

## Darwin Initiative Main Project Annual Report

**Important note:** *To be completed with reference to the Reporting Guidance Notes for Project Leaders:  
it is expected that this report will be no more than 10 pages in length, excluding annexes*

**Submission Deadline: 30 April**

### Darwin Project Information

|                              |   |
|------------------------------|---|
| Project Reference            | 21-011  |
| Project Title                | Securing livelihoods and conserving marine biodiversity through rights-based fisheries management   |
| Host Country/ies             | Madagascar  |
| Contract Holder Institution  | Blue Ventures Conservation  |
| Partner institutions         | Direction Régionale de l'Environnement et des Forêts (now DREEF) Melaky; Direction Régionale des Ressources Halieutiques et de la Pêche (DRRHP) (formally DRPRH) Melaky |
| Darwin Grant Value           | £251,855  |
| Funder (DFID/Defra)          | DFID  |
| Start/end dates of project   | Apr 2014 – Mar 2017   |
| Reporting period             | Apr 2015 – Mar 2016, Annual Report 2  |
| Project Leader name          | Alasdair Harris   |
| Project website/blog/Twitter | <a href="http://www.blueventures.org">www.blueventures.org</a>  |
| Report author(s) and date    | Kevin Chambon, Frances Humber, April 2016   |

### 1. Project Rationale

The Barren Isles archipelago is among the last productive small-scale traditional fisheries on the west coast of Madagascar, and home to one of the largest intact coral reef ecosystems in the Mozambique Channel. Over 4,000 traditional fishers depend on its resources for their livelihoods, and hundreds more migrate from all over Madagascar to work around these islands, driven by the collapse of their local marine ecosystems. In Madagascar's current open access-fishing regime, these traditional fishers are forced to compete against longliners, trawlers, and other industrial boats that operate around the islands to harvest the pelagic fisheries. Furthermore, the Melaky region where the Barren Islands are located is extremely isolated, and Illegal, Unreported, and Unregulated (IUU) fishing is widespread. In participatory consultations conducted in 2009, fishing communities unanimously identified these external pressures as the single most important threat to their food security and livelihoods.

Without an existing legal mechanism to protect the rights of traditional fishers, pioneering a new model of a rights-based, community-managed Marine Protected Area (MPA) is a critically important method of empowering poor coastal communities to manage marine resources and improving fisheries sustainability. Transferring formal management rights to protect this ecosystem is fundamental to conserving biodiversity, strengthening food security, and ensuring community resilience.

The Barren Isles MPA forbids industrial fishing within its perimeters while protecting traditional fishing communities' right to work in the zone, creating a platform for fisheries management through an MPA management committee and reinforcing it with a Regional Fisheries Management Plan. Without an intervention to involve local communities in resource management and to restrict industrial and IUU fishing, the Barren Isles coral reefs risk facing the same degradation and overexploitation that has plagued the fisheries of the West coast of Madagascar.

## **2. Project Partnerships**

Despite some initial differences in priorities between some of the project partners, our relationships and partnerships are overall good and generally continue to strengthen. Our relationship and collaboration with the Ministry of Fisheries (MRHP) remains strong and they have been supportive in the development of the Regional Fisheries Management Plan (PAP). We have made special efforts to meet with the representatives of Regional Ministry of Fisheries (DRRHP) to ensure common objectives are outlined and understood, and to ensure they are involved in activities as much as possible. Our relationship with the Ministry of Environment (DREEF) is now stronger than ever, and they have provided support on issues with the mining company wishing to illegally extract guano. Our relationship with the Centre de Surveillance des Pêches (CSP) also remains strong, but with only one agent in the field and limited support from central CSP, they are unfortunately limited in the support they can provide on the ground to tackle illegal fishing activities.

## **3. Project Progress**

### **3.1 Progress in carrying out project activities**

**Output 1** (The proposed Barren Isles MPA, with a zoning plan which protects traditional fishing grounds, is gazetted as a protected area by the government of Madagascar)

In April 2015, a workshop with all MPA stakeholders focused on defining the optimal design for the MPA management committee (Activity 1.3 - Annex 1 - First page of attendance list). Through this event, the creation of a fisherman's association, its status and by-laws were agreed by the stakeholders. Following this, a series of community consultations took place aimed at validating management committee design, the association's status and bylaws, and electing community representatives (Activity 1.1 – Annex 2 Presence list of community consultations and example form filled at community consultations). At the end of June, an official workshop finalized the election and creation of the management committee of the association Vezo Miray Nosy Barren (creation legally registered on July 7<sup>th</sup>, 2015) (Activity 1.5 – Annex 3 Creation of the Vezo Miray).

By creating this association, the project reached an important milestone: having official representatives for fishing communities. A solid foundation of stakeholders has been built and information channels through the community representatives created.

Since September (Y2Q2), Vezo Miray Nosy Barren representatives (management and Dina committees, ~ 7 persons per fishing village) have been invited to participate in monthly two day events. At each event, the first day has focused on training with an external trainer, and the second day has been for committees to share news, discuss important issues and how to implement solutions (Activity 1.6 – Annex 4: Example training sessions attendance list and programme from October 2015). The training sessions currently focus on developing the skills of the representatives (e.g. law enforcement, marine ecology and resources management), as this management structure is a new concept for the majority of members. This has also been a

great opportunity to discuss the next steps required in order to reach definitive status for the MPA.

To compliment these training sessions and provide an insight into the diversity and management of MPAs, Vezo Miray representatives took part in two exchange visits during Y2, coordinated nationally by the MIHARI network, and aimed at developing relationships between Madagascar's LMMAAs. Vezo Miray representatives went to a regional forum from September 24-26, in Morondava with LMMA representatives from Melaky/Menabe regions only. Following this, they attended the National MIHARI Forum, from October 12-16, in Mananara with LMMA representatives from all over Madagascar (Activity 1.2 – Annex 5: Exchange visits reports). The regional fisheries management plan is now finalised and close to becoming official and Vezo Miray will undertake the development of its own zoning and management plan (Activity 1.3). A validation workshop for the final management plan is expected to be held by Y3Q2 (Activity 1.4).

**Output 2** (A fisheries management plan is developed and implemented by the fishing communities in collaboration with the regional fisheries authorities (DRRHP))

Discussions on the regional fisheries management plan have been ongoing since Y1, with both national and regional the fisheries ministries. An official regional workshop to launch activities took place on September 24th with strong representation from local/regional institutions but also central fisheries ministry and with the presence of the Minister himself (Activity 2.3. - Annex 6 Regional Workshop Attendance list).

Following this workshop, a survey was designed and community consultations were carried out by a trained team within 19 villages/fishing communities. From the survey results, the fisheries diagnostic was drafted by the consultant and validated through a second round of consultations with communities, which identified the priorities and main difficulties faced by regional fisheries (Activity 2.2 – Annex 7 Diagnostic report).

The consultant then drafted a first version of the regional fisheries management vision, and a plan focusing on 3 major objectives:

- Conservation of marine and coastal environments to improve resource resilience (*Préservation de l'environnement marin et côtier afin d'assurer la durabilité de la régénération des stocks de ressources halieutiques*)
- Develop sustainable marine resource exploitation to enhance living conditions of coastal and fishing communities (*Instauration d'une exploitation durable des ressources halieutiques pour améliorer le niveau de vie des communautés villageoises côtières, notamment des pêcheurs, de la Région*)
- Seeking fairer fisheries' wealth redistribution by improving the region's share of the national economy's profits from this region's fisheries. Melaky's fisheries represent an important share at a national scale but as many fishers from outside the region fish here, the region sees little financial return (*Répartition plus équitable des richesses créées par les pêcheries en améliorant la part de la Région par rapport aux intérêts de l'économie nationale*)

The draft was discussed and improved with local stakeholders, at a regional level in December (Activity 2.2 – Annex 8: Meeting report) and shared at a national level (workshop in February, Activity 2.2 – Annex 9: Meeting report), with input from the fisheries ministry and industrial fisheries representatives. It was also a great opportunity to discuss issues raised by traditional fishers and discuss solutions with industrial actors. A final version of the Melaky regional fisheries management plan was issued and officially approved by all stakeholders on March 23<sup>rd</sup> (Activity 2.3 – Annex 10a/b: MRHP's mail and PAP final version).

After discussions and in partnership with the fisheries ministry, it was decided that the fisheries management plan should be legalised and translated into a ministerial decree. While our consultant is currently drafting a first version of this legal text, two workshops are planned at national and regional levels during Y3Q1/Q2 in order to finalise this project before launching implementation activities (the steering committee has already been defined – Activity 2.4).

**Output 3** (A system of community-based monitoring, control and surveillance of illegal fishing activities in the Barren Isles MPA is developed with the local community and implemented in partnership with the CSP)

The fisherman's association, Vezo Miray, is comprised of two main committees: the management committee (two representatives per village) and the Dina (local law) committee (five representatives per village). Since Vezo Miray was created it has facilitated communication within the MPA, and in particular its management. Indeed, with these two committees under the same roof, and thanks to Vezo Miray's monthly training sessions, it has been easier to demonstrate and discuss with communities the links between and importance of management, monitoring (Output 4) and enforcement. Consequently, Dina follow-up notebooks have been introduced within each fishing village (August 2015 - Y2Q2) and it is now easier to determine the level of Illegal, Unregulated and Unreported (IUU) fishing within the MPA and to respond to it.\*

While community enforcement is still low, a broad understanding of inter-relationships and the importance of each committee, has helped to reinforce community involvement and buy-in for the project. In the long term, this will increase respect for management controls and enforcement of local Dina. Furthermore, now that the regional fisheries management plan is finalised and activities to define a zoning and management plan will start, it will be important to update the marine Dina, run awareness raising activities, retrain Dina representatives on enforcement and infraction management, and discuss the design of a community-based MCS (Monitoring, Control and Surveillance) program (Activity 3.1).

(\*) In December 2015, thanks to information collected and shared by Vezo Miray representatives with regional authorities, CSP and Blue Ventures were able to conduct an intervention mission targeting illegal sea cucumber scuba divers in the MPA, on Nosy Mboro, which will soon be a permanent reserve. While IUU activities persist, particularly scuba diving activities and conflicts between industrial fishing and traditional fishers, the reinforcement of Vezo Miray and the implementation of the regional fisheries management plan provide hope that stricter controls and law enforcement will take place in the MPA.

**Output 4** (Community-based monitoring of the key fisheries within the Barren Isles MPA is carried out, enabling reliable stock estimates and providing a basis for sustainable management and improvement of the fisheries).

Following an assessment by an external consultant (Y1Q4), the participatory fisheries monitoring was updated and has been ongoing in the fishing villages Ambalahonko and Ampasimandro. With monitoring time increased from two half-days to two full days, it has allowed them to monitor a wider range of fishing techniques.

In July, the fisheries monitoring programme was extended to four other sites so that participatory monitoring is now established within six villages (eight new monitors on three islands and one coastal village) (Activity 4.1 – Annex 12a/b: Sample of fin fish data and map). This extension provides information on new fisheries as coastal and island fishermen do not usually use the same fishing techniques. These data will be used to conduct broad stock assessments in Y3 (Activity 4.4).

Additionally, the pilot shark fisheries monitoring program runs from May to November (six fishermen based on three islands), allowing the same monitors to continue to develop their skills using smartphones (and the Open Data Kit application).

Based on feedback from the last season (2014/2015), the Turtle Nest Monitoring process was improved for the new season (December 2015 - May 2016 (Activity 4.2 - Annex 13 TNM Database screenshot) in the following ways:

- Instead of monitoring four islands, our four teams focused on three islands only on a rotation basis to allow continual monitoring. This has reduced the poaching instances to zero.
- A simpler, quicker smartphone form was developed.

- Monitors shared information on various MPA-related activities with residents in each village. To do so, they were trained on the links between the monitoring programs, the MPA and the communities managing the resources (Vezo Miray) to create further community buy-in for the project.

During Y2 staff have focussed on building capacity of the management association and reinforcing monitoring programs rather than feedback sessions. However, three promising feedback sessions were held during Y2Q4 (Activity 4.5 – Annex 15: Example report from of debrief meeting). These sessions were designed by a dissemination committee composed of community elders, the Vezo Miray (management and Dina representatives) and Finfish Monitors. This dissemination committee was involved in designing the feedback sessions, and each one of them has taken responsibility for presenting information to communities on one of the following topics and the interactions: the Vezo Miray, the Barren Isles MPA and the monitoring programmes. These dissemination sessions have encouraged significant participation from the communities and also allowed for an education session on flagship species (Activity 4.2 – Annex 16: Powerpoint presentation for Dugong education session). Furthermore, debriefing meetings were held to ensure feedback was collected, to better understand and enhance our communication with communities, and to encourage good practice in the next sessions. This method developed a feeling of pride in the people involved in the dissemination committee and should ensure positive outcomes from future sessions.

Discussions on habitat and related species are taking place with Vezo Miray representatives and a participatory zoning plan will be defined within the coming months and validated by Y3Q2 (Activity 4.3). Additionally, a first mission to map habitats and start discussions to establish a wider community-based monitoring program of key habitats will be held in Y3Q1.

A short-term fisheries biologist was recruited in Y2Q4 to undertake the development of the Barren Isles fisheries' profile (Annex 14a/b: Fisheries Biologist deliverables and contract). This analysis will focus on those specific species that are important to the local communities and should be released by Y3Q1. This study will form the basis for defining the requirements for, and developing the stock assessment of priority fisheries (Activity 4.4).

The MPA management plan is currently being developed and discussions on the management measures for fisheries are ongoing with stakeholders. The final management plan should to be validated by Y3Q2 and will benefit from the finfish monitoring results (Activity 4.6).

### 3.2 Progress towards project outputs

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| <p><b>Output 1:</b> The proposed Barren Isles MPA, with a zoning plan which protects traditional fishing grounds, is gazetted as a protected area by the government of Madagascar</p> |                                 |  | <p><b>Comments (if necessary)</b><br/>A detailed zoning plan, at a community level, is underway and should be finalized by Y3Q2. After its validation with all stakeholders (Indicator 1.1), we will be able to move forwards in obtaining definitive status for the MPA. We hope this will be possible by the end of the project but we may have to ask for an extension of our temporary status (2 more years) to secure it and should finish the definitive status paperwork in 2017.</p> |
|   | <p><b>Baseline</b></p>          | <p><b>Change recorded by 2016</b></p>  | <p><b>Source of evidence</b></p>   |
| <p><b>Indicator 1.1</b><br/>Stakeholder agreement on zoning plan for Barren Isles MPA by end Y1</p>   | <p>No zoning plan.</p>          | <p>Validated delineation of the protected area by traditional fishermen, industrial fishermen and government. Additionally, it has been agreed that the corridor between Maintirano and the MPA will be integrated into the final MPA delineation as a sustainable use area (Zone d'Utilité Durable) where industrial fishermen would be allowed to fish under specific rules which will be designed in consultation with traditional fishermen and fisheries authorities.</p> | <p>Annex 9: Meeting report from the validation workshop with MRHP/GAPCM.<br/><br/>The final validated zoning plan should be available by project end.</p>  |
| <p><b>Indicator 1.2</b><br/>Representation of all key stakeholder groups in management committee with &gt;90% attendance by nominated representatives</p>                             | <p>No management committee.</p> | <p>Management committee (Vezo Miray) now established.</p>  | <p>Annex 3: Creation of the Vezo Miray</p>   |
| <p><b>Indicator 1.3:</b><br/>80% of villages elected representatives to fishing association and management committee by Y3</p>  | <p>No fishing association.</p>  | <p>100% of MPA villages have elected management committee representatives.</p>   | <p>Annex 17: Sample list of elected representatives.</p>   |

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| <b>Output 2.</b>   | A fisheries management plan is developed and implemented by the fishing communities in collaboration with the regional fisheries authorities (DRRHP)   |   | Following agreements made with the fisheries ministry and regional entities, the development of the regional fisheries management plan started in Y2Q2.   |
| <b>Indicator 2.1:</b><br>Stakeholder consultations show approval for fisheries management plan by end Y1                                     | No fisheries management plan.  | Important stakeholders were involved during consultations and showed approval for the plan.   | Annex 6: Regional Workshop Attendance list  |
| <b>Indicator 2.2:</b><br>Key fisheries and habitats covering at least >80% of protected area envelope are included in management plan draft. | No clear management of fisheries and habitat before the start of the project.  | The BI MPA, including all its fisheries and habitats, are entirely covered by this regional plan and will also benefit from specific management actions defined by its communities through Vezo Miray, in partnership with authorities. It will act as a pilot project, on which feedback will help to define good practice, aiming at engaging other communities in the sustainable use of their marine resources. | Annex 10a: PAP final version - BI MPA section.  |
| <b>Indicator 2.3:</b><br>Fisheries management plan is approved in collaboration with DRRHP by Y2 and ratified by Y3                          | No fisheries management plan.  | The final and approved plan is currently being transcribed into a ministerial decree which is planned to become official and ratified by Y3Q2.  | Annex 10: PAP final version<br>Annex 18: Consultant's last set of deliverables  |
| <b>Output 3.</b>   | A system of community-based monitoring, control and surveillance of illegal fishing activities in the Barren Isles MPA is developed with the local community and implemented in partnership with the CSP |   | Now that the different entities are defined, (Vezo Miray and the regional fisheries management plan steering committee), the MPA management plan will be developed.<br><br>A concrete MCS program with a solid training program is planned to be defined and finalised set by Y3Q2. |
| 3.1. Number of community members trained in Dina enforcement for   | No existing Dina committee.  | Dina committee now exists. Some monthly training has already started and a concrete monitoring, control   | Annex 11: Homologation of Dina  |

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| infractions.   |   | and surveillance (MCS) program will be defined by Y3Q2.   |  |
| 3.2. Increase from 0 to 50% of Dina infractions followed up by community association.  | No existing Dina committee.   | Dina committee now exists. Dina empowerment and improvements in follow-up rates for infractions have been seen through the introduction of Dina notebooks within each community which have encouraged enhanced communication.                       | Annex 11: Homologation of Dina   |
| 3.3. ¾ participating communities filing monthly reports on industrial and fishing activity within the MPA limits by Y3.  | No existing MCS or Dina committee.  | Workbooks in place as first step towards this - in Y3, communities will summarise that information category (community issue, artisanal/industrial issue) into monthly reports  | NA   |
| 3.4. CSP effectively provides support/responds to reports of illegal fishing by community by Y3.   | No existing Dina committee.   | Dina follow-up and enhanced communication eventually resulted in an intervention mission led by DRRHP/CSP in December 2015.   | Annex 19: Intervention report.   |
| <b>Output 4.</b>   | Community-based monitoring of the key fisheries within the Barren Isles MPA is carried out, enabling reliable stock estimates and providing a basis for sustainable management and improvement of the fisheries |   |  |
| 4.1 Stock assessments of coral reef fisheries in all five participating villages show fisheries within the MPA are not overexploited and below maximum sustainable yield (MSY) | No monitoring program before.   | Monitoring programmes now in place in six villages. Data are gathered and are about to be analysed by a fisheries biologist recruited in Y2Q4. A first profile of the BI fisheries will be drafted identifying next steps towards stock assessment. | Annex 12a/b: Sample of fin fish data and map.<br><br>Annex 14a/b: Fisheries Biologist deliverables and Contract.<br><br>Annex 20:FFM Training report |
| 4.2 5 MPA communities involved in weekly participatory fisheries monitoring and contributing data to quarterly resource status dashboard                                       | No monitoring program before.   | See above (Indicator 4.1). Promising dissemination sessions, with involvement and participation of Vezo Miray committee representatives and monitors, have been held in two villages.   | Annex 15: Example report from debrief meeting.   |
| 4.3 Workshop on monitoring and stock assessment results held   | No monitoring program before.   | First profile of the BI fisheries has been drafted  | NA   |



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| with stakeholders by Y3  |   |  |    |
| 4.4. Fisheries management plan is updated annually to include findings and recommendations of stock assessments. | No fisheries management plan established. | The MPA management plan is currently being developed | NA |

### 3.3 Progress towards the project Outcome

Please report on progress made towards the project Outcome. Please make specific reference to the outcome indicators and provide evidence against them. Consider the following:

- Are the indicators adequate for measuring outcomes?
- Is the project likely to achieve the Outcome by end of funding? If not, what action will you take to ensure the situation can be improved?

The table below is suggested as a way of keeping your reporting clear and concise.

|   |  |   |   |
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| <b>Outcome:</b>   | The Barren Isles MPA empowers traditional fishers to secure and manage their fishing resources, leading to a decrease in overexploitation by industrial and itinerant fishing. |   | <b>Comments (if necessary)</b><br>We hope that traditional fishers will be empowered to manage their own resources by the end of the project and have already seen progress towards this. Hopefully this will lead to a decrease in overexploitation by industrial fishing but this may be difficult to measure during the lifespan of this project and the real impact may not be seen until existing industrial fishing licenses expire in 2020. We will continue our support for communities and to build relationships with the fisheries ministries and enforcement agencies to encourage them to enforce the MPA regulations. |
|   | <b>Baseline</b>  | <b>Change by 2016</b>   | <b>Source of evidence</b>   |
| <b>Indicator 0.1</b><br>Barren Isles MPA receives definitive protection status by Y2, including a boundary that protects traditional fishing grounds from industrial fishing. | No MPA.  | While work towards the definitive protection status continues in Y2 and will continue in Y3, this year's focus has been on the MPA management structure validation, the creation of Vezo Miray and the monthly training program. Through working on these aspects, the MPA reached an important milestone for the community. Indeed, with 7 people per village involved in the MPA management and the Dina enforcement, buy-in to the management of marine resources by traditional fishers has been boosted. With discussions about zoning and | Annex 3: Creation of the Vezo Miray.<br><br>Annex 9: Meeting report from the validation workshop with MRHP/GAPCM.<br><br>Annex 11: Homologation of the Dina<br><br>Annex 21: Decree of Barren Isles MPA protected   |

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|  |  | management plans, representatives are gaining more responsibilities and ownership over the MPA and marine resources management in general.   | status   |
| <p><b>Indicator 0.2</b><br/>50% decrease in the incidence of industrial fishing and illegal scuba diving for sea cucumbers within the MPA from Y1 to Y3.</p>   | <p>No MPA protecting traditional fishing grounds and no one to report IUU.</p> | <p>Industrial fishing vessels are no longer operating within the MPA and the corridor outside of the MPA has now been delineated as a sustainable use area. However, illegal scuba diver crews are still present and active.</p> <p>Active follow-up of IUU by committee representatives within the MPA, resulted in a successful intervention mission late December, when some equipment was seized and a clear message was sent to users of the the MPA. Banning sea cucumber diving seems to rely mostly on governmental entities' will and means to enforce national law and act against IUU.</p> <p>The MCS programme, even though not clearly defined yet, is progressing well and has empowered the fishers involved.</p> | <p>Annex 9: Meeting report from the validation workshop with MRHP/GAPCM.</p> <p>Annex 19: Intervention mission report.</p> |
| <p><b>Indicator 0.3</b><br/>Stock assessments of coral reef fisheries in all five participating villages show fisheries within the MPA are not overexploited and below maximum sustainable yield (MSY)</p> | <p>No monitoring system established.</p>                                       | <p>Extension and reinforcement of ecological monitoring activities, with broader understanding of their importance for marine resources management by communities, should pave the way to solid stock assessment and fisheries management.</p> <p>These data will be used in the fisheries analysis profile.</p>   | <p>Annex 12a/b: Sample of fin fish data and map</p> <p>Annex 14a/b: Fisheries Biologist deliverables and contract</p>      |

### 3.4 Monitoring of assumptions

**Assumption 1:** Through using the formal process to gazette the MPA, local fishers are able to negotiate a MPA boundary that protects their fishing grounds against industrial fishing

**Comments:** Although this assumption remains true on the whole, the corridor in front of Maintirano which remains outside of the protected area is still a source of conflict, and infractions by industrial fishers do occur in other areas of the MPA.

This assumption should be true (except for the corridor) from 2020 when industrial fishing licences will perish. Now, even with MPA protection status, industrial fishers that obtained a licence before the MPA was established are allowed to fish inside until their licences perish.

**Assumption 2:** With the support of CSP (the Malagasy government agency for the enforcement of fishing laws) the community is able to enforce an industrial fishing ban within the MPA and decrease illegal scuba diving for sea cucumbers

**Comments:** Political issues, problems with corruption and limited CSP staff on the ground mean that this assumption is somewhat complicated. Recent actions of the CSP, which resulted in gear being confiscated from illegal sea cucumber divers, seemed to be a positive step towards achieving this. However, these actions are not always as transparent as they seem and there are often behind the scenes deals take place.

**Assumption 3:** Local fishing stakeholders are able to agree on an effective fisheries management plan

**Comments:** This remains true as evidenced by stakeholders showing approval of the fisheries management plan.

**Assumption 4:** Catch data collected are sufficient to assess the sustainability of key fisheries using Parfish and other tools for data-deficient fisheries stock assessments

**Comments:** The best data deficient tools for stock assessment are currently being assessed. It will become clearer whether the catch data that are collected are sufficient when more data are available and the reports that are currently in progress are finalised.

### **3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation**

This project aims to empower 4,000 traditional fishers to manage the formal rights over their fishing grounds and to provide food security, whilst providing protection for important and richly biodiverse habitats. With the new protected area status achieved in Y1, the creation of the management committee and the Vezo Miray (Y2), local communities and fishers now have a formal say in the management of local marine resources and have been empowered to take ownership and action to protect their resources (Annex 3: Creation of the Vezo Miray; Annex 19: Intervention report;).

A strong management plan (Annex 10a) should also improve biodiversity of the marine resources through protection of key habitats and species. Discussion around important habitats and species have already begun and the zoning plans will be finalised in Y3. The community based illegal fisheries monitoring system (MCS) will be implemented in Y3 which should help provide further protection and enforcement of management for the MPA and help ensure food security and wellbeing.

## **4. Contribution to SDGs**

This project directly address SDG 14 - to conserve and sustainably use the oceans, seas and marine resources for sustainable development. The creation of the MPA and the communities direct involvement and management of the MPA, and its resources, are an important milestone towards the overarching aims of the conservation of, and sustainable resource use in, the Barren Isles Archipelago. In particular, we are addressing the following: to end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices.

In 2016 significant achievements and milestones have been reached which contribute to this SDG, including: the development of the fisheries management plan, successfully renegotiation of the use of a corridor outside the MP (which has now been delineated as a sustainable use area, supporting the community to create an MCS programme to monitor and report illegal fishing activity), and by continuing to build relationships with the regional fisheries ministries and enforcement agencies to support the communities in their efforts to protect the MPA.

## **5. Project support to the Conventions, Treaties or Agreements**

The project's outcomes are contributing to all three main objectives of the CBD, in particular Articles 6, 8, 10 and 11. By establishing the largest MPA in Madagascar (and the largest community-managed MPA in the Indian Ocean), protecting critical marine ecosystems, including some of the largest and healthiest coral reefs and associated habitats in the Mozambique Channel region, the project will make the largest contribution of any protected area in Madagascar towards CBD Aichi target 11; to protect at least 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, by 2020. This goal was reiterated by the President of Madagascar in his Sydney Promise in November 2014, when he announced his intention to triple Madagascar's marine protected area coverage by 2020.

The project also contributes to the Bonn Convention objectives of the CMS through its turtle nest-monitoring component, in which community-based monitors track and protect marine turtle nests on the Barren Isles. These nests are highly susceptible to poaching by local fishers, and the project has had a demonstrable success in protecting these nests, particularly this year as the new rotation system has reduced poaching instances.

The project is supporting CITES by reducing illegal fishing of sea cucumbers, which are listed on the 2014 CITES appendix of species susceptible to overexploitation. The communities of the Barren Isles MPA included restrictions on scuba diving for sea cucumbers in their community-based dina law. The practice is widely recognized as unsustainable and it is illegal in national laws. The MCS programme will be a means of providing proof of illegal scuba diving for sea cucumbers, which has already resulted in an intervention mission in December 2015, by BV and the CSP. Eventually we hope that the practice will cease and illegal exports of these creatures to China will be reduced. CITES is supported through the community-led monitoring of marine turtle nesting, which has seen poaching reduced on islands where monitors are based (Humber et al. 2016).

## **6. Project support to poverty alleviation**

The Barren Isles archipelago is one of the last productive small-scale traditional fisheries on the west coast of Madagascar, and home to one of the largest intact coral reef ecosystems in the Mozambique Channel. Over 4,000 traditional fishers depend on its resources for their livelihoods, and hundreds more migrate from the Southern regions of Menabe and Atsimo-Andrefana to work around these islands, driven by the collapse of their local marine ecosystems. In Madagascar's current open access-fishing regime, these traditional fishers are forced to compete against longliners, trawlers, and other industrial boats that operate around the islands to harvest the pelagic fisheries. Furthermore, the Melaky region where the Barren Islands are located is extremely isolated, and Illegal, Unreported, and Unregulated (IUU) fishing is widespread. In participatory consultations conducted in 2009, fishing communities unanimously identified these external pressures as the single most important threat to their food security and livelihoods.

Without an existing legal mechanism to protect the rights of traditional fishers, pioneering a new model of a rights-based, community-managed MPA is a critically important method of empowering poor coastal communities to manage marine resources and improving fisheries sustainability. Transferring formal management rights to protect this ecosystem is fundamental to conserving biodiversity, strengthening food security, and ensuring community resilience.

By putting in place management measures such as the MPA, and community management and enforcement committees such as the Vezo Miray and the MCS team, to ensure the conservation of biodiversity and sustainable management of fish stocks, traditional fishers will be able to continue to practice their customary trade and participate in decision-making regarding their occupation. Now that the fishers have elected an MPA management committee and the Vezo Miray has been established, local communities have a platform where fishers can

work directly with government authorities and communities have been empowered to take ownership over their own resources.

In Y2 work has continued with a fisheries consultant to produce a fisheries diagnostic and in turn a regional fisheries plan, in consultation with communities (Annex 7). This fisheries management plan is currently being legalised and will aim to improve fishers and in the long-term alleviate poverty by: conserving marine and coastal environments to improve resource resilience; developing sustainable marine resource exploitation to enhance living conditions of coastal and fishing communities, and ensure a fairer wealth redistribution by improving the region's share of the national economy's profits from the region's fisheries.

## **7. Project support to Gender equity issues**

Women fishers have traditionally taken a supporting role to male fishers and in Maintirano, they are principally responsible for sorting their husbands' catches. However, women also make up the vast majority of fish collectors on the beach and in town. Their knowledge of fish markets is important for management decisions, and women are an important asset for fisheries enforcement, as they witness most fishing activities while their husbands are out. By including them in local management and Dina committees, which are comprised of 85 Representatives (69 men and 16 women), women are actively involved in fisheries management enforcement.

There are no direct gender equality activities in this project, but equity is being addressed directly by the team through other BV projects in the Barren Isles. Blue Ventures is collaborating with PSI & JSI/MAHEFA in order to integrate community-based family planning and other health services with local fisheries management initiatives. JSI/MAHEFA has trained community health agents, PSI provides the health products, and Blue Ventures supports the community health agents and local environmental initiatives, while facilitating integrated community outreach addressing PHE (Population, Health and Environment) topics. This project has given women access to reproductive health care and allows them to choose if, and when, they have children. This not only contributes to gender equality by giving women the choice and control over their reproductive health, but as women are healthier and start to choose to have smaller families they have more opportunities to engage in natural resource management, including ecological monitoring activities, which is already done by a female majority.

## **8. Monitoring and evaluation**

A major socio-economic census survey was undertaken in October 2014, designed to provide the baseline information about fishers' perceptions of marine resources, fishing techniques, knowledge of fisheries management, the general economic situation, and inter and intra-village social cohesion. A representative sample of fishers was surveyed in four coastal villages and on four islands. Some initial analyses of the socio-economic data have been made and have been used to develop and adapt the projects and community engagement projects. Further analyses are being completed and will form part of the fisheries analysis profile providing the social and economic context of the fisheries being assessed.

The recommendations from the fisheries analysis profile will be important in guiding the future priorities of the project and are important for the Fisheries Management Plan (Output 2), as presenting this information in early community consultations (Activity 2.2) will allow communities to understand the state of fishing, the generally perceived threats, as well as knowledge of existing laws about natural resource management. Using this information, communities will be able to participate meaningfully in a discussion of the current state of fisheries.

In addition to socio-economic monitoring, community monitors continue to collect data on fish landings and turtle nesting. These data are analysed and disseminated back to communities in quarterly outreach sessions (Activity 4.4). These data will complement the qualitative data collected from communities to help inform resource management decisions, and will be useful as discussions about the fisheries management plan and participatory zoning plan continue with the community.

Additionally, the fish landings and ecological data will be used for stock assessments for certain key fisheries, which is the primary input for Output 3. These stock assessments will allow us to identify Maximum Sustainable Yield (MSY). BV is currently working on profiling key fisheries and identifying which of the data deficient methods available would be appropriate for making estimates of the stock(s) being targeted by fishers. The profile documents will aid in the development of discussions around management for key species, but will also highlight knowledge gaps for these species, and suggestions for further management where appropriate.

## **9. Lessons learnt**

Aspects that worked well this year include:

- Using Vezo Miray representatives to help run dissemination sessions with communities was very successful and was a good way to give them greater ownership and authority for the MPA governance and management, and has given them a better understanding of their role in the long-term.
- Encouraging Vezo Miray and communities to sign a letter to oppose GuanoMad project helped them realise that when united they have power against powerful entities!
- 
- Reducing poaching by using four turtle monitoring teams to monitor 3 islands on a rotation basis
- Creating the opportunity to re-discuss the final delimitation of the MPA, which was made possible thanks to the development of the PAP (regional fisheries plan).
- Launching the health programme activities went well. This will not only start to address gender equity issues and provide an integrated PHE approach to resource management but it also provided a tangible benefit to communities from our work and helped us to deliver more messages regarding the MPA and its benefits.

The following activities did not work so well this year but have provided valuable lessons for the future of the project:

- An intervention mission with many different institutions involved. The illegal fishers had left by the time the intervention party arrived but we know they left during the night. Consequently, we learnt not to involve many stakeholders while planning an intervention due to an increased risk of information leaks. It is also important to plan these activities with tides, set a precise time and stick to it (leave if people are late).
- Law enforcement against sea cucumbers diver activities is poor, and despite managing to seize some equipment, political pressure forced the CSP to return it.

Other important lessons we learnt this year:

- Unfortunately diplomacy has its limits in this context. We have learnt that it is better to talk straight in a polite way, in order to make things move forwards.
- Do participate in discussions with communities. Even though translation can be time-consuming, communities seem to be willing to have us participate in discussions. Furthermore, they seem to think that you are hiding something if you remain silent, and can lead to misunderstandings and misinformation.

## **10. Actions taken in response to previous reviews (if applicable)**

The last feedback we received was from the Y1 end of year report and all issues were addressed in the Y2 half year report.

## **11. Other comments on progress not covered elsewhere**

In August 2015, SMEB/GuanoMad came back to the islands, using a perished collection license to collect 20+ tons of phosphorites on Nosy Andrano. Thanks to rapid communication from Vezo Miray and fishers communities, BV and regional authorities set an intervention

mission, investigated and built-up a legal case to be instructed by justice entities. While this case is pending, SMEB/Guanomad is making moves to gain an environmental permit to exploit phosphorites in the Barren Isles again, and have the go-ahead to carry out an Environmental Impact Assessment (EIA) on four islands.

The extraction of the guano will threaten surrounding reefs and fishers relying on them. MPA fishers, with the help of Vezo Miray, have been writing and signing a global letter of complaint to the Office National de l'Environnement (ONE) – who are in charge of assessing EIA and granting environmental permits allowing resources' exploitation.

Despite the evidence that key stakeholders oppose the project, the SMEB/GuanoMad Director is a powerful person with influence over key political players. This is why, in December 2015, in spite of the letter from the communities, the Chef de Region received a call from the Prime Minister requesting him to get a counter-letter to ease SMEB/GuanoMad's EIA process.

Since then, we have not heard any news regarding this EIA but this process and the political ties mean it remains an important risk for both natural resources, the communities relying on them, and hence our project.

As you will see in Annex 19: Intervention Report, MPA stakeholders, with the help of the Centre de Surveillance des Peches (CSP) were able to run an intervention mission late December. While this mission was a success, catching illegal sea cucumber divers in “flagrant deli” and seizing IUU equipment, the trend of this IUU activity seems to be growing despite the MPA protection status.

The illegal exploitation/collection of these products is driven by the Asian market demand. They are well organized and usually involve important political ties. The surrounding politics and the significant amounts of money involved make law enforcement difficult.

To illustrate this previous statement, the CSP representative that seized the equipment explained to a close source that he confiscated the equipment because of pressure from MPA stakeholders but that his action could cost him his job and/or cause significant threats to his family as most of his bosses are involved in the business. Finally, we heard that he was forced to give (or perhaps sell) the equipment back to the local boss.

These IUU activities, and the fact that law enforcement is extremely difficult, even by responsible government entities, sends a very dangerous message to MPA community members. Indeed, communities want the MPA to be a tool to secure their fishing grounds and implement sustainable exploitation of their resources. In this context, fishers are agreeing to implement management measures that push them to change their fishing habits. If the governmental entities fail in enforcing the law and supporting the MPA (despite our support), it won't take long for fishers to feel that they are the only people making sacrifices to provide better fishing grounds to IUU operators supported by government, and the system will be undermined.

## **12. Sustainability and legacy**

The sustainability of this project is strongly tied to the participatory approach to managing the Barren Isles MPA. This project prioritises participative and low-cost approaches to marine management that will provide coastal communities with a feasible way forward for halting the collapse in critical fisheries.

By integrating local fishing communities and regional authorities into the MPA, and regional, management, and ensuring lessons learned are transmitted through fisher-fisher education and build on the exchanges within the nascent network of Madagascar's Locally Managed Marine Areas (LMMAs), the project will cultivate a tradition of environmental stewardship and fisheries management for fishing communities living and working around the Barren Islands.

The local fishing communities' sense of ownership over the MPA has proven to be strong, demonstrated by the ratification of their marine 'Dina', or community-based law recognized in regional courts, regulating exploitation in the Barren Isles and the newly created Vezo Miray committee to manage the MPA.

In Y2 communities have worked together to report IUU and put together a letter to oppose the illegal mining activities, further illustrating that community buy-in and support are strong and should continue beyond the life of the project.

At the regional level, the Barren Isles MPA is a source of pride, as it is perceived as a means of attracting tourism to an isolated and often overlooked region of Madagascar. By carefully building on this momentum, community participation and regional institutional support will ensure that the Barren Isles MPA functions well beyond the lifetime of the project.

Finally, the regional fisheries management plan, of which the Barren Isles MPA is key part, should be ratified by the Ministry in a decree. This should help to enshrine the idea that long-term sustainable fisheries is a key objective in this region, and one that the Ministry is bound to support.

### 13. Darwin Identity

This project has always referenced the Darwin Initiative when publicising major project accomplishments. The Darwin Initiative was mentioned in a press release on the MPA creation in Y1. The logo has been displayed on factsheets detailing the profile of the Barren Isles habitats and communities, the final fisheries management plan and on the Vezo Miray calendar in Y2.

On social media, Blue Ventures regularly tweets updates on the status of the Barren Isles project and includes the Darwin twitter handle, showcasing the project's day-to-day work and the island's incredible biodiversity. The Blue Ventures' twitter account has over 4,270 followers, and is a primary communication tool with the public.

Additionally the Darwin goals have been discussed with project partners DREEF and DRRHP, specifically at a workshop in Y1.

### 14. Project Expenditure

**Table 1 Project expenditure during the reporting period (1 April 2015 – 31 March 2016)**

| <b>Project spend (indicative) since last annual report</b> | <b>2015/16 Grant (£)</b> | <b>2015/16 Total Darwin Costs (£)</b> | <b>Variance %</b> | <b>Comments (please explain significant variances)</b> |
|--|--------------------------|---------------------------------------|-------------------|--|
| Staff costs (see below)                                    |                          |                                       | 1.6               | NA   |
| Consultancy costs  |                          |                                       | -8.6              | NA   |
| Overhead Costs   |                          |                                       | -13.9             | Office costs in Maintirano less than estimated         |
| Travel and subsistence                                     |                          |                                       | 3.3               | NA   |
| Operating Costs  |                          |                                       | 9.6               | NA   |
| Capital items (see below)                                  |                          |                                       | 0.2               | NA   |
| Others (see below)   | 0                        | 0                                     | 0                 | NA   |
| Totals   |                          |                                       |                   |  |



## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2015-2016

| Project summary  | Measurable Indicators   | Progress and Achievements   | Actions required/planned for next period   |
|--|---|---|--|
| <p><b>Impact</b></p> <p>Community-managed MPAs form a strong foundation for the broad scale establishment of rights-based fisheries management for small-scale fishers in Madagascar, protecting the fishing resources and livelihoods of small-scale fishers.</p> |   | <ul style="list-style-type: none"> <li>- Creation of Vezo Miray, community MCS and expansion of monitoring programme has increased community buy-in.</li> <li>- Corridor has been renegotiated to become a sustainable use area.</li> </ul>   |  |
| <p><b>Outcome</b></p> <p>The Barren Isles MPA empowers traditional fishers to secure and manage their fishing resources, leading to a decrease in overexploitation by industrial and itinerant fishing.</p>  | <ol style="list-style-type: none"> <li>1. Barren Isles MPA receives definitive protection status by Y2, including a boundary that protects traditional fishing grounds from industrial fishing.</li> <li>2. 50% decrease in the incidence of industrial fishing and illegal scuba diving for sea cucumbers within the MPA from Y1 to Y3</li> <li>3. Stock assessments of coral reef fisheries in all five participating villages show fisheries within the MPA are not overexploited and below maximum sustainable yield (MSY)</li> </ol> | <ul style="list-style-type: none"> <li>- Significant milestones reached with the validation of its management structure (Annex 1), the creation of Vezo Miray (Annex 3) and its monthly training program.</li> <li>- Buy-in to resource management by traditional fishers has been boosted. With discussions about zoning and the management plan, representatives are gaining more responsibilities and legitimacy over the MPA, and marine resource management in general.</li> <li>- Active follow-up of IUU by committee representatives within the MPA, resulted in a successful intervention mission (Annex 19).</li> <li>- Development of the regional fisheries management plan has had a positive impact by putting the fishers' association at the center of local management of their resources through implementation of fishing licences (Annex 10). Furthermore, its development involved industrial fishers' consultation and resulted into the integration of a problematic corridor into the MPA final delineation as a sustainable use area (Zone d'Utilité Durable) (Annex 10).</li> <li>- Extension and reinforcement of the ecological monitoring activities, with broader understanding of</li> </ul> | <ul style="list-style-type: none"> <li>- Move forward with MPA management plan</li> <li>- Reinforce MCS, and IUU reporting to responsible governmental entities</li> <li>- Set baselines towards stock assessment based on BI fisheries profile report made by consultant</li> </ul> <p>Finalising documents required for definitive MPA status at the government level.</p> <p>Implementation of the regional fisheries management plan, including fishing licenses. This fishing licence system, developed in partnership with the Ministry of Fisheries, should help communities to secure their resources and managing itinerant fishing pressure.</p> |

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|  |  | their importance for marine resources management by communities, is paving the way for a solid stock assessment and fisheries management.   |  |
| <b>Output 1.</b> The proposed Barren Isles MPA, with a zoning plan which protects traditional fishing grounds, is gazetted as a protected area by the government of Madagascar | <ol style="list-style-type: none"> <li>1. Stakeholder agreement on zoning plan for Barren Isles MPA by end Y1</li> <li>2. Representation of all key stakeholders groups in management committee with &gt;90% attendance by nominated representatives</li> <li>3. 80% of villages elected representatives to fishing association and management committee by Y3.</li> </ol> | <ul style="list-style-type: none"> <li>- The corridor between Maintirano and the MPA will be integrated into the final MPA's delineation, as a sustainable use area (Zone d'Utilité Durable) where industrial fishers would be allowed to fish under specific rules to be designed in consultation with traditional fishermen and fisheries authorities (Annex 10).</li> <li>- Vezo Miray management committee elected (Annex 3).</li> <li>- 100% of MPA villages have elected management committee representatives (Annex 17).</li> <li>- A detailed zoning plan should be finalized by Y3Q2.</li> </ul> |  |
| Activity 1.1<br>Consultation of local and migrant fishing communities for management plan development  |  | <ul style="list-style-type: none"> <li>- This is an ongoing activity and one of the core values of our project.</li> <li>- Communities are systematically consulted on every aspect of the project in order to develop shared understanding, vision and synergies for implementation.</li> </ul>  |  |
| Activity 1.2<br>Community exchange visit (build fishing community support for management)  |  | <ul style="list-style-type: none"> <li>- Vezo Miray representatives took part in two exchange visits (Annex 5).</li> <li>- Two MIHARI workshops to complement these: Vezo Miray representatives went to a regional forum in Morondava and the National MIHARI Forum, with LMMA representatives from all over Madagascar (Annex 5)</li> <li>- Another MIHARI forum should be organized during Year 3 and an exchange visit focusing on MCS activities may be organised during Y3Q3.</li> </ul>   |  |
| Activity 1.3<br>Workshop with all MPA stakeholders to determine management plan, zoning and management association   |  | <ul style="list-style-type: none"> <li>- A workshop with all MPA stakeholders was held and focused on defining the optimal design for the MPA management committee. Through this event, the creation of a fishermen association, its status and bylaws were agreed among the stakeholders (Annex 3).</li> <li>- Now that the regional fisheries management plan is finalized, Vezo Miray will undertake the development of its own zoning and management plan for the MPA specifically.</li> </ul>  |  |
| Activity 1.4<br>Follow-up community consultations and final management plan validation workshop  |  | A validation workshop with the final management plan is expected to be held by Y3Q2.  |  |
| Activity 1.5<br>Creation of MPA management committee   |  | At the end of June, an official workshop was held which finalised the election and creation of the management committee of the association Vezo Miray Nosy Barren (creation legally registered on July 7th, 2015) (Annex 3).  |  |

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| <p>Activity 1.6</p> <p>Training and work planning sessions with newly formed MPA management committee</p>   | <ul style="list-style-type: none"> <li>- The project reached an important milestone: official representation for fishing communities (Vezo Miray).</li> <li>- Vezo Miray Nosy Barren representatives (management and Dina committees) were invited to participate in a two-day event that is held monthly. One day focuses on training with an external trainer, the second day has been designed to allow for the committees to share news, discuss important issues and seek plans to implement solutions (Annex 4).</li> <li>-This training program will be ongoing during Year 3, based on fisher availability.</li> </ul>  |   |   |
| <p>Activity 1.7</p> <p>Assessment of legal mechanisms to secure fishing rights for communities and enable rights-based management, lessons learned and policy recommendations</p>   | <p>Completed in Y1</p>  |   |   |
| <p><b>Output 2.</b> A fisheries management plan is developed and implemented by the fishing communities in collaboration with the regional fisheries authorities (DRRHP)</p>  | <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 20%;"> <ol style="list-style-type: none"> <li>1. Stakeholder consultations show approval for fisheries management plan by end Y1</li> <li>2. Key fisheries and habitats covering at least &gt;80% of protected area envelope are included in management plan draft</li> <li>3. Fisheries management plan is approved in collaboration with DRRHP by Y2 and ratified by Y3</li> </ol> </td> <td style="vertical-align: top; padding-left: 20px;"> <ul style="list-style-type: none"> <li>- Following agreement with fisheries ministries and regional entities, the development of the regional fisheries management plan started in Y2Q2.</li> <li>- Important stakeholders were involved during consultations and showed broad approval for the plan and its implementation in the coming months.</li> <li>- Furthermore, the BI MPA, including all its fisheries and habitats, are entirely covered by this regional plan and will benefit from specific management as defined by its communities (Annex 21).</li> <li>- The BI MPA will also act as a pilot project within the regional management plan, to help define best practice, aiming at engaging other communities in the sustainable use of their marine resources.</li> <li>- The final approved plan is currently being transcribed into a ministerial decree which is planned to be ratified by Y3Q2.</li> </ul> </td> </tr> </table> | <ol style="list-style-type: none"> <li>1. Stakeholder consultations show approval for fisheries management plan by end Y1</li> <li>2. Key fisheries and habitats covering at least &gt;80% of protected area envelope are included in management plan draft</li> <li>3. Fisheries management plan is approved in collaboration with DRRHP by Y2 and ratified by Y3</li> </ol> | <ul style="list-style-type: none"> <li>- Following agreement with fisheries ministries and regional entities, the development of the regional fisheries management plan started in Y2Q2.</li> <li>- Important stakeholders were involved during consultations and showed broad approval for the plan and its implementation in the coming months.</li> <li>- Furthermore, the BI MPA, including all its fisheries and habitats, are entirely covered by this regional plan and will benefit from specific management as defined by its communities (Annex 21).</li> <li>- The BI MPA will also act as a pilot project within the regional management plan, to help define best practice, aiming at engaging other communities in the sustainable use of their marine resources.</li> <li>- The final approved plan is currently being transcribed into a ministerial decree which is planned to be ratified by Y3Q2.</li> </ul> |
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| <p>Activity 2.1.</p> <p>Consult with Ministry of Fisheries at national and regional levels to develop fisheries management plan terms of reference</p>  | <p>Completed in Year 1 – Consultant’s final deliverables (Annex 18)</p>   |   |   |
| <p>Activity 2.2.</p> <p>Conduct stakeholder consultations</p>   | <ul style="list-style-type: none"> <li>- Since the beginning of this activity, discussions on the regional fisheries management plan have been ongoing with fisheries ministries at both national and regional levels.</li> <li>- An official workshop launched these activities in September at a regional scale with strong representation from local/regional institutions but also central fisheries ministries, and with the presence of the Minister of Fisheries himself (Annex 6).</li> <li>- Community consultations were conducted by a trained team within 19 villages/fishing communities.</li> </ul>   |   |   |

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|   |  | <ul style="list-style-type: none"> <li>- From the surveys results, the consultant drafted the fisheries diagnostic which was validated through a second round of consultations. This diagnostic allowed the consultant to identify priorities and the main difficulties faced by regional fisheries.</li> </ul>   |
| Activity 2.3<br>Hold validation workshops   |  | <ul style="list-style-type: none"> <li>- A first draft version of the regional fisheries management vision and plan focusing on three major objectives was drafted by the consultant following these consultations.</li> <li>- After discussion and feedback the document, a final version of the Melaky regional fisheries management plan was issued and officially approved by all stakeholders on March 23rd 2016 (Annex 10).</li> </ul>  |
| Activity 2.4<br>Develop implementation plan with DRRHP and Barren Isles MPA management committee  |  | <ul style="list-style-type: none"> <li>- After discussions and in partnership with the fisheries ministry, it was decided that the plan should be officially legalised through its translation into a ministerial decree.</li> <li>- While our consultant is currently drafting a first version of this legal text, 2 workshops are planned to be held at national and regional levels during Y3Q1/Q2 in order to finalise this project and before launching implementation activities.</li> </ul>  |
| <b>Output 3.</b> A system of community-based monitoring, control and surveillance of illegal fishing activities in the Barren Isles MPA is developed with the local community and implemented in partnership with the CSP | <ol style="list-style-type: none"> <li>1. Number of community members trained in Dina enforcement for infractions.</li> <li>2. Increase from 0 to 50% of Dina infractions followed up by community association.</li> <li>3. <math>\frac{3}{4}</math> participating communities filing monthly reports on industrial and fishing activity within the MPA limits by Y3.</li> <li>4. CSP effectively provides support/responds to reports of illegal fishing by community by Y3.</li> </ol> | <ul style="list-style-type: none"> <li>- Now that the different entities are defined, Vezo Miray (management and Dina committees) and the regional fisheries management plan steering committee, the MPA management plan will be developed (Annex 3 and 11).</li> <li>- With the creation of Vezo Miray and the establishment of a monthly training session, Dina representatives are developing their skills in MCS.</li> <li>- A concrete MCS program with a solid training program is planned to be defined and set by Y3Q2.</li> <li>- Dina notebooks will be translated into monthly reports.</li> <li>- The CSP is beginning to provide support to communities and we hope this will continue in Y3, despite the political difficulties.</li> </ul> |
| Activity 3.1<br>Liaise with regional authorities, CSP and other stakeholders to develop plan for improved community-based MCS   |  | <ul style="list-style-type: none"> <li>- The regional fisheries management plan is finalised (Annex 10) and activities to define the zoning and management plan will start in Y3Q1.</li> <li>- It will be important to then update the marine Dina, run awareness raising activities, retrain Dina representatives on enforcement and infraction management, and to discuss the design of a community-based MCS program.</li> </ul>   |
| Activity 3.2<br>Conduct regular trainings in Dina enforcement and infraction  |  | <ul style="list-style-type: none"> <li>- While community enforcement level is still low, broad understanding of inter-relations and importance of each committee is growing thanks to monthly training sessions.</li> </ul>   |

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| management with community   | <ul style="list-style-type: none"> <li>- Training sessions have helped to encourage community involvement and buy-in to the MPA, which will benefit local management and the enforcement of local Dina in the long run.</li> </ul>  |   |   |
| <p>Activity 3.3</p> <p>Support community in following up on any infractions (Dina &amp; writing up illegal fishing activity)</p>  | <ul style="list-style-type: none"> <li>- Dina follow-up notebooks have been implemented (August 2015 - Y2Q2) within each fishing village. It is now easier to determine the level of IUU occurring within the MPA and respond to it.</li> <li>- Intervention mission targeting illegal sea cucumber scuba divers in the MPA In December 2015, by CSP and BV, thanks to information collected and shared through Vezo Miray representatives, that regional authorities (Annex 19).</li> <li>- The implementation of the regional fisheries management plan provides the basis for stricter controls and law enforcement.</li> </ul>  |   |   |
| <p>Activity 3.4</p> <p>Develop process for transferring reports by community members on illegal fishing from industrial and sea cucumber vessels to CSP</p>   | <p>So far, the method used is mostly informal and is based on verbal communication. The development of a proper MCS program will define and implement an efficient way to transfer reports.</p>   |   |   |
| <p><b>Output 4.</b> Community-based monitoring of the key fisheries within the Barren Isles MPA is carried out, enabling reliable stock estimates and providing a basis for sustainable management and improvement of the fisheries</p>   | <table border="0"> <tr> <td data-bbox="544 660 1025 1217"> <ol style="list-style-type: none"> <li>1. Stock assessments of coral reef fisheries in all five participating villages show fisheries within the MPA are not overexploited and below maximum sustainable yield (MSY)</li> <li>2. 5 MPA communities involved in weekly participatory fisheries monitoring and contributing data to quarterly resource status dashboard</li> <li>3. Workshop on monitoring and stock assessment results held with stakeholders by Y3</li> <li>4. Fisheries management plan is updated annually to include findings and recommendations of stock assessments.</li> </ol> </td> <td data-bbox="1025 660 2018 1217"> <ul style="list-style-type: none"> <li>- Four new villages being monitored since July 2015.</li> <li>- Catch landing monitoring is on-going in 6 fishing communities (3 coastal and 3 isles) (Annex 12a/b).</li> <li>- Additionally, 6 fishers work with smartphones to monitor shark landings from May to November which is a chance to improve their skills.</li> <li>- All monitors are trained beginning of each season, to improve their monitoring skills but also their broad understanding of the progress made with the MPA, Vezo Miray, and the importance and links of the monitoring programs.</li> <li>- All of the data have been collected and are about to be analysed by a fisheries biologist recruited in Y2Q4 (Annex 14a/b).</li> <li>- A first profile of the BI fisheries will be drafted identifying next steps towards stock assessment.</li> </ul> </td> </tr> </table> | <ol style="list-style-type: none"> <li>1. Stock assessments of coral reef fisheries in all five participating villages show fisheries within the MPA are not overexploited and below maximum sustainable yield (MSY)</li> <li>2. 5 MPA communities involved in weekly participatory fisheries monitoring and contributing data to quarterly resource status dashboard</li> <li>3. Workshop on monitoring and stock assessment results held with stakeholders by Y3</li> <li>4. Fisheries management plan is updated annually to include findings and recommendations of stock assessments.</li> </ol> | <ul style="list-style-type: none"> <li>- Four new villages being monitored since July 2015.</li> <li>- Catch landing monitoring is on-going in 6 fishing communities (3 coastal and 3 isles) (Annex 12a/b).</li> <li>- Additionally, 6 fishers work with smartphones to monitor shark landings from May to November which is a chance to improve their skills.</li> <li>- All monitors are trained beginning of each season, to improve their monitoring skills but also their broad understanding of the progress made with the MPA, Vezo Miray, and the importance and links of the monitoring programs.</li> <li>- All of the data have been collected and are about to be analysed by a fisheries biologist recruited in Y2Q4 (Annex 14a/b).</li> <li>- A first profile of the BI fisheries will be drafted identifying next steps towards stock assessment.</li> </ul> |
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| <p>Activity 4.1</p> <p>Participatory fisheries monitoring established in 5 villages</p>   | <ul style="list-style-type: none"> <li>- Participatory fisheries monitoring updated.</li> <li>- Monitoring of catch landings has been ongoing in two fishing villages. With monitoring time increased from 2 half-days to 2 full days, which has allowed them to monitor a wider range of fishing techniques.</li> <li>- Since early July, the fisheries' monitoring program has also been extended to 4 other sites (8 new trained monitors on 3 islands and 1 coastal village). Hence,</li> </ul>   |   |   |

|  |  |
|--|--|
|  | <p>participatory monitoring is now established within 6 villages (Annex 12a/b).</p> <ul style="list-style-type: none"> <li>- The pilot shark fisheries monitoring program has run from May to November, allowing monitors to develop their skills using smartphones (ODK app.) to record monitoring activities. In total, 6 fishermen based on 3 islands were monitoring the shark fishery</li> </ul>  |
| <p>Activity 4.2</p> <p>Community-based turtle nest monitoring at priority sites, and education and awareness-raising activities on importance of keystone species.</p> | <ul style="list-style-type: none"> <li>- Updated turtle nest monitoring form to make it simpler and quicker (Annex 13).</li> <li>- New rotation system has reduced poaching.</li> <li>- Monitors were trained on other shared information on various other MPA activities.</li> <li>- Dissemination sessions (see Activity 4.5) have encouraged participation from the communities and also allowed for an education session on keystone species (eg. dugong).</li> </ul>  |
| <p>Activity 4.3</p> <p>Zoning plan for MPA established with community and plan developed and implemented for monitoring impact on fisheries and habitats</p>           | <ul style="list-style-type: none"> <li>- Discussions about important habitat and related species have started with Vezo Miray representatives and a participatory zoning plan will be defined within the coming months and validated by Y3Q2.</li> <li>- Habitat mapping, with the intention of starting discussions around establishing a community based monitoring program of key habitats, will be held in Y3Q1.</li> </ul>  |
| <p>Activity 4.4</p> <p>Stock assessments on priority fisheries carried out</p>   | <ul style="list-style-type: none"> <li>- A fisheries biologist was recruited Y2Q4 to undertake the development of the Barren Isles fisheries' profile (Annex 14).</li> <li>- The analysis will focus on specific species important to the local communities and should be released by Y3Q1.</li> <li>- This study will be the basis for defining the requirements and priorities of the fisheries stock assessment.</li> <li>- All of the data collected will be used to conduct stock assessments in Y3.</li> </ul>   |
| <p>Activity 4.5</p> <p>Disseminate monitoring results to communities and stakeholders (presentations, resource status dashboard, etc.)</p>                             | <ul style="list-style-type: none"> <li>- Three very promising sessions were held during Y2Q4 (Annex 15).</li> <li>- These sessions were designed by a dissemination committee composed by communities' elders, Vezo Miray (management and Dina representatives) and Finfish Monitors.</li> <li>- This dissemination committee has taken responsibility for presenting information to communities on one of the following topics and their relationships: Vezo Miray, Barren Isles MPA, monitoring programs.</li> </ul> |
| <p>Activity 4.6</p> <p>Incorporate results of fisheries monitoring into MPA and fisheries management planning</p>  | <ul style="list-style-type: none"> <li>- FFM results will be incorporated when they are ready.</li> <li>- This should to be finalised by Y3Q2.</li> </ul>  |

## Annex 2 Project's full current logframe as presented in the application form (unless changes have been agreed)

| Project summary  | Measurable Indicators  | Means of verification  | Important Assumptions   |
|--|--|--|---|
| <p><b>Impact:</b></p> <p>Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p> |  |  |   |
| <p><b>Outcome:</b></p> <p>The Barren Isles MPA empowers traditional fishers to secure and manage their fishing resources, leading to a decrease in overexploitation by industrial and itinerant fishing.</p>   |  |  |   |
| <p><b>Outputs:</b></p> <p>1. The proposed Barren Isles MPA, with a zoning plan which protects traditional fishing grounds, is gazetted as a protected area by the government of Madagascar</p>   | <p>1. Stakeholder agreement on zoning plan for Barren Isles MPA by end Y1</p> <p>2. Representation of all key stakeholders groups in management committee with &gt;90% attendance by nominated representatives</p> <p>3. 80% of villages elect representatives to fishing association and management committee by Y3</p> | <p>1. Government decree and map showing the gazetted MPA boundary;</p> <p>2. Meeting minutes from consultations and validation workshops</p> | <p>Sufficient political will exists for the creation of the Barren Isles MPA and development of a fisheries management plan</p> <p>Through using the formal process to gazette the MPA, local fishers are able to negotiate a MPA boundary that protects their fishing grounds against industrial fishing</p> |
| <p>2. A fisheries management plan is developed and implemented by the fishing communities in collaboration with the regional fisheries authorities (DRRHP)</p>   | <p>1. Stakeholder consultations show approval for fisheries management plan by end Y1</p> <p>2. Key fisheries and habitats covering at &gt;80% of protected area envelope are included in management plan draft</p> <p>3. Fisheries management plan is approved in collaboration with DRRHP by Y2 and ratified by Y3</p> | <p>1. Fisheries management plan document</p> <p>2. Meeting minutes from consultations and validation workshops.</p>                          | <p>With the support of CSP (the Malagasy government agency for the enforcement of fishing laws) the community is able to enforce an industrial fishing ban within the MPA and decrease illegal scuba diving for sea cucumbers</p>   |

|  |  |   |   |
|--|--|---|---|
| <p><b>3.</b> A system of community-based monitoring, control and surveillance of illegal fishing activities in the Barren Isles MPA is developed with the local community and in partnership with the CSP</p>                    | <ol style="list-style-type: none"> <li>1. Number of community members trained in Dina enforcement for infractions.</li> <li>2. Increase from 0 to 50% of Dina infractions followed up by community association.</li> <li>3. 3/4 participating communities filing monthly reports on industrial and illegal fishing activity within the MPA limits by Y3.</li> <li>4. CSP effectively provides support/responds to reports of illegal fishing by community by Y3.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Reports of the community surveillance committee</li> <li>2. CSP data showing the movements of industrial vessels based on satellite monitoring</li> </ol> | <p>Local fishing stakeholders are able to agree on an effective fisheries management plan</p> <p>Sufficient political will exists for the creation of the Barren Isles MPA and development of a fisheries management plan</p> |
| <p><b>4.</b> Community-based monitoring of the key fisheries within the Barren Isles MPA is carried out, enabling reliable stock estimates and providing a basis for sustainable management and improvement of the fisheries</p> | <ol style="list-style-type: none"> <li>1. Stock assessments of coral reef fisheries in all five participating villages show fisheries within the MPA are not overexploited and below maximum sustainable yield (MSY)</li> <li>2. 5 MPA communities involved in weekly participatory fisheries monitoring and contributing data to quarterly resource status dashboard</li> <li>3. Workshop on monitoring and stock assessment results held with stakeholders by Y3</li> <li>4. Fisheries management plan is updated annually to include findings and recommendations of stock assessments</li> </ol> | <ol style="list-style-type: none"> <li>1. Analyses of catch data of key fisheries using Spawning Potential Ratios (SPR) based stock assessments</li> </ol>  | <p>Catch data collected is sufficient to assess the sustainability of key fisheries using Parfish and other tools for data-deficient fisheries stock assessments</p>  |
| <p><b>Activities</b> (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p>  |  |   |   |



## Annex 3 Standard Measures

**Table 1 Project Standard Output Measures**

| Code No. | Description   | Gender of people (if relevant) | Nationality of people (if relevant) | Year 1 Total | Year 2 Total | Year 3 Total | Total to date | Total planned during the project |
|----------|---|--------------------------------|-------------------------------------|--------------|--------------|--------------|---------------|----------------------------------|
| 7        | Comic books on marine reserves and MPA creation   | N/A                            | Malagasy                            | 1            | 0            |              | 1             | 2                                |
| 13B      | Turtle nest monitoring data and shark captures monitoring to be shared with DREEF, with access to dashboard | N/A                            | Malagasy                            | 2            | 0            |              | 2             | 2                                |
| 14A      | Data dissemination outreach events with MPA communities   | N/A                            | Malagasy                            | 3            | 3            |              | 6             | 11                               |
| 21       | Creation of MPA management committee  | N/A/                           | Malagasy                            | 0            | 1            |              | 1             | 1                                |
| 23       | GEF Funding   | N/A                            | N/A                                 |              |              |              |               |                                  |
|          |   |                                |                                     |              |              |              |               |                                  |

**Table 2 Publications**

| Title   | Type<br>(e.g. journals, manual, CDs) | Detail<br>(authors, year)   | Gender of Lead Author | Nationality of Lead Author | Publishers<br>(name, city)       | Available from<br>(e.g. weblink or publisher if not available online)                                      |
|---|--------------------------------------|---|-----------------------|----------------------------|----------------------------------|--|
| Placing Madagascar's marine turtle populations in a regional context using community-based monitoring | Journal publication                  | Humber, F., Godley, B.J., Nicolas, T., Raynaud, O., Pichon, F. and Broderick, A.C. (2016) | Female                | British                    | Oryx, Cambridge University Press | DOI: <a href="http://dx.doi.org/10.1017/S0030605315001398">http://dx.doi.org/10.1017/S0030605315001398</a> |
|   |                                      |   |                       |                            |                                  |  |
|   |                                      |   |                       |                            |                                  |  |

## Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Annex numbers of supporting materials have been added throughout the document and can be found in the following folder online:

<https://drive.google.com/folderview?id=0B6gpGRPB4s3QWkpPUFNkc0x6S00&usp=sharing>

### Checklist for submission

|   | Check            |
|---|------------------|
| <b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.  | Y                |
| <b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line. | NA               |
| <b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.   | In link in email |
| <b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.   | N                |
| Have you involved your partners in preparation of the report and named the main contributors  | NA               |
| Have you completed the Project Expenditure table fully?   | Y                |
| Do not include claim forms or other communications with this report.  |                  |