

Final Evaluation Report

Your Details	
Full Name	Chathurika Subhashini Munasinghe
Project Title	Restoration of fragmented seagrass meadows in Kalpitiya, Sri Lanka
Application ID	25300-2
Grant Amount	£4,998
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Date of this Report	10.05.2021

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Restore/Transplant 800 - 1000 seagrass plugs in a 0.25-acre (1012 m ²) area				700 – 800 seagrass plugs were transplanted in five ~10 x 20 m plots. These seagrass plots/patches can connect and form a large seagrass bed with time when the plugs start to expand and sustain naturally.
Re-establish seagrass to a coverage of 70% of the designated area after one year				All restored plots of seagrasses showed more than 75% coverage after 1 year
Getting the local community involved in restoration work				Could only get the boat operators and fishing community in the area involved in the programme even though the intention was to get more women and children involved in the planting sessions. This was due to the lack of ability to send the message to the expected community.
Ensuring the long-term survival of seagrasses through local community support and by educating the local community				Boat operators and fishermen were briefed about the restoration process and the sites. School children were educated on various topics related to seagrass conservation
Raising awareness among school children and youth				We couldn't conduct all the proposed school awareness programmes due to several difficulties, but we managed to do a few school children awareness programmes.
Disseminating knowledge about the project to general public and scientific community				Two abstract communications about the ongoing project and the results from the 1 st stage project. Three public talks (online) about the project and how the volunteers can help. Several social media posts regarding the project
Regular monitoring of the transplanted plugs				Since the replanting was done in several sessions with the help of

				volunteers, plugs planted at the initial stages were monitored every 2 months. Some of the plots transplanted at later stages were unable to monitor regularly due to several difficulties mentioned below. However, all the patches were monitored at least three times and the final success rate of every plot was more than 70%.
Conduct a beach clean-up along with an awareness programme				A beach clean-up was conducted in Udappu in collaboration with MEPA. Collected rubbish was sorted out and sent to recycling centres. An on-site talk about marine pollution and a discussion about waste disposal was done.
Encouraging relative authorities about the conservation and management of seagrass habitats.				Emphasised the importance of seagrass meadows and associated fauna in Kalpitiya at National Stakeholder Consultation meetings held in Colombo, Sri Lanka

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

Project was intended to be carried out from November 2018 – December 2019. However, we couldn't manage to work within the proposed timeframe due to Easter bombings in April 2019, windy seas and unfavourable conditions after that from August - December 2019 and then due to the lockdowns from March 2020. However, we managed to complete the project fully with extra time granted. Nevertheless, the good side of taking 1.5 years to complete the project is that we could monitor the restored site for 1.5 years and assuring their survival for more than a year. This is a promising sign that they will survive and grow spreading their roots and become a self-sustaining meadow in the near future.

3. Briefly describe the three most important outcomes of your project.

- 1) Restoration of ~800 plugs of seagrasses in a 0.25 acre area with 70% success rate.
- 2) Awareness - local school children, local fishing community educated through workshops and beach clean-ups, general public educated through several public talks and the results were published as abstracts for scientific community
- 3) Highlighting the importance about conservation and management of seagrasses and associated fauna in Kalpitiya and Puttalam lagoon area at National stakeholder meetings

4. What do you consider to be the most significant achievement of this work?

Transplanting ~800 plugs of seagrass in a 0.25 acre area with a 70% success rate with the help of local community and other volunteers while ensuring minimal damage to the donor seagrass beds and the long-term survival of restored seagrass plots.

5. Briefly describe the involvement of local communities and how they have benefited from the project.

The local community members (specially boat operators and fishermen) actively participated in seagrass planting. They attended the discussions and interviews and mainly gained knowledge about distinguishing seagrass from seaweed and the importance of coastal biodiversity and some marine megafauna. They also voluntarily offered us their boats, boat rides, their huts to prepare the fertiliser mixtures and hessian bags for the restoration programme. The school children awareness programme conducted for their children was also very successful, since they are the next generation to protect these seagrass and fauna in the future. We distributed cotton cloth bags, exercise books, activity papers and several stationary to school children and educated them about marine plastic pollution and how small things such as reusing such cloth bags can help save the marine environment.

6. Are there any plans to continue this work?

Yes. We would like to expand the project with the name 'restore one hectare' with the sponsorship from any interested party. We intend to transplant *Thalassia hemprichii*, *Cymodocea serrulata* and *Cymodocea rotundata* depending on the availability of the species in the donor site nearby. *Cymodocea* is the most abundant and easily collected and transplanted seagrass in Sri Lanka according to the knowledge and experience we gained from Rufford 1st and 2nd stage grant projects. Hence, we wish to find possible donor and nearby restoration sites to expand our project into a larger scale with above three species of seagrasses. All the above species of seagrasses can be found in mixed seagrass habitats and can form healthy habitats for seagrass associated fauna (e.g., dugongs, green sea turtles, seahorses and commercial fishes). We also wish to get more women and children from the local community involved in our next project.

7. How do you plan to share the results of your work with others?

Some of the work has already been published as abstracts for poster presentation at the International seagrass biology conference, Singapore (2018) and Oral presentation at the Sustainable Places Research Institute, Cardiff University, UK. Three public talks (online zoom platform) were conducted about the project and how the volunteers can help. We already made several social media updates regarding the project and we wish to publish more field work updates soon. Moreover, the results and the updates of the project will be uploaded to OCEA website (www.oceasl.org).

Our goal is to share the long-term results (after 5 years) of this project as a scientific publication (journal paper) which we believe will help conducting more

restorations like this in the future.

8. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

Project was intended to be carried out from November 2018 – December 2019. However, due to the difficulties mentioned above the project was carried out from November 2018 – July 2020.

9. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Hessian bags, threads	567	555	-12	-
Fertilizer	23	28	+5	-
Payments for one commercial diver and one filed assistant (trained during the first project)	1464	1400	-64	Some transplanting sessions didn't require SCUBA diving as the donor sites were shallower
Diving equipment rental (tanks, BCD/backpack, fins, mask, weight belts)	680	660	-20	Some personal equipment belonging to the commercial divers were used during the field work
Boat hires	260	325	+65	Increased boat hire rates by the boat operator's society
Travelling	276	276		
Accommodation	437	437		
Stationary (for awareness programmes)	70	70		
Coastal clean up	291	295	+4	
Cloth bags for children		65	-65	Extra materials provided for awareness
Local community and school workshops	600	550	-50	All the planned workshops couldn't be done hence we provided more material during the workshops we could conduct
Training to local tourist guides/boat operators	330	330		
	4998	4991	-7	Remains in the OCEA

				(organization) bank account. (one Sri Lanka Rupee equals 0.004 GBP)
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10. Looking ahead, what do you feel are the important next steps?

- Select sites to expand the restoration effort to 1 ha using the hessian bag method used effectively in this project.
- Conduct at least two costal clean ups this year and awareness programme on marine pollution for the local community and children.
- Involve more women and children for restoration efforts in the future.
- Preparing a poster on 'common seagrasses of Sri Lanka' available to diving centres, small resorts in the area, boat operating societies, fishing societies and schools in the coastal area and general public, since one of the main misunderstandings about seagrasses is that they are similar to seaweeds.
- Collaboration with other organisations to conduct more restoration efforts and awareness programmes.

11. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

All the printed documents (children activity books, stickers, Leaflets) had the Rufford foundation logo. A large banner printed on flex material with the logo was displayed at the school awareness programmes and beach clean-up event. The logo was used in the poster presented at the World Seagrass Biology Conference, Singapore. The foundation was also acknowledged in every oral presentations and public talks (in PowerPoint slides). A small cloth bag was given to every child participated in the awareness programme with a prominent print 'save our marine life' with Rufford Foundation Logo. Rufford Foundation logo is displayed in the OCEA website (www.oceasl.org) as the funding source for this project and the 1st stage grant project.

12. Please provide a full list of all the members of your team and briefly what was their role in the project.

Chathurika Munasinghe - Team Leader - Overall coordination of the project

Mr. Priynatha Hathurusinghe – Coordinating and conducting SCUBA diving related to the project, handling safety measures during field work

Mr. Pubudu Rathnayake - Designing and conducting awareness programmes and field activities.

Mr. Thejana Gunathilake – Coordinating volunteers, students from universities and schools during the programmes.

Mr. Ashan Fernando – Updating OCEA website, Instagram and Facebook pages and updating them with the project photos and descriptions

13. Any other comments?

Finding an effective method for seagrass restoration and conducting seagrass restoration in Sri Lanka would not have been possible without the funds from The Rufford Foundation and we are very much grateful for the support given to us. Thanks for inspiring young conservationists like us via funding. Thank you.