CEPF Final Completion and Impact Report

Organization's Legal Name:	Plant Conservation Action group
Project Title:	National network on biodiversity data exchange for improved KBA management in Seychelles
Grant Number:	66390
Hotspot:	Madagascar and Indian Ocean Islands
Strategic Direction:	2 Enable civil society to mainstream biodiversity and conservation into political and economic decision-making.
Grant Amount:	$99,990.00
Project Dates:	April 01, 2018 - December 31, 2020
Date of Report:	April 01, 2021

IMPLEMENTATION PARTNERS

Seychelles National Herbarium (SEY): The herbarium provided office space and facilities. Its staff was involved in all aspects of the project including: review of database conceptualization improvements, field data collection app for Smartphone, communication and logistics for networking and building awareness, review of the ckecklist of KBA species and of their global/national IUCN threat category.

Island Conservation Society (ICS): One ICS staff was trained to use of the database and Smartphone application, and was involved as a trainer during a workshop involving a wider range of project partners and beneficiaries.

Environmental Impact Assessment consultant (EIA): One consultant (Dr. Elvina Henriette) being involved in Environmental Impact Assessments (EIA) was trained to use the database and also acted as trainer during our workshop.

CONSERVATION IMPACTS

Planned Long-Term Impacts: 3+ years (as stated in the approved proposal)

Impact Description	Impact Summary
4 Improved synergies and collaborations between environmental organizations (long term). We believe that the development of a national network sharing ownership of the database, and the development of collaboration	We believe that this is achieved. Toward the end of 2020, PCA has submitted a new project proposal with GBIF for continued work in relation to KBAs. This project involves partners from the Bio Network and will aim at formalizing this network internationally in the form of a GBIF Participant

Impact Description	Impact Summary
agreements including planning of some joint activities within the limits of this project, will result in increased collaboration in the long term. Costs related to biodiversity data management will be shared (reducing cost for individual partners) and data will be valorised together (increasing impact for individual partners).	Node for the Seychelles. Data on species distribution and species surveys will be made available on GBIF which will secure the ownership of the authors and will make the data available internationally. Also symptomatic of improved synergies/collaboration with National partners is the fact that participants to the training done in August 2019 (i.e. Dept. of Env, SIF, SNPA, Gov.-UNDP) have expressed their need and willingness to support PCA in re-doing or replicating a similar set of training for different groups of staff (e.g. on the island of Praslin). The training concept developed by PCA seems to be well adapted to the local context, offering to the participants a flexible, modular training (as opposed to overwhelming weeklong training courses). We are hoping for further synergies and projects but the covid situation is slowing down joined activities that we were hoping posterior to this CEPF project.
5 Creation of new opportunities for University students (long term). We believe that development of the national network will also provide more opportunities to University of Seychelles students. The network might propose small research projects, with the support of members, so that the database can stimulate students and students can contribute to the database and to the development of research in Seychelles.	Good hopes. Firstly, this project resulted in a PCA expert to be granted a permanent office within the Seychelles National Herbarium (desk and laptop paid under this project), and a title of scientific adviser to the same. This will allow ongoing collaboration with the herbarium staff and will increase our capacity to take UniSey student for internship. One UniSey student was also involved in the training sessions done under this project in August 2019.
6 Reduced threat on KBAs through improved quality of Environmental Impact Assessments (long term). Online access to KBA data will allow improved quality of Environmental Impact Assessments (EIAs) done in parcels overlapping with KBAs. Secondly, if consultants collecting new data during EIAs contribute those data into the biodiversity network database, then those will be available for future studies and, if photos are associated, it will be possible to review the identification of the species recorded during those studies (more transparency), which should also result in improved quality. A simple indicator of this will be the number of data contributed from EIAs and the percentage of EIA consultants contributing their data.	This is still too soon to tell. The main Government partner at Department of Environment, involved with Environmental Impact Assessments, is fully aware and supportive of our CEPF project and results. They co-signed our new project proposal with the GBIF. But there is no way to make sure that independent consultants will be using the Bio Holistic Database, nor that they will contribute their newly collected data. We believe that doing so will only impact on the reputation of consultants (being exhaustive in their data sources and transparent on their own data).

Planned Short-Term Impacts: 1 to 3 years (as stated in the approved proposal)

Impact Description	Impact Summary
1 Up-to-date information on KBAs available online (short term). The KBA database, including herbarium data and the Seychelles Plant Gallery (www.seychellesplantgallery.com), will be available online and updates or additions will be visible in real time (which is not the case at present for the plant gallery). Users will have access to the most up-to-date information on Seychelles biodiversity and plant identification tools (photos). A quantitative indicator of this impact will be the number of visitors to the database website. This statistic will be available starting from the official launch of the network, in March 2019.	This has been achieved, although not yet in the way originally planned. The standalone application of the Bio Holistic Database has been finalized but will require migration of the data from the last 2 years before it can really be used. Currently, all partners of the Seychelles Bio Network (who signed the MOU) have access to the most up-to-date data on species, ecosystems and KBAs using a shared folder on the cloud. Anyone can collect new data using either iNaturalist or the more specialized Smartphone Bio application and the data are synchronized in near-real time (on a weekly basis). The quantitative indicator of impact is the number of contributors of new data: 58 different contributors (first authors only) for the 20000 species records collected during this project, using the newly developed tools. Considering the small size of Seychelles, this can be considered as a very good success and a strong indicator that the solution developed is operational and efficient.
2 Improved local capacity in biodiversity data management (short term). The possibility to manage newly collected biodiversity data in a shared platform will result in improved local capacity in data management and reduce the problem of data loss. An indicator for this will be the number of different contributors of data active per month. This statistic will also be active from March 2019, but we expect an effect observable towards the end of the year 2019.	This has been achieved. A training was done in August 2019 with a wide range of stakeholders. We covered diverse aspects, from naturalist photography to species identification, Smartphone data collection using the Bio application or iNaturalist, GPS navigation, use of the shared cloud storage access to the Bio Holistic Database and of its main outputs (the maps and the lists). We also trained one young Seychellois woman, staff of the National Herbarium, to taxonomy and IUCN threat level assessment. Finally, we assisted our ICS partner to prepare IUCN threat level assessments (done for 3 species) and species management plans. The quantitative indicator can be the same as for the previous impact, complemented by the number of publications done with shared authorship between partners of the Bio Network: 1 peer-reviewed paper (including 2 new species to science and 3 IUCN threat level assessments), 3 IUCN threat level assessment published on the IUCN global database. Since end of 2020, a team of 4 independent consultants are also using the Bio Holistic Database, and tools and methodologies, for a 1 year project aimed at reviewing the status and delineation of 7 KBAs on Mahé and Praslin. New field data collection is planned and will be integrated into Bio.
3 Improved capacity to assess conservation values using IUCN criteria (short term). Assessments of the species conservation value of specific sites will be possible using species IUCN threat status. This will improve	Achieved. We have reviewed the taxonomic checklist for the whole flora of Seychelles. Then we have reviewed the list of so-called "KBA species" (species of special conservation value in Seychelles) and their distribution data. With help of the package

Impact Description	Impact Summary
knowledge on the conservation value of species and sites, therefore improving prioritization of species conservation actions and improving KBA management.	ConR, we have screened all data to find all potential species of high conservation value and we have proposed a National IUCN threat category (using IUCN criteria, mostly A and B) for all plant species that we listed using the previous steps. This fills a huge gap because prior to this project we only had data for 'global' IUCN threat levels, which are available for only 96 species (out of 216 plant species listed as KBA species) and which undermines the local conservation value of species that are not endemic to Seychelles but very rare.

Unexpected impacts (positive or negative)?
Positive:
-The iNaturalist project has had an unexpected impact, going far beyond any of our expectations. It allowed to add a large amount of precise species distribution data (>6000) and contributed to about 100 new species records for exotic plants that were not yet known to Seychelles, including one of them identified as a potential invasive threat (Cyathea cooperi). We include in those figures only data shared with the Seychelles Bio Gallery project of iNaturalist, created as part of this CEPF project.

-The Smartphone applications for data collection were not originally planned. It came as a solution to the problem of the delays in the delivery of the Bio standalone application while we were still needing to collect data in the field. This simple solution solves mostly the database multi-users issue, i.e. multiple users cannot record new data into a single user MS Access database but they can do it through a standardized Smartphone survey. The development of Smartphone solutions also had an impact on the development of the ecosystem approach to conservation by providing a tool for the collect in the field of virtual ecosystem specimens which in turn is the key to improve our understanding of ecosystems, their typology and their distribution.

Negative:
-The Bio standalone application is finalized but with only a minimal development. This reduces our potential to upscale our method and to share it with international partners. Nevertheless, we are still glad that at least a working version is available that is enough to make a demonstration of the database concept and its interface (which we wanted a bit similar to that of Zotero for example, i.e. with horizontal and vertical panels).

PROJECT RESULTS/DELIVERABLES

Overall results of the project:
This project ("National network on biodiversity data exchange for improved KBA management") aimed at making the so-called "KBA database" (developed in 2011-213) more easily available for all relevant National actors of biodiversity conservation for both (re-)assessments of Key Biodiversity Areas and mutli-users data entry. It also aimed at improving the checklist of species of high conservation value in Seychelles, by verifying their distribution data (to some extent) and by evaluating preliminary National IUCN threat statuses (i.e. IUCN threat status based on distribution data from Seychelles only). To achieve this, the project was constructed on 4 main components.

Component 1 (database development)

In 2011, Plant Conservation Action group implemented a project called the "Herbarium project" which aimed at digitizing all specimens of the National Herbarium plus species records from the most important bibliographical sources. We started talking about the "Herbarium database". This first step was directly followed by a larger project focussed on defining Key Biodiversity Areas in the Seychelles Inner Islands. Much more data were put together including newly collecting data using extensive field surveys. The database changed name to the "KBA database". And ever since, this has been an asset that the local conservation community has been quite proud of. But each time somebody wanted information from the database, it had to be through email requests, and no data entry was possible other than by the database manager as this was a single user MS Access database. In addition, from 2014 to 2018, a number of improvement needs were identified, in particular in terms of species survey methodologies and habitat descriptions. The current CEPF project successfully responded to those issues and needs, and the results strongly improve our capacity as a Nation to manage, share and use biodiversity data. The main achievements were:

-Conceptual review of the database structure allowing for standardized description of virtually any type of species survey methodology associated with the data collected, and allowing for the recording of occurrence data for types of ecosystems (part of what we call ecosystemology, see attached paper in review). The new database concept is called the "Bio Holistic Database on Species and Ecosystems".
-Standalone Bio application (SQLite / PostgreSQL-PostGIS): The standalone application has been very much delayed but finally a working version was delivered in December 2020. It allows for multi-users data entry and data edition, online or offline with synchronization to a server purchased under this project. Nevertheless, due to the delays, there is now a large quantity of data collected since the beginning of the project that need to be migrated again to the finalized Bio application, which will have to take place posterior to the project. But the interface works well and is an important asset to promote our results and search for new funding. In the meantime, we are using the Bio Holistic Database via several applications: MS Access, QGIS, and Open Foris Collect for Smartphones. This method has proven very efficient and has allowed for the collection of about 20000 species records (from 32600 species records before the project to 53440 now). Those data are formally shared with all partners of the Bio Network (see MOU) who mostly use the main three outputs: a) the list of all species records (table), b) the ckecklist of species names and their metadata (including suggested IUCN National status) and most importantly c) the maps with prepared symbology emphasizing conservation value.
-Smartphone extension of the Bio database: This was really a crucial idea that came out of the delays in the standalone application development. This Smartphone application is at the same time very powerful (allowing for the collection of complex ecosystem data in the field) and adaptive (for those who need to collect more simple data using a fast interface). It solved the problem of using a single user MS Access database format by allowing data entry via the Smartphones.

Component 2 (network development)
-In July 2019, we presented our results to the international and regional scientific community: This has been done through a presentation for the Island Biology congress at La Réunion.
-In July-August 2019, a training was done involving a wide range of partners (40 trainees, 198 'person days' of participation over the 12 days of training, representing 15 different groups of stakeholders in Seychelles). To ensure involvement of our closest partners, they were trained to use of the new database and they were contracted under this project funding as 'trainers' (11 trainers contracted from 7 different groups of stakeholders). We

think that this was an important element contributing to the success and general acceptance of this project.
-To extend the networking to the civil society, but also to professionals making observations of species outside of their specialization groups, we created and promoted an iNaturalist project (https://www.inaturalist.org/projects/seychelles-bio-gallery). One article was published in the journal Kapisen and two articles in local newspapers, as well as Facebook, Whatsapp and email diffusions of awareness materials. The iNaturalist project created is a "traditional project" which means that occurrences of threatened species are automatically obscured except for curators of the project. Toward the end of the project, we used the remaining budget to offer prizes for a photo competition. This project has considerably contributed to the number of new species occurrence data, so far: 79 members, 1330 species, 6349 observations).
-We created one Logo and printed t-shirts to promote the Bio Holistic Database, its use and its corresponding National network.
-We signed a MOU with 9 different stakeholders, plus two stakeholders pending. This is more than the originally planned 3 partners. This wider interest in our project is likely linked to the success of the training done in August 2019.

Component 3 (IUCN statuses update for KBA species)
-We reviewed all plant species that used to be considered as "KBA species", or that could potentially be considered as such. We reviewed their distribution data, checked their latest Global IUCN threat status and suggested a National IUCN threat status using the R package ConR.
-Three other species have been reviewed by the National Herbarium, under the guidance of a PCA expert, within a peer-reviewed publication in Phytotaxa, including the description of 2 KBA species new to science. Most importantly, this paper is authored by a young Seychellois woman, staff of the herbarium. She is now fully trained in the field of taxonomy. This is a major outcome of this project. Prior to this project, taxonomic expertise relied on one local foreigner or overseas experts.

Component 4 (sharing project outcomes)
-A peer-reviewed publication is in review in the journal Ecological Complexity. This paper presents the Bio Holistic Database and its originality, in particular for the review of conservation priorities using the ecosystem criteria. This is another important outcome of this project because it might put Seychelles on the global ecosystem conservation scene (as these aspects are only discussed by a few experts worldwide) and will hopefully provide opportunities to strengthen our National network.
-A Powerpoint presentation was made during the Island Biology Congress at La Réunion, in July 2019. This presents the developing KBA database under this project with an emphasis on the Smartphone application for data collection and sharing for species distribution data and population details.

Results for each deliverable:

Component		Deliverable		
#	**Description**	**#**	**Description**	**Results for Deliverable**
1.0	Database development	1.1	Release a PostgreSQL-PostGIS database complying to at least 70% of the planned specifications	The Bio Holistic Database complying to at least 90% of the planned specifications has been delivered and is functional since early 2019. Nevertheless, it is not in the originally planned PostgreSQL-PostGIS format but rather in a format combining MS Access, shared cloud storage, QGIS and Smartphone application with Open Foris Collect Mobile. The PostgreSQL-PostGIS standalone version of that database has been delivered to about 70%, but unfortunately the missing 30% include migration of the data collected between the beginning and end of this project, and a few interfaces that are needed for some specific datasets (e.g. descriptions of species surveys methodologies). It will need further development although for now the replacement solution described above works well: all needed functionalities are available (and even more, with ecosystem taxonomy functions), but some queries can be slow, it requires weekly or monthly updates (near real time synchronisation), and it will be reaching a limit in size (although not quite soon).
2.0	Network development	2.1	One hundred t-shirt produced with the network logo	Done
2.0	Network development	2.2	Minutes and list of participant to a workshop	Done differently due to covid-19 situation. Toward the end of the project, we replaced

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
			organized with the main representants of the local scientific community and potential contributors	the workshop by 1 on 1 meetings with each of the partners that would have been part of the workshop (proposed members of the Bio Network). This was aimed to demonstrate the database and the main outputs available to those stakeholders, to get their feedback on their specific needs and to sign a MOU on database and data sharing agreement (developed in collaboration with those partners).
2.0	Network development	2.3	Network publicized using local television coverage, 1 newspaper article and 1 article in the journal Kapisen	Done and attached to this report.
2.0	Network development	2.4	Minutes and participation list for 3 training done with different groups of target users: at least 10 naturalist amateurs, 6 professionals (NGOs, government) and 2 local database managers	Done and attached to this report: updated training attendance spreadsheet.xlsx
2.0	Network development	2.5	Collaboration aggreements (MOUs) signed between at least 3 partners, being members of the network, with several planned joint actions	Done and attached to this report. Planned actions include a new project proposal submitted to GBIF with several key partners of the Bio Network. Partners of the BIO network are given below: The Plant Conservation Action Group (hereafter referred to as "PCA"), Seychelles National Herbarium (hereafter referred to as "SEY"),

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				Ministry of Agriculture, Climate Change and Environment (hereafter referred as "MACCE"), (confirmed, signature pending) Island Conservation Society (hereafter referred to as "ICS") Island Biodiversity & Conservation (hereafter referred to as "IBC") Blue Economy Research Institute, University of Seychelles (hereafter referred to as "BERI-UniSey") Seychelles National Parks Authority (hereafter referred as "SNPA"), (unconfirmed) Seychelles Island Foundation (hereafter referred as "SIF), (confirmed, signature pending) Terrestrial Restoration Action Society of Seychelles (hereafter referred as "TRASS") Marine Conservation Society of Seychelles (hereafter referred as "MCSS") National Botanical Garden Foundation (hereafter referred to as "NBGF") (unconfirmed)
3.0	KBA species list updated with IUCN status	3.1	A list with at least 90% of vascular plant KBA species reviewed and with updated or preliminary IUCN status assessed	Done and available on request
4.0	Project outcomes shared regionally and globally	4.1	Report on meeting done with at least 2 regional partners on La Réunion and Mauritius	Done but not as initially planned. We have been exchanging with CBNM and CBN Brest through emails and skype, and we presented our project during a congress in La Réunion:

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				see attached file Senterre 2019-What is biodiversity-How to better observe it and understand it in the 21st century.pdf
4.0	Project outcomes shared regionally and globally	4.3	One peer-reviewed publication submitted with at least 3 different local organization sharing authorship	Done and attached here. Padayachy et al_2020_Phylogeny and taxonomic revision of the genus Craterispermum (Rubiaceae) in the Seychelles Archipelago.pdf Senterre et al. in review-Ecosystemology.pdf
5.0	Capacity of PCA strengthened and all activities delivered on time and within budget	5.1	Financial reports produced every three months	Done
5.0	Capacity of PCA strengthened and all activities delivered on time and within budget	5.2	Three performence reports (after 6, 12 and 18 months), 1 mid-term report and 1 final report	Done
5.0	Capacity of PCA strengthened and all activities delivered on time and within budget	5.3	CSTT and GTT filled up with PCA team and submitted to CEPF at initial and final stage of project	Done BUT I will contact CEPF via email to ask for a pdf of the submitted CSTT because: -due to covid situation in Seychelles, I wanted to print the filled-presubmission form, share it with PCA board and get feedback on corrections or additions -when filling the form, it did not give me the opportunity to print the draft before submitting it During grant period, progress might have been a better acceptance of PCA to look into having a permanent staff, which would help better coordinate and increase access to grant

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				opportunities. Nevertheless, it is clear that the size of Seychelles and grant opportunities will likely not be able to support staffing the quite decent capacity and expertise of PCA and that our organization will have to continue paying actors within the organization on a project basis, i.e. under consultancy budget (which is subject to much less taxes in Seychelles: 1.5 vs. 15% for staff) rather than staff budget. Sadly, this appears to be seen as a negative thing by some funding bodies, who might not see the difference between funding for external consultant/capacity and funding active members of an organization with the right skills under a 'consultancy' budget.

Tools, products or methodologies that resulted from the project or contributed to the results:
Tools & Methodology:
-The Bio standalone application: Not attached; Contains all the data shared between members of the Seychelles Bio network.
-The updated MS Access version of the Bio Holistic Database, working in combination with Open Foris Collect Mobile, QGIS and R : Not attached; Contains all the data shared between members of the Seychelles Bio network.
-The field data collection application for Smartphones (using Open Foris Collect Mobile): Installation file attached here.

Products:
-The updated conservationist checklist of the flora of Seychelles: Not attached, but available on request; it is part of an ongoing publication project.

PORTFOLIO INDICATORS

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
0	At least 10 partnerships and networks formed among civil society, government and communities to leverage complementary capacities and maximize impact in support of the ecosystem profile.			1	Partners of the BIO Network are (see also MOU): The Plant Conservation Action Group (hereafter referred to as "PCA"), Seychelles National Herbarium (hereafter referred to as "SEY"), Ministry of Agriculture, Climate Change and Environment (hereafter referred as "MACCE"), Island Conservation Society (hereafter referred to as "ICS") Island Biodiversity & Conservation (hereafter referred to as "IBC") Blue Economy Research Institute, University of Seychelles (hereafter referred to as "BERI-UniSey") Seychelles National Parks Authority (hereafter referred as "SNPA") (unconfirmed) Seychelles Island Foundation (hereafter referred as "SIF), Terrestrial Restoration Action Society of Seychelles (hereafter referred as "TRASS")

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
					Marine Conservation Society of Seychelles (hereafter referred as "MCSS") National Botanical Garden Foundation (hereafter referred to as "NBGF") (unconfirmed)
0	At least 40 civil society organizations, including at least 30 local organizations, actively participate in conservation actions guided by the ecosystem profile.			0	
2.2	At least three platforms or dialogues positively engaging stakeholders from development agencies, government and local authorities and private sector, in place and delivering results for mainstreaming biodiversity in decision-making.			2	Apparently there was "0" expected numeric contributions? But in fact there should have been 1 expected. We consider that we have delivered 2. The first one is the shared cloud storage containing the Bio Holistic Database, shared with all partners of the Bio Network, including Government and key actors of biodiversity conservation. The second one is the iNaturalist project which offers a selection of iNaturalist contributions

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
					that are available with exact GPS coordinates (even for threatened species) and that are being more regularly reviewed for species identifications. Partners of the BIO Network are (see also MOU): The Plant Conservation Action Group (hereafter referred to as "PCA"), Seychelles National Herbarium (hereafter referred to as "SEY"), Ministry of Agriculture, Climate Change and Environment (hereafter referred as "MACCE"), Island Conservation Society (hereafter referred to as "ICS") Island Biodiversity & Conservation (hereafter referred to as "IBC") Blue Economy Research Institute, University of Seychelles (hereafter referred to as "BERI-UniSey") Seychelles National Parks Authority (hereafter referred as "SNPA") (unconfirmed)

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
					Seychelles Island Foundation (hereafter referred as "SIF), Terrestrial Restoration Action Society of Seychelles (hereafter referred as "TRASS") Marine Conservation Society of Seychelles (hereafter referred as "MCSS") National Botanical Garden Foundation (hereafter referred to as "NBGF") (unconfirmed)

GLOBAL INDICATORS

Protected Areas

Protected areas that have been created and/or expanded as a result of the project. Protected areas may include private or community reserves, municipal or provincial parks, or other designations where biodiversity conservation is an official management goal.

Name of Protected Area	WDPA ID*	Latitude	Longitude	Country	Original Total Size (Hectares) **	New Protected Hectares ***	Year of Legal Declaration or Expansion

*World Database of Protected Areas

**If this is a new protected area, 0 should appear in this column

*** This column excludes the original total size of the protected area.

Key Biodiversity Area Management

Key Biodiversity Areas (KBAs) under improved management—where tangible results have been achieved to support conservation—as a result of the project.

KBA Name	KBA Code	Size of KBA	Number of Hectares with Improved Management

Production Landscapes

Production landscapes with strengthened management of biodiversity as a result of the project.

A production landscape is defined as a site outside a protected area where commercial agriculture, forestry or natural product exploitation occurs.

Name of Production Landscape	Latitude	Longitude	Hectares Strengthened	Intervention

Benefits to Individuals

- **Structured Training:**

Number of Men Trained	Number of Women Trained	Topics of Training
22	17	Naturalist photography, Species identification, iNaturalist citizen science, GPS navigation and Smartphone GIS, KBA surveys (including Smartphone Bio application), Bio Holistic Database management

- **Cash Benefits:**

Number of Men – Cash Benefits	Number of Women – Cash Benefits	Description of Benefits
6	5	Five women and 6 men trained as 'trainers' for the topics detailed above have directly benefited from this project in cash, being contracted as trainers to deliver the same training material and contribute at developing more training material to the 39 trainees.

Benefits to Communities

View the **characteristics** column below with the following corresponding codes:	View the **benefits** column below with the following corresponding codes:
1- Small Landowners	a. Increased Access to Clean Water
2- Subsistence Economy	b. Increased Food Security
3- Indigenous/ Ethnic Peoples	c. Increased Access to Energy
4- Pastoralists / Nomadic Peoples	d. Increased Access to Public Services
5- Recent Migrants	e. Increased Resilience to Climate Change
6- Urban Communities	f. Improved Land Tenure
7- Other	g. Improved Use of Traditional Knowledge
	h. Improved Decision-Making
	i. Improved Access to Ecosystem Services

Community Name	**Community Characteristics**							**Type of Benefit**									**Country**	**Number of Males Benefitting**	**Number of Females Benefitting**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**			
Various. This section should apply to our project. Land owners will benefit because the project outcomes will allow to review the delineation of privately owned KBAs, possibly allowing more development in some places, promoting biodiversity in others.	☒	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐	Seychelles	100	100

Characteristics of "Other" Communities:

- Various. This section should apply to our project. Land owners will benefit because the project outcomes will allow to review the delineation of privately owned KBAs, possibly allowing more development in some places, promoting biodiversity in others.: Community involved in education. The iNaturalist tool was known in Seychelles almost only by visitors. It is now totally changed as it became well known from the local scientific community as well as for the local nature lovers, including children.

Policies, Laws and Regulations

View the **topics** column below with the following corresponding codes:			
A- Agriculture	E- Energy	I- Planning/Zoning	M- Tourism
B- Climate	F- Fisheries	J- Pollution	N- Transportation
C- Ecosystem Management	G- Forestry	K- Protected Areas	O- Wildlife Trade
D- Education	H- Mining and Quarrying	L- Species Protection	P- Other

No.	Name of Law	Scope	Topics													
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P

"Other" Topics Addressed by the Policy, Law or Regulation:

No.	Country/ Countries	Date Enacted/ Amended	Expected impact	Action Performed to Achieve the Enactment/ Amendment

Companies Adopting Biodiversity-friendly Practices

A company is defined as a for-profit business entity. A biodiversity-friendly practice is one that conserves or uses natural resources in a sustainable manner.

Name of Company	Description of Biodiversity-Friendly Practice	Country/Countries where Practice was Adopted

Networks and Partnerships

Networks/partnerships should have some lasting benefit beyond immediate project implementation. Informal networks/partnerships are acceptable.

Name of Network/Partnership	Year Established	Country/ Countries	Established by Project?	Purpose
Bio Network	2020	Seychelles	Yes	Memorandum Of Understanding signed by 7 partners + 2 agreed but pending due to covid + 2 unresponsive so far (total 11 partners). Sharing the Bio Holistic Database containing the most extensive collection of species and ecosystem distribution data for the Seychelles. The network also aims at sharing expertise in using the database, regroup more datasets from more partners and help each other to produce useful knowledge out of it, including peer-reviewed publications. We want to stimulate opportunities of projects by combining strengths and opportunities of our small, compact scientific community in Seychelles. One GBIF project proposal has been submitted as a direct result of this network.

Sustainable Financing

Sustainable financing mechanisms generate funding for the long-term (generally five or more years). These include, but are not limited to, conservation trust funds, debt-for-nature swaps, payment for ecosystem services (PES) schemes, and other revenue, fee or tax schemes that generate long-term funding for conservation.

Name of Mechanism	Purpose	Date Established	Description	Country/ Countries	Project Intervention	Delivery of Funds?

Globally Threatened Species

Globally threatened species (CR, EN, VU) on the IUCN Red List of Threatened Species, benefitting from the project.

Genus	Species	Common Name (English)	Status	Intervention	Population Trend at Site

LESSONS LEARNED

Open Foris Collect Mobile was a great and very fortunate discovery. In our view, it is the key to complex field surveys on Smartphones. So many other applications exist such as Cybertracker, ODK etc., but in fact, only Open Foris did the job that we needed, thanks to a few great but simple functions. We definitely recommend the use of Open Foris Collect Mobile (developed by the FAO) for any project who is looking into field data collection on Smartphones, especially if they do not need an icone-based interface.

We learned a very efficient tool for project management and planning, which is Asana, especially when combined with Instagantt and Gleeo Time Tracker. Those three tools have allowed us to keep track of the time spent on the different tasks and on the project in general, and they allowed us to keep an eye on the upcoming tasks and other pending deliverables. Here again, a lot of different tools exist. We initially considered to buy a license of Bitrix24. We also tested Nosbe and a few others, but Asana combined with Instagantt appeared to be by far the best solution for us. We were so enthusiastic about the efficiency of this tool that we have been promoting it in Seychelles and we even prepared a training. Several colleagues (e.g. with TRASS) are now using it for their own projects.

We learned that developing a standalone application with a budget that is limited (it was unfortunately reduced by CEPF compared to our initial request) is not a good option and we should have either reduced our ambitions or negotiated better with CEPF to maintain our original budget. In any case, working with a team of computer programmers (rather than a single one) would have been beneficial simply because of the nature of the job.

SUSTAINABILITY/REPLICATION

The development of the Bio Smartphone application using Open Foris Collect Mobile has been a great success that can easily be replicated elsewhere. Indeed the system is designed to work in any tropical region (but requires adjusting the species list) and, in fact, it has been used in West Africa by the Project Leader in another CEPF project implemented by Missouri Botanical Garden (MBG), involving training of Guinean botanists to ecosystem observation.

The ecosystem part of the Bio Holistic Database is certainly what provides it with the best hopes of ongoing development, simply because there is no other tool existing that allows collecting ecosystem data. The paper submitted to Ecological Complexity aims at validating the originality of the approach and making it known overseas. Within the next few week, a report with be posted on ResearchGate with the implementation of the same approach and tools in West Africa through the MBG project mentioned above. When available, those will be shared with the leading teams (mostly in USA and Australia) the field of ecosystem red listing. We believe that our contribution in that field is important. We hope that it will be understood for what it is and that it will help us get funding to continue this work.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS/STANDARDS

Not relevant here.

ADDITIONAL COMMENTS/RECOMMENDATIONS

ADDITIONAL FUNDING

Total Amount of Additional Funding Actually Secured (USD)	
Breakdown of Additional Funding	

INFORMATION SHARING AND CEPF POLICY

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned and results. For more information about this project, you may contact the organization and/or individual listed below.

Plant Conservation Action group (PCA), pca.seychelles@gmail.com