Darwin Initiative Main & Extra Annual Report

To be completed with reference to the "Project Reporting Information Note": (https://www.darwininitiative.org.uk/resources/information-notes/)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

Submission Deadline: 30th April 2025

Submit to: BCF-Reports@niras.com including your project ref in the subject line

Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	30-009
Project title	Developing Sustainable Sea Moss Farming Methods in Saint Lucia
Country/ies	Saint Lucia, (West Indies)
Lead Organisation	Fauna & Flora
Project partner(s)	Ministry of Agriculture Fisheries, Food Security and Rural Development: Fisheries Department, Saint Lucia National Trust
Darwin Initiative grant value	£359,827.00
Start/end dates of project	May 2023 – April 2026
Reporting period (e.g. Apr 2024 – Mar 2025) and number (e.g. Annual Report 1, 2, 3)	April 2024 – March 2025 Annual Report 2
Project Leader name	Adams Toussaint
Project website/blog/social media	N/A
Report author(s) and date	Adams Toussaint; Bianca Young; Frejhan Jn Baptiste; Henry Duffy; Ellen Buckland; Alejandra Pizarro Choy (29 April 2025)

1. Project summary

- What biodiversity challenges is the project designed to address?

In Saint Lucia the exponential growth of the sea moss aquaculture industry (Eucheuma cottonii- introduced, and Gracilaria species- native), which was particularly acute during the pandemic, poses a threat to coastal ecosystems. Currently, sea moss is grown in sheltered bays covered in seagrass, coral reefs and mangroves (Nelson, 2025)*. Thus, sea moss production areas overlap with critical habitats and carbon sinks, putting these habitats at risk of degradation. Although, sea

moss cultivation could contribute to carbon sequestration if conducted appropriately (Duarte, 2017), but this is yet to be quantified locally.

Both sea moss pilot sites for this project, are near key biodiversity areas (KBAs); Praslin Mandele Point and Praslin Island, and Savannes Bay, which includes the Maria Islands and Point Sable Environmental Protected Area (PSEPA). At each of these sites unregulated sea moss farming poses a threat to coastal dry forests, as targeted species may be logged for cultivation materials. Research in other regions also suggests that anchored sea moss farming methods may inhibit seagrass growth through shading and consistent degradation. Additionally, PET bottles used for floating monoline techniques may entangle marine life as well as degrade the marine environment by contributing to marine waste. Moreover, Saint Lucia is considered highly vulnerable to climate change, including rising sea levels, temperatures, and severe weather events (Government of Saint Lucia, 2017 & USAID, 2021), which poses a threat to both coastal biodiversity and associated livelihoods such as sea moss farming.

Given these threats, the project aims to experiment with alternative growing techniques, which utilise sustainably sourced materials. As well as educating sea moss farmers on the risks associated with current practices in order to create a more sustainable industry with conservation at its forefront.

- Why are they relevant, and for whom?

The challenges addressed are relevant because they create a platform to explore a much-needed livelihood option that is compatible with the conservation of coastal/marine environments. Project partners will work with farmers, local communities, sea moss farming associations, and Governments and Non-Government organizations (NGOs) to collect and disseminate local ecological knowledge, research technical solutions, and train stakeholders on sustainable sea moss production.

- What human development and wellbeing challenges (poverty reduction) is the project also intended to address?

Coastal livelihoods and wellbeing in Saint Lucia, as an island and large ocean state, are highly vulnerable to climate change impacts. Sea moss farming has proven its resilience to these effects through species variation and their ability to adapt to variable growing conditions, including freshwater dilution, increased fertilizer concentration from runoff, rising temperatures, and sedimentation (FAO, 2003). This project will therefore support:

1. Increased livelihood opportunities, through the appropriate expansion of the sea moss industry and improved compliance with import/export requirements for farmers.

2. Improved gender equality in primary and secondary industries. Currently 37% of sea moss farmers are women, and we wish to maintain and expand opportunities for women in this industry.

- How did you identify these problems?

In 2021, a scoping survey was conducted by Fauna & Flora with the support of the Department of Fisheries. During this assessment, kayaks were used to navigate and collect data from sea moss farms, which was later used to create a base map of the farms across the pilot sites (Annex 4). Various unsustainable sea moss cultivation practices and their impacts were also identified, i.e. the use of plastic bottles in the farm infrastructure; trampling of seagrass beds; illicit felling of coastal dry forests for construction materials and the entanglement of endangered marine turtles in sea moss farm ropes. A socio-economic survey was also conducted with 188 farmers, in order to understand age, education level, the contribution of sea moss production to household income, farm size, product processing and subscription to sea moss cooperatives.

These results, alongside data from an ongoing BIOPAMA project led by Saint Lucia National Conservation Fund (SLUNCF) and Saint Lucia National Trust (The Trust) in the Pointe Sable Environmental Protected Area (PSEPA) as well as a GEF small-grant project for sea moss enterprise, and the GEF Integrated Ecosystem Management and Restoration of Forests project, have all identified the need to improve socioeconomic parameters, cultivation and participatory governance within the sea moss industry.

- Briefly describe the location of the project.

The two pilot sites selected for this project are located along the Southeast coast of Saint Lucia (W.I.), the first being the Pointe Sable Environmental Protection Area (PSEPA). The total area encompasses approximately 1,038 hectares of land and sea" PSEPA Management Plan 2009-2014 (7). The second pilot site, Praslin, has been described by the OECS (2021) as a small fishing community and the key location for commercial sea moss harvesting. This community, like other communities along the Southeast coast is also a vital bird nesting site, with Frigate Island Nesting Reserve (a protected area), located nearby.

2. Project stakeholders/ partners

The core project partners are the Department of Fisheries (Ministry of Agriculture, Fisheries, Food Security and Rural Development) and Saint Lucia National Trust.

The Darwin Project Steering Committee (PSC) comprises of official partners (Saint Lucia Fisheries Department, Saint Lucia National Trust, Saint Lucia National Conservation Fund (SLUNCF), Export Saint Lucia, Praslin Seamoss Farmers association (PSFA), Eau Piquant Seamoss Farmers Association (ESFA)), as well as the Praslin Community Women in Sea Moss group, and the Department of Sustainable Development GEF: Southeast Coast project. The committee was established to ensure alignment with organizational objectives, manage risks, resolve issues, and facilitate communication among stakeholders throughout the project life cycle. A PSC Terms of Reference (Annex 20) was developed by members in Year 2 to guide the PSC.

One PSC Meeting was held in Year 1 (19/03/2024) and two (2) were held in Year 2 (20/11/2024; 31/03/3025) (see Annex 6) with quarterly meetings planned.

The table in Annex 6 provides an outline of the participation of partners in meetings and workshops conducted to date, and the key contributions of key project partners and stakeholders are outlined below:

- The Saint Lucia Bureau of Standards has provided several training sessions with members of the Praslin and Eau Piquant Sea Moss Associations educating farmers on the Standard Operating Procedures required for farmers products to be safe for consumption. The training provided farmers with the required knowledge needed for various export certifications.
- The Eau Piquant Seamoss Farmers association, Praslin Community Women in Sea Moss group, and Praslin Seamoss Farmers Associations have all played a critical role in sharing and participating in project activities and sharing new opportunities with members, thereby improving the visibility of the project.
- Japan International Cooperation Agency (JICA) office in Saint Lucia, which works in collaboration with the Department of Fisheries, has assisted in the experimental trial plots and has attended all field exercises. They provided technical expertise and training to the sea moss farmers on best practices in cultivation and harvesting. They have provided on-site demonstrations on the construction of sustainable of rafts with an overall intent of improving productivity and quality for the farmers.
- Ministry of Agriculture, Fisheries, Food Security and Rural Development – Department of Fisheries – The Ministry of Agriculture continues to provide the necessary support in connecting farmers to the project. Their support includes technical expertise and training to farmers, as well as guidance on site selection, cultivation practices, disease management, and post-harvest handling.
- Ministry of Physical Planning, Housing, Urban Renewal and Local Government- The Ministry of Planning has been providing the project with guidance on the designate zones conducive to sea moss farming, ensuring that it aligns with environmental conservation goals and doesn't conflict with other land uses. The ministry oversees the EIA process, ensuring that the project complies with environmental regulations and mitigates any adverse impacts on marine biodiversity or coastal communities.
- SLUNCF and the GEF: Southeast Coast Project, provided initial support for the project through consolidation of stakeholder engagement initiatives and information sharing. With both organizations on the Project Steering Committee, we will continue to draw on their

experiences. Specifically, the SLUNCF sea moss farming demarcation exercise is informing activity 2.4 in Praslin. While we will draw on efforts from the GEF: Southeast Coast project, specifically in reference to 1) developing geoprocessing and data management platforms, and 2) identifying opportunities to collaboratively deliver training, research and public awareness.

- British High Commission – We remain in close contact with the British High Commissioner through regular emails and telephone exchanges. The Commissioner attended the Darwin inception meeting on 5th September 2023 and assigned a designate to the second Project Steering Committee Meeting on November 20, 2024. Invitations are routinely extending for training sessions and activities.
- Technical Specialists/Consultants

  Mr. Newton Eristhee, a Marine Technical Specialist, was contracted to undertake a site suitability assessment for sea moss production in March 2024. The results have support several project activities as outlined later in this report.

  Ms. Euthalia Philgence and Ms. Anya Knoetze, were contracted through the Saint Lucia Bureau of Standards and have delivered food safety trainings and introduced the development of standard operating procedures for the growing industry.

  Complete Analytical Services, a registered and accredited laboratory in Saint Lucia, has been contracted to conduct water quality and heavy metal testing and analysis for water and sea moss/plant samples from the pilot sites.

  Mr. Augustine Dominique, an experienced social and environmental professional, was contracted to conduct the project's first planned Training Needs Assessment in February 2025.

  Ms. Urmain Gray, a trained statistician, leading a team of three enumerators, was contracted to conduct the project's KAP Analysis in December 2024.

  Celsus Baptiste, expert in land management, was contracted to conduct an assessment of the legal framekwork for sea moss farming in Saint Lucia

Working in partnership with the different organisations has exposed the project to different skills, expertise, and resources. Additionally working in partnership, especially with the Department of Fisheries and Saint Lucia National Trust, has expanded our network and opened new opportunities for growth, expansion and development of shared goals. These new opportunities have included increased collaboration, identifying untapped markets, new sustainable sea moss methods, and research and development initiatives to improve new farming techniques.

As noted in the Y1 Annual Report, a decrease in the level of commitment and time allocated from partners can significantly impact and cause delays in project implementation. In Y2, Saint Lucia National Trust's capacity was diminished (see details and implications for the project in Section 14). Capacity challenges with other government agencies/bodies, as a result of the poor data culture and lack of effective collaboration, also pose a risk to the project.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1 Activities

1.1 Identify drivers of biodiversity loss through desk review, community consultations, interviews, and participatory threat analysis; collect and compile existing baseline biodiversity data; identify gaps (Y1).

Activity 1.1 was successfully completed as planned in Year 1 (see Y1 Annual Report and evidence).

1.2 Elaborate and implement biodiversity monitoring plan (water quality, seagrass beds, coastal dry forest, turtle entanglement, other ecosystem health indicators) and information management system (Y1-3).

A draft biodiversity monitoring plan (Annex 5) that outlines general monitoring protocols for mangroves, coral reefs, seagrass beds, and water quality parameters (turbidity and chemical pollutants) was developed. A technical validation workshop (See Annex 11 for Summary) was held on 19 November 2024 involving key stakeholders including the Saint Lucia National Trust, SLUNCF, the Department of Fisheries, Water Resource Management Authority, and the Forestry Division. During this workshop, stakeholders provided feedback on recommendations, required actions, and the capacity and resources available to implement the plan. This input will guide the development of a more detailed plan, which will be finalized and reviewed again for implementation in the final year of the project. See Annex 6 (workshop attendance summary).

1.3 Develop and apply the Site Suitability Assessment tool and Site Carrying Capacity tool in the two project sites to support identification of viable farm sites (Y1-2).

The Site Suitability Assessment, completed in July 2024, provided essential data on current site conditions in the pilot sites and the Site Suitability Tool (Annex 15) developed alongside the assessment, offers a framework for immediate and long-term sustainable management of sea moss farms for the remainder of the project and other national efforts. A carrying capacity tool was not developed but will be considered jointly through another technical workshop. Preliminary water quality results (June 2024) showed elevated E. coli counts in each of the three (3) samples tested at both Praslin Bay (2,420 MPN/100m; 980 MPN/100m; 866 MPN/100m) and Savannes Bay (1733 MPN/100m; 250 MPN/100m; 579 MPN/100m), exceeding the recommended limit of <200 MPN/100ml). See Annex 14). This indicated the need for re-testing and potentially for corrective actions in order for the sites to be considered suitable for sea moss farming. Nitrate-Nitrogen (as NO3 – N) and total phosphorous were also found to be above recommended limits but only in some samples; no other water quality parameters were found to be outside of acceptable limits. Additional water quality testing and heavy metal analysis of sea moss plant samples are underway (See activity 3.2).

The Site Suitability Assessment tool was reviewed during the same technical workshop on 19 November 2024 (Annex 11) that was highlighted in section 1.2. Suggested revisions will be incorporated, and the tool finalized for adoption in Year 3. This tool will provide valuable information for the assessment of the legal framework for sea moss farming in Saint Lucia, which is currently being executed, (See Activity 2.5), and the proposed aquaculture policy.

The completion of the Site Suitability Assessment and Tool is a key achievement, laying the foundation for sustainable sea moss farm management and positively impacting biodiversity by ensuring farms align with protection standards.

1.4 Conduct desktop review and partner consultations to identify locally appropriate sustainable farming techniques/best practice (Y1-2).

Activity 1.4 was completed in Year 1. The desktop review and partner consultations identified locally appropriate sustainable farming techniques, with discussions involving farmers and the Department of Fisheries to assess the feasibility of implementing these methods.

1.5 Trial identified sustainable farming techniques, led by Fisheries Department with lead farmers (Y1-2).

Trials were successfully completed in Year 2. A total of five (5) sea moss farming techniques were tested: four (4) using PVC and one (1) using bamboo. These trials included three (3) raft designs based on a method described in the recently published manual/guide for sea moss farming methods written by key stakeholder, current Deputy Chief Fisheries Officer, Thomas Nelson (2025) entitled “Sea Moss Cultivation in the Caribbean - A Practical Guide to Best Practices”* (See Annex 21) and previously tested by the Japan International Cooperation Agency (JICA) in collaboration with the Department of Fisheries, with the two-sided raft being the most suitable.

These floating raft designs enable farmers to expand production into deeper water, alleviating overcrowding, reducing trampling on seagrass meadows, and enabling more consistent production during the dry season where shallow-water conditions become unfavourable for sea moss growth (above 30° C).

The raft method eliminates the need for plastic bottles for flotation and requires significantly fewer anchor points—only 4 for a 10ft x 10ft farm, compared to the 20 anchor points needed with the traditional monoline method. This reduction decreases the need for more sticks, which may be unsustainably sourced, and minimizes disruption to seagrass beds as they do not need to be replaced as frequently.

The bamboo raft was found to be the most resilient, withstanding tropical storm Beryl and remaining intact despite the dislodging of lines (See Annex 16 for Damage & Loss Report). This is critical as farm structures are time-consuming to establish and must be durable for long-term viability. Low-impact metal screw anchors, designed and tested on the PVC cage method, were found to provide secure anchorage in the event of sea surges, supporting the durability of the farming infrastructure. They have a significantly longer lifespan (10-15 years) compared to sticks (1-3 years).

A 10ft x 10ft bamboo raft with cultivation lines (ropes) (~[redacted]is more cost effective than a10 ft x 10ft PVC raft with cultivation lines ([redacted]
These rafts can be anchored using cement blocks ([redacted]on sands/muddy seabed or metal screw anchors (~[redacted]) on seagrass habitats. depending on benthic type.

Bamboo, which is completely biodegradable and poses less of a risk to ocean plastic and/or chemical pollution, has a shorter lifespan in the marine/saltwater conditions (~5 years), whereas PVC can last between 10-20 years (dependant on UV exposure).

Supporting evidence available in Annex 7 and 16.

1.6 Evaluate trial results and impact on biodiversity; disseminate and discuss results with farmers, farmers associations, partners, and other key stakeholders (Y2-3).

In progress; A brief comprehensive report on the impacts of tested methods on biodiversity will be developed in the next quarter of the project supporting progress towards activity 1.2. The development of a draft biodiversity monitoring plan.

1.7 Based on trial outputs, train other PSEPA and Praslin farmers on best practices, including reporting turtle entanglements, and sustainable farming techniques (Y2-3).

A total of 62 farmers (42 male; 20 female, March 2025) from both pilot sites (PSEPA: 35; Praslin: 21) plus two other sea moss farming areas (Anse La Raye: 4; Laborie:2) were provided with practical training (See Flyers in Annex 12) on the construction of bamboo and PVC rafts. These workshops provided hands-on training and equipped farmers with the technical skills to build their own rafts. Materials, including bamboo, steel-welded screw anchors, and biodegradable manila rope, are being distributed to participants, with full distribution expected by the end of April 2025 for the construction, deployment, testing and monitoring of approximately 120 bamboo rafts at the pilot sites (Potwee, Praslin and Savannes Bay, PSEPA).

Turtle entanglement was reported by four (4) farmers during the Knowledge, Attitudes, and Practices (KAP) survey (see Activity 3.1; See Annex 18 for draft); besides this, there have been no reports of entanglement to the Department of Fisheries since the start of the project. The monoline farming method appears to create a hazard to marine turtles. The raft method is a welcome intervention, designed to mitigate the impact on marine biodiversity, including turtle entanglement. Additionally, the project will be accelerating the uptake of the raft methods and

other biodiversity friendly farming methods that has been tested. We also plan to promote the participation of the farmers in data collection, using citizen sciences best practices.

Output 2 Activities

2.1 Develop and implement stakeholder engagement plan and grievance mechanisms for PSEPA and Praslin Sea moss associations (Y1).

A stakeholder list and engagement plan (Annex 8) comprising 40 agencies and groups was created during the preceding Arcadia project and was adapted during the Darwin Initiative Project Inception meeting. Updates in Y2 include the addition of Japan International Cooperation Agency (JICA) and update of the "Aupicon Charcoal and Agricultural Producers" to its new name "Aupicon Sea moss and Agricultural Producers".

The grievance mechanism was finalised and implemented on 16 December 2024. Digital and printed flyers were developed, distributed to farmers and posted in strategic locations adjacent to sea moss farm locations. The mechanism was also highlighted at all trainings and workshops held since its implementation. While no grievances have been recorded, it is noteworthy to mention that farmers have expressed concerns about the lack of compensation for traveling and subsistence. Evidence of the grievance mechanism is included in Annex 13.

2.2 Establish standard operating procedures (SOPs) for farmers associations and designate farmer/community representatives (Y1).

All three Farmers Associations from the pilot sites - Eau Piquant Seamoss Farmer Association ; Praslin Community Women in Sea Moss group; Praslin Seamoss Farmers Association - have strengthened their governance and institutional building towards the development of Assocation SOPs through participation in trainings (described in Activity 3.6) and the participation of executive members in the Project Steering Committee (Membership of the PSC is described in Section 2 of this report).

For hygiene, safety and sanitation related procedures, associations have participated in the food safety training, participants drafted and presented SOPs for their sea moss establishments. Industry-level SOPs will be developed and shared with farmers in Y3 through the support of key stakeholders. These SOPs will provide a broad framework for best practices in farming and processing that will need to be tailored/customised by farmers based on the unique requirements of their farming operations. These SOPs will adopt Good Manufacturing Practices (GMP) standards at minimum. Therefore, GMP have been included in training sessions supported by the British Standards Insitute (BSI), which will continue to be engaged by the project in Y3 to establish food safety SOPs.

Associations have also participated in the trainings that provided business management practices with specific support on record keeping in financial management and in production/farming operations. See Annex 6 for training descriptions and attendance records.

To date, no farmer/community representatives from the three farmers associations have been designated, however Associations will be encouraged to select members so that project stakeholders can support the establishment of SOPs.

2.3 Build individual and organisational capacity of farmers associations and representatives, including for effective participation in project steering committee (Y1-2-3).

Two (2) Project Steering Committee meetings were held in Year 2 (20/11/2024; 31/03/3025) and one was held in Year 1 (19/03/2024). To facilitate effective participation, Terms of Reference (Annex 20) for the PSC were finalized in Y2 through a participatory process, ensuring clear roles and responsibilities for all stakeholders. All meetings have a round-table format, allowing for open communication and active engagement from all parties, including farmers associations. In addition, a WhatsApp group was created to facilitate communication between meetings, as per the Terms of Reference.

The capacity of Farmers Associations was further strengthened through ongoing support, particularly through sharing funding opportunities to help them meet their goals. As a result, Fauna & Flora supported the Eau Piquant Sea Moss Farmers Association in submitting an application for the Darwin Initiative Capability & Capacity Grant in October 2024.

Results of the KAP Survey (Annex 18) and Training Needs Assessment (Annex 19), both of which provide recommendations and opportunities for farmers associations, were shared with the leadership of the farmers associations.

2.4 Establish Praslin community working group (including farmers association representative) to discuss management of the coastal zone and marine management area and support demarcation (Y1-2).

Insights from both the KAP Survey and Training Needs Assessment have highlighted challenges regarding the dynamics of farmer relationships in Praslin. According to the results of the KAP Survey, in Praslin, 62% of farmers surveyed are not members of any association. The main barriers to membership include lack of time (13 farmers), lack of awareness on how to join (12 farmers), and lack of awareness of benefits (8 farmers), with 5 farmers citing lack of transparency in association management. The TNA also identified governance as one of the four primary areas with skills gaps, indicating that farmers may lack the capacity to effectively engage in decision-making processes and collaborative efforts. The project team is assessing the approach to ensure that the necessary groundwork for collaboration and trust-building is established. Therefore, establishment of a Praslin Community Working Group, though warranted, is pending.

Demarcation of sea moss farming areas in Praslin and Savannes Bay is underway. This primarily involves the installation of approximately 27 marine buoys purchased by Fauna & Flora in Y2. This activity will facilitate the implementation of a management structure to govern the activities within the bays.

2.5 Draft sea moss farming policy and regulations with stakeholders and submit as an official Cabinet Memo (to amend Fisheries Act) (Y2-3).

A formal, comprehensive assessment of the legal framework is currently underway (since March 2025). This activity aims to identify the gaps in the current legal framework, particularly in relation to the use of the King's Chain, and the existing laws under the relevant laws including the Fisheries Act. The identification of these gaps will inform the necessary amendments to national legislation, including through the drafting of an official Cabinet Memorandum and guide the drafting of policy and regulatory recommendations, including through the identification of seabed-leasing pathways of individual farmers and associations, to govern the sustainable practice of sea moss farming.

2.6 Create and activate the Fisheries Department farms monitoring log and sea moss management information system (Y1-2-3).

Collection of sea moss data is not yet standardised in the Department of Fisheries' monitoring log; all sea moss data are being stored with data from other fisheries sub-sectors. The new data system within the Department makes provisions for input for sea moss farm data, however, human resource constraints make this process retarded.

Development of the farms monitoring log will continue in Year 3 and will be activated in line with the implementation of the biodiversity monitoring plan, which include citizen science best practices.

2.7 Develop sea moss management strategy and plan with stakeholders (Y2-3).

This activity is currently pending.

Output 3 Activitires

3.1 Develop and implement Knowledge/Attitudes/Practices (KAP) surveys and hold workshops to carry out a participatory impact assessment (Y1).

A KAP Survey was conducted between November and December 2024 with 198 farmers across Praslin and PSEPA, providing a comprehensive assessment of their knowledge, attitudes, and practices regarding sea moss farming. The KAP Survey results will inform the design of future training activities and ensure that the project addresses both the knowledge gaps of farmers and the broader environmental context. The survey identified several key areas where targeted interventions are needed:

- Cultivation Techniques: While farmers showed high familiarity with traditional anchored monoline methods (4.2/5), there was limited awareness of more sustainable techniques, such as cage cultivation (2.3/5). This underscored the need for hands-on training to introduce more sustainable farming techniques and provide farmers with alternatives to current methods.
- Barriers to Formal Systems: 69% of farmers were not part of any association and 16% were not registered with the Department of Fisheries. These results will inform Associations and the Department of Fisheries on the barriers to membership and registration and allow them to improve outreach, simplify registration processes, and encouraging greater participation, if deemed necessary, to foster a more supportive sector.
- Environmental Awareness: While 83% of farmers considered sea moss farming environmentally sustainable, many had limited understanding/knowledge of the broader ecological benefits and protected areas, indicating the need for targeting awareness campaigns to highlight these ecological benefits and the importance of protected areas in the region.
- Wildlife Interactions: Despite only 4 out of 198 farmers reporting turtle entanglements, there is a need to improve documentation and reporting of such incidents. The project will implement structured monitoring and reporting systems to help reduce wildlife interactions, particularly turtle entanglements, and ensure the sustainability of farming practices.

3.2 Test heavy metal contents and other food safety parameters and survey disease in sea moss (Y1-2).

Testing of water quality, heavy metal contents and other food safety parameters began in December 2024. Results are expected in May 2025. Preliminary testing was conducted in 2024 (See Activity 1.3)

3.3 Carry out Training Needs Assessment with farmers, processors, SLNT and Fisheries Department (Y1).

A Training Needs Assessment (TNA), which concluded in February 2025, engaged 54 sea moss stakeholders, 36 men (66.66%) and 18 women (33.33%). The assessment identified 12 skills deficits across four key areas: sea moss cultivation, marketing strategies, health and safety, and governance. The most common training needs identified by respondents were in the areas of sea moss farm management, product marketing, and health and safety standards, with a particular focus on meeting export compliance requirements. These findings were and will be used to design targeted workshops that address the specific needs identified, enhancing the capacity of farmers to adopt best practices and improve the sustainability of their operations.

3.4 Update the SLNT's CVQ and support/encourage farmers to register (Y1-2).

Twenty-three (23) farmers from Savannes Bay have completed 9 of the 11 units required for full CVQ certification, as per the June 2024 Gap Analysis of Farmers in Sustainable Sea Moss Production (See Annex 22). These farmers will be encouraged to complete the remaining units, and other farmers will be encouraged to register for the CVQ. However, the analysis revealed that the cost of certification is a significant barrier to registration. It also suggests that CVQ registration alone may not lead to substantial impacts; instead, successful certification should be pursued, which will require additional resources outside the current scope of the project.

The CVQ course (See Annex 9 for course outline) cannot be updated as part of the scope of this project. As advised by the consultant, the CVQ outlines would require input from industry professionals for each unit as well as each island utilising the course. Further, the programme is not governed by the Saint Lucia National Trust and, therefore, they should not be mentioned in the description of this activity (See next steps in Section 8 of the report).

The BIOPAMA project has sent in applications to the TVET Unit (responsible for CVQ certifications) to assess and certify ten farmers in Sustainable Sea Moss Production Level 3 CVQ between June and September of 2025. The cost of training is not included in this activity. Therefore, any farmers that deemed 'not competent' (for example, due to partial completion of the units) in the initial assessments will not gain certification but will need to fund their own training. Any training gaps identified during these assessments could be considered for targeting training Darwin's Year 3 activities.

3.5 Organise training using knowledge/resources from U.S. Department of Agriculture, CRFM, Saint Lucia Bureau of Standards and Environmental Health Department, in compliance with import/export and domestic requirements (Y1-2-3).

Food safety training (see Activity 3.6) has continued to educate farmers on the importance of best practices pertaining to improving and maintaining sanitary conditions in sea moss production. These efforts coincide with that of Export Saint Lucia's new goal of enforcing good manufacturing practices required by current key export market: the USA, UK and Canada. Export requirements (Annex 10) for each country were provided to farmers present during food safety workshops in March 2025.

Export Saint Lucia has now commenced inspections of processing and growing facilities, ensuring all exporters meet food safety requirements and obtain export certificates. These include inspection of such as drying/ sun bleaching products 3ft or more off the ground, using food safe material, conducting regular water quality checks and ensuring all products are free of pests and disease.

3.6 Train farmers and processors in best environmental and sanitation practices, and production and marketing of high-quality natural products for local and export markets (Y1-2-3).

A total of 110 farmers (60 male, 50 female) received training in food safety and quality between Y1, March 2024 (47 trained- 28 male;19 female) and Y2, March 2025 (63 trained- 43 male; 20 female). The training covered topics such as standard operating procedures, food safety practices, and farm management, improving farmers' knowledge of international standards and business management. Farmers are now better equipped to ensure the safety and quality of their produce, which will enhance the economic sustainability of their practices. Evidence of the training is available in Annex 6 (Attendance Summary) Annex 12 (Flyers) and Annex 17 (workshop photos).

3.7 Collaborate with Export Saint Lucia and Department of Commerce and Trade to prepare environmental/sanitary requirements and facilitate application for Geographic Indicator (Y2-3)

An application for the Geographic Indicator (GI) for Saint Lucia Sea Moss, led by Export Saint Lucia was first initiated in the first quarter of Y2 after technical documents, including a code of practice, were completed and submitted. Export Saint Lucia has also prepared the national logo for Saint Lucia Sea Moss.

Legal quotations and other technical requirements from Export Saint Lucia's lawyers are to submit this application to the registry in Saint Lucia. Significant legal fees are anticipated to complete this application, as well as substantial work and costs associated with: Promoting the GI; Training farmers on meeting GI standards; and Registering the GI in other key markets (Canada, USA, and Europe).

Adoption of the terms of conditions by farming stakeholders, as stated in the code of practice, will follow. In support of this activity and trainings, draft export requirements were also developed for validation and finalisation in Y3 (See Annex 10)

3.8 Launch Department of Environmental Health Unit responsible for environmental health, food safety, preharvest, harvest and postharvest monitoring of farms and processing facilities (Y2-3).

There has been no progress in the launch of a Department of Environmental Health Unit however the Bureau of Standards, with support of the British Standards Institute, has been leading in the efforts to support this goal through a project, financed by FAO Improving Sea Moss Food Safety in Saint Lucia

3.9 Assess new potential export markets (Y1-2-3).

Theoretical training sessions have provided farmers with the knowledge to adjust processing to meet moss export requirements guided by Export Saint Lucia and The Saint Lucia Bureau of Standards through Good Manufacturing practices. The project team aims to confer with Export Saint Lucia more closely in the upcoming year to identify ways the project can support this activity.

3.10 Carry out second training needs assessment (Y3).

This activity is pending. The first training needs assessment was completed in February 2025 (See updates on Activity 3.3).

Output 4 Activities:

4.1 Compile results and learning to date in Manual (including best practices and most efficient alternatives to plastic, wooden sticks, loose ropes) (Y2-3).

The report on the project's trials, inclusive of cost comparisons (Annex 7 and 16) and resources on cultivation techniques/materials tested is currently being drafted by the Fauna & Flora team with the support of the Fisheries Department. This document, which builds upon the recently published manual for sea moss farming methods written by Thomas Nelson (2025) entitled "Sea Moss Cultivation in the Caribbean - A Practical Guide to Best Practices"*, will be key resources for famers and other key stakeholder to implement best practice. See Annex 21.

4.2 Share Manual nationally and internationally, and draft and submit paper to scientific journal (Y3).

This activity is pending.

4.3 Present recommendations for management to the government and share outputs with CRFM (Y3).

This activity is pending.

4.4 Write report to update the UN FAO Value Chain Analysis (Y2).

The most recent value chain analysis was conducted and submitted by Export Saint Lucia in 2020 and thus requires an update in sync with industry growth. This process is highly consultative and requires the involvement of authority agencies and all users/stakeholders within the industry value chain and possibly the hiring of a consultant. The transition of project coordinators in addition to several project activities scheduled for year 2 hindered time constraints to effectively tackle this outcome. This activity is now planned to be completed in year 3.

3.2 Progress towards project Outputs

Output 1: Environmental impact reduction and mitigation measures are implemented as standard and best practice in two of Saint Lucia's core sea moss farming areas (covering c.120 hectares), preserving coastal ecosystems and biodiversity.

Baseline Condition:
At the start of the project, the predominant farming techniques used were anchored monoline and floating monoline, with 75% of farmers using some variation of these techniques. These methods relied on PET bottles for flotation, contributing to marine plastic pollution, and the extraction of forest wood for anchors contributing to degradation of coastal ecosystems, due to increases in illicit felling of trees and shrubs for material to support sea moss infrastructure.

Change Recorded to Date:
Introduction of sustainable farming methods such as bamboo rafts to farmers in practical workshops (March 25 and March 27, 2025). Materials, including bamboo, steel-welded screw anchors, and biodegradable manila rope, were provided to farmers for the construction, deployment, testing, and monitoring of approximately 120 bamboo rafts at the pilot sites (Potwee, Praslin, and Savannes Bay, PSEPA) covering approximately 0.161 hectares.

A Site Suitability Tool was developed and a biodiversity monitoring plan drafted to support monitoring of costal ecosystems and biodiversity and sustainable management of sea moss farms. The development of the tool directly allows suitable and non-suitable sites for sea moss farming to be identified based on environment criteria and will therefore serve to direct the growth and sustainable management of sea moss farms for the remainder of the project and future national efforts.

The benthic surveys and assessment were considered in the site suitability assessment to allow for a determination of baseline existing ecological systems in the coastal areas used for seamoss cultivation, collect actual data that will evaluate the status of these systems, establish permanent monitoring stations to monitor changes and impacts of the expanding seamoss farming areas over time. The benthic surveys were conducted between June 14 and June 18, 2024. Two (2) sites were surveys at Praslin and two (2) sites at Eau Piquant.

The assessment concluded that Praslin and Savannes Bay are good examples of mangrove ecosystems in connection with sea grass beds and patch reef systems. Juvenile reef fish were observed at both sites less than 5 cm long. This is good news as it indicates that the mangrove system is functioning as a nursery for coral reef species that move onto the reef in deeper waters, as they increase in size. The seagrass beds appear to be healthy, but the patch reef systems appear to be under stress. High percentages of turf algae were recorded at both locations; however positive indications of health were observed at both sites where several juvenile Diadema antillarum (as many as 20 per square meter) were observed on most of the transects. This is particularly encouraging given the fact that there was a mass die off of these organisms in Saint Lucia in 2023. Another encouraging indicator of health was the observation of several coral recruits on transects at Praslin and Savannes Bay.

Plans to increase adoption of sustainable practices are in place, with farmers showing strong interest and commitment to transitioning when their existing infrastructure requires upgrading. However, full transition to bamboo rafts across the sites is unlikely, as removing existing infrastructure that has not yet reached its lifecycle may not be the most sustainable approach.

Output Indicator Measurement:
The project will track the number of bamboo or other sustainable rafts constructed and the adoption of sustainable techniques as a key measure of success for this output. The trial results (annex 16), feedback from farmers, the material provision records, Site Suitability Tool and draft biodiversity monitoring plan, are included evidence of the progress towards Output 1.

Output 2: Participatory local governance and management mechanisms and improved national policy frameworks are adopted, supporting the widespread knowledge of, and effective enforcement of, sea moss farming regulations.

Baseline Condition: In Year 1 (since project inception), governance was largely informal, with no established legislation regulating seabed use for sea moss farming. Farmers operated based on verbal agreements regarding space division, but these arrangements were not universally known, especially by newer or temporary farmers, leading to conflicts over use of public space in the coastal zones.

Change Recorded to Date: Governance mechanisms created/developed to date include a Project Steering Committee comprised of two government agencies with jurisdiction for the management of the marine resources and marine protected areas, namely the |Department of Fisheries and the Saint Lucia National Trust, respectively. These two agencies have facilitated and provided the enabling environment for the planned improvement of the legal and policy framework governance of the sea moss subsector. As a result, a formal, comprehensive assessment of the legal framework for sea moss farming in Saint Lucia is currently underway (since March 2025) (See details in the update on Activity 2.5). Other governance tools developed in Y2 include the project's Grievance Mechanism; Stakeholder Engagement Plan, and the recently published manual/guide for sea moss farming methods written by Thomas Nelson (2025) entitled "Sea Moss Cultivation in the Caribbean - A Practical Guide to Best Practices". (See Annex 21)

Output Indicator Measurement:
Progress will be measured by the formation of formal governance structures and the adoption of sea moss farming regulations into national policy frameworks. The effectiveness of these mechanisms will be evaluated through continued stakeholder engagement, the implementation of SOPs, and the resolution of grievances. The legal assessment will inform the creation of stronger, policy-driven frameworks for sea moss farming in Year 3. PSC Terms of Reference Annex 20, grievance mechanism (Annex 13), and the stakeholder engagement plan (Annex 8) are available in annexes

Output 3: Sea moss farmers and their households benefit from increased capacity to implement sustainable sea moss production practices and improved access to market opportunities.

Baseline Condition: A scoping survey conducted in 2020 by Fauna & Flora and the Department of Fisheries found 26% of farmers surveyed reported 81-100% of household income is provided directly from the sale of sea moss products. 34% of sea moss farmers contribute 61-80% of household income directly from product sales. 32% of households contribute 41-60% of total income from sea moss. Sea moss sales provide between 0%-40% of income for the remaining 8% of households assessed.

Change Recorded to Date: Water quality tests conducted by one consultant in June 2024, noted elevated levels of E.coli, nitrates and phosphates in some water quality samples. More thorough follow-up testing is underway with protocol discussed in the November 2024 technical workshop. These tests will be available to the project team in May 2025. (See Annex 14)

110 farmers: (54.55% male; 45.45%female) have received training in food safety and good manufacturing practices, applicable to meet export requirements as of March 2025. The project has therefore exceeded its goal of achieving goal 3.4 "50 producers trained and assisted to process and market quality natural products by end of Y2" and 3.7. Through continued mentoring and support, the project is on track for meeting indicator 3.5 by the end of Y3. Although individual sea moss farmers have not yet registered to the TVET CVQ certification for sea moss farming, the information learnt during the aforementioned workshops, if followed will allow farmers to meet these food safety inspections. The British Standards Insitute consultant, who has supported the workshops prior, has committed time in their next visit to the Saint Lucia, an assessment of existing processing facilities on implementation of best practices for food safety.

Output 4: Best practices and lessons learned are shared and promoted at national and regional levels to influence wider policy and practice in sea moss farming.

Baseline Condition: The recently published manual/guide for sea moss farming methods written by Thomas Nelson (2025) entitled "Sea Moss Cultivation in the Caribbean - A Practical Guide to Best Practices"* is used to train sea moss farmers. Other supporting material such as the CANARI (1997) resource guide is also used. National Vocational Qualification (NVQ) and

Caribbean Vocational Qualification (CVQ) material developed by the Technical Vocational Education Training UNIT (TVET) for previous sea moss project has been used as bassline to guide the training and qualification.

Change recorded to date: The publication of the manual/guide for sea moss farming methods written by Thomas Nelson (2025) entitled “Sea Moss Cultivation in the Caribbean - A Practical Guide to Best Practices”* by the FAO. The project is on track to meeting this target as advances to legal framework investigation, completion of trials, KAP Survey, and Training Needs Assessment and *other* project activities are being accomplished.

3.3 Progress towards the project Outcome

Project outcome: The implementation and effective governance of sustainable sea moss farming in two coastal areas provides a much-needed diversified and viable livelihood option and avoids threats to coastal ecosystems and biodiversity.

Indicator 0.1 ≥50% of targeted sea moss farmers (n=≥200, target: 50% women) in Praslin and PSEPA demonstrate increased capacity to undertake sustainable growing techniques, alternative materials, and best environmental practices in Y3 compared to Y1.

As of year 2, 62 sea moss farmers have been trained in raft cultivation techniques 42M; 20F. These farmers were also exposed to the locally manufactured metal screw anchors, a long-term replacement and climate smart alternative for current stakes used. The project aims to increase awareness of these cultivation techniques by sharing video tutorials with additional farmers.

0.2 By end Y2, participatory governance mechanisms are established and functioning for two pilot sites, representing 11 communities and an estimated 200 sea moss farming households, and involving local authorities.

The Project Steering Committee (PSC) established to have active participation of all stakeholders in decision-making processes. We believe this will increase transparency, accountability, and ensure all represented agencies have a voice in shaping those decisions. A project inception meeting held prior to the PSC meeting brought key stakeholders together to discuss the objectives, scope, roles, responsibilities, and expectations related to the project.

Through the preceding Arcadia and partner BIOPAMA projects, buoy demarcation of the Savannes Bay sea moss production area has commenced and will be completed by the end of June 2025. Areas such as boat ways and wider conservation areas will be outlined within the bay to decrease conflict between resource users and conservation requirements. Demarcation in Praslin is currently underway.

The completion of the ongoing legal assessment of sea moss farming will identify the gaps in the current legal framework, particularly in relation to the use of the King’s Chain, and the existing laws under the relevant laws including the Fisheries Act. The identification of these gaps will inform the necessary amendments to national legislation, including through the drafting of an official Cabinet Memorandum and guide the drafting of policy and regulatory recommendations, including through the identification of seabed-leasing pathways of individual farmers and associations, to govern the sustainable practice of sea moss farming

0.3 ≥50% of targeted sea moss farmers (n=≥200) meet proposed sanitary requirements for food safety by Q3Y3, against baselines established in Y1.

There has been increased participation in all workshop activities from farmers. Food safety workshops in year 1 were attended by 47 farmers [28M (60%M); 19F (40%F)] with attendance in year 2 reaching 81 [45M (57%M); 35F (43%F)]. Stakeholder interest has increased with some farmers contacting the project team noting their unavailability to attend workshops for the days scheduled, however requesting to be updating on similar events in the future. We can therefore assume that the project will reach its targeted goal of 200 sea moss farmers by Y3.

0.4 By Y3, no forest-based materials are extracted from coastal tropical dry forests for use in sea moss farms in PSEPA and Praslin.

As mentioned previously, sixty-two sea moss farmers have been trained in raft cultivation techniques using PVC and bamboo as well as being exposed to alternative anchoring options.

The project has also provided all participating farmers with bamboo and anchors to construct alternative farms less reliant on coastal dry forest-based materials.

0.5 In Y3, ≥75% of women and men in participating households in PSEPA and Praslin (n=≥200 households) report significant improvements in one or more dimensions of well-being (e.g., income or personal security, more equitable relationships with other market actors, increased agency, better gender relations).

This indicator will be tested in the year 3 KAP survey. However, with increased stakeholder engagement and project exposure, we anticipate an increased potential for market outreach and product expansion increasing sector potential. The outcome of the legal assessment will also contribute.

3.4 Monitoring of assumptions

Outcome-level Assumptions

Assumption 1. Even as Saint Lucia's economy and employment levels improve following the collapse of tourism during the Covid-19 pandemic, local people remain keen to diversify their livelihoods and avoid sole-source dependence on tourism.

This assumption remains true. Overall, while tourism can provide significant economic opportunities for local communities, diversifying livelihoods ensures greater resilience, stability, and sustainability in the face of uncertain circumstances.

Assumption 2. In the absence of viable livelihood options, including employment in the tourism industry, local people are more likely to engage in unsustainable livelihood pursuits, including poaching and deforestation.

We continue to see an increase in the establishment of sea moss farms which means more felling of trees are taking place. Our project has developed mitigation strategies including gathering additional data through the site suitability assessment, and introducing farmers to sustainable farming methods which will reduce reliance on deforestation or other unsustainable livelihood activities.

Assumption 3. There are no major, adverse policy or land use changes within the project area.

Two major hotel developments are planned for the surrounding areas of pilot sites i.e. The Canelles Resort near Savannes Bay, and the Westin Le Paradis Beach and Golf Resort in Praslin. Through the previous Fauna & Flora Arcadia project, a representative from the Canelles Resort has been part of the stakeholder engagement process through participatory mapping of potential areas of development. The developer representative and other stakeholders present identified potential areas of conflict and solutions for each. Conversations with one sea moss farmer revealed that the Westin Le Paradis Beach and Golf Resort development has commenced engagement with Praslin Sea moss farmers, and the Ministry of Sustainable Development through the GEF: South-East Coast project. However, Fauna & Flora has not engaged developers at yet. This assumption is therefore being challenged, as coastal hotel developments may have impacts on water quality in sea moss areas.

Assumption 4: The project design accounts for existing public health/Covid-19 policies and guidelines on assembly and travel and assumes no new restrictions are introduced.

This assumption holds true as Covid-19 regulations are no longer in place.

Assumption 5: Severe weather, including hurricanes, does not affect project activities. The project will be planned around seasonal hurricane activity.

The sea moss subsector and other coastal livelihood activities continue to be vulnerable to the vagaries of climate change. Annual Atlantic Hurricane Season remains a major existential threat to the industry and require the intervention of adaptation strategies to build the resilience in the sea moss subsector. Introduction of new methods and other adaptation strategies, based on lessons learned from storm events, including Hurricane Beryl in June 2024 (See Annex 16), have been adopted in year 2 and hope to accelerate implementation in year 3.

Assumptions of Output 1

1. Farmers understand and espouse the value of using substitutes for wood and plastic bottles in their sea moss farming practices, and substitute materials are accessible and cost-efficient for farmers and do no environmental harm.

Feedback provided by farmers who have attended meetings thus far have indicated an increased understanding of the potential effects of the industry on biodiversity and the importance of being able to share this with more farmers who are not yet involved in this project.

2. *Data on biodiversity and ecosystem health in project sites from previous initiatives are available and suitable to inform the baseline project data set and underlying drivers of biodiversity loss.*

Project partners (the Department of Fisheries and Saint Lucia National Trust) collaborative agencies (specifically the GEF: Southeast Coast Project, and Saint Lucia National Conservation Fund), and Fauna and Flora's preceding Arcadia project share project findings on ecosystem health to inform baseline data.

Assumptions of Output 2

1. Increased knowledge leads to improvements in attitudes and behavior.

This assumption holds true: as mentioned previously, farmers who have engaged in conversations with project managers either in the field or structured meetings, are willing to employ suggested changes. For example, in previous years the Department of Fisheries engaged in a project identifying alternatives to PET bottles for the floating monoline technique which was later employed by several farmers.

2. The national government continues to support sea moss farming as a viable, sustainable livelihoods opportunity for local people and as an opportunity to diversify the economy away from dependence on the tourism industry.

The Saint Lucia Bureau of Standards has initiated the promotion of improved safety standards for Sea Moss. An application to The Standards and Trade Development Facility (STDF) for a Project Preparation Grant (PPG) to Improve Sea Moss Food Safety in St. Lucia along the value chain.

The STDF is a global multi-stakeholder partnership facilitating safe and inclusive trade by helping to develop and least-developed countries (LDCs) meet international sanitary and phytosanitary (SPS) requirements for trade. By promoting improved food safety, animal and plant health standards, the STDF is enhancing their access to international agri-food markets, including the European Union and the United States. The STDF was established by FAO, OIE, the World Bank, WHO and the WTO. To date, it has funded over 240 projects in Africa, Asia-Pacific, Latin America and the Caribbean, contributing to sustainable economic growth, food security and poverty reduction in support of the United Nations Sustainable Development Goals.

Assumptions of Output 3:

1. Climatic events, including hurricanes, do not jeopardize the viability of sea moss farms.

This project is in line with the Climate Change Adaptation Policy (CCAP) for Saint Lucia and recognises the importance of social vulnerability and of including all vulnerable groups in the design and implementation of adaptation responses. The new farming methods have incorporated exploring vulnerability context, coping strategies and adaptation needs of all vulnerability of the Sea Moss Subsector, Coastal zones and livelihoods of the farmers and their households at the project pilot sites. Though it a the appears obvious that simple coping would not help these groups to reduce their vulnerability, raising awareness regarding the anticipated elements of risks and early warning could facilitate them to strengthen their approaches to coping. However, such programmes will be tailor-made to cater to the needs of the target audience. Some tailor-made climate adaptation activities includes and not limited to appropriate early warning response: crop harvest prior to the event to recover some investments; the use of

bamboo material that has proven to be resistant to heavy wave actions; identification and selection of suitable sites for locating sea moss farms are some of the adaption measures practiced to date.

2. Current distributor, retailer, and consumer interest in good quality local products and services, both domestically and internationally, is maintained and increased.

There has been a growing awareness and appreciation for the economic, social, and environmental benefits of supporting local businesses. This interest is further bolstered by marketing efforts highlighting the unique value propositions of locally sourced goods and services, as well as ongoing initiatives to promote sustainability, ethical production practices, and community engagement within the local business ecosystem. Additionally, favourable government policies and incentives may contribute to the sustained interest in local products and services by fostering a conducive environment for their growth and competitiveness in both domestic and international markets

3. Sargassum landings do not increase to the point where they threaten the viability of sea moss farming in Saint Lucia.

Anecdotal evidence, this year has suggested a very high increase in sargassum in the coastal areas or Saint Lucia, including both pilot sites. According to the Journal of Global Health, Sargassum still remain a major public health hazard and a threat to livelihood to the Caribbean. Issues on systemic contamination of heavy metal in sea moss is currently investigated by a consultant under the project. This raised by the PSC as a major food safety issue. The PSC recommended scientific investigation. The sargassum information Hub, spearheaded by GEO Blue Planet Sargassum Working Group and a Fauna & Flora proposed sargassum biochar project in Saint Lucia provide potential for early warning systems and utilization to mitigate the impact of sargassum on the sea moss subsector. This is also supported by the site suitability matrix for further investigation.

Assumptions of Output 4:

1. Decision makers, partners and stakeholders are receptive to the learning generated by the project.
This assumption is vital for the success of the project. When decision makers, partners, and stakeholders are receptive to the learning generated by a project, it fosters an environment of continuous improvement and adaptive management. It allows for feedback loops that can refine strategies, enhance processes, and ultimately increase the project's chances of achieving its goals.
Embracing learning also demonstrates a commitment to growth and innovation, which can strengthen relationships and build trust among all involved parties. Transparent communication, sharing of insights, and a willingness to incorporate feedback into decision-making processes is paramount.

2. Problems and solutions at the project sites are applicable to other areas of Saint Lucia.

On-going conversations often reference pilot projects in other areas of the island. The monitoring protocols which will be developed for sea moss sites are replicable island wide. A group of sea moss farmers located in Anse La Ray and a group of women sea moss farmers in Laborie were invited to observe the construction and deployment bamboo raft training workshop. Four (4) from Anse La Ray and 2 from Laborie attended. (See update to Activity 1.7) The request for bamboo material from these farmers suggest the applicability and a receptiveness of the bamboo raft farming methods in other areas of Saint Lucia.

3.5 Impact: achievement of positive impact on biodiversity and multidimensional poverty reduction

- What impact was in your original application form?

Sustainable sea moss farming in south-east Saint Lucia, and ultimately throughout the island, improves community wellbeing and safeguards healthy coastal ecosystems, supporting thriving populations of critically endangered keystone species.

- What contribution is your project making to the higher-level impact on biodiversity conservation?

The completion of the Site Suitability Assessment provided essential data on current site conditions, while the associated Site Suitability Tool (Annex 15) offers a framework for identifying suitable and non-suitable sites for sea moss farming based on environmental criteria. This will ensure the sustainable management of sea moss farms for the remainder of the project and future national efforts. Additionally, a draft biodiversity monitoring plan (Annex 5) was developed, outlining general monitoring protocols for mangroves, coral reefs, seagrass beds, and water quality parameters (turbidity and chemical pollutants). These tools will collectively support positive biodiversity outcomes by ensuring farms align with environmental protection and safety standards. Experimental trial plots continued, with documented results supporting training efforts in sustainable sea moss cultivation infrastructure. Training workshops on raft construction and deployment were conducted for farmers in both Praslin and PSEPA.

- What contribution is your project making to a higher-level impact on human development and wellbeing (poverty reduction)?

Training sessions and workshops held to date have built capacity among sea moss farmers, including women and marginalized groups, equipping them with skills in sustainable cultivation and processing methods. This has increased resilience and supported long-term livelihoods. The project has also facilitated the future expansion of sea moss farming through the site suitability tool. Additionally, the grievance mechanism serves as a channel to address issues related to resource access and governance, while food safety and sanitation improvements have enhanced product safety and quality. Identifying opportunities to improve climate resilience, including exploring crop insurance for sea moss, further strengthens the project's contribution

4. Project support to the Conventions, Treaties or Agreements

Saint Lucia is a signatory actively participate in international conventions and agreements impacting on food security, including the World Trade organization (WTO), UN Food and Agricultural Organizations (FAO). Moreover, Saint Lucia has its own Food and Nutrient Security and Action Plan 2014-2024, which is national cross sectoral policy for Saint Lucia. The main goal is in line with this project in contributing to ensuring long term food and nutrition security and enjoyment by all, the rights to food in Saint Lucia. More so, it provides for the promotion of increased availability of locally produced, safe, quality nutritious food at remunerative market price to return to farmers through agriculture al innovation; removal and non-tariff barriers to trade and decrease market cost.

Contributing to CBD commitments and Global Biodiversity Framework (GBF), as well as Saint Lucia's 2nd revised NBSAP 2018-2025, the following contributing activities are on-going:

• A consultancy which will advise on the causes of biodiversity loss associated with sea moss farming through a rapid assessment of protected areas near pilot sites. The report from this study will also suggest areas suitable for sea moss production to reduce pressure on biodiversity.

• Public outreach through training and workshops have begun educating farmers on the value of biodiversity and how it supports their farming practice and vice versa thus identifying incentives for sustainable farming.

Project pilot sites also overlap with two Ramsar sites, Ma Kote Mangrove (2022) and Savannes Bay Mangrove (2002). Project efforts to reduce threats to these forests, particularly illicit felling of trees, will support Saint Lucia's "wise use of all their wetlands" under RAMSAR.

Climate change is an existential threat to the Sea Moss Sub-sector in Saint Lucia. Threats to coastal and marine ecosystems will include sea level rise, storm surges, elevated sea temperatures and ocean acidity. predictions of future scenarios, experience and data to date have shown evidence of climate change and climate variability on nearshore and coastline communities including Canaries, indicates increase threats to coastal and marine ecosystems, fish harvest and physical infrastructure on the coastline. These will indirectly impact the agriculture sector, and all are likely to have further negative impacts on vulnerable populations in rural farming communities.
Saint Lucia National Adaptation Plan (SLUNAP) have identified support for finance, technology transfer, and capacity building, from a variety of sources, including public, private, bilateral, multilateral, and alternative sources, all to help the country build climate resilience and address the seemingly unsurmountable phenomenon of climate change.

The project has and will continue to contribute to the following SDGs:
SDG 5 Gender Equality: On-going project activities are aimed at including women in all aspects of the discussion and training. Women leading sea moss cooperatives have been added as project partners and are also represented on the Project Steering Committee.
SDG 12 Responsible Consumption and Production; SDG 14 Life Below Water; SDG 15 Life on Land:

Experimental cultivation techniques for sea moss aim to improve sustainability of sea moss production through natural resource management. Current farming methods utilize trees from coastal and dry forests which are harvested without regulation. As mentioned previously, current farming techniques also utilize PET bottles as floatation devices which increases the incidence of marine pollution. Offering alternatives such as PVC and bamboo decreases threats associated with marine debris on these ecosystems (14.1, 14.2, 15.2).

The project recognizes the importance of sea moss cultivation as part of the blue economy (12.2; 14.7) and thus is actively training and educating farmers on new technology which can help make the industry more sustainable.

These same actions will contribute to the goals of the St. George's Declaration of Principles for Environmental Sustainability in the OECS, which commits Saint Lucia to conserving biodiversity, promoting sustainable management and improving human well-being.

5. Project support for multidimensional poverty reduction

The project has created capacity building and skill development opportunities for at least 23% of all sea moss farmers including women, independent farmers, and members of farmers association and farmers with disabilities. Farmers have received training, technical assistance in sustainable cultivation methods, which increases production and reduces the impact on the environment. By enhancing the skill set of farmers, the project not only improves their profitability but also empowers them to start their own ventures, further contributing to poverty reduction.

Although most of the multi-dimensional poverty reduction activities are/will be realised in years 2 and 3 of the project, the impact is mainly indirect and will be realized overtime. Notwithstanding, the achievement of the Site Suitability Assessment Tool (Activity 1.3), will see the establishment of additional sea moss farms which can create jobs, especially in coastal communities like Praslin and Eau Piquant where livelihood options may be limited. These jobs can range from cultivating, harvesting, and processing where more individuals can be engaged. More farms will help individuals and families generate income, thereby reducing poverty levels in the community.

Specific aspects of poverty which the project will address are:

- Lack of infrastructure such as transport which hampers access to markets, hospitals, schools, ports, airports etc: As highlighted under indicator 3.5 marketing opportunities will be explored domestically and internationally. The project aim is to increase the income potential for those involved in its production chain through collaboration with PSC partners; Export Saint Lucia and Saint Lucia Bureau of Standards. This increased income can contribute to poverty reduction by providing households with more financial stability and resources to meet their basic needs. A needs assessment (Activity 3.3) was carried out, to determine the needs of the farmers which can be shared with community council representatives and government agencies where necessary.
- Lack of access to clean water and sanitation – The needs assessment and food safety trainings have and continue to inform issues related to clean water and sanitation. Complementing future endeavours of this project, the Government of Saint Lucia and the SLUNCF have previously provided bleaching tables in both pilot sites. This will improve food safety handling and sanitation practices in communities, inhibiting risks associated with the unhygienic practice of drying the product at ground level.
- Lack of access to services including education, healthcare, finance etc: As highlighted in indicator 2.1, the Grievance Mechanism, is an outlet where farmers can address issues related to resource access, such as disputes over coastal land rights or unfair allocation of sea moss zones. It is our hope that ensuring equitable access to resources can enhance productivity and income generation opportunities for sea moss farmers. Additionally, this will be highlighted in the final needs assessment scheduled for Y3.
- Poor governance including the lack of community voice in decision making, and a lack of gender equality – The grievance mechanism was tailored to the needs of sea moss farmers and can contribute significantly to poverty reduction by addressing various challenges they face and empowering them to pursue sustainable and resilient livelihoods.
- Climate change impacts causing instability: The impact of climate change can be catastrophic for sea moss farmers. With the introduction of new methods of raft cultivation, farmers can remove their rafts from the sea and anchor them on the shore during the active hurricane season. This will protect the farmers from suffering severe financial losses and major disruptions in production.
- Loss of ecosystem services causing instability such as water security: In indicator 1.2, we are promoting sustainable practices in sea moss farming. The project contributes to the conservation of coastal ecosystems, which are often vital sources of livelihood for coastal communities. Preserving these ecosystems ensures the long-term availability of resources and livelihood opportunities, thereby supporting poverty reduction efforts.

6. Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	X

Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

The project has all the characteristics of a 'sensitive' approach, whilst also increasing equal access to assets, resources, and capabilities for women and marginalized groups, as evidenced by gender balance in participation, the targeted approach for women and marginalised groups, inclusive stakeholder engagement, and efforts to address barriers. Currently we do not have a gender plan, however the project has planned to make a conscious effort to target 40 – 50% of women in log frame activities highlighted below:

- 0.1 ≥ 50%- of targeted sea moss farmers (n=≥200, target: 50% women) in Praslin and PSEPA demonstrate increased capacity to undertake sustainable growing techniques, alternative materials, and best environmental practices.
- 2.1- Stakeholder engagement undertaken with sea moss actors (farmers, processors, traders) (c.500 people, target: 50% women, across 11 coastal communities living in/adjacent to two pilot sites), with at least 70% of stakeholders indicating acceptance for agreed sea moss management plan by Y3.
- 2.2- >10 farmers/community representatives (target: 40% women) participate in project steering committee in Y2 and Y3.
- 3.4, At least 50 producers (target: 50% women) trained and assisted to process and market quality natural products by end of Y2 (with ongoing mentoring and support through Y3).
- 3.5 ≥150 famers and processors (target: 50% female) demonstrate an increased knowledge and understanding of sustainable farming methods and the resulting marketing opportunities in Y3.

The project takes into account the GESI context in the following ways:

Rights: Legal and customary

A formal, comprehensive assessment of the legal framework is currently underway (since March 2025). This assessment will provide insights, gaps and opportunities related to the rights of sea moss farmers including but not limited to their right to various avenues for procuring a lease of the seabed for sea moss farming in the two pilot sites.

Practice: Attitudes, customs & beliefs

The project has carried out a KAP Survey and Training Needs Assessment with local communities to understand traditional farming practices and attitudes toward sustainable sea moss farming. The KAP survey and the Training Needs Assessment indicated that farmers, especially women and marginalized groups, have knowledge of or are open to adopting more sustainable farming techniques but need training methods that are more practical, accessible, and adaptable to their needs. The data collected will inform our approach to trainings and workshops to address these gaps.

Environment: Stressors & vulnerability

Environmental stressors, such as climate change, pollution, and resource scarcity, have a greater impact on women and marginalized groups. For example, women and other vulnerable groups may suffer greater losses from extreme weather events due to low swimming skills, which limits their ability to recover from storms. It is also important to note that 49% of the women surveyed reported that sea moss farming contributes over 60% of their income, as opposed to 25% of men reporting the same (KAP survey, 2024). This points to a higher reliance on sea moss farming for women farmers' livelihoods. The Training Needs Assessment also identified the need for training on more climate-resilient farming techniques which might help to alleviate these challenges.

Roles and Responsibilities: Division of Time, Space & Labour:

The project is working to ensure that women are actively involved in project activities, as described above, aiming for 40-50% female participation in all activities. Project workshops and

trainings for sea moss farmers and processors have all been planned in consideration of the availability/schedules of project participants, including based on gender and age. Approximately 60% of respondents see training during work hours as a barrier to participation; and less than half (46%) see training during non-work hours as a barrier to participation (Training Needs Assessment, February 2025). The Training Needs Assessment also highlighted the need for inclusive training programs that accommodate the specific challenges women face such as limited swimming skills and heavy workloads between household labour and farming.

Representation: Participation, Inclusion & Power

The project has taken steps to ensure meaningful participation by establishing a Project Steering Committee that includes representatives from local farmers' associations. PSC membership comprises three farming groups and six authority agencies; 33% of farmer representatives/members are women.

Women accounted for 45.45% of farmers who participated in practical workshops in sustainable farming methods in March 2025 (see update on Activity 1.7). The project expects to continue to meet this target in upcoming training sessions.

Project activities such as the KAP Survey and Training Needs Assessment were designed to be as inclusive as possible, considering the participation of women and marginalised groups in the activities as well as the analysis and design of activities. In terms of the data collected to inform our actions, 34% (67/198) of KAP respondents were women, while 33.33% (19/45) of TNA focus group and interview participants were women).

GESI considerations will inform Activity 2.4, the establishment of a Praslin Community Working Group, planned for Y3, with specific steps to consider the issues related to participation, collaboration and unity identified in Praslin.

The project has established a grievance mechanism, which allows stakeholders to voice their concerns and resolve issues. This mechanism supports meaningful participation by providing a formal, accessible channel for communication. The mechanism has been shared with farmers through digital and physical flyers, ensuring that everyone has the opportunity to raise issues.

Resources: Access & Control of Assets and Services

The project focuses on improving access to resources for all farmers by providing training, technical support, and access to market opportunities. The KAP survey revealed that farmers lack awareness of available resources, such as support services. In response, the project will enhance outreach efforts, providing materials, and facilitating access to new markets. The collaboration with Export Saint Lucia aims to expand market access and ensure that all farmers, including marginalized groups, have equal opportunities to benefit economically.

Considerations for Social Inclusion and Meaningful Participation

The project ensures meaningful participation by engaging local communities, including women and marginalized groups, in all stages. It has actively included these groups in consultations, workshops, and decision-making, addressing barriers identified in the KAP Survey and Training Needs Assessment. Key strategies involve adapting trainings to ensure equitable access and outcomes for women and marginalized groups. The project continues to integrate GESI considerations into its activities, ensuring inclusive participation across gender, age, and ability and aiming to achieve equitable outcomes.

Lessons Learnt or Challenges on GESI

The project has found that while there is a willingness to adopt new practices, a one-size-fits-all approach does not work for all farmers, highlighting the need for training and farming techniques that are adaptable to the specific needs of women and marginalized groups. Additionally, the Training Needs Assessment emphasized the need for more inclusive training methods. A challenge faced has been overcoming the lack of participation and unity within farmer communities, particularly in Praslin.

7. Monitoring and evaluation

Outcome: The implementation and effective governance of sustainable sea moss farming in two coastal areas provides a much-needed, diversified, and viable livelihood option and avoids threats to coastal ecosystems and biodiversity.

Sea moss farming as it stands, has an even greater potential to create a viable livelihood option for those involved. As per the most recent KAP survey (Annex 18), 96% of respondents agreed that sea moss farming has the potential to improve livelihoods in coastal areas.

Theoretical workshop setting such as those used to conduct food safety training, creates an environment for problem mapping and solution development within participants without the intervention of authority agencies. This level of open communication among participants creates a perfect environment for emphasising the need for individuals to join and/or strengthen the governance structures of existing associations. All stakeholder outreach activities i.e. meetings, field visits and workshops- provide the project team an opportunity to highlight the importance of environmental conservation as a factor directly influenced by sea moss cultivation techniques. With that mentioned, the KAP survey revealed an average rating of 4.6 out of 5 (very important) with reference to the importance of conserving and protecting the coastal ecosystems.

- **What are the indicators of achievements (both qualitative and quantitative) and how are you measuring these?**

The workshop attendee summary is the main indicator for monitoring participation in both theoretical and practical workshop sessions. These records have proven increased project awareness, particularly from farmers who are not part of sea moss associations the previous primary method for information sharing. Feedback messages received in person and via the WhatsApp platform from farmers are also recorded after workshop expression of thanks.

KAP survey results provide both quantitative and qualitative of project impacts during analyses. The monitoring log which will be produced as rafts are constructed and deployed will provide a quantitative metric of sea space occupied by varying techniques of sea moss production.

Monitoring and Evaluation for outputs

Output 1: Through continued collaboration with the Department of Fisheries, a standardized monitoring log for sea moss farms can now be created as farmers commence construction and deployment of rafts. This will allow the project team, and the Department, to better monitor how a larger transition of the rafts impact biodiversity. Uptake of these methods will also create visible impact of skills application providing a quantitative metric for: Indicator DI-A04 *Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.* This monitoring log will coincide with the larger biodiversity monitoring log designed through partner collaboration in the technical workshop which has been drafted with a citizen science component for water quality and biodiversity monitoring. Establishment of this mechanism as will also contribute to DI-B05: *Number of people with increased participation in local communities / local management organisations (i.e., participation in Governance/citizen engagement)*.

Output 2: Decreased participation from some Praslin association representatives in the project steering committee is due to dissatisfaction with past projects and perceived lack of industry changes, such as increased market access. To keep these groups informed, project updates may need to occur more informally, such as through site visits or sharing meeting minutes | Feedback from KAP surveys has provided a baseline understanding of the perceived hesitations concerning association operations, and in turn, membership. This information will inform the approach to strengthening governance mechanisms of these institutions. Continued engagement in the field with these groups will allow more farmers to become aware of the benefits and opportunities for organized groups and hopefully increase registration.

Output 3: Food safety and sustainable technique trainings increase awareness of international requirements for export and provide farmers with the knowledge and resources (respectively) to improve the structure and management of farms. Water quality testing and monitoring plans which will be developed as the project progresses will ensure the environment is well managed and data is available to all farmers increasing market security. In Year 3, the project will facilitate inspections of processing facilities through the British Standards Institution where.

Output 4: Communication materials on best practices for biodiversity preservation and lessons learned on improving sea moss production sustainably will be created shared with farmers island wide digitally. For example, partner agency the Saint Lucia National Conservation Fund, has created an animation that outlines the biodiversity and marine management challenges of sea moss farming and provides solutions for some, as well as informs farmers of the upcoming demarcation exercise. A manual with results of trials, lessons learned from the project etc. will also be created and shared with sea moss farmers to allow the extension adoption of cultivation methods. The project team and our partners also actively encourage information sharing and teaching between sea moss farmers for wider uptake as KAP survey results revealed most farmers learn from one another.

- ***Have there been any changes made to the M&E plan over the reporting period?***

No changes have been made to the monitoring and evaluation plan to date.

- ***Do partners share the M&E work or is this the role of one organisation? How is information shared amongst partners/stakeholders?***

Socioeconomic baselines established in Fauna & Flora's Year 2 KAP survey will be used as a baseline to determine farmers/processors/retailers' household income and wellbeing. The impact of livelihoods and/or market access support will be evaluated through another survey in year 3. The Fisheries Department will record practices in sea moss farms, and supporting authority agencies (Forestry Division, Saint Lucia National Trust, Fisheries Department) will monitor ecosystem health based on finalized collaborative monitoring plans. Fauna & Flora will monitor beneficiary/stakeholder participation in the steering committee, workshops, and consultations.

One significant challenge affecting the implementation and monitoring is the limited data culture and low implementation capacity within some government and statutory bodies. The success of these tools relies on their adoption by relevant agencies, which is currently hindered by inconsistent data management practices and lack of institutional capacity including for collaboration.

8. Lessons learnt

Adoption of Sustainable Farming Methods:

- The cost of materials and labour is a barrier to farmers adopting new and more sustainable cultivation methods. The re-introduction of bamboo, which is more cost effective than PVC, has shown promise. Providing incentives (materials for bamboo raft construction and installation) will encourage the adoption of more sustainable practices. Therefore, we are considering how we can make changes in Year 3 to facilitate more incentives, particularly to support achievement of Output 1 and Indicator 1.2. This may result in the need for a change request.
- Involving/engaging sea moss farmers in trial plots allowed them to observe the benefits of new methods first-hand and, based on their feedback, improved their willingness to consider alternative methods. Though trials were successfully completed, engaging farmers with the trial plots early on in their implementation may have accelerated the transition or expansion of farming infrastructure using the tested methods. We recommend an approach that involves collaboratively managing and monitoring the trials, equipping farmers with simple record sheet. This approach will be considered for the

monitoring of 120 bamboo rafts that workshop participants were incentivised to construct and deploy on their farms.

Governance and Membership Challenges: Barriers to Association membership and Fisheries Department registration, as identified in the KAP Survey, could limit the achievement of governance targets. Specifically, lack of transparency in association management, lack of awareness about the registration process, and a limited understanding of the benefits of joining associations were highlighted. These barriers can be addressed by the Associations and the Department of Fisheries through increased outreach and simplified registration processes, which would improve participation and foster unity among farmers. Or, alternative governance mechanism could be explored.

Partner Capacity & Sub-grant: The capacity of the Saint Lucia National Trust to support and execute activities planned under the sub-grant agreement was found to be limited. In Year 2, The Trust did not sign the proposed sub-grant agreement, citing lack of capacity. Consequently, funds and associated activities earmarked for the sub-grant were not utilized as initially planned. A Change Request will be submitted to adjust the funding allocation for the Saint Lucia National Trust in Y3 and outline new plans for executing these activities, ensuring the necessary support is in place to carry out the remaining project tasks effectively.

Financing of Legal and Policy Activities: The project identified that the budget allocated for legal advice is insufficient, potentially limiting the scope of activities under the project and the achievement of Activity 2.5. The legal assessment that is currently underway (as described in updates to Activity 2.5) will expend all of the funds budgeted for legal advice, producing a Legal Landscape Assessment Report, Draft Memorandum to Cabinet with policy recommendations, and Draft Support Tools and Instruments. Therefore, changes will need to be made to support the full achievement of Activity 2.5 which is involves drafting of a sea moss farming policy and regulations.

Farmer Relationships/Dynamics: The dynamics of farmer relationships in Praslin have posed challenges in establishing a Praslin Community Working Group. More frequent field visits have allowed for more organic feedback and engagement, particularly in Praslin where association membership is lower. Engaging directly with farmers in the field helps gather insights and build trust, especially where association engagement is limited. The project will focus on continuing to address these challenges by fostering unity and collaboration in Year 3.

Farmer/Association's Needs - Insurance: Securing crop insurance has emerged as a challenge for farmers, as they face difficulties in accessing financial products that would protect them from climate-related risks and market volatility. The project has identified this as a barrier to long-term sustainability and resilience. Moving forward, efforts will be made to support farmers in finding opportunities to access crop insurance and explore partnerships with financial institutions and government agencies to help mitigate risks and provide financial security.

Training & Stakeholder Engagement:

- The KAP Survey and Training Needs Assessment have provided valuable insights that inform project direction and adaptive management. However, earlier implementation would have supported better and more targeted programming for trainings. The findings highlight key challenges and opportunities for farmers, particularly regarding farming techniques, governance, and training needs. These assessments are instrumental in refining the project's approach to addressing specific gaps and barriers. Additionally, they have been shared with stakeholders and other projects, offering critical data for planning and improving their activities, aligning goals across initiatives, and increasing the effectiveness of joint efforts.
- Combining food safety workshop trainings with other needs of the sea moss industry such as record keeping and business management worked well as it encouraged more farmers to attend and gain new information. Expanding training offerings to address multiple needs at once increases participation and relevance of training programs.

- Sharing information through flyers near sea moss growing sites and using WhatsApp/text for outreach has increased participation and engagement in workshops. This lesson highlights the value of using multiple communication channels beyond association executives to improve reach and attendance. Going forward, we will distribute flyers in bus shelters and churches, ensuring that farmers without transportation, or those part of religious groups, have better access to training opportunities. This was a helpful suggestion made by a participant in the most recent workshop.
- Scheduling training sessions on weekends or evenings should be included as an option, as several individuals reported that daytime sessions conflicted with work or other priorities. Offering training outside of regular working hours will increase participation and allow more people to engage willingly.

Project Visibility:

Insufficient focus on project communications in both Y1 and Y2, combined with challenges in recognition and crediting by stakeholders and partners, has limited project visibility. To address this, the project is prioritising media engagement through the production of two project videos and an article to profile the work of the project in the international press i.e. Oceanographic Magazine.

9. Actions taken in response to previous reviews (if applicable)

Not applicable

10. Risk Management

No new risks have arisen in the last 12 months that were not previously accounted for.

11. Scalability and durability

The project has made significant progress in ensuring its durability and scalability through the development of foundational outputs, such as policies, tools (Example: Site Suitability Tool, Biodiversity Monitoring Plan, Training Needs Assessment), and lessons learned. These outputs create a scalable framework for managing the sea moss sector and have the potential to influence the growing sector both locally and regionally. For instance, the site suitability tool is crucial for determining optimal locations for sea moss farming island-wide based on environmental criteria.

Key stakeholders, including government agencies, NGOs, and local farmers, have been actively engaged through the Project Steering Committee (PSC) and technical workshops. Their involvement has ensured alignment with ongoing initiatives such as BIOPAMA and the GEF South East Coast Project, contributing to the project's scalability and long-term impact.

To support sustainability, the project has developed a comprehensive monitoring plan for critical habitats in collaboration with local agencies. Fauna & Flora is also working on establishing memorandums of understanding (MOUs) with implementing agencies to ensure continued engagement post-project. Additionally, capacity-building efforts have strengthened the internal structures of sea moss associations, facilitating long-term engagement with government bodies to regulate the industry after the project concludes.

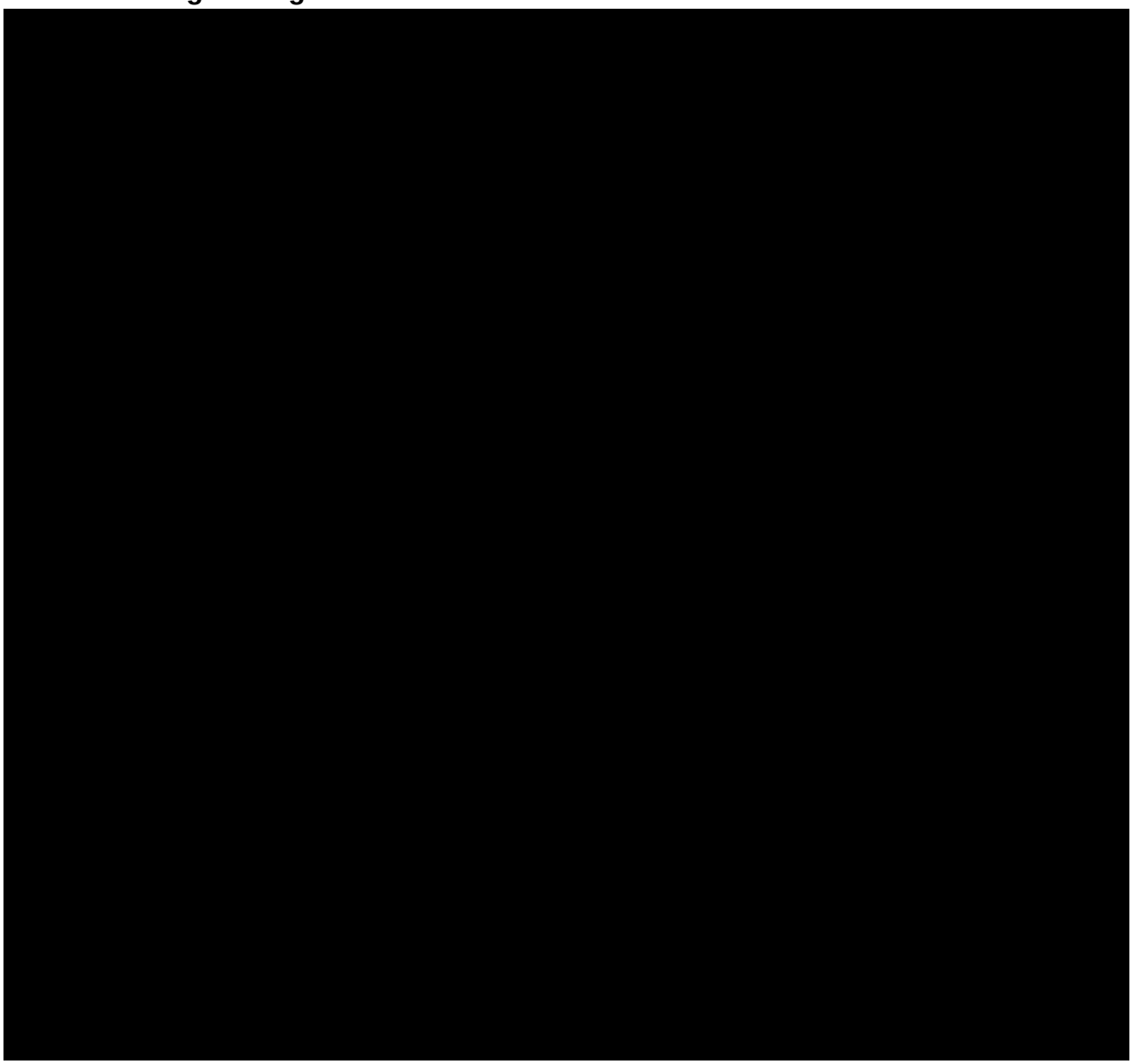
The adoption of sustainable farming techniques is expected to mitigate threats to marine and coastal biodiversity, reduce plastic waste, and open new market opportunities for farmers. Moving forward, Fauna & Flora will continue to assist farmers' associations in securing additional funding, ensuring that the project's benefits extend beyond its conclusion and contribute to both local livelihoods and the health of coastal ecosystems.

12. Darwin Initiative identity

The project has made efforts to publicize the Darwin Initiative through various platforms, including the use of the Darwin Initiative logo on presentation materials for the project's inception and PSC meetings, training flyers, grievance mechanism, and reports. The UK Government's contribution has also been acknowledged in project communications, including public presentations, stakeholder meetings, and through the British High Commission's engagement with the project. The Darwin Initiative funding has been recognized as a distinct project, with a clear identity. However, it also supports existing initiatives aimed at improving sustainable sea moss production in Saint Lucia, thereby complementing broader efforts in the region.

Within the host country, the Darwin Initiative is well recognized by key stakeholders including government departments (e.g., Fisheries), Sea Moss Farmers Associations, the Bureau of Standards, and Export Saint Lucia. These organizations are fully aware of the Darwin Initiative's support and collaborate on project activities to ensure its successful implementation. Looking ahead, communication materials, including two project videos, optimised for social media, and an article to profile the work of the project in the international press i.e. Oceanographic Magazine, will further raise the profile of the project and the Darwin Initiative Identity.

13. Safeguarding



[redacted]

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (se below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				

Capital items (see below)	[redacted]			
Others (see below)				
TOTAL	**153,202.4**	**153,202.4**	**0.03**	

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)	[redacted]		
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)			Arcadia Project: Improving Marine Management and Sustainability of Sea Moss Farming along Saint Lucia East Coast.

15. Other comments on progress not covered elsewhere

Please keep the following confidential: Project Expenditure values; and Annexes related to Water quality results (Annex 14), Draft KAP Survey Report (Annex 18), Training Needs Assessment Report (Annex 19)

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

Not applicable.

Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

Project summary	Progress and Achievements April 2024 - March 2025	Actions required/planned for next period
Impact Sustainable sea moss farming in south-east Saint Lucia, and ultimately throughout the island, improves community wellbeing and safeguards healthy coastal ecosystems, supporting thriving populations of critically endangered keystone species.	The completion of the Site Suitability Assessment provided essential data on current site conditions, while the associated Site Suitability Tool (Annex 15) offers a framework for identifying suitable and non-suitable sites for sea moss farming based on environmental criteria. This will ensure the sustainable management of sea moss farms for the remainder of the project and future national efforts. Additionally, a draft biodiversity monitoring plan (Annex 5) was developed, outlining general monitoring protocols for mangroves, coral reefs, seagrass beds, and water quality parameters (turbidity and chemical pollutants). These tools will collectively support positive biodiversity outcomes by ensuring farms align with environmental protection and safety standards. Experimental trial plots continued, with documented results supporting training efforts in sustainable sea moss cultivation infrastructure. Training workshops on raft construction and deployment were conducted for farmers in both Praslin and PSEPA.	
Outcome **The implementation and effective governance of sustainable sea moss farming in two coastal areas provides a much-needed diversified and viable livelihood option and avoids threats to coastal ecosystems and biodiversity.** (Insert **agreed** project Outcome statement)		
Outcome indicator 0.1 ≥50% of targeted sea moss farmers (n=≥200) in Praslin and PEPSA demonstrate increased capacity to undertake sustainable growing techniques, alternative materials, and best environmental and sanitation practices in Y3 compared to Y1	To date, 110 farmers (60 male, 50 female) have been trained in food safety practices since the start of the project (47 in March 2024 (28 male;19 female) and 63 in March 2025 (32 male;31 female). To date, 62 farmers (42 male;20 female) have been trained in sustainable raft construction and deployment to improve farming efficiency and reduce environmental impact (March 2025). NB: Some farmers attended both of the above-mentioned trainings i.e. the figures presented are not a direct report on demonstrated capacity development. The Training Needs Assessment (February 2025) and three (3) Steering Committee meetings held in since Year 1 (9/03/2024; 20/11/2024; 31/03/2025) supported the project's capacity-building efforts. Evidence of progress is provided in	Construction, deployment, testing, and monitoring of sustainable farm infrastructure (~120 bamboo rafts, covering approximately 0.161 hectares) at the pilot sites (Potwee, Praslin & Savannes Bay, PSEPA) is planned. Additional training on food safety and sustainable techniques will also be conducted in Year 3.

	section 3.1 and Annex 6 (Workshop Attendance Summary) and Annex 19 Training Needs Assessment Summary Report).	
Outcome indicator 0.2, By end Y2, participatory governance mechanisms are established and functioning for two pilot sites, representing 11 communities and an estimated 200 sea moss farming households, and involving local authorities	Three (3) Participatory Steering Committee (PSC) meetings have been held to date (9/03/2024; 20/11/2024; 31/03/2025), fostering active collaboration among stakeholders. A Technical Working Group meeting (Annex 11) was held in November 2024 to review and validate the Site Suitability Assessment and Tool, further strengthening governance strategies for sustainable sea moss farming. Navigational routes were mapped in Savanne's Bay, PSEPA in February 2025. Buoys purchased for demarcation of sea moss farming areas and installation activities initiated.	Completion of installation of buoys for the demarcation of sea moss farming areas. Finalisation and formal adoption of Site Suitability Assessment Tool
Outcome indicator 0.3 0.3 ≥50% of targeted sea moss farmers (n=≥200) meet proposed sanitary requirements for food safety by Q3Y3, against baselines established in Y1.	110 sea moss farmers farmers (60 male, 50 female) have been trained between 2024 and 2025 in good manufacturing practices for food safety.	An assessment of sea moss processing plants will be conducted at the end of 2025 with the support of the BSI. Export Saint Lucia will also be engaged moving forward as a site inspection and food safety standards are required to obtain export permits.
Outcome indicator 0.4 By Y3, no forest-based materials are extracted from coastal tropical dry forests for use in sea moss farms in PSEPA and Praslin	Alternatives to sticks for anchors have been tested. However, the cost of these materials will influence the potential for a full transition away from sticks	More cost-effective alternatives will be explored in year 3.
Outcome indicator 0.5 In Y3, ≥75% of women and men in participating households in PSEPA and Praslin (n=≥200 households) report significant improvements in one or more dimensions of well-being (e.g., income or personal security, more equitable relationships with other market actors, increased agency, better gender relations	0.5 Training support for farmers and media outputs highlighting Saint Lucia's Sea moss will hopefully increase market opportunities for the industry.	Continued collaboration with export agencies to raise the profile of Saint Lucia's sea moss will progress into year 3.
Output 1 Environmental impact reduction and mitigation measures are implemented as standard and best practice in two of Saint Lucia's core sea moss farming areas (covering c.120 hectares), preserving coastal ecosystems and biodiversity.		
Output indicator 1.1	Site suitability criteria (tool) (Annex 15) has been developed and edited through a technical workshop (Annex 11).	The tool will need to be formally adopted in Y2 and applied to

By Y2, suitable and non-suitable sites for sea moss farming are identified based on environment criteria and in consultation with farmers at two pilot sites in PSEPA and Praslin	Drivers of biodiversity loss were identified through desk review in Y1.	pilot sites to determine suitable and non-suitable sites in detail for each bay.
Output indicator 1.2 By end Y2, 120 hectares of sea moss farming area across two pilot sites is cultivated using best practice methods to avoid and/or reduce negative environmental impact, including on marine turtles and seagrass beds,	0.161 hectares covered by approximately 120 bamboo rafts. Continued engagement and education on sea moss cultivation best practice is still on-going. The cost associated with suggested techniques has hindered rapid transition. (See Annex 7) Adjusting the current monoline techniques currently to reflect best practices e.g. tightened lines, and use of flotation devices for harvesting to reduce drag during harvests at all sites is observable. (See Annex 17 for photos)	Incentivise uptake of best practice methods by aiding farmers in building bamboo rafts, providing bamboo and other sustainable farm materials and aligning the criteria for leasing seabed with the adoption of sustainable farming practices.
Output indicator 1.3 ≥40% of all registered farmers use alternatives to wooden sticks and plastic bottles by Y2.	63 farmers (~14% of 2023 registered farmer count) have received materials to construct rafts which significantly reduces the number of sticks and eliminates the need for plastic bottles. Although this method does not completely eliminate the need for sticks as anchors, we anticipate a reduced reliance on these materials with farmer investments. (See Annex 6 for attendance list)	Farmers will also be receiving screw anchors to commence the transition and provide proof of concept on a wider scale.
Output indicator 1.4 From Q1Y2 onwards, 100% of turtle entanglements in farms are reported to the Fisheries Department and the project steering committee.	KAP survey results crossed referenced with Fisheries Department records show very few cases of entanglements in pilot sites get reported. There is no evidence however that any entanglements have occurred within the lifetime of the project. Data collected by the Saint Lucia National trust on turtle nesting sites in the PSEPA coastal areas, which includes the Savannas Bay and Man Kote areas with significant sea moss farms, show a decrease in nesting activities for the 2024 nesting season. This information is not sufficient to suggest a negative impact of sea moss on turtle nesting sites. Further research to investigate the relationship of sea moss and turtle nesting sites.	A data log was developed in October 2024 to facilitate collection of data on sea moss, including biodiversity and environmental impacts. Promoting the use of data logger for by Fisheries Extension Officers, the project assistant and data capture by the sea moss farmers through the citizen science initiative will significantly reduce this data gap.
Output indicator 1.5 By the end of Y3, seagrass coverage is stable and has not decreased in monitoring quadrats established in farming areas in Y1.	The benthic surveys conducted between June 14-18, 2024, at two sites each in Praslin and Eau Piquant (Praslin and Savannes Bay) were included in the site suitability assessment to establish baseline data on the ecological systems in the coastal areas used for sea moss cultivation. The assessment found Praslin and Savannes Bay to be good examples of mangrove ecosystems connected to seagrass beds and patch reefs. Juvenile reef fish were observed, indicating mangroves function as a nursery for coral reef species. While seagrass	Permanent monitoring stations will be established in sea grass meadows and other coastal ecosystems as part of the biodiversity monitoring plan being drafted. Development and activation of farms monitoring log in Year 3 in

	beds appeared healthy, patch reefs showed signs of stress, with high turf algae percentages but positive signs of health, including juvenile Diadema antillarum and coral recruits observed on transects at both sites. Additionally, permanent monitoring stations have been established to track changes and the impacts of expanding sea moss farming areas over time.	line with the implementation of the biodiversity monitoring plan, which include citizen science best practices.
Output 2. Participatory local governance and management mechanisms and improved national policy frameworks are adopted, supporting the widespread knowledge of and effective enforcement of sea moss farming regulations.		
Output indicator 2.1 Stakeholder engagement undertaken with sea moss actors (farmers, processors, traders) (c.500 people, target: 50% women, across 11 coastal communities living in/adjacent to two pilot sites), with at least 70% of stakeholders indicating acceptance for agreed sea moss management plan by Y3.	Indicator is scheduled to be achieved by end of year 3. Over 198 sea moss farmers (40% women) have been engaged to date through KAP surveys, plus other s in the needs assessments, capacity building workshops, improved communication with key agencies and farmers association (Praslin Seamoss Farmers Association; Praslin Community Women in Sea moss and Eau Piquant Sea Moss Farmers Association) and site visits to engage members of associations and non-members.	Through outputs of legal assessment and application of site suitability tool, an outline for a sea moss management plan can be developed in Year 3 for validation by technical stakeholders. Community stakeholder consultations will present and gain acceptance on sea moss management plan.
Output indicator 2.2 >10 farmers/community representatives (target: 40% women) participate in project steering committee in Y2 and Y3.	2 women out of the 6 farmers (4 in attendance) are part of steering committee meetings.	In order to meet this goal, additional members from each sea moss association or from the community will need to be invited to future steering committee meetings.
Output indicator 2.3 By Y2, ≥60% (n=>110) sea moss farmers at two pilot sites influence and input into site management through their membership in community-based associations.	Praslin Community Women in Sea moss and the Eau Piquant Sea moss Assocation have transitions into alternative methods of planting. Information sharing, particularly through associations have proven to be most effective- hence higher participation from members of organized groups. Similar to existing informal agreements between sea moss farmers e.g. boat lanes, organized management of sea moss growing areas can be effectively managed through these associations.	
Output indicator 2.4 By Y3, proposed sea moss farming policy and regulations are drafted and submitted as an official Cabinet Memo; to amend the existing 194_ Fisheries Act (subject to Parliament approval)	Assessment of the legal framework is in progress. Inception report and draft desktop review report submitted by the consultant.	The assessment will inform development of sea moss farming policy
Output indicator 2.5	On-going stakeholder consultations and proposed demarcation of pilot sites will provide a baseline for this output to be complete by year 3.	

Evidence-based, nationwide sea moss management strategy and plan for Saint Lucia, informed by partnership with government, farmers, community and technical experts, is finalised by Y3.		
Output 3: Sea moss farmers and their households benefit from increased capacity to implement sustainable sea moss production practices and improved access to market opportunities.		
Output indicator 3.1 Heavy metal contents in sea moss and water quality in pilot sites are assessed in Y2, and sea moss farms are screened for diseases in Y2 and Y3. Results are presented to government and steering committee.	Preliminary tests were completed under the consultancy in June-July 2024 and results were presented during the technical workshop with authority government agencies and PSC members thereafter. Only one disease was noted to be present in sea moss "ice-ice" which is caused by unfavourable environmental growing conditions e.g. salinity and temperature. Heavy metal testing is underway since December 2024 taking into consideration the risks associated with sargassum influxes on the plant product and water quality.	Presentation of results to government and steering committee.
Output indicator 3.2 ≥60% (n=>110)- (target: 30% women) of sea moss farmers/processors have registered to the updated Caribbean Vocational Qualification (CVQ),and have passed food safety inspections by Q4Y2.	110 sea moss farmers (40% women) have received food safety training – a component of the CVQ certification: *Maintain Sanitation and Hygienic Practices*. Funding CVQ assessments is a barrier to farmer registration as certification through assessment is a more critical component than registration alone. (Annex 6)	Additional trainings will be provided to farmers which can increase competencies in CVQ components for farmer who are able to self-fund certification. Farmers will be encouraged to register for the CVQ.
Output indicator 3.3 Request to update Geographic Indicator criteria sent in Y3.	Export Saint Lucia has completed and submitted the technical dossier for Saint Lucia Sun Dry Sea Moss Geographic Indicator (GI) and submitted for legal review by competent law firm.	Further work is needed to meet the GI criteria and certification. Export Saint Lucia has requested collaborative assistance including, legal applications, further stakeholder engagements, promotion of the GI, training for farmers and registration of GI in key export market countries.
Output indicator 3.4: At least 50 producers (target: 50% women) trained and assisted to process and market quality natural products by end of Y2 (with ongoing mentoring and support through Y3).	110 farmers have received food safety training to date and will receive addition training and support into year 3 based on needs identified in training needs assessments and feedback from training needs assessment. (Annex 6)	Required and requested training for farmers and processors will continue into year 3.
Output Indicator 3.5 ≥150 famers and processors (50% female) demonstrate an increased knowledge and understanding of	63 farmers (30% female) have been trained in sustainable farming methods to date. We anticipate increased uptake in	Supporting guidance videos and design manuals will be shared

sustainable farming methods and the resulting marketing opportunities	these practices as trained farmers transition practices using the materials distributed post workshop. (Annex 6)	with all sea moss farmers to increase knowledge sharing and application.
Output Indicator 3.6 The sale of quality natural sea moss products in Praslin and PSEPA increases by at least 20% by Y3, compared to Y1 baseline	Data collection pending.	Data collection and increased engagement with Export Saint Lucia to identify new ways for sales increase.
Output Indicator 3.7 Requirements for exporting sea moss to Canada and the UK are identified by Export Saint Lucia by Y2 and incorporated into training materials and sustainable sea moss farming manual in Y3.	A condensed guidance document, briefly reviewed by Export Saint Lucia has been created and shared with farmers participating in food safety and SOP workshops. (Annex 10)	A more comprehensive version of this document will be amended for future workshops and where possible training manuals.
Output 4: Best practices and lessons learned are shared and promoted at the national level, to influence wider policy and practice in sea moss farming.		
Output Indicator 4.1 A manual synthesizing sea moss farming best practice is finalised and disseminated nationally and regionally in Y3.	Data and information has been documented on trial methods including cost comparison and loss and damage records. Additional quantitative data from trial plots needs to be collected for inclusion in final manual.	Indicator is scheduled to be achieved in year 3
Output Indicator 4.2 Presentation on sea moss farming methods and recommendations for management at the national level presented to the Government in Y3 and shared with Caribbean Regional Fisheries Mechanism (CRFM).	Additional data from trial plots needs to be collected.	Indicator is scheduled to be achieved in year 3
Output Indicator 4.3 Sea moss farming manual is shared internally and externally, and one paper is submitted to a peer-reviewed, open-access journal for publication in Y3.	A peer reviewed manual/guide (Nelson, 2025)* designed largely from the perspective of Saint Lucian sea moss has been published through the FAO and is publicly accessible to all farmers.	Indicator is scheduled to be achieved in year 3
Output Indicator 4.4 A report updating the UN Food and Agriculture Organisation (FAO) Value Chain Analysis (including on market assessment, inventorying health and sanitary regulations, and market opportunities) is produced and submitted by end Y2.	Time constraints hindered initiation and completion of this output.	Activity will be scheduled for completion in year 3

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: Sustainable sea moss farming in south-east Saint Lucia, and ultimately throughout the island, improves community wellbeing and safeguards healthy coastal ecosystems, supporting thriving populations of critically endangered keystone species.			
Outcome: The implementation and effective governance of sustainable sea moss farming in two coastal areas provides a much-needed, diversified, and viable livelihood option and avoids threats to coastal ecosystems and biodiversity.	0.1 ≥50% of targeted sea moss farmers (n=≥200) in Praslin and PEPSA demonstrate increased capacity to undertake sustainable growing techniques, alternative materials, and best environmental and sanitation practices in Y3 compared to Y1 0.2 By end Y2, participatory governance mechanisms are established and functioning for two pilot sites, representing 11 communities and an estimated 200 sea moss farming households, and involving local authorities 0.3 ≥50% of targeted sea moss farmers (n=≥200) meet proposed sanitary requirements for food safety by Q3Y3, against baselines established in Y1. 0.4 By Y3, no forest-based materials are extracted from coastal tropical dry forests for use in sea moss farms in PSEPA and Praslin. 0.5 In Y3, ≥75% of women and men in participating households in PSEPA and Praslin (n=≥200 households) report significant improvements in one or more dimensions of well-being (e.g., income or personal security, more equitable relationships with other market actors,	0.1 Pre-and post-training assessments, farm records 0.2 Steering committee and associations meeting agendas, notes, and participants lists 0.3 Fisheries Department sea moss farms monitoring log and information management systems, inspection reports from the Department of Environmental Health and Bureau of Standards 0.4 Fisheries Department farm monitoring log, inspection of materials used on farms 0.5 Participatory Impact Assessment (results disaggregated by sex)	Even as Saint Lucia's economy and employment levels improve following the collapse of tourism during the Covid-19 pandemic, local people remain keen to diversify their livelihoods and avoid sole-source dependence on tourism. In the absence of viable livelihood options, including employment in the tourism industry, local people are more likely to engage in unsustainable livelihood pursuits, including poaching and deforestation. There are no major, adverse policy or land use changes within the project area. The project design accounts for existing public health/Covid-19 policies and guidelines on assembly and travel and assumes no new restrictions are introduced. Severe weather, including hurricanes, do not affect project activities. The project will be planned around seasonal hurricane activity.

	increased agency, better gender relations)		
Output 1 Environmental impact reduction and mitigation measures are implemented as standard and best practice in two of Saint Lucia's core sea moss farming areas (covering c.120 hectares), preserving coastal ecosystems and biodiversity.	1.1 By Y2, suitable and non suitable sites for sea moss farming are identified based on environment criteria and in consultation with farmers at two pilot sites in PSEPA and Praslin. 1.2 By end Y2, 120 hectares of sea moss farming area across two pilot sites are cultivated using best practice methods to avoid and/or reduce negative environmental impact, including on marine turtles and seagrass beds. 1.4 From Q1Y2 onwards, 100% of turtle entanglements in farms are reported to the Fisheries Department and the project steering committee. 1.5 By the end of Y3, seagrass coverage is stable and has not decreased in monitoring quadrats established in farming areas in Y1.	1.1 Fisheries Department maps, report from Site Suitability and Site Carrying Capacity assessments, summary of farmer consultations 1.2 Fisheries Department sea moss farm monitoring log and information management system, area observations, reports of turtle entanglements (the latter are often anecdotal only, so not reliable for data analysis), reports of registered farmers using alternatives to wooden sticks and plastic bottles 1.3 Fisheries Department farm monitoring log, pictures 1.4 Fisheries Department farm monitoring log, project steering committee minutes 1.5 Fisheries Department monitoring log, information management system	Farmers understand and espouse the value of using substitutes for wood and plastic bottles in their sea moss farming practices, and substitute materials are accessible and cost-efficient for farmers and do no environmental harm. Data on biodiversity and ecosystem health in project sites from previous initiatives are available and suitable to inform the baseline project data set and underlying drivers of biodiversity loss.
Output 2 Participatory local governance and management mechanisms and improved national policy frameworks are adopted, supporting the widespread knowledge of, and effective enforcement of, sea moss farming regulations.	2.1 Stakeholder engagement undertaken with sea moss actors (farmers, processors, traders) (c.500 people, target: 50% women, across 11 coastal communities living in/adjacent to two pilot sites), with at least 70% of stakeholders indicating acceptance for agreed sea moss management plan by Y3. [DI-B06 Number of Indigenous Peoples and Local Communities (people) with strengthened (recognised/clarified) tenure and/or rights] 2.2 >10 farmers/community representatives (target: 40% women)	2.1 Meeting notes, feedback and follow-up steps detailed in grievance log, household surveys including a component on people's attitudes to management plans 2.2 Participant lists from Steering Committee meetings, meeting notes 2.3 Lists of associations' members, statutes of project site management entities 2.4 List of regulations, Cabinet Conclusion	Increased knowledge leads to improvements in attitudes and behaviour. The national government continues to support sea moss farming as a viable, sustainable livelihoods opportunity for local people and as an opportunity to diversify the economy away from dependence on the tourism industry.

	participate in project steering committee in Y2 and Y3. [DI-B05] 2.3 By Y2, ≥60% (n=>110) sea moss farmers at two pilot sites influence and input into site management through their membership in community-based associations. [DI-A04] 2.4 By Y3, proposed sea moss farming policy and regulations are drafted and submitted as an official Cabinet Memo; to amend the existing 194_ Fisheries Act (subject to Parliament approval). 2.5 Evidence-based, nationwide sea moss management strategy and plan for Saint Lucia, informed by partnership with government, farmers, community and technical experts, is finalised by Y3.	2.5 Management Strategy and Plan submitted for approval to government entities	
Output 3 Sea moss farmers and their households benefit from increased capacity to implement sustainable sea moss production practices and improved access to market opportunities.	3.1 Heavy metal contents in sea moss and water quality in pilot sites are assessed in Y2, and sea moss farms are screened for diseases in Y2 and Y3. Results are presented to government and steering committee. 3.2 ≥60% (n=>110) (target: 30% women) of sea moss farmers/processors have registered to the updated Caribbean Vocational Qualification (CVQ) and have passed food safety inspections by Q4Y2. 3.3 Request to update Geographic Indicator criteria sent in Y3. 3.4 At least 50 producers (target: 50% women) trained and assisted to process and market quality natural products by end of Y2 (with ongoing mentoring and support through Y3). 3.5 ≥150 famers and processors (target: 50% female) demonstrate an increased knowledge and understanding of	3.1 Lab reports, minutes from steering committee, report to stakeholder groups 3.2 Evidence of farmers registration to CVQ, certificates issued from the Department of Environmental Health 3.3 Book of specifications, records of emails sent to sea moss selling companies, meeting minutes, Registrar entry (Geographical Indications Act, 2000, Chapter 13.14) 3.4 Sex-disaggregated participant lists, photographs from training programme 3.5 Training self-assessments, capacity scores evaluated (adapted from Appleton, 2016) in Y1 and Y3 3.6 Farm records, sales records, survey results 3.7 List of requirements established for each country, mails with Government	Climatic events, including hurricanes, do not jeopardise the viability of sea moss farms. Current distributor, retailer, and consumer interest in good quality local products and services, both domestically and internationally, is maintained and increased. Sargassum landings do not increase to the point where they threaten the viability of sea moss farming in Saint Lucia

	sustainable farming methods and the resulting marketing opportunities in Y3. 3.6 The sale of quality natural sea moss products in Praslin and PSEPA increases by at least 20% by Y3, compared to Y1 baseline. 3.7 Requirements for exporting sea moss to Canada and the UK are identified by Export Saint Lucia by Y2, and incorporated into training materials and sustainable sea moss farming manual in Y3.	Trade Officials and private sector operators, training materials	
Output 4 Best practices and lessons learned are shared and promoted at national and regional levels to influence wider policy and practice in sea moss farming.	4.1 A manual synthesizing sea moss farming best practice is finalised and disseminated nationally and regionally in Y3. [DI-C01] 4.2 Presentation on sea moss farming methods and recommendations for management at the national level presented to the Government in Y3 and shared with Caribbean Regional Fisheries Mechanism (CRFM). 4.3 Sea moss farming manual is shared internally and externally, and one paper is submitted to a peer-reviewed, open-access journal for publication in Y3. 4.4 A report updating the UN Food and Agriculture Organisation (FAO) Value Chain Analysis (including on market assessment, inventorying health and sanitary regulations, and market opportunities) is produced and submitted by end Y2.	4.1 Sea moss farming and processing best practices manual 4.2 Digital presentation, minutes of meeting, correspondence history with CRFM 4.3 Distribution records of project reports and case studies at learning events and online, peer- reviewed paper, Google analytics data on downloads 4.4 Report	Decision makers, partners and stakeholders are receptive to the learning generated by the project. Problems and solutions at the project sites are applicable to other areas of Saint Lucia.
Activities 1.1 Identify drivers of biodiversity loss through desk review, community consultations, interviews, and participatory threat analysis; collect and compile existing baseline biodiversity data; identify gaps (Y1). 1.2 Elaborate and implement biodiversity monitoring plan (water quality, seagrass beds, coastal dry forest, turtle entanglement, other ecosystem health indicators) and information management system (Y1-3). 1.3 Develop and apply the Site Suitability Assessment tool and Site Carrying Capacity tool in the two project sites to support identification of viable farm sites (Y1-2).			

1.4 Conduct desktop review and partner consultations to identify locally appropriate sustainable farming techniques/best practice (Y1-2).
1.5 Trial identified sustainable farming techniques, led by Fisheries Department with lead farmers
1.6 Evaluate trial results and impact on biodiversity; disseminate and discuss results with farmers, farmers associations, partners, and other key stakeholders (Y2-3).
1.7 Based on trial outputs, train other PSEPA and Praslin farmers on best practices, including reporting turtle entanglements, and sustainable farming techniques (Y2-3).

2.1 Develop and implement stakeholder engagement plan and grievance mechanisms for PSEPA and Praslin sea moss associations (Y1).
2.2 Establish standard operating procedures (SOPs) for farmers associations and designate farmer/community representatives (Y1).
2.3 Build individual and organisational capacity of farmers associations and representatives, including for effective participation in project steering committee (Y1-2-3).
2.4 Establish Praslin community working group (including farmers association representative) to discuss management of the coastal zone and marine management area and support demarcation (Y1-2).
2.5 Draft sea moss farming policy and regulations with stakeholders and submit as an official Cabinet Memo (to amend Fisheries Act) (Y2-3).
2.6 Create and activate the Fisheries Department farms monitoring log and sea moss management information system (Y1-2-3).
2.7 Develop sea moss management strategy and plan with stakeholders (Y2-3).

3.1 Develop and implement Knowledge/Attitudes/Practices (KAP) surveys and hold workshops to carry out a participatory impact assessment (Y1).
3.2 Test heavy metal contents and other food safety parameters and survey disease in sea moss (Y1-2).
3.3 Carry out Training Needs Assessment with farmers, processors, SLNT and Fisheries Department (Y1).
3.4 Update the SLNT's CVQ and support/encourage farmers to register (Y1-2).
3.5 Organise training using knowledge/resources from U.S. Department of Agriculture, CRFM, Saint Lucia Bureau of Standards and Environmental Health Department, in compliance with import/export and domestic requirements (Y1-2-3).
3.6 Train farmers and processors in best environmental and sanitation practices, and production and marketing of high-quality natural products for local and export markets (Y1-2-3).
3.7 Collaborate with Export Saint Lucia and Department of Commerce and Trade to prepare environmental/sanitary requirements and facilitate application for Geographic Indicator (Y2-3).
3.8 Launch Department of Environmental Health Unit responsible for environmental health, food safety, preharvest, harvest and postharvest monitoring of farms and processing facilities (Y2-3).
3.9 Assess new potential export markets (Y1-2-3).
3.10 Carry out second training needs assessment (Y3).

4.1 Compile results and learning to date in Manual (including best practices and most efficient alternatives to plastic, wooden sticks, loose ropes) (Y2-3).
4.2 Share Manual nationally and internationally, and draft and submit paper to scientific journal (Y3).
4.3 Present recommendations for management to the government and share outputs with CRFM (Y3).
4.4 Write report to update the UN FAO Value Chain Analysis (Y2).

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

DI Indicator number	Name of indicator	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-A04:	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training. (Ref indicators 0.1 & 2.3)	People	Trained sea moss farmers including 1 with disability.	47	63		110	≥200F
DI-A04:	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training. (Ref indicator 3.4)	Producers	Sea moss producers	47	63		110	50
DI-B05	Number of people with increased participation in local communities / local management organisations (i.e., participation in Governance/citizen engagement). (Ref indicator 0.2)	People	Sea moss farming households	41	41		41	200
DI-B06	Number of Indigenous Peoples and Local Communities (people) with strengthened (recognised/clarified) tenure and/or rights] (Ref indicator 2.1)	People	Farmers, processors, traders	47	63		110	500
DI-A01	Number of people from key national and local stakeholders completing structured and relevant training. (Ref indicator 3.4)	People	Producers (50% Women/Men)	47	63		110	50
DI-C01	Number of best practice guides and knowledge products published and endorsed (Ref indicator 4.1 and 4.2)	Number	Product typology – published presentations and recommendations **	0	0		0	2
DI-B09	Number of individuals / households reporting a decrease in unsustainable practices as a result of project activities (Ref indicator 0.3)	People	Farmers meeting environmental and Sanitary Requirements*	0	62		62	100

Table 2 Publications

Title	Type (e.g. journals, best practice manual, blog post, online videos, podcasts, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Sea Moss Cultivation in the Caribbean - A Practical Guide to Best Practices	Manual/Guide	Thomas Nelson, 2025	Male	Saint Lucia	FAO, Bridgetown, Barbados	https://openknowledge.fao.org/items/88113030-c173-4664-9664-257b37b2d534

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	✓
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	✓
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	N/A
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	