

## Final Evaluation Report

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Your Details	
Full Name	Takoukam Kamla Aristide
Project Title	Conservation and monitoring sea turtle activities along the northern coast of Cameroon
Application ID	32336-2
Grant Amount	£ 6,000
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Date of this Report	February 15, 2022

**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
Conduct a participative monitoring of sea turtle nesting activities along the northern coast of Cameroon				A network of nine designers from all over the world has been established to ensure the maintenance of Siren-App. In the meantime, eight fishers added to the 20 previously participating in the monitoring of sea turtle have been empowered in this activity. Together with the AMMCO's staff, they conducted a beach monitoring thrice a week on the transect of 5 km long. A total of five nesting events have been recorded. Sadly, the network and the staff also documented the stranding of eight sea turtles including six olive ridley and two green turtles. The investigations to know more about the causes of these strandings have become a great concern.
Map the sea turtle feeding areas (Seagrass bed)				A total of 14 underwater GPS IgotU has been deployed on board artisanal fishing boat and recorded the fishing locations. Furthermore, in collaboration with free-diving fishers, we used the waterproof camera to record videos of the seabed where sea turtles have been observed on feeding. However, turbidity of water during the rainy season did not allow us to have the clear videos of the sea grass bed. We have initiated the survey of the transparency of water with the secchi discs to be carried out.
Sensitize and educate the local community on the protection of sea turtles				Sensitisation workshops (monthly) and opportunistic sensitisation events have been conducted near fishers on the main threats that the sea turtles face in the northern coast of Cameroon. School outreach has also been conducted near 1600 students at the government high schools of Batoke,

				<p>Batikingili and Idenau. At the beginning of the school outreach, only 28.7% of students recognised that sea turtles are threatened and knew how to protect them. At the end, all the students are aware that sea turtles are threatened and 96% of them were able to list at least three threats. Through drawing and poems, five of our most engaged students were able to share what they learnt with others, including importance, threats and solution for the mitigation of threats.</p>
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**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.**

The first difficulty we encountered was due to Siren Turtle App which was stuck. A team of designer from all over the world has been established to work on its maintenance. Actually, the challenge is making the app work on IOS system as it has been developed only for Android. The current plan is to merge the two applications Siren App and Siren Turtle App in order to avoid the duplication of efforts in maintaining the two apps.

While implementing the school outreach, the schedule allowed by school included at least four public holidays. To meet our objective and get the job well done by the end of the academic year, we invited the kids to attend some extra class events to cover all the programme. To close the academic year, we organised an Outreach Festival with a great participation of more than 1500 kids who share the skills they gained throughout the year with respect of the COVID-19 barriers measures.

During the implementation of the activity related to the documentation of sea turtle feeding sites, we faced a challenge due to the high turbidity of the water. We finally noticed that within the rainy season on the northern coast of Cameroon, water is highly turbid as the fast flow rivers brings a large quantity of debris to the sea. The debris contains nutrients that maintain the corals but reduce the transparency, not permitting a clear view. However, during the dry season, the water is less turbid, allow to have good records of sea grass bed. We have initiated the survey for transparency that will help us to develop a model for the monitoring of sea turtle feeding sites.

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

**a) New data on sea turtles nesting**

One of the important outcomes was the updating of the database on sea turtle nesting on the northern coast of Cameroon. We were able to add 1 year's data in our database of sea turtle nesting, creating a database of 4 years that we are using to raise awareness near kids and fishermen.

**b) Discovery and mapping of new feedings sites for sea turtles**

Second sighting of corals. The first record was done with an underwater drone. This time, corals, sea flowers and sea turtle on feeding were recorded by waterproof camera carried by freediver fishers. The feeding sites discovered have been mapped and associated to the fishing areas map. The two maps merged actually show the interaction between fishing and sea turtles feeding that explain the bycatch. The sea turtle feeding sites are actually considered as key biodiversity areas that should be prioritised for conservation and proposed as marine protected area.

**c) Awareness raising and education**

Another success achieved was measured in terms of behaviour changing among kids. At the beginning of our school outreach programme in November 2020, only 28.7% of students were aware that sea turtles exist on Cameroon coast. Those aware that sea turtles exist are from fishing communities and they revealed that they once ate meat or eggs, without knowing that the animal is protected. At the end of the academic year, 96% are actually aware and they know how to protect them. We organised a contest to rank the students based on their ability to share the skills they gained with their mates. We noticed that some have good capacity to become ambassadors of sea turtles, spreading the conservation message with other kids and their parents.

**4. Briefly describe the involvement of local communities and how they have benefitted from the project.**

The local communities were involved in this project by two ways, research through Ammco's citizen science programme and outreach.

As citizen scientists, the local fishers were engaged and trained on the using of Siren Turtle App. The app was installed on a smartphone and given for free to fishers to empower them on data gathering. As incentive, we provided them with t-shirts with the sensitisation message "Together to Save our Marine Wildlife"

The other benefits for the local community were in terms of skills that they gained through the outreach programme both in school with kids and in the fish markets and fish landing ports as well. They were the main actors during the sensitisation workshop and the environmental education classes.

**5. Are there any plans to continue this work?**

In this work we have documented the sea grass bed and some important habitat for turtles such as corals. It will be great to continue the monitoring of these sites to assess how they are changing, positively or negatively affected by human activities.

We also plan to develop of alternative livelihoods for local fishers to completely keep them away of the poaching of sea turtles and their eggs. The activity will reduce the fishing pressure on the turtles, by then reduce the bycatch of other threatened Marine species will also benefit.

With data on nesting, feeding sites, abundance and distribution, we are looking ahead to bring together the stakeholder in the establishment of a community-based marine protected area for a long-term conservation Impact.

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

During the implementation of the project, we have been sharing activities and result on the AMMCO's website (<https://ammco.org/>), Facebook page (<https://www.facebook.com/ammco.org>), as well as other social media. AMMCO has organised a festival called "Street Whale" (<https://ammco.org/index.php?rub=16&id=9>) to bring together the actors from government (national and international), civil society organisations, NGOs, private sector and the local communities as well, to share the results of this project and its other conservation project. During this event, stakeholders will discuss the issues of sea turtle conservation and initiate the milestones for the establishment of an MPA in Cameroon.

We also intend to share the results of this work through a scientific paper which include the data recorded during the past four years.

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

The grant was used over 12 months as anticipated. Despite the global pandemic and the public holidays, my team was very smart on the field and the activities were done within the time planed.

#### **8. 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
Internet and phone calls	500	630	+130	The amount allocated to internet was underestimated since it did not include the internet for fishers that were using the Siren turtle App to report nesting activities.
Boat and underwater drone surveys	850	850		A part of this budget has been allocated to the monitoring of water transparency and the recording of videos of sea turtle

				feeding sites with underwater cameras.
Transport to schools	200	270	+70	We initially planned to educate only kids from the Government High School of Batoke village, but regarding the fact that the Bakingili village is also a hotspot for sea turtles with fishing communities threatening the animal and the habitat, we included the Government Technical High School of Bakingili where 7 sessions of environmental education have been given.
Awareness material	700	700		
Mini waterproof GPS	640	640		
Beach patrols	1000	800	-200	With the support of fishers engaged as citizen scientists that helped for free, we were able to save some money
Maintenance of the SIREN APP	760	760		
One digital Camera	250	250		
Equip staff and fishers with 10 smart phones	700	700		
Training of fishers	400	400		
<b>Total</b>	<b>6000</b>	<b>6000</b>		

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

- Secure the identified sea turtle feeding areas by establishing no-fishing zone or a marine protected area.
- Continue educating the local community to release accidentally captured turtles.
- Continue environmental education in schools.
- Continue monitoring the habitat.

**10. 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?**

Yes, we used Rufford logo on t-shirts and education materials. We also mention Rufford in our Facebook post. We added Rufford logo to the Street Whale report we organised in Kribi at the end of last year (see report attached in the email).

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

**Aristide Kamla:** Aristide was the Principal Investigator and project coordinator. He was in charge of the implementation of project activities. He ensured activities to be implemented smoothly with the best approaches.

**Eddy Nnanga:** Eddy was in charge of administrative issues and financial management.

**Cedrick Fogwan Nguedia:** Cedrick was responsible of community engagement, bringing fishers to get involved through the outreach programme. He was also in charge of data analysis and mapping. He also participated in the beach monitoring.

**Guy Mengoue:** Guy conducted the beach patrols and assisted in some sensitization and training events.

**12. Any other comments?**

At the end of this project, we realised how it is urgent and necessary to tackle a new threat that is affecting the sea turtles, other marine megafauna species and their habitat in Cameroon. This threat is the Illegal, Unreported and Unregulated (IUU) fishing in Cameroon. The establishment of an MPA is the solution to look ahead.