

Darwin Initiative: Half Year Report

(due 31 October 2013)

Project Ref No	19-016
Project Title	Leveraging markets to conserve mangrove biodiversity and alleviate poverty in Madagascar
Country(ies)	Madagascar
Lead Organisation	Blue Ventures Conservation
Collaborator(s)	
Project Leader	<i>Dr. Alasdair Harris</i>
Report date and number (eg HYR3)	<i>31 October 2013, HYR2</i>
Project website	http://www.blueventures.org/conservation/blue-forests.html

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up).

Activity 1.1 Consultation & project development with the communities so as to gain their free, prior and informed consent for the implementation of the forest carbon project

Initial community consultation and engagement of regional authorities has progressed, particularly in the Southwest. Actions included:

- Attending the International Mangrove Day in Ambondrolava to engage with the Mamelon Honko VOI (community-based management association), the Direction Régionale de l'Environnement et des Forêts (DREF), and the Institut Halieutique et des Sciences Marines (IHSM)
- Preliminary consultations in Velondriake for a Plan Vivo mangrove and spiny forest project at the locally managed marine area (LMMA) management committee-level
- Stakeholder identification study in the Bay of Assassins
- An educational film about community-based management of mangroves in the Bay of Assassins was created in partnership with Blue Ventures' Education programme
- Materials for village outreach tours (comics and slides) have been tested in focus groups and shared between northwest and southwest project sites.
- In the Northwest, consultation with local and regional authorities continued through regular courtesy visits to the Region Chief and the Fishery and Forestry regional services in May, as well as regular meetings (4) with the District level Forestry services in Ambanja.

Efforts to scale-up Free, Prior, and Informed Consent (FPIC) in the upcoming 6 months will include: preparations for a Village Outreach Tour (VOT) in the Velondriake LMMA area on mangrove uses and sustainable management (October and November 2013), a regional workshop on mangrove management in Diego (March 2014), and a climate change and carbon offsetting VOT in the Velondriake LMMA (April 2014).

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

A terms of reference for a cadastral tenure analysis was developed for Velondriake and Ambaro-Ambanja Bays. However the cost of this analysis, assessed by two local specialists, was prohibitive and beyond our budget (>7 000 GBP).

Therefore, data on tenure will be derived from participative appraisals and cross-referencing with the official cadastral database (PLOF) in Ambaro-Ambanja Bay and desk-based research as well as key informant interviews for the Velondriake LMMA, where the PLOF is not available.

Participatory mapping was conducted in the 15 villages of the Ambanja- Ambaro Bay pilot site (April-June 2013) and is planned for 7 villages around the Bay of Assassins within the Velondriake LMMA (October 2013). Results of these analyses should provide sufficient information on land tenure and use rights, and are expected to be ready for Velondriake and the Ambanja-Ambaro Bay pilot site by January and November 2014, respectively.

In addition, building on a former analysis carried out by Blue Ventures' policy analyst in March, a mangrove tenure and management policy analysis is being completed as part of a three month research project with completion expected in December 2013.

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

Two methods for gaining tenure and use rights for local communities, identified through the analysis of land tenure options, are being trialled across sites.

Natural resource management transfer contracts (GELOSE Law, 1996) are already in place in Ambondrolava and the Ambaro-Ambanja Bay pilot sites. In both locations, most of the contracts require renewal for a second trial period of 3 to 10 years which requires a formal evaluation of past performance to be carried out by the DREF. With the exception of Mamelon Honko VOI in Ambondrolava, none of the local management associations have secured funding for this task. Further, in Ambaro-Ambanja Bay the DREF requires carrying out a re-assessment of resources due to the extended period between expiration of contracts (i.e. >2 years). Following forest inventories in November 2013, evaluation and contract renewal is expected for management associations in early 2014 in Ambaro-Ambanja with the support of Blue Ventures. In Ambondrolava, renewal is expected to occur in November 2013 supported by funding from Fonce Regional de Developpement Agricole Pilote (FRDA).

With the support of Blue Ventures, the management committee for the Velondriake LMMA achieved temporary protected status in 2010 under Madagascar's Protected Areas Act (*Loi N° 2001/05 portant Code de gestion des aires protégées* – currently under renewal). This temporary protection status was extended in March 2013 for an additional two years. It is expected that full protection status will be gained pending completion of the environmental and social safeguard plan (PSSE). The PSSE for the Velondriake LMMA outlines a conflict resolution process, which will additionally form the basis of the conflict resolution process required for a Plan Vivo project within the Velondriake LMMA. Achieving permanent protected area status is expected to secure legal use and carbon rights at the local-level within the Velondriake LMMA. The management plan for the Velondriake LMMA, includes a mangrove forest carbon project as a sustainable financing strategy, and will be presented to all relevant ministries (October 2013).

Activity 2.1 Development of a measurement & monitoring plan which meets the requirements of the selected approved methodology for the generation of carbon offsets

In Ambaro-Ambanja Bay, concept models to identify the drivers and underlying causes of mangrove deforestation and degradation have been developed in all 15 villages. A socio-economic baseline conducted in accordance with the VCS VM0009 and CCBA standards is expected by December 2013, based on the combined results from household surveys conducted in June-September 2013 (n = 480) and previous participatory mapping (April-June 2013). A desk-based study aimed at establishing a biodiversity baseline and identifying High Conservation Values (HCV) in mangrove forests (and associated habitats) in Ambanja and Ambaro Bays, is underway by an MSc Student at the University of New Mexico, with results expected in April 2014.

In the Southwest, significant progress toward developing concept models, building baselines, and

identifying project monitoring indicators according to Plan Vivo standards has been made. In Velondriake, the project team has added a full time PhD researcher from the IHSM in August 2013 dedicated to building a socioeconomic baseline from existing studies and participatory development of a "Theory of Change" regarding deforestation and degradation in the Bay of Assassins. Additionally a Masters student from the Département Forêt de l'Ecole Supérieure des Sciences Agronomiques of the University of Antananarivo (ESSA-Forêt) is working on a desk-based biodiversity baseline study aimed at collating all available biodiversity information within the Velondriake LMMA.

Activity 2.2 Creation & training of female monitoring teams in the use of appropriate forest inventories, carbon stock measurements and monitoring protocols

In August of 2013, Blue Ventures conducted a training workshop in mangrove carbon stock measurements in the Velondriake LMMA. Two female monitoring teams (5 women per team) and two experienced community-based monitors (CBMs) attended a two-day workshop consisting of theoretical and fieldwork training on the CIFOR (Center for International Forestry Research) method for measuring mangrove carbon stocks (Kauffman and Donato 2012). During the three-day workshop, the teams conducted carbon stock measurements, including the collection of soil samples, over 6 mangrove plots in a permanent mangrove reserve in the Bay of Assassins. The two female CBMs also received training in GPS operation and navigation skills. These teams will act as co-trainers for female monitoring teams to be established with other villages within the Bay of Assassins. A similar workshop will be held in Ambaro-Ambanja Bay and continued mangrove carbon stock measurements will be conducted by female teams in early-2014.

Activity 2.3 Stock measurements, continuous monitoring and analysis of the data; integration into management plans; and continued technical support & quality control by BV scientists

The carbon stock inventory database of Ambaro-Ambanja Bay was enriched with data from an additional 62 plots collected from May to July 2013. Soil organic carbon content will be analysed during late-2013, allowing for final carbon stocks in December 2013.

In Velondriake, a carbon baseline is being built using mangrove biometrics data collected in 2008 and 2009 and previous remote sensing analyses on the mangroves of the Bay of Assassins. We are combining this research with punctuated field missions and additional remote-sensing on an ad-hoc basis to fill data gaps. Furthermore, we are considering carbon stocks in the neighbouring spiny forest in the Velondriake project area through the use of biomass measurements conducted in nearby dry forest areas measured by other scientific studies, and making preliminary estimates of deforestation rates through the analysis of aerial surveillance imagery provided by WWF.

Activity 3.1 Establishment of community management plans, zonings and sustainable harvest quotas

At all of our project sites, we are working with forest users to identify priority areas for conservation through zoning exercises and participatory resource mapping:

- In Ambondrolava, our partner organisation Honko Mangrove Conservation and Education plans to validate resource maps and undertake zoning of mangrove areas with local communities in early-2014 under the technical guidance of Blue Ventures.
- In the Velondriake LMMA, the first resource and participatory mapping campaign is planned for October 2013, which will allow villagers to identify areas of high conservation and use-value. We plan to conduct a validation of these maps in seven villages in December 2013, and extend mapping activities to other villages in the proposed project area in January 2014.
- In Ambaro and Ambanja Bays, participatory mapping of mangrove use was completed in one management association in September and three others in October. This work will be combined with mangrove inventories to occur in November 2013 and used to inform revised management plan zoning and extraction quotas, with evaluation by the regional DREF planned for Year 3.

The charcoal production baseline is being established with an MSc student from AgroParis Tech and four Ecole D'application Des Sciences Et Techniques Agricoles (EASTA-Pro) Ambanja students (April through October 2013 - see accompanying response re: charcoal baseline study methodology). This study will also provide a sustainable charcoal production plan based on remote sensing classification of mangroves and bibliographic research on rotation length and cutting techniques in other countries.

Results are currently being validated and will be released in early November 2013. Results of the charcoal baseline study will allow for refining production estimates within the pilot site and provide a baseline for piloting improved charcoal production, if regional and national authorities validate this as a legal alternative.

Activity 3.2 Establishment and maintenance of mangrove nurseries by female teams

Two women's associations are undertaking mangrove reforestation twice a month in Ambaro-Ambanja Bay. Since September, one hectare of mangrove was reforested with the technical support of Blue Ventures. Species requiring nurseries (*Avicennia marina*, *Xylocarpus granatum* and *Sonneratia alba*) are not naturally prevalent in deforested areas and our research shows they are technically challenging to culture and do not represent locally, economically important species. So, the establishment of *X. granatum* and *S. alba* nurseries is not currently seen as cost-effective. However, seedlings of *A. marina* planted in the mangroves surrounding nearby shrimp ponds show success, so, trials of both seedlings and transplants of *A. marina* from nurseries will be carried out (January to April 2014).

Little has occurred on this activity at our southwest project sites, partially because of the smaller extent of deforested areas. In Ambondrolava, the community-management association and Honko have suffered funding shortages which have led to an apparent lack of motivation to conduct reforestation or re-establish nurseries. In Velondriake, we will gain an understanding of whether reforestation is warranted at this site and communities plan to conduct reforestation activities through the development of community-led design plans in January 2014. If reforestation is an appropriate and desirable activity, we expect to begin planting at the beginning of Year 3 of the project.

Activity 4.1 Training of the community participants in sustainable harvesting and improved management; initial timber harvesting according to sustainable quotas and planned rotations

In Ambaro-Ambanja Bay, education and awareness-raising sessions on sustainable mangrove management were carried out in the 15 villages of the pilot site in July 2013 to build community capacity for defining their mangrove management plans. In the Bay of Assassins, similarly to reforestation, we will commence creation of sustainable harvest of timber plans along with development of community-led design plans. This process will begin with the participatory mapping session to be conducted in October 2013.

In Ambondrolava, little progress has been made on this activity due to funding shortfalls experienced by our implementing partner. However, some lessons in sustainable forest management have been prepared in partnership with the Honko Mangrove Conservation and Education, with plans to continue these before validating community-led design plans and a renewed management plan for the project area.

Activity 4.3 Linking of sellers to urban buyers through mobile phone messaging

At this stage in the project, we do not yet have a full understanding of the charcoal production value chain (results from a study are expected at end of Year 2). As such, it is not evident that connecting buyers to sellers through mobile technology represents the most efficient method of reducing mangrove deforestation in the absence of alternative source of revenues. Further, this activity would need to be conducted with the approval of legal and national authorities, given the illegal nature of charcoal production.

In place of linking charcoal sellers with mobile phones, Blue Ventures has begun to trial smartphone-based data collection tools that could be used for monitoring the charcoal production chain. Digital forms were developed using Open Data Kit and trialled on three smartphones to collect forest biomass data in July 2013. This open source software facilitates the collection of spatial data as well as text, images, audio and video with smartphones. Four data collection forms were used to record data on forest carbon in above-ground vegetation, deadwood and soil carbon. In the coming months, Blue Ventures' ODK data collection forms for measuring forest biomass will be streamlined, translated into Malagasy and simplified to facilitate the participation of female monitoring teams and other local community members.

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

To initiate a preliminary consultation process with both regional and national authorities, our project team finalised a factsheet outlining details of the research carried out on mangrove payments for ecosystem

services (PES) and carbon offsetting projects. This factsheet has been distributed electronically to the Designated National Authority for REDD (DNA), the Director of Climate Change (DCC), the REDD Monitoring, Reporting, and Verification working group (MRV), the National Environment Office (ONE), and The Interministerial Committee on the Environment (CIME). Follow-up consultations are planned (October 2013) with the aforementioned national authorities to assess the status of Madagascar's Readiness Preparation Proposal for REDD (R-PP) and to take a preliminary look at building a consultation and conflict resolution process for our mangrove carbon projects at the national level.

At the regional-level, our team has developed and distributed our first quarterly newsletter to project partners and regional authorities (attached as a separate document), outlining updates on community engagement, research, and project activities in September 2013.

Individual meetings with regional authorities have been arranged (November 2013) for a preliminary consultation on a Plan Vivo project in the Velondriake locally-managed marine area to occur.

Activity 5.2 Production of a draft Project Design Document and monitoring reports

At our all projects sites, we are making progress towards collecting the baseline information required for a Project Design Document. For monitoring, our "Theory of Change" approach will reveal meaningful socioeconomic and biodiversity indicators for long-term project monitoring before the end of Year 2.

Activity 5.3 Production of a Project Idea Note (PIN) and a detailed business plan based on actual monitoring; submission to investors

Positive feedback was received from the Plan Vivo Foundation on the PIN produced for the Ambondrolava project site. Plan Vivo have requested to register the project on their pipeline, but given current uncertainty regarding carbon rights at the project site, we have focused our efforts on providing more technical guidance to our partner organisation Honko Mangrove Conservation and Education (implementing partner for Plan Vivo project actions, in partnership with the Mamelolo Honko VOI in Ambondrolava), before moving forward with registration of the project on the Plan Vivo pipeline.

The Velondriake Plan Vivo Project Idea Note is underway and completion is expected by December 2013. We expect, given the higher capacity for a Plan Vivo project, attributable to long-running partnerships with the Velondriake management committee and Blue Ventures' ongoing conservation and development projects, and larger forest areas available, this project will be well-received by the Plan Vivo Foundation and should achieve registration in early-2014.

The preparation of the Ambaro-Ambanja Bay PIN suffered significant delays due to the amount of information the project team had to generate itself to assess deforestation drivers, quantify charcoal production and assess economic and energetic alternatives. However, it is now well underway and completion is expected at the end of 2013.

In addition, the Blue Forests project (Blue Ventures mangrove forest carbon project) was accepted into the portfolio of Pure Leapfrog (<http://pureleapfrog.org>) in September 2013. Pure Leapfrog provides *pro bono* business and legal advice to carbon project developers, and will play a key role in the development of business plans at our project sites. Through a partnership with American business schools (Tuck and Wharton), we expect to have teams of MBA students develop business plans for our project sites in 2014. Furthermore, we have made contact and received guidance from the APX Registry (<http://www.vcsregistry.com>), the largest VCS registry on the carbon market, regarding the development of marketable PINs.

2a. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Project sites and Plan Vivo:

At the Ambondrolava project site, significant advances were made in deforestation analysis and carbon stock evaluation. However, as a result of our research we have now deemed this site to require significantly more human resources and financial investment than is currently feasible by our implementing partner agency, Honko Mangrove Conservation and Education. Therefore, we intend to focus efforts at restructuring the partnership with Honko Mangrove Conservation and Education and establishing a pilot Plan Vivo mangrove climate services project in the Bay of Assassins, in the Velondriake LMMA, where Blue Ventures has significantly more capacity, strong community relations, and higher potential emissions reductions.

Activity 4.2 Training & production of charcoal using improved kilns; continued technical support

Because mangroves are recognized as a sensitive ecosystem under Madagascar National Law, mangrove wood extraction has been forbidden by the Arrêté n° 12.704. The development of sustainable mangrove charcoal production using improved kilns is thus challenging within the current legal framework and will require a thorough consultation process with regional and national authorities before proceeding with this aspect of the project. Re-evaluation of this activity will occur in November 2013 and a subsequent change request submitted, if deemed necessary.

Activity 4.3 Linking of sellers to urban buyers through mobile phone messaging

Legal barriers associated with mangrove exploitation and completion of the charcoal production baseline study will lead to a re-evaluation of the proposed activity (see section 4 below).

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

Discussed with LTS: Yes/No

Formal change request submitted: Yes/No

Received confirmation of change acceptance Yes/No

3a. Do you expect to have any significant (eg more than £5,000) underspend in your budget for this year?

Yes No

3b. If yes, and you wish to request a carryforward of funds, this should be done as soon as possible through the formal Change Request process. However, it would help Defra manage Darwin funds more efficiently if you could give an indication now of how much you expect this request might be for.

Estimated carryforward request: £

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

Mobile monitoring may represent a favourable strategy for landscape scale management of mangroves,

while avoiding the legal barriers and uncertainty of this activity to contribute to the overall objective of alleviating poverty. While in principal, the activity should improve the access of charcoal producers to markets, our research has shown that markets fluctuate with season (related to seasonality in rice production), and after a full evaluation, it may be favourable to focus more on the identification and development of alternative livelihoods such as fishery improvement (crabs) and agricultural production (pineapple, cashews, and oranges), and related monitoring and projection of their impact on the charcoal production chain.

We expect that this will lead to a recapitulation of some activities related to charcoal production that will provide a better means of achieving the overall project objective, given the local context. We would like to inquire as to whether a change request is required in this case.

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan or budget should not be discussed in this report but raised with LTS International through a Change Request.

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk . The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message eg Subject: 17-075 Darwin Half Year Report**