



## Darwin Initiative Annual Report



Department  
for Environment  
Food & Rural Affairs

**Important note:** To be completed with reference to the Reporting Guidance Notes for Project Leaders:

it is expected that this report will be about 10 pages in length, excluding annexes

**Submission Deadline: 30 April**

### Darwin Project Information

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| Project Reference   | 19-016   |
| Project Title   | Leveraging markets to conserve mangrove biodiversity and alleviate poverty in Madagascar   |
| Host Country/ies  | Madagascar   |
| Contract Holder Institution   | Blue Ventures Conservation   |
| Partner institutions  | Direction Régionale de l'Environnement et des Forêts; Centre Nationale de Recherche Océanographie; Honko Mangrove Conservation and Education; Institut Halieutique et des Sciences Marines; Département Forêt de l'Ecole Supérieure des Sciences Agronomiques of the University of Antananarivo (ESSA-Forêt) |
| Darwin Grant Value  | £226,839   |
| Start/end dates of project  | 1 July 2012 – 30 June 2015   |
| Reporting period (eg Apr 2013 – Mar 2014) and number (eg Annual Report 1, 2, 3) | April 2013- March 2014   |
| Project Leader name   | Dr Alasdair Harris   |
| Project website   | <a href="http://blueventures.org/conservation/blue-forests.html">http://blueventures.org/conservation/blue-forests.html</a>  |
| Report author(s) and date   | Frances Humber, Kate England, Aude Carro, Garth Cripps, 30 April 2014  |

### 1. Project Rationale

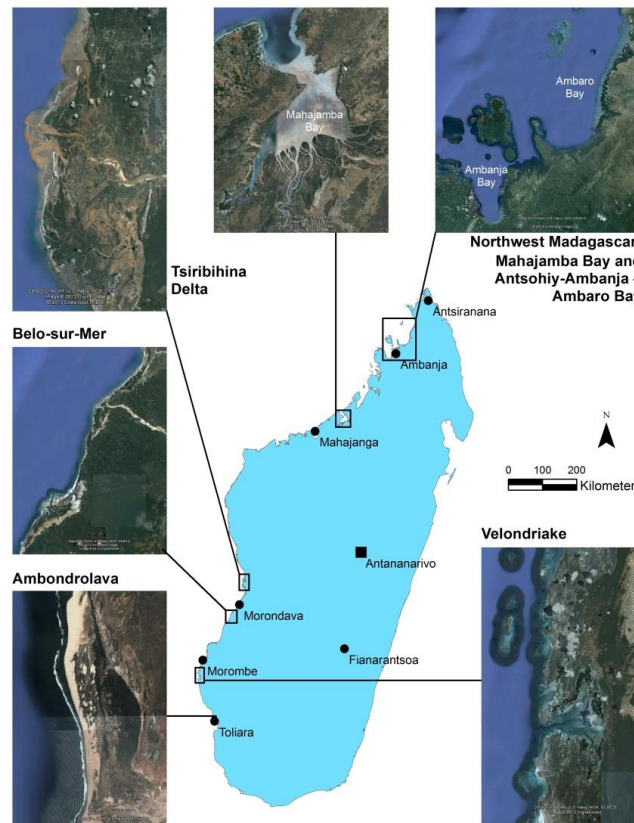
The mangrove forests of Madagascar have been lost at rates exceeding 1-2% annually since 1990 (Blue Ventures unpubl. Data; Giri *et al.* 2011)<sup>1</sup>, imposing significant threats to both the unique biodiversity they support and the millions of coastal people who depend directly on mangroves for their livelihoods. In the fight against global climate change, mangroves are at the frontlines – sequestering between 6 and 20 times the amount of carbon sequestered by undisturbed Amazonian rainforest.

Promotion of voluntary carbon projects is a key strategy in Madagascar's National Policy on Climate Change 2011 for mitigating threats and promoting development. This, combined with the high ecosystem services value of Madagascar's mangroves, provides motivation for the goals of this project at local and national levels.

By capitalising on our experience working with communities towards sustainable management, this project aims to stop forest loss by alleviating poverty. Primary activities under this project, supported by Darwin, are taking place in three locations, as summarised in Figure 1. Key development challenges addressed through this project are a lack of capacity for governance and forest management, at the local

<sup>1</sup>Giri, C. National-Level Mangrove Cover Data-Sets for 1990, 2000 and 2010; United States Geological Survey: Sioux Falls, SD, USA, 2011

scale for the Darwin project, and the national-level in Madagascar for Blue Ventures' Blue Forests programme (an overview of this programme is attached as Annex 1 in a separate folder as part of Annex 4).



**Figure 1.** An overview of sites where Blue Ventures is conducting research and carrying out activities on the Blue Forests programme. Activities undertaken as part of the Darwin project are focused on the two southernmost sites (Ambondralava and Bay of Assassins in Velondriake) and the northernmost site (Ambaro and Ambanja Bays).

Ambaro-Ambanja Bay (AAB) showed the highest rates of deforestation in Madagascar from 2000 to 2010 and is a candidate site for a pilot VCS mangrove REDD+ project given its severe levels of mangrove loss. Mamelolo Honko (MH) in Ambondrolava and the Bay of Assassins (BOA) in the Velondriake Locally-managed Marine Area (LMMA) are candidate sites for Plan Vivo Foundation mangrove carbon projects, and were chosen based on strong community links already existing with Blue Ventures (BV) and our partner, Honko Mangrove Conservation and Education (Honko).

## 2. Project Partnerships

### Government Authorities

Our membership in Madagascar's national Monitoring, Reporting, and Verification Group (GT-MRV) for REDD+ meets demand for mangrove carbon experts at the national-level within Madagascar. Since April 2013, we attended three workshops hosted by the National REDD+ Authorities: National Environment Office (ONE), Director of Environmental Information (DIE), Director of Climate Change (DCC), Designated National Authority (DNA), and REDD+ Coordinator. Regular consultations and workshops allow us to ensure mangrove forests are properly taken into account by, and contribute meaningfully to, Madagascar's Readiness Preparation Proposal (R-PP) for REDD+, notably with the inclusion of AAB carbon stock data. With the cooperation of all members of the GT-MRV, the R-PP was submitted on 7 April, 2014, for consideration of inclusion of Madagascar in the Forest Carbon Partnership Facility. Our work with authorities contributes directly to the objectives in Output 5 for the Darwin project. See Section 3.1, Output 5 for further detail on our work with government authorities and Annex 2 (attached in a folder as part of Annex 4) for a comprehensive list of 49 government meetings attended since April 2013 and March 2014.

## National Research Institutes

Our work with academic institutions, including the Ecole Supérieure des Sciences Agronomiques-Forêts, Université d'Antananarivo (ESSA-Forêts) and Institut Halieutique et des Sciences Marines, Université de Toliara (IHSM) consists of ongoing research collaborations. Our team collaborates with 1 ESSA-Forêts MSc student and 1 IHSM PhD student, with each student working under a contract agreement or "Convention de Stage" (Annex 3 in Annex 4) co-signed by BV project managers, students, and their academic supervisors. Research proposals, terms of reference for academic studies, data analysis, and final deliverables are developed in cooperation with students and supervisors to ensure that the work conducted contributes to the overall Darwin project objectives. While students conduct their theses, our team reviews their proposals (two since April 2013) and when theses are defended, a member of BV staff sits on the jury as a thesis examiner.

At the institutional level, we participate in events and symposiums held by partner academic institutions. Over the past year, we have attended shared events with the IHSM including [International Forests Day](#) and the ESSA- Forêts symposium: Biodiversity and People in the Context of Climate change from 8 – 11 December 2013, where three presentations were delivered on our work (Annex 4 in Annex 4).

Our partnership with the National Centre for Oceanography Research (CNRO) in Ambaro-Ambanja Bay did not yield significant results in Year 2 due to difficulties coordinating activities with the CNRO which has been undergoing a management transition since 2013. A collaboration plan will be established with CNRO as soon as their management restructuring is completed.

## NGO Partners

The partnership with Honko has been on standby since April 2013, when Honko experienced funding and staff resource shortfalls which limited community activities on the ground. Over the past year, our collaboration with Honko has consisted of two field site visits, email communication, and three meetings to track project status.

## Private partners

The partnership with UNIMA in Mahajamba Bay didn't yield significant results in Year 2 due to a lack of capacity to carry-out feasibility research and co-financing by UNIMA. A project proposal is in the process of being submitted to UNIMA to support fundraising through its buyers in April 2014.

## Other collaboration

### *East Africa Forum for Payments for Ecosystem Services (EAFPES)*

One of our project managers is the EAFPES Madagascar focal point, and leads communications with this forum of stakeholders working on PES projects in East Africa. Annex 5 (attached) shows a proposal submitted in March 2014 to host a workshop with regional stakeholders with detail on EAFPES partners.

### *Plan Vivo Foundation*

The Plan Vivo Foundation supports the technical development and evaluation of our BOA and MH projects (see Output 5, Activity 5.3 for further details on our work with Plan Vivo). One Plan Vivo stakeholder meeting was attended in Edinburgh, UK, in October 2014. During this meeting, Charlie Gough, our Monitoring and Evaluation Coordinator, explained our blue carbon projects in a Plan Vivo video featured on our project's [website](#).

### *Madagascar National Parks*

Madagascar National Parks (MNP) is a former partner of BV who we still collaborate with on an *ad-hoc* basis. For the Darwin project, we keep MNP updated on all progress and major milestones in the Velondriake LMMA project area, which shares an easterly border with the Mikea National Park. As with other regional partners, this has been undertaken through formal consultations on 15 November 2013 and a field visit to the Director of Mikea National Park in Ankililoake on 23 November 2013.

### *Asity Madagascar*

Asity Madagascar is BirdLife International's official partner within Madagascar, and acts as promoter of the Mangoky-Ihotry protected area, which shares a northerly border with the Velondriake LMMA. BV conducts annual meetings with Asity (one in November 2013, one in February 2014) to update them on project progress. Asity have also shown increased interest in establishing a blue carbon project within their protected area following our meetings. Being the only organisation in Madagascar working on pioneering blue carbon projects, we have offered our technical support to Asity should this project become a reality.

### *Worldwide Fund for Nature*

We have a formal partnership with Worldwide Fund for Nature, Madagascar and Western Indian Ocean Programme Office (WWF MWIOPO) to conduct a feasibility study for blue carbon in the Tsiribihina and Manambolo Deltas. An annual convention (Annex 6) exists for this work, and workplans are set collaboratively by meetings between BV and WWF project managers and field staff. We collaborate by working together at the WWF MWIOPO office in Morondava (for six weeks in Y2) and jointly hosting annual workshops with project stakeholders, and undertaking fieldwork with mixed teams of WWF and BV staff (Annex 7).

### **3. Project Progress**

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

##### **Output 1. Communities have clear and uncontested land and user rights to their customary mangrove areas; and give their Free Prior & Informed Consent to use these areas for a forest carbon project**

*Activity 1.1 Consultation & project development with the communities so as to fulfil the conditions of gaining their Free, Prior and Informed Consent (FPIC) for the implementation of a forest carbon project*

Awareness-raising campaigns, critical to building the foundations of the “Informed” aspect of FPIC, have provided communities the background to understanding forest carbon projects. This has occurred through a village outreach tour in cooperation with BV’s Education and Health programmes, with targeted messaging in 11 villages of the BOA project area, and 15 villages in AAB.

Consultation at the national-level occurred in November 2013 (attached Annex 2) to confirm the appropriate application of the UN-REDD FPIC standard to our projects. Local and regional support will be sought through a workshop in AAB in May 2014 and BOA in July 2014. Primary regional consultations occurred for BOA in November 2013, as detailed in Annex 8 (attached).

FPIC campaigns to explain the full implications of carbon projects to local communities will be underway throughout the remainder of 2014 at the village-level within our project sites. We envision that community facilitators, trained by BV, will oversee a voting system where villages provide consent to develop forest carbon projects (or not).

We do not expect to hit our target of gaining the FPIC of all communities in the first quarter of Year 3 (Y3). This has been due to delays starting the project in Ambaro-Ambanja, capacity problems with our partner organisation Honko for the MH project, and a late start at the BOA project site. We expect to gain preliminary FPIC from communities by the end of 2014, and continue the FPIC process for the lifetime of our projects.

*Activity 1.2 Detailed analyses of land tenure and use rights of the potential mangrove areas with both the government cadastral services and the local communities; and resolution of conflicts*

Traditional tenure regimes have been obtained for each project site through participatory mapping and mangrove zoning has been established with local communities in AAB (Annex 9). No major conflicts were detected at the community level and a few minor conflicts were solved during community meetings as part of the mangrove zoning process in AAB. For the identification of conflicts between traditional and official tenure, the Plan Local d’Occupation du Foncier (PLOF) was obtained in December 2013 is being compared with project area boundary, with only one case concerning conservation status of a mangrove area of 107 ha.

There is no existing PLOF for the Velondriake LMMA, and tenure is being evaluated through participatory means (complete for 11 villages) (attached Annex 10) and consultations with the Regional Department of Development (DDR) for Toliara. The conflict resolution process will follow that stipulated in environmental and social safeguard plan (PSSE) for the Velondriake LMMA, once it is finalised in 2015.

Conflict resolution processes for land disputes will be addressed at each site with regional and national authorities. Due to significant difficulties in obtaining land ownership information from local authorities, this activity has been delayed and is now expected in Y3.

*Activity 1.3 Establishment of legal user and carbon rights for community members participating in the project*

An analysis of legal mechanisms for obtaining use and management rights over mangroves is currently being finalised (see draft in Annex 11). To secure legal mangrove user rights, our projects are using the two available legal mechanisms.

In AAB, mangrove user rights will be obtained through management transfers (Transfer de Gestion des Ressources Naturels - TGRN, GELOSE Law, 1996). Following the establishment of mangrove

management plans and revision of dinas (local legislations), TGRN renewals will occur after the re-evaluation of local management committees (CLBs) by the Regional Forestry Services (DREF) in May 2014. This will secure legal mangrove user rights for the next three to ten years for the five CLBs in the pilot site.

In BOA, where community user and carbon rights are being secured through Madagascar's Protected Areas Act, the management plan (PAG) and PSSE for the Velondriake LMMA were presented to the board of the System of Protected Areas for Madagascar (SAPM) in October 2013. An updated PAG (attached Annex 12), along with an added section on mangrove management (attached Annex 13) will be re-submitted to the SAPM for finalisation at the end of 2014, coinciding with the Plan Vivo project schedule.

Honko is working with local communities in the MH area to renew their TGRN, which expired in June 2013. While the community has secured funding for these activities, the renewal process has been delayed due to a delay in receipt of funds, which the DREF requires before conducting the renewal.

The completion of this activity has been delayed due to the complex legal framework governing mangrove management in Madagascar. Every possible action will be taken to establish tenure rights according to available mechanisms before the end of Y3.

## **Output 2. Communities have established mangrove A/R, SFM and conservation areas; and are competently managing these areas**

### *Activity 2.1 Establishment of community management plans, zonings and sustainable harvest quotas*

In AAB, 1800 ha of protection, 1885 ha of controlled harvesting and 2195 ha of reforestation areas have been delineated through participatory mangrove zoning and were officially endorsed by communities during validation meetings (Annex 14). Sustainable harvest quotas couldn't be defined in Year 2 due to lack of capacity of the local forestry services in sustainable quota evaluation and calculation.

In BOA, participatory mapping of timber use (attached Annex 15) and other natural resources (attached Annex 16) was completed from October through January 2014 in 11 villages. Using this information, strategies and sustainable forest management zoning will be validated, in the form of a community-led design, from May to June 2014.

This follows our planned timing for this project, to have zoning of SFM, A/R, and conservation areas validated and enacted in Y3.

### *Activity 2.2 Establishment and maintenance of mangrove nurseries by female teams*

A nursery of 1,000 *Avicennia marina* plants has been established and is maintained by a women's association in Maherivaratra (Annex 17). Planting is scheduled in June 2014 when seedlings will be 4 months old.

Classification and pre-zoning to establish eligible areas for reforestation and restoration, and reforestation in BOA, will occur in June and July 2014.

For MH, the local community association has established an *A. marina* nursery which has been operating since January, 2014.

### *Activity 2.3 Mangrove planting and maintenance of seedlings by female teams*

In AAB over 6 ha of mangrove have been planted using direct planting of mangrove seedlings by community volunteers since June 2013, from which BV monitors about 2 ha on a monthly basis (Annex 18). Between June 2013 through March 2014, the number of women associations volunteering to do reforestation every two weeks increased from one to three.

Building on the AAB experience, the first mangrove planting will be conducted in BOA in October 2014 following the identification of reforestation sites.

## **Output 3. Communities are producing sustainable charcoal and timber**

### *Activity 3.1 Training of the community participants in sustainable harvesting and improved management; initial timber harvesting according to sustainable quotas and planned rotations*

In AAB, taxes on mangrove timber products for user rights have been revised as part of the locally-developed laws (dina) revision process in March 2014 with one pilot CLB board trained to use a tax toolkit. Implementation of the tax monitoring system in the four remaining CLBs is planned in May 2014. Sustainable timber harvest quotas will be established from October 2014 to February 2015 and quotas

will enter in force in May 2015 following trainings for CLB members in quota-tax toolkit use. In BOA, and in cooperation with BV's sustainable fisheries programme, dina trainings were held in two key villages (Lamboara and Vatoavo) to trial awareness-raising about existing dina pertaining to mangrove.

Monitored harvesting is expected to occur at AAB in Y3, although this activity is behind schedule by two quarters due to delays in mobilising communities. In BOA, trainings on dina pertaining to mangroves will be held in tandem with the community-led design plans in November 2014.

Honko has conducted training for sustainable forest management in all five of the villages within their project area in December 2013, and establishment of a monitoring and zoning plan is currently underway by Honko personnel.

### *Activity 3.2 Training & production of charcoal using improved kilns; continued technical support*

In AAB a study on 27 kilns carried out by two Ecole D'application Des Sciences Et Techniques Agricoles Et De La Promotion Rurale (EASTA-PRO) D'Ambanja students in October 2013 showed that the current conversion yield (dry mass of charcoal/dry mass of wood) of local mangrove charcoal production is between 11% and 19% (Annex 19). A similar study on a larger sample would be necessary to assess whether there is a significant margin for improvement, improved production technique yield ranging between 14% and 20%. The study suggests that the main improvement to current practices is the lengthening of wood drying period prior to carbonisation. The results of the study were disseminated to charcoal producers in November 2013 and possible technical improvements explained. Giving the current legislation banning mangrove charcoal production, the project has re-oriented its strategy toward establishing the feasibility of alternative fuelwood plantations. A study will be undertaken by a Master's student from Yale University from May to July 2014 to identify potential energetic woodlot sites and species. The project is currently recruiting a Master degree ESSA-Forêts student who would follow up with this study from July to December, 2014 to carry out a detailed technical and financial feasibility study of alternative fuel wood plantations.

In BOA, charcoal is not produced using mangroves, only in the adjacent dry forest in close proximity to mangroves (attached Annex 15). While the importance of fuel efficiency has not yet been established for reducing deforestation here, BV has been approached by a Swiss non-profit solar energy development NGO, Solar Energy Development Association (ADES) to co-finance access to fuel-efficient stoves to isolated villages in the project area (Annex 20). We are currently considering the feasibility of this option to reduce deforestation in the project area.

At one other of our Blue Forests' project sites, Belo sur Mer (Figure 1), charcoal production using mangroves has recently started (February 2014) in the village of Lovobe. We are currently monitoring this situation to see if the trend will continue and poses a significant threat to the region.

The legal framework for working with charcoal has led to a change in the existing proposed timeline on this activity. We expect to have a strategy for reducing overharvest and illegal charcoal production, active at our project sites, before the end of Y3.

## **Output 4: The carbon stocks and harvestable timber of the community mangroves have been measured and are being accurately monitored**

### *Activity 4.1 Development of a measurement & monitoring plan which meets the requirements of the selected approved methodology for the generation of carbon offsets*

We are currently collating all the methodologies used to establish carbon baselines in our project sites and working with the Toolkit for Ecosystem Service Site-based Assessments (TESSA – see Section 4) and EAFPEs to develop a standardized measurement and monitoring plan that will meet the VCS Project Standards v.3.0 and Plan Vivo Foundation Standards, 2013. The methodology is expected to be released in July 2014.

In BOA, monitoring plans for carbon stocks, socioeconomic and biodiversity indicators will be released as a draft Technical Specifications (TS) in November 2014, based on concept models developed in 11 villages (Annex 21). Students from ESSA-Forêt and IHSM are currently establishing biodiversity (Annex 22) and socioeconomic baseline (Annex 23) indicators which will also be incorporated into monitoring plans. Carbon emission reductions estimates will be calculated based on the methodology used by the Plan Vivo project Mikoka Pamoja from Gazi Bay, Kenya.

Due to staff shortages, this activity will now be completed in Y3.

### *Activity 4.2 Creation & training of female monitoring teams in the use of appropriate forest inventories, carbon stock measurements and monitoring protocols*

Following the release of our standardized measurement and monitoring methodology, community carbon stock inventory trainings will be carried out in AAB from August to September 2014.

In BOA, a workshop was held for 12 women on 4 - 9 August 2013. Women were selected during village meetings in Ankindranoke and Vatoavo, two villages in the BOA neighboring a permanent mangrove reserve where carbon stock measurements were conducted (Annex 24). The methodology for carbon stock measurements was based on the Centre for International Forestry Research (CIFOR) methodology for mangrove carbon stock measurement. Additionally, two female community-based monitors (CBMs) were trained in the use of GPSes and navigation (attached Annex 25).

*Activity 4.3 Stock measurements, continuous monitoring and analysis of the data; integration into management plans; and continued technical support & quality control by BV scientists*

A community carbon stock database has been developed and training of community members at both AAB and BOA project sites will be undertaken in late-2014.

In AAB, existing carbon stock data from 2012 and 2013 have been consolidated and a final campaign will be conducted in 2014. These data will then be used for comparison with data collected by community-based monitors.

In BOA, preliminary carbon stock estimates are based on 6 plots conducted with community teams in August 2013, and also on existing data from 2008 and 2009 field surveys. A second campaign is planned to occur between July and October 2014, involving the same women trained in August 2013, who will act as community ambassadors for building teams in eight other villages in the BOA and lead teams in conducting carbon stock monitoring and peer-to-peer learning.

This activity is behind schedule due to staff shortage, but detailed planning has been established to ensure the achievement of this output within the project's timeframe.

## **Output 5. The requirements for a forest carbon project that will generate carbon offsets are fulfilled**

*Activity 5.1. Consultation with the government & Designated National Authority (DNA) in the project development; gaining of DNA support for the project*

National-level consultations occurred in Antananarivo in October 2013 with the DNA, DCC, GT-MRV, ONE, and the Interministerial Committee on the Environment (CIME) (attached Annex 2). Each national-level actor was provided with a briefing of the project, a printed French fact sheet (English version provided in attached Annex 1), and "Accuse de Reception" which is signed and kept on file by BV as proof of their involvement in the project. Follow up consultations with these stakeholders were carried out in March 2014 to update them on the project's advancement. Additionally, a consultation process was established with each individual authority to gain national-level support for the project as it develops.

In AAB, following the recommendations of DREF and DRPRH, as well as the national REDD+ Coordinator, a regional consultation workshop will be held in Ambanja in May 2014.

In BOA, consultations with all regional authorities (DREF, DRPRH, DDR, IHSM, and MNP) and project partners occurred in November 2013 (attached Annex 8), with follow up consultations planned for July 2014, prior to the submission of the PIN to the Plan Vivo Foundation.

*Activity 5.2. Production of a Project Idea Note (PIN) and business plan based on actual monitoring; submission to investors / funders*

To-date we have prepared one final PIN (MH – submitted with Darwin Y1 report) and two draft PINs and one business plan are in preparation.

In AAB PIN production was severely delayed due to the significant amount of work necessary to analyse deforestation drivers, define the project area and design robust leakage management activities, the latter requiring substantial data collection and analysis, as well as to assess the project's financial viability and additionally. We also faced staff shortage as the NW Coordinator was in charge of both pilot site activities and PIN development. To address this issue, a site manager is currently being recruited and detailed planning established to release the PIN in October 2014.

Five first year MBA students from Tuck Business School at Dartmouth College in Hanover, USA, visited our project site in the Tsiribihina Delta in March 2014 and met with our project staff in Madagascar to gather data over a ten-day period (Annex 7). Their work will provide a financial model for mangrove REDD+ in May 2014. This model will act as a basis to establish the financial model for AAB. We are currently advertising for a Tuck summer intern, through the Tuck GIVES programme, to complete the



financial model and business plan for AAB. Through Pure Leapfrog, the AAB business model development process will also receive technical guidance from Andreas Arvanitakis, an experienced carbon finance expert.

A PIN for the BOA is expected to be submitted for evaluation to the Plan Vivo Foundation in July 2014 (attached Annex 26). This project has already received the attention of carbon credit resellers, who are awaiting the release of the PIN (See section 8. Sustainability). We expect to follow a simple business model for this project given the small-scale of expected emissions reductions achievable by the project, and attract a single investor to conduct a pilot sale of credits, pending evaluation by the Plan Vivo Foundation.

The MH PIN has been evaluated by the Plan Vivo Foundation with only minor revisions required and the project is ready to be registered. Our administering partner NGO, Honko, has faced funding and human resource shortfalls which have delayed project activities on the ground; however we are currently revisiting a workplan for this project following the recent addition of new staff and acquisition of funding by Honko.

### *5.3 Production of monitoring reports and a draft project design document*

In AAB, the start date of leakage management activity implementation of the full-scale REDD+ project, for which no funding has been secured yet, will condition the submission date of the PDD and first monitoring report for project validation and verification against the VCS standard. Thus, planning has been established to prepare a draft PDD by May 2014. The final PIN released in January 2015 will be used to raise funding so as to implement the leakage management activities, project carbon monitoring, and support completion of the PDD.

A schedule for deliverables has been established by our project team for the BOA Plan Vivo project and is currently under review by the Plan Vivo Foundation to streamline the submission process (attached Annex 26). We expect to release a first monitoring report in January 2015 based on enforcement and monitoring of community-led design plans occurring between October and December 2014. A PDD and TS will be finalised and submitted to the Plan Vivo Foundation, pending approval by authorities and successful results of our first monitoring report, in April 2015.

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

**Output 1.** We are in the process of securing rights for about 16,000 inhabitants over 5,880 ha of mangrove forests in AAB through GELOSE, and for 7,300 inhabitants in the Velondriake LMMA over 1,360 ha of mangrove forests in BOA through the creation of a protected area.

**Output 2.** In AAB, an *A. marina* nursery has been established and over 6 ha of mangrove have been reforested on Year 2. While this is much lower than the 750 ha in proposal, local tide conditions don't allow for doing reforestation more than twice a month (on a voluntary basis, one village can reforest 0.3 ha of mangrove per month). In addition, for sustainability reasons the project decided to rely exclusively on community volunteers, and thus depends greatly on the social dynamic in each village. The clear definition of reforestation zones, totalling 2195 ha across the five CLBs, will allow for more focused and efficient community reforestation efforts in Y3. Clear management plans have been established in 1 of 3 sites and are currently under development for the BOA. In AAB, 1,800 ha of mangroves are now under conservation and 1885 ha are under controlled harvesting regime. Quotas will be established on Y3 to ensure the sustainability of mangrove harvesting.

In cooperation with BV's aquaculture programme, a sustainable management plan for mangroves will be developed through the remainder of 2014 in partnership with Madagascar's Ministry of Forests. This project will be undertaken to ensure the sustainable expansion of aquaculture activities as an alternative livelihood without negatively impacting adjacent mangrove ecosystems.

**Output 3.** While sustainable mangrove charcoal production faces significant barriers, an in-depth study on alternative fuelwood plantations will be carried out from May to December 2014 in AAB. A mangrove forest inventory in AAB and an on-going participatory process in BOA will allow for establishing sustainable timber harvesting quotas in Y3.

Honko have also progressed on this output by securing funding for fuel efficient stoves and planting 300 alternative fuelwood trees in the MH project area.

**Output 4.** Trainings of communities in carbon monitoring and formation of monitoring teams have been delayed due the amount of time required to test protocols and establish a standardized methodology to use across site. Communities will be trained in AAB and BOA following the release of the standardized methodology in July 2014. Biomass and soil carbon measurements have been taken at two of three sites



and a landmark publication released on AAB carbon stocks (see Annex 3, Table 2), with a preliminary campaign completed in BOA and further surveys planned in 2014.

**Output 5.** Consultation efforts in Y2 have yielded continuous interest and support from the REDD+ Coordinator, Madagascar's principal Authority on REDD+, as well as the DNA and ONE. Regional consultations are well underway and will be solidified during workshops in May and July 2014, for both AAB and BOA. Two drafts PINs exist, an AAB PIN and business plan, severely delayed due to significant preparation work, will be released in Y3. The BOA PIN will be submitted for evaluation to the Plan Vivo Foundation in July 2014. PDDs and monitoring reports are being compiled for all sites, with draft releases expected in the final year of the project.

The project is 75% into Y2, with significant progress having been made on key proposed outputs. Overall, the project is 60% on-track with planned activities for Y2 with the most significant progress achieved on outputs 1, 2 and 5. While outputs 3 and 4 have recorded less impressive advances this year, significant preparation work has been done, which will allow for reaching the project's targets in Y3. The only target the project is expected not to reach on Y3 is the reforestation of 2,500 ha of mangrove, due to both the approach adopted by the project and unrealistic targets in the proposal. The total reforested area on Y3 is not expected to exceed 40 ha.

### **3.3 Progress towards the project Purpose/Outcome**

To achieve the project purpose, at each of the sites the project must: establish effective community-based forest management; gain formal tenure and management rights for the participating communities; and carry out all of the activities specific to the forest carbon project cycle (measurement of carbon stocks estimation of emission reductions, production of project documentation, validation, verification).

The project has made concrete progress towards achieving these fundamental foundations. Across sites, progresses achieved in Y2 will enable the sustainable management of 5,880 ha of mangrove forest in Y3; and has achieved the reforestation of 6 ha of mangrove. The establishment of a tax on timber products managed through sustainable harvest quotas in AAB has the potential to provide communities within the site with revenues of between 12 Million and 14 Million Ariary annually (3,000 - 3,500 GBP) by the end of Y3. The project has also progressed further in the forest carbon project cycle: PINs will be finalised for all sites by Q3 of Y3.

While the purpose level assumption still holds true for the coastal communities to gain REDD+ financing; the project stated clearly in the proposal application that the generation of carbon income within the funding period was unlikely. Few forest carbon projects have gained formal validation and generated carbon offsets within three years. Nevertheless, at both project sites, we are on target to achieve fully developed carbon projects within four to five years, in keeping with most forest carbon projects.

In keeping with logframe, the project has put into place certain of the key building blocks for communities to be able to implement sustainable forestry management and have the capacity to earn money from mangrove timber and charcoal. This part of the project has come to face a barrier in that national and local laws do not fully permit communities to use mangroves for commercial gain. There is a grey area in the law, with conflicting regulations existing. The project has made extensive consultations with national and local authorities in order to clarify the regulations. This will culminate in a meeting that the project will hold in May 2014 in AAB, involving local and national authorities to gain formal consent for local communities to use mangroves to their commercial benefit.

Through addressing this barrier, and by establishing the key foundations for the generation of carbon credits, as well as the sale of timber and charcoal, the project will be able to achieve its purpose in the long term.

### **3.4 Goal/ Impact: achievement of positive impact on biodiversity and poverty alleviation**

The goal/impact of this project is to make effective contributions 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. The sub-goal of this project is to achieve conservation of Madagascar's mangrove habitats and their associated biodiversity.

By securing mangrove areas in some of the poorest regions of Madagascar, our project directly contributes to the welfare of coastal communities in Madagascar whose livelihoods are directly dependent on mangrove forests. Simultaneously, our core project activities are building community

capacity to govern natural resources (with 7240 ha of mangrove already secured for local management, and taxes already being collected on 4600 ha of mangroves to provide sustainable financing for mangrove management) contribute directly to Madagascar's targets under the CBD for 1) the conservation and sustainable use of biodiversity, and, 2) fair and equitable sharing of the benefits from biodiversity.

As stated in the original proposal, it will not be possible to detect changes in household incomes attributable to sustainable forest management within the project lifetime (see Section 5), but baselines will be established for tracking over the long-term of the forest carbon project cycle. Similarly, it will not be possible to establish changes in biodiversity indices through the lifetime of this project, however, our projects will demonstrate significant progress on several of the CBD targets, and contribute to Madagascar's CMS action plan by protecting 7240 ha of mangrove habitat and building capacity for mangrove monitoring, management, and reforestation in Madagascar (see Section 4).

#### **4. Project support to the Conventions (CBD, CMS and/or CITES)**

##### *Convention on Biological Diversity*

Madagascar's National Strategy for Sustainable Management of Biodiversity (NSSMB) was established in 1996 under the CBD. Outputs 1 and 2 in the Darwin project contribute directly to the NSSMB objective of promoting a common welfare and ownership and involving local people in development processes. By implementing the building blocks for REDD+ projects, we are working to promote alternatives to deforestation as leakage management activities (see Section 7) and the inclusion of mangroves in Madagascar's national REDD+ strategy (see Section 2., *Government authorities*). By supporting development of the national REDD+ strategy for Madagascar, we are also directly contributing to the NSSMB goal to account for international trade (in this case for carbon credits) in biodiversity conservation.

Our mangrove reforestation efforts (see Section 3.2, Output 3) contribute directly to the Aichi Biodiversity 2020 targets of increasing forest areas in Madagascar. Additionally, the protection and monitoring of mangroves under this project directly contribute to action plans for several known threatened species in Madagascar who spend at least part of their life history (roosting, feeding or breeding) in mangroves at our project sites including Madagascar Flying Fox (*Pteropus rufus*, Vulnerable), Madagascar Fish Eagle (*Haliaeetus vociferoides*, Critically Endangered), Sawfish (*Pristidae spp* Critically Endangered), Squat-headed Hammerhead Shark (*Sphyrna mokarran*, Endangered), Hawksbill Turtle (*Eretmochelys imbricata*, Critically Endangered), and Madagascar Teal (*Anas bernieri*, Endangered). To account for the long-term contributions of our projects to biodiversity conservation, baselines have already been established for the Velondriake LMMA according to the Community, Climate, and Biodiversity (CCB) Standards (Annex 22) and are under completion for AAB.

Our project actively engages with the focal point for the CBD, the DIE at Madagascar's ONE, by providing data and regular updates on project activities (attached Annex 2). We collaborate with the UN and BirdLife International on TESSA on an ongoing basis and so-far, through a kick-off training workshop in April 2013, application of this toolkit at the BOA project site, and presentation of the results to TESSA partners in the UK in February 2014 (Annex 27). This work (detailed in this [blog](#)) contributes directly to the CBD goal of evaluating the economic value of biodiversity by clearly demonstrating the net economic value of mangrove ecosystems.

##### *Convention on Trade in Endangered Species*

Because our project is focused on the trade of non-tangible materials (i.e. carbon sequestration and fishery support services), our project is not directly linked to Madagascar's national CITES action plan. However, in the long-term, mangrove monitoring programmes and management plans will account for international regulations stipulated in CITES and forest monitoring will account for the tracking of trade in endangered species within our project areas.

##### *Conservation of Migratory Species of Wild Animals*

The CMS action plan in Madagascar focuses on the Sooty Falcon (*Falco concolor*, Near Threatened) and Eleanor's Falcon (*Falco eleonora*, Least Concern). Both species winter on Madagascar's west coast, and have been observed in the mangroves of the southwest by our project staff. Our work contributes directly to the action plan for their conservation under CMS by promoting local engagement in conservation and protecting mangroves as part of their habitat. As our projects adhere to CCB Standards, eventual biodiversity monitoring programmes at our project sites will contribute to national efforts at monitoring population trends of these species.

## **5. Monitoring, evaluation and lessons**

To improve efficiency in tracking the progress of the project, we have developed a project monitoring document which clearly details the status of activities against those planned within the project logframe. While detailed workplans are still upheld at the site-level and reviewed on a monthly basis, project monitoring documents are updated every three months to reflect progress, identify issues, and devise solutions associated with project activities.

In early-2014 intermediate conservation targets were established, and a “results tracker” is now used as an efficient method of measuring progress towards these goals and our longer-term objectives (attached Annex 31). As stated in our proposal, changes in some indicators will not be possible to measure beyond the baseline state within the project lifetime, and we have begun to devise proxies for ensuring the project is making progress towards the broader conservation outcome.

Our indicators, which allow us to monitor progress towards the Purpose/Outcome, are detailed in the Results Tracker, and are a combination of indices, % areas, numbers of people, and numbers of carbon documents prepared as part of this project. The column “Method” on the results tracker shows how each indicator will be measured, and with what frequency.

We also assume that by achieving Outputs 3, 4, and 5, we will make effective contributions to the overall project purpose/outcome.

In 2014 Blue Ventures is addressing its monitoring and evaluation strategy with the intention of conforming all project impact assessment to the Open Standards for the practice of Conservation (CMP 2013). We intend to build on and improve the current results tracker by refining our conservation targets and indicators to ensure they are effective at measuring long term and short term impacts. Establishing indicators and monitoring procedures in an integrated fashion with other BV projects, surveys, and record-keeping activities will also ensure that the costs of monitoring and evaluation for any single project are kept to a minimum.

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

Feedback on the previous report requested further information on communication and coordination at the national level to ensure project activities are coordinated and draw on each other, which is provided below.

The Blue Forests project funded by Darwin has largely occurred at the site-level in AAB (Northwest), and the BOA, and MH area (Southwest). The northwest and southwest areas each has a Project Coordinator which oversees higher-level communication and operations at project sites, and an overall Programme Manager works at the national-level to oversee communication between Project Coordinators and BV staff based in Madagascar’s capital, Antananarivo.

Communications between sites include regular phone communication both on an as-needed and at least weekly basis. Furthermore, the overall Programme Manager prepares and submits a weekly update regarding activities at the site-level which is shared and reviewed by the entire team. Both northwest and southwest teams share methodologies for socioeconomic surveys and participatory resource mapping, educational materials between sites, and collaborate on materials used for regional and national consultations across sites.

To ensure integration of project activities, all available project staff travelled to BV Conservation’s annual conference in Andavadoaka from 12 – 15 August to learn and share experiences with other marine conservation projects in BV’s portfolio. Following the conference, the northwest and southwest project teams met for two weeks to exchange skills across team staff and discuss higher-level project planning through Y2 of the project. Finally, cross-project integration is conducted for the Darwin project within BV by ensuring that support is provided by staff working directly on the Darwin project to other BV staff working on similar activities. A staff development and integration week was held from 3 – 7 February 2014 to develop communications strategies and common workplans between the Darwin project team and the Locally Managed Marine Areas (LMMA) team in Velondriake (attached Annex 28).

Overall, coordination between teams is met through regular communications and oversight by both site-level and national Coordinators, and punctuated integration sessions (two per year) where project staff meet to track progress and develop collaborative workplans.

## 7. Other comments on progress not covered elsewhere

The project exit strategy has been significantly refined this year through its recognition as the only national mangrove REDD+ initiative in the R-PP, thus putting it in the best position to feed the National preparation process and receive additional funding in the future.

Main difficulties encountered by the project include:

- Significant cost of tenure analysis
- Lengthy process for the establishment of protected area and renewal of management transfers, slowing down the securing of community forest user and carbon rights
- The lack of understanding of mangrove forest natural dynamics which is causing uncertainties on the spatial dynamic analysis required by VCS carbon standard. We are currently exploring collaboration with the Kenyan Marine and Fisheries Research Institute to study these dynamics in-depth.

The main risk faced by the project is associated with the attractiveness of the carbon credits for sale to investors and market capacity to absorb REDD+ credits in the medium term. To mitigate this risk, the project is pursuing high valued CCB standard together with VCS in AAB and a financial model is being established to test the sensitivity of the project to market demand.

## 8. Sustainability

On the ground, mangrove conservation meets a strong demand from communities, as the increased demand for mangrove reserves in BOA and the large proportion of communities who have decided to put mangroves under conservation regimes in AAB (30%) testifies.

Lastly, BV is working toward integrating REDD+ into existing sustainable financing strategies for LMMAs across its sites and through the Mihari network of LMMAs by raising communities, staff and NGOs' awareness on REDD+ during internal (attached Annex 28) and external workshops (attached Annex 5). In addition, BV has applied for co-financing to structure CLB boards in AAB into a CLB Federation and develop its capacity in REDD+, with the aim of creating grass-roots support and advocacy for community-based mangrove REDD+.

There is promising evidence that these projects will be attractive investments and thus leverage sustainable financing for mangrove conservation in the long-term. The project intends to build on its recent inclusion in the R-PP, as the only mangrove REDD+ project, to catalyse National Authorities and potential investors' interest along Y3, so as to ensure continuous support and funding to this initiative. The high biodiversity value and levels of endemism in our project sites has been highlighted through observations, biodiversity baseline research, and discussions with Durrell Wildlife Conservation Trust. Additionally, the International Institute for Economic Development, and other carbon credit resellers at the Plan Vivo stakeholders meeting in October 2013 expressed interest in the unique value of our projects and their relation to coral reef conservation (mangroves mediate nutrient and mitigate pollution delivery to corals).

## 9. Darwin Identity

The Blue Forests project is a large programme also funded by the Waterloo and MacArthur foundations in addition to Darwin (attached Annex 1). However the BOA site stands as a distinct Darwin project and is communicated as such to local and international partners.

The project communicates on Darwin by now putting the Darwin logo on the header of the Blue Forests project newsletter (on next release in April 2014), which is sent twice a year to eighty partner NGOs, national, regional and local Authorities as well as Research Institutes. Furthermore, the Darwin logo is included on all maps and reports prepared for the BOA project site.

Within Madagascar, organisations likely to be familiar with the Darwin Initiative include other international conservation NGOs.

## 10. Project Expenditure

**Table 1 project expenditure during the reporting period (1 April 2013 – 31 March 2014)**

| <b>Project spend since last annual report</b> | <b>2013/14 Grant</b> | <b>2013/14 Total actual Darwin</b> | <b>Variance %</b> | <b>Comments (please explain significant)</b> |
|---|----------------------|------------------------------------|-------------------|--|
|---|----------------------|------------------------------------|-------------------|--|

|                           | (£) | Costs (£) |  | variances)  |
|---------------------------|-----|-----------|--|---|
| Staff costs (see below)   |     |           |  |   |
| Consultancy costs         |     |           |  |   |
| Overhead Costs            |     |           |  |   |
| Travel and subsistence    |     |           |  |   |
| Operating Costs           |     |           |  |   |
| Capital items (see below) |     |           |  | We requested to carry forward this line to FY14-15 which was approved prior to this report. |
| Others (see below)        |     |           |  | Equipment required that was not originally budgeted for.                                    |
| <b>TOTAL</b>              |     |           |  |   |

**11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes**

I agree for the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

In AAB fishery and mangrove threats concept models have been finalised in the thirteen fokontany of the pilot site from October to December 2013 and socio-economic data have been collected on a representative sample of 528 households from July to September 2013. Fishery concept models served as a basis to establish rules on authorized fishery gears during the dina revision process. Based on the socio-economic survey data, a typology of production system is currently being produced and will be released in July 2014. It will be used to refine leakage management activity design and will constitute the socio-economic baseline of the REDD+ project.

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2013-2014

| Project summary   | Measurable Indicators   | Progress and Achievements April 2013 - March 2014  | Actions required/planned for next period  |
|---|---|--|---|
| <p><b>Goal/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>Sub-Goal</b></p> <p>Conservation of Madagascar's mangrove habitats and their associated biodiversity</p> |   | <p>Mangrove management plans to reduce deforestation and conduct reforestation (6 ha to-date) are well underway, contributing to the Aichi 2020 targets of increasing areas of protected forest and the CMS action plan for the protection of habitat for migratory birds. Ongoing work at the national level with the CBD focal point, the DIE, and work with TESSA and the EAFPES directly contributes to the CBD targets of evaluating the economic value of ecosystems in Madagascar.</p>  |   |
| <p><b>Purpose/Outcome</b></p> <p>Coastal communities are earning income from the sale of carbon credits, charcoal and timber that they supply through mangrove reforestation and sustainable forest management, so enabling them to improve their livelihoods and conserve mangrove forests in the long term.</p>   | <ul style="list-style-type: none"> <li>• Increase in household revenues (male, female) from charcoal, timber and carbon credits*</li> <li>• Area (ha) of restored and conserved mangrove forest that is under effective community management</li> </ul> | <ul style="list-style-type: none"> <li>• Community management plans were established for 5880 ha of mangroves in Ambaro and Ambanja Bays (AAB)</li> <li>• Tax on mangrove products are collected in 2 of 5 management associations in AAB (about 4600 ha of mangroves) (pilot collected 400,000 MGA over 3 months)</li> <li>• In BOA, 1360 ha of mangrove and 1200 ha of spiny forest in protected area</li> </ul>   | <ul style="list-style-type: none"> <li>• Establishing sustainable harvesting quotas for mangrove timber products in AAB</li> <li>• Enforcing management plans and tax payment through the implementation of mangrove patrols in AAB</li> <li>• Establishing community forest management units, harvesting zones, and monitoring teams in BOA</li> </ul> |
| <p><b>Output 1. Communities have clear and uncontested land and user rights to their customary mangrove areas; and give their Free Prior &amp; Informed Consent to use these areas for a forest carbon project</b></p>  | <ul style="list-style-type: none"> <li>• Area (ha) with secure title (RFRs and GCFs)</li> <li>• Number of individuals (male, female) with formalised user &amp; carbon rights</li> </ul>  | <p>In partnership with the Ministry of Environment in Madagascar, we are working to establish user rights through a mixed model of both management transfers and protected area status which should grant carbon ownership to communities within the respective project areas.</p> <p>In AAB, restructuring and capacity building of local community associations and re-evaluation of their management contract by DREF (May 2014) will secure the long-term management rights over 5880 ha of mangrove to local communities in five Communaute Locale de Base (CLBs) (16,000 people).</p> <p>In Velondriake, a protected area validation expected at the end of 2014 will defer carbon rights to an estimated 7,300 people in the Velondriake LMMA) and 3,000 people in the target site (BOA).</p> |   |

| Project summary  | Measurable Indicators | Progress and Achievements April 2013 - March 2014   | Actions required/planned for next period |
|--|-----------------------|---|--|
| Activity 1.1 Consultation & project development with the communities so as to fulfil the conditions of gaining their Free, Prior and Informed Consent (FPIC) for the implementation of a forest carbon project |                       | <p>AAB: A regional workshop is planned for May 2014 with regional authorities, stakeholders, and community representatives to present the potential positive and negative impacts of REDD+ projects in fulfilment of FPIC. Two village outreach tours on REDD+ are planned following validation by authorities at regional workshop in May 2014.</p> <p>BOA: Consultations carried out at the village-level and local management committee-level for 7 villages to identify stakeholders and explain the objectives of participatory rural appraisals and mangrove conservation (attached Annex 29).</p> <p>Village-level meetings to explain the implications of Plan Vivo projects and voting to move forward on PES agreements for Plan Vivo are expected to occur in late-2014 (attached Annex 26).</p>   |  |
| Activity 1.2 Detailed analyses of land tenure and use rights of the potential mangrove areas with both the government cadastral services and the local communities; and resolution of conflicts                |                       | <p>Tenure regimes have been obtained from participatory mapping at all project sites through focus groups sessions and are delineated in Google Earth (GE) (BOA tenure mapping is shown in attached Annex 10).</p> <p>AAB: Areas under management by the five CLBs are mapped in GE and comparison with the PLOF (official tenure map) is on-going to ensure no private land overlaps with this area. Conflict resolution process took place during the mangrove zoning campaign, no major conflicts were recorded.</p> <p>BOA: Consultant on land tenure analysis outside of project budget and official cadastral record is not publicly available for BOA. Our next step is to assess land ownership rights in the context of project communities and define a process for conflict resolution over land disputes, in context of southern Regional Development Plan and the PSSE for the Velondriake LMMA (attached Annex 12).</p> |  |
| Activity 1.3 Establishment of legal user and carbon rights for community members participating in the project  |                       | <p>AAB: Dina (local legislations) were revised and the Natural Resource Management Transfer (TGRN) renewal is in process and to be completed for the 3/5 CLBs requiring evaluation by DREF in May 2014. BV applied for co-financing to continue CLB board capacity development and structuration on Y3 (See section 8. Sustainability).</p> <p>BOA: The PAG and PSSE associated with protected area status were presented to the SAPM in October 2013. Integration sessions (attached Annex 28) brought attention to the need for more technical information on mangrove management in the management plan, which have been developed and will be resubmitted for finalisation at the end of 2014 (attached Annex 13).</p> <p>The TGRN process in MH has been delayed due to funding shortfalls, but is expected to be underway later this year.</p>  |  |



| Project summary   | Measurable Indicators   | Progress and Achievements April 2013 - March 2014  | Actions required/planned for next period |
|---|---|--|--|
| <p><b>Output 2.</b> Communities have established mangrove A/R, SFM and conservation areas; and are competently managing these areas</p> | <ul style="list-style-type: none"> <li>• Area of mangrove planted</li> <li>• Area of mangrove under SFM and conservation regimes</li> <li>• % of sites implementing clear management plans and which have sustainable harvesting quotas &amp; rotations set according to output 4</li> <li>• Participative monitoring shows a decrease in uncontrolled harvesting of mangroves</li> </ul> | <p>AAB: Over 6 ha of mangrove reforested to date, 1800 ha delineated under conservation with 1885 ha under a controlled harvesting regime through participatory zoning (Annex 14; Annex 18).</p> <p>BOA: Zones, quotas and rotations will be developed at the village-level to validate a Plan Vivo community-led design plan. A strategy for preventing unlawful destruction of mangroves will be drafted with communities, and presented at the Velondriake General Assembly in June 2014.</p> <p>A management plan for use of mangroves for aquaculture to commence May 2014 with completion expected in November 2014 – in partnership with Ministry of Forests at the national level.</p> |  |
| <p>Activity 2.1 Establishment of community management plans, zonings and sustainable harvest quotas</p>                                 |   | <p>AAB: Prezoning of mangrove and mangrove regulation (dina) revisions was completed (Annex 14).</p> <p>BOA: A quota system for timber extraction operating through Befandefa commune is being secured for evaluation against our participatory maps of timber use (attached Annex 15) which is currently under validation with all 11 villages in the project area.</p> <p>A pre-zoning exercise will occur in May 2014 to define forest management units in BOA based on participatory mapping (attached Annex 16) and deforestation concept models (Annex 21).</p>  |  |
| <p>Activity 2.2 Establishment and maintenance of mangrove nurseries by female teams</p>   |   | <p>AAB: One mangrove nursery with 1,000 <i>Avicennia marina</i> seedlings established and maintained by the 12 members of a woman association in Antetezambato, planting is planned in June 2014 (Annex 17).</p> <p>BOA: Classification and pre-zoning to establish eligible areas for reforestation, restoration of natural forest cover in Bay of Assassins will be occur in June and July 2014.</p> <p>MH: The CLB has established an operational <i>Avicennia marina</i> nursery as of January 2014.</p>   |  |
| <p>Activity 2.3 Mangrove planting and maintenance of seedlings by female teams</p>  |   | <p>AAB : 6 ha reforested and 2 ha regularly monitored to calculate mortality rate and record plant's height and number of leave.</p> <p>BOA: First planting and maintenance of mangroves to occur from October 2014 in Bay of Assassins.</p>   |  |

| Project summary   | Measurable Indicators   | Progress and Achievements April 2013 - March 2014   | Actions required/planned for next period |
|---|---|---|--|
| <p><b>Output 3.</b> Communities are producing sustainable charcoal and timber*</p>  | <ul style="list-style-type: none"> <li>All participants have been trained in SFM and improved charcoal production</li> <li>% of sites where timber is harvested according to the sustainable quotas &amp; rotations defined in the management plans</li> <li>Number of improved charcoal production units in place</li> </ul> | <p>Overall, working with charcoal producers still presents a significant legal challenge, but much research has been conducted to establish levels of production and areas where charcoal is driving mangrove loss (all 3 communes in AAB and 1 commune dry forest in Velondriake). In AAB, a forest inventory will allow for establishing sustainable timber harvesting quotas and an in-depth study on alternative fuelwood plantations will take place from May to December 2014.</p> <p>In BOA, concept models (Annex 21) and stakeholder identification (attached Annex 29) have identified the primary drivers of mangrove loss. A monitoring strategy for timber use will be outlined in the Technical Specification (TS) for Plan Vivo will solidify this process.</p> <p>Mangrove charcoal production has started as of February 2014 at another Blue Forest project site, Belo sur Mer, and we are currently investigating the extent and agents of this activity.</p> <p>Honko and the MH CLB have secured funding for fuel efficient stoves and planted 300 trees for leakage management.</p> |  |
| <p>Activity 3.1 Training of the community participants in sustainable harvesting and improved management; initial timber harvesting according to sustainable quotas and planned rotations</p> |   | <p>AAB: This activity was delayed due to significant difficulties in defining a suitable forest inventory by the local forestry services, DREF. The inventory will take place in mid-2014 in partnership with DREF, with BV leading the methodological design.</p> <p>BOA: Implementation of a forest zoning plan and enforcement of management plans and a carbon offsetting strategy are to occur in October through December 2014 with community monitoring and enforcement teams.</p> <p>MH: Training in sustainable forest management and use of alternative wood sources conducted by Honko in 5 villages in December 2013.</p>   |  |
| <p>Activity 3.2 Training &amp; production of charcoal using improved kilns; continued technical support</p>   |   | <p>This activity was altered to monitoring charcoal use and developing an accompanying management plan, as per our change request submitted to Darwin in December 2013.</p> <p>AAB: The result of a BV study involving two EASTA-Pro students on 27 kilns showed that current mangrove charcoal production yields are between 11.4% and 18.9%. A similar study on a larger sample would be necessary to assess whether there is a real significant margin for improvement, as improved production technique yield range between 14% and 20%. The study suggests that the main improvement to current practices is the lengthening of drying period.</p> <p>BOA: Our participatory research confirmed charcoal production in dry forest (attached</p>  |  |

| Project summary   | Measurable Indicators   | Progress and Achievements April 2013 - March 2014  | Actions required/planned for next period |
|---|---|--|--|
|   |   | Annex 15) and identified the provision of alternative fuel sources as a strategy to reduce deforestation (Annex 21). The NGO ADES has approached us for co-financing (Annex 20) and we are currently considering how this fits with our project strategy.  |  |
| <b>Output 4. The carbon stocks and harvestable timber of the community mangroves have been measured and are being accurately monitored</b>  | <ul style="list-style-type: none"> <li>• % of community management units that have been trained to take carbon measurements and have a functioning monitoring team</li> <li>• Biomass and soil carbon measurements have been taken at all sites</li> <li>• Quality controls by BV scientists show less than 10% error in the carbon stocks measurements for all sites</li> <li>• % of sites for which complete monitoring reports are archived in a central project database</li> </ul> | <p>We are currently developing a standardised monitoring methodology across sites through collation of existing carbon stock monitoring methods used (CIFOR, VCS) and collaboration with TESSA and EAFPEs to develop simplified monitoring tools which can be compared for accuracy against scientific measurements in Y3.</p> <p>In AAB, data were consolidated and a publication released in Forests presented results (See Annex 3, Table 2), representing the world's first carbon stock estimates for Madagascar's mangroves.</p> <p>In BOA, an initial carbon stock monitoring campaign and collation of existing data and preliminary land use and land cover classification will be completed June 2014 and secondary carbon stock campaign on Bay of Assassins planned for August through September 2014.</p> |  |
| Activity 4.1. Development of a measurement & monitoring plan which meets the requirements of the selected approved methodology for the generation of carbon offsets (this monitoring will include mangrove planting, timber harvesting & charcoal production) |   | <p>A total of eight (four in southwest, four in northwest) BV staff are trained in monitoring methodology for carbon stocks in mangroves, aiming to develop and roll out a standardised monitoring methodology based on VM0009 (VCS carbon monitoring methodology) across sites.</p> <p>BOA: Participatory mapping, preliminary classification based on remote sensing analysis, and concept models will provide technical backstop for monitoring plans. We plan to use a conservative methodology for calculating carbon stocks for mangroves following the verified Plan Vivo project Mikoko Pamoja in Gazi Bay, Kenya. Biodiversity and socioeconomic monitoring plans are well underway with students from ESSA-Forets (Annex 22) and IHSM (Annex 23) following the CCB standards approach.</p>                   |  |
| Activity 4.2. Creation & training of female monitoring teams in the use of appropriate forest inventories, carbon stock measurements and monitoring protocols   |   | <p>In AAB, a monitoring methodology, standardised based on VCS and Plan Vivo project requirements, will be tested with BV staff and community members starting from August 2014.</p> <p>BOA: A community monitoring team of 12 women including 2 CBMs from the Velondriake LMMA was created in August 2013. The team conducted a one-day classroom and two-day practical workshop on use of CIFOR methodology for carbon stock estimation with the two CBMs conducting an extra day of training on GPS use (attached Annex25). A three-day field mission for monitoring carbon stocks was completed in BOA 5 - 9 August 2013 (6 plots and soil samples taken) (Annex 24).</p>  |  |

| Project summary  | Measurable Indicators   | Progress and Achievements April 2013 - March 2014   | Actions required/planned for next period |
|--|---|---|--|
| Activity 4.3 Stock measurements, continuous monitoring and analysis of the data; integration into management plans; and continued technical support & quality control by BV scientists |   | <p>A community carbon stock database was developed based on preliminary carbon stocks carried out in BOA in August 2013. Training of community members in use of this database is planned to occur in the second round of carbon stock campaigns at both AAB and BOA in late 2014.</p> <p>AAB: Carbon stock data collected in 2012 and 2013 were consolidated and analysed. A final carbon stock monitoring campaign will take place in mid-2014 to comply with VCS standard requirements.</p> <p>BOA: Preliminary carbon stock calculations from 2008 and 2009 data to be consolidated with August 2013 carbon stock measurements. Consolidated measurements will be used as proxies for emissions reductions estimates based on parameters from planned mapping classification.</p> |  |
| <b>Output 5. The requirements for a forest carbon project that will generate carbon offsets are fulfilled</b>  | <ul style="list-style-type: none"> <li>• The government &amp; Designated National Authority (DNA) support the project &amp; are involved in its development</li> <li>• A Project Idea Note (PIN) &amp; business plan prove the viability of the carbon project</li> <li>• A draft Project Design Document (PDD) is written</li> </ul> | <p>National level consultations have been completed at all sites and a Meetings Record in attached Annex 2 has been established to document all progress on government involvement and our participation in the establishment of a REDD+ strategy at the national-level.</p> <p>The project has been well-received by national authorities and a consultation process has been established. The national REDD+ Coordinator will conduct a visit to our AAB project site for the regional workshop in May 2014 (attached Annex 30).</p> <p>Two draft PINs exist, both with release expected in July and November, 2014 for AAB and BOA respectively. PDDs and monitoring reports are being compiled for all sites, with draft releases expected in the project's final year.</p>       |  |
| Activity 5.1. Consultation with the government & Designated National Authority (DNA) in the project development; gaining of DNA support for the project                                |   | <p>National-level consultations conducted for all sites with the DNA, DCC, GT-MRV, ONE, and CIME in November 2013 (attached Annex 2). A national level consultation process was established and project updates were provided to all parties in March 2014.</p> <p>The REDD+ Coordinator will attend the regional workshop on REDD+ (attached Annex 30) and a two-day field visit in the AAB project site.</p> <p>Regional-level consultations were conducted with DRPRH, DREF, IHSM, DDR and MNP for BOA in November 2013, with authorities expressing preliminary support for the project (attached Annex 8). A follow up workshop is planned in July 2014 before finalising the BOA PIN.</p>   |  |
| Activity 5.2. Production of a Project Idea Note (PIN) and business plan based on actual monitoring; submission to investors / funders  |   | Overall, we have produced one final PIN and two draft PINs. One business plan and final PIN are in preparation with release expected in May and July, 2014, respectively.   |  |

| Project summary  | Measurable Indicators | Progress and Achievements April 2013<br>- March 2014  | Actions required/planned for next<br>period |
|--|-----------------------|---|---|
|  |                       | <p>In AAB, PIN production was delayed due to the amount of work necessary to assess with accuracy the project area and leakage management activities, the latter requiring substantial data collection and analyses, as well as assessment of the project's financial viability and additionally. The aim is to release the PIN in October 2014.</p> <p>Five students from Tuck business school visited Madagascar (Annex 7) from 8 – 20 March 2014, to meet with project staff and collect data to build a financial model (to be released May 2014) which will act as the basis of the business plan for AAB. We are currently advertising for a Tuck intern to complete the AAB business plan.</p> <p>A draft PIN has been prepared for the BOA Plan Vivo project and is expected to be ready for submission to the Plan Vivo Foundation in July 2014, pending approval by government authorities.</p> <p>The MH PIN (submitted with the Darwin Y1 report) is ready to be registered as a project with the Plan Vivo Foundation. However, the project is currently on standby due to funding and human resource challenges with partner organisation, Honko.</p> |   |
| 5.3 Production of monitoring reports and a draft project design document |                       | <p>The release of the draft PDD for AAB is scheduled in February 2015, and final PDD in May 2015.</p> <p>A deliverables schedule for the BOA Plan Vivo project is as follows: (attached Annex 26):</p> <ul style="list-style-type: none"> <li>• Draft TS (monitoring plan) to be submitted for review to Plan Vivo in November 2014</li> <li>• Draft PDD and first monitoring report planned for release in January 2015</li> <li>• Final TS and PDD expected for submission to PV in April 2015</li> </ul>   |   |

## Annex 2 Project's full current logframe

| Project summary   | Measurable Indicators  | Means of verification  | Important Assumptions   |
|---|--|--|---|
| <p><b>Goal:</b><br/>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>Sub-Goal:</b><br/><br/>Conservation of Madagascar's mangrove habitats and their associated biodiversity</p>   | <ul style="list-style-type: none"> <li>• Deforestation rates for natural forest habitats of the coastal districts of western Madagascar</li> <li>• % of charcoal and timber that comes from the deforestation of natural forests of the coastal districts of western Madagascar</li> </ul> | <ul style="list-style-type: none"> <li>• Existing CI-MEFT-USAID National deforestation analysis for 1990-2000-2005; present BV &amp; literature analyses of mangrove deforestation; future national deforestation analyses that CI-MEFT plan to undertake</li> <li>• Existing CI, USAID &amp; WWF reports on timber &amp; charcoal consumption in coastal areas; future participative appraisals &amp; research</li> </ul> |   |
| <p><b>Purpose</b><br/><br/>Coastal communities are earning income from the sale of carbon credits, charcoal and timber that they supply through mangrove reforestation and sustainable forest management, so enabling them to improve their livelihoods and conserve mangrove forests in the long term.</p>   | <ul style="list-style-type: none"> <li>• Increase in household revenues (male, female) from charcoal, timber and carbon credits*</li> <li>• Area (ha) of restored and conserved mangrove forest that is under effective community management</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Sales figures of charcoal and timber (from participative appraisals done to establish mangrove management plans &amp; uses; project records of sales)</li> <li>• Household revenues, disaggregated by sex</li> <li>• Project GIS, land titles and community management contracts</li> </ul>   | <ul style="list-style-type: none"> <li>• Sustainable mangrove timber and charcoal is competitive with those from other sources</li> <li>• Adequate, long term market demand exists for such carbon offsets (or strong donor commitment to REDD+ continues)</li> </ul> |

| Project summary   | Measurable Indicators   | Means of verification  | Important Assumptions  |
|---|---|--|--|
| <p><b>Outputs*</b></p> <p>1. Communities have clear and uncontested land and user rights to their customary mangrove areas; and give their Free Prior &amp; Informed Consent to use these areas for a forest carbon project</p> | <ul style="list-style-type: none"> <li>• Area (ha) with secure title (RFRs and GCFs)</li> <li>• Number of individuals (male, female) with formalised user &amp; carbon rights</li> <li>• Decrease in the incidence of forest exploitation by outsiders</li> </ul>   | <ul style="list-style-type: none"> <li>• Government cadastral records</li> <li>• Land titles and community conservation contract agreements</li> <li>• Project GIS</li> <li>• Community management association records</li> </ul>  | <ul style="list-style-type: none"> <li>• No significant land disputes exist so that uncontested ownership can be established</li> <li>• If there are land disputes, these can be resolved</li> <li>• The legal formalisation of user and carbon rights using existing instruments does not marginalise women</li> </ul>  |
|   | <ul style="list-style-type: none"> <li>•</li> </ul>   | <ul style="list-style-type: none"> <li>•</li> </ul>  | <ul style="list-style-type: none"> <li>•</li> </ul>  |
| <p>2 . Communities have established mangrove A/R, SFM and conservation areas; and are competently managing these areas</p>  | <ul style="list-style-type: none"> <li>• Area of mangrove planted</li> <li>• Area of mangrove under SFM and conservation regimes</li> <li>• % of sites implementing clear management plans and which have sustainable harvesting quotas &amp; rotations set according to output 4</li> <li>• Participative monitoring shows a decrease in uncontrolled harvesting of mangroves</li> </ul> | <ul style="list-style-type: none"> <li>• Participative maps in community management contracts; project GIS of community management areas</li> <li>• Planting &amp; maintenance schedule; project GIS of planted areas</li> <li>• Community monitoring data books</li> </ul>  | <ul style="list-style-type: none"> <li>• Residents can forego immediate exploitation of mangroves long enough to begin earning from A/R and SFM</li> <li>• The community participants agree to robust enough management plans</li> <li>• Growth cycles of target mangrove tree species allow adequate production of seedlings within project schedule</li> </ul> |
| <p>3. Communities are producing sustainable charcoal and timber*</p>  | <ul style="list-style-type: none"> <li>• All participants have been trained in SFM and improved charcoal production</li> <li>• % of sites where timber is harvested according to the sustainable quotas &amp; rotations defined in the management plans</li> <li>• Number of improved charcoal production units in place</li> </ul>   | <ul style="list-style-type: none"> <li>• Training workshop reports</li> <li>• Carbon monitoring for each site; verification of rotational harvesting by BV project staff; checked monthly</li> <li>• Existence &amp; use of improved kilns within the target sites as verified by BV staff; project reports</li> </ul> | <ul style="list-style-type: none"> <li>• The combination of individual ownership of A/R and SFM plots with the collective management associations is effective in preventing unsustainable harvesting</li> </ul>   |



| Project summary   | Measurable Indicators   | Means of verification   | Important Assumptions   |
|---|---|---|---|
| <p>4. The carbon stocks and harvestable timber of the community mangroves have been measured and are being accurately monitored</p>   | <ul style="list-style-type: none"> <li>• % of community management units that have been trained to take carbon measurements and have a functioning monitoring team</li> <li>• Biomass and soil carbon measurements have been taken at all sites</li> <li>• Quality controls by BV scientists show less than 10% error in the carbon stocks measurements for all sites</li> <li>• % of sites for which complete monitoring reports are archived in a central project database</li> </ul> | <ul style="list-style-type: none"> <li>• Training workshop reports &amp; Standard Operating Procedures</li> <li>• Carbon stock calculations</li> <li>• Quality Control reports</li> <li>• Project archive; 1st measurements taken by month 9; monitoring checked monthly</li> </ul> | <ul style="list-style-type: none"> <li>• Adequate project finance can be gained from carbon revenues or other sources to support long term monitoring</li> </ul>  |
| <p>5. The requirements for a forest carbon project that will generate carbon offsets are fulfilled</p>  | <ul style="list-style-type: none"> <li>• The government &amp; Designated National Authority (DNA) support the project &amp; are involved in its development</li> <li>• A Project Idea Note (PIN) &amp; business plan prove the viability of the carbon project</li> <li>• A draft Project Design Document (PDD) is written</li> </ul>   | <ul style="list-style-type: none"> <li>• Formal letter of support from the government (DNA) for the project</li> <li>• Project Idea Note &amp; business plan submitted to investors</li> <li>• Draft Project Design Document</li> </ul>   | <ul style="list-style-type: none"> <li>• A suitable approved methodology specific to mangroves is available by 2014 (this process has already begun, and a CDM A/R methodology has been recently approved)</li> <li>• Formal government support to the project is not jeopardized by changes in government</li> </ul> |
| <p>Note: * - these project outputs will not necessarily be fully realised within the three years of the requested funding given that forest carbon projects normally work on a 5-year verification cycle and can take several years to be developed; 1<sup>st</sup> generation planted trees will take several years to attain a harvestable size</p> |   |   |   |

## Annex 3 Standard Measures

Please expand and complete Table 1: new projects should complete the Y1 column and also indicate the number planned during the project lifetime. Continuing project should cut and paste the information from previous years and add in data for the most recent reporting period. Quantify project standard measures over the last year using the coding and format from the Darwin Initiative Standard Measures (see website for details: <http://darwin.defra.gov.uk/resources/>) and give a brief description. Please list and report on relevant Code Nos. only. The level of detail required is specified in the Standard Measures Guidance notes under 'definitions' column. Please devise and add any measures that are not captured in the current list. Please note that these measures may not be a substitute for output level objectively verifiable indicators in the project logframe.

**Table 1 Project Standard Output Measures**

| Code No.<br>Established codes | Description   | Year 1<br>Total  | Year 2<br>Total | Year 3<br>Total | Year 4<br>Total | Total to date     | Number planned for reporting period | Total planned during the project | Brief Description Year 2  |
|-------------------------------|---|------------------|-----------------|-----------------|-----------------|-------------------|-------------------------------------|----------------------------------|---|
| 1B                            | Number of people to attain PhD qualification (in host country)  | 0                | 0               |                 |                 | 0                 | 0                                   | 1                                | One PhD student proposal accepted   |
| 2                             | Number of people to attain Masters qualification (MSc, MPhil etc)   | 0                | 0               |                 |                 | 0                 | 0                                   | 2                                | Two master students currently preparing final defense (expected June 2014)                              |
| 3                             | Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)                                | 0                | 1               |                 |                 | 1                 | 0                                   | 0                                | On staff member is undertaking GIS training to become a certified with the Society for Conservation GIS |
| 4C                            | Number of postgraduate students to receive training   | 4                | 5               |                 |                 | 9                 | 4                                   | 0                                | Five business students trained in REDD+ basics and opportunity cost calculation                         |
| 5                             | Number of people to receive at least one year of training (which does not fall into categories 1-4 above)     | 0                | 1               |                 |                 |                   | 1                                   | 2                                | One staff member conducted one year of training in use of TESSA   |
| 6A                            | Number of people to receive other forms of education/training (which does not fall into categories 1-5 above) | 2 women<br>2 men | 12 women        |                 |                 | 14 women<br>2 men | 20 women<br>10 men                  | 30 women<br>30 men               | 12 women trained in carbon stock monitoring   |
| 6B                            | Number of training  | 1                | 2               |                 |                 | 3                 | 2                                   | 5                                | One week of   |

| Code No.<br>Established codes | Description   | Year 1 Total | Year 2 Total | Year 3 Total | Year 4 Total | Total to date | Number planned for reporting period | Total planned during the project | Brief Description Year 2  |
|-------------------------------|---|--------------|--------------|--------------|--------------|---------------|-------------------------------------|----------------------------------|---|
|                               | weeks to be provided  |              |              |              |              |               |                                     |                                  | training on carbon monitoring, one week of staff training on Excel and workplanning     |
| 8                             | Number of weeks to be spent by UK project staff on project work in the host country   | 2            | 2            |              |              | 4             | 2                                   | 18                               | One week spent by financial director, one week spent by conservation programmes manager |
| 9                             | Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country | 0            | 1            |              |              | 1             | 1                                   | 1                                | One mangrove management plan finalised for one CLB in AAB                               |
| 10                            | Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording                             | 0            | 0            |              |              | 0             | 0                                   | 1                                |   |
| 11A                           | Number of papers to be published in peer reviewed journals  | 0            | 1            |              |              | 1             | 1                                   | 3                                | One publication in Forests, one in Madagascar Conservation and Development              |
| 12A                           | Number of computer based databases to be <b>established</b> and handed over to host country   | 1            | 0            |              |              | 1             | 0                                   | 0                                | Data provided to GT-MRV in December 2012  |
| 14A                           | Number of conferences/seminars/workshops to be <b>organised</b> to present/disseminate findings   | 2            | 1            |              |              | 1             | 3                                   | 0                                | One workshop organised in Morondava (15-18 April 2013)                                  |
| 14B                           | Number of conferences/seminars/workshops <b>attended</b> at which findings from Darwin project work will be presented/  | 0            | 2            |              |              | 2             | 2                                   | 3                                | Two presentations at ESSA-Forêts symposium, one   |

| Code No.<br>Established codes | Description  | Year 1 Total | Year 2 Total | Year 3 Total | Year 4 Total | Total to date | Number planned for reporting period | Total planned during the project | Brief Description Year 2   |
|-------------------------------|--|--------------|--------------|--------------|--------------|---------------|-------------------------------------|----------------------------------|--|
|                               | disseminated.  |              |              |              |              |               |                                     |                                  | presentation to TESSA in UK  |
| 15A                           | Number of national press releases in host country(ies)   | 0            | 1            |              |              | 2             | 1                                   | 3                                | Press release for Forests publication  |
| 15B                           | Number of local press releases in host country(ies)  | 1            | 1            |              |              | 2             | 1                                   | 6                                | Press release for Forests publication  |
| 15C                           | Number of national press releases in UK  | 0            | 1            |              |              | 1             | 1                                   | 3                                | Press release for Forests publication  |
| 16A                           | Number of newsletters to be produced   | 2            | 3            |              |              | 5             | 3                                   | 6                                | Two Darwin newsletters and one national newsletter   |
| 16C                           | Estimated circulation of each newsletter in the UK   | 3000 people  | 6000 people  |              |              | 9000 people   | 6000 people                         | 10 000                           | Two articles in the Darwin newsletter  |
| 18D                           | Number of local TV programmes/features in UK   | 0            | 1            |              |              | 1             | 1                                   | 0                                | Featured in Plan Vivo Standards Community PES video: <a href="http://www.youtube.com/watch?v=cTe452AK2uQ">http://www.youtube.com/watch?v=cTe452AK2uQ</a> |
| 19A                           | Number of national radio interviews/features in host county(ies)                                 | 0            | 0            |              |              | 0             | 0                                   | 3                                |  |
| 19C                           | Number of local radio interviews/features in host country(ies)                                   | 0            | 0            |              |              | 0             | 0                                   | 8                                |  |
| 23                            | Value of resources raised from other sources (ie in addition to Darwin funding) for project work | £401,800     | 0            |              |              | £368,159      | 0                                   | £300,000                         | Funding secured from MacArthur and Waterloo Foundation in Y1   |

**Table 2 Publications**

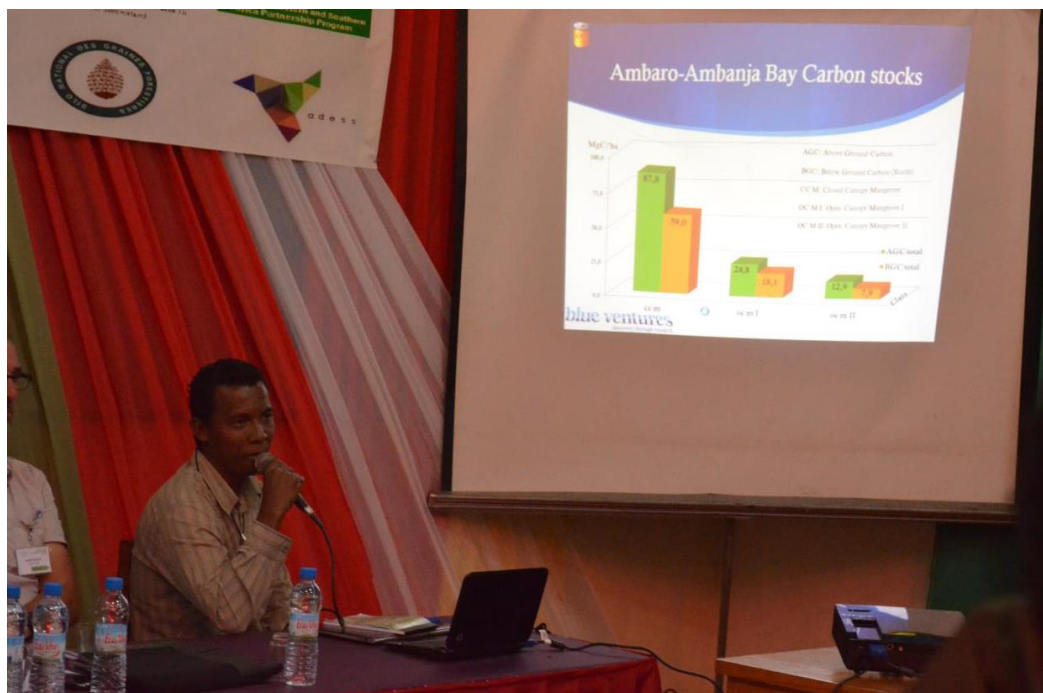
| Type<br>(eg journals, manual, CDs) | Detail<br>(title, author, year)   | Publishers<br>(name, city)  | Available from<br>(eg contact address, website)   | Cost £ |
|------------------------------------|---|-----------------------------|---|--------|
| Factsheet*                         | Blue Forests: Leveraging sustainable financing to protect critical coastal ecosystems and | BV Conservation, London, UK | <a href="http://www.blueventures.org/images/pdfs/fact_sheets/BVfactsheet_BlueForests(LowRes).pdf">http://www.blueventures.org/images/pdfs/fact_sheets/BVfactsheet_BlueForests(LowRes).pdf</a> | £300   |

|                           |   |  |   |  |
|---------------------------|---|--|---|--|
|                           | livelihoods. Kate England, Garth Cripps, Trevor Jones, Aude Carro. April 2013.  |  |   |  |
| Blog                      | A meeting of minds: Blue Carbon in the Tsiribihina Delta. Kate England. May 2013.   | BV Conservation, Toliara, Madagascar                 | <a href="http://blog.blueventures.org/a-meeting-of-minds/">blog.blueventures.org/a-meeting-of-minds/</a>  |  |
| Newsletter                | Starting up Blue Forests in Northwest Madagascar. Aude Carro. June 2013.  | Darwin DEFRA   | <a href="http://darwin.defra.gov.uk/newsletter/April2013newsletterFINAL.pdf">http://darwin.defra.gov.uk/newsletter/April2013newsletterFINAL.pdf</a>   |  |
| Peer-reviewed Editorial   | Shining a light on Madagascar's mangroves. Trevor G. Jones. July 2013.  | Madagascar Conservation and Development, Madagascar. | <a href="http://www.blueventures.org/images/articles/publications/reports/Jones.T-mangroves2013.pdf">http://www.blueventures.org/images/articles/publications/reports/Jones.T-mangroves2013.pdf</a>   |  |
| Tri-annual newsletter     | Lettre d'information du projet Blue Forests #1. Aude Carro. July 2013   | BV Conservation, Ambanja, Madagascar                 | <a href="http://www.blueventures.org/images/pdfs/blue_forests/Blue-Forests-NL%20April-June2013.pdf">http://www.blueventures.org/images/pdfs/blue_forests/Blue-Forests-NL%20April-June2013.pdf</a>   |  |
| Blog                      | Longing for a carbon project. Sylvia Paulot. August 2013.   | BV Conservation, Toliara, Madagascar                 | <a href="http://blog.blueventures.org/longing-for-a-carbon-project/">blog.blueventures.org/longing-for-a-carbon-project/</a>  |  |
| Blog                      | Blue Forests: Progress made and looking forward. Trevor G. Jones. August 2013.  | BV Conservation, Vancouver, Canada                   | <a href="http://blog.blueventures.org/blue-forests-progress-made-and-looking-forward/">blog.blueventures.org/blue-forests-progress-made-and-looking-forward/</a>  |  |
| Newsletter                | The time is now for science and markets to build on social momentum for mangrove restoration in Madagascar. Kate England. October 2013.   | Darwin DEFRA   | <a href="http://darwin.defra.gov.uk/newsletter/July2013newsletter.pdf">http://darwin.defra.gov.uk/newsletter/July2013newsletter.pdf</a>   |  |
| Peer-reviewed Publication | Ecological Variability and Carbon Stock Estimates of Mangrove Ecosystems in Northwestern Madagascar. Trevor G. Jones, Harifidy R. Ratsimba, Lalao Aigrette, Garth Cripps, Adia Bey. January 2014. | Forests, Basel, Switzerland                          | <a href="http://www.blueventures.org/images/articles/publications/reports/Jones_2014_forests-05-00177.pdf">http://www.blueventures.org/images/articles/publications/reports/Jones_2014_forests-05-00177.pdf</a>                                     |  |
| Press Release             | Landmark study shows the true value of Madagascar's mangroves. Trevor G. Jones. January 2014.   | BV Conservation, London, UK                          | <a href="http://www.blueventures.org/newsroom-latest-news/landmark-study-shows-the-true-value-of-madagascars-mangroves.html">http://www.blueventures.org/newsroom-latest-news/landmark-study-shows-the-true-value-of-madagascars-mangroves.html</a> |  |
| Newsletter                | Conducting participatory mapping in southwest Madagascar to contextualize past and present natural resource-use and plan for future needs. Kate Dewar, Trevor G. Jones. February 2014.            | Darwin DEFRA   | Submitted article Jan 2013, location TBD  |  |
| Magazine article          | From BC's Gulf Islands to Madagascar's mangroves. Trevor G. Jones. Spring 2014.   | Branchlines, University of British Columbia, Canada  | <a href="http://www.blueventures.org/images/articles/publications/reports/Branchlines_Spring_2014.pdf">http://www.blueventures.org/images/articles/publications/reports/Branchlines_Spring_2014.pdf</a>   |  |
| Blog                      | Using the Right Tools for the Job: My experiences with TESSA. Lalao Aigrette. March 2014.   | BV Conservation, Toliara, Madagascar                 | <a href="http://blog.blueventures.org/right-tools-job-experiences-tessa/">http://blog.blueventures.org/right-tools-job-experiences-tessa/</a>   |  |
| Blog                      | Theory of Change: Communities think critically about pathways to sustainable management. April 2014. Cicelin Rakotomahazo.  | BV Conservation, Toliara, Madagascar                 | <a href="http://blog.blueventures.org/theory-change-communities-think-critically-pathways-sustainable-management/">http://blog.blueventures.org/theory-change-communities-think-critically-pathways-sustainable-management/</a>                     |  |

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



Annex 3: Image of the front page of one of the Convention de Stage with ESSA Forêts.



Annex 4: Raymond presenting results of carbon stock monitoring in Ambaro-Ambanja Bay at the ESSA-Foret Symposium on 11 December, 2013.



## CONVENTION DE COLLABORATION

### Concernant

« La mise en œuvre d'un projet « Blue Carbon » dans le Paysage  
Mangroves de Manambolo et Tsiribihina » - Phase II

Entre,

**Le Programme du WWF à Madagascar et dans l'Océan Indien  
Occidental**, sis au Près lot 11 M 85 Ter, Antsahavato 101, représenté par Monsieur  
Richard Hughes, Représentant Régional, ci-après désigné « WWF ».

D'une part,

Et,

**Blue Ventures Conservation**, sis à Omnibus Business Centre, 39-41  
North Road, London, N7 9DP Royaume Uni, représenté par Dr Alasdair  
Harris, Executive Director, ci-après désigné « Blue Ventures ».

D'autre part,

*Handwritten signature*

Annex 6: Image of the front page of the Convention de Collaboration with WWF Madagascar.



Annex 7: Tuck Business School students, Sarah Mahlab and Rob Franklin, and Mangrove Conservation Officer for Blue Ventures, Sylvia Paulot, interview mangrove loggers in Borengeny, Tsiribihina Delta.





Annex 9. Snapshot of participatory mapping results from AAB in Google Earth.

**Management options of mangroves in Madagascar in the context of community-based mangrove REDD+ projects**

Forests of mangroves in Madagascar are governed by a complex legal framework. First, regarding their physical character, mangroves fall under both forestry and fishery regulation. Under forestry regulation, mangroves are clearly defined as forests<sup>i</sup>. Under fishery law, mangroves are designed to be subject to specific fishery regulations. Two mangrove areas in the northwest of the country are designated as Biologically Sensitive Shrimp Zones<sup>ii</sup>. Concerning their ownership, due to their geographic location which is within twelve miles from shore to the sea and between the twenty five meters bandwidth from shore to the land, they are qualified as part of the public domain of the state<sup>iii</sup>. In addition to that, as naturally grown forests, the forestry regulation also recognizes them as property of the state<sup>iv</sup>. However, despite this public property, it is not uncommon to see private ownership in some mangrove areas<sup>vii</sup>. An important specificity of mangroves is their qualification as sensitive areas<sup>vii</sup> which are defined as an area with specific value and fragility towards human activities and events<sup>viii</sup>. Due to this complex legal status, the management options of mangroves are not easy to establish. Based on the analysis of the existing legal framework and discussion with the national authority in charge – the Department of Natural Resource Valorization department of natural resource valorization (DVRN) at the Ministry of Environment – we will present the possible management options that are open for mangrove conservation, the current policy governing REDD+ projects and the legal barriers to sustainable management.

**I - Different management options and requirements for mangroves**

**1. Management options**

**1. Acquiring land tenure**

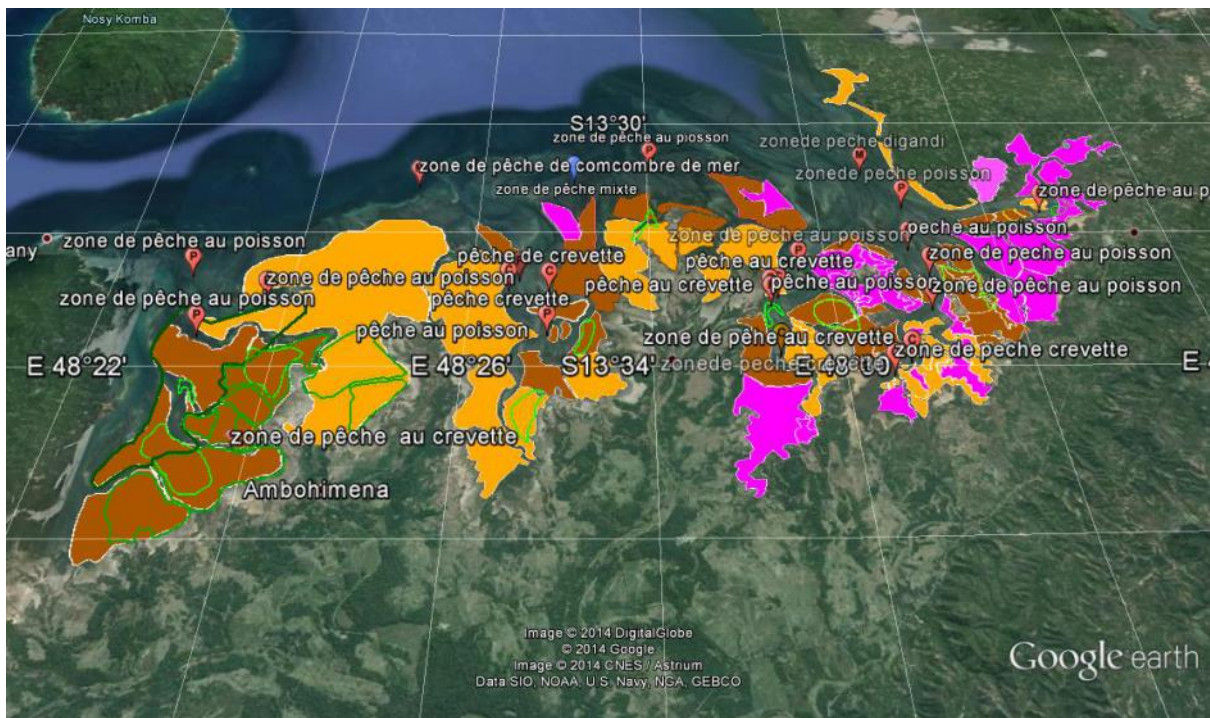
In order to have full use of resources, acquiring ownership is the most secure mean to exploit mangroves. However, mangroves being the property of the state, the options are limited to the following.

*i. A concession on the land*

The concession gives the grantee the right to exploit the land and the related resources on this land for the duration of thirty years renewable<sup>x</sup>. The concession will be subject to some specifications (“*cahier de charges*”) in which the obligations of the grantee and the state are explained. In the context of mangrove conservation sustainable use, the concession will

Annex 11. Snapshot of first page of draft analysis of legal mechanisms for obtaining use and management rights over mangroves.



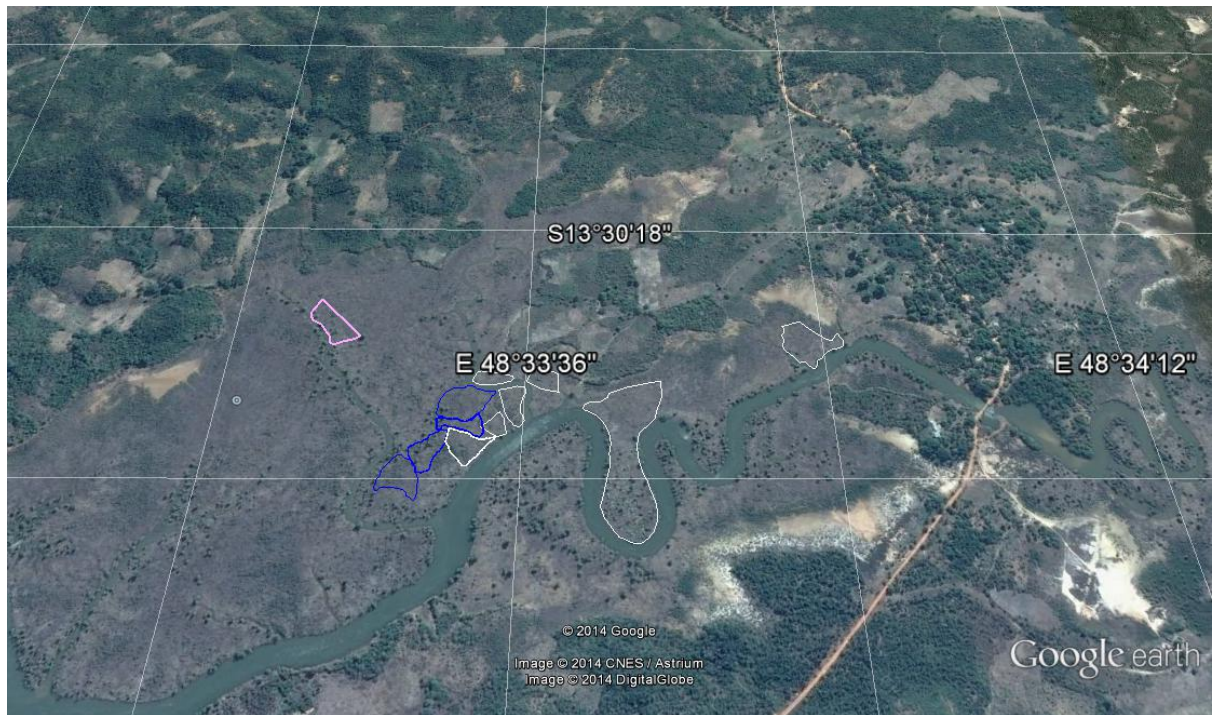


Annex 14. 1800 ha of protection (brown), 1885 ha of controlled harvesting (orange) and 2195 ha of reforestation areas (pink) have been delineated through participatory mangrove zoning.



Annex 17. Dimantoid women's association women preparing seedling pots by filling them with a mixture of mud and sand.

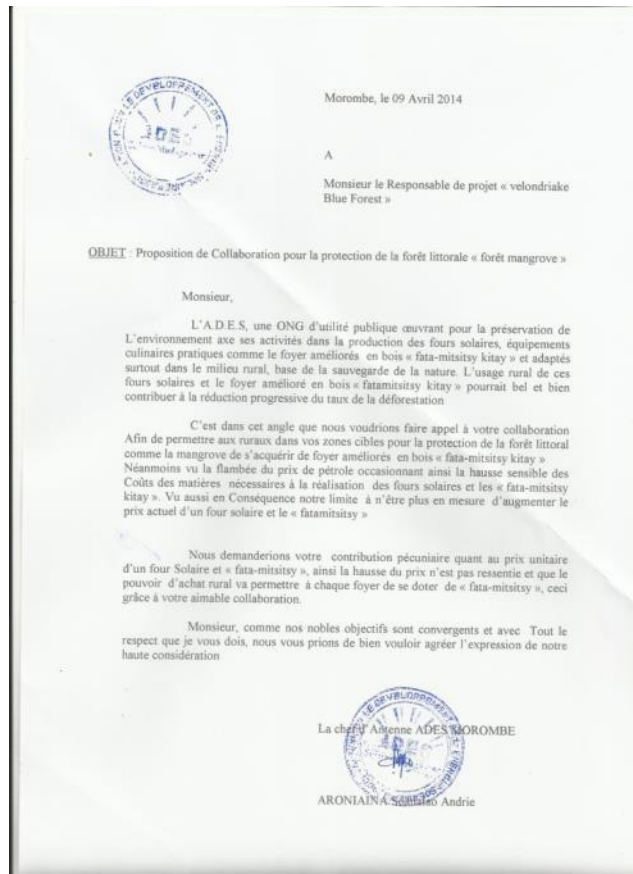




Annex 18. Google Earth image with overlay showing areas of outline of mangrove areas now replanted.



Annex 19. Front page of the study carried out by EASTA-PRO students on charcoal kilns.



Annex 20. Letter from ADES to co-finance fuel-efficient stoves in BOA.



Annex 21. Community member presenting the results of their concept model to other community members on 21 January, 2014, in the Bay of Assassins.



UNIVERSITE D'ANTANANARIVO  
 \*\*\*\*\*  
 ECOLE SUPERIEURE DES SCIENCES AGRONOMIQUES  
 \*\*\*\*\*  
 DEPARTEMENT DES EAUX ET FORETS

Mémoire de fin d'études en vue de l'obtention du diplôme d'Ingénieur en sciences agronomiques

OPTION EAUX ET FORETS

Promotion : HINA

**MISE EN PLACE D'UN ETAT DE REFERENCE DE LA BIODIVERSITE  
 EN VUE DE L'IMPLANTATION D'UN PROJET CARBONE FORESTIER  
 DE MANGROVES A VELONDRIAKE  
 (Tuléar, Sud-Ouest de MADAGASCAR)**

Année : 2009-2014

Présenté par : ANDRIATSITOHAINA Ravosaina Ntsiva Nirinimanitra

Soutenu le 24 Avril 2014

Devant le Jury composé de :

- Président** : Mr RAMAMONJISOA Bruno, Professeur titulaire
- Rapporteur** : Mme RABENILALANA Mihajamanana, Docteur-Ingénieur
- Co-Rapporteur** : Mme Kate ENGLAND, Chercheur de Blue Ventures
- Examinateur** : Mme RAVAKA Annick, Assistante de recherche



Annex 22. Front page of thesis by ANDRIATSITOHAINA Ravosaina Ntsiva Nirinimanitra on the biodiversity of BOA mangrove forests.

MINISTRE DE L'ENSEIGNEMENT SUPERIEUR ET DE LA RECHERCHE SCIENTIFIQUE  
 UNIVERSITE DE TOILIARA  
 INSTITUT HALIEUTIQUE ET DES SCIENCES MARINES

Thème : Impacts socio-économiques de la conservation des mangroves dans le contexte de REDD+ - Cas de la baie des assassins de l'aire marine protégée de Velondriake - (Sud-ouest de Madagascar).

Projet de thèse proposé par : RAKOTOMAHAZO Cicelin

Annex 23. Front page of PhD thesis proposal by RAKOTOMAHAZO Cicelin on socioeconomic baseline of BOA mangroves.





Annex 24. Sylvia, Blue Ventures Mangrove Conservation Officer, shows female participants how to measure diameter at breast height (dbh) of mangroves in Isony Mangrove Reserve in Bay of Assassins.



## Assessment of financially exploited ecosystem services in the Velondriake locally-managed marine area (LMMA), SW Madagascar



RAVAOARINOROTSIHOARANA Lalao Aigrette

Cambridge, March 2014

**blue ventures**  
discovery through research

Annex 27. Snapshot of first slide of presentation by Blue Ventures' Lalao Ravaoarinosihoarana to TESSA partners.

### Checklist for submission

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