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United Nations

Terminal evaluation
of the project
“Integrated Land
and Agroecosystem
Management Systems
(ILAMS) for Tonga”



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**Terminal evaluation of the project
“Integrated Land and Agroecosystem
Management Systems (ILAMS) for Tonga”**

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Abstract

This report presents the results of the terminal evaluation of the project "Integrated Land and Agroecosystem Management Systems (ILAMS) for Tonga". The project was a joint effort of the Government of Tonga, the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF). It was designed to sustainably increase and improve provision of goods and services from agriculture through integrated land and agroecosystem management in Tonga. It was implemented in selected locations in the islands of Tongatapu, 'Eua, Ha'ano and Vava'u. FAO's support, through four components, encompassed policy development, infrastructure and capacities for land use planning, strengthening of capacities for sustainable land management, and knowledge dissemination.

The FAO Office of Evaluation carried out the terminal evaluation of the project, to promote accountability and learning, feedback and sharing of results, recommendations for improvement of future projects, and sustainability of project results. The evaluation covered the total implementation period of the project (September 2016–December 2022).

The theory of change (TOC) was the key-approach which guided the evaluation design and analysis. The Evaluation Team reviewed secondary data and project documents, and visited two intervention sites, Haveluliku in Tongatapu and Pukotala in Ha'apai. A total of 34 stakeholders were interviewed, including FAO, the GEF Coordination Unit, the Government of Tonga and direct beneficiaries. Limitations due to the COVID-19-related travel restrictions and the consequences of the Hunga Tonga Hunga Ha'apai volcano eruption (January 2022) have impacted the evaluation timeline and methodology.

The evaluation found that, while the project was relevant to high level priorities, the interventions were designed without involvement of beneficiaries, a detailed control of relevance or a discussion on institutional priorities. The overall coherence of the project was hampered by a lack of a holistic approach and communication strategy. The project's effectiveness varied across its components. Most of the sustainable land management activities, including preservation of medicinal plants and the communal nurseries, were well accepted by the interviewed beneficiaries and considered useful for preservation of forest, biodiversity and enhancement of quality of soil; the enclosed piggeries model was accepted, but some of its elements (such as feeding and breeding), as well as its cultural appropriateness, deserve further attention. While the policy intention papers and a Land Use Policy Document were developed to improve the enabling environment for land management, their endorsement and incorporation by the Tongan government remain incomplete. The digitization of cadastres enhanced land information management, but challenges in its full implementation persist.

The project team showed good adaptation capacity following the eruption of the Hunga Tonga Hunga Ha'apai volcano, which enabled support for affected communities. The volcano and the COVID-19 pandemic negatively impacted implementation. Acquisition of the biodigesters were not completed. Sustainability is more likely for the sustainable land management practices, due to beneficiary involvement and local partnerships. Indigenous Peoples and human rights aspects were insufficiently incorporated into project design, impacting cultural practices.

The evaluation provided five recommendations. To enhance sustainability of project results, i) address shortcomings of the normative products delivered by the project (such as the policy intention papers, SOLA), in consultation with relevant stakeholders, and advocate for their implementation; ii) explore viable alternatives to the ready-made biodigesters such as locally developed biodigesters devices; and iii) consolidate project results on preservation of medicinal plants and solutions to pig confinement (and environmental co-benefits). For future projects, iv) ensure that beneficiaries such as staff from counterpart Ministries and final beneficiaries (especially Indigenous Peoples) have an active role at project design stage as well as during implementation to facilitate the integration of their perspectives; and v) explore options to speed up procurement of small-scale infrastructure.

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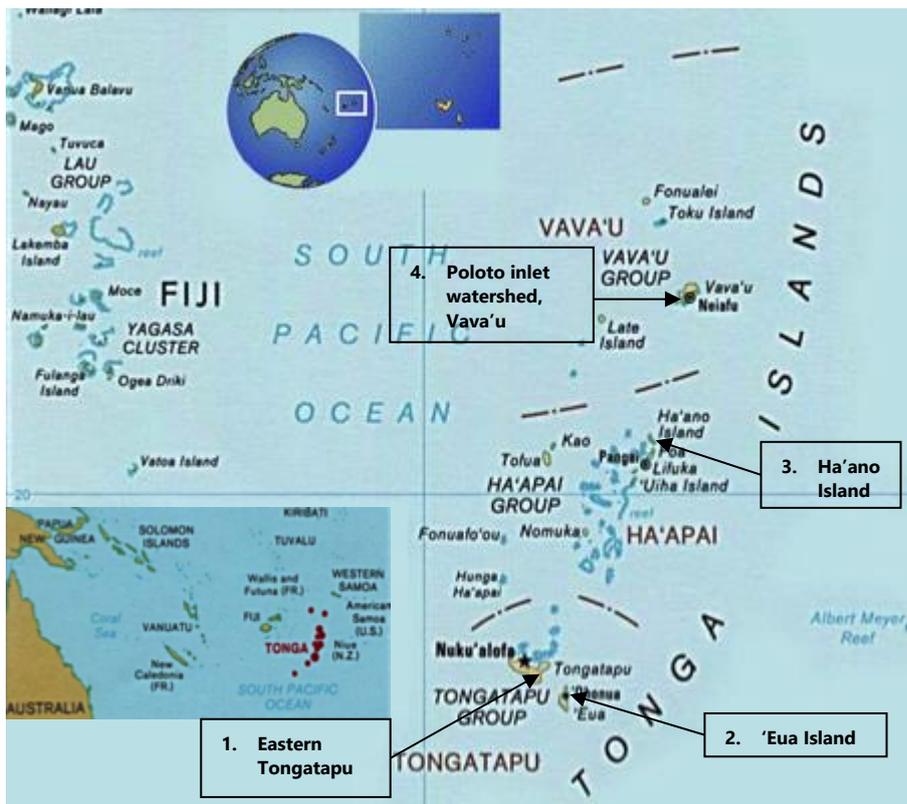
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Abbreviations

FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
HTHH	Hunga Tonga Hunga Ha'pai
ILAMS	Integrated Land and Agroecosystems Management Systems
MORDI	Mainstreaming of Rural Development Innovation
M&E	monitoring and evaluation
NGO	non-governmental organization
R2R	Ridge-to-Reef
SLM	sustainable land management
SOLA	Solutions for Open Land Administration
SPC	Secretariat of the Pacific Community
TOC	theory of change

Map of Tonga



Source: FAO. 2016. *Integrated Land and Agroecosystem Management Systems (ILAMS) for Tonga*. Project document. Rome. Map conforms with UN Geospatial. 2023. *Map of the World*. New York, United States of America. <https://www.un.org/geospatial/content/map-world-1>

Executive summary

1. The project “Integrated Land and Agroecosystem Management Systems (ILAMS) for Tonga” (GCP/TON/001/GFF), from hereafter “the ILAMS project” or “the project”, was designed upon the request of the Government of Tonga to tackle key current environmental challenges in the country. Key target areas were located across four selected islands, namely Eastern Tongatapu, ‘Eua Island, Ha’ano Island and Poloto Inlet Watershed, Vava’u. The objective of the project was to sustainably increase and improve provision of goods and services from agriculture through integrated land and agroecosystem management.
2. The ILAMS project was organized in four Components (Outcomes) and included the following areas of work:
 - i. **Component (Outcome) 1.** Improving the enabling environment for integrated land and agroecosystem management: this component included the i) incorporation of integrated land and agroecosystem management principles in national policies, laws and regulations (through the development of policy papers); ii) improving the information on land tenure to guide planning and sustainable land management (SLM); and iii) development and implementation of a National Forest Monitoring System and Action Plan, and training of government staff.
 - ii. **Component (Outcome) 2.** Site-based capacities for evidence-based negotiation of land use planning, management and tenure rights: this component included the development and implementation of Solutions for Open Land Administration (SOLA), a software to support land rights and land tenure. This included the digitization of cadastres, land mapping, and generation of information to support land management and user requests. Capacity building of government staff to use the SOLA system, and of communities on SLM, and the development of local development plans were also activities.
 - iii. **Component (Outcome) 3.** Strengthening capacities for the formulation and implementation of sustainable land management practices with an integrated Ridge-to-Reef (R2R) approach: this component included three intermediate outcomes focused on i) increasing capacities of governments and non-governmental organizations (NGO) to support SLM practices (through trainings); ii) developing capacities in communities to implement SLM practices (through trainings and implementation of agricultural SLM practices in four pilot locations, and the installation of piggeries; the installation of biodigesters to produce biogas was also planned); and iii) increasing capacities for forest restoration and management (through rehabilitation of degraded land; and implementation of seedlings nurseries).
 - iv. **Component (Outcome) 4.** Knowledge generation and dissemination, and monitoring and evaluation (M&E): this component included communication activities such as presentation of case studies in conferences and publication of technical reports online. The initiative was designed under the Global Environment Facility (GEF) 5 – land degradation focal area – and is part of the GEF regional Ridge-to-Reef¹ programme. GEF granted USD 2 344 954, along with the Least Developed Countries Fund and the Special Climate Change Fund. The grant was co-financing other in-kind contributions expected by the Government of Tonga (Ministry of Finance and National Planning, USD 3 340 000), the Secretariat of the Pacific Community (USD 750 000), Mainstreaming of Rural Development Innovation (MORDI) Trust (USD 980 000), OXFAM (USD 240 000), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

¹ The Pacific Ridge-to-Reef programme is a GEF multifocal area programme guiding coordinated investment of GEF grant funding across its focal areas of biodiversity conservation, land degradation, climate change adaptation and mitigation, sustainable land management, sustainable forest management, and international waters in Pacific Small Island Developing States (SIDS).

(USD 150 000), Tupou College (USD 155 000), Hango Agricultural College (USD 155 000) and the Food and Agriculture Organization of the United Nations (FAO) (USD 1 400 000) making a total budget of USD 9.5 million. From the initial steps of the project, the contribution of OXFAM and GIZ was withdrawn.

3. The FAO Office of Evaluation carried out the terminal evaluation of the project, with the purpose of promoting i) accountability to GEF; and ii) learning, feedback and sharing of results and lessons learned among GEF and its partners. The evaluation covered the design and implementation of the project, which was originally planned from September 2016 to August 2020. Due to internal delay in the official launch of the project, a no-cost extension (NCE) was granted. Constraints in implementation determined by the COVID-19 pandemic response measures and then emergency generated in January 2022 by the explosion of the Hunga Tonga Hunga Ha'apai volcano justified additional no-cost extensions and moved the end date of the project to December 2021. The terminal evaluation covered especially the period post mid-term review (MTR) (August 2019 onwards).
4. With the GEF, FAO, the Government of Tonga, and the partner NGO MORDI as the main users, the terminal evaluation assessed project results and their value, as well as the project performance and the implementation of planned activities and outputs against actual results. The main dimensions assessed were: i) relevance; ii) effectiveness; iii) efficiency; iv) sustainability; v) factors affecting performance; vi) gender. Recommendations were formulated to suggest alternate pathways to avoid critical points that emerged in the design and implementation of the project.

Methodology and limitations

5. The evaluation used a mixed methods approach, combining desk review of secondary data and project documents and a review of the theory of change (TOC) with primary qualitative data. The Evaluation Team visited two sites of intervention: Haveluliku in Tongatapu and Pukotala in Ha'apai, where they conducted semi-structured interviews and focus group discussions with 16 beneficiaries (5 women and 11 men) and their representatives. The evaluation also remotely interviewed 17 FAO stakeholders and government stakeholders in Tonga. Preliminary findings were discussed during a stakeholder's workshop in Tonga with 13 participants, including governmental partners and a representation of beneficiaries.
6. As the actual data on progress towards targets is already tracked in the project implementation report, the overall data collection exercise focused on identifying the positive aspects in the process and in the actual results, in comparison to the TOC, to the perception of priorities of the beneficiaries and of the key stakeholders.
7. The evaluation had to adjust its methodology and timeline multiple times, due to limitations related to the COVID-19 pandemic and then to the consequences of the Hunga Tonga Hunga Ha'apai volcano eruption. The first initially limited international travel and impeded non-Tongan national incoming travel, which impacted the possibility of mobilizing the full Evaluation Team, included international consultants. The volcano explosion aborted the data collection about to get started (January 2022), and project activities were suspended. The terminal evaluation restarted in July 2022. Primary data collection was conducted between September 2022 (field) and October 2022 (remote). Due to time constraints and to the scarce and uncertain schedule of local transportation in Tonga, the Evaluation Team had to further adjust calendar of visits after communities were mobilized, thus halving the sample sites initially designed and reducing drastically the number of interviews and focus group discussions. Report writing was undertaken in late 2022 and completed in early 2023; the draft report was quality reviewed by the FAO Office of Evaluation and commented by key stakeholders before its publication.

Main findings

8. This section focus on Components 1-3. The assessment of Component/Outcome 4 is presented in tandem with the assessment of “knowledge management”, in Executive Summary Box 1.

Relevance

9. The evaluation found that the project was strategically relevant to national, regional and United Nations (UN) rural development priorities. The relevance of deliverables in Outcome 1, in particular of the policy intention papers produced, remains doubtful, given the absence of studies on the policy landscape regarding land management. Although overall appreciated by the final beneficiaries interviewed by the evaluation, thanks to specific activities on Outcome 3, both in public institutions and in communities, the project design was not anchored in locally expressed needs.
10. The efforts on digitization of cadastre appear more as an external proposal to conform to international standards than as an activity solicited by the national ministries or matching a specific government priority (Outcome 2).
11. The cultural appropriateness of the enclosed piggeries proposed by the project is debatable, while the sustainable land management techniques and appliances proposed were appropriate and well accepted by the population (Outcome 3).

Effectiveness

12. Expected outcomes were completed with different degrees of effectiveness.
13. The project fully achieved four out of five planned outputs within Outcome 1, including the publication of four policy intention papers, the digital cadastral map and a Land Use Policy Document. The policy documents have incomplete endorsement and incorporation by the Government of Tonga. This was in part the result of the inadequate level of stakeholder engagement and knowledge sharing (see findings on knowledge management and Outcome 4, Executive Summary Box 1).
14. The project provided support to national capacity in land information management through digitization, contributing to Outcome 2. This reportedly allowed improvement in quality of service to users. Nevertheless, the component on digitization of land information has encountered multiple challenges; it was not developed to monitor respect of rights in land tenure policies or to inform decision-making, and has not completed the instruments for collaborative land tenure information management.
15. The sampled beneficiaries that were interviewed by the evaluation have incorporated the sustainable land management techniques disseminated (Outcome 3) as these have become an effective means to improve their livelihoods while protecting forests and increasing biodiversity. Activities oriented at reforestation and at soil enrichment have generated positive effects on biodiversity, livelihoods and food security. The partner MORDI has reportedly disseminated the well-appreciated ILAMS package of sustainable land management techniques on a much broader extension than the four pilot sites of the project. It remains unclear if the project contributed new sustainable land management knowledge to public agricultural services structures, thus enriching number and variety of techniques known, or if the project supported the dissemination among farmers of a knowledge already available among national agricultural institutions. On the other side, the added value of the transfer of sustainable land management techniques to the populations was acknowledged by the interviewed beneficiaries. The work on preservation of

medicinal plants led by a women's group was particularly successful (see section on gender, Executive Summary Box 1).

16. Furthermore, the specific model and scale of the proposed piggeries does not allow a clear-cut positive trade-off of monetary resource allocation necessary for building materials, feed, maintenance time, being it destined to households who are not raising pigs for commercial purposes. The fact that two elements of the small infrastructures planned by the project, notably the biodigesters and the water harvesting devices, were not completed, might put in jeopardy other achievements. The biodigesters producing gas were an important part of the enclosed piggery model, necessary to generate added value despite the necessary additional labour and cost to manage the animal in enclosed space. The small-scale water harvesting devices would allow irrigation even in dry season.

Efficiency

17. Procurement of the project was operated at regional level with standard international procedures for quality assurance and transparency. The materials and tools that were successfully purchased have been highly appreciated and considered appropriate and of good quality by primary beneficiaries. However, the combination of small project staff size, limited capacities to navigate the complex requirements of the procurement processes in place has represented a systemic bottleneck regularly generating delays in implementation. As a result, the biodigesters could not be purchased despite the multiple no-cost extensions.
18. Presence of staff of partner ministries in project activities has sometimes been lower than expected. Reportedly, lack of clarity in project agreement on specific details concerning expenses coverage appears to have contributed to reduce participation.

Executive Summary Box 1. Factors affecting performance (GEF requirement)

Monitoring and evaluation system. Confirming the findings of the mid-term evaluation, the Evaluation Team found uncertain appropriateness and usability, and unclear attribution of responsibility as far as the M&E system is concerned. Significant gaps in internal and external communication functions were found as well.

Programme partnerships and stakeholder engagement. Incomplete staffing and the absence of a communication cell hampered the full stakeholder engagement and compromised the achievement of the intended results. Since the mid-term review, there has been a strengthening in Project Steering Committee commitment, thanks to good flexibility and adaptive management all along implementation, which has facilitated the implementation of project interventions.

Financial management and mobilization of expected co-financing. The planned matching contributions only partially materialized. The aggregated records of the in-kind contributions and the lack of access to evidence do not allow to independently confirm the materialization of the co-financing. The FAO in-kind contribution seems to be underestimated. In-kind contributions by MORDI and the Government of Tonga, if materialized as reported, have added value to the project and contributed to results. Delays in the payment towards partner NGO have been recorded and jeopardized the implementation.

Gender. The project generated positive results in terms of equal participation and share of benefits, even if not initially planned. The project documents do not present a gender analysis nor a gender focus in the intended outcomes and planned activities. One of the activities under Component 3, the protection of indigenous plants, was mainly addressed to women and successfully engaged them. These participants have expressed very positive feedback on results achieved through the initiative.

Human rights issues and Indigenous Peoples. The target group of the project is mostly composed of Indigenous Peoples. The measures introducing digitalization in land management have the potential of interfering with traditional dynamics of land tenure and should have been preceded from a previous discussion with beneficiaries. As noted earlier, the cultural appropriateness of the enclosed piggeries proposed by the project is debatable.

Environmental and social safeguards. Environmental and social safeguards (ESS) of the project existed in the original document, but as remarked in the mid-term evaluation it had not been updated. Further, no risk log was generated. The Evaluation Team suggests a review of the ESS on the basis of collected data to showcase potential risks that the activities undertaken might have provoked. For example the category ESS2, focused on relationships between biological and cultural diversity. The evaluation observed that the beneficiaries' resistance to the piggeries was connected to their traditional models of livestock management and therefore suggests that category ESS2 should have been rated as 'unknown' in the initial assessment.

Knowledge management (and Component/Outcome 4). The project document coherently included a knowledge management and communication component (Component 4), which along the implementation could not match the expected results. The communication area was by design understaffed. This shortcoming affected internal facilitation among stakeholders, although very needed for the nature of the project. For example, the coordination necessary to obtain institutional stakeholder buy-in and collaboration, and to advocate for key issues in policy development (Outcome 1) did not materialize. The internal management and archiving of products and deliverables was not consistent and was incomplete. The use of social network (Facebook) reached over 1 000 followers, and it was used to disseminate some information concerning the project until April 2021. A minishow initiative, dedicated to showcase the improved and augmented vegetable and fruit production obtained through the sustainable land management techniques, was organized although not planned and obtained to raise interest for the interventions and the results.

19. The dust and the tsunami on the coasts generated by the Hunga Tonga Hunga Ha'pai volcano explosion reportedly provoked the loss of part of the results obtained by the project activities. The emergency response that FAO and partners displayed with the reorganization of activities in the wake of the volcano eruption was very timely and allowed to offer support to farmers in the affected islands, proving good capacity of responsive temporary allocation of safe land to crop provided opportunity for the project to support the planting of more plants thus increasing the vegetation cover (an unintended outcome). Adaptations included extension of the number of beneficiaries to include households in the impacted areas and the use of volcanic ash fall to enrich soil. Rehabilitation work was carried out in partnership with MORDI: their capacities to answer the project unit request and quickly assess, intervene and anticipate financial resources have been crucial to enable the emergency response of the project.

Sustainability and likelihood of impact

20. The final beneficiaries interviewed by the evaluation indicated that they are putting in practice the sustainable land management techniques for soil regeneration, and therefore these have a high likelihood of continuing independently. Activities conducted with the established partner NGO MORDI have a good chance of being multiplied in other villages not covered by ILAMS. The active women's group interviewed have taken ownership of the development of nurseries and the Ministry of Agriculture, Food, Forests and Fisheries will continue to support this activity. Some young people not initially intended to be beneficiaries were nevertheless learning and contributing to the maintenance of the nurseries.
21. Policy intention papers did not attract the expected interest and buy-in of pertinent ministries. On a similar note, completion and maintenance of the digital cadastre unit can be challenging for the ministerial partners, in the absence of additional support.

Conclusions

Conclusion 1. Project relevance and design: the project was aligned to high level priorities, but the interventions have been designed without involvement of beneficiaries, a detailed control of relevance nor a discussion on parallel institutional priorities.

22. The project design incorporated many different elements (such as the SOLA software customization and SLM) without sufficient organization support. With regard to the use of digitized information for planning (Outcome 2), the cadastre still does not have direct effect on local tenure issues or land rights. A detailed analysis of the policy landscape (Outcome 1) could have improved coherence between these two project components.

Conclusion 2. Project effectiveness and design: the components have uneven utility, with Component 3 having the highest utility and Component 1 showing the lowest utility among them. For instance, i) while the policy intention papers were completed, there was no follow-up by the government, and the Land Use Policy was completed but not approved by the government (Component/Outcome 1); ii) the completed digitization of maps (which was only done for the pilot sites) is a step necessary to the full utilization of a digital cadastre (Component/Outcome 2); iii) most of the SLM activities under Component 3, including preservation of medicinal plants, planting and the communal nurseries, have been adopted by the interviewed beneficiaries and considered useful for preservation of forest, biodiversity and enhancement of quality of soil; but iv) while the enclosed piggeries model was overall accepted, some of its elements (such as feeding and breeding), as well as its cultural appropriateness, deserve further attention; v) the associated biodigesters were not implemented (Component/Outcome 3).

23. The overall coherence was weak by design. Projects with an Ridge-to-Reef approach require focus on the integration of discourses of different stakeholders, and the development (or the rehearsal) of a holistic approach to balance the different needs and priorities co-existing in any environment and in anthropic settings. Although inscribed in the TOC, the importance of communication function and strategy to reach effective implementation of the whole project was overlooked. Activities should have included coordination mechanisms and concerted dialogues. The budget should reflect this necessity with at least one staff dedicated to communication and facilitation for the entire length of the project. In summary, the project could have worked better with a significant investment in communication and facilitation among key stakeholders. In parallel, a reinforcement of the M&E functions could have also been considered, possibly adding a monitoring, evaluation and learning profile, as capacity strengthening is an overall project outcome.

Conclusion 3. Project efficiency and adaptive management: different emergencies challenged the implementation of the project in the initially planned and then extended time frame. Nevertheless, the mixed results can be only partially attributed to the external factors generating emergencies: the small size of the project team and related limited capacities to navigate the complexity of FAO procurement procedures have negatively impacted on the quality of the implementation, particularly of Outcome 3.

Conclusion 4. Project sustainability and likelihood of impact: sustainability of activities of Component 3 is more likely due to the involvement of beneficiaries, and to the partnership with a well-established local organization. Sustainability is uncertain for Components (Outcomes) 1 and 2. This relates to design and the partial utility of elements such as the digital cadastre.

Conclusion 5. Factors affecting performance – Indigenous Peoples and human rights: Indigenous knowledge, practice and culture deserved additional efforts to be properly incorporated in project design and implementation. The key change in the modality of raising pigs proposed by ILAMS intervenes on deep cultural patterns and on collective identity of nature/culture relationship. It is a process requiring adequate time and dedication, in addition to materials and practical instruction. Additionally, the risk analysis for Component 2 did not incorporate the issue of data protection and the possibly conflicting interests between local Indigenous farmers and external economic actors.

Conclusion 6. Factors affecting performance – gender: while the project design did not incorporate specific strategies focused on women, it generated positive benefits for the men and women interviewed by the evaluation, with activities on Component 3 (medicinal plants) being mostly addressed and attended by women.

Recommendations

For immediate follow-up and to enhance local sustainability and effectiveness

Recommendation 1. *To the FAO Subregional Office for the Pacific Islands:* Address shortcomings of the normative products delivered by the project (such as the policy intention papers, SOLA), in consultation with relevant stakeholders.

24. Suggested actions: i) one or more policy intention paper could be revised with an addendum to incorporate digital land data utilization statement, and a reference to ultimate accountability to local people's livelihoods; ii) include in the customized SOLA a country and context specific risk analysis and a data privacy policy reflecting the above-mentioned risk.

Recommendation 2. *To the FAO Subregional Office for the Pacific Islands, the Government of Tonga and project partners:* Explore viable alternatives to the ready-made biodigesters such as locally developed biodigesters devices.

25. Suggested actions: i) consult with regional experts on possible options for biogas devices developed on site with local appropriate materials; ii) study the possibility of using municipal waste as an input for pigs feed preparation, and as a possible additional stream for enhancing livelihoods.

Recommendation 3. *To the FAO Subregional Office for the Pacific Islands, the Government of Tonga and project partners:* Consolidate project results on preservation of medicinal plants and solutions to pig confinement (and environmental co-benefits).

26. Suggested actions: i) document and disseminate the information shared in the participatory workshop, both in term of plants inventories and qualities and in terms of techniques, for maximizing results in reproduction and utilization; ii) develop a booklet in Tongan acknowledging the contribution of local female farmers for distribution among participants and to women of villages not yet covered.

For future projects

Recommendation 4. *To the FAO Subregional Office for the Pacific Islands, the Government of Tonga, the GEF Coordination Unit, and FAO Indigenous Peoples Unit (PSUI):* Ensure that beneficiaries such as staff from counterpart ministries and final beneficiaries (especially Indigenous Peoples) have an active role at project design stage as well as during implementation to facilitate the integration of their perspectives.

27. Suggested actions: i) as per the FAO policy, ensure that free, prior and informed consent is obtained from Indigenous Peoples as applicable; ii) proactively identify and regularly brief Ministry staff who can and will contribute to project design and implementation; iii) as done for Component 3 on medicinal plants, develop mechanisms for allowing meaningful final beneficiaries participation throughout the project cycle; and iv) when piloting new approaches, provide technologies that are culturally appropriate and that balance the trade-offs between achieving environmental benefits and productivity gains.

Recommendation 5. *To the FAO Subregional Office for the Pacific Islands, FAO Procurement Service (CSLP):* Explore options to speed up procurement of small-scale infrastructure.

28. The failure to procure critical infrastructure affected the overall effectiveness of this project. Some suggested actions to address this failure include: i) provide regular briefings and support to staff designing and implementing projects on FAO's procurement practices and procedures; ii) reassess the benefits of procuring infrastructure that is not available at local levels; and iii) in case of emergency situations (such as those caused by the COVID-19 pandemic or the volcano eruption), consider simplifying the process for purchases of small-scale infrastructures.

GEF evaluation criteria rating

29. Executive Summary Table 1 below consolidates the rating according to the mandatory GEF criteria. For additional details on the GEF rating scheme see Appendix 2.
30. The ratings below and comments, should be interpreted taking into account the numerous limitations that the project faced during its implementation, including external, out-of-control factors such as COVID-19 and the explosion of the volcano in the final months of implementation. While these factors have no influence in the design, they have significantly hampered implementation, though the final level of achievement cannot be exclusively be attributed to those.

Executive Summary Table 1. GEF evaluation criteria rating

GEF criteria/subcriteria	Rating ¹	Summary comments
A. STRATEGIC RELEVANCE		
A1. Overall strategic relevance	MU	Overall good relevance to the ecosystemic needs in the country, but solutions proposed not perfectly adequate to local culture, food systems equilibria and budget capacity. A more accurate assessment of cultural environment (drawing from lessons learned proceeding from regional knowledge) could have been used to improve relevance. The internal coherence is not very solid, and components juxtaposed without full articulation and with insufficient mechanism to allow integration of activities and of stakeholders.
A1.1. Alignment with GEF and FAO strategic priorities	S	Project in line with R2R approach, consolidated application of both GEF and FAO strategic priorities.
A1.2. Relevance to national, regional and global priorities and beneficiary needs	MU	Global priority seems to compete with resources vs beneficiary needs (more sustainable land management or more digitization). Strengthening livelihoods not incorporated in the project but present in the Ministry of Agriculture and Food, Forests and Fisheries considerations.
A1.3. Complementarity with existing interventions	S	Good complementarity to other internationally funded interventions.
B. EFFECTIVENESS		
B1. Overall assessment of project results	MU	Significant and multiple challenges of the COVID-19 pandemic and Hunga Tonga Hunga Ha'pai (HTHH) explosion have affected results, but certain shortcomings cannot be attributed to these out-of-control issues. Outcome 1 is the only one that has delivered most of the planned outputs. Outcomes 2, 3 and 4 have relevant shortcomings, even if the results of conservation and protection of biodiversity actually achieved were sufficiently satisfactory.
B1.1 Delivery of project outputs	MU	Several outputs in each outcome were not delivered.
B1.2 Progress towards outcomes and project objectives	MS	Although outcomes were only partially achieved, the project was an important presence for developing skills and mindset for conservation among farmers.
- Outcome 1	MS	Four out of five outputs achieved. Policy orienting outputs achieved but not yet utilized (implementation out of control of project). Coordination and buy-in of the Government of Tonga was low.
- Outcome 2	MU	Physical and software infrastructure for digitalization of cadastre set up and activated, but data still partial, no land tenure info and little land use. Currently insufficient to support land management but system partially in place. Lacking involvement of rights holders in data development.
- Outcome 3	MU	Sustainable land management techniques dissemination activities were very positively embraced and effective. Lack of completion of key activity (biogas digesters) compromised overall outcome and therefore the appeal to shift to rearing pigs in piggeries reduced.
- Outcome 4	U	Too little investment on communication by design, difficulties between Project Management Unit (PMU) and Communication Officers, very little communication activities undertaken, very little knowledge management product realized, lack of organized inventory of outputs for easy access, no lesson learned developed, in general no re-elaboration on learning developed.
- Overall rating of progress towards achieving objectives/outcomes	MU	Main legacy on skills disseminated, instruments offered for biodiversity preservation (as nurseries) but confuse achievement on the pig management side, if feed cost and additional labour issues are not better tackled. Key-elements such as biogas digesters not realized.

GEF criteria/subcriteria	Rating ¹	Summary comments
B1.3 Likelihood of impact	MS	In the long-term, it is not possible to measure. Considering short and medium-term impact, and taking into account the very limited sample of places visited, and beneficiaries interviewed, the outcomes that were achieved were relevant and useful, and support promotion of food security. Adequate targeting and very committed staff at community level contributed to these results. The project has given a demonstrative and clear contribution to the rehabilitation of degraded land with some interventions and results in the field lasting after the volcano/tsunami (e.g. piggeries, nurseries, SLM practices, and techniques used in emergency response).
C. EFFICIENCY		
C1. Efficiency	MU	The criteria rates low on procurement and hiring procedures, rates better if the small actual mobilized amount vs the planned amount is considered against results and against operational challenges.
D. SUSTAINABILITY OF PROJECT OUTCOMES		
D1. Overall likelihood of risks to sustainability	MU	Results in Components 1 and 2 difficult to remain utilised (policy intention papers [PIPs] not linked to Land Use Policy Document [LUP]; digital cadastre not budgeted for); piggeries hard to maintain in absence of direct added value; nurseries not budgeted for; sustainable land management well disseminated through public extension services and through local NGO likely to continue.
D1.1. Financial risks	L	The contribution expected by several stakeholders did not materialize. Ministries concerned mainly allocated in-kind.
D1.2. Socio-political risks	U	As long as land tenure rights are not at risk there does not seem to be a specific risk currently at population level.
D1.3. Institutional and governance risks	L	The current level or realization of digital instruments for land management does not seem to open for specific risks, although a public reflection on how to combine conservation agenda with livelihoods or right holders seems important.
D1.4. Environmental risks	L	The very large amount of coastline can catalyse further environmental risk.
D2. Catalysis and replication	MS	It appears to already be happening among farmers, if FAO and government could complete the biodigesters with appropriate local technology the potential for replication could grow significantly.
E. FACTORS AFFECTING PERFORMANCE		
E1. Project design and readiness ²	U	The project design did not fully involve the institutional stakeholders and had no input from final beneficiaries. Further it was a combination of very different focus with a lack of central harmonization and a very weak allocation on communication for interstakeholder facilitation. The correspondence between lines of budget expenses and sources of funding was not developed.
E2. Quality of project implementation	MS	The project was continued and completed against all odds; the local partners chosen engaged with commitment. Engagement of stakeholders grew over time but some pledged funds never actually disbursed. Challenges to comply with procurement procedures hindered the achievement of results. Good responsiveness and cooperation to mend impact of the HTHH explosion.
E2.1 Quality of project implementation by FAO (BH, LTO, PTF, etc.)	S	Significant contextual challenges such as the COVID-19 pandemic and the volcano impacted implementation. The project was continued and completed against all odds, despite the halt on international flights (COVID-19-related) and the volcano, and only relying on GEF funds.

GEF criteria/subcriteria	Rating ¹	Summary comments
		FAO responsiveness at the PMU level was quite good and attentive to emerging needs. Response to structural and contingent challenges occurring during the implementation was not fully adequate, partially due to challenges to navigate procurement and hiring procedures, which were processed at subregional level.
E2.1 Project oversight (Project Steering Committee, project working group, etc.)	MS	Little involvement and little reception of inputs offered. The coordination and facilitation mechanism was insufficient.
E3. Quality of project execution For decentralized projects: PMU /BH For OPIM projects: Executing agency	S	Some flexibility in the PMU allowed to adjust some of the design flaws on relevance. Field staff highly appreciated by final beneficiaries. Increased difficulties in hiring most appropriate candidate (communication) with borders closed in an area with high mobility of specialized consultants. Good responsiveness to the HTHH explosion.
E4. Financial management and co-financing	MU	Part of funds initially pledged for co-financing never disbursed. Lack of a clear framework for clearly attributing budget expenses lines to co-financing agencies resulting in some operational uncertainties during execution of activities. Significant delays in payment for the partner MORDI jeopardized the implementation, only possible due to the financial strength of the NGO. Not possible to independently confirm reported co-financing figures.
E5. Project partnerships and stakeholder engagement	MU	Weak communication hindered partnership and stakeholder engagement. Partnership with MORDI worked very well and generated some results.
E6. Communication, knowledge management and knowledge products	U	Too little investment on communication by design, difficulties between PMU and Communication Officers, very little communication activities undertaken, very little knowledge management product realized (only SOLA training manual), lack of organized inventory of outputs for easy access, no lesson learned developed, in general no re-elaboration on learning developed.
E7. Overall quality of M&E	MU	Considered cumbersome for the project, hard to keep up-to-date. Periodic reporting regular, less regularity in Tracking Tools updating.
E7.1 M&E design	U	Considered cumbersome for the project by key stakeholders. Initial baseline not clearly linked to expected outcomes; heavy system missing out on key elements (i.e. community engagement).
E7.2 M&E implementation plan (including financial and human resources)	MU	Basic planning and stocktaking documents produced, but not with full continuity.
E8. Overall assessment of factors affecting performance	MU	Overall commitment in day to day progress but too many focuses to keep in sight, lack of resources to operate fully concerted actions with all stakeholders, and occurrence of multiple challenges independent on the actors.
F. CROSS-CUTTING CONCERNS		
F1. Gender and other equity dimensions	MS	Although not incorporated by design, some positive effects on participation and on satisfaction in sharing benefits. Issues of access to resources and impact on right holders not considered.
F2. Human rights issues/Indigenous Peoples	MU	Indigenous Peoples main target beneficiaries, but focus on environmental preservation. Although no explicit intervention against Indigenous rights, population involved as agent of conservation with no specific livelihoods measures. Authorizations from community leaders were obtained, but no free, prior and informed consent (FPIC) (according to FAO guidelines).
F3. Environmental and social safeguards	MS	The project environmental and social safeguards framework was included at design stage, but has not been updated and did not

GEF criteria/subcriteria	Rating ¹	Summary comments
		include a risk matrix. The classification of project in some categories, as per the original framework, should be reviewed.
Overall project rating	MU	Although some outcomes were substantially achieved, some key-elements were not realized, such as the biodigesters. The outcomes were generally cost-effective, but not all were adequately relevant and coherent, such as the case of the piggeries and the biodigesters. Numerous external and significant contextual challenges, out of control of the project, affected implementation and results, such as the COVID-19 pandemic and the explosion of volcano. The project demonstrated high capacity to respond and adapt after the volcano, redirecting resources to recover or consolidate some of the outcomes achieved.

Notes:

¹ See rating scheme in Appendix 2.

² This refers to factors affecting the project's ability to start as expected, such as the presence of sufficient capacity among executing partners at project launch.

Source: Elaborated by the Evaluation Team.

1. Introduction

1. The project “Integrated Land and Agroecosystem Management Systems (ILAMS) for Tonga” (GCP/TON/001/GFF; GEF ID: 5677) (hereafter “the ILAMS project” or “the project”) was a joint effort of the Government of Tonga, the Food and Agriculture Organization of the United Nations (FAO) and the Global Environment Facility (GEF). The project aimed at promoting integrated land and agroecosystem management in Tonga through policies, evidence-based and digitally aided land management and land use planning, sustainable land management (SLM) practices.
2. This terminal evaluation was carried by the FAO Office of Evaluation, following FAO and GEF evaluation guidelines. The terminal evaluation answered all the questions included in the terms of reference and summarized in the evaluation matrix.

1.1 Purpose of the evaluation

3. The terminal evaluation was conducted for both accountability and learning purposes of GEF, FAO and other participating institutions.
4. The exercise records supportive examples and collective *ex post* analyses to guide future actions for potential scaling-up/out, replication or follow-on projects that may use similar approaches and/or have similar target beneficiaries, tools and project design elements. Likewise, the evaluation presents strategic recommendations in order to make the most of the institutionalization and appropriation of the project’s results by stakeholders and disseminate information to authorities that could benefit from it.

1.2 Evaluation users and uses

5. The users and uses of the evaluation are:

Users	Uses
FAO-GEF unit, the Project Management Unit (PMU), FAO Tonga Country Office (CO), the Project Steering Committee (PSC), members of FAO Project Task Force (PTF) and other stakeholders directly involved in implementation.	Use the evaluation results to plan for sustainability of results achieved; improve formulation and implementation of similar projects; inform the project completion report.
Project co-financing partners: The GEF, the Secretariat of the Pacific Community (SPC), the Mainstreaming of Rural Development Innovation (MORDI) Trust, the Tupou and Hango Agricultural Colleges, and FAO.	Use the evaluation results to inform strategic investment decisions in the future.
Government institutions of Tonga, in particular the Ministry of Agriculture, Food, Forests and Fisheries, of Lands and Natural Resources, the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication and the Ministry of Internal Affairs.	Use the evaluation results to support policy preparation and for planning of future initiatives to sustain the project’s achievements.
Direct beneficiary farmers, communities and other partners at local level.	Use the evaluation results for planning of future initiatives to sustain the project’s achievements.

Source: Elaborated by the Evaluation Team.

1.3 Scope and objectives of the evaluation

6. This evaluation covered the period from September 2016 (project entrance on duty [EOD]) to 30 September 2022 (fifth revised not to exceed [NTE]), with particular focus on the period from the mid-term review (MTR) (February 2020) onwards.
7. The effects of the explosion of a volcano, followed by a tsunami, in January 2022, considerably limited the potential to observe results of the project in many locations.
8. Project Components¹ 1, 2 and 4 had a national scope, focusing on support to policies, systems (1) and capacity development for sustainable land management, land use planning, management and tenure rights and related topics (2), and communication and knowledge sharing (4). The assessment of progress for these components was conducted through interviews and triangulated with the documentation available to the Evaluation Team. For the evaluation of Component 3, which was strongly focused on piloting a range of sustainable land management and agriculture/livestock management practices in four locations, qualitative primary data included visual inspections and were collected directly by three of the four members of the Evaluation Team, and combined analyses together with documentation available (the project design is described in section 2; see also section 1.4 and 1.5 on methodology and limitations for additional details).
9. The terminal evaluation assessed the relevance, effectiveness, efficiency, project performance, project execution, operation and formulated recommendations to improve the future delivery, progress to impact and likelihood of sustainability of project results, based on evidence and findings developed from the assortment of information and subsequent analysis.
10. The objectives of the terminal evaluation were to:
 - i. examine the extent and magnitude of project outcomes to date and determine the likelihood of future impacts;
 - ii. provide an assessment of the project performance and the implementation of planned activities and outputs against actual results; and
 - iii. synthesize lessons learned that may help in the design and implementation of future FAO and FAO-GEF related initiatives, indicating future actions needed to i) expand on the existing project in subsequent phases; ii) mainstream and upscale its products and practices; and iii) disseminate information to management authorities responsible for related issues to ensure replication and continuity of the processes initiated by the project.
11. The terminal evaluation answered the following key evaluation questions (see complete list of questions in Appendix 3):
 - i. Relevance:
 - EQ 1: Was the project design appropriate for delivering the expected outcomes?
 - EQ 2: Was the project design congruent with the GEF focal areas/operational programme strategies, country priorities and Tonga's Country Programming Framework?

¹ The detailed description of the project components and main outcomes is found in section 2.

- EQ 3: Was the project design coherent with SDG 2, SDG 13 and SDG 15 targets, as well as with relevant international conventions and agreements (e.g. United Nations Convention to Combat Desertification [UNCCD], United Nations Framework Convention on Climate Change [UNFCCC] and Paris Agreement)?
- ii. Effectiveness:
 - EQ 6: To what extent were the project environmental and development objectives been achieved, and how effective was the project in achieving those?
- iii. Efficiency:
 - EQ 23: To what extent has the project been implemented efficiently?
- iv. Sustainability:
 - EQ 25: What is the likelihood that the project results will continue to be useful or will remain even after the termination of the project?
- v. Factors affecting performance
- vi. Co-financing:
 - EQ 33: To what extent did the expected co-financing materialize, and how short fall in co-financing, or materialization of greater than expected co-financing affected project results?
- vii. Monitoring and evaluation:
 - EQ 27: Was the M&E plan practical and sufficient?
 - EQ 27.1: Did the M&E system operate as per the M&E plan? Was the information systematically gathered and used to make timely decisions and foster learning during project implementation?
- viii. Stakeholder engagement:
 - EQ 29.1: To what extent are the project's results owned by the stakeholders involved (in particular the village communities, farmers and college students)? Cross-cutting concerns
- ix. Gender:
 - EQ 31: To what extent were gender considerations taken into account in designing and implementing the project?
- x. Environmental and social safeguards:
 - EQ 30: To what extent were environmental and social concerns taken into consideration in the design and implementation of the project?
- xi. Progress to impact:
 - EQ 34: To what extent is the project likely to contribute to the rehabilitation of degraded land in the agricultural lands in the targeted locations in Tonga?
- xii. In addition to the above questions, the evaluation assessed all the criteria included in the mandatory GEF rating table. This included the specific assessment of human rights and Indigenous Peoples issues.

1.4 Methodology

12. The evaluation used a mixed methods approach, combining the review of secondary data (mainly document review including project documents and agreements, mid-term evaluation, project implementation reports, indicators tables provided by the Project Management Unit (PMU), initial household assessment survey) with primary qualitative data collected through interviews, focus group discussions and one stakeholder workshop.
13. Data collection was planned in close cooperation and coordination with the project team, implementing partners and local stakeholders, and was held during the month of September 2022. Remote interviews with FAO stakeholders and government stakeholders in Tonga were held in October and November 2022.
14. As the actual data on progress towards targets is already tracked in the project implementation report, the overall data collection exercise focused on identifying the positive aspects in the process and in the actual results, in comparison to the theory of change (TOC), to the perception of priorities of the beneficiaries and of key stakeholders.
15. The terminal evaluation visited one locality in Eastern Tongatapu, Haveluliku (close to urban settings) and one in Ha'ano island, Pukotala (completely rural). The 'Eua Island and Vava'u were left out of the sample due to difficulties in reaching these places. The sampling criteria are described below.
16. When analysing and presenting the data collected in this report, evaluation questions and assessment of GEF criteria (e.g. factors affecting performance; see Table 1 for additional information) have been clustered together to form coherent findings and to avoid overlaps and repetition. In addition, for better logic, certain evaluation questions may have been responded on different order than the original plan.

1.4.1 Data collection methods and tools

17. The Evaluation Team reviewed several documents including project document; monitoring and evaluation (M&E), progress, project implementation and back to office reports; and the report of the mid-term review.
18. In preparation for the primary data collection, a training to align team members' approaches, chosen to focus and understand was conducted remotely by the team leader. Primary data collection included i) field visits with direct observation in selected locations to technically assess project implementation and results of Component 3 in the field; ii) semi-structured interviews (SSI) in presence with key stakeholders and other informants that were involved in – or affected by – the project design and/or implementation; these interviews were supported by topic outlines and interview protocol; iii) focus group discussions (FGDs) with direct beneficiaries and with local stakeholders to assess views and opinions on the project; iv) a workshop in Tongatapu with key members of the PMU, including Field Officers and sector specialists, to present, discuss and validate the preliminary findings with key stakeholders; and v) semi-structured interviews conducted remotely by the team leader with FAO, partners and government stakeholders. Detailed description of the methods used for the data collection in the field and for the treatment of that data is available in Appendix 4.
19. During the evaluation and particularly during the workshop with PMU, FAO personnel, the Evaluation Team reviewed the TOC of the project, starting from the version developed in the mid-term review. To assess effectiveness, the Evaluation Team also compared and analysed the GEF

Tracking Tool at the baseline with the Tracking Tool completed by the PMU just before the evaluation (September 2022).

20. Numerous and diverse limitations constrained the evaluation, described in detail in section 1.5.

1.4.2 Primary data collection

21. The Evaluation Team interviewed a total of 32 informants including FAO personnel and consultants, representatives and members from ministries and partner organizations/universities, beneficiaries and local authorities (including the interviews and focus group discussions conducted during the field visits and remotely). An additional 13 people participated in the workshop held in Tongatapu. The complete list of people interviewed and participants of the workshop can be consulted in Appendix 1.

Sampling for the field visits

22. Convenience and purposeful sampling strategies were applied for the pilot villages to visit for the selection of focus group discussions participants.
23. The Evaluation Team had initially sampled project locations in three islands (out of four where the project was implemented) to be visited before the volcano/tsunami: 'Eua, Ha'apai and Tongatapu in January 2022.
24. When the evaluation re-started, the Evaluation Team re-analysed the project locations, in consultation with the FAO PMU, to re-sample the sites to be visited. Due to the limited project time left, and because of the impact that the Hunga Tonga Hunga Ha'pai (HTHH) explosion had on 'Eua (the project site closest to the main island), the Evaluation Team decided to visit one site in Ha'ano (Pukotala, fully rural and remote) and one site in eastern part of the Tongatapu island (Haveluliku, semi-rural and closer to urban settlements). These locations chosen were less and differently affected by the volcano, which allowed for observations and comparisons. They also represented different levels of implementation (satisfactory vs unsatisfactory). Accessibility and budget limitations were also taken into account. Traveling in Tonga is very time consuming, and there are very few options of transportation among islands, and often teams need to remain on a certain island for one or two days waiting for the next boat or plane.
25. The informants in each of the project locations visited were sampled using both convenience and purposive criteria. The convenience sample corresponded to the informants available during the time allocated by the team on the site. Other informants were selected among those who could support the identification of lessons learned and good practices with regard to the land registration or the piggery intervention schemes, including beneficiaries particularly satisfied or particularly critical of the activities. The Evaluation Team also intended to interview few non-beneficiaries aiming to obtain qualitative counterfactual data.
26. Table 1 shows the final sources of data in each sample site.

Table 1. Stakeholders interviewed in project locations

Data sources	Locations	
	Pukotala	Haveluliku
Male beneficiaries	9	1 fenced farm and tree planting)
Female beneficiaries	4	1
Authorities	1	0
Site visits	3	2

Note: Semi-structured key informant interviews and focus group discussions.

Source: Elaborated by the Evaluation Team.

1.5 Limitations

27. Challenges for this evaluation exercise have been of multiple sorts and quite impacting on the result.
28. COVID-19 pandemic restrictions: the evaluation started in the third quarter of 2021. An international consultant was recruited to remotely lead the evaluation while consultants in the country conducted in loco data collection. Due to regulations enforced as pandemic emergency management measures at both country and at the United Nations (UN) level, international travel to Tonga was severely restricted or not allowed between the end of 2021 and August 2022, when country borders were reopened. This strongly limited the possibility of fielding an international team of evaluators, as they needed to be in the country² to perform any field work. Like most Small Island Developing States (SIDS), there is a very limited pool of local consultants available in Tonga, and most were involved in implementation of the project activities. Under these conditions, the recruitment of consultants from or based in the country and without conflicts of interest was a challenge. The Office of Evaluation sought to minimize it by employing international consultant with knowledge of the topic and no involvement in the project. In addition, the Office expanded the search, reaching out to other international organizations in the country, and identified two professionals which composed the first Evaluation Team, both from the Pacific and living in Tonga.
29. Explosion of Hunga Tonga Hunga Ha'pai volcano (and tsunami) and effects on the evaluation: while the terminal evaluation was in its initial phase, with a team of national/international consultants finally composed and just days before the beginning of the field data collection, on 15 January 2022 the Hunga Tonga Hunga Ha'pai volcano exploded, provoking clouds of falling thick ashes. The explosion subsequently triggered a tsunami which provoked inundations that damaged private and public buildings and infrastructures, energy blackouts, hampering and partially blocking even local movements, thus refocusing attention of government, partner institutions and FAO itself in country on emergency management and recovery. Rupture of an underwater optical fibre cable impeded most communications with the country for over a month (only available via satellite).
30. Consequently, the final month of implementation of the project (January 2022) was interrupted. For months, it was also uncertain whether the evaluation would still be undertaken. Given that there were funds left, the project was extended for six months in March 2022, and then further extended with a fifth no-cost extension (NCE) agreement until the end of September 2022.

² Tonga's population in 2021 was estimated at a total of around 106 000 inhabitants.

31. Within the extension obtained, the project reoriented some of the activities including rehabilitating more than 650 ha of land where the volcanic ashfall caused major damages to crops and soil health. The social, economic and environmental impacts of these land rehabilitation interventions in response to the volcanic eruption – primarily to tillage the volcanic ash into the soil profile (20 mm–90 mm) – will not be known until at least a handful of growing seasons. These impacts limited the option for sampling for the terminal evaluation (see below).
32. The events described above halted the evaluation calendar; its effects continued to impact the schedule of the evaluation for months afterwards. This affected the retention strength of the Evaluation Team: one of the two Evaluation Team members based in Tonga left the country, and the other one took up other job. The terminal evaluation was confirmed and restarted with difficulties in June 2022, and the data collection was scheduled for September 2022. The recruitment process had to be redone, following lengthy procedures with not fully predictable outcomes. Most professionals in the country were unavailable because involved in recovery effort. The new Evaluation Team member and the two local consultants (data collectors) had different profiles when compared with the original team. This further impacted the design of the evaluation (see below).
33. The Evaluation Team leader, based in Italy, could not participate in the site visits or collect data face-to-face due to travel restrictions, and thus had very limited exposure to interviews with all key stakeholders within partners' institutions. This may have limited the understanding of key dynamics concurring to determine project achievements. To minimize these restrictions, in addition to the design and guidance regarding the data collection instruments per se, the Evaluation Team leader conducted training of data collectors before the field work, and provided detailed guidance and support during the field work to build capacity of the team to perform interviews and focus group discussions following the appreciative inquiry approach.
34. Scope: given that most of the project sites were affected by the volcano, being covered in ashes, and/or were reached out by the tsunami, the evaluation scope was revised to include an additional focus on resilience. Questions were included in the evaluation matrix to understand whether the communities involved in the project were able to better cope with the disaster, using the knowledge and capacity acquired with the project, whether infrastructure built resisted to the disaster, and whether the project was able to not only adapt to the context, but also harness any potential positive effects to strengthen the results of the project.
35. Limitations of primary data collection: the sampling criteria and limitations in sampling were explained in section 1.4.1 on methods.
36. Various issues including delays in travel authorizations, disruption of transportation and communication services impacted the already tight schedule for data collection. Due to the few airplane and boat transfers available daily, there was a significant loss of more than two days on six overall assigned to data collection.
37. Due to these delays, and to the reduced flight and boat seats availability on final trip schedule, one of the two sample villages, Haveluliku, was visited on a different date than initially announced. The time that was left available for the data collection in Haveluliku was finally less than half what initially planned for, leaving only few hours for the second site. These delays impacted on meeting organization and communication with communities, and resulted in significantly reduced time of the Evaluation Team visit which did not match the availability of beneficiaries and local authorities for interviews.

38. In summary, the data collection was significantly reduced in comparison to what was envisaged in early January 2022 in the inception report. As a consequence, the actual data set collected was significantly smaller compared to what the inception report initially aimed for. Initially planned, data collection to assess outcomes of soil fertility was also eliminated for lack of time and also due to the change in the profiles of the consultants involved in the Evaluation Team (described above). Trying to minimize this limitation, the Evaluation Team performed additional documentation review and had multiple internal conversations (to extract the maximum from the data collected) and with the project team, including with Field Officers who work closely with the communities, to close information gaps.
39. Communication challenges: technical (communication) challenges impeded the full participation of the GEF Chief Technical Adviser, the Evaluation Manager and the team leader to the online workshop held at the end of the data collection mission, that was conceived both as part of the data collection phase and as a first validation of initial findings. Even if the majority of the interviews with stakeholders could be conducted online, several key informants interviews which the Evaluation Team intended to have could not happen due to difficulties in obtaining response and in scarce availability of time by respondents.
40. Documentation: the Evaluation Team did not have access to the whole project documentation at once, having obtained it partially and progressively, with some elements still remaining incomplete or not up-to-date until the report was drafted, including the final project results matrix. Some key information (such as project objectives and status of implementation, key stakeholders and their roles, key project milestones) were obtained before field data collection to prepare topic outlines and orient interviews and site visits. The terminal evaluation did not however have access to knowledge products, beside the initial household survey annexed to the first Planning Workshop 2017. This include the policy intention papers, training curricula, community management plans and communication and knowledge materials. The assessment of the co-financing was limited due to the lack of access to financial records and letters.
41. All these limitations have inevitably weakened the ability of the Evaluation Team to triangulate information and data, especially for assessing effectiveness of activities.

1.6 Structure of the report

42. Following this introduction, section 2 presents the background and context of the project/programme. Section 3 presents the main findings for each evaluation question. Conclusions and recommendations are presented in section 4, followed by lessons learned in section 5. To avoid repetition, when appropriate, evaluation questions and assessment of GEF criteria were grouped and responded jointly, as indicated along the report.

2. Background and context of the project

Box 1. Basic project information

- GEF Project ID Number: 5578
- Recipient country: Tonga
- Implementing agency: Food and Agriculture Organization of the United Nations (FAO)
- Executing agency: Ministry of Agriculture, Food, Forests and Fisheries
- Project Identification Form approved: 24 February 2014
- Date of CEO endorsement: 20 September 2016
- Date of PPRC endorsement: 23 September 2016
- Date of project start: 15 February 2017
- Execution agreement signed: 9 November 2016
- Initial date of project completion (original NTE): 31 August 2020
- Actual project implementation end date: 30 September 2022
- Granted five no-cost extensions
- Date of mid-term evaluation: 1 November 2019–9 February 2020

43. The project “Integrated Land and Agroecosystem Management Systems (ILAMS) for Tonga” (GCP/TON/001/GFF; GEF ID: 5677) was designed and implemented for the Kingdom of Tonga by FAO, with the support of GEF resources, to promote integrated land and agroecosystem management in Tonga through policies, evidence-based and digitally aided land management and land use planning, and sustainable land management practices. The ILAMS project covers the GEF focal areas of Biodiversity, Land Degradation and Sustainable Forest Management.
44. Originally conceived in 2014, intended to last four years, the project actually started in 2016 and came into actual implementation in 2017. The ILAMS project underwent five no-cost extensions agreements, as a consequence of difficulties in completing planned activities, due first to the limitations enforced in the COVID-19 response (2020–2021) and then to the consequences on infrastructure, agriculture and society of the eruption of the volcano HTHH on 15 January 2022. The two latest no-cost extensions were oriented at supporting the emergency recovery mainly rehabilitating land and soil health from HTHH volcanic ashfall, and protecting the results achieved by the project against the damage created by the HTHH explosion.
45. Key objectives of the project were:
- i. the promotion of an environment (legal and institutional) conducive to integrated land and agroecosystem management;
 - ii. the protection of biodiversity;
 - iii. the promotion of techniques for sustainable land management, also aiming at rebuilding soil, protecting forest from agriculture but mainly from livestock traditional practices (free roaming pigs) and disseminating (or sometimes revamping traditional) knowledge that the intensive agricultural commercial production (mainly of squash) have compromised.
46. The ILAMS project was organized in four components and corresponding outcomes and activities:

<p>Component (Outcome) 1. Improving the enabling environment for integrated land and agroecosystem management.</p>		
<p>Outcome 1.1. Increased acknowledgement and incorporation of integrated land and agroecosystem management principles in national policies, laws and regulations.</p> <p>Activities included development of policy intention papers that would be later integrated into policies, strategies and plans, such as the National Land Use Policy.</p>	<p>Outcome 1.2. Reliable information on land tenure is available to guide land use planning and facilitate the application of sustainable land management nationwide.</p> <p>This included the production of four complete watershed areas including cadastral maps, to be used on land use planning and land monitoring.</p>	<p>Outcome 1.3. Improved strategic planning and management of forest resources.</p> <p>The activities included the development and implementation of a National Forest Monitoring System, the development of a National Forestry Strategic Action Plan, and training of government staff to operate and implement these outputs.</p>
<p>Component (Outcome) 2. Site-based capacities for evidence-based negotiation of land use planning, management and tenure rights.</p>		
<p>Outcome 2.1. Capacities for evidence-based and negotiated formulation of resource management plans at landscape and village levels, clarification of farmers' tenure rights and obligations.</p> <p>This component included activities to develop and implement Solutions for Open Land Administration (SOLA), a free and open software package that supports land rights and land tenure. This included a customized version of SOLA (SOLA-Registry), the digitization of cadastres, land mapping using geographic information system (GIS) data and community data, and generation of information to support land management and user requests.</p> <p>It also included the implementation of the SOLA Community server, a web-based application that allows collaborative data collection from smartphone through open source software. The objective was to allow the community to input data about land tenure to the SOLA system.</p> <p>The component also included capacity building of government staff to use the SOLA system, and of communities, to support increased participation in multistakeholder mechanisms for sustainable land management, land use and forest conservation, including the development of local development plans.</p>		
<p>Component (Outcome) 3. Strengthening of capacities for the formulation and implementation of sustainable land management practices with an integrated Ridge-to-Reef (R2R) approach.</p>		
<p>Outcome 3.1. Increased capacities in government institutions and non-governmental organizations (NGOs) for identifying and supporting SLM practices.</p> <p>This includes training to government and NGO staff, and to final beneficiaries on technical topics such SLM practices, vulnerability analysis, water management and others.</p>	<p>Outcome 3.2. Increased capacities in local communities to develop, apply and adapt SLM practices.</p> <p>This included training and implementation of practices with final beneficiaries from four project locations on a range of techniques, from water management; conservation of plants, planting techniques, pest management and traditional communal management, etc. The installation of piggeries, and the installation of biodigesters to produce biogas and replace firewood as a source of energy were also planned.</p>	<p>Outcome 3.3. Increased capacities for the formulation and implementation of forest restoration plans, and for supporting improved management of forests, mangroves and trees outside forests.</p> <p>This included drafting of Water Catchment Area Management Plan, the development of Guidelines for the development of Operational Plans focused on topic such as i) agroforestry plantings; li) rehabilitation of degraded land; iii) enhancement of forest regrowth; and iv) small-scale nurseries to produce tree seedlings.</p> <p>The implementation of said nurseries in selected locations, and planting of tree seedlings were also planned.</p>
<p>Component (Outcome) 4. Knowledge generation and dissemination and monitoring and evaluation.</p>		
<p>Outcome 4.1. Project implementation is based on results-based management and application of lessons learned and good practices in current and future interventions.</p> <p>This outcome included communication activities such as presentation of case studies in conferences, and publication of technical or policy reports online. This component also included outputs focused on establishing the M&E system that is supportive to project management.</p>		

47. As it will be further analysed in the report, the results framework did not have specific outputs, indicators or targets focused on gender and social inclusion, youth or Indigenous Peoples. The results matrix (see Annex 1) only mentions women participation as part of the target of the Component/Outcome 2 indicator that measures “representativeness of participation in multistakeholder mechanisms in target locations”. The target is described as “All key stakeholder groups (commoners and nobles, men and women) participate actively in the mechanisms”.
48. The localized activities of the project (Component 3) were implemented in four sites distributed on the four of the main groups of islands of the archipelagos of Tonga:³ Haveluliku village (Eastern Tongatapu), Ta’anga village (‘Eua Island), Pukotala village (Ha’ano Island of the Ha’apai archipelagos) and Mangia village (Poloto Inlet Watershed in the Vava’u archipelagos). It intended to cover 550 people in around 100 households.⁴ All the 119 households in the target villages were included as beneficiaries.
49. The human resources who contributed to the project include the FAO Tonga Office in Nuku’alofa, the FAO Subregional Office for the Pacific Islands in Samoa, FAO headquarters in Rome and the HR Office in Budapest. The GEF Chief Technical Adviser based in the FAO Regional Office for Asia and the Pacific was dedicated to the project since the initial design phase. Staff from the Pacific Community (SPC) have contributed with occasional technical advice (for ad hoc consultations).
50. The non-governmental organization (NGO) Mainstreaming of Rural Development Innovation (MORDI) has played an important role since the design phase of ILAMS. In the implementation phase, the participation of MORDI was essential for the conduct of activities requiring community work, due to its established presence. The extended coverage on the territory that the NGO sustains also allowed optimization of resources.
51. During the last year of planned project implementation (2020) the declaration of the COVID-19 global pandemic implied a halt in travels, mainly international, and subsequent difficulties in the offering of technical assistance.
52. An additional shock invested the country early in 2022, when the HTHH volcano erupted, which brought an interruption in the electricity network, devastated large coastline and infrastructure with the subsequent tsunami, and covered land with tick ashes. An emergency intervention was planned and implemented by ILAMS as part of disaster response.
53. The ILAMS project forms part of the GEF regional Ridge-to-Reef programme. The Ridge-to-Reef (R2R) approach is described as follows in the R2R programme document (R2R, GEF, SPC, UNDP, FAO & UNEP, 2020):

A comprehensive approach to managing activities of multiple sectors within a complete ‘catchment’ or ‘watershed’, from the ridge top down through to the ocean to ensure natural resource sustainability, biodiversity conservation, risk reduction and livelihood generation. For atolls and low islands, the entire island would be considered for this comprehensive integrated approach.

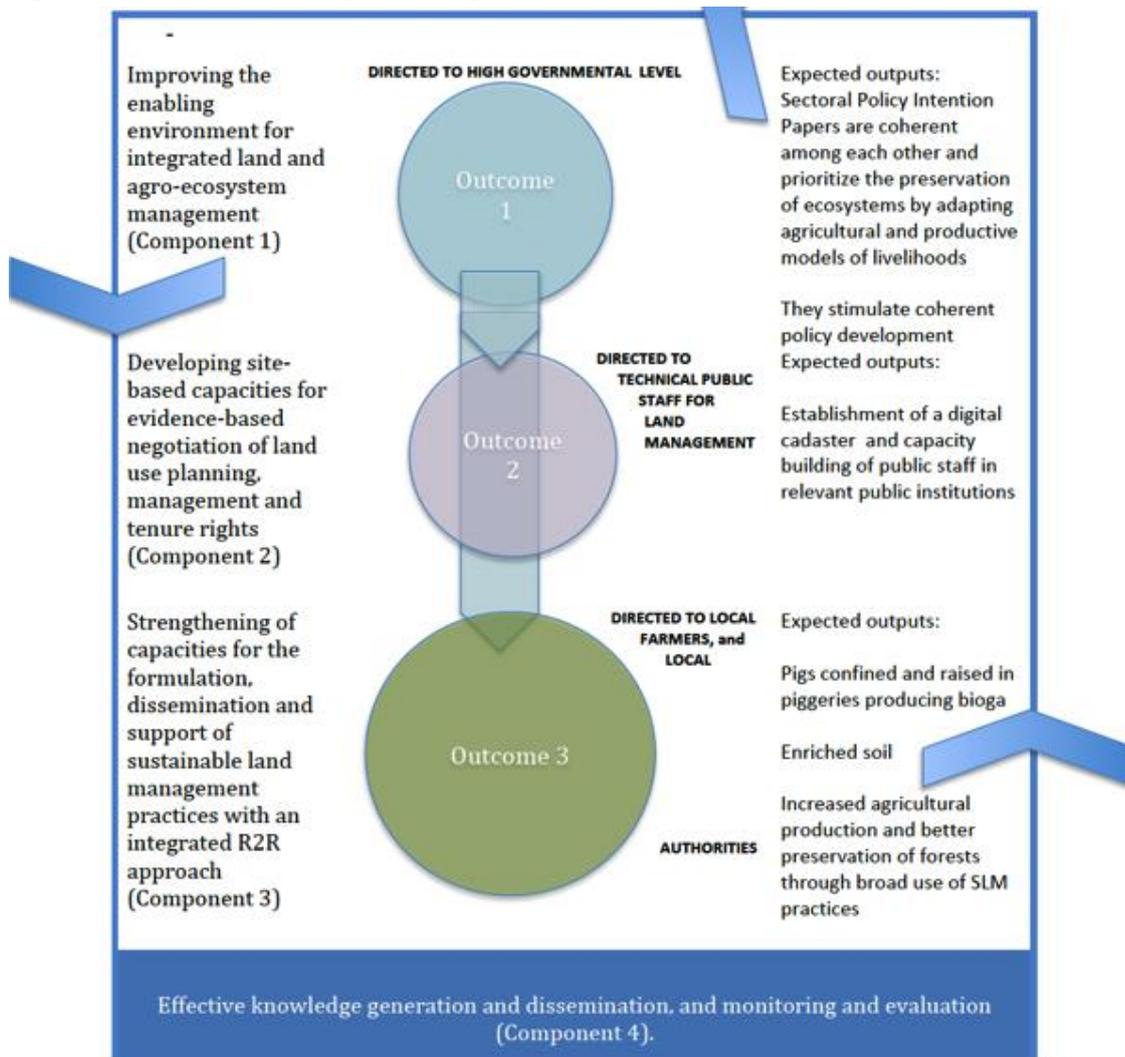
³ The archipelago is made up of over 170 islands, of which 36 are inhabited. Over 70 percent of the approximate 104 000 inhabitants live in Tongatapu (main island) (data from 2019). The islands are divided into four main groups – Tongatapu, Ha’apai, Vava’u, and the Niua. The country is predominantly rural, with around 25 percent of the population living in urban areas (United Nations in Fiji, Solomon Islands, Tonga, Tuvalu, and Vanuatu, 2023).

⁴ The initial survey identified 105, the M&E inventory later carried out included 96 households.

2.1 Theory of change

54. The TOC was reconstructed on the basis of the project document by the mid-term review team (see Appendix 5). The Evaluation Team found the TOC complete and accurate, and attempted to re-read and reformulate the visual representation to present it in a summarized way. Figure 1 highlights the overall coherence of the design, to further justify the rationale of the intervention, while also proposing hypothesis for understanding what worked well and what did not.

Figure 1. Simplified theory of change



Source: Elaborated by the Evaluation Team based on the theory of change of the mid-term review and on project documents.

55. The theoretical structure of the project presents four components that interplay consistently among each other, flowing from top (national institutions) down to community level, covering society from high level representative actors to individual farmers in communities. The three outcomes and connected set of actions together present a reasonable plan to foster a change in natural resources management that can incorporate the awareness of the limited existing resources on the islands and several solutions to better monitor and adopt solutions that can minimize destruction and waste (of production, energy, forest) and maximize quality of soil and regenerative capacities. The fourth component, focused on communication and knowledge management, shall resolve the need for harmonization and integration of different agendas and approaches, and shall facilitate identification of common reasons for agreeing among different stakeholders' interests and foster holistic interventions.

56. The first three outcomes correspond to different components, with different target groups and different activities. Notably, the first component requires (but also aims to stimulate) coordination among different ministries, in order to have harmonized policies for a land management model coherent with sustainability principles. The second component was intended to sustain policy development and cooperation among different actors by making land tenure information digitized and available, therefore streamlining assessments and monitoring land. These functions would have enabled the effective preparation of local development plans where specific FAO-GEF practical SLM techniques could have been inserted and used. ILAMS basic hypothesis is that more collaboration at policy and planning level would allow a more integrated and holistic model of land management. ILAMS could contribute technical support in each component.
57. In brief, ILAMS aims at improving the management of natural resources in Tonga in order to protect and reinforce biodiversity and soil; improve quantity and quality of agricultural production for healthy diets; and create an environment conducive to integrated agroecosystem management, with efficient procedures for land tenure management and administration.
58. Following an integrated and ecosystem approach (R2R), ILAMS offers advisory service, capacity building and direct training, and demonstration. It promotes a fully integrated approach from policy, to administrative and to applied practical agricultural techniques level.
59. It assumes the need to develop integrated policies, that are not just sector specific but enable coherence across different areas concerning natural resources; it considers necessary to harness technology for creating and managing digital representations of territory and of land tenure information. It implies the support and acceptance of individual communities to adjust agricultural practices and cultural habits in rearing pigs. It requires the involvement of multistakeholder coordination mechanism to liaise across different levels of society, and the full buy-in of farmers' communities who are asked to modify and sometimes transform part of their agricultural practices in view of stronger environment and higher production.
60. As it aims to blur sector specific borders and division, and to redefine practices in administration as much as in livestock management, the initiative does rely importantly on communication capacity and efforts. Where this function was exercised (i.e. see section 3.2 on effectiveness regarding the SLM techniques in Component/Outcome 3) through the ability of some Project Field Officers, then results were achieved and have chance to be sustainable. Where communication efforts were not planned nor undertaken, results were less satisfying than expected (i.e. see section 3.2 on effectiveness regarding the policy intention papers in Component 1).
61. One subelement of the TOC, notably the set of activities proposing piggeries and biodigesters, intends to showcase how knowledge can transform a problem into an opportunity. It also celebrates a potentially closed system in which waste from enclosed livestock prevents damages to crops, becomes energy and inputs to improve agricultural production, which in turn also allows raw matter for pigs feed, in a cycle that is designed to have positive externalities of quality of soil improvement.
62. The graphic of the TOC proposed represents a possible narrative of the logic flow of the project that highlights who and what is involved in each level and how the project covers from top to bottom different socioeconomic groups as far as agriculture is concerned, but mainly in a dimension of communication and capacity building, with little infrastructural investment.
63. In the TOC, the focus on how to facilitate the buy-in of farmers in taking part in the reorganization of pig rearing through piggeries could be considered part of Component/Outcome 4.

Component 4 can be seen as the condition for the realization of the integrated approach, as it can bring people to develop consensual analysis and intervention. This element was pivotal in the design but very challenged in the realization, as can be seen as one key element explaining the shortcomings of the project.

3. Key evaluation findings

3.1 Relevance

EQ 1: Was the project design appropriate for delivering the expected outcomes?

EQ 2: Was the project design congruent with the GEF focal areas/operational programme strategies, country priorities and Tonga's Country Programming Framework?

EQ 3: Was the project design coherent with SDG 2, SDG 13 and SDG 15 targets, as well as with relevant international conventions and agreements (e.g. United Nations Convention to Combat Desertification [UNCCD], United Nations Framework Convention on Climate Change [UNFCCC] and Paris Agreement)?

EQ 4: Was the project design relevant for the final beneficiaries? To what extent has the participation of beneficiaries influenced its design?

EQ 5: Is the project (still) relevant? Were there any contextual changes which may have affected its relevance? (e.g. new national policies, plans or programmes, the COVID-19 pandemic)

GEF criteria A. Strategic relevance.

GEF criteria A1.1. Alignment with GEF and FAO strategic priorities.

GEF criteria A1.2. Relevance to national, regional and global priorities, and beneficiary needs.

GEF criteria A1.3. Complementarity with existing interventions.

Finding 1. Overall, the project was strategically relevant to national, regional and United Nations (UN) rural development priorities. Although appreciated by final beneficiaries, the project design was not anchored in locally expressed needs and it could interlock with opposite visions of rural development.

64. The terminal evaluation confirms the strategic relevance of the project already stated by the mid-term review, which remains overall unchanged after the COVID-19 crisis and even in the aftermath of the explosion of the Hunga-Tonga Hunga-Ha'apai volcano. The PMU even found in the disaster response an opportunity to further pursue the overall objective of the project, and by deploying means and resources to incorporate ashes in the soil, has collaborated to the recovery but also to the better fertilization of soil. Farmers in interviews did claim that ashes have made the soil richer, helping to reinforce what are considered the essential nutrients.
65. The project with its three development outcomes is relevant and coherent with the Tonga Strategic Development Framework, particularly contributing to the Pillar 5 on Natural Resources and Environment Inputs, both for the point Organisational Outcome (OO) 5.1-Improved land use planning, management and administration for private and public spaces, and OO 5.2-Improved use of natural resources for long-term flow of benefits. Outcome 3 in particular is relevant to the Ministry of Agriculture, Food, Forests and Fisheries Corporate Plan & Budget 2017 renewed in 2020–2023 (Ministry of Agriculture, Food, Forests and Fisheries, 2021), particularly thanks to its focus on the piggery system and on the biogas experimentation.
66. There is a solid continuity between the ILAMS design and the interventions that the national partner NGO MORDI has implemented and promoted since the first decade of 2000, also in partnership with the International Fund for Agricultural Development (IFAD). ILAMS draws from these previous interventions and experiences and is therefore very coherent with established lines and priorities of rural development in the country, and with other parallel IFAD-led interventions in collaboration with government such as the Tonga Rural Innovation Project.

67. ILAMS objectives were perfectly aligned with the first priority of the Pacific Community Strategic Plan 2016–2020 (SPC, 2015) pointing to strengthen sustainable management of natural resources. Being clearly designed as a Ridge-to-Reef intervention, it is in line with GEF methodological choices.
68. The project can be considered as contributing to SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss) through the National Outcomes F – More inclusive and effective land and environment management; and D – More inclusive and effective and responsive good governance with strengthened rule of law.
69. The project document mentions the World Bank, FAO and IFAD supported the Tonga Agriculture Sector Plan (TASP); and ILAMS would be aligned with TASP. On the one hand, this plan focuses on "subsistence-level staple food and livestock production, associated with rural livelihoods and including limited income generation from local domestic sales", but on the other, it aims at "an increasingly active and export-oriented subsector with a strong focus on vegetables, plus an emerging but not yet operational import replacement subsector". Since the overall assumptions in the project design seem to be the need to recover the damages created in the ecosystem by commercially and export-oriented agricultural production, the Evaluation Team noticed an element of incoherence between the ILAMS approach and the TASP. This could reveal a tension in different competing models of rural development current being upheld in the same territory by different constituencies.
70. With regard to the engagement of beneficiaries in the design, the beneficiary communities have substantially received a predefined proposal, and overall have not participated to the design of the intervention. An initial beneficiary survey was conducted, but it does not seem to have had an influence on the project design nor implementation. Although rural development community level activities were largely in line with previously developed interventions, and although some specific technique raised significant interest and appreciation among beneficiaries – particularly women –, a more systematic needs assessment to better tailor the planned interventions during design could have led to increased commitment and ownership.
71. The combination of the three outcomes does not follow the logic of other GEF projects. Notably, the introduction of SOLA software customization and of the SLM component in the same project without sufficient organizational support shows a certain incoherence already in the design, challenging to a strong project focus.

Finding 2. *Relevance of Outcome 1:* the relevance of deliverables in Outcome 1, in particular of the policy intention papers produced, remains doubtful, given the absence of studies on the policy landscape regarding land management.

72. The project states the necessity for the country to develop resource management policies that were more coherent with the ecosystemic R2R approach. While the project has reached the initially stated target of four policy intention papers for different partner ministries, it has not analysed in detail the policy landscape of the country as far as land management is concerned.
73. The four policy intention papers produced appear to be very sensitive to maintain relevance and context appropriateness, especially as they struggle in the attempt of keeping the particularity of Tongan agriculture in focus, which remains oriented to subsistence despite some intense agribusiness export-oriented farmers (which can be seen as a threat to ecosystemic health). The documents suggest actions to coordinate and negotiate among institutional actors to maintain ecosystem health while preserving the interest of farmers and their livelihoods, accepting self-

subsistence as an end goal in itself and in line with environmental concerns. The recommendations of the policy intention papers encourage the development of relevant legislation, as they frame the problems to improve agroecosystems giving priority to local needs – of the environment as well as of farmers’ livelihoods and government duties – over external agendas. It was not possible for the terminal evaluation to understand the perceived relevance of the policy intention papers from the perspective of the government.

Finding 3. *Relevance of Outcome 2:* the need for local development plans is commonly recognized by beneficiaries. The efforts on digitization of cadastre appear more as an external proposal to conform to international standards than a shifting intervention towards local constituencies requesting that intervention.

74. The men interviewed in Pukotala highly appreciated the proposal of involvement and participation of farmers’ households in the definition of project activities but it is unclear if this process has fed the local development plan. In community consultations for plans development, women were invited and a group of women was present, but their participation was marginal and not actively providing any input. Interviewed women did not recall being involved in any participatory planning process (neither for the local development plan nor for choosing sustainable land management activities to be implemented). It is possible that facilitation in project community consultations did not adequately set the condition for meaningful participation. The involvement of the local farmers and other local stakeholders in the Integrated Land and Agroecosystems Management Plans (ILAMP) was very minimal or non-existing.
75. With regard to digitization, the opinion of ministerial staff involved in the production of this result is positive with regard to improving response time in handing land title. As reported, the Ministry of Lands and Natural Resources was seeking for a shift towards a digital system. But the Evaluation Team did not find evidence that the government mobilized sufficient resources to own and further develop the system provided by the project (SOLA). From available data, the shift in the land management instrument allowed a relative benefit in speeding up responses to users’ questions, and possibly improvement in FAO and GEF access to detailed land tenure data for global statistics and monitoring of local planning. Nevertheless, so far, it does not seem to have had any specific direct effect locally on larger land tenure issues and specifically on land rights – considering as a possible benefit the improvement in access to land, or securing land to farmers and vulnerable households, or the sustainable management of natural resources and forest.
76. The local NGO MORDI, main counterpart for internationally supported rural development interventions in Tonga, had previously developed a system for digitization of land which is not compatible with SOLA. Eventually, MORDI discontinued the use of their system, and offered to adopt SOLA, which is becoming an international standard. Unfortunately, due to COVID-19 restrictions on international travels, the training could not be organized, and the capacity-building programme remained incomplete, especially on the side of sourcing tenure data from mobile devices in on-site visits. The SOLA system allows data input and sharing over the internet, although its current application in Tonga remains very limited.
77. On the other hand, from the project document or data collected by the Evaluation Team, it was not possible to establish if there has been a specific risk analysis as far as data protection is concerned, as well as the prevention of potentially harmful unintended effects of the digitization process. In other words, the Evaluation Team could not assess if any risk of increased vulnerability in land tenure (for farmers or even for noble landowners, who traditionally own the land and the right to assign it), which is potentially connected with external (international and private) access to digital land information, could represent or not a menace for Indigenous Peoples’ rights in the specific case of Tonga (on this topic, see FIAN, 2020).

Finding 4. *Relevance of Outcome 3 (part 1 of 2):* the enclosed communal piggeries model proposed, which incorporates a biodigester to process the waste and generate energy in the form of biogas, did not fully consider local and traditional Indigenous practices in relation to piggery farming. This questions the appropriateness of the model proposed.

78. In the project document, the motivation for introducing the practical SLM techniques appears to be rooted in observation. Some of the proposed practices oriented at protecting biodiversity and land resources intend to correct some of the Indigenous traditional livelihoods practices proven to be ecologically unsustainable, notably the free ranging of pigs owned by households, primarily those raised not for commercial purposes. One key activity of Outcome 3, and also the main answer to problem identification in the project rationale, was the construction of piggeries through a model with embedded production of biogas, in order to shift the pig-raising model from free roaming to enclosed, with the additional benefit of gas production. This would promote two benefits for the protection of forests.
79. The ILAMS project is not the first in the country to propose this solution to the problem of damages inflicted by free roaming pigs. Other development actors, including Chinese cooperation, have installed enclosed piggeries and actually implemented a model that points at biogas as a valuable product of the system, with the incorporation of a biodigester. To be viable, this model needs to involve multiple households, it requires the fencing of large areas and combining together at least 20 heads (pigs). The ILAMS project document was inspired by this model and aimed replicating it on more sites, in a version that would also include the pipe grid for gas distribution to households.
80. In the project document, it was already recognized that the requirements for this model to work might not be present in the country due to its cultural structure, and the traditions of Indigenous People, who represent the majority of the inhabitants of Tonga. Notably, it was deemed necessary to have communal piggeries, with a shared management of the facilities by the owners, in order to get a critical size and sufficient waste production to operate the biodigester. But in Tonga, and certainly in Pukotala, individual households raise pigs mainly for subsistence, as they are an important part of the daily diet. Distrust in communal model, combined with important difficulties in managing larger scale facilities (hygiene, prevention of illnesses, feed purchase), and evidence from the experience of the existing demonstration site created by Chinese cooperation in front of Tupou College, were all elements already available at the design stage, and they all contribute to assign a low rating for the relevance of this specific model of piggeries with biodigesters. Indeed, the plant implemented by Chinese cooperation as a demonstrative site proved to be particularly heavy to sustain, as it requires very costly external inputs, including imported feed, daily labour and maintenance of the actual biodigester plant. So far, the facility has not been handed over to local inhabitants.
81. During an initial scoping mission in the phase of project definition, the Lead Technical Officer and the Secretariat of the Pacific Community gave inputs to the design of the biodigester plants, suggesting a model produced in India and even the use of project for locally constructed devices, following a good practice already established in Fiji. During the initial implementation phases, the PMU opted for pursuing the same Chinese model existing in a demonstrative site and mentioned in the project document, thus opening the competitive procurement processes.
82. While the adoption of enclosed areas for raising pigs is a common feature in the other countries of SPC, in Tonga there has been traditionally a preference for fencing crops and gardens in order to protect them from free-ranging animals (including pigs, but not only). The project attempted to invert this approach, offering the perspective of a collective gain in terms of production of energy if a more ecologically sound design was accepted. But as detailed later in the report, the

comparative advantage that was envisioned (production of biogas for domestic use), could not be realized, thus compromising the relevance of the intervention on pigs.

83. The project team revised the approach from communal to household small-scale models to better fit the community expectations. They had to undertake competitive processes more than three times, and given the length of the process and the available time each round it was not successful at securing services at the end of those competitive processes. The Evaluation Team esteems that a construction from the elemental pieces of the biodigester device and plant by using tested projects and local materials, in combination with smaller-scale and household-owned piggeries, would have been more suitable to satisfy preference and expectations expressed by beneficiaries in Tonga.

Finding 5. *Relevance of Outcome 3 (part 2 of 2):* with the exception of communal piggeries, the SLM techniques and the appliances proposed, including the distribution of tools and the installation of communal nurseries, were appropriate and well accepted by the population.

84. Many of the techniques proposed by the project were known and practiced already by the beneficiary group. The training provided appears to have been well received as a reinforcement of competencies of practical application.
85. The distribution of wheelbarrows and other farming tools in Pukotala was welcomed as one of the very highlights of the project. The need for these types of tools, combined with the high cost that they have on the islands as imported products, makes their introduction a very relevant support to household livelihoods and a very significant improvement in efficiency of labour allocation.
86. The installation of a communal nursery in Pukotala was also well received. Although not fully articulated in the project document, the activity to promote the reproduction of local plants with high cultural and medicinal values through specific training was developed to allow local popular knowledge on cultural and medicinal uses of plants to emerge and be exchanged.

Rating for overall strategic relevance: Moderately Unsatisfactory.

3.2 Effectiveness

EQ 12: To what extent has the ILAMS project increased acknowledgement and incorporation of integrated land and agroecosystem management principles in national policies, laws and regulations?

EQ 13: To what extent has the project contributed to the availability of reliable information on land tenure to guide land use planning and facilitate the application of sustainable land management nationwide?

EQ 14: To what extent has the project improved strategic planning and the management of forest resources, including the development and operationalization of a forest management system?

EQ 15: To what extent has the project enhanced capacities for evidence-based and negotiated formulation of resource management plans at landscape and village levels, including the clarification of farmers' tenure rights and obligations?

GEF criteria B. Effectiveness.

GEF criteria B1. Overall assessment of project results.

GEF criteria B1.1. Delivery of project outputs.

GEF criteria B1.2. Progress towards outcomes and project objectives.

Finding 6. *Outcome 1:* four out of the five planned outputs within the project's Component 1 were fully achieved, including the publication of four policy intention papers, the digital cadastral map and a Land Use Policy Document. There is no evidence that the policy documents have buy-in from the government and it is uncertain if they will be implemented.

87. The project planned to draw a series of policy intention papers as a means to assist and facilitate a shift towards a more integrated approach in land governance and management. Four short documents were actually produced as a result of a dedicated consultancy, but the ministries concerned (Ministry of Agriculture, Food, Forests and Fisheries; Ministry of Lands and Natural Resources; Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications and Ministry of Internal Affairs) had not followed up with the policy preparation until the completion of this evaluation.
88. Although the development of the policies was not an objective of the project, the Evaluation Team considers two prevalent reasons to explain the current absence of a follow-up. One external reason is the disruption caused by the COVID-19 pandemic and the eruption of the HTHH volcano, which altered the list of government priorities. In addition, there were several changes in the government during project implementation and this affected public service reforms, in particular the finalization of the Land Use Policy that stalled, as the government was not in a position to decide on its institutional arrangements. An additional internal reason may have been the loose communication between the PMU and ministries, as it did not allow for the development of a coordination mechanism among different government actors that could have consolidated a more unitary and negotiated approach towards integrated land management. As the TOC envisions, an intense communication activity is necessary for facilitating a dual change towards a more integrated approach, both in terms of content (that is, intersectoral and multidisciplinary content) and in terms of collaboration among different ministries.
89. Nevertheless, as the project in Outcome 1 aimed just at the preparations of the policy intention papers, the planned objective can be considered achieved. The evaluation was not able to judge the utility of the outputs for different stakeholders.⁵
90. As pointed out in the mid-term review, the Management Plan for the Forests and Tree Resources of Tonga (2017) was published but without collaboration with ILAMS. On the other side, the Land Use Policy was completed but not approved by the government as mentioned above. Moreover, these outputs appear to be resenting a certain lack of communication and collaboration between the PMU and interested stakeholders, and a general lack of project buy-in by the ministries. These elements point to possible difficulties in establishing strategic collaboration with ministerial counterparts and in incorporating an integrated natural resources management approach to existing sectorial organization. It was not possible for the Evaluation Team to assess if, beside the process-related difficulties highlighted, there have been content-specific reasons that contributed to hinder the appropriation of the ILAMS-generated regulatory tools by the government, or if they remained unapproved due to time constraints and/or other concurring priorities.
91. The terminal evaluation was not able to establish⁶ the likelihood that the Government of Tonga would follow up on the suggestions and directions identified in the policy intention papers).

⁵ A specific conversation on the utility of the outputs with relevant stakeholders could not be held by the Evaluation Team due to time constraints.

⁶ The key informants interviewed in different ministries were not the most relevant stakeholders for understanding perspectives on policy development.

Overall, this set of deliverables does not seem to have received the buy-in of the government by the time of completion of the terminal evaluation.

Table 2. Component 1 planned outputs and status

Output planned in Component 1	Result obtained	Type of challenge	Responsibility
Three policy intention papers	(Over) reached (four policy intention papers instead of three)	Ministries did not follow up on the preparation of land and resource management policies with an integrated approach	Project Management Unit (PMU)
Land Use Policy Document	Reached	Final prepared but not approved by the government	Interaction with the Ministry of Lands and Natural Resources
Digital Cadastral Map	Reached for all four pilot sites	Limited number	
National Forestry Strategic Action Plan	Reached	Management Plan for the Forests and Tree Resources of Tonga, 2017 Halt of activities due to COVID-19 pandemic; response has impeded administration of specific training	Independently produced by the Ministry of Lands and Natural Resources
National Forest Monitoring System (NFMS)	Partially reached	A monitoring framework was developed but not activated Planned training realized, hardware provided and setup within Ministry of Agriculture, Food, Forests and Fisheries	The NFMS exists but neither formally approved nor operational

Source: Elaborated by the Evaluation Team.

Finding 7. Outcome 2: the successful implementation of the first component of SOLA, including digitization of cadastre and completion of survey plans, has allowed for improvement in land information management, and in shortened response time to users. The SOLA information system implementation faced important challenges and did not reach a stage sufficient neither to support administration functions nor to monitor land use.

92. The first component of SOLA, the digitization of cadastre, has progressed enormously thanks to ILAMS, completely reaching the planned target of population of registry for the four pilot sites. All the four sites of intervention had the expected survey maps of the respective watershed completed. About 6 500 survey plans were completed, and both town and tax allotments are complete in the four sites. The planned staffing on the Ministry of Lands and Natural Resources was completed. This activity, requiring a central server, has requested a modest investment on the side of the Government of Tonga and according to the Ministry of Lands and Natural Resources it is now easier and faster to process and respond to users' requests. The part that is now complete appears to be more a registry of land titles (not-up-to-date) than a GIS database. Although shapefiles with polygons of tax and town allotments have been gathered and organized, they have not been imported in the SOLA system and remain in local server.
93. The activity to digitize the cadastre was conducted through implementation of a customized version of the FAO SOLA software called SOLA-Registry. The project offered capacity building to the Ministry of Lands and Natural Resources. The training activities on digitization of cadastral data into the SOLA-Registry database was completed and phased out at the end of 2018 (Gunson,

2018). Based on these trainings, the GIS Unit of the Ministry of Lands and Natural Resources carried out the digitization of cadastral data as mentioned above.

94. Difficulties identified at that time included: lack of some technical information for each lot according to the standard set; lack of information on a lot of assignments; unreliable internet connection for some of the Ministry of Lands and Natural Resources Remote Sensing offices; limited staffing to cover centrally all SOLA functions.
95. It emerged in focus group discussions in Pukotala that access to land in that locality is not an issue, but that not in all parts of Tonga the situation is the same. Since the Evaluation Team didn't have sufficient data from a variety of sites of intervention, it is not possible to evaluate if the registry component of SOLA, and the activity of digitization of cadastre, in absence of a clearly functioning mechanism for representing and negotiating among all stakeholders' interest (including farmers and female farmers as well), has had or not a positive impact on poor farmers' livelihoods by improving access and securitization of land. It appears that being the information recorded of names connected with old and not up-to-date titles, and since that information was not being used publicly or for any actual monitoring or planning, the circumstances did not present for potential conflict to arise.
96. Also, the Evaluation Team understands that currently the cadastre digitization has allowed to generate maps of tax and town allotments only for one of the four pilot sites (in Tongatapu) but not yet to connect those data with information on farmers who have been granted access and use. It was not found through interviews or background review a reference to data protection policy in view of possible risks proceeding from third parties, included foreign investors, having access to data without having a stake in Tongan people's livelihoods or in ecosystems sustainability. But since the information on farmers is very partial and it is stored in a server not connected on internet on central database, and given that the website tongalands.org is no longer operating, the risks seem low.
97. The second component of SOLA, the community server, is a web-based application that allows collaborative data collection from smartphones through open source software.⁷ This part was only initiated but could not be developed mainly due to the limitations imposed by the COVID-19 response. It was supposed to bring information directly from the community mainly on land use linked to land tenure. The website tongalands.org was set up for training and was hosted in a cloud server (no longer available). It is yet to be migrated to a local server, either at MORDI or the Ministry of Lands and Natural Resources GIS Unit.
98. The project implementation did not reach the level of involvement of community and public officers from local departments that was needed to fully implement and operationalize the SOLA Community server part of the application. Flaws in the design and challenges faced during implementation may have contributed to the shortcoming, including the lack of a dedicated committee or unit to connect ministry, stakeholders and right holders for the definition and management of the system. A specific expertise in land tenure, with soft skills for dispute resolution should also have been included, if the expected result were monitoring instruments for land use and forest conservation and a tool to strengthen tenure.
99. Therefore, it can be concluded that overall the different activities under Outcome 2 did not affect modalities of land tenure attribution nor of land use and planning. The project design itself did not foresee mechanisms to allow for the enhancement or protection of land tenure rights for the

⁷ Open Tenure or QField.

farmers of the target communities, nor for enabling meaningful participation of the right holders in community planning.

EQ 16: To what extent has the project effectively increased capacities in government institutions and NGOs for identifying and supporting SLM practices?

EQ 17: To what extent has the project effectively increased capacities in local communities to develop, apply and adapt SLM practices?

EQ 18: To what extent has the project effectively increased capacities for the formulation and implementation of forest restoration plans, and for supporting improved management of forests, mangroves, and trees outside forests?

Finding 8. *Outcome 3:* overall, the SLM techniques have found good appreciation and reception among beneficiaries, who have incorporated them as a means to improve their livelihoods while protecting forests and increasing biodiversity. The NGO implementing partner MORDI has contributed to disseminate the techniques on a broader extension beyond the four pilot sites. There is no clear evidence of knowledge-enriched public agricultural services as a result of the project.

100. The array of techniques and practices for SLM proposed through the Farmer Field School has been received with interest and applied by all the farmers interviewed in their ordinary way of work. Table 3 illustrates the set of instruments offered and the main feedback received from the beneficiaries interviewed by the Evaluation Team.

Table 3. Activities undertaken for the realization of Outputs 3.2.2 and 3.2.3

Specific SLM technique	Use among beneficiaries		Key comments
	in Haveluliku	in Pukotala	
Keyhole gardens	X	X	The project provided material just for few gardens to demonstrate the concept. In Pukotala, community gathered local material to set up ten more and therefore cover more than half of the households. Irrigation problematic during drought.
Compost	X	X	Improved composting techniques involving the incorporation of seagrass.
Organic treatment for vegetables		X	Extraction of liquid from seaweed and other leaves used as pest control. Women "thrilled to find out new techniques in producing organic treatment to protect to vegetables from pests" (from focus group discussion with women in Pukotala).
Provision of seedlings and seeds for plants	X	X	Very appreciated and mainly planted just around the houses for better care and control to avoid animal's incursions.
Provision of seeds for vegetable	X	X	Highly appreciated particularly by women, inputs and knowledge have been absorbed and incorporated in their livelihoods allowing improvement in subsistence production of vegetable and fruits by generating their own seedlings.
Installation and management of nurseries		X	Run mainly by women, set up on land of nobles who have agreed to the use, they are bringing very positive results and environmental outcomes, including reintroduction of indigenous species. The six nurseries allow autonomous regeneration of seedlings and they appear to even provide some additional income through the sale of plants and vegetable seedlings to be proposed to neighbouring villages.

Specific SLM technique	Use among beneficiaries		Key comments
	in Haveluliku	in Pukotala	
			The plants cultivated include mei, coconuts, timber trees for boundaries and natives for ecosystem rehabilitation.
Managing pigs in enclosed pens	X	X	Facilitation of construction of piggens. Light version adapted to individual homestead very diffused, is recognized as an improvement for protecting plants and vegetable gardens – although other animals continue to roam freely, such as horses and cows.
Distribution of wheelbarrows		X	Not specifically included since the beginning in the tool set, wheelbarrows have been highly appreciated as they brought efficiency in farming and tending nurseries.
Water harvesting system	Not found	Not found	<p>The activity was budgeted, but the Evaluation Team did not find information or evidence of its completion in the sample areas, although there is mention of it. Initial community consultations had pointed to the scarcity of water and to the need for water management and storage to be included.</p> <p>Mid-term review report, Project Steering Committee meeting reports and policy intention papers reported change to the Work Plan as a result of the 2017 baseline surveys, which found that water supplies through water infrastructures (communal bores and village distribution systems) were considered adequate for the provision of water.</p> <p>Water scarcity relatively to watering vegetable gardens was a problem indicated as the cause of failure of some keyhole gardens in Pukotala. In Pukotala, the issue seems to be the communal-level distribution capacity. Not enough data from other locations to understand if the absence of these light infrastructures has impacted negatively also in other sites.</p>

Source: Elaborated by the Evaluation Team based on data collected and project documents.

101. Capacity strengthening of the extension services has been part of the agreement of ILAMS with the Ministry of Agriculture, Food, Forests and Fisheries. However, while the PMU took track of the number of farmers who benefited from training, the Evaluation Team has not found detailed information on the coverage of public (government) staff that the project has trained on SLM. It was found that the staff from the Ministry of Agriculture, Food, Forests and Fisheries was involved in some of the farmers' training, including in explaining critical points of rearing pigs in piggeries and in teaching practical solutions to ensure animal health.
102. All the above-listed techniques have been highly appreciated by the national NGO MORDI, which has incorporated training on these practices also in its other projects currently implemented with other donors and agencies (including IFAD). MORDI staff consulted consider this learning precious and very relevant to rural development needs, thus extending coverage to 122 localities over the country.

Finding 9. Outcome 3 (part 1 of 3): currently, 100 percent of households in one of the evaluation sample location have a family piggery for enclosing their pigs. While the project has reportedly directly contributed to these results, it is not possible to report full attribution due to pre-existing practices of many households to fence pigs. The reproduction of pigs and costs of feeding of fenced pigs remain a challenge and the current level of realization of the piggery model does not yet allow positive trade-off of monetary resource allocation.

103. In Pukotala (one of the two sample sites visited by the Evaluation Team), all households have received the material for the preparation of an enclosed pigpen. The original project design foresaw a base with cement blocks and a permanent fencing structure, but only two pens have been constructed according to that design (“a puaka palangi”); the other 16 followed a more local inspiration (“a puaka Tonga”) requiring less material, also sometimes involving the use of living fence with plants instead of wooden or iron sticks to hold the metal net.
104. The full coverage of Pukotala’s households with piggeries was reported by stakeholders as realized only thanks to the ILAMS project, as no other interventions allowed resources to tackle the reorganization of pigs rearing.
105. One of the few baseline information data that are available and that allow to appreciate the results attributable to the project is the initial household survey, conducted in 2017. It showed that the target households fencing their pigs in all localities was about two-thirds (68 percent). With this perspective, the results observed in Pukotala (100 percent of households have now fences) is somehow not surprising if the information stated in the initial survey baseline are to be considered accurate: the survey stated that at least 16 over 17 families already in 2017 used to fence pigs. Unfortunately, the survey does not specify what was the specific set of habits that was shaping livestock management given this situation, therefore it is difficult to finely understand what contribution has specifically been brought in by the new pens built through the ILAMS intervention. It can be said that the project contributed to reaffirm the validity of the enclosed piggery model.
106. Furthermore, many farmers on the village had undertaken works for fencing gardens and crops already before the beginning of the ILAMS project; this alternative solution turned out to be very positive and effective towards the multiplicity of animals typically roaming around free on the Tongan territory (included pigs, horses, cows, chickens).

Table 4. Percentage of households fencing their pigs at the beginning of the project

Pig fence	Haveluliku	Mangia	Pukotala	Ta’anga	Total	%
Yes	24	3	16	14	57	68
No fence		14		4	18	21
Not stated			1	8	9	11
Total	24	17	17	26	84	100

Note: About 68 percent of the total households are fencing their pigs. The information indicates that Haveluliku and Pukotala are fencing their pigs almost 100 percent compared to Mangia and Ta’anga with less fencing pigs.

Source: Baseline Household Survey published in the Report Annexes of ILAMS Project Team Planning Workshop, Davina House, Nuku’alofa (29th August to 1st September, 2017).

107. In that same sample village, Pukotala, it is now possible to observe plants that have been planted in the early stage of the project and that are bearing fruits this year. These are also an indicator of the effectiveness of piggeries for protecting seedlings and trees. The dimension of the newly realized piggeries does not seem to be appropriate to match the average household needs and they need to become larger (according to women).
108. Women from the beneficiary group of Pukotala clarified that feeding their pigs coconuts and moringa works well, especially as some pen fence has been constructed incorporating these plants as sticks. But the availability of feed proceeding from fences is insufficient, both because not all fences have already productive plants, and because when productive moringas and coconuts are available on family homestead, they do not fully cover pigs needs. The Evaluation Team estimates that those who keep pigs enclosed in piggeries all the time, and do not have feed on their

homestead, might be spending on average USD 30/week per piggery (around five pigs each) if they have to buy industrial feed.

109. Purchasing industrial feed for pigs raised for self-consumption is not a viable option for current average family budget, but it is still something that farmers would like to do. Pig meat is eaten regularly, even more than once a week. Pigs are eaten even before one year of life and the average size piggery is around five to seven pigs at a time. Family consumption needs currently in the sample village of Pukotala do not seem to be covered fully by the household piggeries. This might likely be the reason why the imported industrial feed available on the market, which reportedly has very visible and quick results in fattening pigs, is a very desirable good (though unaffordable and hard to reach).
110. Therefore, feeding pigs that are enclosed in the piggeries remains in any case an issue to be solved. As the production of biogas through animal waste management in the piggeries could not be achieved for failure to procure the biodigesters, there is no possibility for the farmers to save on current gas expenditures and invest on pigs' feed. Initial feed was freely distributed by the project, but it only covered few weeks. A permanent solution to avoid implying additional costs for feed procurement (i.e. by facilitating organization of a communal or individual self-production) was not elaborated within the project, with the result of generating an additional expenditure on tight households' budget. This appears hardly sustainable in a horizon of production for self-sufficiency. For this reason, several households still let their pigs out of the pen for a few hours every day.
111. The project could have explored a solution of pigs confinement through mobile fences, of sturdy material but easy to reposition and stick in the ground. This solution could obtain the benefit of protecting forest, seedlings and crops while keeping the labour for rearing pigs, particularly for cleaning waste and feeding them, to an acceptable level. In absence of the biodigesters, the pigs' manure could be incorporated in the soil as a fertilizer and the shift of the confinement area on different portion of the territory could prevent saturation.
112. On what can be a possible solution, FAO is assisting MORDI on developing a value chain of pig feed production starting from breadfruit flour production waste, which is the focus of other MORDI's interventions. This option can make pig feed available at lower prices compared to the imported one. If this approach works, then the piggery system may showcase another positive case of a closed cycle and of circular economy. But this still requires regular allocation of resources and significant investment in infrastructure and product development.
113. Reproduction of pigs and maintenance of a relative genetic diversity while rearing pigs in small, enclosed piggeries is a challenge, especially in the current Tongan situation, as no artificial insemination is provided by public services. This condition also concurs to encourage farmers to occasionally release their animals to roam freely for few hours a day.
114. Receiving artificial insemination as a public service is currently not an existing option. Both the Ministry of Agriculture, Food, Forests and Fisheries and MORDI are interested in this perspective, which they consider key to genetic improvement of the local species. As the Ministry of Agriculture, Food, Forests and Fisheries is identifying positive and negative incentives to enclose pigs, artificial insemination is projected to be offered only to those keeping pigs confined, therefore contributing to keep the village clean.

Finding 10. *Outcome 3 (part 2 of 3):* two elements of the planned small infrastructures (biodigesters and water harvesting devices) not being completed within project life may compromise other achievements connected with those infrastructures.

115. Some planned infrastructures, notably the biodigester devices and the water harvesting kits, were not completed within the project time frame. These two gaps have influenced the effectiveness of other activities, in particular as they relate to their integral roles as components of livestock-crop integrated farming systems promoted by the project to illustrate the agroecosystem management approach, as advocated in the draft ILAMS Plans.⁸ The livestock-crop integrated farming systems was a strategy to provide incentive to managing pigs and provision of ecosystem services that would enable households to provide feed for pigs confined in pens ('a puaka palangi) or traditional on-the-ground fencing ('a puaka Tonga) - with living trees (moringa oleifera) included in the fencing system. As explained above, the absence of the actual device to produce biogas from pigs manure envisaged as incentive reduced the attention and the resolution to maintain the pigs confined.
116. As activities addressing solutions for energy and water provision represented a very relevant answer to general farmer's needs and had raised much attention at community level for ILAMS intervention, not completing these specific interventions presents a risk to compromise community buy-in and to jeopardize other achievements. In particular, the PMU decision to not purchase dedicated water harvesting kits due to the existence of communal borehole in the community resulted in households in Pukotala not being able to easily water their new keyhole gardens (set up through the project) during drought, possibly contributing to several gardens drying out.
117. Failure in procuring biodigesters has not allowed to demonstrate the positive trade-offs with the piggery system, supposed to provide energy even if requiring additional attention, labour and resources in order to maintain a healthy livestock enclosed.

Finding 11. *Outcome 3 (part 3 of 3):* activities oriented at reforestation and soil enrichment have reportedly generated positive effects on biodiversity, livelihoods and food security among the beneficiaries interviewed (Pukotala).

118. Some SLM activities have enhanced livelihoods opportunities and even household food security, effects indirectly influenced by the project. Women's beneficiary groups in Pukotala reported how they started to mainly produce vegetables by preparing their own seedlings, then cultivated in their gardens thanks to the specific knowledge obtained by ILAMS and by the management of the community bursary installed under the project. These activities and techniques started to represent a possibility for income generation, thus reinforcing women's (in particular) livelihoods strategies.
119. Overall, there has been a very positive response to the practical SLM techniques proposed. Particularly women have been responding very positively, participating numerous and frequently in training activities, thus learning or perfecting techniques, and then adopting them in their agricultural work.
120. There were six newly developed and upgraded nurseries at the national level, located in: Tokomololo (Tongatapu); Pangai (Ha'apai); Fatai (Vava'u); 'Eua; Mata'aho and Hango College nursery and Seed Centre. The quantitative information proceeding from the GEF Tracking Tools presents a percentage of achievement of less than 50 percent of what was planned in these activities, as far as area coverage is concerned, both on areas directly and indirectly covered. With the limited time in the only two sampled sites, the Evaluation Team could not gather data to confirm and triangulate this information.

⁸ Draft Haveluliku ILAMS Plan - Makatolo 'a Maui Community-Based Agriculture Action Plan.

121. This level of achievement appears to be strictly connected with the prolonged halt in the actual field operations which has been imposed as a COVID-19 response measure internally in the UN and by the Government of Tonga.

Table 5. Planned vs achieved coverage of conservation activities and sustainable; and management training

	Planned	Achieved	Details
Landscape/seascape [1] area directly [2] covered by the project (ha)	6 180	2 692	Improvements in vegetation cover include: 750ha of tax allotments ('api tukuhau) plus 412 ha of town allotments ('api kolo) from reduction in damage from roaming pigs in the four pilot villages; 299 ha of 92 toutu'u agroforestry systems improved from planting of 12 900 trees; 350 ha in 'Eua Water Catchment Area rehabilitated; 332 ha (820.5 acres) of land in the project target locality in Tongatapu was rehabilitated from the ash fall from the Hunga Tonga-Hunga Ha'apai volcano through tilling the ash into the soil profile; 308 ha (760 acres) on 95 farms in Farmer Field School for smart agriculture in their tax allotments (dripping irrigation, nutrient deficiencies diagnosis, pest and disease management, soil health from mucuna crop as ground cover, etc.); 241 ha increase cover in areas where rare plants and plants with high medicinal and cultural value have been conserved, propagated and planted (149 households represented by women x four acres 'api kolo = 596 acres)
Landscape/seascape area indirectly [3] covered by the project (ha)	3 090	1 346	Training

Source: Elaborated by the Evaluation Team based on the GEF Tracking Tool updated until November 2022 (internal document) and FAO-GEF Project Implementation Report Period (July 2021 to 30 June 2022).

EQ 19: To what extent has the project effectively enhanced results-based management and application of lessons learned and good practices?

EQ 20: To what extent have the disseminated guidelines, knowledge and awareness mechanisms been used by the targeted audiences?

GEF criteria E6. Communication, knowledge management, and knowledge products.

Finding 12. Outcome 4: the activities under this Outcome have been too short or occasional as there was no provision for a dedicated staff all along the project. This hampered facilitation of the coordination mechanism necessary for buy-in and collaboration, a key dynamic understated in the reconstructed structure of the TOC. Communication activities connected to activities of Outcome 3 (minishow of agricultural products) have improved in the latest project implementation months.

122. Although crucial for fostering an integrated approach, the project was constrained in communication and in knowledge management. Communication was by design understaffed: the budget only allowed 12 months of a position dedicated to both internal and external communication. The communications and knowledge management support to local consultant was hired (for the limited time budgeted for) but could not deliver, therefore contract was terminated.
123. Government officials expressed that dialogue among different stakeholders improved over time thanks to the opportunities offered by ILAMS to interact with other institutions, even if an actual

communication and coordination mechanism was not in place before the project –nor established thanks to ILAMS.

124. Nevertheless, the minimal investment in communication has impeded the necessary work of facilitation of the coordination mechanism, necessary to obtain institutional stakeholder buy-in and collaboration and to advocate for key issues in policy development. This shortcoming seems to have negatively impacted on the effectiveness of the other components.
125. Knowledge management can be a key element of responsive management if well integrated with M&E. But the internal management of products and deliverables was difficult and not streamlined. In this case, a well performing communication unit could have facilitated the use and follow-up for policy and planning of the different deliverables. A dynamic of communication among key stakeholders and across the three components appears to be an essential but too lightly expressed element of the TOC: as a result, the outputs of Outcome 1 have remained detached from the official government course of activities. Ultimately, the weakness of the knowledge management capacity reverberated on the completeness of M&E, reducing possibility to understand, monitor and prevent risks connected to the project.
126. With regard to good practices, the PMU team had set up a social network page for the project on Facebook (Tonga R2R FAO ILAMS Project, n.d.) with about 1 000 followers. The publication of posts in the page was discontinued in April 2021.
127. The minishow of agricultural products extemporarily organized in Pukotala was a very effective initiative. It was introduced ad hoc during the implementation phase, but resulted to be very effective at igniting attention on all the SLM practices and achievements, and generated interest in both beneficiaries and public. The minishow contributed to inform non-target communities of the potential and possibilities of integrated agroecosystem approach in farming.

Rating for Outcome 4 and GEF E6: Unsatisfactory.

Rating for effectiveness (overall assessment of project results): Moderately Unsatisfactory.

3.3 Sustainability

EQ 25: What is the likelihood that the project results will continue to be useful or will remain even after the termination of the project?

EQ 26: What are the key risks which may affect the sustainability of the project benefits?

GEF criteria D1. Overall likelihood of risks to sustainability.

Finding 13. Results achieved in Components 1 and 2 are unlikely to be sustainable. The policy intention papers are not likely to be turned into policy documents in absence of a champion and of dedicated resources (Outcome 1). On Outcome 2, the maintenance of a digitized cadastre unit can be challenging for the ministerial partners.

Finding 14. Regular involvement of new generation of non-beneficiary groups are arguments in favour of sustainability (Outcome 3), while some of the activities proposed as SLM need to reach completion to aspire to continuity over time or to be completed by livelihood improvement initiatives. Nurseries were appropriated by the women's group and institutionalized within the Ministry of Agriculture, Food, Forests and Fisheries. A well-established partner as MORDI increases the likeliness of continuity and solidity of project achievements.

Outcome 1. Policy support: the project achieved the outputs established under Outcome 1, but there does not seem to be confidence on any stakeholder side that policy development along those indicated

lines will become a government priority, unless this becomes the focus of further projects. Although this is not a specific objective of the project, it would be important to reflect on the worthiness of the use of resources to produce policy intention papers if this activity does not connect to government action. A criticism could be made to the design of the project, which by omitting activities to ensure relevance and buy-in of the counterpart has not provided the PMU with a roadmap. The absence of facilitation from a committed National Project Director also seems to be connected with a weak or null buy-in from the government.

Outcome 2. *Digitization of cadastre:* with regard to Outcome 2, the infrastructure that is necessary for a digitized cadastre is quite heavy and expensive, and there is uncertainty within the Ministry of Lands and Natural Resources on national capacity to maintain and further develop the system. The project document indicated the need to allocate appropriate government budget, but this did not materialize in the course of the project.

128. In the planning workshop at the earlier stage (August 2017) of ILAMS, an alert was raised on the lack of deeds for land securitization in relation to the planned interventions. But from interviews carried out by the Evaluation Team, the issue of securitization of tenure of private lots, as well as of the public areas for nurseries, does not seem to be a problem. The digitalization is at its initial stage, and so far it has not been applied to facilitate the process of improving equity in land tenure (that is, involving farmers in confirming ownership, and involving women's constituencies in validating claims). This might reduce complexity of the project of cadastre digitalization, which would bring two risks: a decrease in population interest in this tool and/or an increase in interest of foreign actors seeking available land. All in all, the lack of measures regarding land securitization risks reducing social and environmental sustainability of the system put in place.

Outcome 3. SLM activities. Direct beneficiaries are promoting and teaching some of the SLM techniques to farmers in neighbouring villages, as a consequence of their interest and satisfaction with those activities. Involvement of youth in applying many of the SLM techniques to house crops is a positive sign for a stronger chance for sustainability.

129. The activities proposed under Outcome 3 kept in focus only conservation and biodiversity. According to the Ministry of Agriculture, Food, Forests and Fisheries, had they involved a focus on livelihoods and household resilience, they could have expected a stronger commitment from farmers and (by introducing some Indigenous and rustic cash crop) allowed some additional income generating activities for the families joining in the piggeries initiatives.

130. Keyhole gardens: the project document provided a budget for ten water harvesting kits, but in the course of the project, the PMU opted for allocating resources differently, considering the existence of communal borehole in all locations. Nevertheless, the group of men beneficiaries in Pukotala recalled that the keyhole gardens could not survive due to the drought and in absence of a handy solution for irrigation. The need to easily bring (or at least to demonstrate reproducible solution) irrigation in areas not served or distant from boreholes remains unanswered. As a consequence, the risk of unsustainability for all the planting activities – including nurseries, reforested areas and keyhole gardens – remains very high.

131. It can be argued that setting up gardens in a situation of general difficulty to access and stock water is both an inefficient and an unsustainable use of resources. The project foresaw the two elements by design, but the implementation assessed that the need for accessing and stocking water was not present, possibly overlooking some site-specific details and the implicit consequentiality of the two activities, thus leaving achievements in a very unstable condition.

132. Nurseries: the Forestry Division/Nurseries of the Ministry of Agriculture, Food, Forests and Fisheries has taken up (therefore institutionalized) the six nurseries that have been designed and realized during project implementation, under the convinced participation of women's group.
133. *Piggeries*: MORDI expressed interest in addressing the issue of availability in-country of animal feed suitable for pigs. This element is key to the sustainability of piggeries. The demonstrative piggeries developed in Tonga by the Chinese cooperation depend on imported feed. If this is the only scenario, the private pens established through ILAMS will not survive. The development of solutions for starting local production could instead also offer opportunities for income generation, although it needs to be calibrated on the condition of pigs being raised mainly for subsistence and not for commercial purposes.
134. While ILAMS has only operated in four communities (Haveluliku, 'Eua, Ha'apai, and Vava'u) MORDI – through a variety of projects – has operations in 122 communities. This condition ensures continuity beyond the end of the project and a broader dissemination over time of knowledge on SLM techniques.

Outcome 4. As a measure of sustainability, some representatives of partner ministries suggested that the PMU could be set up inside the Ministry of Agriculture, Food, Forests and Fisheries, for improved communication and for better sustainability. Although the project is now completed, this suggestion could be used for future projects.

135. In summary, the main risks to sustainability identified by the Evaluation Team are:⁹
 - i. lack of appropriation by the Government of Tonga and staff from ministries;
 - ii. lack of appropriation by the communities;
 - iii. lack of dedicated budget line by the Government of Tonga or of additional funds from grants; and
 - iv. misuse of infrastructures, services or systems established by the project by actors not accountable to population.

Rating for overall likelihood of risks to sustainability: Moderately Unsatisfactory.

GEF criteria E7. Overall quality of M&E.

Finding 15. Significant gap in communication and knowledge management functions, including in human resources, hampered regular update of database and coordination. In addition, the project's indicators could have been better informed by baseline survey. These aspects questioned the appropriateness and usability of the project's M&E system.

136. The Evaluation Team had access to the result framework, to a set of monthly reports and to the GEF Tracking Tool. Although the Evaluation Team does not consider to have had sufficient exposure to M&E process, some consideration can be formulated based on interviews with FAO personnel and review of the mentioned documents.
137. The mid-term review had observed that the M&E of the project was not adequate (with indicators for outcomes and not for outputs), particularly cumbersome, but that – being the project already well into implementation – it would have not been a good use of resources to redesign it. It also noticed significant difficulties in ordering files and data that were at the time available, pointing

⁹ Sustainability has been assessed on the basis of the risks identified by the Evaluation Team and not by the PMU nor the project document. This is because, with the exception of the initial risk attribution (considered low), a risk matrix and register were not developed at project inception.

at one file that was keeping tracks of progresses but was not fully updated (in 2019 data was mainly for 2018 and 2019). The archive available had incomplete series of monthly field-based reports, based on individual Field Project Officers and PMU staff individual reports. The project implementation reports, produced yearly, were all regularly issued and stored in an accessible folder.

138. As a key M&E tool, the GEF Tracking Tool appears to have been used and updated mainly by the GEF Chief Technical Adviser, more than by the PMU. A more agile intermediate instrument that can handle quantitative data by activity could have been useful to keep main indicators in sight, feeding into a simplified project dashboard.
139. The M&E lacks a risk matrix, and the environmental and social safeguards framework remained not updated (as observed by the mid-term review). This might have impacted on the PMU adaptive capacity and responsive programming, or at least on the possibility of the PMU of advocating with other stakeholders for responsive participation.
140. The M&E data and time resources were not used to feedback information to the communities, for example, about the impossibility to complete the action on biogas.
141. The M&E system had only some baseline data to rely on, obtained in an initial survey on the targeted households, intended to profile the demographic composition, the agricultural and livestock production, and some analysis of food security. The results of this survey (found in the ILAMS Project Team Planning Workshop Report, September 2017) do not seem to have informed indicators for understanding changes that could be attributed to the project. The change in the National Project Manager that happened about a year after the project kick-off, may have contributed to fade the PMU attention from the initial beneficiary survey.
142. Only two years after implementation started, a Communication Officer was recruited (2019); this professional's terms of reference included reorganization of internal information and knowledge to help improve the M&E data. The consultancy did not bring the expected results, and was terminated before time. In any case, that position was since the beginning only budgeted for a quarter of the total project duration. This was insufficient for a project that significantly relied on communication to also activate high level (political), medium (administrative) and community buy-in. Therefore, the M&E capacity was understaffed, as the Communication Officer could have helped in keeping internal repository and databases in order to support the Project Manager.
143. One element of the M&E gained much (though unintended) appreciation by the local beneficiaries, and operated as a very effective and unexpected communication and visibility operation. A boat was included in budget as logistic equipment to support M&E activities in the different sites of intervention on different islands. The Ministry of Agriculture, Food, Forests and Fisheries made the boat available to the population, with clear rules of use. This measure has granted to the project very solid trust from the population on the islands, and created a popularity that none of the other activities have generated. In one of the Tongan islands there has been a case of emergency, and the boat was used to transport the child in need to a hospital. The transfer was fast and smooth, and the child healed; the news spread rapidly and the name of ILAMS is now very well-known across multiple villages thanks to that event.

Rating for overall quality of M&E: Moderately Unsatisfactory.

3.4 Co-financing

EQ 33: To what extent did the expected co-financing materialize, and how did shortfall in co-financing, or materialization of greater than expected co-financing affect project results?

GEF criteria E4. Financial management and co-financing.

Finding 16. The planned matching contributions only partially materialized. The aggregated records of the in-kind contributions and the lack of access to evidence do not allow for the evaluation to independently confirm the materialization of the co-financing. The FAO in-kind contribution seems to be underestimated. In-kind contributions by MORDI and the Government of Tonga, if materialized as reported, have added value to the project and contributed to results.

144. This section focuses on the assessment of the co-financing. For assessment of the financial management, see section 3.5 on efficiency.
145. The planned contributions besides the GEF funds were intended as in-kind, but both the project documents and the M&E reports only present aggregated values, and do not specify budget lines of allocation of these sub-budget. The evaluation had access to the latest project implementation report (July 2022) table consolidating the information about the co-financing (Table 6). The FAO Field Programme Management Information System (FPMIS) does not contain any co-financing data, not even consolidating FAO's contributions as a co-financer itself. Thus, very few documents referring to the co-financing were available, as most of the partnerships did not count on specific memoranda of understanding or letters of agreement, and the Evaluation Team did not have access to co-financing letters or to reports detailing in-kind contributions per co-financer.

Table 6. Project resource mobilization

Sources of co-financing	Name of co-financer	Type of co-financing	Amount confirmed at CEO endorsement/approval	Actual amount materialised on 30 June 2022	Expected total disbursement by the end of the project
National Government	Ministry of Finance and National Planning	Grant	3 340 000	3 014 235	3 014 235
Regional Organization	SPC	In-kind	750 000	15 000	15 000
NGO	MORDI Trust	In-kind	980 000	968 635	968 635
NGO	OXFAM	In-kind	240 000		
Bilateral agency	GIZ	Grant	150 000		
GEF Agency	FAO	In-kind/Grant	1 400 000	178 203	1 400 000
National Academic Organization	Tupou College	In-kind	155 000	54 400	54 400
National Academic Organization	Hango Agriculture	In-kind	155 000	150 800	150 800
		Total	7 170 000	4 381 273	5 603 070

Source: FAO and GEF. n.d. FAO-GEF Project Implementation Report Period covered: 1 July 2021 to 30 June 2022. Rome.

146. The mid-term review report already noted that the co-financing data was mostly not available. After that, at an advanced stage of the project, only 8 percent of the planned government contributions as co-financer were consolidated, as noted in the minutes of the seventh Project Steering Committee meeting, which was held in July 2021. In that document, the ministries were urged to report their co-financing contributions to the Committee.
147. This impedes a full and clear picture of the contribution brought to the project by different stakeholders. Nevertheless, the evaluation assesses the co-financing contributions per partner considering the results achieved.
148. Government of Tonga (Ministry of Agriculture, Food, Forests and Fisheries). Part of the co-financing envisaged in the project development phase was for the Ministry of Agriculture, Food, Forests and Fisheries to host the PMU. During the last stages of finalizing the project document, it was agreed that the FAO Office in Tonga would be hosted by the Ministry of Agriculture, Food, Forests and Fisheries, as actually happened. As the PMU was eventually hosted by the FAO Office, a memorandum of understanding for the collaboration of the Ministry of Agriculture, Food, Forests and Fisheries and FAO was not considered necessary, but a letter of agreement for provision of "Training and Coordination of agricultural extension services training related activities" was developed and signed in August 2019 and extended upon at the end of 2020.
149. The project document established co-financing by the Government of Tonga in all components and outputs of the project. The letter of agreement covered only Component 3 of the project, with a focus on the development of trainings and manuals for extension agents and to implement the Farmer Field Schools. In the project document, the co-financing of this component corresponded to USD 639 556. The activities of Component 1 corresponded to approximately 50 percent of the planned co-financing, with almost USD 1 million to fund the implementation of SOLA, including digitization of cadastre and completion of survey plans, which was achieved. In fact, four out of the five planned outputs within the project's Component 1 were fully achieved (see Finding 6 in section 2 on effectiveness).
150. Therefore, while it is not possible to specifically track the in-kind contribution to these two components, if the corresponding co-financing has materialized as planned in the project document, that would amount to a total of USD 2 215 348, that is, approximately 73 percent of the total USD 3 014 235 reported by 30 June 2022.
151. Since FAO was hosted inside the building of the Ministry of Agriculture, Food, Forests and Fisheries, part of the contributions reported in Table 6 seem to have corresponded to in-kind support provided on a range of activities, including infrastructure, maintenance of office, bills and other operational costs. This included the offices in the different islands where ILAMS was implemented.
152. FAO. FAO's contributions envisioned at approval (project document) included a few Technical Cooperation Programmes that would be implemented as part of the FAO co-financing. The amount was estimated at around USD 1.4 million and would be further specified along implementation. But only USD 178 203, that is, a little over 12 percent of the planned amount, has materialized. Explanations include the strict restrictions imposed by the country (such as mandatory quarantine) due to the COVID-19 pandemic, which hampered a lot of the FAO work in the country, particularly when hiring international consultants and traveling was required. Some project activities were also put on hold, and a key element of the project was not realized: the biodigesters. Project implementation was further hampered by the explosion of the volcano.

153. As planned in the project document, the in-kind contribution by FAO to the project included significant management and operational support provided by the Subregional Office for the Pacific to procurement, the support by the Lead Technical Officer and other project activities. It is likely that this in-kind contribution was underestimated and/or not fully accounted in the co-financing tracking.
154. MORDI. The in-kind contribution from MORDI of almost USD 1 million seems consistent with the support provided and with the value added to the project, given the role that the organization played not only to support the achievement of results but also dissemination of practices, as reported, particularly at Component 3. In fact, MORDI seems to have exceeded what was agreed in terms of in-kind contributions. With additional emergency funds received after the volcano, for recovery, MORDI carried out assessments and cleaned up after the ashes, among other things that have directly benefited the project locations.
155. Hango and Tupou Colleges. The project document specifically included the engagement of Hango and Tupou Colleges on the implementation of a series of Outputs that contribute to Components 2 and 3, including training modules and manuals for extension agents, and support to multistakeholder mechanisms for the negotiation of resources management and tenure. No letters of agreement were signed with Hango or Tupou Colleges. As earlier highlighted, the envisaged establishment of SLM practices in terms of demonstration of integrated livestock-crop farming systems involving biodigesters did not fully materialize, and those would have included envisaged demonstration sites at Tupou College and Hango Agricultural College. These two partners contributed very little to the project, and included the development of a nursery and seed centre (Hango College).
156. Tonga Community Development Trust (TCDT). A letter of agreement was established with this organization that has strong experience in community-based work with women. The activities developed were focused on the conservation of medicinal plants, as earlier reported.
157. SPC. The funds proceeding from the Pacific Community were significantly lower than expected (only around 2 percent of planned funds has materialized). There was no memorandum of understanding or letter of agreement with SPC. The organization did provide technical support on livestock management during implementation when they participated in one of the project's planning meetings, and this support was funded with the SPC funds.
158. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and OXFAM. The contributions expected from GIZ and from OXFAM were completely erased as the project did not follow up on the implementation as initially foreseen.

Rating for financial management and co-financing: Moderately Unsatisfactory.

3.5 Efficiency, quality of project implementation and execution¹⁰

159. This section examines GEF criteria E2 and E3. Quality of project implementation (E2) and execution (E3) along with efficiency to avoid repetition.

EQ 21: To what extent did FAO deliver on project identification, concept preparation, appraisal, preparation, approval and start-up, oversight and supervision? How well risks were identified and managed?

EQ 22: To what extent did the Ministry of Agriculture, Food, Forests and Fisheries effectively discharge its role and responsibilities related to the management and administration of the project?

EQ 23: To what extent has the project been implemented efficiently?

GEF criteria E2. Quality of project implementation.

GEF criteria E3. Quality of project execution.

GEF criteria E4. Financial management.

Finding 17. The administrative procedures currently informing competitive procurement for FAO represent a guarantee of accountability and transparency. But in the context of the project, and in connection with planning limitations, procurement processes posed challenges that hindered the adequate and timely realization of the activities. The material and tools purchased have been appreciated and considered appropriate by primary beneficiaries.

160. Overall, FAO's performance as GEF implementing Agency has been responsive to and responsible for agreements. As for the engagement of the PMU in discharging their role, the Evaluation Team has observed multiple positive features, which overall allowed to carry the project to completion despite the constraints related to COVID-19 response measures and to the emergency situation caused by the HTHH explosion.
161. The architecture of FAO does not concentrate all responsibilities in the hands of the PMU nor of the Country Office but relies on global procedures for more independent and standardized procurement. This has had negative impacts on the overall performance, affecting efficiency and effectiveness. FAO procurement procedures conducted at regional and central level have represented an obstacle to the smooth implementation of activities. While the procedures are a guarantee for accountability and transparency, some informants consider the processes heavy and lengthy. In addition, the small project implementation staff at the Country Office had challenges to timely plan, request and follow up for the procurement of goods and services. The procurement of services and of international goods, and of human resources are centralized at the subregional office for the Pacific (thus, out of control of the Country Office); therefore, this requires anticipation of procurement needs and full understanding of applicable procedures.
162. The implementation of the entire concept of piggeries – including the installation of biodigester plants – was jeopardized by the impossibility to purchase the devices in time, and by the lengthy FAO procedures. Initially, a model proceeding from China was selected. The Regional Office obtained quotations for that model with characteristics considered safe and compliant. The quotations were suddenly retired as the company halted its activity during the COVID-19 response. The procurement procedure has halted multiple times along the project life (including no-cost extensions). The Evaluation Team explored during data collection if there were arguments or notice of constraints that would have impeded to pursue another strategy, such as procuring

¹⁰ This section examines GEF criteria E2 and E3. Quality of project implementation (E2) and execution (E3) along with efficiency to avoid repetition.

locally manufactured devices and materials and hiring an expert international or regional consultant. However, the Evaluation Team did not find evidence of such impediments.

163. FAO regional personnel recognizes the value of rigorous protocols for procuring goods and services, and underlines the possible advantage of non-biased procedure for beneficiaries and accountability. But the time span between the request for procurement and the processing of the request requires multiple weeks or even months, generating delays by default. The hypothesis of amending the agreement with the Government of Tonga and purchasing directly through their procedure was considered inadequate to FAO standards of quality and accountability.
164. Completion of procedure was not possible as a result of the combination of additional factors: i) the main management of the procedure being at subregional level, in Samoa; ii) incomplete command of complex FAO competitive procurement procedures from the different level of administration units involved, including the national level; and iii) inadequate planning and limited capacities to follow the procedures for procurement, considered complicated, lengthy and codified. It remains unclear at this stage if purchase through government agencies could have been more efficient.
165. In summary, the difficulties in the completion of the piggeries intervention by the set-up of the biodigester components could not be solved through administrative means, as the problem originated at that level. Increased coordination and collaboration could have allowed to explore solutions to the difficulties of procurement, including locally or regionally available options. Notably, small-scale biogas devices could have been built with the relevant expertise even using local materials. Instead, the regional administration tried until the end of the project, unsuccessfully, to unlock procurement filters for performing an international purchase.
166. Hiring procedures have been particularly complex and lengthy as well. As for procurement activities, the COVID-19 response-related reorganization as well as the interruptions due to the HTHH explosion have further complicated the challenge of observing codified procedures while also retaining consultants identified in the selection process, prolonging the time necessary to reach the objective.
167. Payment for the partner organization MORDI, involved in Components 2 and 3, has also represented a significant challenge. The implementation of activities has remained possible even if the organization did not receive the promised resources mostly thanks to the established economy and financial strength of MORDI, that could afford to endure an important delay in payments from FAO project administration.
168. The equipment chosen in the frame of tools distribution, a model of wheelbarrow, was appropriate and very positively appreciated by beneficiaries. This equipment had to be imported as there is no national production; the high price of wheelbarrows (USD 400 each) appears to be offset by the perfect relevance of the choice, as well as the positive-only feedback received from beneficiaries.
169. The Ministry of Lands and Natural Resources states that the results obtained under Component 2 (Outcome 2, digitization of maps) have increased efficiency to serve the population, while expressed concern regarding the likely sustainability of the entire initiative, taking maintenance cost for software and equipment in consideration.

Rating for efficiency: Moderately Unsatisfactory.

Rating for financial management and co-financing: Moderately Unsatisfactory.

GEF criteria E3. Quality of project execution.

Finding 18. The participation of ministerial partners has been less than expected and insufficient to establish results achieved. The overall agreement with the ministerial partners missed details on expenses coverage. This contributed to misunderstandings among parties during the implementation.

170. The budget design of the project lacked specifications on what each party was supposed to cover and contribute. This lack of details may have contributed to misunderstandings while negatively impacting the speed of implementation. Roles were articulated sufficiently between the government and FAO, and a National Project Director was appointed. The envisioned role of the National Project Director was to coordinate the involvement of various ministries and ensure ownership of the project by the government, but the coordination did not fully express.
171. Follow up from ministerial counterparts was missing for almost all outputs of Outcome 1, which has weakened the results achieved and made the implementation less efficient. This can at least partially be attributed to the competing priorities during years of continuous emergency.
172. The PMU had to face difficulties when lacking immediate funds for covering mission expenses of staff from the Ministry of Lands and Natural Resources. It is also not clear whether these expenses should be covered by the contribution of the ministry to the project or if they had to come from GEF funds.
173. Nevertheless, representatives of the ministries involved in the project expressed satisfaction on the existence and functioning of the letter of agreement, which has been well functional to the realization of capacity building and training.
174. Delays occurred in use of project deliverables, as the implementing partner MORDI was asked for a fee to use maps digitized by the project activities. There was no clarity on the kind of agreement standing among parties.

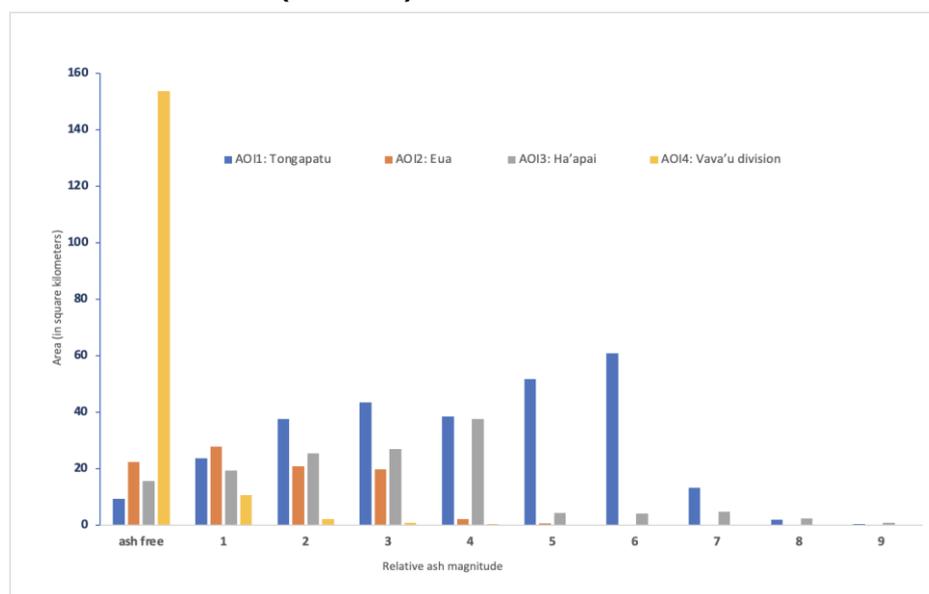
EQ 24: To what extent has management been able to adapt to changing conditions to enhance the efficiency of project implementation?

Finding 19. Overall, project management presented good flexibility and capacity to adapt during implementation. The HTHH volcano explosion strongly impacted some of the households involved in the ILAMS project. The project quickly adopted an adaptive management attitude to assist those stakeholders. This included turning some of the effects of the volcano explosion into an opportunity to contribute to improving fertility and biodiversity and enlargement of the target, incorporating villages surrounding the pilot.

175. With regard to the overall adaptive management, beneficiaries have not been informed during project implementation on difficulties emerging in the realization of the biogas plant. They had no insight on the difficulties in procurement and on the impossibility for the PMU to pursue the expected results, therefore experiencing the lack of completion as a fault of the project personnel, with possible detriment to trust for national personnel.
176. Flexibility was shown in the implementation, particularly on twisting towards piggeries implemented on private instead of collective land, therefore better encountering beneficiaries' preferences. Nevertheless, implementation was much less flexible on the type of solutions to resort to for bringing the piggeries initiative to completion, despite the procurement issues: notably, based on SPC inputs, a possibility was the realization of locally constructed biodigesters already tried in other countries (Fiji) using local materials following a freely available plan.

177. As a consequence of the large HTHH_volcano explosion, several households were impacted on their basic productive means, as their lands resulted to be affected and covered with ashes or hit by the tsunami. An adaptation of project plans allowed to assist impacted households and around 1 800 acres have been temporarily allocated to those who needed safe land to crop. The activity turned into an opportunity to support the planting of more plants and increase the vegetation cover attributable to the project.
178. The highest impact of ash fall was registered on Tongatapu island, followed by 'Eua and then by Ha'apai and by Vava'u (Tattaris *et al.*, 2022).

Figure 2. A representation of comparative figures of ash cover areas (2 km) in all four Agriculture Orientation Indexes (divisions)



Source: FAO. 2022. *Rapid geospatial analysis of the impact of HTHH volcano*. Rome.

179. As predictable, the volcano eruption and the consequent tsunami caused the loss of part of the results obtained by the activities implemented that far. For example, the 40 kauri trees (*Agathis*) planted along the coastline in Pukotala were destroyed. Several keyhole gardens were reported to be completely covered in ashes, but that did not result in a permanent impact.
180. The project management response to the disaster was timely and in coherence with the project objectives. The Project Task Force from the Subregional Office for the Pacific Islands also contributed to identifying the most appropriate and coherent interventions, thus extending the number of beneficiaries to include households in the impacted areas. The PMU adopted a very adaptive management attitude and pursued the objective of enriching the soil by helping farmers clean volcanic ash fall on crops and infrastructures and by incorporating them in soil profile using tillage. The operation was conducted with the collaboration of the NGO MORDI and interested 253 ha (625 acres). This response initiative also augmented the number of beneficiaries and of land covered by support offered by Component 3.
181. The emergency response resulted in an opportunity for the PMU to also address one of the recommendation of the mid-term review, which pointed out that "the communities in the target localities (including villages surrounding the pilot villages) are eventually to be integrated into the plans, but mechanisms to include surrounding villages have not yet been established and the recent project implementation report states they 'will require incentives for those communities to do so'". The inclusion of SLM activities in the recovery of communities impacted by the ash fall

corresponded de facto to an enlargement of the target, incorporating villages surrounding the pilot. A large portion of land covered by the volcanic ash fall turned into soil rehabilitation by using tillage to turn the ash into the soil profile. To allow this expansion, the Project Steering Committee proposed a four-month extension and agreed to a reprioritization of project funds to the HTHH Emergency Response (using funds from the budget line of biodigesters that could not be procured), also in order to protect the significant achievements made under the project on the sites that had been damaged. The rehabilitation work was carried out in partnership with MORDI.

Rating criteria for quality of implementation: Moderately Satisfactory.

Rating criteria for quality of project execution: Satisfactory.

3.6 Partnerships and stakeholder engagement

EQ 29: Which stakeholders were involved in project design and/or implementation? What was the effect of this involvement on the project results (including civil society, Indigenous Peoples and vulnerable groups)?

GEF criteria E5. Project/programme partnerships and stakeholder engagement.

Finding 20. The partnership with the NGO MORDI worked well due to coherence of ILAMS with MORDI's work. The communication with and engagement of stakeholders were not continuous.

182. Since the mid-term review, there was a strengthening in the commitment of the Project Steering Committee members, which has facilitated the implementation of project interventions. The challenging working conditions due to the COVID-19 response have compromised much of the work of facilitation, meeting, collaborative planning and decision-making that was partially incorporated in the project. As a consequence, also field activities were interrupted for many months, and made it impossible for the regional staff to travel to Tonga. The absence of a communication cell has hampered the development of stakeholder engagement and compromised the TOC.
183. Unfortunately, communication between the PMU and Project Field Officers, the Ministry and the beneficiaries on field has not been ideal and, as pointed out in a ILAMS planning workshop already in 2017, the delay between needs assessment and actual beginning of the operations has been too long and created a prejudgement for people which hampered trust within the relationship. Over time, trust was built back also thanks to the commitment of some and capacity of some Project Field Officers. Otherwise, the target population has been involved only in the implementation phase to offer training and ensure farmers' exposure to SLM techniques. More meaningful involvement in design phase is desirable in future initiatives to reach higher relevance and prepare conditions of effectiveness and sustainability.
184. As reported elsewhere, the partnership with the NGO MORDI worked very well and resulted in the potential dissemination of ILAMS results, in particular the SLM techniques, to 122 communities (while the project operated in four). Involved since the design and throughout implementation, MORDI was essential for the conduct of activities requiring community work (Component/Outcome 3), including land rehabilitation work post-volcano/tsunami due to its established presence. The partnership seems to have worked well particularly thanks to MORDI extensive experience and to the fact that ILAMS built on work previously developed by the organization.

Rating for E5. Project partnerships and stakeholder engagement: Moderately Unsatisfactory.

EQ 31: To what extent were gender considerations taken into account in designing and implementing the project?

EQ 32: Was the project implemented in a manner that ensures gender equitable participation and benefits?

GEF criteria F1: Gender and other equity dimensions.

Finding 21. There are positive results in terms of equal participation and sharing of benefits among female and male beneficiaries, even if not intentionally planned.

185. While no specific attention was dedicated to bringing gender patterns into focus with a specific gender assessment exercise, and no explicit objective to improve gender equality was set, women largely participated in the project activities and feel they obtained good benefits out of the intervention. Female beneficiaries have recorded positive results in terms of effective and operational knowledge acquired, in personal vegetable production, and in collective benefits such as the reintroduction of native species or cleanness of the villages due to increased control of pigs' movements.
186. According to interviews and focus group discussions, women have been mainly involved in the learning and application of agricultural techniques while men have been mostly involved in setting up piggeries. Men seem to be involved in the planting of trees in common areas, and women in the cleaning of piggeries and in the preparation of feed for pigs.
187. The activities proposed by ILAMS had contributed to a more prominent and public involvement of women in agricultural production and livestock rearing. Women are at the forefront of the work with nurseries and homestead keyhole gardens, and they are getting more and more involved in raising pigs as the confinement modality requires more daily work in cleaning and feeding. In the focus group discussion with women held by the Evaluation Team in Pukotala, it was remarked how feeding pigs impacted particularly on women's daily labour; further, many sources reported that women are now "helping" men in raising pigs by providing for feed.
188. Daily labour appears to have increased on average, and benefits are reportedly showing in terms of available food production and also for small-income generating opportunities. Key informants do not incline to think that these changes brought transformation in the decision-making roles within the households so far.
189. There is no additional data to confirm how the new organization of livestock and vegetable production has affected male and female's organization of personal time and energy.

Finding 22. One of the activities under Component 3 (the protection of Indigenous medicinal plants, was mainly addressed to women) with mostly women-only participants group, and appears to have been an empowering and not opportunistic positive action.

190. The activity was implemented through a dedicated letter of agreement with the Tonga Community Development Trust, contributing also strong experience in community-based work with women. The action consisted of a field plant survey, a participatory workshop for collective learning on type of plants, dissemination and level of risk for prioritization of protection actions, and then field-based targeted training to enhance skills for endangered plants reproduction. The action obtained great interest of participants, and based on the TCDT and other project reports, appears to have specifically developed knowledge and skills on the utilization and reproduction of medicinal plants.
191. The basis of the survey was a scientific work (Whistler, 1991) that identified 105 plant species used medicinally in Tongan culture, plus other plants of high cultural value. The survey used both scientific and Tongan names, referred to ailments treated by each plant and covered the cultural use, and attempted an inventory of samples. The survey also considered presence and distribution of mangrove forests that all communities have rights to access and use.

192. Some women's groups involved also received seedlings of Hailala, identified as one of the most peculiar and at the same time endangered medicinal plants, to which a popular annual festival is also dedicated. With differences across sites (more complex in 'Eua, where site for nursery was harder to identify; more successful in Fine'upepe nursery in Ma'ufanga – managed by the Amatakiloa, a Fafine Tonga network in Tongatapu; or in Pukotala where plants were planted in private home gardens), the action resulted to be successful and appears to have created conditions for women experiencing the role of lead actors with both personal and collective agencies.
193. The report concerning the protection of medicinal plants registers a particular interest of the female beneficiaries participating in engaging with and preserving traditional elements of the cultural Tongan tradition. Positive results registered as outcomes of the action have been recorded and can be summarized as: responding positively to the "needs for medicine", "improvement in diet", pleasure proceeding from "aesthetic feelings" in growing plants and flowers, and satisfaction in assuming "cultural responsibilities" for maintenance of tradition and in protection of indigenous plants.

Rating for gender and other equity dimensions: Moderately Satisfactory.

GEF criteria F2. Human rights issues/Indigenous Peoples (including minority groups, disadvantaged, vulnerable and people with disabilities, and youth).

Finding 23. The target group of the project is mostly made up of Indigenous Peoples (natives of Tonga). Before all project activities, the project verbally requested and obtained approval by the Town Officer, on behalf of the village elders. The formal free, prior and informed consent, as prescribed in the FAO guidelines, was not obtained. The measures introducing digitalisation in land management have the potential to interfere with traditional dynamics of land tenure and could have benefited from a previous discussion with beneficiaries.

194. The Tongan population is for 97 percent of its composition Indigenous – and the percentage in the target group of the pilot sites is possibly higher. At the time of the formulation of the project, FAO had already a set of instruments to guide implementation of initiatives involving Indigenous Peoples. The FAO Policy on Indigenous and Tribal Peoples (FAO, 2010) was released in 2010. That document referred to other UN resources available, such as the United Nations Sustainable Development Group (UNDG) Guidelines on Indigenous Peoples' Issues, the Resource Kit on Indigenous Peoples' Issues and the Training Module on Indigenous Peoples' Issues developed by the UN and its partners. In 2016, FAO, in association with other agencies,¹¹ published the Free Prior and Informed Consent Manual for project practitioners (FAO, 2016).
195. Nevertheless, the project document formulated in 2016, in the item dedicated to Indigenous Peoples, informed that "there are no separate indigenous groups in the country whose needs require to be given special consideration". Similarly, as further discussed in this report, the Project Environmental and Social Screening Checklist, item ESS9 (Indigenous Peoples and cultural heritage), responded "no" to all questions regarding the presence of Indigenous Peoples or potential adverse effects of project activities on Indigenous Peoples rights, lands, livelihoods, etc. The rationale behind answering "no" to the questions on Indigenous Peoples was that all communities belong to the same group (Tongans). Therefore, there are no minorities, or specific Indigenous groups within the population of Tonga.

¹¹ Action Against Hunger (ACF); Action Aid (AA); Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); International Federation of Red Cross and Red Crescent Societies (IFRC); Agencia Española de Cooperación Internacional para el Desarrollo (AECID); and World Vision International (WVI).

196. Nevertheless, the project always verbally requested and obtained approval by the Town Officer, on behalf of the village elders. This was done for all project activities in the communities, including data collections conducted by the mid-term review and this terminal Evaluation Teams.
197. While there was no specific action addressing disadvantaged, vulnerable people or people with disabilities, there is an effect on youth who appear to have been involved in the management of pigs raised in enclosed piggeries. A specific analysis of the actual or potential impact of involvement of youth in the daily additional labour needed for the maintenance could not be done in this evaluation exercise.
198. The measure introducing enclosed piggeries contributes to reducing the existing and undergoing low-level tension within communities between households raising free range pigs and households of the Seventh-day Adventist Church, who do not include pigs in their diet but might experience damage in their crops by unrestrained animals.
199. In the project, Indigenous farmers were involved as actors of conservation and protection of biodiversity, with potential benefits to their environment.
200. The measures introducing digitalization in land management may interfere with traditional dynamics of land tenure. The measure was introduced without a focus and a discussion on land right, right to food, human rights and women's rights in particular, as if it were only a technical improvement. Since the activity was not fully implemented, it is possible that no direct negative impact will emerge in the short-term. But considering the pressure to implement international standards of land management that are transparent to international actors, with more focus on conservation than on human rights, it could be beneficial to undertake a specific discussion on the topic.

Rating for human rights issues/Indigenous Peoples: Moderately Unsatisfactory.

EQ 30: To what extent were environmental and social concerns taken into consideration in the design and implementation of the project?

GEF criteria F3. Environmental and social safeguards.

Finding 24. The project environmental and social safeguards framework was included at design stage, but has not been updated and did not include a risk matrix. The classification of project in some categories, as per the original framework, should be reviewed.

201. The original project document contained an environmental and social safeguards framework, which, as remarked by the mid-term review, had not been updated. The same mid-term review also remarked the lack of a risk matrix and recommended to update the environmental and social safeguards. The Evaluation Team reviewed the environmental and social safeguards (in Appendix 6, original values and proposed changes) and suggested reassessing few categories *ex post*, as indicated in the following table based on the evaluation findings:
202. For the category ESS 1 "Negatively affect the legitimate tenure rights of individuals, communities or others?" the Evaluation Team suggests to change value to UNKNOWN. In reviewing the activities of Outcome 2, the evaluation proposes to consider discussing the potential risk proceeding from online availability of digital cadastre on land tenure rights in the global market of land, in order to possibly prepare adequate protective policy. The Evaluation Team has found no documentation of any institutional discussion on the protection already offered by the SOLA software, and suggests to open a specific working group to identify safeguard clauses in case a different software is used, to decide how to manage future access to land tenure information once the process will be completed.

203. For the category ESS 2, "Safeguard the relationships between biological and cultural diversity?", the Evaluation Team has observed how the enclosed piggeries are an innovation changing a cultural element of local livestock management, and the resistance to the model proposed appears to be connected to this. It is thus suggested to value the corresponding category as UNKNOWN.
204. For the category ESS 8, the question "Have the needs, priorities and constraints of both women and men been taken into consideration?" cannot be answered positively and the Evaluation Team suggests to change it to "NO". The project document did not include a gender-sensitive analysis, the implementation did not foresee a meaningful involvement of female beneficiaries in project design, and it appears that the activity introducing enclosed piggeries requires additional women's work to be maintained.
205. For ESS 9, the question "Are there any Indigenous communities in the project area?" should have been answered "YES", since at least the population of sampled sites of intervention is mainly composed by Indigenous Peoples.

Rating for environmental and social safeguards: Moderately Satisfactory.

EQ 34: To what extent is the project likely to contribute to the rehabilitation of degraded land in the agricultural lands in the targeted locations in Tonga?

EQ 35: To what extent is the project likely to contribute to the increase and maintain the provision of ecosystem goods and services and enhance resilience in the targeted locations in Tonga?

EQ 36: Are there any barriers or other risks that may prevent future progress towards long-term impact?

GEF criteria B1.3: Likelihood of impact.

Finding 25. The ILAMS project has given a demonstrative and clear contribution to the rehabilitation of degraded land with some interventions and results in the field lasting after the volcano/tsunami.

206. The ILAMS project has given a demonstrative but clear contribution to the rehabilitation of degraded land. While the tsunami provoked by the HTHH explosion has destroyed some parts of the areas where seedling had been planted to prevent coastal erosion, yet, to some extent, i) the intervention to control pigs in enclosed piggeries; ii) the training for farmers on SLM and specifically on enriched compost; iii) the realization and organization of production of nurseries to reproduce Indigenous and medicinal plants to then be replanted in homestead and in forest; and iv) the emergency response intervention in fields where ashes have been incorporated into soil, had a visible and lasting effect, especially as they came with skills development for farmers who are key stakeholders.
207. Measures oriented at improving centralized land management, including policy development and digitalization of cadastre as well as development of spatial databases were not fully achieved and did not get fully connected with practical monitoring activities of land use, and therefore result less in a contribution of the project to land rehabilitation.
208. There are potential risks for livelihoods and tenure security embedded in the process of digitalized land management in the frame of a conservationist approach, especially in combination with climate change financial schemes implying external additional resources for set-aside policies. The ILAMS project has had no activity specifically dedicated to the exploration and discussion around these risks, which might be concrete especially in very small islands of the archipelagos. Future interventions shall more explicitly allow discussion and emergence of bottom-up solutions for the preservation and strengthening of farmers' livelihoods in the frame of biodiversity and enhancement, and forest conservation.

Rating for likelihood of impact: Moderately Satisfactory.

4. Conclusions and recommendations

4.1 Conclusions

Conclusion 1. *Project relevance and design:* the project was relevant to high level priorities, but the interventions have been designed without involvement of beneficiaries, a detailed control of relevance nor a discussion on parallel institutional priorities.

209. The project design incorporated many different elements (such as the SOLA software customization and SLM) without sufficient organization support. With regard to the use of digitized information for planning (Outcome 2), the cadastre still does not have direct effect on local tenure issues or land rights. A detailed analysis of the policy landscape (Outcome 1) could have improved coherence between these two project components. *(Based on Findings 1, 2, 3, 6, 7, 8)*

Conclusion 2. *Project effectiveness and design:* the components have uneven utility, with Component 3 having the highest utility and Component 1 showing the lowest utility among them. For instance, i) while the policy intention papers were completed, there was not follow-up by the government, and the Land Use Policy was completed but not approved by the government (Component/Outcome 1); ii) the completed digitization of maps (which was only done for the pilot sites) is a step necessary to the full utilization of a digital cadastre (Component/Outcome 2); iii) most of the SLM activities under Component 3, including preservation of medicinal plants, planting and the communal nurseries, have been accepted by the interviewed beneficiaries and considered useful for preservation of forest, biodiversity and enhancement of quality of soil; but iv) while the enclosed piggeries model was overall accepted, some of its elements (such as feeding and breeding), as well as its cultural appropriateness, deserve further attention; v) the associated biodigesters were not implemented (Component/Outcome 3).

210. The overall coherence was weak by design. Projects with an R2R approach require focus on the integration of discourses of different stakeholders, and the development (or the rehearsal) of a holistic approach to balance the different needs and priorities co-existing in any environment and in anthropic settings. Although inscribed in the TOC, the importance of communication function and strategy to reach effective implementation of the whole project was overlooked. Activities should have included coordination mechanisms and concerted dialogues. The budget should reflect this necessity with at least one staff dedicated to communication and facilitation for the entire length of the project. In summary, the project could have worked better with a significant investment in communication and facilitation among key stakeholders. In parallel, a reinforcement of the M&E functions could have also been considered, possibly adding a MEAL profile as capacity strengthening is an overall project outcome. *(Based on Findings 2 to 8, and 10 to 12)*

Conclusion 3. *Project efficiency and adaptive management:* different emergencies challenged the implementation of the project in the initially planned and then extended time frame. Nevertheless, the mixed results can be only partially attributed to the external factors generating emergencies: the small size of the project team and related limited capacities to navigate the complexity of FAO procurement procedures have negatively impacted on the quality of the implementation, particularly of Outcome 3. *(Based on Findings 15 to 19)*

Conclusion 4. *Project sustainability and likelihood of impact:* sustainability of activities of Component 3 is more likely due to the involvement of beneficiaries, and to the partnership with a well-established local organization. Sustainability is uncertain for Components (Outcomes) 1 and 2. This relates to design and the partial utility of elements such as the digital cadastre. *(Based on Findings 13, 14, 20, 25)*

Conclusion 5. *Factors affecting performance – Indigenous Peoples and human rights:* Indigenous knowledge, practice and culture deserved additional efforts to be properly incorporated in project design

and implementation. The key change in the modality of raising pigs proposed by ILAMS intervenes on deep cultural patterns and on collective identity of nature/culture relationship. It is a process requiring adequate time and dedication, in addition to materials and practical instruction. Additionally, the risk analysis for Component 2 did not incorporate the issue of data protection and the possibly conflicting interests between local Indigenous farmers and external economic actors. *(Based on Findings 9, 22, 23, 24)*

Conclusion 6. Factors affecting performance – gender: while the project design did not incorporate specific strategies focused on women, it generated positive benefits for the men and women interviewed by the evaluation, with activities on Component 3 (medicinal plants) being mostly addressed and attended by women. *(Based on Findings 21 and 22)*

4.2 Recommendations

For immediate follow-up and to enhance local sustainability and effectiveness

Recommendation 1. *To the FAO Subregional Office for the Pacific Islands:* address shortcomings of the normative products delivered by the project (such as the policy intention papers, SOLA), in consultation with relevant stakeholders.

211. Suggested actions: i) one or more policy intention paper could be revised with an addendum to incorporate digital land data utilization statement, and a reference to ultimate accountability to local people's livelihoods; ii) include in the customized SOLA a country and context specific risk analysis and a data privacy policy reflecting the above-mentioned risk.

Recommendation 2. *To the FAO Subregional Office for the Pacific Islands, the Government of Tonga and project partners:* explore viable alternatives to the ready-made biodigesters such as locally developed biodigesters devices.

212. Suggested actions: i) consult with regional experts on possible options for biogas devices developed on site with local appropriate materials; ii) study the possibility of using municipal waste as an input for pigs feed preparation, and as a possible additional stream for enhancing livelihoods.

Recommendation 3. *To the FAO Subregional Office for the Pacific Islands, the Government of Tonga and project partners:* consolidate project results on preservation of medicinal plants and solutions to pig confinement (and environmental co-benefits).

213. Suggested actions: i) document and disseminate the information shared in the participatory workshop, both in term of plants inventories and qualities and in terms of techniques, for maximizing results in reproduction and utilization; ii) develop a booklet in Tongan acknowledging the contribution of local female farmers for distribution among participants and to women of villages not yet covered.

For future projects

Recommendation 4. *To the FAO Subregional Office for the Pacific Islands, the Government of Tonga, the GEF Coordination Unit, and FAO Indigenous Peoples Unit (PSUI):* ensure that beneficiaries such as staff from counterpart ministries and final beneficiaries (especially Indigenous Peoples) have an active role at project design stage as well as during implementation to facilitate the integration of their perspectives.

214. Suggested actions: i) as per the FAO policy, ensure that free, prior and informed consent is obtained from Indigenous Peoples as applicable; ii) proactively identify and regularly brief Ministry staff who can and will contribute to project design and implementation; iii) as done for Component 3 on medicinal plants, develop mechanisms for allowing meaningful final beneficiaries participation throughout the project cycle; and iv) when piloting new approaches,

provide technologies that are culturally appropriate and that balance the trade-offs between achieving environmental benefits and productivity gains.

Recommendation 5. *To the FAO Subregional Office for the Pacific Islands, FAO Procurement Service (CSLP):* explore options to speed up procurement of small-scale infrastructure.

215. The failure to procure critical infrastructure affected the overall effectiveness of this project. Some suggested actions to address this failure include: i) provide regular briefings and support to staff designing and implementing projects on FAO's procurement practices and procedures; ii) reassess the benefits of procuring infrastructure that is not available at local levels; and iii) in case of emergency situations (such as those caused by the COVID-19 pandemic or the volcano eruption), consider simplifying the process for purchases of small-scale infrastructures.

5. Lessons learned

216. Local community participation: the activities in Component 3 oriented at preservation of local medicinal appears to have obtained very positive results in terms of participation, effectiveness and beneficiaries' satisfaction. It appears that one key element for effectiveness and sustainability has been the real involvement of participants, included through workshops aiming at sharing local knowledge on indigenous plants, integrating it with further botanic and medicinal information and development of skills for reproduction of endangered species. Beneficiaries have also been involved in survey and mapping plants dissemination on the territory. This line of activities shall be furthered, and harnessing local knowledge can be considered an essential method also for igniting the participation on other activities as well.

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Appendix 1. People interviewed and workshop participants

List of people interviewed

Last name	First name	Position	Organization/location	Date/place of interview
Bing (Ms)	Rosamond	CEO	Ministry of Lands and Natural Resources Ministry of Lands and Natural Resources	21/09/2022 10:00am CEO Conference Room, PTH hardware building
Faulalo (Mr)	Keneti	Chief technical Adviser	GEF FAONZ	12/10/22, remotely
Isitolo (Mr)	Sila	Agriculture Officer in Charge	Ha'apai	23/09/2022 3.00pm Haapai Agriculture Station
Hoponoa (Mr)	Taniela	ILAMS National Project Director	FAO	Several sessions Evaluation team partially in person, partially remotely
Napaa (Ms)	Muimui	ILAMS Finance and administrative	FAO	Several sessions Evaluation team partially in person, partially remotely
Patolo (Mr)	Soane	CEO	MORDI Tonga	21/09/2022 01:00pm CEO office, MORDI, Havelu
Pifeleti (Ms.)	'Ana	Deputy CEO	Livestock, Ministry of Agriculture, Food, Forests and Fisheries	21/09/2022 02:00pm Livestock Conference Room, Tokomololo
Pukotala Community		Briefing by Evaluation Team on next day program	Pukotala	25/09/2022 Pukotala Community Hall
Pukotala Community		Community Meeting and Interviews	Pukotala	26/09/2022 10.00am Pukotala Community Hall
1 Pousima (Mr) 2 Matapule (Mr) 3 Taufa (Mr) 4 Uele (Mr) 5 Toto (Mr) 6 Mafile'o (Mr) 7 Veatupu (Mr) 8 Taufa (Mr) 9 Taufa (Mr)	Ueini Kienga Pakofe Keni Salesi Paula Loupi Maka Tevita	Beneficiaries	Pukotala	26/09/2022 10.45am Pukotala Community Hall
Taufa (Mr)	Tevita	Beneficiary		26/09/2022 11.30am Pukotala Community Hall
Teresa (Ms)	Susan	Former ILAMS Project Field Officer	FAO (Based at Pukotala)	23/09/2022 4.00pm Ha'apai Agriculture Station

Last name	First name	Position	Organization/location	Date/place of interview
Tomo'ua (Mr)	Sinilau	ILAMS Beneficiary	Community of Haveluliku	22/09/2022 11:00 am On ILAMS Project site Haveluliku
Tukana (Mr)	Andrew	Animal Production Officer	SPC (Land Resources Div)	remotely
Ueini (Mr)		Town Officer	Pukotala	24/09/2022 6.30pm Pukotala village
Vaipulu (Ms.)	'Ela	Senior Agriculture Officer, Head of Women Development Section, Ministry of Agriculture, Food, Forests and Fisheries		21/09/2022 03:00am Ministry of Agriculture, Food, Forests and Fisheries Extension Office, Vaiola Motu'a
1) Wele (Ms) 2) Eliesa (Ms) 3) Falesu (Ms)	Lavenia Unaloto Fe'ofa'aki	Beneficiaries	Pukotala	26/09/2022 10.45am Pukotala Community Hall
Wele (Ms)	Lavenia	Beneficiary	Pukotala	26/09/2022 11.30am Pukotala Community Hall +field trip
Chhakchhuak (Ms)	Lianchawii	Regional GEF Focal Point	FAO Apia (Samoa) Subregional Office for the Pacific – OCBD	9 Nov, remotely
Kumar (Mr)	Raushan	Forest Specialist	FAO Apia (Samoa) Subregional Office for the Pacific	9 Nov, remotely
Pullar (Mr)	Neal	SOLA Expert		14 Dec, Remotely
Manu (Mr.)	Viliani	CEO	Ministry of Agriculture, Food, Forests and Fisheries, Tonga	15 Dec, remotely
Atiola (Mr.)	Alifeleti	Principal	Tupoi College	Dec, remotely
Fakaosi (Mr.)	Sione	Executive Director	Tonga Trust	Dec, remotely

Participants of the Tonga ILAMS project terminal evaluation workshop, 30 September 2022

Last name	First name	Organization/location and position
'Aholelei	'Isileli	Ministry of Agriculture, Food, Forests and Fisheries
Bing	Rosamond	Ministry of Lands and Natural Resources
Falesiva	Metui	Ministry of Agriculture, Food, Forests and Fisheries
Halavatau	Siosiu	FAO Consultant
Hoponoa	Taniela	FAO – National Director ILAMS
Hufanga	Sione	UNDP
Kata Lapao'o	Filimone	FAO Evaluation Team
Koloamatangi	Peta	FAO Evaluation Team
Lagataki	Samuela	FAO Evaluation Team
Lino	Muimui	FAO – ILAMS
Matoto	Lupe	Department of Environment
Moala	Toifalefehi	Former FAO Field Project Officer
Napa'a	Latai	Ministry of Agriculture, Food, Forests and Fisheries (Livestock)
Naufahu	Haisini	Haveluliku beneficiary
Pekipaki	Suli	Haveluliku beneficiary
Saipa'ia	Mikaele	Ministry of Agriculture and Food, Forests and Fisheries
Tohi	Tilisa	Ministry of Agriculture, Food, Forests and Fisheries (Research)
Toumo'ua	Sinilau	Haveluliku beneficiary
Tu'itavake	Susan	Ministry of Agriculture, Food, Forests and Fisheries (Forestry)
Vaipulu	Seini Ela	Ministry of Agriculture, Food, Forests and Fisheries (Women Development Centre)

Appendix 2. GEF evaluation criteria rating scheme

See additional instructions provided in “Guidelines for GEF Agencies in Conducting Terminal Evaluations for Full-sized Project”, April 2017. Annex 2: Rating Scales.

PROJECT RESULTS AND OUTCOMES

Project outcomes are rated based on the extent to which project objectives were achieved. A six-point rating scale is used to assess overall outcomes:

Rating	Description
Highly Satisfactory (HS)	<i>Level of outcomes achieved clearly exceeds expectations and/or there were no shortcomings.</i>
Satisfactory (S)	<i>Level of outcomes achieved was as expected and/or there were no or minor shortcomings.</i>
Moderately Satisfactory (MS)	<i>Level of outcomes achieved more or less as expected and/or there were moderate shortcomings.</i>
Moderately Unsatisfactory (MU)	<i>Level of outcomes achieved somewhat lower than expected and/or there were significant shortcomings.</i>
Unsatisfactory (U)	<i>Level of outcomes achieved substantially lower than expected and/or there were major shortcomings.</i>
Highly Unsatisfactory (HU)	<i>Only a negligible level of outcomes achieved and/or there were severe shortcomings.</i>
Unable to Assess (UA)	<i>The available information does not allow an assessment of the level of outcome achievements.</i>

During project implementation, the results framework of some projects may have been modified. In cases where modifications in the project impact, outcomes and outputs have not scaled down their overall scope, the evaluator should assess outcome achievements based on the revised results framework. In instances where the scope of the project objectives and outcomes has been scaled down, the magnitude of and necessity for downscaling is taken into account and despite achievement of results as per the revised results framework, where appropriate, a lower outcome effectiveness rating may be given.

PROJECT IMPLEMENTATION AND EXECUTION

Quality of implementation and of execution will be rated separately. Quality of implementation pertains to the role and responsibilities discharged by the GEF agencies that have direct access to GEF resources. Quality of execution pertains to the roles and responsibilities discharged by the country or regional counterparts that received GEF funds from the GEF agencies and executed the funded activities on ground. The performance will be rated on a six-point scale:

Rating	Description
Highly Satisfactory (HS)	<i>There were no shortcomings and quality of implementation or execution exceeded expectations.</i>
Satisfactory (S)	<i>There were no or minor shortcomings and quality of implementation or execution meets expectations.</i>
Moderately Satisfactory (MS)	<i>There were some shortcomings and quality of implementation or execution more or less meets expectations.</i>
Moderately Unsatisfactory (MU)	<i>There were significant shortcomings and quality of implementation or execution somewhat lower than expected.</i>
Unsatisfactory (U)	<i>There were major shortcomings and quality of implementation or execution substantially lower than expected.</i>
Highly Unsatisfactory (HU)	<i>There were severe shortcomings in quality of implementation or execution.</i>
Unable to Assess (UA)	<i>The available information does not allow an assessment of the quality of implementation or execution.</i>

MONITORING AND EVALUATION

Quality of project M&E will be assessed in terms of:

- i. design
- ii. implementation

SUSTAINABILITY

The sustainability will be assessed taking into account the risks related to financial, socio-political, institutional and environmental sustainability of project outcomes. The evaluator may also take other risks into account that may affect sustainability. The overall sustainability will be assessed using a four-point scale:

Rating	Description
Likely (L)	<i>There is little or no risk to sustainability.</i>
Moderately Likely (ML)	<i>There are moderate risks to sustainability.</i>
Moderately Unlikely (MU)	<i>There are significant risks to sustainability.</i>
Unlikely (U)	<i>There are severe risks to sustainability.</i>
Unable to Assess (UA)	<i>Unable to assess the expected incidence and magnitude of risks to sustainability.</i>

Appendix 3. Evaluation questions

<p>1) Relevance (general results) (rating required)</p>	<p>EQ 1: Was the project design appropriate for delivering the expected outcomes?</p> <p>EQ 2: Was the project design congruent with the GEF focal areas/operational programme strategies, country priorities and Tonga’s Country Programming Framework?</p> <p>EQ 3: Was the project design coherent with SDG 2, SDG 13 and SDG 15 targets, as well as with relevant international conventions and agreements (e.g. United Nations Convention to Combat Desertification [UNCCD], United Nations Framework Convention on Climate Change [UNFCCC] and Paris Agreement)?</p> <p>EQ 4: Was the project design relevant for the final beneficiaries? To what extent has the participation of beneficiaries influenced its design?</p> <p>EQ 5: Is the project (still) relevant? Were there any contextual changes which may have affected its relevance? (e.g. new national policies, plans or programmes, the COVID-19 pandemic)</p>
<p>2) Effectiveness (General Results) (rating required)</p>	<p>EQ 6: To what extent were the project environmental and development objectives been achieved, and how effective was the project in achieving those?</p> <p>EQ 7: Did the project produce any unintended / unexpected outcomes, either positive or negative? (applicable also to each of the outcomes)</p> <p>EQ 8: To what extent can the achievement of such results be attributed to GEF and to FAO? (applicable also to each of the outcomes)</p> <p>EQ 9: Were there synergies between the project and other initiatives in the same country and/or region? If so, to what extent and how did the project built on those (by, e.g. partnering)? (initiative by FAO or not, by actors in any sector) (e.g., the FAO TCP “Technical support for National Forest Inventory”)</p> <p>EQ 10: Which and how other contextual factors and actors have contributed for the results achieved?</p> <p>EQ 11: Did the project developed or adopted innovative solutions to achieve its results?</p>
<p>Effectiveness: Outcome 1.1 (rating required)</p>	<p>EQ 12: To what extent has the ILAMS project increased acknowledgement and incorporation of integrated land and agroecosystem management principles in national policies, laws and regulations? 12.1. Are the policies and regulations produced adequate to achieve the aimed results, taking into account political, social, economic and environmental contexts?</p>
<p>Effectiveness: Outcome 1.2 (rating required)</p>	<p>EQ 13: To what extent has the project contributed to the availability of reliable information on land tenure to guide land use planning and facilitate the application of sustainable land management nationwide?</p>
<p>Effectiveness: Outcome 1.3 (rating required)</p>	<p>EQ 14: To what extent has the project improved strategic planning and the management of forest resources, including the development and operationalization of a forest management system?</p>
<p>Effectiveness: Outcome 2.1 (rating required)</p>	<p>EQ 15: To what extent has the project enhanced capacities for evidence-based and negotiated formulation of resource management plans at landscape and village levels, including the clarification of farmers’ tenure rights and obligations? 15.1. To what extent have the target villages developed and have ownership of the ILAMs plans?</p>
<p>Effectiveness: Outcome 3.1 (rating required)</p>	<p>EQ 16: To what extent has the project effectively increased capacities in government institutions and NGOs for identifying and supporting SLM practices?</p>
<p>Effectiveness: Outcome 3.2 (rating required)</p>	<p>EQ 17: To what extent has the project effectively increased capacities in local communities to develop, apply and adapt SLM practices?</p>
<p>Effectiveness: Outcome 3.3 (rating required)</p>	<p>EQ 18: To what extent has the project effectively increased capacities for the formulation and implementation of forest restoration plans, and for supporting improved management of forests, mangroves, and trees outside forests?</p>
<p>Effectiveness:</p>	<p>EQ 19: To what extent has the project effectively enhanced results-based management and application of lessons learned and good practices?</p>

Outcome 4.1 and Knowledge management (rating required)	EQ 20: To what extent have the disseminated guidelines, knowledge and awareness mechanisms been used by the targeted audiences?
Efficiency (rating required)	EQ 21: To what extent did FAO deliver on project identification, concept preparation, appraisal, preparation, approval and start-up, oversight and supervision? How well risks were identified and managed? EQ 22: To what extent did the Ministry of Agriculture, Food, Forests and Fisheries effectively discharge its role and responsibilities related to the management and administration of the project? EQ 23: To what extent has the project been implemented efficiently? EQ 24: To what extent has management been able to adapt to changing conditions to enhance the efficiency of project implementation?
Sustainability (rating required) Sustainability must cover all components of the project (4 outcomes and key outputs)	EQ 25.1: What is the likelihood that the project results will continue to be useful or will remain even after the termination of the project? EQ 25.2: Will the Government of Tonga, including service providers at local level, be able to provide adequate support to allow farmers and village communities to carry on implementation of plans and/or put in practice knowledge acquired? EQ 25.3: Will the farmers, public institutions and college be able to carry on the partnership activities without project support, thus guaranteeing the funding for the continuation of results? EQ 26: What are the key risks which may affect the sustainability of the project benefits? EQ 26.1: Will the farmers and village communities be able to carry out implementation of SLM, sustainable forest management and the agroecosystem approach without project support? Which resources and conditions are necessary to guarantee sustainability?
5) Factors affecting performance (rating required)	Monitoring and Evaluation EQ 27: Was the M&E plan practical and sufficient? EQ 27.1: Did the M&E system operate as per the M&E plan? Was the information systematically gathered and used to make timely decisions and foster learning during project implementation? EQ 28: Were the recommendations provided by the MTR implemented and which were the repercussions of the implementation (or lack of it) in the project implementation? Stakeholder engagement EQ 29: Which stakeholders were involved in project design and/or implementation? What was the effect of this involvement on the project results (including civil society, Indigenous Peoples and vulnerable groups)? EQ 29.1: To what extent are the project's results owned by the stakeholders involved (in particular the village communities, farmers and college students)?
Environmental and social safeguards	EQ 30: To what extent were environmental and social concerns taken into consideration in the design and implementation of the project?
Gender	EQ 31: To what extent were gender considerations taken into account in designing and implementing the project? EQ 31.1: To what extent did knowledge products, guidelines, tools, policies and plans included gender considerations? EQ 32: Was the project implemented in a manner that ensures gender equitable participation and benefits?
Co-financing	EQ 33: To what extent did the expected co-financing materialize, and how short fall in co-financing, or materialization of greater than expected co-financing affected project results?
Progress to Impact	EQ 34: To what extent is the project likely to contribute to the rehabilitation of degraded land in the agricultural lands in the targeted locations in Tonga? EQ 35: To what extent is the project likely to contribute to the increase and maintain the provision of ecosystem goods and services and enhance resilience in the targeted locations in Tonga? EQ 36: Are there any barriers or other risks that may prevent future progress towards long-term impact?

Source: Extracted from FAO. 2023. Terminal evaluation of the project "Integrated Land and Agroecosystem Management Systems (ILAMS) for Tonga". Terms of reference.

Appendix 4. Detailed description of primary data collection

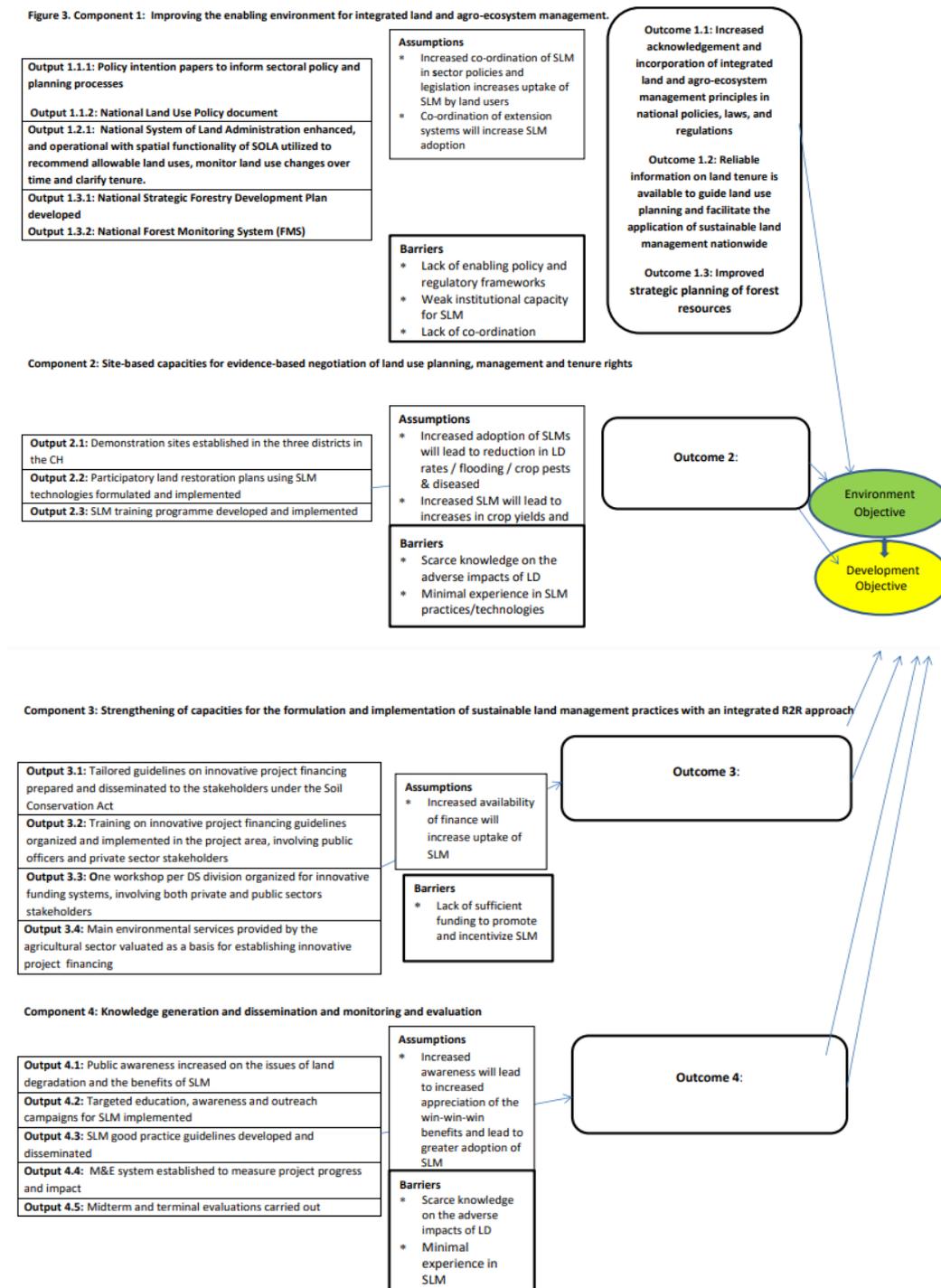
1. Primary data collection included: i) field visits with direct observation in selected locations to technically assess project implementation and results of Component 3 in the field; ii) semi-structured interviews (SSI) in person with key stakeholders and other informants that were involved in – or affected by – the project design and/or implementation; these interviews were supported by topic outlines and interview protocol; iii) focus group discussions (FGDs) with direct beneficiaries and with local stakeholders to assess views and opinions on the project; iv) a workshop in Tongatapu with key members of the PMU, including Field Officers and sector specialists, to present, discuss and validate the preliminary findings with key stakeholders; and v) semi-structured interviews conducted remotely by the Evaluation Team leader with FAO, partners and government stakeholders.
2. The data collection was prepared and conducted as follows:
 - i. Preliminary review to gather basic and in-depth information for each of the stakeholder group that the data collection team needed to meet (the ILAMS Project Document, the mid-term review (MTR) report, and other project implementation progress reports (PIRs).
 - ii. Interviews and FGDs in target communities and with local representative from central government on the secondary islands were led by the national consultants and held in Tongan. Some interviews to Ministry staff, FAO national and regional office personnel, were held in person by the international regional consultant and/or remotely by the team leader; accurate records were taken for analysis and documentation.
 - iii. The interviewers organized sex homogeneous FGDs to reduce barriers for participants to express their opinion. Individual in person interviews with some beneficiary key informants were undertaken in isolation to enable less biased conversation.
 - iv. A list of questions in the form of topic outlines to guide the interviews were prepared for each of the stakeholder groups or categories of key informants. Written transcripts were prepared for all in person interviews on sites of interventions; all interviews were voice recorded.
 - v. A counterfactual question was always asked at the end of each interview, in order to appraise the perception of the informants regarding the issues tackled by the project and for better gauging effectiveness and project attribution.
 - vi. The Evaluation Team has interviewed the following key informants:
 - FAO PMU personnel [3]
 - FAO regional personnel [3]
 - FAO international specialist consultant [1]
 - Technical personnel from regional organization (SPC) [1]
 - Representatives of Ministries (Ministry of Agriculture and Food, Forests and Fisheries, Ministry of Lands and Natural Resources) [5]
 - Representative of partners' NGO [2]
 - Project beneficiaries [4 women, 9 men]
 - Town Officer (Pukotala) [1]
 - Officers from partner NGOs [2]

- Partner University [1]
 - Additionally, the Evaluation Team also involved in the workshop:
 - 1 FAO consultant (remote on line)
 - 8 Ministry staff
 - 3 beneficiaries (1 female and 2 males)
 - 1 United Nations Development Programme (UNDP) staff
3. The involvement of stakeholders in the evaluation was carried out in a number of ways depending on whether they were implementing partners or beneficiaries. For the implementing partners such as the government ministries, regional organization, and NGOs, their participation was mostly through the information provided during the interview either conducted in person or online. The information provided by the project beneficiaries were collected through FGDs and/or interviews at the project site, often accompanied with translations in English.
 4. A debrief session was held at the end of the field mission to share preliminary findings and conclusions with the PMU, using a combination of online and in person participation.
 5. The four principles of ethics in evaluation as codified by the United Nations Environment Group (UNEG) reflections – integrity, accountability, respect, beneficence (UNEG, 2020) – were followed and discussed within the Evaluation Team in the initial one day remote training, utilized as reference to be checked during all phases from data collection to analysis and report preparation and presentation, and used to suggest to the FAO Office of Evaluation and Country Office modalities to involve stakeholders and communicate results.

Appendix 5. ILAMS theory of change

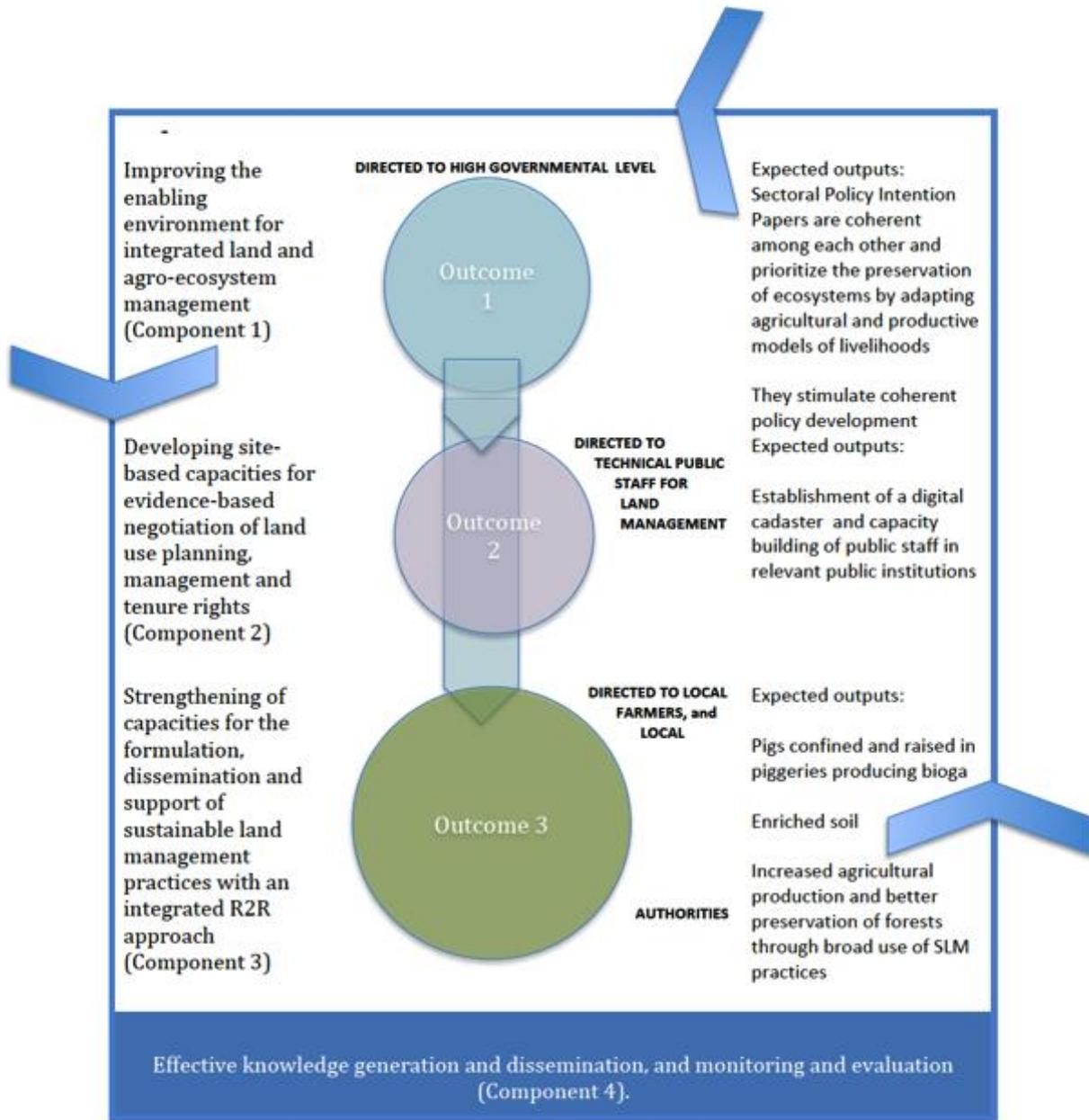
6. Here below the TOC in the version of the mid-term review (MTR) evaluation and in the presentation added in the terminal evaluation. While the first one (Appendix Figure 1) also presents single outputs per component, the second one (Appendix Figure 2) agglutinates details in favour of an overall new suggested synthesis, to be used to calibre the actual coherence in implementation and the results obtained.

Appendix Figure 1. ILAMS theory of change as reconstructed by the ILAMS mid-term review, 2019



Source: Elaborated by the Evaluation Team based on project documents and the mid-term review report.

Appendix Figure 2. ILAMS theory with accent on the role of communication and capacity development



Source: Elaborated by the Evaluation Team based on project documents and the mid-term review report.

Appendix 6. Project environmental and social screening checklist

		Revised by the Evaluation Team	Original value			
Would the project, if implemented:			Not applicable	No	Yes	Unknown
I.	II. FAO VISION/STRATEGIC OBJECTIVES					
Be in line with FAO's vision?		Y			Yes	
Be supportive of FAO's Strategic Objectives?		Y			Yes	
III.	IV. FAO KEY PRINCIPLES FOR SUSTAINABILITY IN FOOD AND AGRICULTURE					
Improve efficiency in the use of resources?		Y			Yes	
Conserve, protect and enhance natural resources?		Y			Yes	
Protect and improve rural livelihoods and social well-being?		Y			Yes	
Enhance resilience of people, communities and ecosystems?		Y			Yes	
Include responsible and effective governance mechanisms?		Y			Yes	
ESS 1 NATURAL RESOURCES MANAGEMENT						
❖	❖ Management of water resources and small dams					
Include an irrigation scheme that is more than 20 hectares or withdraws more than 1000 m3/day of water?		N		No		
Include an irrigation scheme that is more than 100 hectares or withdraws more than 5000 m3/day of water?		N		No		
Include an existing irrigation scheme?		N		No		
Include an area known or expected to have water quality problems?		N		No		
Include usage of non-conventional sources of water (i.e. wastewater)?		N		No		
Include a dam that is more than 5 m. in height?		N		No		
Include a dam that is more than 15 m. in height?		N		No		
Include measures that build resilience to climate change?		Y			Yes	
❖	❖ Tenure					
Negatively affect the legitimate tenure rights of individuals, communities or others? ¹²		UNKNOWN		No		
ESS 2 BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS						
Make reasonable and feasible effort to avoid practices that could have a negative impact on biodiversity, including agricultural biodiversity and genetic resources?		Y			Yes	
Have biosafety provisions in place?		UNKNOWN				Unknown
Respect access and benefit-sharing measures in force?		UNKNOWN				Unknown
Safeguard the relationships between biological and cultural diversity?		UNKNOWN			Yes	
❖	❖ Protected areas, buffer zones and natural habitats					
Be located such that it poses no risk or impact to protected areas, critical habitats and ecosystem functions?		Y			Yes	
ESS 3 PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE						
❖	❖ Planted forests					
Have a credible forest certification scheme, national forest programmes or equivalent or use the Planted Forests Voluntary Guidelines (or an equivalent for Indigenous forests)?		Y			Yes	
ESS 4 ANIMAL – LIVESTOCK AND AQUATIC – GENETIC RESOURCES FOR FOOD AND AGRICULTURE						

¹² In accordance with FAO, 2022.

Appendix 6. Project environmental and social screening checklist

		Revised by the Evaluation Team	Original value			
Would the project, if implemented:			Not applicable	No	Yes	Unknown
Involve the procurement or provision of pesticides?		N		No		
❖	❖ Aquatic genetic resources					
Adhere (Aligned) to the FAO Code of Conduct for Responsible Fisheries (CCRF) and its related negotiated instruments?		NA	NA			
Be aligned, where applicable, with FAO's strategic policies established in the FAO Technical Guidelines for Responsible Fisheries (including aquaculture)?		NA	NA			
❖	❖ Livestock genetic resources					
Be aligned with the Livestock Sector Strategy including the animal disease, public health and land degradation provisions?		Y			Yes	
ESS 5 PEST AND PESTICIDES MANAGEMENT						
Involve the procurement or provision of pesticides?		N		No		
Result in increased use of pesticides through expansion or intensification of production systems?		N		No		
Require the disposal of pesticides or pesticide contaminated materials?		N		No		
ESS 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT						
Avoid the physical and economic displacement of people?		Y		No		
ESS 7 DECENT WORK						
Adhere to FAO's guidance on decent rural employment, promoting more and better employment opportunities and working conditions in rural areas and avoiding practices that could increase workers' vulnerability?		Y			Yes	
Respect the fundamental principles and rights at work and support the effective implementation of other international labour standards, in particular those that are relevant to the agrifood sector?		Y			Yes	
ESS 8 GENDER EQUALITY						
Have the needs, priorities and constraints of both women and men been taken into consideration?		N			Yes	
Promote women and men's equitable access to and control over productive resources and services?		Y			Yes	
Foster their equal participation in institutions and decision-making processes?		Y			Yes	
ESS 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE						
Are there any Indigenous communities in the project area?		Y		No		
Are project activities likely to have adverse effects on Indigenous Peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (tangible and intangible)?		N		No		
Are Indigenous communities outside the project area likely to be affected by the project?		N		No		
Designed to be sensitive to cultural heritage issues?		N		No		

Note: Reviewed by the Evaluation Team.

Annexes

Annex 1. Results matrix

https://www.fao.org/3/cc9125en/GCP_TON_001_GFF_Annex_1.pdf

Annex 2. Progress towards achieving project objectives and outcomes

https://www.fao.org/3/cc9125en/GCP_TON_001_GFF_Annex_2.pdf

Annex 3. Logical framework matrix

https://www.fao.org/3/cc9125en/GCP_TON_001_GFF_Annex_3.pdf

Annex 4. Project stakeholders

https://www.fao.org/3/cc9125en/GCP_TON_001_GFF_Annex_4.pdf

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