CEPF Final Completion and Impact Report

Organization's Legal Name:	Strand Life Sciences Pvt. Ltd.
Project Title:	Collating and Disseminating Information on Madagascar's Terrestrial Protected Areas
Grant Number:	CEPF-109371
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:	$199,150.13
Project Dates:	September 01, 2019 - October 31, 2021
Date of Report:	December 30, 2021

IMPLEMENTATION PARTNERS

Our project had two main implementation partners. Strand Life sciences and Association Vahatra. The objective of the project was to set up a website that will aggregate detailed information on 98 terrestrial protected areas (PAs) in Madagascar. The trilingual site (French/English/Malagasy) site was to be modelled on the bilingual (French/English) three-volume book published by Vahatra, "Les aires protégées terrestres de Madagascar : Leur histoire, description et biote ; The terrestrial protected areas of Madagascar: Their history, description, and biota". The site needed to have the ability to serve PDF files as documents and species inventories listed for each PA as well as permit public participation in dynamically aggregating data. It would also make available map layers on the PA boundaries and species distributions within it. Finally, the printed three-volume PA book was to be converted to ebooks and published.

Strand with its expertise in web technologies and its experience in developing the Western Ghats Portal funded by CEPF has been the technology development partner and has taken on the tasks involved in designing and building the Madagascar Protected Areas portal, as well as transforming the available data for upload. Association Vahatra has been the local partner in Madagascar. Vahatra has been involved in aggregating and extracting the data from the raw data aggregated for the book, organizing the bibliography and providing it for upload. Vahatra has also taken on the task of enabling translation of the content and organizing the initial stakeholder meeting for consultations and publicizing the portal.

The initiative was also supported by the Metastring Foundation.

CONSERVATION IMPACTS

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

Impact Description	Impact Summary
Widespread usage of portal data for planning and research output by conservation planners and the academic community with between 50-100 recorded citations of the portal in research journals, government and non-governmental development reports on PAs or other relevant publications within five years of the portal launch.	With more than 100 download requests within the first two weeks of its launch, the portal content is expected to significantly contribute to research and planning. It is still too early to show examples where the portal data has been cited in a publication. However, we expect this to happen gradually, showing such results within a year of its release. https://protectedareas.mg/user/download-logs?offset=0

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

Impact Description	Impact Summary
By the end of the project, at least 20 stakeholders from development agencies, central/local government agencies, conservation organizations/associations and/or private companies are registered users of the platform, among which at least five report using data to mainstream biodiversity into decision making.	Over 130 users from the stakeholder community have registered on the portal in the first month of becoming available. Users can provide information on the type of institution they belong to, as they register on the portal. As of 20 December 2021, this includes 6 members of government agencies and 34 members belonging to non-governmental organizations, including both local and international conservation organizations. These members have all registered and created user profiles on the portal. Over 100 requests for data hosted on the portal have been made and already served out. The downloaded data requests are logged and displayed on a download log page on the portal - https://protectedareas.mg/user/download-logs?offset=0. Users of the portal include many national and international students and researchers.
Free and open access to up-to-date data on 98 PAs of Madagascar for stakeholder consumption for use in planning, research and education, targeting 100 data download requests served by the portal within a year of its launch.	Since the deployment of the public version of the portal, there have already been over 100 download requests for maps, documents and observation data that have already been served by the portal within the first two weeks. In the long term, we expect to far exceed the target that we set out with and the download requests will run into thousands. The downloaded data requests are logged and displayed on a download log page on the portal - https://protectedareas.mg/user/download-logs?offset=0
Establishing a virtual community of stakeholders on species documentation, serving as the online community of choice for interaction and discussion on aspects of species documentation, identification and inventorying within Madagascar's PAs, exceeding 500 registered users within the first year of launch.	After the public deployment of the portal in early December 2021, we have sent our email invites to hundreds of members within stakeholder communities. Over 130 users have signed up and registered for profiles on the portal. Registered users can upload observations and documents and download content. They can interact through comments and discussions on the portal content.

Impact Description	Impact Summary
Widespread and affordable digital access to PA information for tourists, researchers, managers and other stakeholders created through the ebook, expecting target sales of 200 copies within the first year and 50 copies per year thereafter.	The ebook has been generated and published online. It is now available internationally in the ebook stores of most major publishers including The University of Chicago Press, Amazon, Kobo, Barnes and Noble, among others. The book has been generating sales and as of 23 December, 2021 over 30 volumes have been sold.

Unexpected impacts (positive or negative)?
Due to the pandemic, we were not able to organize a physical meeting in Madagascar to release and demo the portal and travel plans had to be cancelled. We instead did this via an online meeting. The Vahatra team's visit to Bangalore was also not possible.
The organization of the PDF files required more effort than we had originally anticipated and we had to extend the time required for this to be completed.
Generation of eBooks from the print version of the book source files proved to be technically challenging to do within our in-house abilities. We had to make provisions to contract this part to a contractor with sufficient expertise to complete and deploy.

PROJECT RESULTS/DELIVERABLES

Overall results of the project:
We have successfully implemented the project as proposed. The Madagascar Protected portal has been developed, deployed and released for public access with curated data.
The portal has been developed with a Landscape module that contains descriptive information on the 98 terrestrial protected areas. The content for the PA pages has been curated and translated by Vahatra in Malagasy, English and French. Each PA page can also display the PA boundaries as a map, dynamically updating species lists and a bibliography list. An observation module supports the aggregation of occurrences. The lists of terrestrial vertebrates for each PA has been uploaded within the observation module as datatables, supporting the dynamic generation of species lists within the PA module. Roles have been developed for curators with the ability to validate observations submitted by users. Observation locations are now available as a map visualization based on their locations. This map has been made available within a Metrics view and as a layer in the map module.

A document module hosts over 9000 PDF files with extensive metadata. Vahatra has worked on collecting organizing and annotating metadata on these PDF files throughout this project. This is filterable and queriable. This module facilitates the creation of dynamic bibliography lists within the PA module for each PA. A map module supporting the hosting and download of GIS maps layers and allowing the ability to display and download map boundaries has been integrated. A taxonomy module to host the taxonomy structure of terrestrial vertebrates, a user module to support user registrations and roles, ability to query, comment and download data have all been integrated.
Corrected and revised ebooks of the print version of the three volumes of the protected areas book were completed and submitted for distribution and sale. The work has since been vetted, verified and published through The University of Chicago Press webstore and on all major ebook stores.

The portal was publicly released through a hybrid meeting in early December 2021 via an online demonstration by Strand to several members of the stakeholder community present at the Vahatra office in Antananarivo. To date, over 130 users have registered on the portal and over 100 download requests have been served.

Results for each deliverable:

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.1	Development team and environment setup.	We set up a development team within Strand composed of one senior developer, two junior developers and a project manager who spent 65% of their time on this project. The developers set up the development environment, and through discussions worked out the software of choice to implement proposed designs of the portal and proceeded with developing code for the portal infrastructure. In the second year, the development effort was cut down to one developer.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.2	Project tracking infrastructure and team meeting schedule setup.	We subscribed to a project management tracking software (Jira, Confluence) where all deliverables and activities have been listed out and the developers have been added as users. We recently transitioned into GitHub for tracking project progress. Team meetings were carried out as and when required and we have been in constant communication with the Vahatra team.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.3	Technology stack to be used for this project selected. A tentative design schema is developed.	After a detailed discussion and assessment of the state of the art in technology, we developed a tentative design schema for the website in general and for the PA module that was to be developed. The document has been shared with Vahatra feedback and also submitted to CEPF as part of the reporting. The design was also presented at the

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				stakeholder workshop on 26 February 2020. Development was carried out as per the plan. React JS was chosen for the frontend development with MapboxJS being used for the maps. The backend was mainly supported by Postgresql, feeding ElasticSearch indexes. We have used a microservices framework with the microservices using swagger APIs for internal communication and JAXRS java APIS for communication with the front end. Geoserver and PostGIS have been used for storing and serving maps.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.4	Basic framework of PA module deployed.	This has been completed and the framework for the PA module has been deployed with the fieldsbeing the titles of sections as provided in the book content.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.5	PA pages enhanced with PA boundary maps.	Each PA page, has the ability to call the map module and display a map layer of it’s boundary within the PA page. This map layer has also been made downloadable.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.6	PA pages made editable.	The PA pages are editable and all descriptive fields can be updated through the user interface. The role is restricted to the Admin users.
1.0	Creation of a web portal for collating and disseminating information	1.7	PA pages enhanced with dynamically updating bibliography lists.	The species lists of each PA has been uploaded as datatables within the observation module, with geographic coordinates on the location of each record. This metadata is

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
	on Madagascar's terrestrial protected areas.			queried using each PA boundary to dynamically compile alist of species within each PA page. This list will update itself as and when more species records are submitted for any PA through observation submissions.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.8	PA pages enhanced with dynamically updating species lists.	We have created a datatable upload functionality using which the lists for each of the 98 PAs contained within the book have been curated, formatted and uploaded as datatables. Each record within a list has been uploaded as an observation with the protected area as its location. Using these observations we have developed a feature to dynamically compile species lists for each protected area. These lists are now displayed within each landscape page and will dynamically update when new observations are available for a PA. Lists can be filtered by mammals, birds, amphibians or reptiles. The list can selectively display all records or only validated records. The ability to query the observation module with a set of filters including by PA has been developed.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.9	Support the use of multiple language on the portal.	The portal supports the ability for multiple languages. All portal key terms have been translated into English, French and Malagasy. Content within protected area description pages has also been translated into these languages. A language switch on the user interface allows the user to select the language based on his or her choice.

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.10	Map engine for spatial data support integrated into portal.	A map engine with the ability to host GIS data as spatial layers were integrated into the portal. This provided the portal with the ability to host a map layer with the boundaries of all 98 protected areas. The boundaries could be queried from within the map layer and extracted to mark locations while uploading documents, or for display purposes within the landscape pages. It also provided the ability to download these boundaries based on the official Malagasy government shape files. - https://protectedareas.mg/map
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.11	Visualization of observation data on maps.	The inventories of species from each of the 98 protected areas were uploaded as observations with the respected protected area marked as the location. This allowed the species distributions to be plotted on a map. We have integrated an algorithm that plots the density of species within a gridded map that can be overlayed on a background map of Madagascar. This map with all locations can be accessed from within the map module. It is also accessible per species, to depict the known distributions of the species within an observation page- https://protectedareas.mg/map
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.12	Basic version of User module available with support for user registration.	We integrated the ability for any member of the public to register for a user account on the portal using an email and a password. The registered user can create a profile and update it with information about him/herself

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				including a photo, location and further details on his/her profession /institution type - https://protectedareas.mg/user/list?sort=user.dateCreated&offset=0&max=12&userGroupList=
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.12	Curator/Validator roles available for users.	We have enhanced the roles available within the portal to administrators, observation curators and regular users. The administrator can edit all content, as well as enhance the taxonomy data. Observation curators can validate submitted observation records. Regular users can upload observations or documents, annotate participatory content or post comments on any content on the portal.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.13	Curator/Validator roles available for users.	We have enhanced the roles available within the portal to administrators, observation curators and regular users. The administrator can edit all content, as well as enhance the taxonomy data. Observation curators can validate submitted observation records. Regular users can upload observations or documents, annotate participatory content or post comments on any content on the portal.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.14	Ability to track and log all download of data by users.	We have incorporated the ability to track all downloads from the portal. This includes map layer download of all 98 protected areas as shapefiles, individual map boundaries of PAs as WKT, PNG or GeoJson files, observations as CSV files or document PDF files. The logged downloads are displayed on a download logs page which is accessible publicly -

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				https://protectedareas.mg/user/download-logs?offset=0.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.15	Basic version of document module available for users.	A basic version of the document module has been developed and deployed on the portal. Users can now upload a PDF file to create a document along with metadata on the document. The metadata can also be populated through a Bibtex file upload. The uploaded document will be displayed as a document show-page where the PDF will be visible within a gallery and the metadata displayed alongside. The PDF file will be downloadable for users. https://protectedareas.mg/document/show/298768
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.16	Support for spatial metadata annotation of documents.	We have incorporated support for spatial metadata annotation of documents during upload. The user can annotate the spatial coverage for a document by searching for one or more protected areas and marking the location. A geo entities module provides the locations of the 98 PAs as polygons for annotation. Optionally, the user may also retrieve point locations through Google or mark a custom polygon on a map. These spatial topologies are stored within a document’s spatial coverage table.
1.0	Creation of a web portal for collating and disseminating information	1.17	Document module enhanced with bulk upload capability .	We have added the capability to upload a set of documents provided as a curated excel format for bulk upload. This capability has been used to upload the data provided by

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	on Madagascar's terrestrial protected areas.			Vahatra with more than 9200 documents and their metadata. The document data uploaded on the document module is now queriable and filterable by the metadata. Documents can also be downloaded.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.18	Basic version of Observation module and observation upload available on the portal for public access and participation.	The observation module microservice has been integrated with the portal. This includes the backend infrastructure as well as user interfaces. It is now possible for a registered user to create an observation by uploading a photo, video or audio file with the date, location and species observed. As a dependency of the observation module, the taxonomy module microservice has also been integrated. This makes it possible to recognize the species names provided and aggregate observations under valid names. A species name list of terrestrial land vertebrates has also been curated and uploaded into this module. The taxonomy module has been integrated with the observation module allowing for autocomplete of scientific names and filtering of identified observations by taxonomic properties. Observations can be queried by PA, species, date observed, media type etc. The observations can be downloaded as a CSV file. We have also enhanced the observation module with the ability to support datatable uploads; and species lists from all the PAs have been uploaded as datatables

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
				that are independently browsable as tables but each record contributing to observations.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.19	Edit capabilities and detailed show pages for observations deployed.	Observations can now be uploaded and viewed on a detailed show-page. All observations can be edited by the owner, by clicking the edit button and using the edit page, permitting editing of media files, location, date and notes. Other components such as the identification and species group are editable as participatory components from the show-page.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.20	Query and search features made available in observation module.	The observation list page has been made queryable and filterable by the inclusion of several predefined filters, including for species group, taxon hierarchy, scientific name, taxonomic rank or status, location, time, data quality, user or media type. Multiple filters can be applied and the results are downloadable as a CSV file.https://protectedareas.mg/observation/list?max=8&offset=0&sort=created_on&userGroupList&view=list
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.21	Capability for validation of observations added.	We have enabled observation curator roles. Users who are allotted this role will be able to verify and validate observations.
1.0	Creation of a web portal for collating and disseminating information	1.22	Capability for bulk upload of observations added.	We have developed a feature to bulk upload observations through a spreadsheet. The uploaded set of observations is saved as a datatable along with metadata. Using this we

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	on Madagascar's terrestrial protected areas.			have uploaded observations as datatables for 96 protected areas that were provided by Vahatra. A datatable for each PA is viewable and can link to the observation list page, filtered by the PA for further querying and download. - https://protectedareas.mg/datatable/list?offset=0
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.23	ebook of 3 volumes of the print version of the book made available for distribution.	The generation of eBooks of the revised print version of the three-volume Madagascar protected areas book was completed and submitted to the publisher. The work has since been vetted, verified and published on The University of Chicago Press webstore (https://press.uchicago.edu/ucp/books/series/TPAM.html) and is now available in the stores of most online ebook providers.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.24	Copy of contract with UX/UI designer.	After consultation with CEPF we have utilized part of these funds towards the contract for generating ebooks. The remaining funds under this head were utilized to contract a designer to provide custom icons and a logo for the portal, both of which are deployed and available now.
1.0	Creation of a web portal for collating and disseminating information on Madagascar's terrestrial protected areas.	1.25	First cut version of the portal with complete features available for use.	The portal development has been completed with full functionality and it has been deployed on a cloud server with full public access. Over 100 users have registered on the portal and have begun to use the portal data.
1.0	Creation of a web portal for collating and	1.26	Feedback and bugs listed in project management	Feedback and bugs are constantly being worked on, listed in GitHub and being fixed as

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	disseminating information on Madagascar's terrestrial protected areas.		system, fixed and code optimized.	and when detected or reported. This will be an ongoing process in future too.
2.0	Subgrant to Vahatra for organizing portal data, translation and website theming services and organizing meetings.	2.1	Documented feedback from the stakeholders meeting.	Feedback collected from over 43 participants from the first stakeholder meeting held in Antananarivo has been documented and a report has been generated. A document summarising the meeting was submitted as a report. Feedback was incorporated into the future development of the portal.
2.0	Subgrant to Vahatra for organizing portal data, translation and website theming services and organizing meetings.	2.2	Translated content in Malagasy and French.	All content has been translated into Malagasy and French by Vahatra and handed over to Strand. Strand has worked on converting it into a bulk upload format and uploading it on the portal. This content is now available on the portal.
2.0	Subgrant to Vahatra for organizing portal data, translation and website theming services and organizing meetings.	2.3	PDF files organized by metadata categories for upload to portal.	This work has been completed by Vahatra and the PDF files with associated metadata was sent to Strand on an external drive through an international courier. It was further processed for upload and is now uploaded as 9222 documents complete with metadata and is available in the document module
2.0	Subgrant to Vahatra for organizing portal data, translation and website theming services and organizing meetings.	2.4	Copy of contract for hiring designer for UI design and themes	This has been cancelled and the funds for this have been utilized in translation.
2.0	Subgrant to Vahatra for organizing portal data, translation and website	2.5	Report on final stakeholder meeting and sustainability plan.	The final stakeholder meeting was held on 2 December 2021 as a hybrid meeting with several stakeholders present at the Vahatra

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	theming services and organizing meetings.			office in Antananarivo and others participating online via Zoom. Strand did a demo of the features and functionality of the portal. The report is uploaded with this report.
2.0	Subgrant to Vahatra for organizing portal data, translation and website theming services and organizing meetings.	2.6	An online listing of all known usage of data from the portal tabulated by type of data and usage	We have built in the ability for all downloads from the portal to be logged. All such entries are displayed on a download log page transparently. Since the demo and public release in early December 2021, there have been more than 85 download requests including map layers, documents and observations https://protectedareas.mg/user/download-logs?offset=0

Tools, products or methodologies that resulted from the project or contributed to the results:
The proposed website has aggregated detailed information on 98 terrestrial PAs in Madagascar with supplementary data on documents and species inventories listed within. It permits public participation in information gathering and dynamically aggregates data as participation increases. It makes available map layers on the PA boundaries as well as species distributions within it. It also aggregates and serves out PA related publications and unpublished reports as PDF files. The printed version of the PA book has been converted to ebooks format and made available for public use. To facilitate language usage, separate French and English ebooks of each of the three volumes were produced. All of this information will be of great value to a variety of stakeholders working to advance biodiversity conservation within the PAs of Madagascar, as well as national and international students, scientists, and ecotourists. Access to this information by different site managers, government departments and non-governmental organizations will enhance scientific capacity and facilitate data-substantiated planning and management that will promote better and more
sustainable conservation outcomes.

PORTFOLIO INDICATORS

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
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.				
2.5	At least five partnerships between civil society organizations and private sector companies or professional organizations lead to concrete actions benefitting biodiversity conservation.				
2.2	At least three platforms or dialogues positively engaging stakeholders from development agencies, government and			1	As a result of this project, we have developed a platform that will significantly contribute towards disseminating information on Malagasy plants and animals and influencing public decisions

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description
	local authorities and private sector, in place and delivering results for mainstreaming biodiversity in decision-making.				on biodiversity. The content on the portal will be extremely useful for stakeholders from the research, planning and conservation communities and there have already been a significant number of downloads of the data from the portal. The portal is also building a community of users within it who will contribute further data, participate in discussions and establish a network on biodiversity data.
2.5	At least five partnerships between civil society organizations and private sector companies or professional organizations lead to concrete actions benefitting biodiversity conservation.			0	

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

- **Cash Benefits:**

Number of Men – Cash Benefits	Number of Women – Cash Benefits	Description of Benefits

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**			

Characteristics of "Other" Communities:

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

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

This was our first experience working on a CEPF project outside India. Strand has been involved with building and running the Western Ghats Portal and India Biodiversity Portal and its strength have been in Technology development. While looking for possible collaborators in the region, we realised that we need to find a local partner in the Madagascar and Indian Ocean region who had a strong use case and requirement where the expertise of Strand in building a technology solution could be leveraged. For this we needed the local partner to be strong with the data and outreach components. We were fortunate to be put in touch with Association Vahatra, who had a specific requirement on creating a portal to serve information on the protected areas of Madagascar.

Initial online meetings were held to discuss the scope of the requirements and were able to find common ground and establish a partnership. This partnership has been crucial to the successful implementation of this project. This has been made possible as both teams have been able to implement components that have leveraged their expertise within the project. The technology and development have been handled by Strand, in consultation with Vahatra, while the data, its curation and translation and on the ground meetings etc have been anchored by Vahatra.

Another key lesson we learnt was to sufficiently pace the development activities to allow for implementation without undue haste. That we were able to scope out the timelines required in detail and work out the necessary implementation strategy allowed us to stick to schedules without major delays.

Having deployed the portal, we are now aware that it is only the start. With the basic infrastructure in place, the portal will now be needed to be publicized and adopted by a wider community. Additional effort and funding will be needed for campaigning, outreach etc. The portal can serve as a repository for scientific surveys and other kinds of data, including updating publications. Further, there need to be regular updates on the evolution of Madagascar's protected areas, which includes the creation of new sites, changes in the status of sites, as well as shifts in boundary demarcations. However, this will require adoption by relevant stakeholders and a team within Vahatra and other organizations to anchor curatorial efforts. Partnerships will need to be established within stakeholder groups in Madagascar, more protected areas need to be listed and information populated for them. We hope to find further funding to achieve these goals.

SUSTAINABILITY/REPLICATION

We have set up a portal on the protected areas of Madagascar and the portal has been seeded with data that includes over 9000 PDF files, species occurrence data and map information on 98 terrestrial PAs of Madagascar. The portal is expected to serve as a significantly useful source of data for stakeholders in the field of conservation, research and planning etc. The portal is also dynamic and has the ability for public participation and contribution of data. As participation increases, more data will be populated and it will increase the utility of the portal. On the participation side, it requires constant monitoring of incoming data and validation by moderators.

With many moving parts and sophisticated software technologies, the portal will need to be constantly monitored, bugs detected and fixed, upgraded with the latest security and feature patches etc. Sustaining a portal such as this is challenging and needs the continued support of both the curation and the tech team and resources to sustain these. Vahatra has committed funds from the sales of the ebook towards sustaining the upkeep of the portal.

We will also explore further funding possibilities to extend the capabilities and activities involving the portal so that it will remain sustainable in the long run.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS/STANDARDS

ADDITIONAL COMMENTS/RECOMMENDATIONS

We thank CEPF for the support it has extended towards implementing this project. It has been a relatively smooth experience working on the project and filing reports. Having completed this project successfully, we realize that there is a lot more to do in getting stakeholders to adopt the portal and in adding data to it. With sustainability being a challenge we hope CEPF will provide further funding opportunities to continue this work and take it forward in future.

ADDITIONAL FUNDING

Total Amount of Additional Funding Actually Secured (USD)	$360,000.00
Breakdown of Additional Funding	The associated program to produce and publication of the protected areas book was paid for by grants from the private sector (three different donor families in the USA) and the public sector (Biodiversity Conservation Madagascar, Conservatoire et Jardin Botanique de Genève, Critical Ecosystem Partnership Fund, Field Museum of Natural History, The Leona M. and Harry B. Helmsley Charitable Trust, Liz Claiborne and Art Ortenberg Foundation, MacArthur Foundation, and Nitidae Filières & Territoires. The total sum associated with this project was about $360,000.

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.

Strand Life Sciences; biodiv@indiabiodiversity.org