

**Environmental Impact Assessment  
and  
Environmental Management Plan**

**Date**

**CEPF Grant 66419**

**Grantee: Ecological Solutions, Solomon Islands**

***Project Title: Strengthening Protection and Improving Food security in the Mount  
Maetambe-Kolombangara River Key Biodiversity Area in Solomon Islands***

**Project Location**

Mount Maetambe to Kolombangara River KBA, Choiseul Island, Solomon Islands.

## **Grant Summary**

1. Grantee organization.  
Ecological Solutions Solomon Islands (sub-grant to Queensland University of Technology, Brisbane, Australia)
2. Grant title.  
**Strengthening Protection and Improving Food security in the Mount Maetambe-Kolombangara River Key Biodiversity Area in Solomon Islands**
3. Grant number: 66419
4. Grant amount (US dollars). US\$14000.04
5. Proposed dates of grant.  
1 July 2017 to 30 June 2019
6. Countries or territories where project will be undertaken.  
Choiseul Island, Solomon Islands
7. Summary of the project.

The project aims to establish tribal protected areas on customary lands; to empower and build the capacity of newly selected project coordinators, finance officers, rangers and current executives in order to manage the protected area and to improve livelihood of customary land owners and to address food security. To achieve these aims, relevant information will be done by consultation meetings with the customary land owners; management committees will be chosen to write management plans, and subsequently, applications for each eight tribal customary lands to become tribal protected areas will be submitted to the Ministry of Environment, Meteorology, Climate Change and Disaster Management. Secondly, trainings for each new tribal protected areas project management team, rangers and executive committees will be conducted on the following topics, 'Leadership/Project Management, Finance, Rangers, Board of Directors, and Grant writing proposal'. Lastly, a pilot project on integrated aquaculture-agriculture that encourages food security and livelihood will be conducted with three communities. If successful, this integrated aquaculture-agriculture practice will replicated amongst other tribal communities.

8. Date of preparation of this document.  
8<sup>th</sup> May, 2017
9. **Status of area to be impacted:** This section should describe the applicant's understanding of the site.

Choiseul Island is locally known as Lauru. It is a mountainous forest-clad island. It is 128km long and 32km across at its widest point. It is ranked as the sixth largest island in the Solomons and lies between Bougainville and Isabel in the northeast of the Solomons and opposite the Shortland and Treasury Islands and Vella Lavella. The highest point is Mt Maetambe reaching 1,066 m. There is little flat land and the interior has many deep valleys.

ESSI has mapped ten (10) customary land boundaries within the island in the past. These areas have not been previously logged and there is likelihood for logging development that will affect the flora and fauna of this island. One tribal land (Koloma tribal customary land) has been trespassed into by a logging company recently. Thus, the next step is to make preparations to declare the Mount Maetambe to Kolobangara River water shed as a protected area under the Protected Areas (PA) Act 2010. This declaration will avoid or prevent any unsustainable development such as logging or mining or unsustainable agricultural practices. Having a protected area will also help to preserve the wealth of natural and biological resources as well as the cultural heritage of the indigenous people of Choiseul. Indigenous people of Choiseul have treasured their cultural, natural and biological heritages over many generations and with declaration of as a PA, the Mount Maetambe to Kolobanagra River Watershed can be saved from future unsustainable developments. This is because any infringements of the Protected Area are guaranteed to be penalized under the PA Act regulation (PA Act 2010).

Aside from making the area declared as PA, small-scale integrated agriculture-aquaculture farming systems will be developed for providing food security and livelihoods to inhabitants at Sasamugga, Panarui and Sepa sites. While some form of fish farming had been practiced previously, however appropriate developmental process guiding this process has not yet been developed or 'matured'. There is lack of information on the resource needs of potential aquaculture systems based on local experience. Thus, the integrated farming systems will be established using existing fish ponds that were developed previously. While some subsistence crop farming had been practiced at these sites, efforts will be made to improve the ponds and its surrounding areas, i.e., to design the ponds and its surroundings from physical, chemical, and biological principles that will allow testing of a pilot scale system. This pilot scale systems will provide a means to test out environmentally sustainable small-scale community based integrated aquaculture-agriculture models at a modest cost. This development will have minimum impacts of the area.

10. **Approach**: This section will describe proposed actions during the project. Specifically, what do you intend to do and how will you do it?

The project will support local communities to design and implement locally relevant conservation actions that respond to major threats at the PA. This will also involve development of small- scale integrated aquaculture-agriculture farming systems to support alternative sources of food security and livelihoods.

Proposed actions will include training to provide both theoretical and practical hands-on workshops (actual pond design improvement works, preparation of ponds for stocking juvenile prawns, preparation of ground for planting crops and vegetable on the pond embankments etc.) to key staff and member of the three tribes. Training will include guidance on best practice for environment sustainability for integrated aquaculture-agriculture systems and compliance of environmental management procedures in the practice of small-scale prawn and vegetable/crop farming in a manner that fosters the development of a sustainable system at all levels of production. Specifically, three (3) tribes dependent on the ecosystem services provided by the PA will be assisted to develop small-scale integrated aquaculture-agriculture farming systems. The tribes will be provided with appropriate practical knowledge and skills in integrated aquaculture-agriculture production process in relation to environmental management with emphasis on associated skills and areas under local production conditions and practices. Existing fish ponds will be improved and new ones constructed to allow for 3 ponds for each tribe with a total pond surface area of approximately 1,000 square meters at each site. Hand tools, for example, spade and forks and wheel barrows will be used for constructing the ponds and making provision to divert water into ponds and preparation of ground on the embankment and adjacent areas for crop and vegetable farming. The ponds

will be stocked with juveniles caught from local stream and stocked at a density of 5 juvenile prawns per square meter of pond surface area. We do not anticipate any negative impacts arising out of diverting water from stems to ponds including collection of juveniles from streams to be stocked into the ponds as this is an old-age practice in Asian countries and practiced successfully for long time. The prawns will be fed with locally available feed ingredients and managed over a period of 4-5 months and thereafter harvested and sold or used for local consumption.

The stocking density (5 juveniles per sq.m surface area is low) and feeding local feed ingredient is not likely to impose any negative impacts on the environment and water quality or the water that will exchange from the ponds.

Local vegetables and root crops will be planted on the pond banks to support the trialing of 3 farms, i.e., development of integrated freshwater prawn (fish) and vegetable (including local staple crops like yams, taro and sweet potatoes, banana etc.) production systems.

ESSI staff and farmers (tribal members) will be trained on site in integrated aquaculture-agriculture farming systems. The main resources required and competing claims on those resources will include;

- Sufficient water supply
- Sufficient space (land for ponds and gardens) that is not competing with other local uses
- Careful selection of sites and ensuring that the production is within the carrying capacity of the system
- Sufficient supply of juveniles for stocking the ponds, seeds and planting materials
- Sufficient supply of local agricultural by-products to be used for feeding prawns

11. **Anticipated impact:** this section will describe the impact and how this impact has been determined.

Tribal members will participate in integrated aquaculture-agriculture farming systems that will assist the project in promoting conservation in the Mt Maetambe- Kolobangara River corridor KBA. The results obtained will be shared with other partners of ESSI and will serve as a model for other tribes that may want to play an active role in biodiversity management.

No new species will be introduced, therefore no risk of impacts on indigenous species, disease and parasite introductions and will escape that potentially results in feral pest populations. *Macrobrachium lar* is the main candidate species for stocking the trial ponds and are already available within streams and rivers in designated PA and are widely collected for consumption and sales by communities. It is anticipated that farming of *M. lar* in combination with crops and vegetables will continue to expand in Choiseul so the current project is likely to pose no environmental risks associated with farming them. There is however, potential for over-extraction or use of limited water supplies for pond management and vegetable production, and that this risk may be amplified during long extended droughts.

Positive impacts arising out of the project will include;

- Marketable size prawns, ranging from 80-100kg per site per cycle-increase net incomes.
- Crops and vegetables grown on the embankments –increase in net incomes
- Better utilization or recycling of agricultural by-products used for feeding
- Technology for integrated aquaculture-agriculture farming systems, hence improvement of farmer's technical efficiency
- Better nutrition for participating tribes compared to other tribes in the PA

12. **Mitigation measures**: Describe measures that will be taken to mitigate negative impacts.

Through the enhancement of good small-scale farming practices, and with provision of training workshops and associated extension services and improved community and farmers awareness of environmental risks (for example, use of limited water supplies during prolonged droughts) it is expected that the farmers will make use of better farming practices that will considerably reduce the environmental risks to a minor level or become a non-issue..

13. **Actions to ensure health and safety**: Describe actions that will be taken to ensure the health and safety of workers as well as the site. Include a description of waste management and/or disposal. ESSI has a work and safety policy that states ‘Safety First’. In order to ensure health and safety of workers, it is important to remind workers to be very careful when using sharp knives or machete when clearing of bushes. When using spades and shovels, proper handling of these equipment is necessary. Proper lifting techniques will be taught to workers especially when lifting loose dirt and tossing them out to create or improve ponds. It has been our policy also to dispose our waste at the right place. For example during our field work and camping in the bush, we ensure that we leave the camping ground clean by burying all the tins and plastics in the ground and burn boxes. Take batteries used in the field back to proper waste disposal areas.
14. **Monitoring and Evaluation**: This section aims to outline what steps the proponent will take to monitor and evaluate the impact of the proposed intervention.

QUT will work closely with ESSI staff and the 3 tribes to identify preliminary needs and co-ordinate the planning process and the training of tribes at the 3 sites. Periodic monitoring and evaluation will be applied at activity level (at trail sites) and will comply with guidelines and protocols issued by CEPF. QUT staff will develop a **Monitoring and Evaluation Plan** and a **Supervision Plan** during project’s inception phase that will be presented to all stakeholders. The emphasis of the Supervision Plan will include; implementation, monitoring, outcome monitoring, learning and sustainability issues.

QUT staff with support from ESSI staff will provide technical support to tribes at trial sites to implement all aspects of the project activities including preparation, organization, and implementation of training workshops, meetings as well as collection of all relevant information and its distribution to stakeholders. The ESSI staff will also coordinate all logistical travels where required and also organizing and coordinating activities related to services needed to implement the project.

The project will undergo Mid-Term Evaluation to determine progress being made towards achievement of outcomes and will identify corrective measures if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation and will consider issues requiring decisions and actions including initial lessons learned about project design, implementation and management.

A Final Evaluation and Financial Audit will take place two months prior to the project end date or in accordance with CEPF guidelines. It will focus on the delivery of project’s results initially planned (and as corrected after Mid-term Evaluations, if any such correction took place). It will also assess the impacts and sustainability of results, including recommendations for follow-up activities will also be included.

QUT staff with ESSI staff will have responsibility of preparing an M&E report to the CEPF.

15. **Permission of the landowner:** Please verify permission of the landowner to undertake actions on the site, and verify that you have the required permits to undertake this work.

Permissions in the form of letters have been obtained from the 3 tribes (please refer to attachments)

16. **Consultation:** This section aims to outline the range of informed consultations that the grantee has had both with experts to optimize the potential for success, and with stakeholders, particularly local communities, who are potentially affected by the proposed actions. Include dates of consultations.

Initial consultation will be conducted with the tribes 2 weeks after the commencement of the project. This 10 day consultation and implementation of project activities will include inception and training workshops for tribes to include actual construction and preparation of ponds, collection of juvenile prawns from streams, sampling, stocking, and including preparation of grounds, selection and planting vegetable and crops.

A total of 6 consultation and implementation trips will be made by QUT staff that includes 3 trips supported by CEPF grant and the remaining 3 by other donor sources.

17. **Disclosure:** CEPF requires that safeguard documents are disclosed to affected local communities and stakeholders prior to project implementation. Please describe efforts to disclose this impact assessment and environmental management plan and provide dates.

ESSI as an organization always takes notes of safeguard issues when they surface and ensures that they can be dealt with accordingly in a peaceful way. The required documents will be disclosed during the first consultation meeting with the affected local communities/stakeholders and will become a deliverable and an activity in this project.

However, our safeguard process will be triggered if conflicts arise and this is how we will address the conflicts.

First we communicate with the conflicting parties or individuals who have any issues concerning our project. If we cannot resolve it ourselves then we take the matter to our partners Lauru Land Conference of Tribal Community. If we cannot resolve it at the Lauru Land Conference of Tribal Community then we take the matter with the IUCN RIT officer in Honiara and Fiji and then to the CEPF Grant Director. Any grievances raised with the grantee should be communicated to the RIT and the CEPF Grant Director within 15 days, together with a proposed response. If the claimant is still not satisfied following the response, the grievance may be submitted directly to the CEPF Executive Director via the dedicated email account ([cepfexecutive@conservation.org](mailto:cepfexecutive@conservation.org)<<mailto:cepfexecutive@conservation.org>>) or by mail.

18. **Grievance mechanism:** All projects that trigger a safeguard are required to provide local communities and other interested stakeholders with means by which they may raise a grievance with the grantee, the relevant Regional Implementation Team, the CEPF Secretariat or the World Bank. Affected local communities should be informed of the objectives of the grant and the existence of a grievance mechanism. Contact information of the grantee, the Regional Implementation Team and the CEPF Grant Director should be made publicly available, through posters, signboards, public notices or other appropriate means in local language(s). Grievances raised with the grantee should be

communicated to the Regional Implementation Team and the CEPF Grant Director within 15 days, together with a proposed response. If the claimant is still not satisfied following the response, the grievance may be submitted directly to the CEPF Executive Director via the dedicated email account ([cepfexecutive@conservation.org](mailto:cepfexecutive@conservation.org)) or by mail. If the claimant is not satisfied with the response from the CEPF Secretariat, the grievance may be submitted to the World Bank at the local World Bank office. Please describe the grievance mechanism that you will use for your project, and how you will ensure that stakeholders are aware of it.

Over the past two years, ESSI had been actively engaged in letting our stakeholders know, especially the customary land owners whom we work very closely with on their land about the Grievance mechanism. At all if not most of our consultations and awareness with the local customary land owners, we would remind them of the aims of the grant and that if there is any complains about ESSI that they are not comfortable to talk about it with ESSI, we have always provided the in-country RIT contact details, Mrs Fiona Rodie-Posala, and the contacts of the RIT Team in Fiji. We will continue with the grievance mechanism in this project also. We will print the contacts of the RIT in Solomon Islands, Fiji and the contacts of the CEPF Grant Director and have it posted in front of our offices in Gizo and Choiseul. Any grievances raised with the grantee should be communicated to the RIT and the CEPF Grant Director within 15 days, together with a proposed response. If the claimant is still not satisfied following the response, the grievance may be submitted directly to the CEPF Executive Director via the dedicated email account ([cepfexecutive@conservation.org](mailto:cepfexecutive@conservation.org)<<mailto:cepfexecutive@conservation.org>>) or by mail.