides in rural areas, where customary systems shape access to land and resources. While there is near parity in education between women and men, significant gender inequalities persist in access to assets, economic opportunities, and decision-making power. Women contribute an estimated 70–80% of agricultural labour. Their burden is intensified by male out-migration to urban areas. Women consequently shoulder most of the physical farming work, however, men often continue to provide financial inputs and retain control over agricultural income. There are examples where land allocation through chiefdoms does extend to vulnerable groups, including women and youth, however, plots are often located in remote areas, creating barriers to accessing inputs, extension services, and markets. Men continue to dominate land ownership and livestock control, leaving women with limited land rights, reduced control over income, and lower participation in irrigation schemes and governance structures. These challenges are compounded by limited market access and linkages for both women and youth, as well as broader employment constraints, particularly among rural, poorer, and younger women, with one-third of citizens reporting that women's ability to work is restricted by spouses or family members. As a result, a pronounced gap in power and asset control persists, with rural women being more dependent on natural resources and disproportionately exposed to climate-related shocks.

Control over productive resources

Access to and control over land, financial and human capital resources and markets in Eswatini are predominantly shaped by customary tenure systems and patriarchal social norms. Approximately 54% of land is Swazi Nation Land (SNL), held in trust by the King and allocated by chiefs under customary arrangements, while 46% is Title Deed Land (TDL). Most rural households in the target landscapes depend on SNL, where land allocation is mediated through traditional authorities and typically registered in men's names.

Although women can legally own land under statutory law, in practice access is mediated by husbands, fathers or male relatives. Married women generally cannot request land allocation independently. Widows frequently face tenure insecurity, and inheritance practices favour sons. Youth rarely hold independent land rights.

61% of SNL farm holdings are less than one hectare, reflecting high land pressure and fragmentation. Limited land size restricts having enough collateral, which limits access to formal credit and constrains investment for example in climate-resilient technologies or quality inputs.

At the same time women provide more than 60% of agricultural labour, which is intensified due to migration of men in order to find jobs. They are primarily responsible for crop production for household consumption (e.g. maize, legumes), water and fuelwood collection, household care and food preparation. Men on the other hand predominantly control livestock management, commercial agriculture, public decision-making structures and are in charge of the major household income.

Women often cultivate land but do not control its allocation or long-term use rights. Livestock ownership is predominantly male, reinforcing gender disparities in rangeland-related interventions.

On Swazi Nation Land, forest and communal resources are allocated under customary authority. Community forests and woodlots are generally considered communal assets, but control and benefit

distribution are mediated by male-dominated structures and committees. Women and youth often access forest products (fuelwood, reeds, wild foods) but do not control commercial revenues derived from forest resources.

Access to financial resources and other services

While access to bank accounts is relatively similar between men and women in Eswatini, women have more limited access to formal credit and tend to rely on informal savings groups. These constraints are particularly pronounced for female-headed households, who often lack collateral due to insecure land tenure and face greater difficulty accessing loans and productive investments. Youth, especially young women and landless youth, encounter even greater barriers to financial services, driven by limited asset ownership, lack of formal employment, and exclusion from traditional collateral systems. At the same time, agricultural extension services have historically targeted male farmers, particularly livestock owners, resulting in lower outreach to women and youth. These structural inequalities also affect access to new technologies and climate information: women, youth, and poorer households often have more limited access to mobile devices, digital literacy, and network coverage. As a result, without deliberate inclusive design, digital climate advisory and service systems risk reinforcing existing disparities rather than reducing them.

Women's leadership and political participation

Women held 21.6% of parliamentary seats in 2024, below the constitutional target of 30%. While Eswatini has ratified CEDAW and adopted a National Gender Policy (2010), implementation remains constrained by entrenched social norms.

Women remain underrepresented in natural resource committees, chiefdom-level decision-making bodies, landscape governance structures.

Gender-Based Violence

Gender-based violence (GBV) remains a significant and persistent challenge in Eswatini, reflecting deep-rooted structural inequalities that also influence control over land, resources, and decision-making. National data indicate that approximately 48% of women have experienced sexual violence in their lifetime, while 17.7% reported intimate partner violence (IPV) within the past 12 months (2018). More recent data (MICS 2021–2022) show that physical violence is particularly prevalent within intimate relationships, with up to 1 in 2 women reporting abuse by a current or former partner. Rates are highest among ever-married women (66.5%) and formerly married women (71.8%), compared to 36.3% among unmarried women. GBV is also closely associated with socio-economic vulnerability: women with lower educational level and those in poorer households face significantly higher risks of violence. Among adolescents and young women (aged 13–24), sexual violence is the most commonly reported form (8.1%), followed by physical violence (5%), although encouragingly, overall prevalence has declined since 2007, likely reflecting strengthened national GBV prevention efforts.

These patterns are highly relevant in the context of climate change and natural resource management. Climate-induced stressors, such as drought, resource scarcity, and declining livelihoods, can exacerbate intra-household tensions, increasing the risk of economic, emotional, and physical violence, particularly related to control over assets, income, and adaptation benefits. Women's limited control over productive resources within customary systems further heightens their vulnerability, especially where adaptation interventions introduce new assets or income streams. Poor, rural, and female-headed households are particularly at risk of both economic exclusion and GBV, underscoring the need for climate resilience programmes to integrate strong safeguards. This includes gender-responsive design, equitable benefit-sharing mechanisms, and accessible, confidential grievance redress systems with specific provisions for GBV and sexual exploitation, harassment and abuse (SEAH), ensuring that interventions do not inadvertently reinforce existing inequalities or expose women and vulnerable groups to additional harm.

Youth context

In Eswatini, youth aged 15–35 make up approximately 30% of the population, with around 73% living in rural areas, facing persistently high unemployment rates exceeding 45%, particularly among young women. Youth engagement in agriculture remains low due to structural barriers including limited access to land, access to finance and costly inputs, weak market linkages, and limited participation in governance. Agriculture is widely perceived by youth as unprofitable and associated with poverty,

prompting many to seek faster-return opportunities, including outmigration in search of wage employment or, in some cases, engagement in illegal crop production.

These challenges are not uniform across youth groups. Landless youth, young women, and youth living with HIV/AIDS face heightened vulnerabilities. Younger youth (15–25) are particularly asset-constrained, while young women experience compounded disadvantages, including higher HIV risk, early pregnancies, lower economic opportunities, and heavy involvement in unpaid care and household agricultural labour, often with limited independent roles due to lack of land and capital. Young men, by contrast, are more likely to migrate or disengage from agriculture altogether. Across groups, youth frequently operate as casual labourers or assistants within household farming systems, with limited access to formal markets and difficulties obtaining fair prices, further constraining their ability to establish viable, independent livelihoods. Youth are drawn to illegal crops for fast and high returns; youth don't perceive farming as profitable

2. Legal and policy frameworks

Eswatini operates a dual legal system: a common law, based on Roman Dutch law and customary law, which is based on Swazi cultural law. The country consequently has two distinct court systems: the traditional courts and the common law courts.

In Eswatini, a comprehensive legal and policy framework supports gender equality and climate-responsive development. The Constitution of Eswatini guarantees equality before the law, while the Sexual Offences and Domestic Violence Act provides a basis for addressing gender-based violence. The National Gender Policy further commits the government to gender mainstreaming across sectors, supported by Gender Focal Points in key ministries. However, despite these progressive provisions, implementation gaps persist due to entrenched customary norms, limited enforcement capacity, and resource constraints.

Legally, women have the right to own land and property and to enter contracts. In practice, however, customary tenure systems, which are particularly dominant in rural areas such as Lubombo and Ngwempisi, mediate access to land through male relatives and traditional authorities, rendering women's land rights often secondary and insecure. Widows frequently face tenure insecurity, and inheritance practices tend to favour male heirs. Youth, especially young women, rarely hold independent land rights, limiting their ability to invest in agriculture. These constraints are most acute for poorer, rural, and female-headed households, who experience the greatest legal and practical exclusion, while HIV-affected households often also have weaker asset security.

In the climate and development sphere, Eswatini has adopted the National Climate Change Policy and updated its Nationally Determined Contribution (2021), alongside broader national development strategies, all of which recognise the country's high vulnerability to climate change. However, stronger operational integration of gender and youth considerations is required to ensure that adaptation investments equitably benefit women, youth, and other vulnerable groups.

3. Gender and social differences and risks in relation to project activities

Some of the risks around the project activities evolve around customary land tenure, which is mediated by male authorities, male dominance in livestock ownership, youth and women's exclusion from leadership positions and structures managing natural resources, unequal intra-household distribution of labour, risk of elite capture, limited access to resources, knowledge and inputs for women and youth in agriculture and systemic and physical barriers for persons living with disabilities and other vulnerable groups.

Component 1: Evidence Base, Early Warning Capacity, and Adaptive Knowledge

Under Component 1, there are several gender and social inclusion risks that require proactive mitigation. Under Output 1.1, the integrated agroecosystem assessments may remain procedurally rather than substantively inclusive if consultations primarily engage traditional leaders and male farmers, thereby underrepresenting women's informal resource use, youth perspectives, and the needs of female-headed households, persons with disabilities (PWDs), and people living with HIV/AIDS

(PLHIV). Digital knowledge systems and early warning services risk reinforcing the digital divide, as women, poorer households, elderly persons, and some youth may have limited access to mobile devices, connectivity or digital literacy, while advisories may not be delivered in accessible formats for PWDs. As a result, climate information could disproportionately benefit better-resourced and better-connected farmers. Under Output 1.3, knowledge products and monitoring systems may privilege technical or male-dominated perspectives if women's traditional ecological knowledge is not integrated and if data are not disaggregated by sex, age and vulnerability status. Strengthened monitoring and enforcement of natural resource use could unintentionally restrict access for poorer and highly resource-dependent households, particularly women. Finally, without robust gender- and age-sensitive monitoring frameworks, the project risks meeting participation targets numerically without achieving substantive empowerment, equitable benefit-sharing or improved decision-making power for women, youth and other vulnerable groups.

Component 2: Strengthening Multi-Stakeholder Institutional Coordination

Under Component 2, the primary gender and social inclusion risks relate to reinforcing existing power hierarchies within customary and institutional governance systems. Under Outcome 2.1, training-of-trainers modules and institutional capacity-building efforts may disproportionately benefit already established, male-dominated leadership structures, particularly traditional authorities and better-off farmers, if selection criteria are not explicitly inclusive. Women and youth may be included only nominally, without meaningful decision-making authority, thereby reinforcing patriarchal norms in landscape governance. Female-headed households, persons with disabilities and people living with HIV/AIDS may remain excluded from leadership roles due to social stigma, limited mobility or time constraints. Regional observatory learning and exposure opportunities may similarly favour senior male representatives, concentrating knowledge, networks and influence among older men while limiting intergenerational and gender-transformative participation. Without deliberate quotas, transparent representation criteria and leadership support mechanisms, capacity building and leadership training, this component risks strengthening institutional coordination in ways that consolidate existing inequalities in land allocation, resource governance and benefit distribution rather than transforming them.

Component 3: Ecosystems Restoration

Under Component 3, the most significant gender and social inclusion risks arise from unequal access to land, water and productive assets under customary tenure systems. Under Outcome 3.1, rangeland management plans are likely to disproportionately benefit livestock owners, predominantly men, while poorer households, women and youth with limited or no cattle derive fewer gains. Destocking measures or grazing controls may also disproportionately affect poorer livestock holders. Wetlands management and restoration interventions, including fencing or access restrictions, risk limiting women's traditional use of reeds, water and wild foods, potentially constraining subsistence livelihoods unless alternative access arrangements are secured. Similarly, communal woodlot management and control over invasive species may reinforce male dominance over commercially valuable forest products, while restrictions on fuelwood harvesting could increase women's labour burdens.

Under Outcome 3.4 and 3.5, restoration infrastructure such as nurseries, water reservoirs and ponds may be captured by better-resourced farmers or male-dominated committees if governance arrangements are not inclusive and transparent. Nursery employment and restoration activities risk reinforcing gendered labour segmentation, with women concentrated in lower-paid roles and persons with disabilities excluded from physically demanding tasks. Investments in irrigation or water infrastructure may primarily benefit landholders located near water sources, excluding land-poor households and youth without secure plots. Adoption of agroforestry and related technologies may further reinforce land tenure inequalities, as long-term returns accrue mainly to those with recognized land rights, typically men, while women's labour contributions may increase without corresponding control over tree-based income. Without explicit safeguards, benefit-sharing mechanisms and attention to labour implications, this component risks consolidating existing gender, age and wealth disparities in access to ecosystem services and climate-resilient livelihood opportunities.

Component 4: Upscaling Climate-Smart Livelihoods

Under Component 4, key gender and social inclusion risks relate to unequal access to productive assets, finance, markets and decision-making power. Increased commercialization may also intensify women's workload without strengthening their control over income. Resource access restrictions linked to conservation objectives could disproportionately affect poorer, resource-dependent women unless alternative livelihood pathways are secured. Apiary development may favour individuals with land rights

and start-up capital, often men or better-connected youth, potentially excluding young women, land-poor households, persons with disabilities and people living with HIV/AIDS unless inclusive targeting and tailored support are embedded.

Under Outcome 4.2, promotion of drought-tolerant crops and climate-smart technologies may be more readily adopted by wealthier farmers with capital, irrigation access or extension linkages, reinforcing existing inequalities. Women farmers may face barriers to accessing improved seeds, inputs and advisory services, while increased productivity could inadvertently raise women's unpaid labour burdens if labour-saving technologies are not integrated.

Under Outcome 4.4 capacity-building for value addition may similarly exclude women constrained by care responsibilities and persons with disabilities if training modalities are not accessible. Additionally access to finance is still a challenge for women and youth or trainings or capacity building interventions might target more advanced entrepreneurs. Without explicit inclusion criteria, gender-responsive enterprise support and equitable market linkage strategies, this component risks consolidating existing disparities in income generation, market participation and control over productive benefits derived from ecosystem-based adaptation investments.

4. Gender and social differentiated impacts of climate change

Eswatini is highly vulnerable to recurrent droughts, erratic rainfall, land degradation and flooding, particularly in the Lowveld, with cascading impacts on water availability, agricultural productivity, ecosystems, infrastructure and human health. These climate risks have differentiated social impacts shaped by gender, age and socio-economic status. Rural women are disproportionately affected due to their primary responsibility for subsistence agriculture, water and fuelwood collection, and household food security. Drought and water scarcity increase women's unpaid labour burden, extend time spent collecting water, reduce crop yields and heighten food insecurity, particularly among female-headed households that often have lower livestock ownership and limited adaptive capital. Women's constrained access to land rights, financial services, education and climate information further limits their capacity to adopt climate-smart practices or recover from climate-induced shocks. Climate variability also exacerbates indoor air pollution risks and reduces income derived from small-scale agricultural production, thereby deepening economic vulnerability. Young women face compounded risks due to high unemployment, limited asset ownership and elevated HIV prevalence, while youth more broadly confront declining agricultural viability and heightened livelihood insecurity, contributing to migration pressures and social instability. Men are particularly affected through livestock losses and climate-related out-migration, which in turn increases the care and productive burdens on women. People living with HIV, persons with disabilities and the rural poor experience heightened vulnerability as climate shocks disrupt access to food, water and health services. Overall, climate stress interacts with existing structural inequalities, exacerbating poverty and reinforcing gender and generational disparities in adaptive capacity across the Lubombo and Ngwempisi landscapes.

5. Gendered division of labour

Women primarily manage crop production, water and fuelwood collection, and household care. Men focus on livestock and commercial agriculture.

Ecosystem restoration activities such as tree planting and wetland fencing risk increasing women's workload if not carefully designed. However, nursery management, agroforestry and value addition activities offer opportunities for women's income diversification if supported by equitable benefit-sharing arrangements and women's labour-saving technologies.

6. Gender and age-based power structures

Decision-making structures in Eswatini, particularly at chiefdom and community levels, are predominantly male-dominated and rooted in customary governance systems. Land allocation, resource management and conflict resolution on Swazi Nation Land are administered through chiefs and inner councils, which are traditionally composed of men. As a result, authority over land use, grazing arrangements, water access and communal forests is largely concentrated in male leadership

structures. Women, although central to agricultural production and natural resource use, often participate indirectly or through male relatives and have limited formal influence over strategic decisions affecting land and ecosystem governance.

Women's representation at the national level, at approximately 21% in parliament, reflects this broader structural exclusion and falls below the constitutional aspiration of 30%. While policy frameworks promote gender equality, entrenched social norms continue to limit women's participation in public leadership and decision-making roles. At the household level, men frequently retain authority over major economic decisions, including the sale of livestock and control over income, even where women contribute substantially to agricultural labour.

Age-based hierarchies further shape participation dynamics. Younger women and men are generally expected to defer to elders in public forums, limiting their voice in chieftdom meetings, natural resource committees and landscape associations. Youth representation in governance structures is often informal or tokenistic, with limited decision-making power. Young women face compounded barriers linked to both age and gender, restricting their mobility, access to assets and public engagement. These gendered and generational power asymmetries are particularly relevant for SEASL, as ecosystem-based adaptation investments and resource governance reforms may unintentionally reinforce existing hierarchies unless deliberate measures are taken to ensure meaningful participation, representation quotas, leadership development and intergenerational dialogue mechanisms.

7. Indigenous Peoples

Based on available demographic and legal frameworks, there are no officially recognised Indigenous Peoples in Eswatini under IFAD's Indigenous Peoples Policy or UNDRIP definitions. The population is predominantly Swazi, including in Lubombo and Ngwempisi. Minority ethnic communities exist but are not formally recognised as distinct Indigenous Peoples under international standards.

8. Persons with disabilities and other vulnerable groups

Eswatini has one of the highest HIV prevalence rates globally, with adult prevalence estimated at approximately 27% and significantly higher rates among women, particularly adolescent girls and young women. HIV intersects directly with climate vulnerability by reducing physical resilience, constraining household labour availability and increasing exposure to food insecurity during climate shocks such as droughts and flooding. Stigma and discrimination may further limit participation in community decision-making and access to livelihood opportunities. Female-headed households affected by HIV often face compounded burdens, including increased caregiving responsibilities, reduced productive labour, heightened economic vulnerability and, in some cases, weakened tenure security under customary land systems. These intersecting vulnerabilities can limit their capacity to adopt climate-smart technologies or participate fully in ecosystem-based adaptation initiatives.

Similarly, persons with disabilities encounter systemic, attitudinal and environmental barriers that restrict their engagement in agriculture and related value chains. Agricultural tools, restoration activities, infrastructure and training venues are frequently not designed with accessibility considerations, limiting participation in project-supported interventions. To ensure equitable inclusion, the project will need to incorporate accessible training formats and venues, promote adapted agricultural tools and technologies, ensure inclusive early-warning and information systems, facilitate meaningful representation of persons with disabilities in governance structures, and establish confidential and stigma-sensitive targeting mechanisms for HIV-affected households. These measures are critical to prevent further marginalization and to strengthen the adaptive capacity of the most vulnerable groups within the target landscapes.

9. Gender and Youth Sensitive Consultations: 18th & 19th of February 2026

During consultations the following elements were raised:

- Limited and inequitable access to land: While chiefdoms allocate land to women and youth, plots are often located in remote areas, creating barriers to access, production, and extension services and inputs.

- Weak market access and low profitability: Women and youth face significant constraints in accessing formal markets and securing fair prices, reducing incentives to engage in agriculture.
- High incidence of crop theft: Theft undermines agricultural viability, particularly for small-scale and vulnerable producers, discouraging investment in farming.
- Gendered labour and control imbalances: Women constitute the majority of the agricultural labour force (estimated 80%) due to male outmigration, yet men often retain control over financial inputs and income from production.
- Low youth engagement in agriculture: Youth participation is limited (estimated 20%), with agriculture perceived as unprofitable and unattractive compared to alternative income sources with fast and high returns.
- Shift toward illegal livelihood activities: Youth engagement in illegal crop production (e.g. cannabis) is driven by the availability of quick and higher financial returns compared to traditional agriculture.
- Financial barriers to entry: Limited access to finance and start-up capital significantly constrains youth participation in farming and agribusiness.
- Collapse of past communal farming initiatives: Previous models (e.g. NERCHA-supported communal fields) failed due to weak governance, interpersonal conflicts, and poor targeting (e.g. inputs allocated to individuals unable to utilise them), leaving assets underutilised.
- Inadequate social protection and targeting mechanisms: There is a need for stronger safety nets and more inclusive, transparent approaches to supporting vulnerable groups in agriculture.
- Insufficient access to productive resources and infrastructure (youth): Youth identified key gaps in water access (for gardening and poultry), fencing, start-up funding, and access to high-value, quick-return value chains.
- Capacity and business skills gaps (youth): Limited access to business planning, enterprise development, and incubation support restricts youth's ability to engage in viable agribusiness.
- Livestock production constraints (women): Women face challenges in accessing fencing for livestock management, limited livestock-related skills, and long distances to grazing areas.
- Rangeland access and conflict issues: Women experience conflicts with private landowners over access to grazing land, further constraining livestock-based livelihoods.

Community consultations highlighted the following priority actions to enhance meaningful and sustained youth participation in the project:

- Demonstrate agricultural viability: Organise exposure visits and targeted capacity building to showcase profitable farming models and shift perceptions of agriculture as a low-return activity.
- Promote structured access to land for youth: Adapt and improve previous communal farming models (e.g. NERCHA approach) by allocating plots to youth, while ensuring stronger governance, accountability, and long-term sustainability.
- Integrate life and business skills development: Incorporate approaches similar to the IFAD-supported GASi programme, combining agricultural training with life skills, goal setting, and farm/business planning.
- Leverage digital platforms for youth engagement: Support farmer networking, peer learning, and information sharing through digital tools, coupled with group-based approaches and capacity building to ensure accessibility and uptake.
- Prioritise high-value, climate-resilient enterprises: Promote youth engagement in profitable and fast-return activities such as agroforestry (including avocado production), baby vegetables, and frost-tolerant crops to provide viable alternatives to informal or illegal income sources.

10. Opportunities to address women and youth's needs through SEASL

SEASL offers multiple entry opportunities for youth, women and other vulnerable groups. Specific, transparent and inclusive targeting criteria will have to be applied prioritising female-headed

households, landless youth, and highly vulnerable groups, with tailored support packages reflecting diverse needs and constraints, offering graduation pathways to empower women and youth sustainably.

For Women (including female-headed households and poorer rural women)

- Promote women-led agroforestry (including nutritious, drought-tolerant and multi-purpose species), nurseries, and community seed systems, ensuring secure use rights, proximity to homesteads, and prioritised access for female-headed households.
- Prioritise women's access to water harvesting infrastructure, small-scale irrigation, energy-saving technologies, and climate-smart inputs, reducing labour burdens and increasing productivity.
- Support women's participation in food processing, non-timber forest products, beekeeping, and other value-added activities, with pre-established market linkages and mechanisms to strengthen women's control over income (e.g. direct payments, women-led cooperatives).
- Increase women's representation and decision-making power in Natural Resource Management Committees (NRMCS), Landscape Associations, and value chain platforms, combined with leadership, negotiation and governance training.
- Apply tools such as Gender Action Learning Systems (GALS) to strengthen intra-household decision-making, joint planning, and equitable benefit sharing.
- Improve women's access to land (including negotiated use rights), extension services, climate information, financial services, and climate-smart technologies, addressing systemic barriers.
- Integrate gender-responsive grievance redress mechanisms (GRM), GBV/SEAH awareness, and referral pathways to ensure safe participation and benefit from project activities.

For Youth (including landless youth, young women, and youth living with HIV/AIDS)

- Establish structured incubation programmes in beekeeping, agroforestry, invasive species (IAPS) management, and other green enterprises, combining technical training, business development, mentorship, start-up kits, and guaranteed market linkages.
- Facilitate youth access to land through group-based production models, leasing arrangements, use of communal/chiefdom land, and intergenerational land-sharing agreements, with targeted support for landless youth.
- Provide tailored training in climate-smart agriculture, agroforestry, digital agriculture, and entrepreneurship, differentiating support for start-ups, semi-commercial youth, and highly vulnerable groups.
- Link youth to savings groups, youth enterprise funds, performance-based grants (e.g. EYEOP), and input packages, reducing entry barriers to agribusiness.
- Prioritise youth engagement in profitable and fast-return enterprises (e.g. horticulture, agroforestry products, beekeeping, processing/value addition) to provide viable alternatives to informal or illicit activities.
- Engage youth as digital extension agents and intermediaries for climate information and early warning systems, creating employment while strengthening last-mile service delivery.
- Facilitate exchange visits, demonstration sites, and peer learning platforms to showcase profitable farming models and shift perceptions of agriculture.
- Ensure youth representation and active roles in landscape governance structures, producer organisations, and value chain platforms.
- Provide flexible participation modalities for young women, and link youth living with HIV/AIDS to integrated livelihood and support services.

For other vulnerable groups

- Female-headed households: Targeted support through labour-saving technologies, proximity-based production systems, and income stabilisation measures.
- People living with HIV/AIDS: Reduced labour burden through adapted technologies and crops, and strengthened access to nutrition-sensitive and climate-resilient livelihoods.

- Persons with disabilities: Ensure accessible infrastructure, adapted tools, inclusive training approaches, and participation in planning and decision-making processes.

Cross-cutting and integrated approaches

- Ensure women and youth are recognised as resource users, asset holders, and decision-makers in land, water, and ecosystem governance—not only as beneficiaries.
- Link climate-resilient production systems with improved nutrition outcomes (e.g. indigenous crops, diversified diets) and income generation, particularly targeting women and vulnerable households.
- Position youth as key actors in ecosystem restoration (e.g. IAPS clearing, nurseries, agroforestry) and green enterprise development, creating sustainable alternatives to unsustainable or illicit livelihoods.

11. Inclusive and regular consultations and closed feedback loops

Regular, inclusive consultations and continuous feedback loops are essential to ensure that project design and implementation remain responsive to the evolving needs of women, youth, and other vulnerable sub-groups, including female-headed households, persons with disabilities, and HIV-affected communities. Establishing structured, periodic engagement mechanisms, at times and locations accessible to all groups, will help capture differentiated experiences, address barriers in real time, and strengthen accountability. This should be complemented by a gender-responsive and accessible Grievance Redress Mechanism (GRM), with confidential and survivor-centred reporting channels for gender-based violence (GBV) and sexual harassment/exploitation and abuse (SHEA). Such a GRM must be widely communicated, culturally appropriate, and safe to use for all community members, ensuring that concerns can be raised without fear of stigma or retaliation, thereby reinforcing trust, inclusion, and equitable project outcomes.

12. Monitoring & evaluation

The project shall adopt a gender- and youth-responsive Monitoring, Evaluation and Learning (MEL) framework to systematically track progress, outcomes, and impacts across diverse beneficiary groups. The MEL system will go beyond standard sex- and age-disaggregated data to incorporate an intersectional approach, capturing differentiated outcomes for sub-groups including female-headed households, young women and men, landless youth, persons with disabilities, and HIV-affected households. This will ensure that the project responds to the distinct needs, constraints, and opportunities of different population groups within the target landscapes.

Monitoring should focus not only on participation and access to services, but also on changes in agency, decision-making power, and control over resources. Key indicators will therefore track: (i) women's and youth's access to and control over productive assets (land, water, livestock, inputs); (ii) participation and leadership in community governance structures; (iii) uptake of climate-resilient practices and use of climate information services; (iv) income diversification and stability, particularly in response to climate shocks; and (v) reductions in unpaid labour burdens, particularly for women. Where feasible, indicators will also assess the sustainability of youth-led enterprises and livelihood activities over time.

A participatory monitoring approach should be encouraged to strengthen ownership, accountability, and learning. Community-based monitoring mechanisms, with meaningful representation of women and youth, will be established or strengthened to track the distribution of project benefits, identify emerging challenges, and inform adaptive management. Tools such as community scorecards, beneficiary feedback sessions, and periodic reflection workshops will be used to ensure continuous learning and course correction.

The project will also monitor potential risks and unintended negative impacts, including elite capture of benefits, increased labour burdens on women, exclusion of youth from profitable value chains, and risks related to gender-based violence (GBV) and sexual exploitation and abuse (SEA). Data from the Grievance Redress Mechanism (GRM) will be systematically analysed to inform mitigation measures and strengthen accountability.

The MEL framework shall include structured learning processes, including annual gender and youth reviews, to document lessons, identify good practices, and inform scaling and policy engagement.

Findings will be used to continuously refine targeting, delivery mechanisms, and activity design, ensuring that the project remains responsive to the evolving climate and socio-economic context.

58. Gender and Social Inclusion Action Plan

Project overarching					
Activities	Indicators	Targets	Timeline	Responsibilities	Costs USD
Recruit dedicated Gender & Social Inclusion Officer within PMU	Officer recruited and operational	1 full-time specialist	Within first 3 months	PMU / FAO	180,000 (for 5 years)
Establish and operationalise a gender-responsive GRM with confidential GBV/SHEA reporting channels, including survivor-centred response protocols, referral pathways, and monitoring of cases and resolution timelines	GRM operational and publicized	At least 3 confidential reporting channels	Within first 6 months	PMU	
GBV/SHEA sensitization training for implementing partners and support in developing robust policies and procedures	% partners trained	100% partners trained annually	Annually	Gender & Social Inclusion officer at PMU	Included in ESMP
Capacity building on gender, women's empowerment and social inclusion	# capacity building sessions	100% of partners, stakeholders and PMU trained	Within first 6 – 12 months	Gender & Social Inclusion officer at PMU / FAO	10,000
Develop and implement Gender- and Youth-responsive MEL framework (aligned with project logframe)	Operational MEL framework Track transformative indicators beyond participation, including: decision-making power, control over income, asset ownership, enterprise sustainability, and reduction in unpaid labour % women/youth in leadership with real decision-making roles Reduction in unpaid labour (hours/day) % youth enterprises sustained after 2+ years % women controlling income from enterprises	Framework in place Year 1	Year 1	PMU / FAO	
Support revision of CDC, NRMCA, and Landscape Association		# governance bodies with revised bylaws			

bylaws to institutionalize ≥40% women and ≥30% youth representation, decision-making authority, and leadership roles					
Develop and enforce guidelines ensuring women's and youth's ownership and control over productive assets and income (e.g. cooperative constitutions, direct payment systems)		% women and youth controlling income			15,000
Apply Free, Prior and Informed Consent (FPIC) procedures for all land-use and restoration interventions		FPIC applied in all sites			

Component 1: Evidence Base, Early Warning Capacity, and Adaptive Knowledge

Participatory gender sensitive capacity development and knowledge management

Outcome 1: Communities and institutions have the evidence base, early warning capacity, and adaptive knowledge to make informed decisions about climate-resilient land and ecosystem management.

Output 1.1: Integrated Agroecosystem & Climate Vulnerability Assessment and Baseline

Output 1.2: Climate Information & Early Warning Systems Integrated with Indigenous Knowledge

Output 1.3: Digital Knowledge Management, Agriculture Information Sharing & Knowledge Products

Output 1.4: Community Training Curriculum for Operation & Maintenance

Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
Output 1.1. Integrated Agroecosystem & Climate Vulnerability Assessment and Baseline					
1.1.1 & 1.1.2. Inclusive agroecosystem assessment and ecosystem mapping and updated vulnerability baseline	Ensure gender- and youth- balanced consultation teams; separate focus groups for women, youth and PWDs; include vulnerability analysis for other vulnerability criteria ensuring an intersectional vulnerability assessment considering young women, PWDs, PLWHIV/AIDS, female headed households etc. Capturing access and control over assets and income Mapping land access constraints such as location, tenure type and usability as well	≥50% women consulted; youth sub-groups mapped; disability inclusion analysis integrated, vulnerability profiles produced for at least 5 sub-groups	Year 1	PMU + Consultants	
1.1.5	Conduct participatory intra-household analysis (e.g. access/control over resources/income, labour division, decision-making) to inform equitable benefit design	#intrahousehold surveys conducted; findings integrated into targeting criteria	Annually	PMU + Consultants	40,000

	Use findings to inform targeting criteria and benefit distribution mechanisms				
	Conduct baseline, mid-line and endline time-use surveys to measure unpaid labour burdens of women and youth	% reduction in time burden	3 times	PMU + consultants	Included in MEL budget
Output 1.2 Climate Information & Early Warning Systems Integrated with Indigenous					
1.2 Early warning systems	Strengthen inclusive early warning systems ensuring accessibility for women, youth, PWDs and low-literacy groups through SMS, radio, and community dissemination channels Establish women- and youth-led EWS dissemination groups at community level and conduct participatory design workshops Develop tailored training modules for low-literacy and first-time users, and train youth as EWS technicians and managers Establish women- and youth-led EWS dissemination group	70% women report access to advisories ≥50% of dissemination roles held by women/youth #modules developed ≥30% youth trained	Years 1–4	PMU & Technical Partner	15,000
Output 1.3 Digital Knowledge Management, Agriculture Information Sharing & Knowledge Products					
1.3.2 Community-based monitoring systems	Establish inclusive community-based natural resource monitoring systems with quotas for women and youth and decision-making roles for women and youth	≥40% youth; ≥50% women in monitoring committees % of leadership roles youth and women	Years 2–5	Landscape Committees & PMU	
1.3.7 Knowledge products	Produce simplified, local-language, audio-visuals and highlight women and youth as climate champions and tailor to different groups (young women entrepreneurs, livestock-owning men, land-poor youth, etc.). Include nutrition messaging (recipes, indigenous foods, climate-resilient diets)	≥50% case studies feature women/youth nutrition content integrated	Years 2–5	KM Specialist, Gender & SI specialist at PMU	30,000
1.3.8 Exchange visits	Organize exchange visits and peer learning with focus on youth and women, including exposure to profitable enterprises	# of exchange visits conducted; participation disaggregated	Years 2–5	KM Specialist, Gender & SI specialist at PMU	50,000
Output 1.4 Community Training Curriculum for Operation & Maintenance					
1.4.3.	Organize women and youth leadership trainings, negotiation skills to encourage	# trained; % assuming leadership roles	Years 1–3	PMU	100,000

	women/youth participation in Landscape Associations and other coordination platforms Trainings addressing social norms and barriers, such as GALS				
	Provide childcare support, flexible schedules, and accessible venues to enable participation of women and vulnerable groups	#of trainings incorporating flexible schedules and providing childcare support			40,000
1.4.5 Community ambassadors	Train and support women and youth as community climate adaptation ambassadors, including provision of incentives to sustain engagement	% ambassadors who are women/youth; retention rate	Years 1–5	PMU	80,000
Component 2: Multi-Stakeholder Coordination Outcome 2: Landscape-level multi-stakeholder coordination will be functional, enabling strategic, integrated agroecosystem management at chiefdom and community levels, with explicit mandates for wildfire management, drought response, water allocation and post-hail protocols. Output 2.1: Institutional Capacity Building including inclusive management and promotion of women and youth in leadership positions for LA Associations, Chiefdom development Committees (CDC's) and Natural Resources Management Committees (NRMCM) Output 2.2: Coordination Arrangements with Wildfire, Post-Hail & Drought Response Protocols					
Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
Output 2.1: Institutional Capacity Building for LA Associations, CDCs & NRMCMs					
2.1.1 Institutional capacity building	Introduce quotas in land management committees through bylaw reform Combine with women and youth leadership trainings Women and youth in formal roles in wildfire, drought and water governance systems	≥40% women; ≥20% youth in committees % of women and youth in formal roles	Years 1–5	Chiefdom + PMU	
Component 3: Ecosystem Restoration Output 3.1: Rangeland Management Output 3.2: Wetland Fencing & Restoration at Scale Output 3.3: Communal Woodlot Management, Soil Erosion Control & IAPS Control Output 3.4: Nurseries with Hail-Protective Structures & Business Plans Output 3.5: Water Harvesting Infrastructure (Foundational Enabler) Output 3.6: Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives					
Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
Output 3.1 Rangeland Management					
3.1.3 Rangeland plans	Prioritize women livestock keepers; address tenure security concerns by including quotas in rangeland committees, and ensuring inclusion in written by-laws within rangeland management plans recognizing, Women's grazing rights, Youth-managed herds	Women livestock keepers represented in 100% of plans	Years 2–4	Technical Team	
Output 3.2 Wetland Fencing & Restoration at Scale					

3.2.2 Wetland restoration	Conduct gender-sensitive water needs assessments and design water access solutions benefiting women and youth, especially near homesteads	Inclusion of vulnerable groups in all assessments % of women and youth benefitting from access to solutions	Years 2–5	Contractors + PMU	
	Apply FPIC and participatory consent processes before wetland fencing and access restrictions				
3.2.3 Wetlands plans	Develop inclusive wetland management plans with labour-saving measures and equitable benefit-sharing	60% women participation	Years 2–4	Landscape Teams	
Output 3.3: Communal Woodlot Management, Soil Erosion Control & IAPS Control					
3.3.3 Woodlot plans	Develop inclusive woodlot and IAPS management plans and link to alternative livelihood opportunities for women and youth	50% women representation	Years 2–4	PMU	
3.3.8. Community training on IAPS	Train communities on IAPS control through inclusive employment models ensuring equal pay, safe working conditions, and youth/women leadership roles	≥50% women; ≥30% youth participation	Years 2–5	PMU	
Output 3.4: Nurseries with Hail-Protective Structures & Business Plans					
3.4. Nurseries	Establish women & youth-led nurseries; Train youth and persons with disabilities to be included Ensure women and youth are also co-owners and manager of the nurseries Include roles accessible to PWD	4 nurseries; 60% youth employed; 50% women # of PWD employed	Years 2–5	PMU & Implementing Partner	90,000
Output 3.5: Water Harvesting Infrastructure (Foundational Enabler)					
3.5.3 Water harvesting solutions	Prioritize female-headed households, land-poor youth, and vulnerable households in allocation of water harvest infrastructure, ensuring the infrastructure benefits women and saves labour for women, especially young women Track reduction in time spent collecting water by women and girls (labour-saving impact indicator)	% of beneficiaries from target groups Hours saved	Years 2–5	PMU	
Output 3.6: Agroforestry with Climate-Appropriate Species as High-Value Youth Alternatives					
3.6. Agroforestry	Agroforestry plots for women/youth, ensuring youth and women have secure rights over trees and derived income	500 women; 300 youth beneficiaries	Years 2–5	PMU & Extension Services	85,000

	Include fruit/nut trees and small-scale processing for income diversification for women and youth				
3.6.6	Develop youth agroforestry incubation pathways: site allocation (through negotiated access arrangements (e.g. group-based plots, leasing agreements, use of communal or chieftdom land, and intergenerational land-sharing models) + training + starter kits + guaranteed HGSF buyers before scale-up, channeled through EYEOP's Imakhete registry, with specific quotas and tailored support for young women and land-poor youth.	# youth enterprises established; % young women	Years 2–5	PMU	150,000

Component 4: Climate-Smart Livelihoods

Outcome 4: Vulnerable communities will have diversified, climate-resilient income streams and reduced food insecurity, with improved market access sustaining gains beyond project life, with markets secured and capacity built before production is promoted, and livelihoods explicitly framed as drought-resilient income diversification.

Output 4.1: Beekeeping Value Chain with Training, Equipment & Secured Market Contracts

Output 4.2: Drought-Tolerant Indigenous Varieties & Seed Multiplication Systems

Output 4.3: Climate-Smart Agriculture Technologies Scaled

Output 4.4: Value Chain Platforms & Formal Market Linkages Before Production

Output 4.5: Value Addition & Traceability Programmes

Sub-component	Activities	Indicators/targets	Timeline	Responsibilities	Costs
4.2.2 Switch to CSA	Youth climate innovation grants; revolving youth enterprise fund linkages	300 youth supported; 40% young women	Years 2–5	PMU	300,000

Output 4.1: Beekeeping Value Chain with Training, Equipment & Secured Market Contracts

4.1.1 & 4.1.2 Apiary sites	Establish youth and women apiary cooperatives, include a dedicated youth and women training track focused on business development, enterprise management, and cooperative formation with adapted modules for first-time entrepreneurs;	200 youth; 150 women supported	Years 2–5	PMU	185,000
4.1.7 Youth beekeepers	Establish youth beekeeping enterprise incubation pathways, including group-based apiary models, tailored technical and business training, mentorship from experienced beekeepers, and AF-financed start-up support (kits, initial inputs), with phased graduation toward independent enterprises; where available, facilitate voluntary referral to existing national financial services and enterprise funds as complementary support that is not	# youth enterprises established and sustained	Years 2–5	PMU	120,000

	required for achievement of SEASL results.				
Output 4.2: Drought-Tolerant Indigenous Varieties & Seed Multiplication Systems					
	Promote seed systems recognizing women and youth as custodians, integrating nutrition education and diverse diets	% women/youth seed custodians; nutrition awareness improved	Years 2–5	PMU	
Output 4.3: Climate-Smart Agriculture Technologies Scaled					
	Support youth innovation grants and enterprise financing mechanisms linked to climate-smart agriculture	300 youth supported; ≥40% young women	Years 2–5	PMU	
Output 4.4: Value Chain Platforms & Formal Market Linkages Before Production					
4.4 Value chain platform	Women & youth representation in platform governance				
	Select women and youth owned agroecosystems businesses	≥40% women; ≥30% youth	Years 2–5	PMU and implementation partner	
	Train youth entrepreneurs on niche opportunities for agroecosystems businesses				
4.4.4	Train youth and women on business planning focusing on processing and other value chain nodes, channeling youth through EYEOP's Imakhete registry. Tailor business training for different youth segments (start-ups vs. semi-commercial farmers and different vulnerability criteria of youth)	# trained; improved market access	Years 2–5	PMU	120,000
Output 4.5: Value Addition & Traceability Programmes					
4.5. Value addition training	Provide entrepreneurship, financial literacy and value addition training, including storage and processing technologies	600 women; 400 youth trained	Years 2–5	Business Development Partner & PMU	180,000

1. ANNEX 3: Environmental and Social Risks Management Plan

1. Introduction and purpose

This Environmental and Social Management Plan (ESMP) sets out how environmental and social (E&S) risks and impacts of the SEASL project will be avoided, minimized, mitigated, monitored and managed throughout the project life. It operationalizes the E&S screening presented in Part II.E and Part II.K of the proposal and constitutes the project's principal safeguards management instrument under the Adaptation Fund (AF) Environmental and Social Policy (ESP).

The ESMP is designed to satisfy three concurrent frameworks operating as a single integrated management system: (i) the AF ESP and Gender Policy; (ii) IFAD's Social, Environmental and Climate Assessment Procedures (SECAP); and (iii) Eswatini's national environmental legal framework, principally the Environment Management Act (EMA) 2002 and the Environmental Assessment Regulations 2022 administered by the Eswatini Environment Authority (EEA).

Scope. Because several SEASL sites (wetland fencing locations, nurseries, water-harvesting infrastructure, grazing infrastructure and aggregation/storage facilities) are community-demand-driven and will be selected during implementation, these ESMP functions both as a fixed management plan for known risks and as a management framework for unidentified sub-projects (USPs). Section 8 sets out the mandatory site-specific screening and assessment procedure that governs every site selected after approval.

Core sequencing principles

- No physical work, vegetation clearance, land disturbance, water abstraction or procurement of physical inputs may commence at any site until (a) site-specific E&S screening is completed and (b) all environmental authorizations required by the EEA and the Department of Water Affairs (DoWA) have been obtained.
- Inputs follow training and works follow clearances: site-specific ESMP/mitigation measures are conditions precedent to disbursement at activity level.

2. Policy, legal and institutional basis

The ESMP is anchored in the following instruments:

- **Adaptation Fund ESP and Gender Policy** - screening against the 15 ESP principles, Category B management requirements, grievance redress, monitoring and disclosure obligations.
- **IFAD SECAP** - moderate-risk classification, Environmental and Social Review Note (ESRN), ESMP, and supervision through IFAD missions and the Project Performance Report (PPR).
- **National framework** - EMA 2002 and Environmental Assessment Regulations 2022 (Project Brief / IEE / EIA pathway and Environmental Compliance Certificate, ECC); Water Act 2003 (water-use authorization, DoWA); Pesticides Management Act 2017; Plant Health Protection Act 2020; Seeds and Plant Varieties Act 2000; Forestry Act and Policy; NBSAP, NDC and the Land Degradation Neutrality framework.

3. Project description and risk-bearing activities

SEASL is structured in four components. The E&S risk profile is concentrated on the physical interventions of Components 3 and 4; Components 1 and 2 carry primarily social inclusion and safeguarding risks. The risk-bearing outputs are summarized below.

Table 53 Risk-bearing outputs and physical footprint

Output	Intervention	Indicative footprint / nature
1.1	Rangeland management; grazing infrastructure (kraals, firebreaks, paddock fencing, livestock corridors)	8,500 ha communal rangeland under management

Output	Intervention	Indicative footprint / nature
1.2	Wetland fencing and riparian restoration	1,200 ha degraded wetland (environmentally sensitive areas)
1.3	Communal woodlots; soil-erosion control earthworks; IAPS control (manual / mechanical / chemical)	Part of 2,300 ha tree cover; localized earthworks; controlled herbicide use
1.4	Plant nurseries with hail-protective structures	Permanent / semi-permanent small structures, multiple sites
1.5	Water-harvesting infrastructure (ferro-cement tanks, community reservoirs, livestock water points, reticulation)	Small civil works on or near water bodies
1.6	Agroforestry with climate-appropriate indigenous species	Planting on existing farmland / degraded land
1.7	Climate-smart agriculture (drip irrigation conversion, no-till, shade nets)	On-farm water abstraction at household / small-group scale
1.8	Value addition, traceability and aggregation/storage centres	Construction or renovation of small permanent structures

4. Environmental and social risk categorization

Overall classification: Category B - Moderate. No SEASL activity is expected to cause significant, large-scale, irreversible or unprecedented adverse E&S impacts. All identified potential risks are site-specific, predictable, and manageable through standard, proven mitigation measures applied through this ESMP. The category is reaffirmed at every site through the screening procedure in Section 8; should any site screening return a higher risk, the activity is escalated to the EEA for full Environmental Impact Assessment (EIA) and reported to IFAD before any works proceed.

5. Screening against the 15 AF ESP principles

The table below records the residual risk rating against each of the 15 ESP principles, the underlying risk driver, and the management instrument carried into the risk register (Section 7) and budget (Section 14).

Table 54. Screening of SEASL against the 15 AF ESP principles

AF ESP Principle	Rating	Key risk driver	Management instrument
1. Compliance with the Law	Not triggered	National permits required (EIA/IEE, ECC, water-use)	Compliance schedule (Part II.E); PSC oversight by EEA/MNRE; Section 8 procedure
2. Access and Equity	Low	Elite capture in beneficiary selection	SAPEMP-aligned vulnerability criteria; transparent, validated selection; GRM
3. Marginalized and Vulnerable Groups	Low	Exclusion of low-literacy, HIV-affected, PWD, female-headed households	Targeting protocols; icon-based and community-radio formats; GAP; GRM
4. Human Rights	Not triggered	Non-consent on community activities	FPIC for all Swazi Nation Land (SNL) activities; multi-tier GRM
5. Gender Equality and Women's Empowerment	Low	Unequal participation; GBV/SEA-SH near infrastructure	GBV-sensitive siting; ≥40% women leadership quotas; SEA/SH protocol; GAP; women-accessible GRM
6. Core Labour Rights	Moderate	Contracted labour (construction, restoration, IAPS clearing)	ILO core-labour and Eswatini labour-law clauses in all contracts; Worker Code of Conduct (3C); OHS; worker GRM
7. Indigenous Peoples	Not triggered	No indigenous peoples (as defined under ESP) present	FPIC and customary-authority engagement on all SNL activities
8. Involuntary Resettlement	Low	Excluded by design	Explicit exclusion clause (Section 6); reaffirmed at every site
9. Protection of Natural Habitats	Moderate	Restoration in habitats of conservation value (Maputaland-Albany hotspot); potential tree cutting	Site-specific habitat screening; NBSAP alignment; ENTC consultation; Community Forest Management Groups with harvesting/benefit-sharing rules
10. Conservation of Biological Diversity	Not triggered	Introduction of non-native / invasive species via nurseries / agroforestry	All species cleared against IAPS register pre-procurement; ENTC review; nursery biosecurity

AF ESP Principle	Rating	Key risk driver	Management instrument
11. Climate Change	Moderate	Infrastructure exposed to drought, hail, flood, heat	Climate-proofed design specs; no flood-zone siting; hail-protective structures
12. Pollution Prevention and Resource Efficiency	Moderate	Pesticide/herbicide use; IAPS biomass disposal	IPM-first policy; registered products only; Pesticide Use Plan; responsible IAPS disposal
13. Public Health	Low	Water-borne disease around restored wetlands and water points	Site-specific health screening; community hygiene training; livestock-watering separation
14. Physical and Cultural Heritage	Moderate	Disturbance of cultural sites/graves on SNL	Chance-Find Procedure (3B) in all civil-works contracts; consultation with traditional authorities
15. Lands and Soil Conservation	Low	Soil disturbance during construction and IAPS removal	Soil-erosion controls; mechanical IAPS removal limited to non-sensitive sites; post-construction monitoring

6. Activities excluded ex-ante

Activities capable of triggering high-risk ESP categories are excluded by design and at every site screening. The project will not:

- involve involuntary physical or economic resettlement;
- construct large dams or large-scale irrigation schemes;
- introduce non-native or invasive species;
- operate in legally protected areas without prior MTEA/EEA authorization and FPIC;
- procure or use agro-chemicals prohibited under the Stockholm or Rotterdam Conventions;
- undertake activities incompatible with customary tenure on Swazi Nation Land; or
- undertake any activity on land subject to unresolved tenure disputes.

7. Output-level E&S risk register and mitigation plan

The register below is the operational core of the ESMP. Each entry links a residual risk to its mitigation/management measure, a monitoring indicator with means of verification, the responsible party, the timing trigger, and the cost reference in the ESMP budget (Section 14). Mitigation measures are conditions precedent to disbursement at activity level.

Table 55. SEASL E&S risk register and mitigation plan

Ref / Output	E&S risk or impact	Mitigation / management measure	Monitoring indicator & means of verification	Responsible	Timing	Cost ref.
1.4 & cross-cutting	GBV / SEA-SH and safeguarding failures during FFS, training and field works	SEA/SH prevention protocol; Worker Code of Conduct (Sub-Annex 3C) signed by all staff and contractors; safeguarding clauses embedded in training materials; women-accessible, confidential GRM operational before first FFS cohort	% staff/contractors who signed CoC; # safeguarding incidents reported and resolved; GRM operational (Y/N). MoV: signed CoC register, GRM log	PMU Gender & Social Inclusion Specialist; E&S Safeguards Specialist; FAO	Before first FFS cohort; continuous	B3, B4, C
2.1	Elite capture; exclusion of low-literacy, HIV-affected, PWD and female-headed households	SAPEMP-aligned vulnerability criteria; transparent, community-validated selection; GESI quotas ($\geq 40\%$ women, $\geq 30\%$ youth, $\geq 5\%$ PWD); icon-based and community-radio formats	% women / youth / PWD / vulnerable among beneficiaries (quarterly); # accessible formats produced. MoV: beneficiary database, selection minutes	PMU Gender Specialist; Landscape Associations; FAO	Beneficiary-selection stages; continuous	B6, C, D
3.1	Paddock fencing blocks transhumance routes; grazing exclusion; SNL tenure/access conflict	FPIC; rangeland plans validated by MoA Rangeland Dept and Chiefs before any restriction; agreed livestock corridors signed off by all affected livestock-keeping households prior to fencing; women's/youth grazing rights in updated by-laws; Project Brief to EEA for physical grazing infrastructure	# corridor agreements signed before fencing; # grazing-exclusion grievances; rangeland plans validated (Y/N per site). MoV: signed corridor agreements, validation records	PMU E&S Specialist; MoA Rangeland Dept; Traditional Authorities; NRMCS	Before any fencing or restriction; per site	A1, A2, D1
3.2	Ecological disturbance to wetlands (environmentally sensitive areas; Maputaland-Albany hotspot); construction-phase impacts	PRIORITY Project Brief to EEA mandatory before works; EEA screening (likely Category 2 $\rightarrow$ IEE + CMP; full EIA if large/multiple wetlands); ECC before works; seasonal timing restrictions (avoid breeding seasons); DoWA consultation; FPIC; post-fencing ecosystem monitoring	ECC obtained before works (Y/N); # sites with IEE/CMP; ecosystem-recovery monitoring reports. MoV: ECC, EEA decision letters, monitoring reports	PMU E&S Specialist; EEA; ENTC; DoWA	Before any wetland works; per site	A1–A4, E2
3.3	Uncontrolled prescribed-burn spread; herbicide pollution; soil disturbance from earthworks; cleared IAPS areas becoming wildfire corridors	Manual/mechanical clearing prioritized; prescribed burns only under Output 2.2 fire protocols; IPM-first with registered herbicides only; Pesticide Use Plan approved by MoA before any application; Project Brief to EEA for earthworks > 1 ha or chemical use; cleared areas registered in fire-management maps; species cleared against IAPS register	Pesticide volume and % registered products; # fire incidents; % earthwork sites with erosion controls; cleared areas in fire maps (Y/N). MoV: Pesticide Use Plan, application logs, fire maps	PMU E&S Specialist; MoA Plant Health Services; ENTC; NRMCS	Before clearing / chemical use; continuous	A2–A3, B1, B2
3.4	Introduction of non-native / invasive species via nurseries; unsafe structures	EEA-validated species list; species cleared against IAPS register pre-procurement; nursery biosecurity protocols; building-standards compliance (MoPWT) for permanent structures; Project Brief to EEA for permanent structures on sensitive sites	% species cleared against IAPS register; # nurseries with biosecurity protocol; structures certified (Y/N). MoV: species clearance records, biosecurity SOPs	PMU E&S Specialist; MoA Forestry/Horticulture; ENTC	Before nursery establishment; per site	A1–A2, B2

Ref / Output	E&S risk or impact	Mitigation / management measure	Monitoring indicator & means of verification	Responsible	Timing	Cost ref.
3.5	Soil erosion / donga formation; upstream–downstream water conflict; water-borne disease; GBV near water points; small-reservoir safety	PRIORITY Project Brief to EEA for reservoirs and multiple-use storage (Category 2 → IEE + CMP); DoWA water-use authorization in all cases; soil-suitability assessments and erosion controls; post-construction monitoring; NRM water-allocation protocols agreed before commissioning; water-quality baseline and periodic testing (WHO standards); GBV-sensitive siting (lighting, proximity, women consulted); livestock-watering separation; small-reservoir design and safety review	ECC / authorization before works; # water-allocation protocols agreed; water-quality test results; # GBV grievances near water points; % sites with erosion controls. MoV: ECC, DoWA permits, water-test certificates, GRM log	PMU E&S Specialist; DoWA; EEA; NRMCS; Gender Specialist	Before civil works; per site; continuous	A1–A5, B6, E2
3.6	Clearing of natural vegetation; invasive species; women/youth land-use rights	No clearing of natural vegetation without EEA clearance; planting confined to existing farmland / degraded land; species validated by MoA Forestry and IAPS register; SNL tenure/user-rights documentation for women and youth before planting	# clearance approvals; % species validated; # women/youth with documented use rights. MoV: EEA clearance, species list, tenure records	PMU E&S Specialist; MoA Forestry; ENTC	Before planting season; per site	A1, B2, D1
4.3	Over-abstraction of water; equipment safety in drip-irrigation conversion	DoWA water-use consultation per drip-conversion cluster; conversion only where Output 3.5 confirms adequate supply (sites below the drought-frequency threshold excluded); CSA equipment specs validated against MoA standards	# DoWA consultations completed; # sites confirmed adequate supply. MoV: DoWA records, water-balance confirmation	PMU E&S Specialist; DoWA; MoA	Before equipment procurement; per cluster	A5
4.5	Construction footprint of new aggregation/storage facilities; food-safety and hygiene	Site-specific screening; Project Brief to EEA for new permanent structures (Category 2 → IEE + CMP); no EIA if renovation of existing structures; MoA/Ministry of Health food-safety pre-inspection; HACCP-aligned handling training before first storage season	# sites screened; ECC where required; food-safety inspection passed (Y/N). MoV: screening forms, inspection certificates	PMU E&S Specialist; EEA; Ministry of Health; MoA	Before construction; per site	A1–A3
Cross-cutting	Contracted labour below standards; child / forced labour; occupational health and safety hazards	ILO core-labour and Eswatini labour-law compliance clauses in all contracts; Worker Code of Conduct; OHS provisions and PPE; prohibition of child and forced labour; worker GRM channel; PMU compliance checks before payment certification	% contracts with safeguards/labour clauses; # labour grievances closed; # OHS incidents. MoV: contract register, grievance log, incident reports	PMU E&S Specialist; FAO Procurement	All contracts; continuous	B4, C
Cross-cutting	Disturbance of cultural/heritage sites or graves on SNL during earthworks	Chance-Find Procedure (Sub-Annex 3B) included in all civil-works contracts; consultation with traditional authorities; works stop and notification on any find	Chance-find procedure in contracts (Y/N); # chance-find events managed per procedure. MoV: contract clauses, chance-find reports	PMU E&S Specialist; contractors; Traditional Authorities	All earthworks	B5
Cross-cutting	Pesticide/herbicide residues; IAPS biomass disposal; construction waste	IPM-first; minimal and registered pesticides only; safe storage and disposal; responsible IAPS disposal; construction-waste management provisions in all CMPs	Pesticide volume; IAPS disposal compliance; # CMPs with waste provisions. MoV: application logs, disposal records, CMPs	PMU E&S Specialist; MoA extension	Continuous	B1, B2

8. Management of unidentified sub-projects (site-specific procedure)

Several SEASL interventions are community-demand-driven and their precise locations will be confirmed during implementation. For every such site, the following mandatory procedure applies. No procurement, land disturbance, vegetation clearance, water abstraction or construction may begin until the procedure is complete and all required clearances are held.

Step 1 - Site identification and preliminary design. The PMU, with the relevant Landscape Association and line ministry, identifies the site, confirms tenure status, and prepares preliminary designs and bills of quantities.

Step 2 - Site-specific E&S screening. The PMU E&S Safeguards Specialist completes the screening checklist (Sub-Annex 3A) in consultation with the EEA, EWA/DoWA and the Landscape Association. The exclusion list (Section 6) is reaffirmed; any excluded feature voids the site.

Step 3 - Categorization. The screening assigns one of four pathways: (a) no further environmental authorization required (desktop / low-footprint activity); (b) Project Brief to EEA; (c) Initial Environmental Evaluation (IEE) plus Comprehensive Mitigation Plan (CMP); or (d) full EIA where the EEA is so determined.

Step 4 - Authorization. Where required, Project Brief is submitted to the EEA after site selection and preliminary design and before any works; the EEA screening decision is obtained; the IEE/CMP or EIA is prepared and the Environmental Compliance Certificate (ECC) secured; DoWA water-use authorization is obtained for any abstraction or water-related works.

Step 5 - Contracting. Site-specific mitigation measures (and any CMP) are written into works contracts as enforceable obligations and treated as conditions precedent to disbursement at activity level.

Step 6 - Implementation, monitoring and reporting. Compliance is monitored during and after works; categorization results and outcomes are communicated to IFAD as Implementing Entity and reported in annual PPRs to the AF Board.

Escalation rule

If any site screening returns a risk higher than Category B (e.g., large or multiple wetlands, protected-area proximity, or EEA classification as Category 1), the activity is escalated for full EIA, the new risk and any new mitigation are reflected in an updated site-level ESMP, and the matter is reported to IFAD and where it changes the project's overall risk profile to the AF Board, before works proceed.

9. Arrangements and responsibilities

Table 56 ESMP roles and responsibilities

Actor	ESMP responsibility
IFAD (Implementing Entity)	Overall safeguards accountability to the AF; SECAP/ESP compliance oversight; reviews and clears site categorizations and any escalations; conducts two supervision missions per year; submits annual PPRs to the AF Board.
FAO (Executing Entity)	Operationalizes all safeguards instruments; ensures procurement, contracting and implementation procedures incorporate ESMP requirements; secretary to the PSC.
PMU E&S Safeguards (ESMP) Specialist	Day-to-day safeguards focal point: operates the ESMP and the Section 8 procedure; maintains the safeguards monitoring log; supervises contractor compliance; runs the GRM at PMU level; coordinates with the EEA; prepares safeguards inputs to PPRs.
PMU Gender & Social Inclusion Specialist	Leads SEA/SH prevention, GESI targeting, women-accessible GRM channel, and Gender Action Plan monitoring.
PMU M&E Specialist	Integrates ESMP indicators into the project M&E system and reporting cycle.
Eswatini Environment Authority (EEA)	Screens Project Briefs; determines IEE/EIA requirements; issues the ECC; PSC member for compliance oversight.
DoWA / MNRE	Issues water-use authorizations; advise on water-related works and abstraction.
ENTC	Advises on habitats of conservation value, species lists and IAPS clearance; co-manages the natural-habitat principle.
MoA (Rangeland, Forestry, Plant Health, extension)	Validates rangeland and species/management plans; approves the Pesticide Use Plan; food-safety inspection.
Traditional authorities; Landscape Associations; CDCs; NRMCS	FPIC; corridor and water-allocation agreements; community-level GRM uptake and validation.

Actor	ESMP responsibility
Contractors / service providers	Comply with contract safeguards clauses, the Worker Code of Conduct, OHS, the Chance-Find Procedure and site-level CMPs.
Project Steering Committee (PSC)	Endorses AWPBs and the engagement map; whole-of-government compliance oversight (EEA, MoA, MNRE, ENTC, NDMA represented).

10. Capacity building for ESMP implementation

ESMP delivery is supported by a structured capacity-building programme: induction of PMU and FAO staff on AF ESP, SECAP and national procedures; annual safeguards training for Landscape Associations, CDCs and NRMCS; contractor briefings on the Worker Code of Conduct, OHS and the Chance-Find Procedure prior to mobilization; and refresher training tied to each implementation phase. Costs are reflected in budget line E1.

11. Grievance Redress Mechanism (GRM)

A multi-tier, accessible and confidential GRM operates throughout the project and is established before any physical activity in a landscape. It does not impede access to judicial or administrative remedy.

Tier 1 - Community / chieftdom level: uptake through Landscape Associations, CDCs and NRMCS; oral, written and icon-based channels for low-literacy users.

Tier 2 - Landscape Association level: logging, acknowledgement and first-instance resolution.

Tier 3 - PMU level: E&S Specialist manages unresolved or sensitive cases; maintains the central grievance log.

Tier 4 - IFAD: matters not resolved at project level, consistent with IFAD's complaints procedures and the AF.

Dedicated SEA/SH and worker channels. A confidential, survivor-centred and women-accessible channel handles SEA/SH grievances, and a worker grievance channel is established for all contracted labour. Caseload, resolution rate and timeliness are reported in every annual PPR. Costs are reflected in budget line C.

12. Monitoring, supervision and reporting

The E&S Safeguards Specialist maintains a continuous safeguards monitoring log capturing screening status, authorizations held, mitigation compliance and incidents.

Internal compliance monitoring is quarterly; site-level compliance verification is a condition precedent to disbursement.

An independent safeguards compliance audit is conducted at mid-term (budget line E3).

IFAD conducts two supervision missions per year covering safeguards performance.

Safeguards performance is reported in every annual PPR to the AF Board: ESMP compliance, GRM caseload and resolution rate, GAP performance, and any reportable safeguards incident.

13. Disclosure

All safeguards instruments this ESMP, site-specific screening results, Project Briefs/IEE/CMP/EIA, ECCs, and GRM records (suitably anonymized) are publicly disclosed in line with AF and IFAD disclosure policies, including accessible and SiSwati-language formats for affected communities.

14. ESMP implementation budget

The dedicated ESMP budget is USD 250,000, equivalent to 2.5% of total project cost a level consistent with adequate safeguards resourcing for a Category B project. These are the operational costs of safeguards delivery and are drawn from project execution and the relevant component budgets. To avoid double counting, costs already provided for elsewhere are noted separately below the table and are not added to this total. The GRM provision shown here (USD 32,000) corresponds to line PEC.14 in the execution-cost table (USD 33,000) and is counted once, not in addition.

Table 57. ESMP dedicated implementation budget (USD)

Line	ESMP activity	Basis / unit assumption	Cost (USD)
	A. Screening and assessment of unidentified sub-projects		
A1	Site-specific E&S screening of unidentified sites	45 sites × USD 600	27,000
A2	Project Briefs to EEA for Category 2 activities	12 × USD 1,500	18,000
A3	IEE / Comprehensive Mitigation Plans where required by EEA	6 × USD 4,000	24,000
A4	EEA review and ECC application fees	Lump sum	8,000
A5	DoWA water-use authorization and water-quality baseline / periodic testing	Per site cluster	13,000
	Subtotal A		90,000
	B. Specialist mitigation instruments		
B1	IPM / Pesticide Use Plan and registered-product verification	Lump sum	7,000
B2	IAPS biosecurity, species-clearance and disposal protocols	Lump sum	6,000
B3	SEA/SH and safeguarding protocol development and training	Lump sum + rollout	15,000
B4	Worker Code of Conduct rollout and labour-compliance monitoring	Lump sum + monitoring	8,000
B5	Chance-Find Procedure training and site signage	Lump sum	4,000
B6	Community public-health and hygiene training (water points / wetlands)	Across landscapes	10,000
	Subtotal B		50,000
	C. Grievance Redress Mechanism		
C1	GRM establishment (community, worker and women-accessible channels)	Lump sum	12,000
C2	GRM operation, awareness and case handling	USD 5,000/yr × 4	20,000
	Subtotal C		32,000
	D. Consultation, FPIC and disclosure		
D1	FPIC documentation (livestock-corridor and water-allocation agreements)	Across sites	10,000
D2	Safeguards disclosure in accessible / SiSwati formats	Annual	6,000
	Subtotal D		16,000
	E. Monitoring, capacity and audit		
E1	Safeguards capacity building (PMU, contractors, LAs, NRMCS)	Annual programme	18,000

Line	ESMP activity	Basis / unit assumption	Cost (USD)
E2	ESMP compliance field monitoring and supervision (transport, field costs)	Continuous	22,000
E3	Independent safeguards compliance audit	Mid-term, once	15,000
	Subtotal E		55,000
F	Contingency (3%)	Unforeseen safeguards costs	7,000
	TOTAL ESMP DEDICATED BUDGET	2.5% of total project cost	250,000

Costs provided elsewhere (not double-counted above):

- **E&S Safeguards Specialist and Gender & Social Inclusion Specialist (full-time PMU positions)** salaries are funded under project execution / management costs.
- **Engineering-integrated mitigation** - climate-proofed and hail-protective design, soil-erosion/gabion works, and small-reservoir safety design is costed within the relevant Output 3.x investment budgets.
- **Full EIA (if the EEA escalates beyond Category 2)** - met with the relevant component budget and contingency, and reported to IFAD before works proceed.

Sub-Annex 3A: Site-specific E&S screening checklist

Completed by the PMU E&S Safeguards Specialist for every site selected after approval, in consultation with the EEA, DoWA/EWADE and the relevant Landscape Association, before procurement or works. A 'Yes' to any exclusion question voids the site.

#	Screening question	Y / N	Note / required action
	Site identification		
1	Site name, GPS coordinates, chiefdom, landscape, and output/activity recorded?		
2	Land tenure confirmed and free of unresolved disputes? (FPIC obtained)		
	Exclusions (any 'Yes' voids the site)		
3	Does the activity require involuntary physical or economic resettlement?		
4	Does it involve a large dam or large-scale irrigation scheme?		
5	Does it introduce any non-native or invasive species?		
6	Is the site within a legally protected area without EEA/MTEA authorization and FPIC?		
7	Does it use agro-chemicals prohibited under the Stockholm/Rotterdam Conventions?		
	Environmental sensitivity		
8	Is the site a wetland, riparian zone or other environmentally sensitive area?		If Yes → priority Project Brief to EEA
9	Is the site within / adjacent to a habitat of conservation value (Maputaland-Albany)?		If Yes → ENTC consultation; habitat screening
10	Will earthworks exceed 1 ha or involve significant soil disturbance?		If Yes → erosion controls; Project Brief
11	Will the activity abstract water or affect a watercourse?		If Yes → DoWA authorization
12	Will chemical IAPS control / pesticides be used?		If Yes → Pesticide Use Plan; registered products
13	Will a permanent structure be constructed on a new footprint?		If Yes → building standards; Project Brief
	Social		
14	Could the activity block transhumance routes or restrict grazing/access?		If Yes → corridor agreements before works
15	Could it create GBV/SEA-SH exposure (e.g., water points, labour influx)?		If Yes → GBV-sensitive siting; SEA/SH protocol
16	Will contracted labour be engaged?		If Yes → labour clauses; Worker CoC; OHS
17	Are cultural/heritage sites or graves present or possible?		If Yes → Chance-Find Procedure in contract
	Categorization and sign-off		
18	Assigned pathway: (a) no further authorization; (b) Project Brief; (c) IEE + CMP; (d) full EIA		
19	Required clearances obtained before works? (ECC / DoWA / MoA)		
20	Site ESMP/CMP measures written into the works contract?		
Screened by / date:		Cleared by IFAD / date:	

Sub-Annex 3B: Chance-Find Procedure

This procedure is incorporated into all civil-works contracts and applies to any previously unknown archaeological, historical, cultural or burial remains encountered during works.

- 1. Stop work.** Immediately halt all works in the vicinity of the find and secure the area to prevent disturbance, removal or damage.
- 2. Notify.** The contractor notifies the site foreman, who notifies the PMU E&S Safeguards Specialist within 24 hours; the Specialist notifies the relevant traditional authority and the National Museum / responsible heritage authority.
- 3. Protect and record.** Demarcate and protect the site; do not touch or move objects; photograph and record location and context.
- 4. Assess.** The heritage authority and traditional authority assess the significance of the find and determine appropriate handling (e.g., recording, relocation of works, or recovery).
- 5. Resume.** Works in the affected area resume only on written authorization from the PMU E&S Safeguards Specialist confirming heritage-authority clearance. For human remains, customary and legal protocols led by traditional authorities take precedence.
- 6. Record.** The event and its resolution are logged in the safeguards monitoring log and reported in the next PPR.

Sub-Annex 3C: Worker Code of Conduct

All project staff, contractors, sub-contractors and service providers sign this Code before mobilization. It is binding and enforceable through the contract and the worker grievance channel.

I commit to:

- treat all community members, colleagues and beneficiaries with respect, without discrimination on the basis of sex, age, disability, health status, ethnicity or social status;
- refrain absolutely from any form of sexual exploitation, abuse or harassment (SEA/SH), including any sexual activity with a person under 18 and any transactional or coerced sexual conduct;
- uphold core labour rights: no child labour, no forced labour, freedom of association, fair wages and working hours in line with ILO conventions and Eswatini labour law;
- comply with all occupational health and safety requirements, wear provided personal protective equipment, and report hazards and incidents;
- protect the environment: follow the site ESMP/CMP, avoid unnecessary vegetation clearance, prevent pollution, and observe the Chance-Find Procedure;
- not engage in bribery, fraud, theft or misuse of project assets; and
- report any breach of this Code through the project grievance channels without fear of retaliation.

Acknowledgement: I have read and understood this Code and agree to be bound by it. Breach may result in disciplinary action, contract termination and, where applicable, referral to the authorities.

Name: _____

Signature: _____

Date: _____

Sub-Annex 3D: Indicative integrated pest / IAPS management guidance

Pesticide and herbicide use under SEASL is governed by an IPM-first principle and the Pesticides Management Act 2017. The following minimum requirements apply to any chemical use (principally IAPS control under Output 3.3 and CSA under Component 4):

- Mechanical and biological control methods are prioritized; chemical control is used only where mechanical/biological options are insufficient.
- Only products registered in Eswatini and not listed under the Stockholm or Rotterdam Conventions may be procured or applied; no WHO Class Ia/Ib products.
- A Pesticide Use Plan, listing the specific registered products, target species, application method, rates and operators, is approved by MoA Plant Health Services before any application.
- Applicators are trained and equipped with PPE; mixing, storage, transport and triple-rinse container disposal follow label and national requirements.
- Buffer zones protect watercourses, wetlands, apiaries and homesteads; no application in or adjacent to restored wetlands.
- IAPS biomass is disposed of to prevent re-establishment and fire risk; cleared areas are registered in fire-management maps under Output 2.2.
- Application records (product, volume, location, date, operator) are kept and feed the pollution-prevention indicator in the risk register.