**Seychelles Conservation Climate Adaptation Trust (2019)**

1. LG Large Grant

SeyCCAT-BGF-Stage-

II\_Large-Grant\_BGF3/L/N17 wGVopQgW

# Applicant details

Applicant name Keith Andre

# Application details

Project Title

Pilot and integration of tracking, logbook and market traceability tools for co-management of the small-scale fisheries sector in Seychelles.

SeyCCAT Strategic Objective – as listed in the Request for Proposals

 Support new and existing marine and coastal protected areas and sustainable use zones;

 Empower the fisheries sector with robust science and knowhow to improve governance, sustainability, value and market options;

 Promote the rehabilitation of marine and coastal habitats and ecosystems that have been degraded by local and global impacts;

 Develop and implement risk reduction and social resilience plans to adapt to the e"ects of climate change;

 Trial and nurture appropriate business models to secure the sustainable development of Seychelles’ blue economy.

Name of applicant Fishermen and Boat Owners Association

Phone number of lead applicant +248 2 710 800

Email address of lead applicant [andrte.kit@gmail.com](mailto:andrte.kit@gmail.com)

Status of the lead applicant Non-governmental organisation,

Partner organisations (include country if not based in Seychelles)

* 1. Fishermen and Boat Owners Association (FBOA)
  2. ABALOBI - South Africa
  3. Collecte Localisation Satellites (CLS) - France Project location

Mahé - Seychelles

Duration – start and end dates 01/01/2020 - 30/06/2021 (18 months duration)

Total budget requested 1000000

Indicative co-financing

1. CLS - co-financing of SCR145,000: MSC enhancement specifications, sta" time and travel.
2. FBOA - co-financing of SCR250,000: in-kind support in terms of o ce space and sta" time.
3. ABALOBI - co-financing of SCR469,500: tech development, sta" time and travel.
4. CTA - co-financing of SCR207,000: co-funding for project o cer.

Abstract

Artisanal fishing is an important source of food and income for people in Seychelles. It represents annually between 3500 to 4000 tons of fish unloaded at Mahé, La Digue and Praslin. Emperor red snappers, jack fish, job fish and groupers represent 83% of the catch, whereas mackerel, tuna, sharks and octopuses share the remaining 17%, these species are all caught close to the shore. It is practised by more than 1,700 fishers, anxious to secure the future of their business and livelihoods. In a country where each inhabitant consumes an average 62 kg of fish per year (compared to 21 kg in Mauritius and 60 kg in Japan), this important activity is the primary source of protein and ensures food security for many of the country’s inhabitants. While the artisanal fisheries sector has historically been an open access fishery, it is likely that this will be reviewed and controlled, with co-management structures to be implemented. In order to ensure that the artisanal fishery sector remains sustainable, a participatory Fisheries Management approach is critical.

The project will take place in Mahé and designed to be potentially replicated in La Digue and Praslin after the project ending. These are the places where 3500 to 4000 tons of fish are annually unloaded by small-scale fishing operators.

This proposal aims to address several important needs identified by the fishers and their association in order to implement co-management using data-driven tools and Satellite and Information Communication Technologies. This project will build on an existing and funded partnership between ABALOBI and the FBOA (e-logbooks, digital marketplace and traceability platform) and will bring in CLS (Fisheries Monitoring Center and Vessel Monitoring System service provider for the Seychelles Fishing Authority (SFA) since 2002) for rolling out tracking system onboard the fishing vessels; integration of satellite tracking data collected and data visualization of the artisanal fleet. The proposed testing in real conditions and in partnership with traditional fishermen of small vessel tracking devices specifically designed for their needs will aid in the collaborative management of the fishery with the SFA. Ultimately the project intends to foster improved data collection and promote the UN-Voluntary Guidelines for Sustainable Small-Scale Fisheries by implementing monitoring mechanisms that can secure access for, and guarantee the sustainability of, artisanal and small-scale fisheries sectors.

The overall outcome of the project is to put in place a full mechanism allowing the FBOA and the SFA to establish a sustainable management plan of the resources for artisanal and small-scale fisheries. Improved co-management of resources should facilitate the new licensing policy, a more participatory stock assessment approach, the management of MPAs as well as provide an increased return for the fish caught.

The general objective of this project is to establish a small-scale pilot project and proof of concept engaging 30 voluntary fishermen. The outputs are a set of co-management tools for the FBOA working with the SFA and reports. The activities carried out are the deployment of hybrid tracking system, the customisation of existing tools for traceability of value chains, the consolidation of the data collected into dashboard indicators as well as surveys and regular workshops with the fishermen, the FBOA and the SFA. The key expected result is that the project outputs would facilitate social interaction for decision-making which encourage societal change towards sustainability.

The rationale for the project approach is that successful co-management should provide to fishermen the means to contribute to SSF e"ectively. consolidated data collected during their fishing trips by CLS and would feed an inclusive, transparent and evidence-based decision-making process.

The project beneficiaries are the SFA and the FBOA. See [*Draft email sent from the FBOA to SFA re SeyCCAT funded project*](https://seyccat.awardsplatform.com/r/2b01bb0f4787d68e7b300a41ebb076a8)already sent to the SFA from the FBOA to initiate discussions on the role of the SFA in this project and to start the process of defining data ownership, access and sharing.

The project duration is 18 months and includes a trial at sea phase of 12 months to experiment the proposed tools in operating conditions and collect the user’s experience.

The project is aligned with the national Blue Economy Strategic roadmap (2018-2030) and the commitment which has been developed to transition to sustainable fisheries and safeguarding the oceans while developing the national blue economy sector. The project will strengthen the social inclusion and livelihoods dimension by introducing robust science-based tools and co-management mechanism to secure a just place for artisanal fishers in the Blue Economy. The project is also aligned with the international priority for the UN Sustainable Development Goals and contributes to the target 14.b “provide access for small-scale fishers to marine resources and markets” under Goal 14 “Life below water”.

Outcomes and Impacts Problem statement:

The lack of catch data from small-scale artisanal fishermen in the Seychelles has been an ongoing issue due to a large number of landing sites and limited monitoring capacity. These fishers account for a substantial percentage of locally consumed fish yet their role has often been overlooked in favor of higher value handline and longline caught fish destined for export. The lack of data on catch rates, species composition, fishing areas and volumes is a serious limitation on the ability to sustainably manage the activity of these fishermen and to take informed decisions, whilst the marginalisation of these fishermen threatens the access to fish for local consumption. Fishers are often price-takers in the market, disempowered to engage in any value chain upgrading opportunities.

Rationale:

Evidence suggests that fisheries regulations and practices are much more likely to be successful if fishers and other stakeholders participate in the development of policies and regulations that a"ect them and the communities they live in. Fisheries co-management is defined as a relationship between a resource-user group (e.g., local fishers) and another entity (e.g., government agency or non-government organization) in which management responsibilities and authority are shared. The philosophy behind co-management is that those who are a"ected by management (e.g., fishers and other resource users) should be involved in making management decisions. The project provides to fishermen the means to contribute to SSF co-management. Data collected during their fishing trips by CLS and ABALOBI tools are consolidated into products and would feed an inclusive, transparent and evidence-based decision-making process.

A co-design approach will be followed, working closely with the FBOA members, FBOA a liated fisher representative organisations and key stakeholders. The project builds on the current project between the FBOA and ABALOBI, whereby fishers use logbooks and post their catch of the day on the digital ABALOBI marketplace and expands to a new partnership with CLS to integrate logbook data with tracking tools. This partnership will enhance the overall quality and quantity of data available from these fisheries.

Outcomes:

The outcome of the project is to put in place a full mechanism allowing the FBOA and the SFA to establish a sustainable management plan of the resources for artisanal and small-scale fisheries. Improved co-management of resources should facilitate the new licensing policy, a more participatory stock assessment approach, the management of MPAs as well as provide an increased return for the fish caught.

To facilitate the above outcome it is envisioned that, upon award of the SeyCCAT grant, e"orts will be made towards the SFA, FBOA and the project partners CLS and ABALOBI signing a Memorandum Of Understanding (MoU). This MoU will formalise the activities and responsibilities of each of the parties respectively within the project, as well as formalise the ownership of (and access to) the data generated through implementation.

Objectives:

The general objective of this project is to establish a small-scale pilot project and proof of concept of a set of digital tools to demonstrate the benefits that could be achieved through a larger scale implementation for the diverse communities of

artisanal fishers in the Seychelles. A hybrid system adapted to, and suitable for small vessel monitoring based on satellite and cellular connectivity will be rolled out for enhanced MCS and existing tools for traceability of value chains in the artisanal and small-scale fisheries sectors will be customized to the characteristics of these fisheries in the Seychelles. It is expected that 30 voluntary fishing units will be equipped with this solution and report to the di"erent stakeholders (full traceability data including catch logs to the FBAO and linked fisher associations, tracking data to the FBOA and the SFA).

Specific objectives:

These will include on-going training of artisanal and small-scale fishers currently using the ABALOBI Fisher app for data logging.

Co-develop data visualisation tools with participating artisanal and small-scale fishers to enable them to create visual reports of individual fishing activity.

Co-design a data-driven framework that enables artisanal and small-scale fishers to e"ectively participate in fishery co- management structures using visualisations of aggregated data.

Connect ABALOBI e-logbook data logs with the CLS tracking data for artisanal and small-scale fishers to increase the resolution of individual fisher data dashboards as well as providing a spatial context for aggregated data sets.

Experiment with the CLS tracking data as an MCS tool, this will be enabled by formalising a working agreement between the SFA and FBOA which acknowledges the importance of and incorporates, community-driven marine management measures.

Specific activities, outputs and expected results:

1. (CLS) Supply and installation of 30 low-cost and autonomous tracking devices on the selected small scale artisanal vessels (VMS, including a SOS button), supply of the associated airtime services for data transmission over the 12 month trial period, delivery of fishermen training on the use of the system.
2. (CLS) Integration of vessel position reports into SFA fisheries management system and continuous service delivery of position reports over the 12-month trial period to feed SFA and FBOA systems. This will be secured through MOU between the two parties to allow SFA direct access to this data during the pilot project.
3. (ABALOBI) Integration of vessel position reports into FBOA shore-based system.
4. (ABALOBI) Creation of 30 catch-report applications for Seychelles fishers. Electronic ABALOBI logbooks will be customised for Seychelles by the inclusion of local fish species and fishing communities into the reporting format (integrated with opportunities to engage with the digital marketplace in order to allow direct marketplace access, communication and payments between fishers and buyers.)
5. (ABALOBI) Provision of individual and collective data dashboards for fishers/FBOA to allow the visualization of their own data through the fisher analytic tool. Visualizations and report outputs will be designed based on the needs identified by the participating fishers.
6. (ABALOBI) Analysis of the dataset aggregating ABALOBI fisher app reports collected during the 12-month trial at sea duration and its usefulness for local fish stock management in a co-management perspective.
7. (FBOA-SFA) A co-ownership and upscale plan to be implemented by the FBOA in partnership with the SFA. This will be accomplished by allowing the FBOA to use aggregated data and results from the ABALOBI fisher dataset when participating in stock co-management decision-making processes. Potential for collaboration between SFA and FBOA in the integration of this data in local stock management assessments.
8. (FBOA-ABALOBI-CLS) Although CLS do not provide online data collection tools to fishers, the FBOA and ABALOBI will train fishers with the use of online data collection tool jointly with CLS training on the NEMO system and THEMIS Web user interface. Therefore pilot fishers will have an overview of all equipement and ICT tools they will utilise during the project.
9. (FBOA-CLS) The tracking systems deployed on fishing vessels will not expose fishermen to any threat and do not require any specific health and safety measures/mitigation actions. The beacon is of small size, reports automatically and will be fixed to the vessel. However regarding ESMP, a basic user guide for the tracking systems will be developed as well as a health and safety plan to ensure that while out at sea fishers participating in the project have proper safety mechanisms in place such as first aid kits, reliable means of communication for areas they are fishing in, life jackets, etc.

Expected results:

It is envisioned that these fishers will become champions for the use of the technology and will play a key role in expanding the use of the vessel tracking system and Fisher app within fishing communities.

Data visualisation tools are key to engage fishers meaningfully in co-management discussions.

Data visualization tools will increase knowledge on the operational range of these small-scale and artisanal fisheries.

See attached document [*CTA funded activities already implemented by ABALOBIFBOA.docx*](https://seyccat.awardsplatform.com/r/b296c98d7e21a0e1c17541f3f68fc392) for details on which complimentary activities have already been implemented jointly by ABALOBI/FBOA under a CTA-funded project.

SUSTAINABILITY AND REPLICATION SUSTAINABILITY AND REPLICATION

The project is designed to be sustainable and replicable at the scale of the full fleet of Seychelles small-scale and artisanal fisheries, and potentially extended to the recreational fishing sector.

From a technological perspective, expanding the number of users of the systems used during the pilot project will generate a significant increase in the amount of data collected automatically by a larger number of CLS tracking beacons and of data reported by the Fishermen using ABALOBI FisherApp. Therefore the ICT systems used during the pilots should be scalable to manage this potential massive number of additional data. CLS and ABALOBI would provide technical inputs on the upscale plan to be delivered at the end of the project, in particular on the country-wide Fisheries Monitoring System operated by SFA, for e"ective monitoring, control and surveillance of the whole fishing fleets, including industrial fisheries, operating in the Seychelles waters.

From a cultural and social perspective, the project introduces significant changes and innovation for artisanal and small-scale fishers in the form of new systems, new requirements, and new technologies as well as new form of governance. Assessing how ready fishers are to change their traditional working practices and act on/adopt digital technologies is absolutely essential for success. The challenge relies on identifying community-specific and culturally-specific types of action that are appropriate to unlock change and advance towards scaling up the project in the Seychelles.

Communication and results dissemination activities will be carried out to transfer knowledge and learning from the pilot project results to other stakeholders, including fishermen that did not participate.

From an economic perspective, with the operation of the digital marketplace by the FBAO and its linked smaller associations, the opportunity exists to create self-sustainable ICT systems that are co-owned by fishers and drive genuine co-management of the Seychelles fisheries. The opportunity also exists to create sustainable financial support granted to artisanal fishermen by SFA to purchase the tracking systems and cover the operating costs, most likely in a regulatory context.

From a data arrangements perspective, the owner of the data collected during the project is the purchaser of the service. Therefore, in this project, FBOA being the purchaser of the VMS beacons and airtime fees, the VMS data will be owned by FBOA. After CLS roll out the NEMO beacons to the 30 pilot vessels, CLS will collect the data, process and store them on its data centre. CLS will grant the project stakeholders access to the data through a dedicated web interface named FishWeb including data display and download features. FBOA will get access to the whole fleet of the 30 pilot vessels while fishermen will get access to their lone vessel. SFA will get access to the whole fleet of the 30 pilot vessels through FishWEB and / or VMS data will be directly ingested into the national Fisheries Monitoring Centre (FMC) through a specific interface developed by CLS. This would support the demonstration of the compliance application as regards upcoming VMS regulations applied to small scale fisheries. CLS will grant access to ABALOBI on behalf of FBOA to the whole fleet of the 30 pilot vessels through FishWEB as ABALOBI is assigned by FBOA to manage the traceability data collected during the project. ABALOBI will ingest these VMS data into the Market Place application through a specific interface developed by ABALOBI. This would support the demonstration of the traceability application. The VMS data will not be shared to any other entity or individual without prior and written agreement from all the members of the project, namely FBOA/SFA/ABALOBI/CLS. Similarly, catch data collected by fishers using the ABALOBI Apps and processed into the ABALOBI Marketplace platform will be owned by the participating fishers as it is their data that was submitted. ABALOBI will grant the project team (FBOA and CLS) access to the catch data and market application data for the whole fleet of the 30 pilot vessels should the owners of the data, in other words the fishers themselves, agreed to this arrangement.

I have read the exclusion list 

Checklist

 Have you read the Application Guidelines?

 Have you read the environmental and social safeguards policy?

 Have you referred to the glossary for explanations of di"erent terms used in the proposal application form?

 Have you used the correct Template for Stage II / Large Grant proposals?

 Have you checked the deadline time and date for the submission of the project?

 Have you indicated the correct SeyCCAT strategic objective for this call?

 Have you included a CV’s for all the key project personnel?

 Have you included a letter of support from the main partner organizations identified on the cover page?

 Have you provided actual start and end dates for your project (and checked they synchronize with when SeyCCAT would make grant monies available)?

 Have you provided actual start and end dates for your project?

 If required following your Stage 1 feedback letter, have you prepared and submitted here your supplemental environmental safeguards instrument(s)?

 Have you provided your budget and used the correct template provided for large / stage II proposals?

 Have you checked that your budget is complete, correctly adds up and that you have included the correct final total on the top page of the application?

 If you are supported by co-finance - have you included the value of, and supporting organization for the co-finance, and indicated if it is cash or in kind?

 Have you included a supporting document from the co-finance organization to stipulate the amount / support provided in terms of cash or in kind?

 Have you checked the SeyCCAT website immediately prior to submission to ensure there are no late updates?

I confirm I am eligible to apply for the 

Blue Grants Fund.