

## Darwin Initiative Main Annual Report

To be completed with reference to the “Project Reporting Information Note”:  
(<https://www.darwininitiative.org.uk/resources-for-projects/information-notes-learning-notes-briefing-papers-and-reviews/> ).

It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2022**

### Darwin Initiative Project Information

Project reference	28-024
Project title	Diverse agroforestry protects natural capital around Betampona and Vohibe, Madagascar
Country/ies	Madagascar
Lead partner	Madagascar Fauna and Flora Group
Project partner(s)	Association Lovasoa, Association Soavinala, Madagascar National Parks, Missouri Botanical Gardens- Madagascar, Kew Madagascar Conservation Centre, Prof Christof den Biggelaar, The Fruits, Vegetables, and Environmental Education (FVEE) Program of the Church of Jesus Christ in Madagascar (FJKM), MC Ingredients, Catholic Relief Services
Darwin grant value	£314,523.00
Start/end dates of project	1 Oct 2021 to 30 Sep 2024
Reporting period (e.g. Apr 2021 – Mar 2022) and number (e.g. Annual Report 1, 2, 3)	1 Oct 2021 to 31 March 2022, Annual Report 1
Project Leader name	Karen Freeman
Project website/blog/social media	<a href="http://madagascarfaunaflora.org">Madagascar - MFG - Home Page (madagascarfaunaflora.org)</a> ; (1) <a href="https://twitter.com/MadaFaunaFlora">MFG (@MadaFaunaFlora) / Twitter</a> <a href="https://www.facebook.com/madagascarfaunaflora"> (20+) Madagascar Fauna &amp; Flora Group   Facebook</a>
Report author(s) and date	Karen Freeman, Jean Jacques Jaozandry, Christian Rabeloson, Armand Randrianasolo, Fortunat Rakotarivony, Dan Turk, Elizabeth Turk, Alice Heliarisoa and Jacques Razafimpeheno 30 April 2022

### 1. Project summary

This project is designed to address the rapid loss of forest in Madagascar due to widely practised slash and burn agriculture, which has resulted in the loss of over 44% of Madagascar’s forests over the past six decades (Vielledent et al. 2018). Through our own remote sensing research with partners from Saint Louis University’s Geospatial Institute, significant loss of forest has been

recorded in the immediate vicinity of Betampona Strict Nature Reserve (RNI) over the past two decades with almost all of it being converted into agricultural land (Ghulam 2014, Cota et al. 2021). Given that Madagascar is considered one of the top ten biodiversity hotspots of the world (Myers et al. 2000), the reduction of remaining forest is deeply relevant in terms of biodiversity conservation, provision of ecosystem services for local communities, as well as far wider implications for global climate change mitigation.

This project seeks to work with local farmers in 5 target villages around the protected areas of Betampona Strict Natural Reserve, the Vohibe Forest (part of the Ankeniheny-Zahamena forest corridor) and the Ampasina Forest (all in eastern Madagascar), to promote agroforestry as a more sustainable farming approach. It also concurrently promotes community management of remaining forest fragments in the target areas. Madagascar is one of the top ten poorest countries in the world with many people living on less than a dollar a day. This project will not only strive to provide the basic tools, start-up trees and crop seeds necessary for the project but will also build capacity in fruit-tree propagation and care, establishment of farmer cooperative and business planning. Over the course of the project, we hope to establish “model” villages that will quickly become renowned for their increased standard of living and better management of remaining forest fragments (some of which contain critically endangered plant species not known from the protected areas), producing a long-term cascade effect. Many fruit trees will take 5-7 years to mature and start producing fruit for sale. In the meantime, we will work with our partners to increase household income through the production of yams, vegetables and maize and through promotion of farmer cooperatives and setting up direct links with exporters for already-grown commodities such as spices. In this way we should be able to reduce poverty for the 100 target families in the short-term families of local staff we hire for the project duration and, in the longer term, the wider community as the techniques become more widely practised.

In return for the project’s support in developing agroforestry on their own land, participants will contribute to collective community monitoring and management of specified target forest remnants, in partnership with the project partners. Management plans will be developed by the community groups with support from project partners for target forest fragments detailing the agreed sustainable-use criteria and a 5-year restoration plan. Quarterly patrols will be carried out jointly by project partners at each site and members of the community associations to monitor slash and burn agriculture, illegal activities such as poaching and illegal logging, restoration efforts and vertebrate diversity.

Maps are included of the three target sites in Annex 4.1.

## References

Cota, G., Sagan, V., Maimaitijiang, M., Freeman, K. 2021. Forest Conservation with Deep Learning: A Deeper Understanding of Human Geography around the Betampona Nature Reserve, Madagascar. *Remote Sensing*, 13, 3495. <https://doi.org/10.3390/rs13173495>

Ghulam, A. (2014). Monitoring tropical forest degradation in Betampona Nature Reserve, Madagascar using multisource remote sensing data fusion. **IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**. DOI: [10.1109/JSTARS.2014.2319314](https://doi.org/10.1109/JSTARS.2014.2319314)

Vieilledent, G.; Grinand, C.; Rakotomalala, F.A.; Ranaivosoa, R.; Rakotoarijaona, J.R.; Allnutt, T.F.; Achard, F. (2018). Combining global tree cover loss data with historical national forest cover maps to look at six decades of deforestation and forest fragmentation in Madagascar. *Biol. Conserv.* 222, 189–197.

## 2. Project stakeholders/ partners

This project is based centrally on the formation of strong partnerships at each intervention site and internationally to provide the relevant expertise. All partners outlined in the Phase 2 application have remained committed to the project. As evidence we include the signed Memorandums of Understanding (MoUs) with Missouri Botanical Garden and the Fruits, Vegetables, and Environmental Education (FVEE) Program of the Church of Jesus Christ in Madagascar (FJKM) (Annex 4.14). In both cases these MoUs were agreed collaboratively with adjustments being made as necessary to satisfy all parties. Due to the need to communicate with

the Coordinator at the field site, the local headquarters in Madagascar and the international headquarters in Saint Louis for MBG and the Madagascar and international headquarters (based at Naples Zoo Florida) for MFG, the process of formulating and finalising the MoU took longer than we had anticipated so some delay was experienced at the start of the project before we could start the field work (approximately one month).

There has been a verbal process of consultation with local community groups for the development of MoUs (see example meeting minutes (Annex 4.4) and the photo sheets (Annex 4.13)), as well as collaborative work with each of the 3 site coordinators to make sure each MoU draft is locally relevant. The signature of the community association MoUs has been delayed due to continuous storms through end January to March 2022 (see Section 3.1) but is due to be completed by mid-May 2022. As their interventions are not planned until Year 2, we have not yet formally agreed MoUs with Kew Madagascar Conservation Centre and Prof Christof den Biggelaar, but they have confirmed their ongoing support for the project. Prof den Biggelaar in particular has been very actively involved in project planning, specifically, all aspects relating to fruit tree selection, development of agroforestry approaches for the participants and the development of workshop evaluation questionnaires.

Although their interventions are limited in scope and will not require formal MoUs, spice exporters MC Ingredients have committed to carrying out the agreed training in setting up of farmer cooperatives, quality control and preservation techniques for farmers around the Betampona and Ampasina forest. Due to Cyclone Batsirai destruction (landfall in Madagascar on February 5<sup>th</sup>) and leaving 112,000+ people displaced, and 124,000 homes affected, our contact at Catholic Relief Services (CRS) has been reassigned temporarily to deal with the aftermath. Therefore, we have not yet pursued our planned collaboration with them to develop value chains for locally produced goods in our target intervention sites. We will pursue this important collaboration in Year 2.

As evidenced by their attached first field report (Annex 4.15), minutes of village meetings (Annex 4.4) and the photo sheet (Annex 4.13), Missouri Botanical Garden (MBG) have been extremely active during this first project year despite the one-month delayed start while waiting for the MoU to be finalised. MBG have been extremely responsive and pro-active and were the first of our partners to host the FVEE fruit tree propagation training workshop. Similarly, Association Lovasoa, as headed by their chosen representative, Alice Heliarisoa (Ampasina Site Coordinator, has been equally pro-active and efficient (see their first field report (Annex 4.16) and photo sheets (Annex 4.13)).

The first main interventions planned for Year 1 were the fruit tree propagation and care workshops led by the FVEE. It is truly a testament to the dedication of this incredible team that we were able to successfully carry out the planned workshops at all 4 intended sites despite the difficult logistical challenges presented by impacts of the numerous storms (see Section 3.1 and photo sheet Annex 4.13). In several instances this required walking many additional miles and having to arrange (in collaboration with the local site coordinators) local transport (by hand) of the fruit trees and equipment for distribution to participants. Conditions were far from ideal in some instances for carrying out the open-air training, but they dealt with this with great fortitude and good grace. The training workshops were extremely well received (see FVEE reports (Annex 4.7) and photo sheet (Annex 4.13)) and the team were extremely generous in sharing (in some cases) their unique fruit tree varieties and high-quality grafted trees. Their experience and knowledge were very much appreciated by participants and attending project staff alike as this training has very much contributed to building the capacity of our team for highly specialised grafting techniques (particularly the nursery workers). The sharing of these skills and the set-up of the mother tree orchards at each intervention site using strong and healthy FVEE-provided stock could well be the key to making this project a long-term success by transferring the knowledge, skills and biological material to allow local communities to produce their own fruit trees in the long term. These skills will be built upon and reinforced for project nursery staff and the most motivated participants in Year 2 with a follow-up more intensive training course at the FVEE headquarters.

In working with a number of small and newly established community associations, we have had to carry out significant capacity building to explain the need to meet with both Darwin Initiative and Malagasy government requirements for administrative, personnel management and financial

reporting. This has required a substantial time investment during these first few months of project set-up and will need to continue to be built upon during Year 2. However, this effort investment will stand us in good stead for the remainder of the project. It has also taken a lot longer to process administrative documents in some instances due to the need to translate everything from English to French (for consultation with site coordinators) and then from French to Malagasy (for consultation with local communities and project teams). We had not anticipated how time-consuming this would be for often multiple-page documents but have sought help from a local consultant in Toamasina to provide a translation service. This was not anticipated when we did the budget, but the costs will be modest.

It has taken some time for us to work out the best reporting hierarchy between our various partners and Madagascar Fauna and Flora Group (MFG). For some project partners it is most efficient for them to report directly to the Project Leader as the matters concern higher level administrative issues such as MoUs, invoices, etc. However, for organising on the ground logistics, staff hire, etc., it made much more sense for one of the site coordinators to be assigned as main point person. As MFG is the lead organisation for the project and has overall reporting responsibilities, it made most sense for this role to be assigned to Christian Rambelison (originally Betampona Site Coordinator). We then created the role of “*Chef du Projet*” (Project Manager) for Christian although he still concurrently functions as Betampona Site Coordinator. It will require some ongoing effort at the beginning of Year 2 to clarify for all project partners who they need to approach between the Project Lead, MFG’s Programme Manager and the “*Chef du Projet*” for particular needs. There were some initial challenges at Ampasina while we worked out the respective roles of the Ampasina Site Coordinator and the “*Chef du Projet*”. However, once everyone’s roles were clarified in the collaborative development of Terms of Reference (Annex 4.17), issues were quickly resolved. We also learned that group Zoom meetings with all key parties present were the best way to ensure open lines of communication and avoid any misunderstandings. The value of preparing and circulating for approval brief minutes after Zoom/Skype calls by all present on the call (see example minutes between Project Leader and Ampasina Site Coordinator in Annex 4.18) was also quickly understood.

All formal partners are involved in project evaluation and monitoring (see FVEE, MBG and Ampasina reports in attachment in Annexes 4.7, 4.15 and 4.16 respectively). Questionnaires for the FVEE workshop were collaboratively developed via email exchanges with FVEE, Prof den Biggelaar and all site coordinators. Likewise, the site coordinators were involved in fruit tree selection for distribution by the FVEE team during their workshops. Communications have been very co-operative between partners while we work out financial and organizational responsibilities for any joint ventures.

In addition to our formally recognised partners for this project, MFG has been building on the existing strong relationship with Madagascar National Parks (MNP) since the project’s launch. MNP have been working closely with MFG and local community associations for many years and have been focusing for the past three years on the remaining forest fragments through a Madagascar-wide project called: Conservation of Key Threatened Endemic and Economically Valuable Species or COKETES (funded by the Global Environment Facility and the United Nations Environment Programme). We are ensuring we work in close consultation with MNP and our own MFG COKETES consultants to provide excellent coordination of activities and avoid any mixed messaging or repetition of efforts between the two projects. The two projects are extremely compatible in their goals, and we have a strongly established and effective working relationship with MNP that dates back to their creation (formerly as ANGAP). We do not anticipate anything other than a very positive impact on the present project.

We have informed Mr David Ashley, Her Majesty’s Ambassador to the Republic of Madagascar, of the project and plan to invite him to visit the project once the agroforestry plots are beginning to become established. We will share our Year 1 annual report with Mr Ashley and request an online meeting to discuss progress and how we can better align with the UK’s general objectives in Madagascar.

### **3. Project progress**

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

Our project progress this year has been severely hampered by factors outside of our control. In November 2021, just one month into the project, an extensive accidental fire destroyed half of Ambodirafia village, one of our 5 main target intervention sites (see photo sheet in Annex 4.13). 157 households, equating to approximately half of the village, were left homeless. In the wake of such devastation the village had no option but to focus their efforts fully on rebuilding and were not in a position to embark on new initiatives. MFG led an online appeal and was able to raise \$42,000 to provide emergency food relief, basic essential goods and building materials to help the village start to rebuild. It was agreed with the President of Ambodirafia and the community association that it was impossible for them to commit to this particular Darwin Initiative Project at that time though MFG has continued to provide extensive support for the village through our other projects. It was agreed by MFG staff and Madagascar National Parks to focus efforts on the Analamangahazo village to the Northeast of Betampona Reserve that has its own community association wanting to manage some quite extensive forest fragments in their vicinity. The switch of target village and the intensive efforts we dedicated to fundraising and supporting the village of Ambodirafia during their time of need caused a month's delay to the launch of the Darwin Initiative project at the Betampona sites. Please note that we have edited all mentions of Ambodirafia in the Project logframe under the activities section and changed them to Analamangahazo but none of the other main sections of the logframe require changing (see Annex 2).

Between 22<sup>nd</sup> January to 8<sup>th</sup> March, eastern Madagascar was hit by a series of 5 storms, causing extensive flooding, landslides and damage due to high winds. Intense Tropical Cyclone Batsirai on 5<sup>th</sup> February 2022 was the worst of these storms on a national scale (123 dead and 112,000+ people displaced, 90,000+ homeless). For our particular sites, Tropical Storm Ana (January 28 2022) impacted our project at Vohibe most severely with heavy rainfall destroying the first sowings of coffee for the project. For our intervention areas surrounding Betampona Reserve it was Tropical Storm Dumako on 15<sup>h</sup> February 2022 that caused the most damage through extensive flooding along the length of the Ivoloina River (source in Betampona Reserve). MFG staff reported that these were the worst floods experienced since 2002 and in just the two main communes of Ambodiriana and Sahambala (the two administrative districts over which the Betampona Reserve is spread), 2582 were left homeless and 2 people died in the floods. Extensive crops and livestock were lost, and large landslides left several of our target sites completely inaccessible by road. The plant nursery at Ambanitohaka was completely washed away with the loss of 5,500 trees produced for other MFG projects. The nursery has now been rebuilt in a new location to try to avoid repeat occurrences. For each storm it was necessary to lock down our field sites as well as possible and limit travel in preparation, so the work time lost in total was also highly significant. With so many storms forecasted (almost continually from Jan through to mid-March) it was not possible to plan further village consultation meetings or the scheduled project staff training workshops (apart from one carried out at Ampitabe by MBG) so all activities relating to setting up the community surveillance of protected areas and capacity building for project staff (excepting for Vohibe) were not met during this period. These are being prioritised for May 2022 to try to get this important aspect of the project back on track.

Despite these serious challenges and delays the project has nonetheless made a strong start in most aspects (community surveillance and staff training aside) and achieved some very important milestones.

Memorandums of Understanding (MoUs) have been agreed with the major project partners (Missouri Botanical Garden (MBG) and the Fruits, Vegetables and Environmental Education (FVEE) programme of the FJKM church. A seed collection permit has been secured from the regional branch (DREDD) of the Ministry of the Environment and Sustainable Development (MEDD) for this and other MFG restoration projects from April 25, 2022, until April 25, 2024 (see Annex 4.3).

Initial community consultations across all sites (photo sheets in Annex 4.13) went extremely well and the project was very well received with a lot of interest. Each target community association expressed their commitment to work together to protect the remaining forest fragments (see example minutes of meetings and translations in Annex 4.4).

The terms of the MoUs with the village associations were collaboratively agreed during the initial village consultations though signing of the MoUs has been delayed due to the prolonged storm disruptions. Terms of the MoUs for all participating households were also collaboratively developed and are currently in the process of being signed. As a result of these initial consultation meetings, we were able to exceed our target of gaining an expressed interest to collaborate to develop agroforestry plots from 100 farming households across our target sites. We presently have 105 participating households with a total of 182 participants (see participant tables in Annex 4.2).

As interest outstripped our capacity to enrol participants (due to funding and logistical constraints), it was decided to prioritise participation for already-existing members of the community groups that have committed to protecting remnant forest fragments in their local area. In this way participants will be preselected for those that have shown an interest and motivation to conserve forest and when the nutritional and economic benefits of the present project start to become apparent, we anticipate this will encourage more members of the wider areas to join these community conservation groups. By training in all the necessary techniques to facilitate replication of our methods, we plan to build a highly sustainable model for expansion across the wider areas at all our intervention sites through the community groups. We will keep lists of all other interested parties that we were not able to enrol in case there are future opportunities to expand our direct intervention through the course of this project.

All project staff were selected either from existing MFG or partner staff or newly hired during this period (see Section 6). In some cases, new hires were finalised several months later than planned due to the above-mentioned delays (see selected example contracts in Annex 4.6). The two animators per site were chosen by vote by the members of the community groups from within their own number. The rescheduled staff capacity building workshops are planned from early May. An enormous effort was made to ensure all purchases of equipment, nursery improvement/construction materials and supplies, participants' tools, additional fruit/spice trees and seed for short-term crop production were purchased before the end of Year 1. Tree species selection for purchase was based on data collected from participants while signing up for the project. For example, for the sites around Betampona coffee was in high demand, so 2720 young coffee trees have been bought and transported to MFG's field site for distribution at the start of Year 2.

Within the present period all nurseries were set up ready for the project (see photo sheet in Annex 4.13) and, in the case of Ambanitohaka rebuilt in the wake of Storm Dumako). At Ampitabe, propagation is already underway for fruit and coffee tree production with 1000 new robusta coffee (*Coffea canephora*) seeds being planted to replace those lost during Storm Ana, 420 soursop seeds (*Annona muricata*), 1300 pineapple (*Ananas comosus*) cuttings and 600 vetiver (*Chrysopogon zizanioides*) seeds have been planted in the nursery. Seeds of maize, beans and peanuts have been purchased for planting in Year 2.

Our schedule for training in fruit tree propagation and care techniques with FVEE had already been agreed before the cyclone season began and was not flexible due to other training commitments with other projects during the same period. Therefore, we were obliged to go ahead as planned with these workshops. It is a testament to the FVEE team and the three Site Coordinators that the workshops were completed so well (see Section 7) despite severe logistical challenges posed by the bad weather and landslides cutting off access routes (see photo sheet in Annex 4.13). The teams were obliged to walk many extra miles in some instances and arrange porters to carry the plants by hand. The two trainings at Antananarina (for participants from Antananarina and Ambanitohaka) and Analamangahazo were impacted by heavy rains. It was not possible to complete the intended air-layering demonstrations and practices as the intended site was across the river, which was at that time in full spate and unsafe to cross. 103 of the 105 households took part in the fruit tree propagation and care techniques training.

All participants in the fruit tree propagation and care trainings received fruit trees from FVEE to plant on their own land. In total 1649 fruit trees were distributed to project participants and a further 174 trees donated to the project either for the mother-plant orchards or in the nurseries for future distribution (see tables of trees distributed in Annex 4.9). All species imported and cultivated by FVEE have been approved and licenced for introduction to Madagascar by the Malagasy government. We worked together prior to the workshops to carefully select species for

distribution at each site to ensure that no new\* potentially invasive species to the local area were distributed to participants for planting in the wider environment. Prior to leaving the FVEE nurseries, all plants were also treated with insecticide and fungicide to reduce the risks of inadvertent transfer of invasive species. As part of their trainings, the FVEE team worked with our local Site Coordinators and the local communities to identify suitable sites to establish communal orchards at each intervention site to provide source material for future propagation. Excitingly, some new varieties of fruit trees were brought that are of particular economic value in Madagascar and could really help boost the local economy once they come into general production. The FVEE team will follow up to try to ensure that these varieties establish well in the communal orchards. Any new species to the area will be carefully monitored in the communal orchards to ensure that they do not display any invasive characteristics before distributing it to the wider community.

Workshop evaluations were completed by FVEE and local site project staff as planned (see Section 7). Future purchases of additional trees will consider the detailed data collected during the evaluations.

\*We take the issue of invasive species very seriously at MFG and as many common agroforestry species are listed as invasive, we agreed with FVEE that through the duration of this project we must take all possible measures to avoid introducing any new potentially invasive species that are not already found commonly in the local area. For example, although listed as invasive on reputable invasive species lists such as CABI's Invasive Species Compendium ([Invasive Species Compendium \(cabi.org\)](https://www.cabi.org/isc/)), species such as mango (*Mangifera indica*) are already widespread in the local environment at our intervention sites and hence distribution of mango trees would not constitute a significant additional risk.

### 3.2 Progress towards project Outputs

#### Outputs:

#### 1. A diversity of plant species attractive to local farmers are easily available for use in agroforestry trials.

Thanks to the variety of interesting fruit tree species already provided to project participants by FVEE, which have been reinforced by tree purchases made by Site Coordinators in response to expressed participant preferences, we are already well on the way to achieving this Output. The plans to establish long-term mother-tree orchards are now underway (see maps of Orchard sites and planting plans from FVEE in Annexe 4.10). The nursery at Ampitabe is already propagating large scale numbers of fruit trees, coffee and pineapple plants (see photo sheets in Annex 4.13). FVEE have already carried out the first fruit tree propagation and care training workshops for project staff and participants alike. We do not anticipate any issues achieving this target.

#### 2. Farmers living in the landscape surrounding the two protected areas are aware of the opportunities presented by agroforestry to meet their tree product and food production needs and some are skilled, effective and convinced practitioners (target 50% female participation).

Although we have been delayed due to COVID in carrying out our intended agroforestry workshops with Prof Christof den Biggelaar, we have been able to complete the first village consultation and the fruit tree propagation and care workshops. Both of these reinforced the opportunities associated with agroforestry techniques and many of the participants were convinced (see Project Participation tables in Annex 4.2 and analysis of questionnaire evaluations in FVEE reports in Annexe 4.7). We achieved an average 41.44% female participation rate for the FVEE workshops. All members practised at least one grafting operation through the course of the training and most completed two.

#### 3. Community in host landscapes agree to conserve certain unprotected forest fragments.

This objective had already been achieved through ongoing efforts between MFG and Madagascar National Parks (MNP) at Betampona. All target village community associations have committed to make a long-term commitment to protect and manage the forest fragments under their responsibility (see example Meeting Minutes in Annex 4.4). We will continue to work with them and MNP to develop sustainable use policies and management plans for all forests under their management. Project participants have all committed to contributing to community surveillance of forest patches through the terms of the collaboratively developed MoUs.

#### **4. Community engages in participatory baseline and quarterly surveys of destructive forest harvesting and natural capital (including biodiversity) in target forest fragments surrounding the main protected areas**

We are delayed on tackling this Output due to the fire at Ambodirafia and the severe storm and cyclone season (see Section 3.1), but verbal commitments have been made (see example meeting minutes in Annex 4.4) and MoUs are nearly completed to formalise this commitment. Community monitoring activities will be prioritised at the beginning of Year 2. We are confident that we will be able to achieve this target by early Year 2.

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

Our intended project Outcome is “A critical mass of farmers living in landscapes surrounding the two protected areas are committed to nurturing natural capital through sustainable use of remaining forest and agroforestry.”

Due to delays in launching the community surveillance aspects of the project (see Section 3.1) we have not yet been able to measure the baseline level of destructive timber exploitation (indicator O.1) in the target community managed forests. This will be a priority for early in Year 2. We will not be able to measure indicator O.2 (levels of slash and burn agriculture in Year 3) until Year 3.

Our progress towards our indicator O.3 (75% of farmers at each site submitting plans for developing agroforestry on their land) is well underway. We have managed to exceed our intended subscription to the project with a total of 105 households signing up (see tables of participants in Annex 4.2). Many have already told us their available land and the species they would like to plant. These plans have already evolved as evidenced by the FVEE evaluations before and after their propagation and care of fruit tree workshops in which most participants expanded their wish list of desired plants (see FVEE reports in Annex 4.7). Although these plans will be refined over the coming year, especially through the interventions of the project Site Coordinators, Extension Agents, animators, and our specialist agroforestry partners Dr Christof den Biggelaar, FVEE technicians and Kew Garden’s yam specialist. These initial wish lists (Annex 4.2) will be developed into site-specific plans for each participating household.

Once the already distributed trees from the first project workshop are planted (follow up will be done at the beginning of Year 2), we will already be well on the way to achieving indicator O.4 (75% of participating farmers at each site have installed a trial plot on their land). This will be developed further through Years 2 and 3.

We believe that our indicators are adequate to measure the intended Outcome and we are very confident in our ability to achieve the agroforestry aspect of the Outcome. Given the extreme pressures on the local forest over this period due to severe fires and floods (see Section 3.1), we will need to work even harder to try to negate the increased pressures on the remnant forests around our target protected areas. This past difficult period has, nonetheless, highlighted the critical importance of this project and its launch could not be timelier. Considering the increased need for construction wood locally during this last period due to the large-scale losses of homes due to fire and flood, we will need to increase our surveillance efforts to try to track the impacts. We will approach our long-term partners at Saint Louis University’s Geospatial Institute to see if they would be willing to work with us to carry out detailed forest cover and land use analysis ahead of our usual schedule (we aim to collect and analyse high resolution data every 10 years and it is approximately 5 years since the last intensive mapping effort). We will need to focus even more than originally planned on encouraging plantation of construction wood species with both the project participants and the community associations managing these forest fragments. Through MFG’s restoration programme we have already donated thousands of trees for planting in Ambodirafia to compensate for locally cut trees to rebuild after their devastating fire which took out half of the village in November 2021. Through the present DI project, we will need to further highlight the need for sustainable wood management at the household as well as at the community level and encourage farmers to include wood production as an integral part of their agroforestry plans.



### 3.4 Monitoring of assumptions

**Outcome Assumption 1: A sufficient number of farmers are included in the project to constitute a “critical mass” with respect to influencing non-participants. To increase our impact in any given area we have chosen to target specific sites to set up “model villages” with a high proportion of households participating in the programme. Villager associations in all our proposed sites have been consulted already and have given written commitment to participate in the proposed programme.**

Within the first months of the project, we have already exceeded our planned participation targets (see project participant tables in Annex 4.2). Uptake of the project to date has exceeded our capacity to facilitate with current resources so interest is certainly high within the wider community. We are confident our assumption holds true.

**Outcome Assumption 2- Land use remains in the farmers’ hands, and they are not disenfranchised by outsiders (such as artisanal miners, commercial mining companies, powerful people wishing to obtain land, new immigrants to area). MFG will work with local Mayors to investigate possibilities for formalising individual land rights.**

This assumption remains true. So far, however, we have not tackled this issue through the present project.

#### **Output 1 Assumptions:**

**Nurseries not seriously impacted by cyclones. MFG and MBG each have over two decades’ experience in tree nursery design and cyclone proofing measures in the Eastern cyclone belt of Madagascar so will implement this knowledge in the design of any new nurseries and improvements on existing nurseries. Easily replaceable local materials will be used for construction to allow easy repair and replacement of damaged materials.**

In normal cyclone seasons this assumption would likely have held true but this season has been a particularly severe one with 5 major storms or cyclones hitting Eastern Madagascar from Jan to March (see photo sheet in Annex 4.13). Tropical storms Ana and Dumako caused significant damage to plants at Ampitabe and the nursery and plants at Ambanitohaka respectively with significant plant losses (see Section 3.1). The nursery at Ambanitohaka has now been relocated to avoid further losses from future repetitions of the extensive flooding caused by Storm Dumako. It is a stark reality that we have to face that due to Climate Change, the occurrence of severe storms is likely to continue to increase in the coming years and we will need to develop stronger measures to try to protect our project nurseries from storm damage. We will consult with the nursery workers at each site to develop a plan for each nursery to minimise future damage.

**Nursery workers are able to carry out successful grafting/marcottage. The training and planned follow-up by FVEE staff will ensure success in this respect.**

We are confident in this assumption following the first FVEE training workshop (see FVEE reports in Annex 4.7 and photo sheets in Annex 4.13). FVEE technicians have proven themselves to be extremely hardworking, motivated and competent so we have no doubts that they will be able to deliver on this assumption.

**Permits can be secured for seed collection in forest fragments. MFG has a 14-year record of gaining permits to collect seed in forest fragments around Betampona from the regional branch of the Ministry of the Environment and Sustainable Development and we do not foresee any issues in this respect. Likewise, MBG has similar agreements for the Vohibe Forest.**

We have been able to secure permits as assumed (Annex 4.3).

**The COVID-19 pandemic and any resulting work and travel restrictions will not interrupt the project’s progress overly. Although local or national restrictions could certainly interfere with plans for specialised training from Dr den Biggelaar and FVEE, our project managers at each site have sufficient personal experience in agronomy and grafting techniques to carry out basic training themselves if needs be. By targeting in-country expertise, we are not reliant on international borders being open to ensure the completion of this project. Dr den Biggelaar has worked remotely providing advice and coaching to MFG’s proposed project coordinator for Betampona for many years in addition to his in-person site visits. MFG has a formal COVID-19 sanitary protocol that all staff are obliged to respect to reduce the risks of inadvertent spread of the disease.**

Although some activities are behind schedule for Year 1 due to ongoing COVID uncertainties (ie. the planned trainings with Prof Christof den Biggelaar), we are still making significant progress with in-country staff and will be able to continue moving the project forwards until such time as it is practical for Prof den Biggelaar to come. The FVEE team have proven themselves to be an excellent resource for within-country training (see FVEE reports in Annex 4.7 and photo sheets in Annex 4.13) and our Site Coordinators are proving their experience and knowledge through the implementation of the project as demonstrated by the large uptake of participants (Annex 4.2).

#### **Output 2 Assumptions:**

**Farmers have areas of land under their management that are suitable for agroforestry. Preliminary studies by MFG and MBG have already established this to be the case in both target areas.**

This has been confirmed by project staff during Year 1 for Ampitabe (see GPS plots of available land in Annex 2) and is in the process of confirmation around Betampona.

**Farmers are sufficiently trusting and open-minded to trial new approaches. Our past reforestation and extension activities in these areas have proven that at least some individuals are open to trialling new methods and varieties. By having already first consulted with the farmers about their planting preferences we are confident that the chosen species for inclusion in the project are of interest to farmers in these specific target areas.**

The uptake rate of the project has been highly reassuring and we have already surpassed our intended target of 100 participating households (see Participant Sheets in Annex 4.2).

**The COVID-19 pandemic and any resulting work and travel restrictions will not adversely affect the project. If necessary, we can adapt the training approach to avoid the need for large workshops and instead focus on one to one and small group training respecting all locally-imposed restrictions on travel and group size. By targeting the hire of local staff for the most part we avoid the need for much long-distance travel. MFG has a formal COVID-19 sanitary protocol that all staff are obliged to respect to reduce the risks of inadvertent spread of the virus.**

We are confident that this remains true (see MFG COVID-19 sanitary protocol in Annex 4.12 and photos of sanitary measures in photo sheets in Annex 4.13)

#### **Output 3 Assumptions:**

**On reflection, the community will decide that the forest fragments that remain in their landscape are valuable and worth conserving and that it is possible for them to do so. The target areas have been chosen because active interest has already been shown there to protect the target forest fragments through the creation of local village associations (VOI). MFG and MBG will work with these existing structures to facilitate their goals to protect remaining forest fragments.**

Village consultation meetings at the start of the project confirmed the commitment of the target village community associations to protect the forest patches they have committed to care for (see example meeting minutes in Annex 4.4).

**Community is cohesive and inclusive without powerful factions who act contrary to majority consensus. MFG works closely with the local Mayors, the regional branch of the Ministry of the Environment and Sustainable Development and Madagascar National Parks, who will support MFG and local communities to take legal action against any persons breaking locally agreed resource-management rules or national laws protecting the environment.**

At present we remain confident of this assumption, but national elections are scheduled for 2023 and we will need to remain vigilant to maintain these strong political relationships, particularly if substantial changes occur in local, regional and national administrative posts.

#### **Output 4 Assumptions:**

**Participants will be able to learn to identify different vertebrate species and learn their vernacular names. Our experience working in these areas has demonstrated that the majority of local people are familiar with locally occurring species and know their local**

**vernacular names. Plasticised photo ID sheets of commonly-occurring species will be made available to survey participants.**

We have so far not tackled this aspect of the project but remain confident in our assumption. We will prioritise this part of the project in Year 2.

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

As per our application, the impact we are working towards with this project is “Natural capital in the landscape surrounding the Betampona and Vohibe protected areas restored thereby reducing pressure on the natural goods within these reserves.”

Our project is setting the groundwork now to make a significant contribution to biodiversity conservation by its completion. We are working directly with target households to support them to trial more sustainable farming methods. By encouraging the farmers to use the same land over a longer period through more sustainable agroforestry techniques, we will directly reduce the amount of land needed for slash and burn agriculture to support that family. We are encouraging the plantation and management of trees for crop production, firewood provision and construction. Based on our studies at present almost all local people use wood for cooking and building the supporting structures of their homes. About 97% of required wood is wild harvested around Betampona and there are currently very few tree plantations in the local areas surrounding our target sites. By building capacity now within the local communities to anticipate future needs, produce seedlings, plant and manage their trees, we will certainly be reducing the present high levels of destructive pressure on the forest fragments surrounding the protected areas in the long term (see Cota et al. 2021 to understand the present high levels of forest loss around Betampona). Some of these forest fragments that are rapidly disappearing contain critically endangered plant species that are not known from any other sites at present (see Final Report for Darwin Initiative Project #23-004) so the implications for global biodiversity conservation are clear. This project will also actively promote the creation of a forest buffer around the Betampona Reserve and the Vohibe Forest. For Betampona alone, there are 24 single-site endemic frog (Rosa et al. 2012) and 17 single-site endemic plant species (Birkinshaw pers. comm.). Loss of these forests could represent irreversible species-level biodiversity loss and pro-active measures as planned for this project are essential to avoid that eventuality. The status quo is that almost all forest outside the protected areas has disappeared and once this is completely gone, the local people will have no alternative but to harvest directly from the protected areas themselves. This indicates an urgent need for a change in approach with agroforestry providing a good long-term solution. We already have our target of 100 households with 105 households currently signed up to commit to establishing agroforestry plots on their land in our target sites (see tables of participants per site in Annex 4.2) and 103 households already participated in the first round of workshops provided by project partners FVEE in which 1649 fruit trees were distributed to project participants and a further 174 trees donated to the project either for the mother-plant orchards or in the nurseries for future distribution (see FVEE report (Annex 4.7), workshop attendance sheets (Annex 4.8) and photo sheets (Annex 4.13). Subsequently we have bought 2720 supplemental coffee plants for Betampona (all sites except Ampasina) and further agroforestry trees for Ampasina for distribution early in Year 2 (photo sheet in Annexe 4.13) as chosen by project participants and basic tools for setting up agroforestry plots (see photo sheet in Annex 4.13). As well as proactively planting trees to reduce pressure on the remaining forest fragments and protected areas, through this project we will work alongside community associations responsible for the management of the remaining forest parcels to facilitate the development of community management plans, sustainable use policies and establishment of quarterly forest monitoring patrols. This project component has been delayed in getting started due to the multiple terrible storms and cyclones that eastern Madagascar experienced over January to March (see Section 3.1) but is scheduled to be prioritised during the next quarter.

This project will directly impact human development and well-being through the promotion of agroforestry, a well-recognised method for sustainable farming worldwide. In addition to tree distribution, seeds for short term crop production have also been allocated for shorter term gains within the first months of the project. This will improve household nutrition and income, provided excess production can be sold. MFG is working with MC Ingredients (spice exporters) to

encourage development of farmer cooperatives and allow sales direct to clove exporters (a common crop around Betampona). An additional part of capacity building provided will be for business management. Initial investigations around Betampona have revealed a local market for vegetables (currently imported at high cost from the nearby city of Toamasina) and we will be concentrating on developing these local markets as much as possible throughout the course of the project. Due to having many of their staff diverted to disaster relief in the aftermath of Cyclone Batsirai, we have not yet been able to pursue our partnership with Catholic Relief Services as part of their SPICES programme to again connect producers directly with exporters, cutting out the need for middlemen that often take a large proportion of the profit. Through these activities, we will be able to offer training beyond just target households for the project and hope to therefore have a wider impact across target communities. The project is currently paying the salaries of 25 Malagasy staff at 80% or higher full time equivalent, most of whom are employed in isolated, rural areas that usually do not have many employment opportunities. The knock-on effects of this increased income into these communities will be significant, as will the extra income from short term crop sales and when the distributed fruit and spice trees come into production. By working intensively with “model” communities to show how effective agroforestry can be to provide household nutritional needs, fire and construction wood and additional income in the longer term, we hope to produce a cascade effect adoption of the technique more widely around the target protected areas.

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

Our project will contribute towards:

- Convention on Biological Diversity (CBD)
- International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)
- Global Goals for Sustainable Development (SDGs)

This project clearly responds to one of three main CBD goals i.e., the conservation of biological diversity. Specifically, it will contribute to Madagascar’s National Biodiversity Strategy and Action Plan (2016) as follows:

Strategic Goal B: "Reduce the direct pressures on biodiversity and promote sustainable use of natural resources."

Objective 5: "By 2025, the rate of degradation, fragmentation and loss of habitats or ecosystems is reduced."

Objective 7: "In 2025, all zones allocated to agriculture, aquaculture and forestry are managed according to sustainable production plans, ensuring an integrated approach to biodiversity conservation."

Strategic Goal C: "Improve the biodiversity status by safeguarding ecosystems, species and genetic diversity."

Objective 11: "In 2025, 10% of terrestrial ecosystems . . . especially areas of particular importance for biodiversity and ecosystem services, are conserved adequately in ecologically representative systems and in protected areas and are managed effectively by different strategic approaches."

Objective 12: "By 2025, the extinction of endangered species is reduced and their conservation status improved."

Strategic Goal D: Enhance the benefits from biodiversity and the services provided by ecosystems.

The project addresses Target 6 of the CBD-linked Global Strategy for Plant Conservation (2011-2020), which concerns the sustainable management of production lands; and Article 6.2 of the ITPGRFA:

Article 6.2.a. "Pursuing . . . the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;"

Article 6.2.e. "Promoting, as appropriate, the expanded use of local and locally adapted crops, varieties and underutilized species;"

Article 6.2.f. “Supporting, as appropriate, the wider use of a diversity of varieties and species in on-farm management, conservation and sustainable use of crops.”

We have already surpassed our target of signing up 100 farming households across our target areas to agree to trial sustainable agroforestry methods by securing commitment from 105 households across all our target villages (see tables of participants in Annex 4.2). Of these, 103 households have participated in the initial training offered by FVEE for fruit tree propagation and care techniques (see attendance lists in Annex 4.8).

We have not yet been in contact with Mme Lovankanto, the UNFCCC Madagascar Coordinator but will do so at the beginning of Year 2 to inform her about the project and ensure that we align as closely as possible with Madagascar’s strategy. We will provide her with relevant and timely updates as the project evolves.

## **5. Project support to poverty reduction**

This project is currently directly providing employment for 25 people working at 80% or higher Full Time Equivalent. A further person is due to be hired full time from the start of Year 2. Most of the project staff are employed from isolated, rural areas that usually do not have many employment opportunities. The knock-on effects of this increased income into these communities will be significant. In addition, the project has enlisted 105 households to trial sustainable agroforestry techniques on their land (see project household participation lists in Annex 4.2), which will significantly increase food security for the households during the project’s duration and may provide extra income if surplus production can be sold (something which MFG and project partners are working hard to facilitate). At project end when the distributed fruit and spice trees become productive, this will further increase and stabilize household income and thus food security for the longer term. We intend for project participants to be ambassadors for the promotion of agroforestry in the wider community which was agreed to through the collaboratively created terms of the Memorandum of Understanding (MoU). We are also building capacity within the local communities to produce their own fruit, spice and timber trees. Throughout project duration, we will also provide business planning training, actively promote farmer cooperative creation, and facilitate direct sale from producers to exporters. Through the combination of these activities, we are working to create a cascade effect throughout the wider communities surrounding our target protected areas, which will have a very positive future sustainable impact on household income and food security across the intervention area.

By encouraging plantation of trees for firewood and timber as part of the agroforestry approach for project participants, we will be actively addressing an urgent resource need in the local area. The urgency of this need has become doubly apparent in recent months due to increased frequency of forest fires and severe storms and cyclones. In MFG’s bid to alleviate the situation in the case of the large fire at Ambodirafia that took out half the village (157 households homeless), it quickly became apparent that locally available timber trees are extremely rare. The situation has been further exacerbated by the terrible flooding in the wake of Tropical Storm Dumako in February 2022, in which local Mayors report that a further 541 families lost their homes (bringing the total to 698 families that have lost their homes within the direct vicinity of Betampona since November 2021). It is evident that the main source of available wood is the Betampona Strict Nature Reserve and the few remaining forest fragments around the outside of the reserve. As a result of global warming, fires and severe storms and flooding are likely to become even more frequent occurrences in coming years so if these protected areas and remaining forest remnants are to have any hope of survival, proactive measures such as those being started through this project are critical. The protected areas and forest fragments are essential to the unique and threatened biodiversity living in them as well as for local people for the ecosystem services they provide. As well as promoting planting of native trees in buffer zones around remaining forest, our project seeks to work collaboratively with the local communities to manage the remaining forest fragments more sustainably and build capacity to monitor and evaluate their progress. Through the community consultation meetings carried out at the start of our project (see example minutes of meetings (Annex 4.4) and photo sheet Annex 4.13), we have already gained verbal agreement for these commitments and are in the process of finalising MoUs with the community associations that manage the forest fragments.

We will work with the associations and our project partners to develop management plans and sustainable use agreements for community-managed forests in our target areas. By working to protect forest cover and hence ecosystem services in this way, this project will alleviate poverty more sustainably in the long term for all people living in the vicinity of the two target protected areas.

## 6. Consideration of gender equality issues

We have been working extremely hard across all project intervention sites to achieve gender equality in new project staff hiring, and for assuring that the percentage of women to men is as equal as possible for key project participants and attendance at offered capacity building opportunities. For new project hires the percentage of women hired is 43.75% and one of our 3 Site Coordinators is a female, as is the Project Lead. We made it a condition of hiring the project community animators that one would be a man and one a woman at each site to try to ensure that we reach both sexes equally through the project's outreach activities. In terms of project participants, a large effort was again made where feasible to enlist both a male and a female participant from each household. In most cases this would be a couple, but in some instances, it was a mother and son or father and daughter.

Tables 1 and 2 below show the summarised figures on gender equality across our sites. On average across all our sites the percentage of women participants is 44.56% (see participant tables in Annex 4.2) and the percentage that attended the initial training workshops was 41.44% (see training attendance sheets in Annex 4.8). We view this as a significant achievement as traditionally in past experience, the participation of women in projects and workshops would be extremely low to zero in our target sites, showing our efforts in this regard have really paid off. We will make sure in the next stages of the project that crop preference and other relevant data is collected for both members of the household and will analyse this data to see if there are any clear sex-aggregated preferences. Likewise, uptake of key messages and levels of satisfaction with the training will be analysed on a sex-aggregated basis to ensure we do all we can to be sensitive to potentially differing needs.

**Table 1: Gender of Project Participants Across All Sites with Average % Calculated**

Protected Area	Site	COBA	No. Households	No. participants	No. women	% women
Vohibe	Ampitabe	Soavinala	34	53	22	41.51
	Ambanitohaka	Fizalami	9	18	9	50.00
Betampona	Ampasina	Lovaso	23	34	11	32.35
	Analamangahazo	Fitsinjo	15	30	15	50.00
	Antananarina	Taratra	24	47	23	48.94
					<b>Average %</b>	<b>44.56</b>

**Table 2: Gender of First Agroforestry Training Workshop Participants Across All Sites with Average % Calculated**

Protected Area	Site	COBA	No. training	Women training	% Women training
Vohibe	Ampitabe	Soavinala	77	32	41.56
	Ambanitohaka	Fizalami	8	2	25.00
Betampona	Ampasina	Lovaso	46	27	58.70
	Analamangahazo	Fitsinjo	34	16	47.06
	Antananarina	Taratra	43	15	34.88
				<b>Average %</b>	<b>41.44</b>

## **7. Monitoring and evaluation**

All formal project partners share actively in M&E work. The information is included in quarterly reports. Hard copies of original questionnaires will be kept for the duration of the project so they can be referred to. The M&E plan has been modified slightly during this reporting period to allow easier analysis of sex-aggregated data (it is not always evident from their names the sex of workshop participants) so columns have been added specifically to indicate gender in attendance lists and questionnaires.

To date our main M&E work has related to the training provided by the Fruits, Vegetables and Environmental Education (FVEE) programme of the FJKM Church. All workshop participants across the 4 sites the training was offered (training combined for Antaranarina and Ambanitothaka) were required to complete questionnaires before and after the workshop to evaluate uptake of key messages and level of satisfaction with the methods and subjects covered (see copy of questionnaires in Annex 4.11). Preliminary analysis of the results indicates that the primary aim of the workshop was achieved with 11.4% of participants understanding the principles of grafting to produce new fruit trees before the workshop compared with 95.7% for example in the case of Ampasina. All participants completed at least one grafting attempt and most doing two. By the end of the workshop the diversity of trees being requested by participants had increased substantially indicating an uptake of knowledge of different available fruit tree species.

The information collected is being used to develop site-specific plans for Year 2 for follow up with FVEE technicians on site and for the planned follow-up workshop at the FVEE headquarters and any areas of weakness identified in the initial training will be addressed at the same time. This information will also guide the Site Coordinators' choices for purchase of additional trees and tree production at the project nurseries throughout the course of the project.

Our indicators of achievements as per the agreed logframe still seem appropriate and relevant for the project and we believe we will be able to use them to demonstrate that we have made considerable progress towards achieving our intended Outcome by project end.

## **8. Lessons learnt**

We have learned a great deal through the course of Year 1. In general, the project partnerships have worked extremely well. As the project was scheduled to start on October 1 and field projects were further delayed by the need to change one of our main proposed intervention sites (See Section 3.1), it has meant that the annual report deadline for DI has fallen in conjunction with the first submission of quarterly reports by project partners. To allow sufficient time after the end of the quarter to collate expenses, scan receipts and write reports we mutually agreed for partner project submission on the 25<sup>th</sup> of the month, following the quarter end. However, almost all project partner reports were submitted late. For some, it was the first time doing a report of this depth. And follow-up has been required to make sure that all needed data to fill out the report was acquired. This has been extremely difficult, and we anticipate that the same situation will likely arise each quarter. This means we will need to either renegotiate for earlier submission of reports or ask for more frequent reports. In hindsight it would have been far better to ask for partner reports by the 15<sup>th</sup> of the following month and to provide training and a templated format. We will work with partners to ensure that reports are submitted in a timelier fashion in future.

Due to COVID-19 impacts at MFG (see Section 13), it has transpired that we are trying to finish one particularly major grant project (the eradication of house crows in Madagascar, which I am delighted to report has been a success!) just as we have been launching the present DI report. Although we are used to running multiple concurrent projects at once at MFG but the unpredictability of project durations due to COVID-19 and absences due to illness have made it much harder to manage general workloads and reporting requirements during this time. As a rule, the schedule for most grant reports is the last day of the month following the quarter end that this makes it extremely difficult to meet deadlines for report submissions concurrently. For future reports (especially the annual report, which is very complex and in depth as would be expected for such a prestigious award), we need to plan to start much earlier in its preparation.

If I had to do anything differently with this project as Project Lead, I would have assigned an in-country Field Project Manager to manage field work coordination from the start to coordinate the

field work aspects for all project partners. We started with individual Site Coordinators reporting directly by email and online calls to the Project Lead, who is based in the UK. However, the challenges of regular communication while in the field (and in many instances while in headquarters too due to regular power cuts and poor internet connections) and for time-sensitive organisations, it quickly became apparent that having a field project manager who could visit on the ground or telephone the other Site Coordinators directly was essential. As such we elevated the Betampona Site Coordinator, Christian Rambeloso, to this position. We also feel that it is important to have a point-person of the intervention country's nationality to be the in-country manager as they fully understand the local contexts, language, local inflation rates etc. It was initially quite challenging to switch reporting lines of direct communication from the Project Lead to the Field Project Manager indicating that it would have been far easier to have this system in place from the start. The Project Lead remains copied on much of the communication and responds as needed but it was a difficult balance to strike initially between facilitating the Field Project Manager to take the main lead on field coordination but to also respond to direct requests and communications to the Project Lead from the other Site Coordinators. Through ongoing extra efforts and particularly after clarifying Terms of Reference and reporting structures, the system is working well now. However, it would have been much easier had this project structure been in place from project launch. The time investment put into establishing this new in-country coordination structure will stand us in good stead for the rest of the project.

In brief our recommendations for others doing similar projects are:

- Projects with multiple partners require very clear lines of communication, clear assignments of responsibilities for each partner (in writing). Group online calls can be very useful in the early stages but can also be very challenging with poor internet connections, frequent power cuts and multiple languages to contend with. Clear pre-agreed agendas are useful for the meetings to keep on track and make sure all the important points are addressed. The quick turnaround and agreement to post meeting minutes is also a project must.
- If Project Lead is based predominantly in a different country to where the intervention projects will be carried out, it helps to nominate an in-country Project Manager to coordinate work between multiple project partners and be the first point of contact receiving reports and communications. Ideally this person should be a national of the country to ensure clear communication and understanding of the local context. Their role needs to be made very clear upfront to all project partners with clear responsibilities assigned between the Project Manager and site-specific coordinators.
- Request monthly reports or quarterly reports by 15<sup>th</sup> of the following month at the latest to allow time to review data before collation for the DI reports. Provide a template and training on how to complete.
- It should not be underestimated the huge amount of time it takes to get the administration (in the form of MoUs, Terms of Reference etc) completed for large projects with multiple partners. Funding and time should be assigned for translating important documents into the mother tongue of partners and beneficiaries to make sure all is clear.
- Substantial capacity building is sometimes needed for newly established groups (particularly community groups with no previous experience of formal grants) to learn required administrative and financial requirements necessary for conforming to grant requirements.
- Provision needs to be made for non-literate staff or beneficiaries to allow them to participate in project evaluation exercises. We found it helpful to have extra staff or university eco-volunteers on hand to help carry out questionnaires orally as needed.
- If coordinating activities across multiple sites, it is helpful to assign a single in-country person as Project Manager and have all partners submit reports and coordinate schedules to them but
- As Climate Change impacts are manifesting it is vital to future-proof projects as much as possible by carefully considering siting locations for infrastructure (such as nurseries in our case) to reduce risk of damage through floods and storms. Methods of monitoring



storm development and progress are needed and mechanisms to inform field staff of upcoming risks as early as possible to allow maximum preparation time to minimise damage.

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

Not applicable

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

Although covered in other sections it is worth reemphasising here how severely impacted our project has been this year by the extraordinarily severe storm and cyclone season across all our sites. Although Madagascar has experienced more intense cyclones in the past with more direct damage, storm and cyclone frequency these last few months has been exceptional and devastating. Our local MFG managers reported that the floods brought by Storm Dumako were the worst levels they have seen since 2002. We had expected to lose a week or more due to cyclones in the annual work schedule, but this year we lost the vast majority of the period from end January to mid-March with one cyclone or storm after another either looming or occurring thus making it almost impossible to schedule planned workshops. As it seems likely in the wake of climate change impacts around the globe, that intense and extended storm seasons are likely to endure in the years to come, we will need to plan the rest of the project very carefully to avoid delays and impacts on our project delivery. We need to consider timing workshops outside the cyclone season as far as possible but will still need to be synchronised with local farming schedules.

The increased frequency and intensity of fires and floods in many of our intervention sites this past year pose a risk to our project goals to protect the remnant forest fragments. With so many people currently homeless and requiring timber to rebuild, the impacts are likely to be far reaching for community-managed forest patches. This only serves to increase the importance and relevance of the present project. Local mayors have already turned to us at MFG for help to address this local disaster. Although it will be extremely hard to maintain the forest cover to the extent originally anticipated at the time of conception of this project, these disasters have nonetheless highlighted the importance of proactive forest management and wood-production planning and have given us a stronger platform to launch the sustainable solutions offered through agroforestry.

## **11. Sustainability and legacy**

As a result of the late start of the project due to the need to identify a new intervention site following the devastating fire at Ambodirafia and significant delays due to a particularly intense cyclone season (see Sections 3 and 8), we are behind schedule with the implementation of field projects. This has had the knock-on effect of delaying the promotion of our activities. Periodic posts have been made on MFG's Facebook page to share events such as the FVEE training in fruit tree propagation and care techniques but so far, no articles have been written about the project in our 6-monthly newsletters, nor any radio emissions. These will be prioritised for Year 2 as the project becomes more established and this project represent a tremendous source of news and opportunities for awareness building.

Locally there is a particularly strong level of interest in the project. Uptake within the target communities has been extremely high and within the first 6 months of the project we have already filled our quota for participating households, surpassing the target numbers. Our project staff have been approached by further members of the local communities wishing to take part but due to funding and time limitations it has not been possible to include all of them. We will keep records of all interested parties in the event that any current participants drop out or if we are able to identify further funds to facilitate wider participation. This level of interest bodes extremely well for our hoped-for cascade effect within the wider communities. Where possible within funding and logistical limitations we will offer training as widely as possible but always prioritising our main project participants to ensure that the intensive capacity building for these model farmers is not diluted.

Our exit strategy remains valid and at this point we do not anticipate the need for any changes. The very nature of the project (encouraging investment in fruit and spice tree

cultivation) will likely ensure a sustained legacy as the productive lifespan of the trees will far outlast the duration of the project. By building capacity in propagation techniques, setting up mother-tree orchards at each site to provide grafting material long-term (see FVEE reports (Annex 4.7), presence sheets (Annex 4.8) and photo sheet Annex 4.13)), and providing business planning training, this project is basing its foundations from the start on durable approaches that can be sustained beyond the intervention period of the project. As MFG, MBG and Association Lovasoa are all invested long term in their respective sites of intervention and will maintain teams in permanence at these sites, we will plan to continue follow up and support for project participants even after the current project's end.

## **12. Darwin identity**

The project is known locally and by our staff as the “Darwin Initiative” project and although part of a wider strategy for MFG and our main project partners (such as MBG, FVEE, Kew etc.) it maintains its own independent identify, mission, staff and resources. The DI logo is used regularly on reports, attendance sheets, powerpoint presentations etc. In Year 2, we will make a concerted effort to make more social media and website posts on the project and will include the DI logo where possible. We will also put the logo on project questionnaires and any informational sheets distributed. In our social media posts, funding from the UK Government has been recognised in reference. As this is the second Darwin Initiative project that MFG has led in the Betampona area in recent years and as the teams are always identified as the Darwin Initiative project team as well as the MFG team, the Darwin Initiative scheme is becoming better known. On the whole, however, at the national level, the Darwin Initiative scheme is probably not yet well known. With the large level of investment made in Madagascar in the previous round, that is likely to start changing quite rapidly now. We will work with Mr David Ashley, Her Majesty's Ambassador to the Republic of Madagascar, to further promote the Darwin Initiative programme in Madagascar.

We do have Facebook (the most popular social media in Madagascar) and Twitter social media accounts, which we find very effective for engaging with our members, followers and the wider public. This project lends itself well to posts in these media. As explained in Section 3.1, we have had severe delays to starting this project for reasons outside our control so have not yet made many posts but will make a large effort in this regard in Year 2 and make sure that we tag Darwin Initiative when we do.

## **13. Impact of COVID-19 on project delivery**

The main negative impact of the COVID-19 pandemic to date on this project has been the occurrence of illness within the MFG team leading to prolonged absences and long-COVID in some instances. Although none of the Darwin Initiative project team have been affected directly, the knock-on effects of MFG staff absences and in one case a resignation of a senior project manager due to ill health have been quite disruptive to the general running of MFG. Upper management, including the Project Lead, have had to divert time to finding solutions and providing cover for absent staff. The Project Lead has contracted COVID-19 in recent weeks and has been suffering from ongoing fatigue, which has had some impact on the coordination and writing of this report.

Due to the Madagascar quarantine restrictions and uncertainty surrounding the pandemic we have had to postpone the visits of the MBG Project Lead and Prof den Biggelaar. Prof den Biggelaar was due to run workshops to help project participants start planning their agroforestry plots evolution for the long term, provide practical training on plant rejuvenation techniques and other agroforestry methods. These workshops have had to be postponed until later in 2022 (Year 2 of the budget).

The other main impact of COVID-19 has been on the sourcing and provision of project equipment. The project budget was written using example costs at the time for purchase in the UK or US with the expectation that the majority of the equipment would be bought overseas and taken to Madagascar by the Project Leader. Although the Malagasy border did reopen to visitors in November 2021 shortly after the start of our project, there were requirements for 2 weeks' quarantine in Madagascar and in the UK, which made travel very costly and uncertain. As such all the equipment needed to be purchased in Madagascar (except for the digital cameras, which were still purchased in the UK as costs were too high to purchase them *in situ*). Madagascar, as with most of the world, has been hit by problems of shipping container shortages and,

consequently, high inflation of prices of imported goods. Electronic goods have always been expensive to buy in Madagascar but even more so over this present period. Progress in the project was being impeded, however, so we were obliged to buy the equipment (mostly in the capital of Antananarivo where the choice, availability and quality of goods was better). This has resulted in a significant overspend on equipment compared to the budgeted amount (see Section 15).

MFG has developed a health protocol for reducing transmission of the virus as much as possible (see Annex 4.12). Measures such as wearing of masks, hand sanitisation and social distancing were enforced as far as possible for all project meetings (see photo sheet in Annex 4.13). Generally, within Madagascar such measures are not widely adopted so it has been challenging try to enforce. Most meetings were held in well-ventilated, outdoor areas so risks were reduced as much as possible. No staff were allowed to work if displaying any potential COVID symptoms. MFG and MBG have worked hard to encourage staff to follow a formal vaccination programme, facilitating dedicated vaccination sessions in the workplace to maximise uptake. This ensures the best possible protection we can afford our staff and beneficiaries that we work with. The level of uptake has been very encouraging with the vast majority of staff and their families taking advantage of the vaccination schemes offered.

We have been lucky in that there have been no travel or work restrictions imposed by the Government of Madagascar since this project was launched but it is possible that any future such restrictions could greatly impact the projected programme. We are planning to complete the majority of the remaining larger-scale training workshops as soon as possible while COVID cases are relatively low in Madagascar and there are no associated restrictions. The longer-term follow up on a more individual basis with each household should then be able to continue, even if restrictions are imposed on maximum numbers of people allowed to meet.

Due to the Project Lead not going back to Madagascar at the start of the project due to quarantine restrictions, a number of project partner meetings were held online. These were often challenging due to poor internet connection speeds and frequent power cuts in Madagascar (especially during the cyclone season) but did allow important planning to be carried out. We will likely continue to have these periodic partner meetings online throughout the duration of the project to reduce travel costs.

Due to COVID-19, several ongoing MFG grant-funded projects that we had anticipated would be finished by the start of the DI project have been awarded no-cost extensions resulting in the start of this Darwin Initiative project coinciding with the completion of a couple of major projects for MFG. As most grant reporting deadlines are based on quarters and all have their deadlines on the last day of the month following the quarter end, this again has led to an extraordinarily high workload for the Project Lead.

#### 14. Safeguarding

Please tick this box if any safeguarding or human rights violations have occurred during this financial year.

If you have ticked the box, please ensure these are reported to [ODA.safeguarding@defra.gov.uk](mailto:ODA.safeguarding@defra.gov.uk) as indicated in the T&Cs.

The MFG Safeguarding Policy has been shared with all project partners and a stipulation has been put in the MoUs that the policy must be respected as a prerequisite of the collaboration.

#### 15. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)**

Project spend (indicative) since last Annual Report	2021/22 Grant (£)	2021/22 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)

Staff costs (see below)	████	████	████	Draft
Consultancy costs	████	████	████	Draft
Overhead Costs	████	████	████	Draft
Travel and subsistence	████	████	████	Draft
Operating Costs	████	████	████	Draft
Capital items (see below)	████	████	████	Draft
Monitoring & Evaluation (M&E)	████	████	████	Our buget didn't detail M&E separately*, Draft
Others (see below)	████	████	████	Draft
<b>TOTAL</b>	████	████	████	Draft

\*Please note that our budget configuration did not list M&E as a separate budget category. Our calculation was that █████ would be spent over the project lifetime but we will need to work out how this was broken down between the years and budget categories for the Actual Claim Form calcs. For now, we have entered the M&E expenses for MFG, FVEE and Ampasina but will need to consult with MBG on their specific M&E costs so these are not final figures.

The variance in the Capital Items line is due to the fact that we had not separated M&E in our original submitted budget so the laptops that are being used predominantly for data analysis were originally listed under Capital Costs rather than M&E. We had not asked our project partners MBG to separate out M&E costs so will need to go back to them before submitting the Actual Expense Claim to identify which of their costs were specifically related to M&E.

Many of our budget lines are over 10% underspent, some very significantly and this is due to the delayed start of the project due to the large fire in one of our main intended intervention sites, the severe extended cyclone season and delays as a result of COVID-19. We have not yet submitted a change request as we have only just received the first financial reports from Project Partners over the past week. If it is not too late to do so we would like to request a budget change to offset these delays, which were all outside our control.

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

Not included for this year.

## Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the <b>correct template</b> (checking fund, type of report (i.e. Annual or Final), and year) and <b>deleted the blue guidance text</b> before submission?	Yes
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	Yes
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
<b>Do you have hard copies of material you need to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	