Darwin Initiative Annual Report

Department for Environment Food & Rural Affairs

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

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

Submission Deadline: 30 April

Darwin Project Information

Project Reference	20-020
Project Title	Madagascar Agroforestry Livelihoods Project
Host Country/ies	Madagascar
Contract Holder Institution	Royal Botanic Gardens, Kew
Partner institutions	Kew Madagascar Conservation Centre (KMCC)
	Feedback Madagascar and Ny Tanintsika (FBM/NT)
	Silo National des Graines Forestières (SNGF)
Darwin Grant Value	£263,344
Start/end dates of project	1 April 2013 – 31 March 2016
Reporting period (eg Apr 2013 – Mar 2014) and number (eg Annual Report 1, 2, 3)	April 2013 – March 2014 Annual Report 1
Project Leader name	Stuart Cable
Project website	Online Q2 2014
Report author(s) and date	Stuart Cable, 30/04/14

1. Project Rationale

Madagascar is a globally important biodiversity hotspot in economic crisis (IMF 2011 GDP per capita ranking: 173/183). 80% of its population are subsistence farmers living on <$1 pppd and 65% suffer regular food shortages. It has lost >33% of its forests since the 1970s and suffers the highest soil erosion rates in the world. Many plant species are threatened with extinction (*e.g.* IUCN: 83% of the 200 palm species). Many important areas for biodiversity are known and the protected area network in development covers 10% of the land surface. However, nowhere has complete protection and significant biodiversity, as well as many threatened species, exists out-with and buffering the protected area system. The challenge is to engage communities in conservation by providing viable alternatives to damaging agricultural practices and by increasing productivity and tree cover on deforested land. The Madagascar CBD Progress Report states that sustainable agricultural improvement is a national priority: https://www.cbd.int/doc/world/mg/mg-nr-04-en.pdf.

KMCC is leading on the establishment of the Itremo Massif Protected Area and FBM/NT has supported Conservation International in the establishment of the COFAV Protected Area by undertaking community development work in the region over the last 20 years. The new protected areas system is a collaboration between conservation organisations and communities and tangible economic development is requirement built into the process specified by the Government of Madagascar. The focus is on land close to the communities and the buffer zones around the conservation areas.

The project outcome is to increase agricultural productivity, forest cover and biodiversity on deforested land in Itremo and COFAV, through forest restoration and locally adapted, low-input agroforestry systems, that emphasise sustainable soil management and native species and that offer communities viable alternatives to the prevalent damaging agricultural practices such as slash and burn cultivation. At least 3,000 households in 30 communities will benefit directly from maintained ecosystem services and improved livelihoods through this transition to agroforestry and a more tree-based economy. The project has a three-tier strategy focused on low, mid and high value products to help alleviate poverty:

Staple crops – diversification to improve diets and food security, eliminate 'hungry months' (between rice harvests) and produce surplus to generate income in local markets.

Mid-value crops – new species and products for regional markets to bring a small increase in revenue to households and build community economies; *e.g.* honey, spices and fruit.
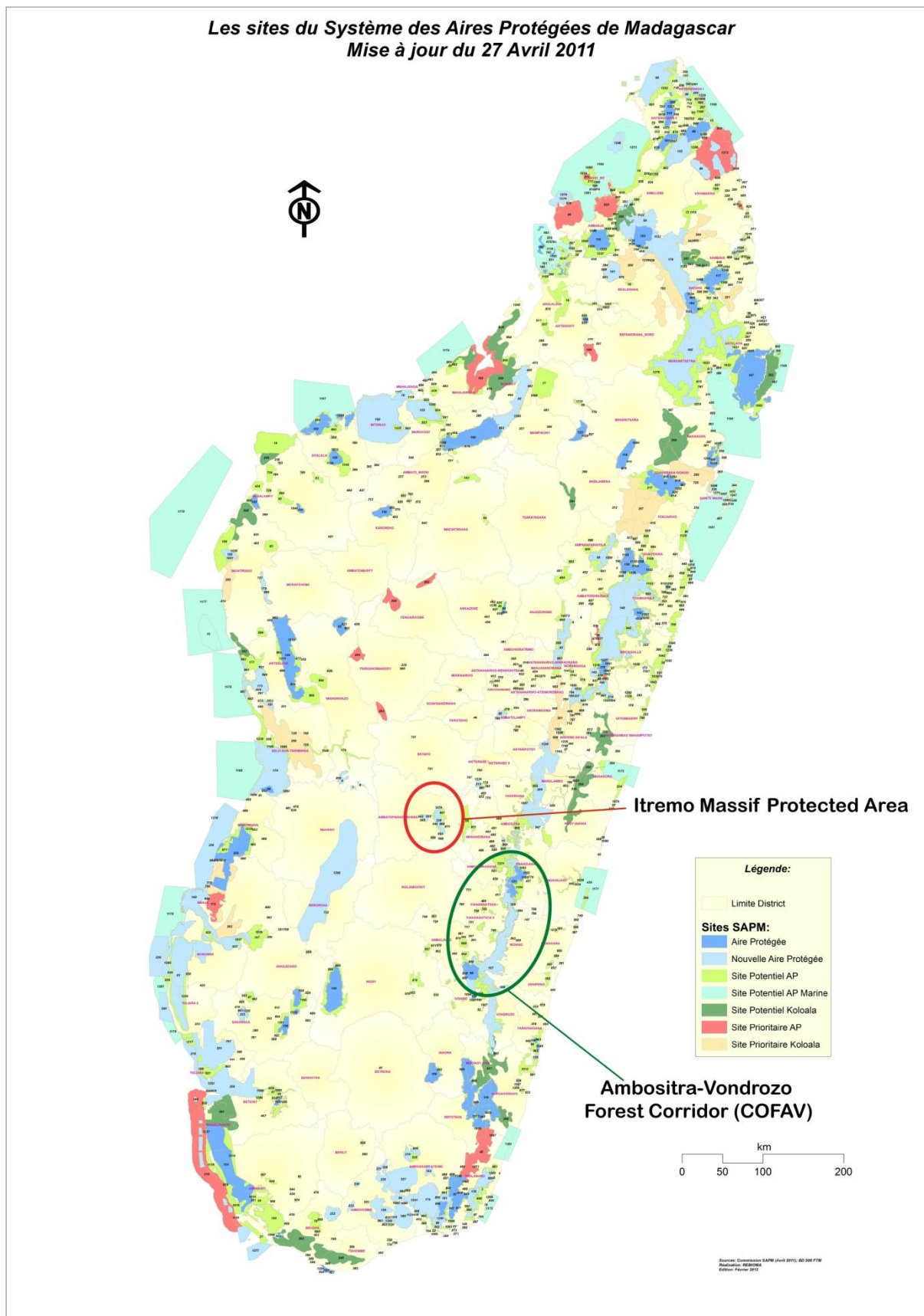
High-value crops - new species and products for national and international markets to bring a significant boost to household incomes and local economies; *e.g.* silk, essential oils and vanilla.
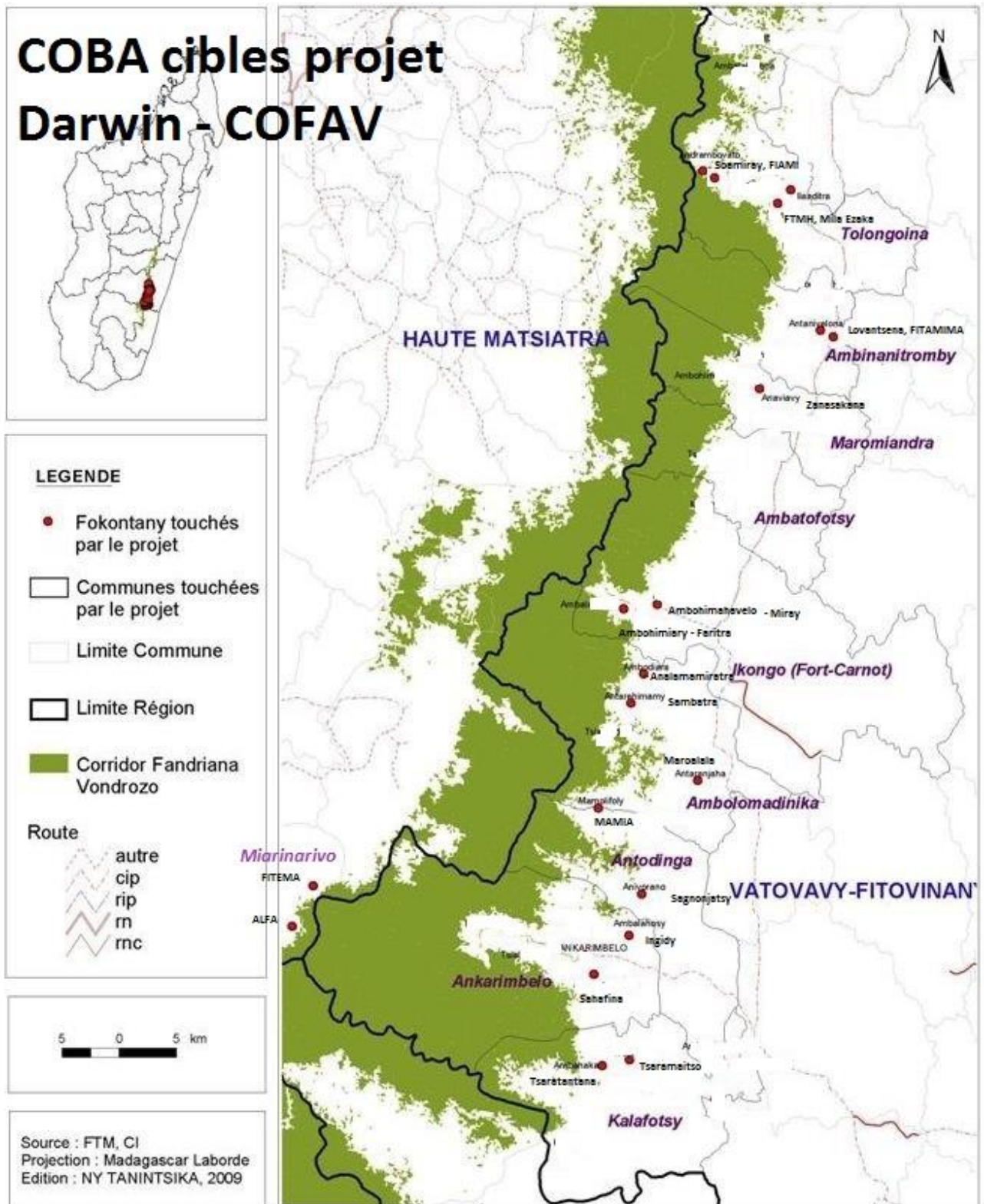
The project is based in Madagascar at two sites:

- Itremo Massif Protected Area – 250 km^2 plus c.250 km^2 community land, 10 communities
- COFAV Protected Area – 2,800 km^2 plus c.250 km^2 community land, 20 communities

The Itremo Massif consists of upland wooded savanna and humid gallery forest and COFAV consists of humid forest. Together they are representative of around 60% of Madagascar's vegetation, so this project has significant potential for providing a widespread solution for biodiversity conservation, food security, improved rural livelihoods and protected and enhanced ecosystem services.
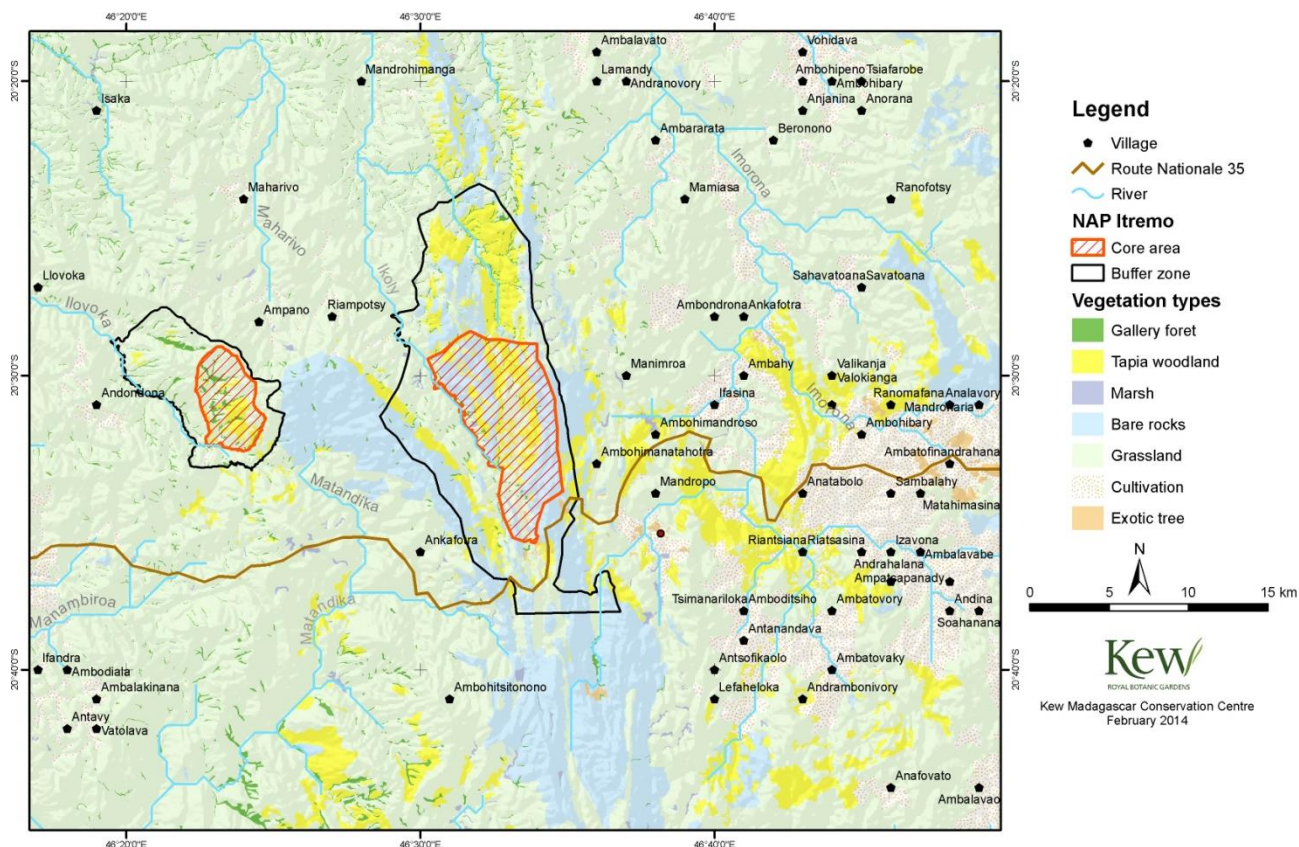
Map 1 - project sites within Madagascar and the protected areas system:

Les sites du Système des Aires Protégées de Madagascar
Mise à jour du 27 Avril 2011

Itremo Massif Protected Area

Ambositra-Vondrozo
Forest Corridor (COFAV)

Légende:

Limite District

Sites SAPM:
Aire Protégée
Nouvelle Aire Protégée
Site Potentiel AP
Site Potentiel AP Marine
Site Potentiel Koloala
Site Prioritaire AP
Site Prioritaire Koloala

km
0   50   100   200

Map 2 - participating communities at COFAV:

Map 3 - Itremo Massif Protected Area:

2.   Project Partnerships

The project is implemented by the Kew Madagascar Conservation Centre (KMCC), Feedback Madagascar and local NGO Ny Tanintsika (FBM/NT) and the Silo National des Graines Forestières (SNGF). KMCC is Kew's local office in Madagascar and is staffed entirely by Malagasy botanists. Ny Tanintsika is a conservation and development NGO, supported by Feedback Madagascar, with over 20 years experience of bringing participatory development to the Itremo and COFAV regions. SNGF is the National Forestry Seed Bank in Madagascar with extensive experience of community tree nurseries for economically useful species and of forest restoration throughout Madagascar. RBG Kew and KMCC have worked with FBM/NT for several years on yams cultivation in the COFAV area. RBG Kew and SNGF have run the Millennium Seed Bank Partnership in Madagascar since 2000, which aims at conserving the seeds of the threatened and economically important plant species. In 2011 we signed an agreement to extend the work to include forest restoration.

The partnership for this Darwin Initiative Project stemmed from the need for agroforestry and forest restoration within the KMCC and FBM/NT areas of operation, and the complementary expertise of the three institutions: KMCC - botanical inventory and monitoring, FBM/NT - community engagement for development and SNGF - tree nurseries and restoration. All partners are involved in project planning and decision making.

Project management has developed into 3-monthly planning and reporting meetings, with each partner responsible for specific activities. Fieldwork is coordinated to reduce overlap, with project partners jointly participating in trips whenever possible. KMCC is responsible for the community work at Itremo and FBM/NT at COFAV, with SNGF providing technical support at both sites for forest restoration as well providing seeds for agroforestry.

Project development took longer than anticipated, with the partnerships consolidated by the quarterly planning and reporting meetings in the second half of the year. We also engaged outside trainers for agroforestry to complement the skills set within the partnership and to provide examples of successful application of techniques.

3.   Project Progress

3.1   Progress in carrying out project activities

The project has implemented most of the planned activities with greatest effort in Q3 and Q4 due to seasonality and the preparation work required with the communities. The emphasis has been on establishing strong relationships with the communities, agreements with community associations (COBAs), training extension workers and community technicians and building and stocking tree nurseries. 29 communities have tree nurseries and have received training in agroforestry and tree management. Due to seasonality, the forest restoration work was planned for Itremo (*tapia*) rather than COFAV. This was unsuccessful due to poor fruit/seed production this year and poor survival of seedlings in the nurseries. Agroforestry planting of useful species has begun in most communities. Alley-cropping is planned for year 2.

3.2   Progress towards project outputs

Output 1 - Baseline data, monitoring systems and skills developed within COBAs and extension workers for forest management, agroforestry and sustainable utilisation of natural resources.

The baseline data is being compiled for Itremo, but has yet to start in COFAV. Satellite images have been acquired and species records are databased. Further work is needed gathering new records, identifying specimens and processing images. A monitoring methodology has not been decided (Indicator 1), but we have bought GPS cameras for data gathering by technicians to complement the remote sensing.

Training has started for extension workers and community technicians in agroforestry, tree nursery management and forest restoration (Indicators 2 and 3). Local manuals have not been produced yet, but 10 French language copies of 'Restoring Tropical Forests: a practical guide' (Kew 2013, with funding from the Darwin Initiative) were acquired for reference and a Malagasy language version of the *Inga* System Agroforestry Training Video is in production by Adam Wakeling of Notion Pictures (based on material produced for the Channel 4 film 'Up in Smoke', see http://www.ingafoundation.org/shortfilms/).

Completion of forest management plans for communities lacking them (Itremo and several at COFAV) is planned for Year 2 (Indicator 4).

Output 2 - 30 communities engaged in the conservation and sustainable utilisation of wild species with income generating potential.

No management plans have been agreed yet for wild species (Indicator 1), but the Itremo communities have received training in *tapia* forest restoration (fruit and silk) and rearing silkworms. FBM/NT has achieved funding for essential oil production (stills and training) and is working on developing a route to market. The Itremo communities have received training in cultivating bamboos (they depend on gathering wild bamboo culms from within the protected area). Discussions have begun with communities on the species to be sustainably managed, which will enable progress towards Indicators 2, 3 and 4.

Output 3 - 30 communities engaged in agroforestry with demonstration household plots managed under agreements with the project.

30 communities have agreed to participate in the project and undertake agroforestry (Indicator 1). We have decided to establish one demonstration plot per community, which will be managed by the COBAs as an extension of the tree nurseries (Indicator 2). Currently most COBAs have less than 100 household members and the project extension workers are actively promoting the project to increase membership (Indicator 3).

Output 4 - 30 communities engaged in forest restoration under agreements.

30 communities have agreed to participate in the project and undertake forest restoration (Indicator 1). This is covered under the forest management plans established for 16 communities so far. We are considering reducing Indicator 2 to 50,000 seedlings per community as 150,000+ is beyond what the communities can achieve alongside food

production and other activities (Indicator 2). We will look at options for creative restoration planning such as nucleated planting to account for the lower tree numbers. Other options include direct sowing of seeds and transplanting of seedlings. The distance between the tree nurseries and the restoration sites is also an unanticipated constraint, which we are looking to solve with the communities.

3.3 Progress towards the project Purpose/Outcome

<u>Project Outcome</u>

Agricultural productivity, forest cover and biodiversity are increased on deforested land in COFAV and Itremo, through forest restoration and locally adapted, low-input agroforestry systems, that emphasise sustainable soil management and native species and that offer communities viable alternatives to the prevalent damaging agricultural practices such as slash and burn cultivation. At least 3,000 households in 30 communities will benefit directly from maintained ecosystem services and improved livelihoods.

The first year saw the foundations prepared for achieving the project Outcome. The assumptions still hold true. As mitigation against the effects of landless families continuing withslash and burn cultivation, FBM/NT have secured separate funding to work with the poorest households in the COFAV area who typically will not join the COBAs or participate in community projects. The political situation has improved, but weather and climate always remains a risk over a short time frame. Ideally we would prefer an additional year to ensure that the agroforestry system runs into a second cycle within the project. We will seek funds to continue the work beyond the project.

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

<u>Project Impact</u>

In the COFAV and Itremo protected areas forest loss and erosion of biodiversity and ecosystem services (including soil fertility and water supply) are reduced. Resilience to climate change, food security and local livelihoods are all improved through a shift from food production dependant on damaging agricultural practices, such as slash and burn cultivation, to ecologically and economically sustainable agroforestry systems. Forest restoration helps to conserve biodiversity and maintain ecosystem services.

At the end of year 1 we have recruited 30 communities for agroforestry and forest restoration and have started to negotiate agreements where these do not exist. We are offering these communities tangible development benefits, which they are expecting *quid pro quo* in return for the conservation, as integrated into the official processes of establishing the protected areas and the 'transfert de gestion des ressources forestières' on surrounding state lands. It is too soon to demonstrate impact, but engaging communities is the most important step.

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

We have not interacted with national CBD focal points, but we will invite representatives to a project meeting when one is held in the capital city Antananarivo.

The project will help Madagascar to deliver GSPC Targets 2, 3, 4, 5, 6, 7, 8, 12, 13 and 14 of the CBD, particularly 5 and 7 (in-situ conservation) and 6 and 12 (sustainable management).

The project will help Madagascar to deliver Aichi Strategic Goals A, B, C, D and E of the CBD, particularly D (enhance the benefits to all from biodiversity and ecosystem services) and E (enhance implementation through participatory planning, knowledge management and capacity building).

5. Project support to poverty alleviation

Poverty alleviation is an output of the project:

Output 2, Indicator 3 - 50% increase in household incomes from natural products (*e.g.* silk, yams, essential oils, vanilla, bamboo, fuel and timbers) by end of Year 3.

The project aims to bring benefits to 3,000 households across 30 communities.

We have established a relationship with Symrise AG for supplying vanilla. If we can raise sufficient funds (£20,000) to develop infrastructure and buy green pods from the communities during year 2 (2014-15) we hope to sell 5,000 kgs of dried vanilla pods on behalf of the communities. Symrise AG will provide technical support, and the aim is to eventually link the communities directly with the company. Vanilla is grown commercially in NE Madagascar, and while there is interest and favourable conditions in COFAV the communities have lacked a route to market. Vanilla is a forest climber and has great potential as a cash-crop for small-scale agroforestry.

FBM/NT has held discussions with Muji over the supply of indigo dye for clothing production. So far we have not found sufficient seeds of relevant species of *Indigofera*, but we will continue to explore this proposition.

6. Monitoring, evaluation and lessons

The partners use the project outputs and indicators during quarterly meetings to evaluate progress. Itremo and COFAV are treated separately. Meetings are held in Malagasy with input from the extension workers. We have learnt that frequent reporting is necessary, with partners meeting every quarter, even if fieldwork is undertaken jointly. In Year 2 we will implement a simple excel reporting tool for each of the 30 communities to improve M&E and improve access to project resources through Google documents or similar. We have identified the need for improved dissemination of information about the project, and this should be addressed through project web pages in year 2. This will include satellite images overlain with project data.

7. Actions taken in response to previous reviews (if applicable)

Not applicable.

8. Other comments on progress not covered elsewhere

A significant development since the start of the project is that we have discovered that the South American tree species *Inga edulis* has been introduced into Madagascar and is well known in a few areas. Local communities value the species for its edible fruit (the pulp around the seeds) and for its ornamental value, but have no idea about its potential for agroforestry. A specimen of *Inga edulis* in the National Herbarium of Madagascar collected in French Guiana in the 1870s suggests that the species may have a long history in Madagascar, but there is no record in the botanical literature. As *Inga edulis* is well established in Madagascar we have decided to use it for agroforestry, while researching the potential of native species with similar properties. There is no evidence that it is invasive.

The project philosophy is to promote native tree species. This is difficult as most native species are relatively slow growing and are judged by communities in comparison to well established non-native species such as Eucalyptus for fuel wood and charcoal. We are continuing to explore long term funding for promoting and conserving Madagascar's tree species.

Since the start of the project Madagascar has had a relatively peaceful presidential election, which has been endorsed by the international community. There will still be changes to the new Government (*i.e.* a Prime Minister has not been appointed yet), but the new regime should bring economic stability to the country, providing a more solid platform for the project. Security has already improved in rural areas.

9. Sustainability

The emphasis during the first year has been on establishing the project partnership and developing strong support from the communities. The project was promoted regionally, with local forestry officials and NGOs invited to a 'launch day' at the start of our end of year project workshop in April. The Regional Director of (DREF) and the Forestry Chief for Ambatofinandrana District (Itremo) pledged to support the project and asked to be involved in monitoring.

The partners all have long term commitments to working in the project area beyond the life of the project. RBG Kew is trying to raise money for forest management within the Itremo Massif region, and this will include supporting DREF and communities to develop and implement forest management plans outside of the protected area. FBM/NT is initiating the 'Treemad Campaign' to secure long term funding for forest restoration in the Amoroni Mania Region and have been successful in raising funds to extend agroforestry to more communities located between the Itremo and COFAV Darwin Initiative sites.

Our exit strategy is to leave a simple agroforestry system in place, along with trained community workers and secure routes to market that will ensure sustainable and growing benefits for participating communities beyond the life of the project. We will continue to seek funding as the Darwin Initiative support only covers 3 years, which is short for establishing agroforestry, and all partners have long term programmes within the region and nationally. Our long-term strategy is to work with the Darwin Initiative communities to develop a system that has its own momentum and will be adopted more widely passing from household to household and community to community... the *alavaoimboly* movement ('crops married to trees').

10. Darwin Identity

We are currently developing project web pages (the RBG Kew website is being migrated to a new platform so there is a delay with this) and KMCC is implementing a blog that will include posts about the project. Updates are posted on Twitter through @TeamKMCC.

The Darwin Initiative support is a distinct project.

The Darwin Initiative is well known within the international conservation community in Madagascar as it has supported a number of projects.

11. Project Expenditure

Table 1   project expenditure <u>during the reporting period</u> (1 April 2013 – 31 March 2014)

Project spend since last annual report	2013/14 Grant (£)	2013/14 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			7.4	
Consultancy costs				
Overhead Costs			-1.7	
Travel and subsistence			-1.8	
Operating Costs			24.9	Operating costs higher than expected as more input needed by communities.
Capital items (see below)			-53.5	Significant saving on motorbikes, but laptops not bought as operating costs higher than expected.
Others (see below)			-9.2	
TOTAL			**0.4**	

Costs were difficult to predict accurately before the start of the project. Greater input has been needed at the community level in terms of extension workers and remuneration for the COBAs. The over-spend has been made-up through off-setting from other KMCC budgets (*e.g.* an energy efficient stoves project at Itremo funded by the UK Embassy in Antananarivo and the Itremo Massif Protected Area Project), through shared field trips, and also by the under-spend on capital equipment. 4 second-hand motorbikes were acquired from a project, with the main cost being the import duty. Laptops were not purchased, but are still required and we will look for cheap options in the UK. Baseline remote sensing images were not purchased as images for Itremo were acquired through other funding and Conservation International have images for COFAV. We used part of these funds for the purchase of small tough Olympus cameras with GPS for ground-truthing by extension workers and community technicians. Solar chargers were also bought.

These changes have not been discussed with Darwin yet.

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

We do not feel that there were any outstanding achievements during the first year, just steady progress towards the goals and development of the project. Our emphasis has been on building the confidence of the communities and we have a established a good platform on which to promote the project externally during the coming years/seasons. The work in Itremo was less successful than we had hoped due to poor seed production this year and poor seedling survival in the nurseries. But we are optimistic that technical constraints can be overcome and that year 2 will see some newsworthy developments in production and marketing of income generating species.

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

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
Impact In COFAV and Itremo protected areas forest loss and erosion of biodiversity and ecosystem services (including soil fertility and water supply) are reduced. Resilience to climate change, food security and local livelihoods are all improved through a shift from food production dependant on damaging agricultural practices, such as slash and burn cultivation, to ecologically and economically sustainable agroforestry systems. Forest restoration helps to conserve biodiversity and maintain ecosystem services.		30 communities have been engaged and have agreed to participate in agroforestry and forest restoration.	███████████████████
Outcome Agricultural productivity, forest cover and biodiversity are increased on deforested land in COFAV and Itremo, through forest restoration and locally adapted, low-input agroforestry systems, that emphasise sustainable soil management and native species and that offer communities viable alternatives to the prevalent damaging agricultural practices such as slash and burn cultivation. At least 3,000 households in 30 communities will benefit directly from maintained ecosystem services and improved livelihoods.	Indicator 1 – COFAV: annual forest area cleared by communities for tavy reduced by 30% in the project area by year 3. Indicator 2 – COFAV: increase in agricultural production on deforested land around communities is greater than the production lost through the 30% reduction in tavy by year 3. Indicator 3 – Increase in tree cover through restoration and agroforestry of 100 ha per community by year 3. Indicator 4 – Diversification of agricultural production around communities, with adoption of at least 5 new species per community by year 3. Indicator 5 – Increase in average income for participating household from 30,000-60,000 Ariary (£8-16) per month to 45,000-90,000 Ariary (£12-24) per month by yr 3.	We are still compiling baseline data.	• Coordination of COFAV remote sensing with Conservation International. • Species inventories of COFAV forests. • Implement participatory monitoring (ground-truthing) with communities, including economic surveys. • Continued stocking of tree nurseries. • Continued agroforestry development with individual plans per community. • First forest restoration planting.

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
Output 1 Baseline data, monitoring systems and skills developed within COBAs/CFMs and extension workers for forest management, agroforestry and sustainable utilisation of natural resources.	Indicator 1 – Monitoring system in place with simple metrics and baseline data on species ecology and vegetation, published in checklists/reports for Itremo Indicator 2 – 2 community technicians active in each COBA and able to teach households, implement management plans and monitor progress. Indicator 3 – Manuals for agroforestry, forest restoration and sustainable utilisation of key species produced for communities and forest managers. Indicator 4 – Itremo forest management plans agreed with communities and local forestry department.	• Satellite imagery acquired for Itremo, under negotiation for COFAV. • Methodology for participatory monitoring in development. • Surveys ongoing at Itremo. • Community technicians engaged and training ongoing. • Manuals for agroforestry and restoration in development. • Malagasy language agroforestry training video in production. • Darwin tropical forests restoration guide provided to extension workers. • No progress on Itremo forest management plans, but discussions ongoing with local forestry officials. [We are also applying for separate funding to support this] The indicators are still valid.	
Output 2 30 communities engaged in the conservation and sustainable utilisation of wild species with income generating potential.	Indicator 1 – Management plans agreed for wild 5 species per community. Indicator 2 – Monitoring shows no decrease in wild populations by Year 3. Indicator 3 – 50% increase in household incomes from natural products (e.g. silk, yams, essential oils, vanilla, bamboo, fuel and timbers) by end of Year 3. Indicator 4 – Peer-reviewed paper submitted to a conservation and/or development journal on sustainable utilisation and economic benefits.	• Preliminary discussions with communities to select species. • Training in bamboo cultivation at Itremo. The indicators are still valid.	

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
Output 3 30 communities engaged in agroforestry with demonstration household plots managed under agreements with the project.	Indicator 1 – Agroforestry agreements in place with 30 COBAs. Indicator 2 – 5 COBA/CFM managed household demonstration plots per community, with benefits shared by the community. Indicator 3 – 100 households engaged in agroforestry per COBA by end of Year 3. Indicator 4 – Final workshop with MinEnvEF and Ministry of Agriculture and other conservation and development NGOs.	• 25 agreements in place so far. • 30 tree nurseries constructed. • Training for community technicians. • One demonstration plot created in 29 communities. • 830 seedlings of 7 useful species planted at COFAV. • 15,000 seedlings of 9 useful species in tree nurseries at Itremo. • 150 *Inga* seedlings propagated for distribution to communities. Indicator 2 has changed to one demonstration plot per community, and this will be managed by the COBA rather than a household. Otherwise the indicators are still valid.	
Output 4 30 communities engaged in forest restoration under agreements.	Indicator 1 – Forest restoration agreements in place with 30 COBAs. Indicator 2 – 150,000+ tree seedlings raised in each community nursery. Indicator 3 – 100 ha planted and maintained per COBA by end Year 3. Indicator 4 – Summary reports accepted by PA management and evaluation committees.	• 25 agreements in place so far. • 30 tree nurseries constructed. • Training for community technicians. • 50,000 seedlings propagated of 50 species. • Poor seed production and seedling survival at Itremo of *tapia.* • No tree planting at COFAV or Itremo so far. The indicators are still valid. The Regional Directorate of Environment and Forests (DREF) has offered to participate in monitoring the forest restoration.	

Annex 2 Project's full current logframe

<div style="background-color:#fbe0c6">

Impact

</div>

In the COFAV and Itremo protected areas forest loss and erosion of biodiversity and ecosystem services (including soil fertility and water supply) are reduced. Resilience to climate change, food security and local livelihoods are all improved through a shift from food production dependant on damaging agricultural practices, such as slash and burn cultivation, to ecologically and economically sustainable agroforestry systems. Forest restoration helps to conserve biodiversity and maintain ecosystem services.

<div style="background-color:#fbe0c6">

Outcome

</div>

Agricultural productivity, forest cover and biodiversity are increased on deforested land in COFAV and Itremo, through forest restoration and locally adapted, low-input agroforestry systems, that emphasise sustainable soil management and native species and that offer communities viable alternatives to the prevalent damaging agricultural practices such as slash and burn cultivation. At least 3,000 households in 30 communities will benefit directly from maintained ecosystem services and improved livelihoods.

Measuring outcomes - indicators

Indicator 1	COFAV: annual forest area cleared by communities for *tavy* reduced by 30% in the project area by year 3.
Indicator 2	COFAV: increase in agricultural production on deforested land around communities is greater than the production lost through the 30% reduction in *tavy* by year 3.
Indicator 3	Increase in tree cover through restoration and agroforestry of 100 ha per community by year 3.
Indicator 4	Diversification of agricultural production around communities, with adoption of at least 5 new species per community by year 3.
Indicator 5	Increase in average income for participating household from 30,000-60,000 Ariary (£8-16) per month to 45,000-90,000 Ariary (£12-24) per month by yr 3.

Verifying outcomes

Indicator 1	Remote sensing data and ground truthing surveys.
Indicator 2	Community-based surveys and questionnaires.
Indicator 3	Remote sensing data and ground truthing surveys.
Indicator 4	Community-based surveys and questionnaires.
Indicator 5	Community-based surveys and questionnaires.

Outcome risks and important assumptions

Assumption 1	The political situation in Madagascar does not affect project implementation.
Assumption 2	Natural disasters such as cyclones do not adversely affect the project.
Assumption 3	Agreements will be maintained by the communities.
Assumption 4	Agroforestry is shown to be economically viable and sustainable versus *tavy* within the period of the project. [We will place strong emphasis on

	increasing agricultural productivity and on marketing agroforestry products.]
Assumption 5	Communities continue to perceive the benefits of forest conservation. [We will promote sustainable utilisation of forest resources and domestication of wild species, along with a strong education programme.]
Assumption 6	Community forests are not overrun by landless immigrants. [We will work with the communities, immigrants and local authorities to develop solutions.]

Outputs

Output 1	Baseline data, monitoring systems and skills developed within COBAs/CFMs and extension workers for forest management, agroforestry and sustainable utilisation of natural resources.
Output 2	30 communities engaged in the conservation and sustainable utilisation of wild species with income generating potential.
Output 3	30 communities engaged in agroforestry with demonstration household plots managed under agreements with the project.
Output 4	30 communities engaged in forest restoration under agreements.

Measuring outputs

Output 1	
Indicator 1	Monitoring system in place with simple metrics and baseline data on species ecology and vegetation, published in checklists/reports for Itremo and COFAV and available to COBAs and CFMs and other NGOs/projects.
Indicator 2	2 community technicians active in each COBA/CFM and able to teach households, implement management plans and monitor progress.
Indicator 3	Manuals for agroforestry, forest restoration and sustainable utilisation of key species produced for communities and forest managers.
Indicator 4	Itremo forest management plans agreed with communities and local forestry department.

Output 2	
Indicator 1	Management plans agreed for wild 5 species per community.
Indicator 2	Monitoring shows no decrease in wild populations at end of Year 3.
Indicator 3	50% increase in household incomes from natural products (*e.g.* silk, yams, essential oils, vanilla, bamboo, fuel and timbers) by end of Year 3.
Indicator 4	Peer-reviewed paper submitted for publication in a conservation and/or development journal on sustainable utilisation and economic benefits.

Output 3	
Indicator 1	Agroforestry agreements in place with 30 COBAs/CFMs.
Indicator 2	5 COBA/CFM managed household demonstration plots per community, with benefits shared by the community.
Indicator 3	100 households engaged in agroforestry per COBA/CFM by end of Year 3.
Indicator 4	Final workshop with MinEnvEF and Ministry of Agriculture and other

	conservation and development NGOs.

Output 4	
Indicator 1	Forest restoration agreements in place with 30 COBAs/CFMs.
Indicator 2	50,000+ tree seedlings raised in each community nursery.
Indicator 3	100 ha planted and maintained per COBA/CFM by end of Year 3.
Indicator 4	Summary reports accepted by PA management and evaluation committees.

Verifying outputs

Indicator 1	COBA records.
Indicator 2	Project surveys and reports.
Indicator 3	Project blog and online photo library.
Indicator 4	Published checklists, reports and papers.

Output risks and important assumptions

Assumption 1	30 communities work with the project and maintain interest.
Assumption 2	100 households undertake and maintain agroforestry per community.
Assumption 3	Populations of useful species are not already too depleted to utilise.
Assumption 4	Changes in the forestry laws or the political and economic situation affect the project or the communities.

Activities

Output 1	
Activity 1.1	Workshops with COBAs/CFMs towards project planning and agreements.
Activity 1.2	Recruit and train technicians.
Activity 1.3	Ground surveys of species, vegetation, soils and land use.
Activity 1.4	Remote sensing, GIS and data analysis.
Activity 1.5	Testing of monitoring methodologies.
Activity 1.6	Progress workshops with COBAs/CFMs.
Activity 1.7	Final workshop with national/regional planners and NGOs.

Output 2	
Activity 2.1	Training for technicians and householders.
Activity 2.2	Selection of species, surveys, collection/harvesting.
Activity 2.3	Domestication/enoblement trials
Activity 2.4	Training householders in processing/manufacturing products.
Activity 2.5	Production and marketing of products

Activity 2.6	Community evaluation, economic surveys and follow-up training.

Output 3	
Activity 3.1	Construction of tree nurseries (for Outputs 2, 3 and 4).
Activity 3.2	Training for technicians and householders.
Activity 3.3	Selection and collection of seeds, seedlings, cuttings.
Activity 3.4	Preparation, planting and maintenance of demonstration plots.
Activity 3.5	Community evaluation and follow-up training.

Output 4	
Activity 4.1	Training for technicians and householders.
Activity 4.2	Collection and propagation of seeds.
Activity 4.3	Preparation of sites (e.g. construction of fire-breaks).
Activity 4.4	Tree-planting with technicians and householders.
Activity 4.5	Post-planting management (e.g. weeding, clearing fire-breaks).
Activity 4.6	Community evaluation and follow-up training.

Annex 3 Standard Measures

Table 1   **Project Standard Output Measures**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for reporting period	Total planned during the project
6A	Number of people to receive training	60				60	60	120
6B	Number of training weeks to be provided	2				2	2	6
7	Number of training materials to be produced for use by host country	2				1	2	3
8	Number of weeks to be spent by UK project staff on project work in the host country	2				2	2	6
11 B	Number of papers to be submitted to peer reviewed journals			2		0	0	2
14 A	Number of conferences/seminars/ workshops to be **organised** to present/disseminate findings			1		0	0	0
20	Estimated value (£'s) of physical assets to be handed over to host country(ies) – Landrover and camera equipment etc.	40,000				5,000		40,000
23	Value of resources raised from other sources (ie. in addition to Darwin funding) for project work	88,400				66,000		203,000

Table 2   **Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £

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

This may include outputs of the project, but need not necessarily include all project documentation. For example, the abstract of a conference would be adequate, as would be a summary of a thesis rather than the full document. If we feel that reviewing the full document would be useful, we will contact you again to ask for it to be submitted.

It is important, however, that you include enough evidence of project achievement to allow reassurance that the project is continuing to work towards its objectives. Evidence can be provided in many formats (photos, copies of presentations/press releases/press cuttings, publications, minutes of meetings, reports, questionnaires, reports etc) and you should ensure you include some of these materials to support the annual report text.

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	no
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	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.	