Final Evaluation Report

Your Details	
Full Name	Nancy Iraba
Project Title	Community based Long-term monitoring of Buyuni coral reef to enhance its conservation.
Application ID	39539-1
Date of this Report	9th March 2024

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
i) Mapping the designated Buyuni coral reef and produce a high-resolution map				We were able to conduct digital mapping of the designated Buyuni reef that is found within "PEPUKIBUGWA Collaborative Fisheries Management Area" and conduct physical on-ground validation of the status of the coral reefs, this activity informed our coral monitoring work and the design of the placement of the permanent transcend for the long term monitoring of the coral reef (the map is attached with this report)
ii)Establish permanent transcents points covering geographic area of the Buyuni designated site and deployment of temperature loggers at different loggers to measure change in temperature with coral cover				12 permanent transects have been established at Buyuni reef covering the wide geographic area and three temperature loggers were deployed at various depths (5m, 15m and 20m), in which the temperature range was around the average of 25-28 degrees Celsius , within a normal range of corals recruits to survive in the monitored areas.
iii) Train selected local communities on how to monitor coral reefs and analyse the data to inform management and decision making on a quarterly basis which will also inform mitigation efforts.				Six locals were trained up to advanced open water scuba diving certification (three local fishermen, three local marine graduates) who played a pivotal role in the conducting of coral monitoring skills, but also building their skills. This diving scuba training was covered by Nature, Wildlife, Filmmaking organisation, our partners based in South Africa.

2. Describe the three most important outcomes of your project.

a) Securing Additional Funding for Coral Restoration: The project yielded initial crucial data which showed a decline in coral cover at Buyuni, with less than 10% coral cover remaining, the main cause being prior human interventions and climate change. This evidence of coral reef degradation played a pivotal role in securing additional funding from the Australian High Commission in Kenya for conducting coral restoration activities ($32,500) and Sustainable Ocean Alliance ($8000) to conduct climate resilient coral research within the area . (https://afo.or.tz/project/restoring-buyuni-coral-reef/). This outcome demonstrates the tangible impact of the project's monitoring efforts on providing data which enabled it to secure further resources for additional conservation actions, ensuring the long-term resilience of Buyuni's coral reefs.

b) Capacity Building and Training of Local Communities: The project provided comprehensive training to six local community members, equipping them with advanced open water scuba diving certificates and skills in conducting coral monitoring surveys. By engaging three fishermen and three students (local marine graduates) from the local community, the project empowered the individuals with the knowledge and expertise needed to actively participate in coral reef conservation efforts. This outcome not only enhanced the local capacity for effective monitoring and management but also fostered a sense of ownership and stewardship among community members towards Buyuni's marine environment.

c) Establishment of Permanent Transects for Bi-annual Surveys: The project established permanent transects at Buyuni coral reefs, serving as standardised monitoring sites for bi-annual surveys conducted in collaboration with the local community. By implementing regular monitoring activities, the project facilitates ongoing assessment of coral cover change and ecosystem health over time. This outcome lays the foundation for long-term monitoring and adaptive management of Buyuni's coral reefs, enabling informed decision-making and targeted conservation interventions to mitigate threats and promote reef resilience.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

a) Unpredicted Sea Weather: From April 2023 there were bad weather conditions at the sea including El-Nino incidents that affected participation of our work. Dealing with rough sea conditions during these seasons required adaptive management strategies. The project team responded by closely monitoring weather forecasts and adjusting survey schedules accordingly. By prioritising safety and waiting for

favourable sea conditions, the team ensured the well-being of project participants while minimising disruptions to data collection activities. Additionally, the project team strengthened collaboration with local communities, leveraging their traditional ecological knowledge to understand and adapt to environmental changes. This collaboration enhanced the project's resilience to unpredictable weather and fostered mutual learning and co-management of marine resources.

b) Purchasing Diving Equipment: We faced challenges in sourcing diving equipment locally, the project team adopted a pragmatic approach to mitigate this issue. Rather than waiting for all participants to acquire their own equipment simultaneously, the team proceeded with the project activities by sharing available equipment among trained reef rangers. This temporary solution allowed data collection and monitoring efforts to continue without significant delays, ensuring the project's momentum and progress. Meanwhile, efforts were made to procure additional diving equipment over time, enabling all participants to eventually have their own sets and ensuring the project's progress.

4. Describe the involvement of local communities and how they have benefitted from the project.

The involvement of local communities in the project has been pivotal which contributed to its success. Here is how the local communities have been engaged and how they benefited from the project.

a) Active Participation in Monitoring and Conservation: Local communities were actively involved in various aspects of the project, including coral reef monitoring, data collection, conservation activities and school outreach for coral conservation lessons to students of Buyuni and Pemba Mnazi using virtual reality technology. Through capacity-building initiatives, community members have been trained in coral reef monitoring techniques, such as conducting surveys and assessing coral health. This active participation not only enhanced the scientific understanding of the marine environment but also fostered a sense of ownership and responsibility among community members towards the conservation of their natural resources.

b) Skill Development and Capacity Building: The project has provided opportunities for skill development and capacity building among local community members, empowering them with valuable knowledge and expertise. Three local fishermen and three local marine graduates have obtained certifications in advanced open water scuba diving and received training in coral monitoring methodologies, these individuals have acquired skills that have enhanced their employability and livelihood opportunities (all the marine graduates who participated

in this project are now employed in local and international marine conservation organisations).

c) Economic Opportunities and Livelihood Enhancement: Through the project, local communities have had access to alternative livelihood opportunities and economic incentives that have promoted sustainable resource use. For example, initiatives such as eco-tourism ventures or coral restoration activities are generating income for community members while promoting environmental conservation. By diversifying income sources beyond traditional fishing activities, this project has helped reduce pressure on marine resources and improves the economic resilience of local communities.

d) Environmental Awareness and Conservation Ethos: The project contributed to raising environmental awareness and fostering a culture of conservation among local communities. Through educational outreach activities, workshops, and community engagement initiatives which were conducted, community members learnt about the ecological importance of coral reefs, the threats they face, and the importance of sustainable management practices. This heightened awareness not only motivated individuals to take action to protect their marine environment but also strengthens community cohesion and collective action towards achieving conservation goals and the acceptance of the need for the coral restoration initiative in their area.

5. Are there any plans to continue this work?

Yes, the coral monitoring work will now be continued bi-annually being led by the community themselves under close supervision of Aqua-Farms Organization through its community rangers. We aim at seeing the coral cover improved and we have started by implementing a coral reef restoration initiative. Through the ongoing coral restoration in our monitored areas, we shall be able to measure the impact of our work through improved coral cover, abundance and biomass of reef fish taxa, abundance of key macroinvertebrate species, recruitment of reef building corals. The Rufford grant has provided us with initial crucial equipment that we can continue using to further our conservation impact. There is still an opportunity of strengthening leadership capacity to Beach Management units (BMUs) , Fisheries Officers, boat captains and other important key stakeholders for a collective coral reef conservation within their management area.

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

We have hosted two workshops to share results of the work and our crucial findings with the community and the local government, and have also made series of posts in social media to inform the public and coral reef community, currently we have stored

our data in the excel database and we are planning to make it accessible through the global coral reef monitoring network (https:// gcrmn.net/) to inform regional and global reef managers.

7. Looking ahead, what do you feel are the important next steps?

Looking ahead, the project's important next steps are maintaining momentum while deepening community engagement and fostering sustainability. There shall be continued bi-annual monitoring for tracking coral reef health and informing adaptive management strategies. And we intend to continue empowering local communities around the Buyuni reef who are within PEPOKIBUKWA Collaborative Fisheries Management Area (CFMA) through ongoing capacity-building initiatives and alternative livelihood opportunities that will further solidify their role as stewards of their marine resources.

We are continuing with strengthening partnerships with government agencies, NGOs, and other stakeholders to enable the project to leverage upon collective expertise and resources, fostering collaboration towards shared conservation goals, we are looking forward to establishing innovative financial mechanism within the area to enable continuous support of monitoring and conservation activities.

8. 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?

During the dissemination workshops school outreach activities and training with community we developed a banner that incorporated the Rufford Foundation logo, and we had opportunity to speak about what Rufford does which increased its visibility and recognition especially to the local governmental officials involved.

9. Provide a full list of all the members of your team and their role in the project.

Nancy Iraba: Project Lead - Provided overall direction for the project, managed the team, led dives, conducted training for coral monitoring surveys, and served as a qualified divemaster and coral conservation expert. (https://tz.linkedin.com/in/nancy-iraba-936b72134)

Jerry Mang'ena: Assistant Project Lead - Assisted in fieldwork as a marine biologist and an advanced open water scuba diving certified individual. (https://tz.linkedin.com/in/jerry-mang-ena)

Benard Kaitira: Program Manager and Local Community Ranger - Ensured proper data recording and dissemination of information to grassroots levels through

community workshop engagements. Also, an advanced open water scuba certified participant in field data collection. (https://tz.linkedin.com/in/kaitira-benard-754070150)

Mussa Kayanda: Local Community Ranger - Engaged in fieldwork and community engagement activities at Buyuni as a fisherman and local community ranger at Aqua Farms Organization.

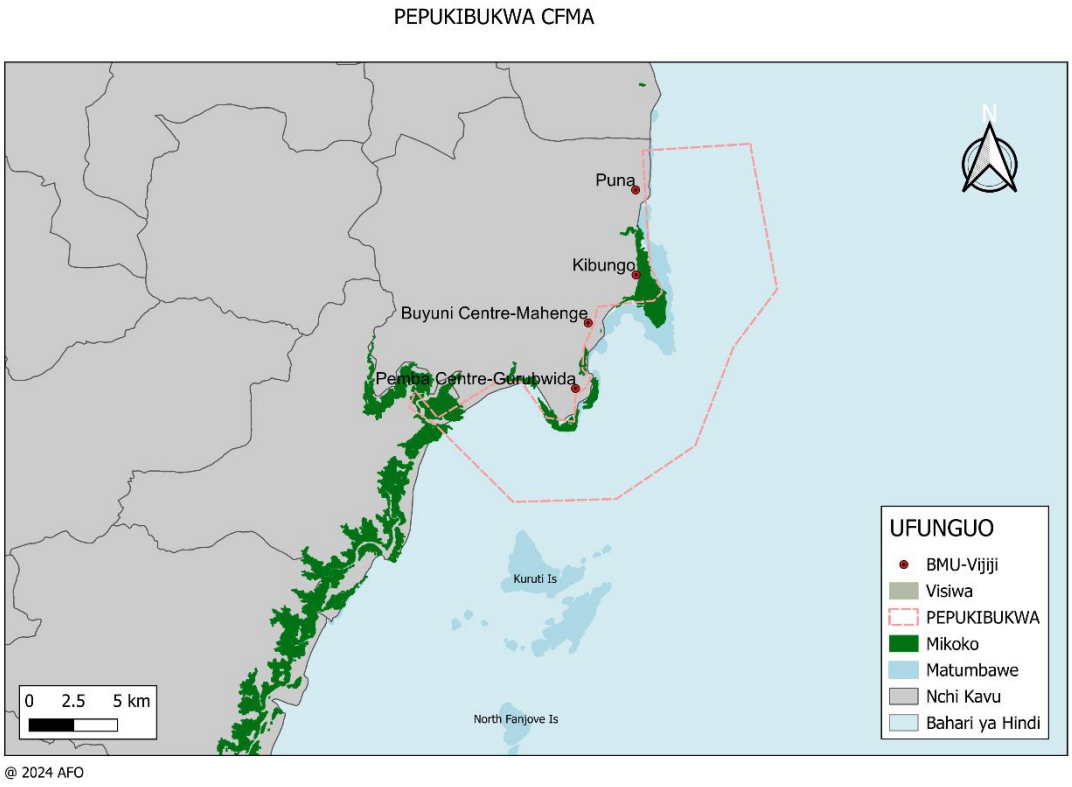
Denis Washington: Local Marine Scientist - Trained up to advanced open water scuba diving and participated in data collection alongside the community.

Husna Amimu: Local Marine Scientist - Trained up to advanced open water scuba diving and participated in data collection alongside the community.

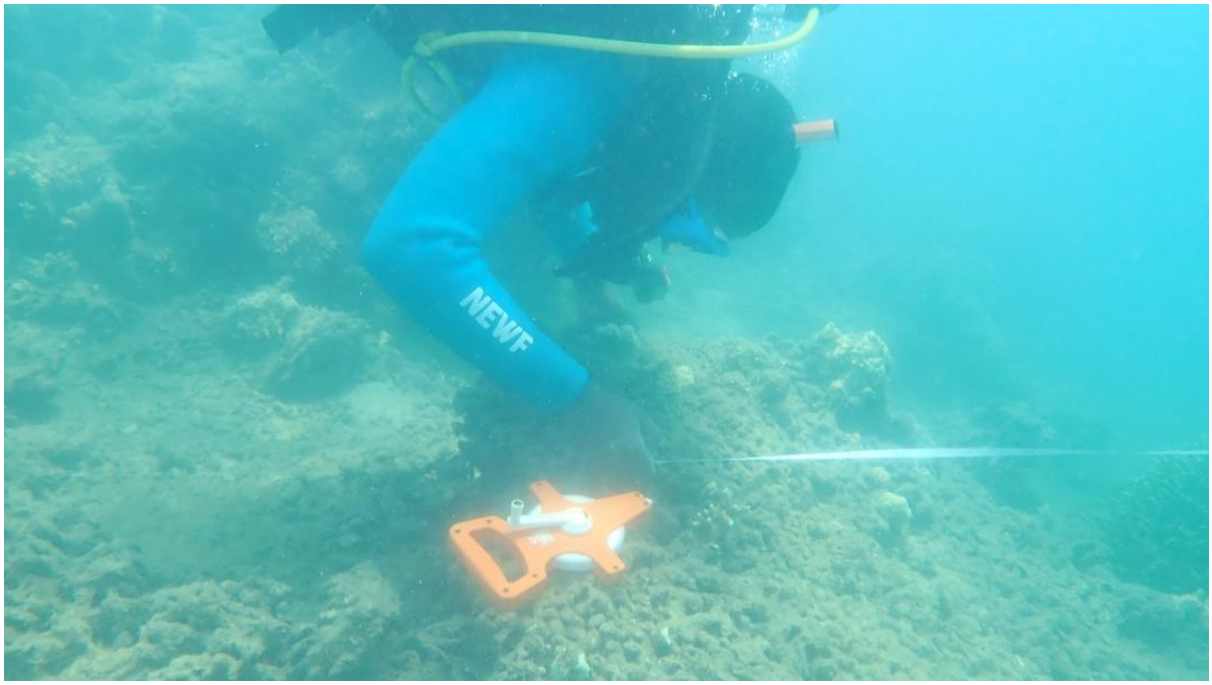
Farhiya Elmy: Local Marine Scientist - Trained up to advanced open water scuba diving and participated in data collection alongside the community.

10. Any other comments?

The project team has demonstrated commendable dedication and expertise in undertaking coral reef monitoring and conservation efforts in Buyuni. Their collaborative approach, involving both local community members and trained professionals, highlights the importance of partnership and shared stewardship in achieving conservation goals. By leveraging local knowledge, building capacity, and fostering engagement, the team has not only contributed to scientific understanding but also empowered communities to take ownership of their marine resources. Moving forward, continued support and collaboration will be essential for sustaining these efforts and ensuring the long-term health and resilience of Buyuni's coral reefs.



PEPUKIBUKWA CFMA showing Buyuni Reef Mapped.



Coral monitoring at Buyuni Reef with a local community ranger.

Above: Community off to conduct coral monitoring. Below: Coral Reef Mapping at Buyuni.

Above: Plugging temperature Logger at Buyuni Reef site. Below: Local Students scuba training to join coral monitoring activities at Buyuni.

School outreach.

School outreach.

Community engagement workshop at Buyuni.