Darwin Initiative Main & Extra: Final Report

To be completed with reference to the "Project Reporting Information Note": (https://www.darwininitiative.org.uk/resources/information-notes/).

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

Submission Deadline: no later than 3 months after agreed end date.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	29-015
Project title	Valorising Malagasy protected areas as seed sources for forest restoration
Country(ies)	Madagascar
Lead Organisation	Missouri Botanical Garden
Project partner(s)	
Darwin Initiative grant value	£167,232 (+£3000 for audit)
Start/end dates of project	01/06/2022 – 31/03/2025
Project Leader name	Chris Birkinshaw
Project website/blog/social media	https://mobot.mg/conservation/analavelona-site/
Report author(s) and date	Chris Birkinshaw, Tefy Andriamihajarivo, Tabita Randrianarivony (30/06/25)

1 Project Summary

The conservation of Madagascar's remarkable biodiversity faces numerous challenges, including, importantly: the need for impoverished communities living close to protected areas to derive greater benefits from such reserves; and the lack of reliable supply chains for high quality seeds of native trees to enable such plants to contribute to the country's ambitious reforestation targets. We will work with parent-teacher associations (called FRAM) at local schools around the Analavelona protected area in SW Madagascar to develop lucrative supply chains for seeds of native trees: thereby addressing both these problems simultaneously. The income generated from the sale of seeds will help improve rural education and the seeds will contribute to reforestation efforts that seek to have a positive impact on biodiversity

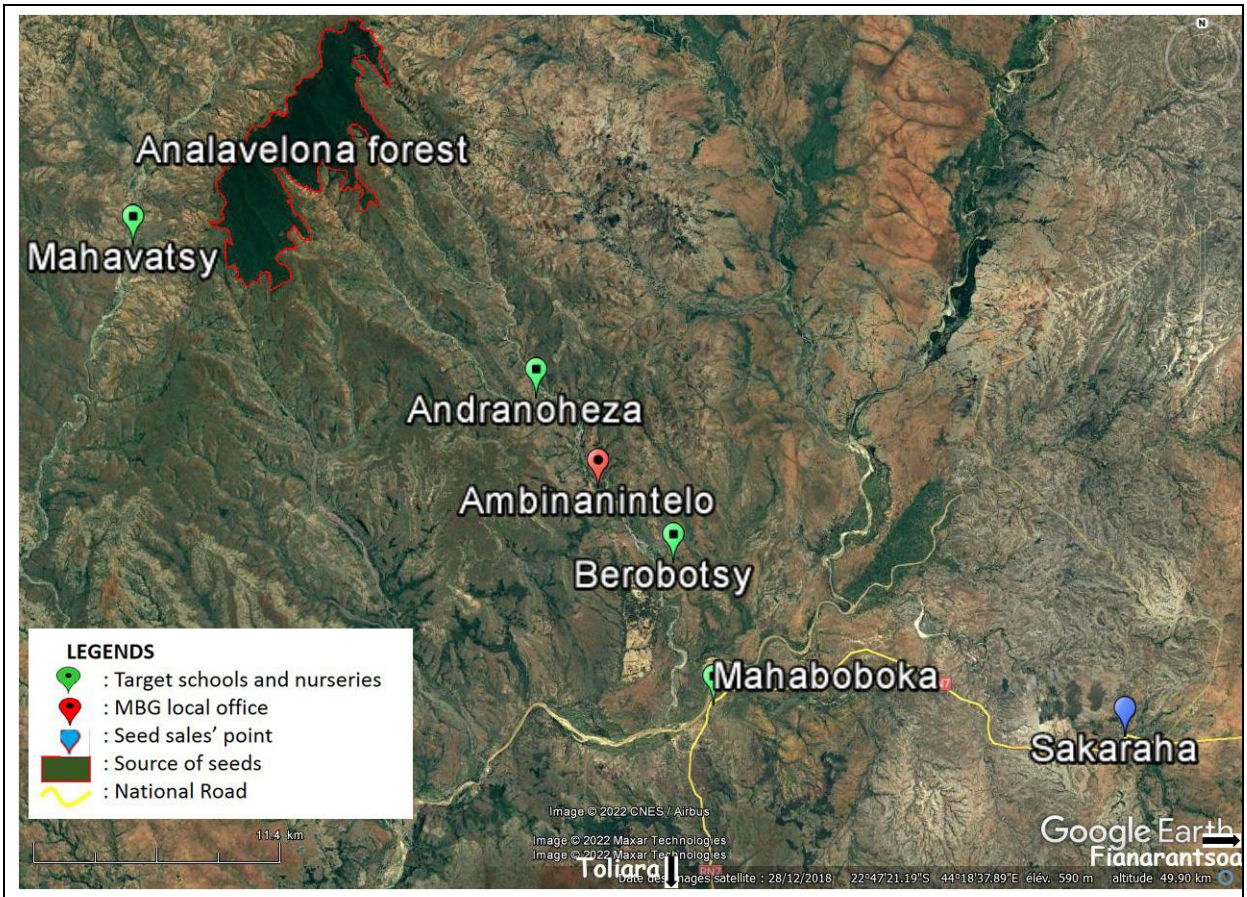

Figure 1. Location of the Analavelona Forest and locations mentioned in this report.

2 Project Partnerships

The main partners in this project are:

- the parents-teacher associations (Fikanbanany Ray Aman-dReny ny Mpianatra or FRAM) at the three target schools where we are working to support education;
- the Direction Régionale de l'Environnement et du Développement Durable (DREDD) Atsimo-Andrefana – Madagascar (Regional Representative of Ministre de l'Environnement et du Développement Durable or MEDD) (Evidence Output 2.2 for collaborative agreement); and
- the Silo National des Graines Forestières (SNGF) which is the national repository for seeds of forest trees (Evidence Output 2.2 for collaborative agreement).

At three schools we have joined the FRAM to support 8 teachers (Evidence Output 1.1) and, in return, the parents contribute their labour to this project. Given the poverty in this area the labour is compensated (see Evidence "Local Beneficiaries") but a condition of accessing this work is that the parents must send their children to school.

We worked with DREED Atsimo-Andrefana to obtain a legal framework for the collection and sale of seeds. The first 12 month agreement finished in March 2024 and we are pleased to report that, following a review of our work, this has renewed for another 12 months (Evidence Output 2.2)

Early in YR2 we discovered that to legally sell wild collected seeds in Madagascar, not only did we require the agreement of the DREDD but also that of the SNGF. Following protracted negotiations we were pleased to win the critically important support of this institution and sign a collaborative agreement (Evidence Output 2.2). As part of this collaboration, our community seed collectors were trained in best practice by SNGF technicians (Evidence see website: https://vihy.mg/) who will also routinely conduct germination trials of samples of seeds that we collect to validate their quality.

3 Project Achievements

3.1 Outputs

Output 1. Improved education for children at three local schools that is understood by local people to be derived from the sale of seeds originating from the Analavelona Forest

1.1 By end of YR1 one additional high quality teacher installed at each of the three participating schools thereby improving the education of at least 400 children (57% female)

In YR2 and YR3, we supported eight teachers at three schools. In YR2 these teachers taught a total of 219 students (45% female) and in YR3 they taught a total of 520 students (57% female). (Evidence Output 1.1)

1.2. In each of YR2 and YR3 at least £500 income from sale of seeds received by the FRAM at each of the three participating schools and correctly used to support education

Annual income for the sale of seeds was 2,849,500 MGA (=£549) in YR2 and 12,537,275 MGA (= £2,416) in YR3. With the exception of one purchase (corrugated iron roofing costing £82 to repair the primary school in Mikobaka) this sum has been held in the VIHY bank account and now, at the end of the project it be used to support the salaries of the best two FRAM teachers (Suzy and Zizi) (Evidence Outcome 4)

1.3. In YRs 2 and 3 pass rate at the "milestone" exam "BEPC" is 20% higher in the 3 participating schools compared to comparable non-participating schools

The project supported education at three schools: Andranonheza Primary School, Mikobaka Primary School and Mahabobaka Secondary School. The results from Andranoheza Primary School remained poor with no students passing the CEPE (the exam that is a requisite to pass from primary school to secondary school - although one of the three teachers (Zizi) worked seriously. The results from Mikobaka Primary School were exceptional because 5 students attending this school passed the CEPE exam) (Evidence Output 1.3). This is the first time ever any students living in this remote village have passed this exam and thereby unlocking the possibility of on-going education. This achievement includes a number of elements that are worth highlighting. First, all of the five successful students were girls underlining how boys are disadvantaged in access to education because their labour is important to the family and thus they are frequently withdrawn from school. Second, despite the success of the girls in passing the CEPE exam, if they want to study further, then they will need to move to another town (about one day's walk away) – it seems unlikely that the parents will be able to fund such a move. Third, the success was due to the personal commitment of an unusually dedicated teacher (Suzy) who provided extra tuition of her own volition.

At the Mahabobaka secondary school, BEPC exam pass rates have not yet been released for YR3, but were 86% in YR2 compared to prior to our intervention. (Evidence Output 1.3).

1.4. In both YR2 and YR3 of project, 90% of parents report that they consider that the quality of education provided by the school has increased (compared to 2021-22) and attribute this improvement to the seed supply project.

In YR2 the results were mixed. At Mahabobaka secondary school, all the parents were pleased with the performance of the teachers that we support; at Andranoheza primary school (EPP), 7 out of a total of sample of 9 parents interviewed reported that they were pleased with the performance of "our" teachers while two complained that sometimes the teachers left early on Friday and returned late on Monday to go to town; while at Mikobaka EPP all the parents complained about the teacher there being often absent (in fact it transpired that she had serious health problems). In YR3, once again there was 100% satisfaction among parents concerning the education of their children at Mahabobaka, while at Mikobaka EPP satisfaction was 66%, while attaining only at 50% for Andranoheza. (Evidence Output 1.4).

Output 2. High quality seeds of named and evaluated native tree species provided to reforestation projects

2.1 In YR1 20 target species potentially performing well in reforestation endeavours are identified.

In YR1, 22 target species were identified by our botanists as being strong candidates for successful use in reforestation and restoration in the sub-arid south-west of Madagascar. This list evolved during the duration of the project so that in YR3 a total of 29 different species were listed amongst our targets for collection (Evidence: Output 2.1).

2.2 By YR2 large seed samples (i.e. > 10,000 seeds) of high quality are collected and supplied for at least 12 target species, by YR3 large, high quality seed samples (i.e. > 30,000 seeds) collected and supplied for at least 15 target species.

In YR2 a total of 185 kg was collected from 14 of the target species, while in YR3, 465 kg of seeds were collected from 26 species (Evidence Output 2.2). The number of seeds collected for the two years exceeds 3 million. All the collections were made legally under agreements made with both the *Silo Nationale des Graines Forestières* and the *Direction Régional de l'Environnement et du Developpement Durable* Atsimo Andrefana (Evidence Output 2.2).

2.3 By YR3 species-specific data-based "performance evaluations" available for 12 of the target species to help inform selection of species by potential buyers

Species performance information available for 18 species with survival rates after out-planting ranging from 9 to 86% (Evidence Output 2.3). Interestingly, the star performer was the baobab tree or *Adansonia za*. This performance data has been integrated into the species profiles available to potential purchasers on the VIHY website (https://vihy.mg/) (Evidence Output 2.3).

Output 3. The creation of an effective self-sufficient business with capacity to continue operating the "community-based" seed supply chain, on a commercial basis, post-funding

3.1. In YR1 two young Malagasy business managers and two young Malagasy business accountants with desirable attributes (as identified by mentors) are recruited

Two excellent young local business entrepreneurs were recruited. Their cvs can be seen in Evidence Output 3.1.

3.2 In YR2 at least one business manager and one business accountant with the capacity to administer the business effectively with very little outside support

Given the complexity of the work to create a legally recognised business based on the community-based collection of seeds from wild native trees and the sale of these seeds to clients, with profits supporting local education, we decided it would be pragmatic to frame this work within a new NGO with this mission. This NGO is called VIHY, and all the documentation concerning its creation, legalisation, management and governance is presented in Evidence Output 3.2.

Output 4. The managers of other protected areas in Madagascar are sufficiently aware of the methods and results of this model project that they can evaluate its relevance at the sites where they work

4.1 *By end of YR1, representatives of the Ministry of the Environment and Sustainable Development (MEDD) and at least some of the management staff associated with 30 Malagasy projected areas are aware of the project, interested in how it proceeds, and aware of the social media sites and website where updates will be posted*.

At the end of YR1 an attractive and informative website for VIHY had been launched, and communication began on social media. Since this time a small number of communications have been made on "X", and then Bluesky, and a large number of communications have been made using facebook (Evidence 4.1)

4.2 *By end of YR3 representatives of the Ministry of the Environment and Sustainable Development and at least some of the management staff associated with 30 Malagasy projected areas are aware of issues arising during the implementation of the project and can evaluate its results on the basis of quantified information of inputs, outputs and outcome.*

A workshop to conclude the DI-funded start-up phase of the project for diverse stakeholders was held at Sakaraha on 28 February. This was attended by 35 people including protected area managers, development organisations, potential clients, representatives of the devolved technical services for business, agriculture, education and the environment, political appointees, and other local stakeholders (Evidence Output 4.2). Following this workshop meetings were held with the Director of the *Silo National des Graines Forestières* (SNGF) and the Director of the *Direction des Aires Protégées* (DAPRNE) which is part of the *Ministère de l'Environnement et du Développement Durable.* During these meetings we explained the methods used in the project and its achievements. Both the Directors were pleased with the results and committed themselves to supporting us if we wanted to expand this work to other protected areas (although they specified that these needed to be protected areas managed by MBG).

3.2 Outcome

The Outcome for this project stated in the application was “A model project demonstrates that more people around Analavelona Forest value and cherish it, because of the educational benefits it generates by supplying native tree seeds to improve reforestation”

Five indicators of this outcome were provided. These are as follows: .

0utcome 1 Annually, during the project, the number of infractions in the PA due to local people falls by 10% over previous year thereby demonstrating their greater commitment to the conservation of the site.

The number of infractions detected within the forest remained stable during the project with 12 infractions in 2022, 10 in 2023, and 12 in 2024. Nearly all the infractions concerned cutting trees and the number of stems cut remained small and was due to the exploitation of honey rather than exploitation for timber.

Outcome 2. By YR3 estimated abundance of two key threatened diurnal lemur species in PA increase by at least 5% over current baseline thereby demonstrating a reduction of lemur hunting in the site)

The sightings of *Propithecus verreauxi* per km in 2020 compared to 2025 was 0.83 versus 1.04 individuals (an increase of 25%); while the sightings of *Eulemur rufifrons* in 2020 compared to 2025 was 2.56 and 2.60 indviduals respectively (an increase of 1.2%). Of course two measurements are not sufficient to show a tendency but we are greatly encouraged by these results especially since lemur hunting (that was now frequent here) has now almost ceased (the last report was a lemur trap that was detected in 2022).

Outcome 3 Annually, during the project, local appreciation of protected area increases to attain asymptote in YR3 of 90% of local people saying they appreciate or very much appreciate the PA

In 2023 and again in 2025 we conducted research to evaluate local perceptions of the MBG, the protected area and the project. The approach used was semi-structured one-toone interviews and included samples of beneficiaries and non-beneficiaries of the project. The interviews were recorded using a Dictaphone and then transcribed and analysed. In general it would seem that locals are aware that the traditional sacred status of the Analavelona forest has changed and is changing, and they are also appreciative of the interventions of MBG both to conserve the forest and to provide support for local livelihoods. Both in 2023 and in 2025 the vast majority of the local community (both beneficiaries and non-beneficiaries) appreciated both the forest and had a positive perception of MBG. In 2025 appreciation of the forest was 98% for both beneficiaries and non-beneficiaries in 2025.

Outcome 4 In YR2 seeds produced by project used by at least 5 national reforestation projects launching restoration with native trees over at least 75 hectares of degraded landscapes, increasing, in YR3, to at least 10 reforestation projects reforesting at least 150 hectares.

During the project seeds were sold to 20 different buyers (Evidence Outcome 4). While some of the buyers brought small quantities of seeds (including for use in landscaping) other projects (such as the project Programme de Lutte Anti-Erosive or PLAE) required large quantity of seeds for a larger scale reforestation project. We are hopeful that such relationships will not just provide a lucrative market for our seeds but also an opportunity to integrate native tree species into a large scale and multi-site reforestation initiatives.

Outcome 5. At the end of YR3, managers of at least three other protected areas state that they will integrate work to develop lucrative seed supply chains into their work plans.

With the support of the Malagasy government we have initiated work in which VIHY with two other grassroots NGOs (MAMPITA and Fikambanana Bongolava Maintso who work respectively at Ankafobe and the Bongolava Forest Corridor) to create a platform to facilitate identification of clients and the sale of seeds (and seedlings). Such a platform is desirable because not infrequently VIHY has been contacted by clients who want to buy seeds of native trees but who are working in a part of the country where species from the south-west of the Madagascar will not prosper. In such situations it would make sense for VIHY to contact other, members of the platform to satisfy the order, and *vice versa* should be situation be reversed.

3.3 Monitoring of assumptions

Assumption 1. Target landscapes and their human residents are not impacted by major social (e.g. insecurity, disease, arrival of large number of immigrants) or environmental calamities (e.g. drought).
Comments: In YR2 of the project, security, in terms of banditry, worsened, and while there were no major outbreaks of disease, little rain fell and harvests were poor. School attendance was negatively impacted by this situation as parents tasked their offspring to help with the household economy. No changes were made to the project and in YR3 school attendance increased.

Assumption 2. With sufficient compensation high quality teachers are prepared to work in this remote part of the country.
Comments: This assumption has not been confirmed because three of the five teachers we engaged to work at the primary schools took every opportunity to leave their remote schools and return to larger towns where with electricity and connectivity and where consequently their quality of life is better. However two of the five teachers were diligent (Suzy and Zizi) and VIHY will continue to support the work of these two.

Assumption 3. Some species of native tree species perform well in degraded habitats (i.e. where reforestation is required).
Comments: Certainly a number of native tree species grow well in degraded habitats. However, to be of value these species much also be easy to propagate, must tolerate being out-planted from a nursery into a harsh environment, must produce wood of some utility, and must grow quite quickly. Our performance trials (Evidence Output 3.3) clearly show that only a proportion of the target species perform well under harsh conditions.

Assumption 4. Reforestation projects wish to use at least some native tree species (even if merely to compliment extremely tolerant eucalyptus trees)
Comments: 16 clients were accessed in YR3, including some large reforestation projects, hence this assumption can be confirmed.

Assumption 5. Appropriate business mentors can be identified who are willing to invest their time and skills in developing business capacity local graduates in this remote part of Madagascar.
Comments: The closest significant town to Analavelona Forest is Sakaraha and it is here that the Business Unit will be established. Although this is the largest town in the area the only business that is flourishing here is trade in semi-precious stones: a business often associated with dubious practices. We judged that these business people would not make good mentors for the young entrepreneurs that we wish to nurture and would probably not engage appropriately with the concept of developing a value chain with benefits for the community. Therefore this assumption must be rejected and, as described in the YR1 annual report an alternative approach to mentoring was sought and has now been implemented. Specifically we have worked to create and legalise a new NGO called VIHY in which a board will guide are two entrepreneurs Rado and Fabien who constitute the executive team. The organisational structure is presented on the VIHY website: https://vihy.mg/.

Assumption 6. Other protected area managers are as interested as ourselves in seeking to add value for local people of protected areas.
Comments: Developments in the last few months (during which our government partners showed enthusiastic support for our model project and expressed a wish that it should be expanded to other protected areas) has encouraged us to engage two other grassroot NGOs working at protected areas to create, along with VIHY, a platform to valorise respective protected areas as seed sources to fuel a lucrative value chain with benefits for locals. Hence this assumption can be confirmed.

3.4 Impact

The desired impact of this project, as stated in the application is “Some Malagasy protected areas provide immediate and tangible additional benefits to local people as sources of saleable seeds of native trees and are thus more appreciated and more secure.”

For the Analavelona Protected Area at least there is supportive evidence for this impact, where we can demonstrate that:

a) in general, the work of MBG in managing this protected area and providing livelihood support for the local community, is appreciated (Evidence Outcome 3);

b) that the local community are gaining significant income from this project (Evidence “Local Beneficiaries”);

c) revenue is being generated from the sale of seeds (Evidence Outcome 4).

d) the conservation status of the protected area is at least stable (Evidence Outcome 1) and perhaps improving (Evidence Outcome 2).

It is also likely that this project will, not only continue at Analavelona but, in the near future, be expanded to at least two additional sites (the Ankafobe Protected Area with MAMPITA and the Bongolava Forest Corridor Protected Area with FBM) (Evidence Outcome 5).

4 Contribution to Darwin Initiative Programme Objectives

4.1 Project support to the Conventions, Treaties or Agreements

CBD

This project contributed and will continue to contribute to the CBD by reducing degradation and relieving human pressures on a very rare and threatened vegetation type (Malagasy western sub-humid forest) that is the habitat for a diverse and threatened fauna and flora. Specifically through this project (and other actions) locals are appreciative of the protected area (Evidence Outcome 3) and the conservation indicators are either stable or improving (Evidence Outcomes 1 and 2).

NBSAP

It is possible to claim a contribution to Goal D of this Action Plan (“Enhance the benefits withdrawn to all from biodiversity and the services provided by ecosystems”) due to the benefits associated with the extra compensated employment created by the project (Evidence “Local Beneficiaries”) and because of the support for education (teachers) in local schools (Evidence Output 1).

UNFCCC

To date the Project has sold seeds of native trees to 20 different buyers (Evidence Outcome 4). We estimate that these will have contributed to reforestation or restoration over some 250 hectares.

SDGs

(Goals 1/2) by providing paid employment (for > 300 locals); (Goals 4/5/10) by supporting improved education for 219 children in YR2 and 520 children in YR3 (Evidence Output 1); (Goal 15) by conserving the Analavelona Reserve by threat reduction (Evidence Outcome 1); and (Goal 17) by investing in diverse partnerships (rural people leading traditional lives, local Kings (Mpanzaka) university graduates, donors, and representatives of various state institutions).

4.2 Project support for multidimensional poverty reduction

The communities living around the Analavelona Sacred Forest protected area are among the poorest in Madagascar. With security compromised, annual climate unpredictable, access difficult, diseases like bilharzia and measles rampant, and largely forgotten by the State and

development organisations, life is hard and short. This project contributed to poverty relief in four main ways

- By providing employment – a total of £35,799 of payments were made to the local community (over 300 individuals) in return for the services they provide in collecting seeds, propagating seedlings, out-planting the seedlings and creating firebreaks to protect the forest (Evidence "Local Beneficiaries")
- By improving access to education – we provided student study kits, repaired schools and supported eight teachers at three different schools (Evidence Output 1). However, as reported elsewhere, the impact of this intervention was compromised for one of the schools because of frequent absences of some teachers. At the two schools (the EPP Mikobaka in YR3 and the CEG at Mahabobaka, throughout the project) the teachers that we support worked very well indeed with clear educational gains (Evidence Output 1.3.)
- By building capacity – by coaching 11 nursery staff and coaching and training 12 seed collectors (Evidence "Local Beneficiaries")
- By conserving the Analavelona Forest (Evidence Impact) which is an important watershed and origin of many water sources that irrigate thousands of hectares of rice fields downstream. This contribution to local (and indeed regional) lives and livelihoods is certainly more important than the other types of contribution listed above, but it is difficult to evaluate and quantify.

Importantly, we believe that VIHY is viable and will continue to provide local employment and support education into the future.

4.3 Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	X
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

On the GESI Scale we judge the project as "Sensitive" because all employment opportunities have been explicitly offered equally to both genders or, in the case of the nursery staff, with positive discrimination to women. However, we acknowledge that despite this approach, overall, more employment and compensation was given to men (71% of total compensation provided to locals versus 29%) (Evidence "Local Beneficiaries"). This inequality was due to two main factors: a) the best candidates for some posts were men; b) some posts did not attract female candidates. Concerning the latter, this was observed for the post of seed collectors was unattractive to women because of security concerns of being a female and working away from

the protective embrace of the village. Here then GESI collides with Safeguarding/Health and Safety: in the current social context, women cannot have access to this employment because it would not be safe for them to do this work.

While men certainly benefited more than women in terms of work, girls benefitted a little more than boys through education: 54% versus 46% (Evidence Output 1.1). In rural Madagascar boys are often more poorly educated than girls because their labour is more valuable to farming families. In this context it interesting that of the five students from Mibobaka primary school, who passed the exam to pass into secondary school, were all girls.

Apart from the employment opportunities, we encouraged the equitable participation of women in the meetings of FRAM. Although society here is distinctly patriarchal, we noted that at least within the sphere of children's education, women are not reticent in making their views known.

Of course there are other dimension to GESI than gender, and one of these, that is distinctly important here but was neglected in this project, are the elderly, and especially elderly women. In the application for a grant from IUCN SOS Lemurs that we are currently preparing, we are attempting to address this oversight by providing employment specifically for elderly women (who will be tasked and compensated to make seed balls as part of a project to restore burnt forest at Analavelona).

4.4 Transfer of knowledge

During the first two years of this project we were not sure that the project concept was going to work because until YR3 there were few buyers of our seeds. Hence we communicated rather little. Only to the end of YR3 did we gain confidence and begin to share our project as a model of what might be done elsewhere. Information was shared by means of a workshop held at Sakaraha on 28 February 2025 that attracted 35 participants (Evidence Output 4.2) including representatives from different parts of the local and regional government (e.g. Education, Forests and Environment, Business), protected area managers, development organisations, reforestation projects, and local stakeholders.

4.5 Capacity building

The most important aspect of this project with respect to capacity building was the creation, legalisation and operationalisation of a new grassroots NGO called VIHY whose goal is to provide benefits for the local community by developing a value chain for seeds of native trees collected from around the Analavelona Forest with income being used to improve education in neighbouring villages. An office was provided and equipment, seed storage facilities installed, VIHY was legalised and provided with a specially designed website, and our two business entrepreneurs trained in range of essential skills including good governance, communication, safe guarding, and administration (Evidence Output 3.2). To further increase the credibility of VIHY their accounts will be included in the Project' audit that is currently underway.

A second endeavour at capacity building was to select one of the 12 local seed collectors to be trained and coached as a field botanist. A prerequisite for any project aiming to collect and sell seeds from wild plants is that they should be corrected named. Thus a site-based botanist is essential. Experienced field botanists are rare in Madagascar and consequently quite expensive to engage and therefore it was decided to train a local person to take this role. This was done by engaging an experienced field botanist to work with the seed collectors over 18 months and, during this time, select the person who seemed to have the greatest interest in the flora and focus on training him to identify plants. The person selected is called Rehesy and with the aid of guidebooks and a hand lens he is now able to identify most plant species at this site to the level of genus. We intend to provide ongoing training to Rehesy so that he can become a competent field botanist in his own right with consequent benefits for the project and his livelihood (he will be able to hire out his skills as a consultant).

5 Monitoring and evaluation

Over the last decade donors, including the DI, have become increasingly insistent that grantees should Monitor, Evaluate and Learn through the entire project funding period. This emphasis on data, especially quantitative data, rather than purely narrative reporting, has encouraged grantees to be more realistic about what they can deliver, and then focus sharply on ensuring they meet these targets. This is all to the good and facilitates a shared vision among the members of the implementation team, while promoting concern, reflection and adaptive action when evidence emerges that a target might not be met. For us at least, and one suspects many other projects, is that a lot of monitoring is about tracking tendencies and, for such monitoring to be meaningful, then strictly standardised protocols must be used. This condition can be very hard to achieve: for example while it is possible to fix a protocol for estimating the density of a lemur species, the dedication of the human agents within this framework can vary over time. Additionally, with respect to indicators of project impact, it often will be unknown what contribution the project made to a positive or negative result: an increase in wild fires may suggest a very effective awareness-raising campaign but it may also be partly or entirely due to a relatively wet dry season.

Some of the monitoring information presented in this report will be used as part of our annual reporting to the Malagasy Government, who are responsible for evaluating our fitness as manager of the Analavelona Protected Area.

6 Lessons learnt

The main disappointment in this project was its modest impact on education of children at the Andranoheza primary schools. Our idea that by simply providing teacher salaries would always result in a significant increase in student performance was naïve and we should have worked hard to develop more comprehensive Theory of Change models. The obstacles to education at such locations are numerous and, even if motivated teachers are present, little progress may be made give n the lamentable state of school buildings, when parents need their children for agricultural work and see little to be gained from schooling, and when the children do not have access to stationery. Sadly, in addition to all these obstacles, two teachers we recruited to work at Andranoheza primary school lacked real commitment and clearly had only accepted to work at this remote location because of failure to find alternative sources of income. In reality the issue of providing even a modest level of primary education in rural Madagascar is complex and massively challenging and frankly beyond the means of a conservation organisation with modest means. In contrast our support for the secondary school had a much greater impact: here there was already a functional system that could respond to extra support. Hence, the lesson to be learnt is that it may be better to use limited funds to provide support in less desperate situations rather than emotion-led action of endeavouring to address near impossible scenarios.

Another, but this time positive, lesson that we learnt was that irrespective of careful conception and planning, it is specific individuals doing specific tasks that can make or break a project. In this project we were especially fortunate to have recruited Rado who was a natural business person; Patrice who simply loved locating fruiting trees and collecting their seeds and Suzy a generous and inspiring teacher who at her own volition coached 5 students from Mikobaka EPP to successfully pass their CEPE exam (the first ever to do so from this village). Of course these people were selected by interview, but their exceptional performance could not have been predicated. When such people are encountered then everything possible should be done to retain them. Hence despite the observations in the previous paragraph we will be continuing to support Suzy at Mikobaka and Rado has been recruited as part of the VIHY team. Patrice is part of the MBG staff and will be engaged, when resources allow, to coach the local botanist Rehesy..

Finally, a lesson for donors: three years is a mere 1095 days, and I am confident that many final reports, such as this one. describe green shoots of success that fall well short of “mission accomplished”. Truly, donors, who wish to make a difference, need to support either short term projects with very modest outcomes or longer term endeavours that deliver more.

7 Actions taken in response to Annual Report reviews

Following the YR2 Annual Report feed items of feedback were received.

Feedback 1 Activity 1.3 has not been carried out, and the explanation that an NGO has been set up instead of a Business Unit which precludes carrying out this activity is unconvincing. Given that metrics for measuring the success of the teachers and parent's attitudes are very incomplete (outputs 1.3 and 1.4), a FRAM Manual of Procedures is very much needed.

Feedback 2 The indicators for Output 1 are incomplete with no reports available from the local education authority listing project teachers and evaluating the performance (Indicator 1.1). Similarly, exam results are only available for one out of three schools (Indicator 1.3).

Replies were given to this feedback in the HYR3 report.

Concerning *Feedback 1* we explained that as originally conceived, the project would mobilise the FRAM teachers and the parents to collect, clean and dispatch seeds (and in return we would support the teachers). It was in this context that we proposed that a manual of procedures would need to be developed. However, this original proposal was naïve and in reality the location and identification of the target tree species (sometimes distant from the village), then collecting, labelling and storing samples of high quality ripe seeds and organising dispatch to our distant office was all just too complicated to be realistically managed by this group of people and hence we developed an alternative approach of training and compensating a small number of parents as part-time seed collectors with a condition of employment being that they kept their children in education. With coaching of an experienced field botanist this approach was able to access large quantities of named and high quality seeds.

Concerning *Feedback 2* supplementary evidence was provided in the HYR3 report and further evidence is provided here in Evidence Output 1.3.

8 Risk Management

Six risks were identified in the original proposal. Of these none posed a significant problem during the last 12 months. In particular we were not aware of any instances of fiduciary abuse (hopefully this belief will be confirmed by the audit that is currently underway), nor other abuse of powers. We are certain that our seed collecting activities did not have a negative impact on rare species (because no such target species were included in our list of species for collection) and there were no exceptional social of climatic events that derailed the project. Up to YR2 we remained concerned that markets for the seeds of native tree species were insufficient to support a robust value chain, but 16 buyers were secure in the final year of the Project and the future sustainability of this work now seems more secure. However, two new risks emerged during YR3: 1) the possibility that seeds sold by this project might be illegally exported; and 2) seeds from the tree species restricted (i.e. locally endemic) to the SW of Madagascar might be used inappropriately elsewhere in the country.

Concerning the first of these newly evident risks, it is easy to imagine how dangerous for the reputation of VIHY and MBG it would be if seeds sold by us were illegally exported. Of course documentation related to the sale of seeds specifies that these seeds must not be exported – but is that enough? Probably to reduce this risk we will need to work more closely with appropriate parts of the Malagasy government to ensure that they are aware of all sales. However, additional procedures associated with the sale of seeds would likely act as a brake to sales.

Concerning the second of these new risks, as a biologist, it is distasteful for species to be used for "restoration" outside of their natural range: it is true that a species locally endemic to SW Madagascar is native to Madagascar but it would not be considered native to, for example, north Madagascar. Conceivably, once again the reputations of VIHY and MBG could be vulnerable to accusations suggesting that we were promoting irresponsible restoration practices. To reduce this risk and promote best practice in restoration, it is proposed that the model project developed here at Analavelona should be replicated elsewhere in Madagascar so that potential restoration practitioners could access appropriate species for their endeavours wherever these are located.

9 Scalability and Durability

We are pleased to report that the two key stakeholders within the Malagasy government (Silo National des Graines Forestières (SNGF) and the Director of the Direction des Aires Protégées (DAPRNE) which is part of the Ministère de l'Environnement et du Développement Durable (MEDD)) are pleased with the results of this project, and indeed encourage us to expand its work to other protected areas (albeit, initially only those managed my MBG). While we can take some credit for this positive response (through diligent communication with them throughout the duration of the project), their surprising level of enthusiasm may also be related to the pressure being placed on the MEDD by other parts of the Malagasy government to demonstrate the economic value of Malagasy protected areas. Whatever, we are thrilled because without government support this project would have little future.

Economically, VIHY is not yet self-sustaining (Evidence Output 3.3), but we sincerely believe that it has the potential to achieve this condition. This belief is based on: a) the growth of clients in YR3 (from 4 clients in YR2 to 16 clients in YR3), b) the success of VIHY in accessing funds from other donors (i.e. Conservation Allies); c) the diversification of economic activities within VIHY such that the now support three local ladies are sewing cotton seed collection bags that are being sold successfully; d) by creating an informal platform with other groups collecting seeds (as proposed in the previous paragraph) accessing broader markets; and e) the inclusion of VIHY within a new MBG application seeking to access funds from IUCN SOS Lemurs to restore burnt parts of the Analavelona forest in which VIHY will have a contract to supply 1,000,000 seeds. Hence the core VIHY staff are being retained and continue the work using the administrative frameworks and skills developed and the equipment and materials accessed during this project.

10 Darwin Initiative identity

We think that the correct balance was struck between integrating the DI-funded project into the larger conservation project at Analavelona and recognising the work as being distinct. The DI logo was used to signpost the three village nurseries created by the project and also struck on all equipment purchased using DI Funds; the VIHY website (https://vihy.mg/projet-graines-pour-leducation/) clearly identifies the DI support as being from the UK Government; and all workshop presentations recognised DI support. Previously one of us (Chris Birkinshaw) has "tweeted" extensively about MBG's conservation work in Madagascar (including this project) and had accumulated a modest following. However, in December 2024, this account was closed and a new account on Bluesky was created (chrisbirkinshaw.bsky.social) but sadly, in doing so, nearly all followers were lost.

In addition to our own efforts to publicise the project, the British Embassy in Antananarivo contributed hugely to communicating with various parts of the Malagasy government concerning the large number of DI-funded projects active in the country.

11 Safeguarding

12 Finance and administration

12.1 Project expenditure

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total actual Darwin Initiative Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				

	[redacted]			
TOTAL	4,5943	45,861.25		

Staff employed **(Name and position)**	**Cost** **(£)**
ANTILAHIMENA Patrice (Assistant Manager/Seed Collector Coach)	[redacted]
RAHARIJAONA Vola (Financial Officer)	
ANDRIAMIHAJARIVO Tefy (Project Manager)	
TOTAL	

Capital items – description	**Capital items – cost (£)**
None	
TOTAL	

Other items – description	**Other items – cost (£)**
Field supplies Medical Kit Nursery supplies Office Supplies Printing Audit	[redacted]
TOTAL	

12.2 Additional funds or in-kind contributions secured

Matched funding leveraged by the partners to deliver the project	Total (£)
Missouri Botanical Garden	[redacted]
Missouri Botanical Garden	
Missouri Botanical Garden	
Conservation Allies	
TOTAL	

Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project	Total (£)
IUCN SOS Lemurs (application submitted)	[redacted]
TOTAL	

12.3 Value for Money

We believe that the project was good value for money for the following reasons:

a) The project relied entirely on Malagasy competence and therefore did not have to cover the high cost of participation by foreigners (i.e. salaries and international airfares). For this project at least, the Malagasy competence available, founded in Malagasy realities, was probably superior to foreign experts.

b) Proven, appropriate technologies were used rather than endeavouring to apply unproven expensive technologies (e.g. use of humans for monitoring rather than drones, propagation of seedlings in simple village nurseries constructed using locally available materials where possible (to avoid transport costs)).

c) Building local human capacity through training rather than purchasing the services of consultants with existing capacity.

d) Sharing transversal functional costs with other projects (for example accessing funds required the Financial Officer travelling for at least 5 hours to Tulear and there spending a night). The cost of this activity was shared between projects.

13 Other comments on progress not covered elsewhere

One of most satisfying aspects of a project such as this, is to provide young local people with opportunities other than the exceptionally limited choice of livelihood options normally available to them. While there is much positive to be said about rural life in Madagascar, one of the negative aspects is the lack of options for young people to realise their full potential. It was a pleasure in this project to provide an admittedly small number of such people with alternative employment from farming and to witness how well they responded. The challenge now to find the means of transforming temporary employment into a career!

14 OPTIONAL: Outstanding achievements of your project (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material

The conservation of Madagascar's remarkable biodiversity faces numerous challenges, including, importantly: the need for impoverished communities living close to protected areas to derive greater benefits from such reserves. Many protected area managers aim to provide benefits for local communities by developing tourism within the reserve, but, in reality, this only works for a small number of conveniently located reserves. In this project we aimed to explore another potential method of valorising protected areas for locals: using them as a source of seeds of Malagasy trees that can be sold to restoration and reforestation projects. While there is growing interest in using native tree species for such work in Madagascar, it is difficult to obtain correctly-named and high-quality of seeds for propagation and thus it seems that there is a market waiting to be accessed. In a project supported by the Darwin Initiative we tested whether it was possible to develop this value chain with benefits for the local community (as well as for restoration projects). The trial was located around the Analavelona Sacred Forest Protected Area in south-western Madagascar, and, over 3 years, a small team worked with the local community to collect 549 kg of high quality seeds from 29 native tree species (that we judged to be able to survive and grow on degraded land) and sold these to 20 clients. As well as providing employment for 12 local seed collectors and 12 nursery women, the income generated was used to support local schools by providing teachers, study kits for students and repairing classrooms. Our partners in the Malagasy government are excited by these results and are encouraging us to expand this model to other protected areas. This was unexpected because previously the collection of seeds was not allowed within Malagasy reserves. Three new sites, each in different vegetation types, are now on our radar.

Annex 1 Report of progress and achievements against logframe for the life of the project

Project summary	Progress and achievements
Impact **Some Malagasy protected areas provide immediate and tangible additional benefits to local people as sources of saleable seeds of native trees and are thus more appreciated and more secure.**	The project can act as a model for similar endeavours at other protected areas because at the project end: a) nearly all members of the local community appreciated the Analavelona Protected area; b) locals had gained significant income from this project as well as educational gains; c) revenue is being generated from the sale of seeds, and d) the conservation status of the protected area is at least stable and perhaps improving.
Outcome A model project demonstrates that more people around Analavelona Forest value and cherish it, because of the educational benefits it generates by supplying native tree seeds to improve reforestation.	
Outcome indicator 0.1: Annually, during the project, the number of infractions in the PA due to local people falls by 10% over previous year thereby demonstrating their greater commitment to the conservation of the site	The number of infractions detected within the forest remained stable during the project with 12 infractions in 2022, 10 in 2023, and 12 in 2024. All infractions were minor (cutting a tree for collection of honey) (Evidence Outcome 1)
Outcome indicator 0.2: By YR3 estimated abundance of two key threatened diurnal lemur species in PA increase by at least 5% over current baseline (*Propithecus verreauxi* = 14 individuals/km²; *Eulemur rufifrons* = 49 individuals/km²) thereby demonstrating a reduction of lemur hunting in the site	The sightings of *Propithecus verreauxi* per km in 2020 compared to 2025 was 0.83 versus 1.04 individuals (an increase of 25%); while the sightings of *Eulemur rufifrons* in 2020 compared to 2025 was 2.56 and 2.60 indviduals respectively (an increase of 1.2%) (Evidence Outcome 2).
Outcome indicator 0.3: Annually, during the project, local appreciation of protected area increases to attain asymptote in YR3 of 90% of local people saying they appreciate or very much appreciate the PA	At end of project appreciation of Protected Area attained 98% for both beneficiaries and non-beneficiaries. (Evidence Outcome 3)
Outcome indicator 0.4: In YR2 seeds produced by project used by at least 5 national reforestation projects launching restoration with native trees over at least 75 hectares of degraded landscapes, increasing, in YR3, to at least 10 reforestation projects reforesting at least 150 hectares.	Seeds sold to 20 different buyers and were used to reforest/restore an estimated area of 250 ha (Evidence Outcome 4).
Outcome indicator 0.5: At the end of YR3, managers of at least three other protected areas state that they will integrate work to develop lucrative seed supply chains into their work plans	Three grassroots organisations are now working together to develop a lucrative seed supply chains in association with three protected areas: VIHY at Analavelona; MAMPITA at Ankafobe; and FBM at Bongolava Forest Corridor. (Evidence Outcome 5)
Output 1 Improved education for children at three local schools that is understood by local people to be derived from the sale of seeds originating from the Analavelona Forest	

Output indicator 1.1 By end of YR1 one additional high quality teacher installed at each of the three participating schools thereby improving the education of at least 400 children (57% female)	In YR2 and YR3, we supported eight teachers at three schools. In YR2 these teachers taught a total of 219 students (45% female) and in YR3 they taught a total of 520 students (57% female) (Evidence Output 1.1).
Output indicator 1.2. In each of YR2 and YR3 at least £500 income from sale of seeds received by the FRAM at each of the three participating schools and correctly used to support education	Annual income for the sale of seeds was 2,849,500 MGA (=£549) in YR2 and 12,537,275 MGA (= £2,416) in YR3. This is being used post-project to support 2 FRAM teachers
Output indicator 1.3. In YRs 2 and 3 pass rate at the "milestone" exam "BEPC" is 20% higher in the 3 participating schools compared to comparable non-participating schools	Mikobaka Primary School: for the first time ever five students pass CEPE exam Andranoheza Primary School: no students pass CEPE exam Mahabobaka Secondary School: in YR2 86% of students passed the BEPC (compare to 70% in the year before the project). The results for YR3 are not yet available (end of exams 4th July) (Evidence Output 1.3)
Output indicator 1.4. In both YR2 and YR3 of project, 90% of parents report that they consider that the quality of education provided by the school has increased (compared to 2021-22) and attribute this improvement to the seed supply project.	Mikobaka Primary School: YR2 most parents complained teacher was often absent; YR3 66% satisfaction Andranoheza Primary School: YR2 77% satisfied; YR3 50% satisfaction Mahabobaka Secondary School: YR2 100% satisfaction; YR3 100% satisfaction. (Evidence Output 1.4).
Output 2. High quality seeds of named and evaluated native tree species provided to reforestation projects	
Output indicator 2.1. In YR1 20 target species potentially performing well in reforestation endeavors are identified	In YR1, 22 tree species were identified as strong candidates for use in sub-arid south-west of Madagascar; by YR3 this had risen to 29 species (Evidence: Output 2.1).
Output indicator 2.2. By YR2 large seed samples (i.e. > 10,000 seeds) of high quality are collected and supplied for at least 12 target species, by YR3 large, high quality seed samples (i.e. > 30,000 seeds) collected and supplied for at least 15 target species	In YR2 a total of 185 kg was collected from 14 target species, while in YR3, 465 kg of seeds were collected from 26 species. The number of seeds collected for the two years exceeds 3 million (Evidence Output 2.2).

Output indicator 2.3. By YR3 species-specific data-based "performance evaluations" available for 12 of the target species to help inform selection of species by potential buyers	Species performance information available for 18 species with survival rates after out-planting ranging from 9% to 86% (Evidence Output 2.3).
Output 3. The creation of an effective self-sufficient business with capacity to continue operating the "community-based" seed supply chain, on a commercial basis, post-funding	
Output indicator 3.1. In YR1 two young Malagasy business managers and two young Malagasy business accountants with desirable attributes (as identified by mentors) are recruited	Two excellent young local business entrepreneurs were recruited (Evidence Output 3.1)
Output indicator 3.2. In YR2 at least one business manager and one business accountant with the capacity to administer the business effectively with very little outside support	With coaching and other capacity building our young entrepreneurs successfully created a legal and functional business based on the community-based collection of seeds from wild native trees and the sale of these seeds to clients, with profits supporting local education (Evidence Output 3.2)
Output indicator 3.3. In YR3 income generated from project sufficient to cover 50% of project expenditure	On the basis of current annual sales (12,537,275 MGA), the income from the sale of seeds can cover one third of the minimum operating cost (estimated as 36,000,000 MGA)
Output 4. The managers of other protected areas in Madagascar are sufficiently aware of the methods and results of this model project that they can evaluate its relevance at the sites where they work	
Output indicator 4.1. By end of YR1, representatives of the Ministry of the Environment and Sustainable Development (MEDD) and at least some of the management staff associated with 30 Malagasy projected areas are aware of the project, interested in how it proceeds, and aware of the social media sites and website where updates will be posted.	At the end of YR1 an attractive and informative website for VIHY had been launched, and communication began on social media. Since this time a small number of communications have been made on "X" and then Bluesky, and a large number of communications have been made using facebook (Evidence 4.1)
Output indicator 4.2. By end of YR3 representatives of the Ministry of the Environment and Sustainable Development and at least some of the management staff associated with 30 Malagasy projected areas are aware of issues arising during the implementation of the project and can evaluate its results on the basis of quantified information of inputs, outputs and outcome.	A workshop to share the methods and results of the project was attended by 35 people including protected area managers, development organisations, potential clients, representatives of the devolved technical services for business, agriculture, education and the environment, political appointees, and other local stakeholders (Evidence Output 4.2). Following this workshop, meetings were held with the Director of the Silo National des Graines Forestières (SNGF) and the Director of the Direction des Aires Protégées (DAPRNE) which is part of the Ministère de l'Environnement et du Développement Durable both of whom encouraged us to continue with this work.

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

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions
Impact: Some Malagasy protected areas provide immediate and tangible additional benefits to local people as sources of saleable seeds of native trees and are thus more appreciated and more secure.			
Outcome: A model project demonstrates that more people around Analavelona Forest value and cherish it, because of the educational benefits it generates by supplying native tree seeds to improve reforestation.	0.1 Annually, during the project, the number of infractions in the PA due to local people falls by 10% over previous year thereby demonstrating their greater commitment to the conservation of the site 0.2 By YR3 estimated abundance of two key threatened diurnal lemur species in PA increase by at least 5% over current baseline (*Propithecus verreauxi* = 14 individuals/km²; *Eulemur rufifrons* = 49 individuals/km²) thereby demonstrating a reduction of lemur hunting in the site 0.3 Annually, during the project, local appreciation of protected area increases to attain asymptote in YR3 of 90% of local people saying they appreciate or very much appreciate the PA 0.4 In YR2 seeds produced by project used by at least 5 national reforestation projects	0.1 Analysis of patrol logs of seed collectors/rangers by Assistant Project Manager (APM) to provide a estimate of average number of infractions encountered per day of patrol 0.2 Trimestral counts of indicator lemur species along replicated transects by APM (analysed by Project Director) 0.3 Market day questionnaires every 3 months of a random sample of people in participating villages by Project' teachers 0.4 Analysis of sales accounts by Project Manager (PM) 0.5 Written statements of managers from other protected areas showing their commitment (or not) to integrate the development of a seed supply chain benefiting local communities into their work plans.	Target landscapes and their human residents are not impacted by major social (e.g. insecurity, disease, arrival of large number of immigrants) or environmental calamities (e.g. drought).

	launching restoration with native trees over at least 75 hectares of degraded landscapes, increasing, in YR3, to at least 10 reforestation projects reforesting at least 150 hectares. 0.5 At the end of YR3, managers of at least three other protected areas state that they will integrate work to develop lucrative seed supply chains into their work plans		
Outputs: **1**. Improved education for children at three local schools that is understood by local people to be derived from the sale of seeds originating from the Analavelona Forest	1.1 By end of YR1 one additional high quality teacher installed at each of the three participating schools thereby improving the education of at least 400 children (57% female) 1.2. In each of YR2 and YR3 at least £500 income from sale of seeds received by the FRAM at each of the three participating schools and correctly used to support education 1.3. In YRs 2 and 3 pass rate at the "milestone" exam "BEPC" is 20% higher in the 3 participating schools compared to comparable non-participating schools 1.4. In both YR2 and YR3 of project, 90% of parents report	1.1 Report from local education authority (ZAP) listing "project" teachers and evaluating their performance, and providing a list of the children attending the target schools desegregated by gender (analysed by Project Manager). 1.2 Financial reports showing the funding received by the FRAM of each school and the approved expense reports submitted by FRAM showing how the funds were used (received from Business Management Unit, audited by MBG's Head of Finance) 1.3. Official bulletin of exam results (analysed by Project Manager).	With sufficient compensation high quality teachers are prepared to work in this remote part of the country.

	that they consider that the quality of education provided by the school has increased (compared to 2021-22) and attribute this improvement to the seed supply project.	1.4. Survey of attitudes and opinions parents conducted by Assistant Project Manager following protocols proposed by experienced sociologist.	
2. High quality seeds of named and evaluated native tree species provided to reforestation projects	2.1 In YR1 20 target species potentially performing well in reforestation endeavours are identified 2.2 By YR2 large seed samples (i.e. > 10,000 seeds) of high quality are collected and supplied for at least 12 target species, by YR3 large, high quality seed samples (i.e. > 30,000 seeds) collected and supplied for at least 15 target species 2.3 By YR3 species-specific data-based "performance evaluations" available for 12 of the target species to help inform selection of species by potential buyers	2.1 Report researched and written by Project Manager (edited and approved by Project Director) listing target species and providing rationale for their selection as being of potential value for reforestation of degraded land in SW Madagascar 2.2 Business log of seed sales desegregated in terms of species and number (provided by Business Management Unit) 2.3 Active website detailing seeds available and also providing a species-specific profiles including performance information (germination success in nursery, and 12-month seedlings survival and % increase in height) from trials under different conditions – trials conceived by Project Director, installed by FRAM under direction of Assistant Project Manager and monitored by Assistant Project Manager).	Some species of native tree species perform well in degraded habitats (i.e. where reforestation is required). Reforestation projects wish to use at least some native tree species (even if merely to compliment extremely tolerant eucalyptus trees)

3. The creation of an effective self-sufficient business with capacity to continue operating the "community-based" seed supply chain, on a commercial basis, post-funding	3.1 In YR1 two young Malagasy business managers and two young Malagasy business accountants with desirable attributes (as identified by mentors) are recruited 3.2 In YR2 at least one business manager and one business accountant with the capacity to administer the business effectively with very little outside support 3.3 In YR3 income generated from project sufficient to cover 50% of project expenditure	3.1 cvs of candidates and interview notes + contracts with recruits 3.2 Report of evaluation by business mentors 3.3 Audit of accounts conducted by MBG's Finance Manager	Appropriate business mentors can be identified who are willing to invest their time and skills in developing business capacity local graduates in this remote part of Madagascar.
4. The managers of other protected areas in Madagascar are sufficiently aware of the methods and results of this model project that they can evaluate its relevance at the sites where they work	4.1. By end of YR1, representatives of the Ministry of the Environment and Sustainable Development (MEDD) and at least some of the management staff associated with 30 Malagasy projected areas are aware of the project, interested in how it proceeds, and aware of the social media sites and website where updates will be posted. 4.2. By end of YR3 representatives of the Ministry of the Environment and Sustainable Development and at least some of the management staff	4.1 List of participants at workshop to launch the project and copy of workshop agenda 4.2a List of participants at final workshop (YR3) to share results, copy of agenda, and copies of short questionnaire concerning participants perceptions of viability of project 4.2b Written evaluation of the project made by five protected area managers invited to complete a 5-day field trip to the project site to review the work and its results independently and	Other protected area managers are as interested as ourselves in seeking to add value for local people of protected areas.

	associated with 30 Malagasy projected areas are aware of issues arising during the implementation of the project and can evaluate its results on the basis of quantified information of inputs, outputs and outcome.	as they see fit. Reports compiled by Project Director.	

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1. Project Manager (PM) and Assistant Project Manager (APM) meeting with key stakeholders (FRAM, Mpanzaka and MEDD) to explain project, take feedback and conceive and sign collaborative agreements
1.2. PM and APM (and others) recruit of new teachers/local animators x 3, seed collectors/rangers x 12 and nurserywomen x 12, with choice being validated by Mpanzaka
1.3. APM organises meeting with FRAM members (in presence of Mpazaka and with his social framing) to develop a Manual of Procedures to promote good governance and then train and coach the committee of each FRAM in its use
1.4. APM (with audit by MBG's Finance Officer) provides oversight for the receipt and use of funds received by FRAM from sale of seeds with annual restitution to parents

2.1. Research by PM and Project Director to identify 20 target tree species with attributes suggesting that potentially they could perform well when used to reforest degraded landscapes
2.2. Training of seed collectors/rangers x 12 and nurserywomen x 12
2.3. Install of 3 nurseries (adjacent to partner schools) and provide equipment and material for seed collection and propagation of native trees (oversight by APM and inauguration of infrastructure by Mpanzaka)
2.4. Coaching by APM of seed collection, seed preparation and storage, dispatch to Business Unit and the propagation of seedlings for trials
2.5. Installation of trials (500 individuals per species under various conditions) by APM and FRAM members to monitor the performance of target tree species under various types of degraded conditions (including protection of trials with fire breaks with spiritual blessing of Mpanzaka)
2.6. Monitoring of trials by APM and seed collectors/rangers, analysis of results and sharing of species-specific outcomes on sales' website
2.7. Sampling and analysis to estimate wood density of target trees (this information is valuable to those seeking to sequester carbon

3.1. With assistance of the association of Bara students "FIMPIBAMI", the PM and APM will identify and recruit business manager x 2 and administrator x 2 from graduates of University of Tulear
3.2. The Project Director and PM will identify and recruit of two business mentors for the young staff of the Business Unit and with MBGs Finance Officer regularly review their progress
3.3. With oversight from the PM, the Business Unit will complete the process to be legally registered, and rent and equip a small office in the district capital Sakaraha from which they will work
3.4. With support of mentors, MBG's Finance Officer, the Project Director, PM and APM, the Business Unit will conceive, create and maintain a webpage and other social media platforms as interfaces to share information about the project and the services available (i.e. services = knowledge of use of native trees and providing high-quality seeds of native trees), they will actively network to seek and

engage potential clients, and manage resources to ensure that orders and payments are managed professionally (including payments to schools).
3.5. Annual audit of Business Unit
4.1. Project Director and PM organises workshop with representatives of MEDD and managers of Malagasy projected areas to launch project including sharing the website and social media tags where the progress of the project can be tracked
4.2. PM maintains information flow concerning the project using social media and posts on website
4.3. Project Director and PM organises workshop with representatives of MEDD and managers of Malagasy projected areas to describe actual methodologies used by the project, issues arising, and outputs and outcomes.
4.4. From workshop described in 4.2., identify parties who are especially interested in this work and invite them to join an organised field trip to review the project.

Annex 3 Standard Indicators

Table 1 Project Standard Indicators

Please see the Standard Indicator Guidance for more information on how to report in this section, including appropriate disaggregation. N.B. The annual total is not cumulative. For each year, only include the results achieved in that year. The total achieved should be the sum of the annual totals.

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total achieved	Total planned
DI-A01	Number of people from key national and local stakeholders completing structured and relevant training	Number of local people completing training in seed collection and best practice for tree nurseries	Number	Men/women	15/9	12/0 (second training for seed collectors, but same individuals as were trained in YR1)	0/0	15/9	15/9
DI-A04	Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.	Number of people trained in best practice for seed collection and propagation of trees now employed by MBG	Number	Men/women	15/9	15/9 (same as in YR1)	0/0	15/9	15/9
DI-A06	Number of people with improved access to services or infrastructure for improved well-being	Number of students being educated by teachers provided by the project	Number	Boys/girls	142/145	121/98	224/296	487/539	250/250

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total achieved	Total planned
DI-B10	Number of individuals / households reporting an adoption of livelihood improvement practices as a result of project activities.	Number of individuals gaining compensated employment from the project	Number	Men/women	20/14	20/14 (same people as in YR1)	20/14 (same as in previous years)	20/14	22/14
DI-B10	Number of individuals / households reporting an adoption of livelihood improvement practices as a result of project activities.	Number of people gaining extra income from day labour	Number	Men/women	238/12	60/2	70/2	368/16	500/50
DI-C12	Social Media presence	Number of project-themed tweets	Number	Tweets/bluesky/facebook	3/0/0	4/0/8	0/2/7	24	25
DI-D02	Number of people whose disaster/climate resilience has been improved.	Number of people whose disaster/climate resilience has been improved with new employment opportunities	Number	Men/women	20/14	20/14 (same people as in YR1)	20/14 (same people as in YR1)	20/14	22/14

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Valorising protected areas for local communities as a source of seeds for restoration and reforestation''	XXIII AETFAT CONGRESS	Tefiharison Andriamihajarivo; Tabita Randrianarivony; Narcisse Randriamirado; Fabien Fihavanantsoa; Chris Birkinshaw (In prep)	M	Malagasy	AETFAT	Due in August 2025