Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

Submission Deadline: 30th April 2019

Darwin Project Information

Project reference	24-009
Project title	Landscape approach to enhance biodiversity and livelihoods in the Comoros
Host country/ies	Comoro Islands
Lead organisation	Bangor University
Partner institution(s)	Comorian government, Dahari, ICRAF, IUCN
Darwin grant value	£410,842
Start/end dates of project	01/04/17 to 31/03/21
Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	Apr 2018 – Mar 2019 Annual Report 2
Project Leader name	Dr Fergus Sinclair
Project website/blog/Twitter	Via Bangor, Dahari, and ICRAF social media
Report author(s) and date	Hugh Doulton, Dr Emilie Smith Dumont, Misbahou Mohamed, Médéric Carpier, Dr Tim Pagella, Dr Fergus Sinclair

1. Project rationale

The island of Anjouan in the Comoros archipelago has lost 80% of its forests in the past 30 years, one of the highest deforestation rates in the world. Deforestation continues to threaten at least 30 known forest-dependent endemic species, including the flagship Critically Endangered Livingstone's fruit bat, but also coastal biodiversity due to accelerated erosion and siltation of reefs. Deforestation also puts at risk present and future livelihoods: 40 of 50 rivers that flowed permanently on Anjouan 40 years ago have disappeared or now flow only intermittently, and agricultural yields are in sharp decline due to erosion.

The primary threats to the remaining natural forest are agricultural expansion and extraction of timber for construction. The underlying drivers include extremely high population pressure (over 550 people/km^2 in Anjouan), high poverty levels (over 50% of the population lives below the international poverty line), and over 80% dependency on agriculture for livelihoods. These factors are compounded by agricultural practices in need of innovation and intensification, and weak governance. The rural population is forced to expand cropland into fertile forest areas and cut remaining old growth trees for money to maintain livelihoods.

This project builds on the work of the Comorian NGO Dahari since 2008, and a developing partnership with Bangor University, the World Agroforestry Centre (ICRAF), and the International

Union for the Conservation of Nature (IUCN) that was strengthened through a Darwin Scoping Award in 2016. The project seeks to upscale and outscale a transdisciplinary landscape approach integrating agriculture, agroforestry, forest management, and PES biodiversity interventions to protect the Moya forest in the south of Anjouan and improve Comorian livelihoods.

The project is working in 10 villages surrounding the Moya forest block. Anjouan is one of the four main islands of the Comoros, located between Madagascar and Mozambique in the southwest Indian Ocean.

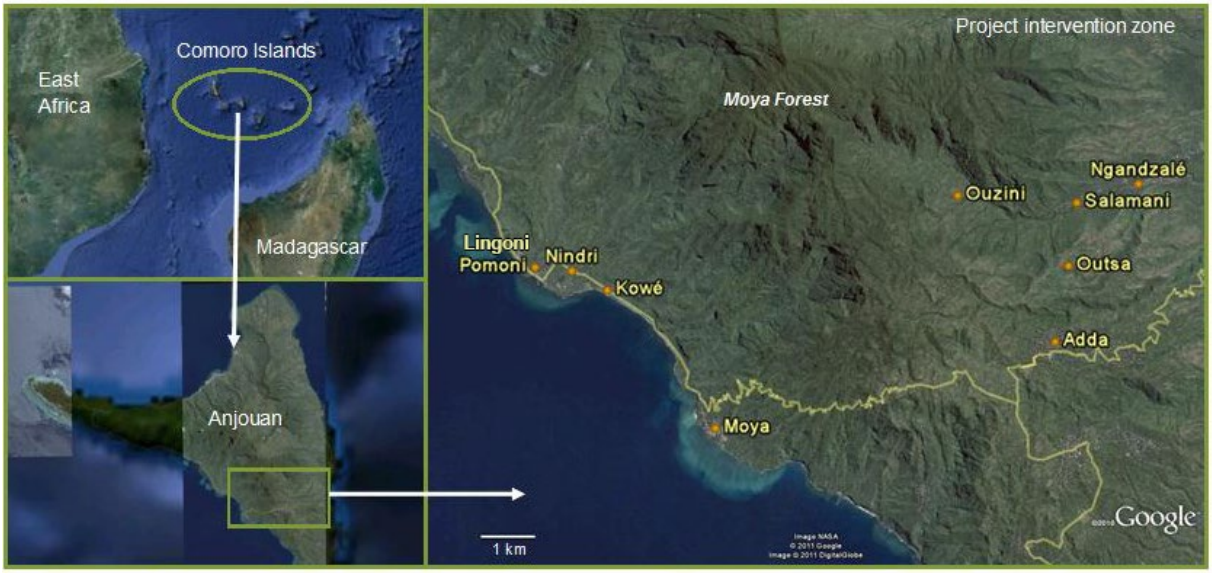

Image 1: Location of the Comoro Islands, the Moya forest on Anjouan, and the ten villages in which the project is working

2. Project partnerships

This project is the result of a collaboration between a team of researchers working between the Bangor University and ICRAF, and the Comorian NGO Dahari. The relationship began in 2016 with preliminary visits and studies, including through a Darwin scoping project (DARSC170) proposed and developed by Dahari, which also engaged the IUCN. The IUCN are a project partner focusing on advocacy work for the landscape approach and forest landscape restoration with the Comorian government – the final project partner.

Project management is shared between Bangor/ ICRAF and Dahari, with frequent exchanges on key decisions. Dr Emilie Smith-Dumont (ESD) as lead researcher made three trips to the Comoros during the second year of the project, Dr Tim Pagella (Bangor) made one trip, a mapping consultant from ICRAF one trip, and a partner of Bangor/ ICRAF from the International Livestock Research Institute (ILRI) one trip to put in place the livelihood monitoring system. Prof Gill Shepherd working as a consultant but linked to the IUCN and Dr Fergus Sinclair (ICRAF – project leader) continue to provide input from afar, including through meetings in Nairobi between ESD and Dr Sinclair.

To address the inherent complications of managing the inputs of multiple institutions and individuals based in different countries, a project management team was set up, comprised of Hugh Doulton, Misbahou Mohamed and Mederic Carpier (Dahari), Emilie Smith (Bangor/ICRAF) and Tim Pagella (Bangor University). A Dropbox folder has also been set up to share project documents, literature and data. All partners regularly communicate through emails, Skype calls and Whatsapp messages.

National workshops to advocate for the landscape approach, planned as the key activities for the IUCN and the government (Output 5), have been postponed to year 3 as agreed with Darwin in February 2018 due to political upheaval in the Comoros. The political situation has been a recurrent difficulty for the project since October 2018, when one mission had to be evacuated, and all partners have worked hard to maintain progress whilst ensuring the security of personnel. The advocacy component of the project has thus largely been delayed, but regular contact has

been maintained with the authorities, and government technicians have taken part in ICRAF-led trainings on tree nursery management. At the local level, regular meetings are held with the mayors' offices to keep them up-to-date with activities, and the mayors take part in communication events.

The project has developed a growing partnership with the University of the Comoros via collaboration on certain biodiversity-focused research projects, and through hosting students on internships.

3. Project progress

3.1 Progress in carrying out project Activities

Output 1: Community groups are supported to restore and manage water catchment areas.

Five community-run tree nurseries were installed from Q2 holding 3379 seedlings (see tree nursery database in Annex 4), and reforestation undertaken in four of the six planned water catchments covering 300 hectares of the target 400 hectares. The reforestation was undertaken in the fields of an additional 100 farmers, bringing the total to over 250, as well as in communal areas around water sources. A monitoring database of the trees planted has been developed and is available in Annex 4.

Following the recommendations of the strategy workshop held in year 1, one of the key developments in year 2 has been the development and piloting of a participatory watershed management approach to co-design interventions with farmers and foster collective action around the protection of headwaters. Dr Emilie Smith Dumont worked closely with Dahari's technical team to develop facilitation guidelines that were tested in the Anteniju catchment in the village of Adda (see Annex 5) and have since been extended to a second catchment. A participatory system for monitoring spring discharge and rainfall has been designed with support from Dr Tim Pagella. It has been piloted in Anteniju and has since been extended to a further two springs (see report on spring monitoring Annex 6).

A training was also held in July 2018 to improve the selection and propagation of local tree species, led by Dr Alain Tsobeng, an ICRAF consultant through cofunding from the FAO. This was attended by Dahari technicians, by community management groups, and by government technicians from the Environmental Directorate and the Agricultural Outreach Centres (see report in Annex 7).

GIS mapping is the key project activity to be delayed; the partner mission in October 2018 including an ICRAF mapping consultant had to be cancelled due to an armed insurgency (see section 11) and a new plan is currently being developed with Wageningen University as the consultant is no longer available for work.

Output 2: Customised agroforestry technical packages are developed for upland areas and adopted by farmers.

The participatory research and knowledge acquisition on agroforestry packages was finalised as planned in Year 2 by an ICRAF consultant financed through cofunding from the FAO (see report in Annex 8). This has led to the production of a technical manual and initial decision-support tool to support technicians and farmers in choosing appropriate trees to plant and including recommendations on management (Annex 9). These are currently being tested and will be rolled out through the agroforestry training program in time for the next seasonal tree-planting campaign in Year 3. A sub-set of agroforestry farmers have been interviewed as part of the livelihood monitoring using Rhomis (see Output 3).

Output 3: A socially inclusive package of lowland climate-smart agriculture is streamlined, its impact proven, and rolled out to a further 2000 farmers.

Research and improvements on Dahari's agricultural package have continued into Year 3. The main evolution has been the design and adoption of a scaling approach working with existing farmer's groups, women's' groups and other community-based associations which has helped to

increase the number of beneficiaries to 1707 for the year from 308 for Year 1, and increase the percentage of women supported from 37% to 44% (see beneficiary database in Annex 10, which has been updated since previous analysis on these figures).

Another shift in the approach was the increasing focus placed on participatory diagnosis and social mobilisation, including on gender transformative strategies, with a range of tools produced to facilitate outreach by agricultural technicians. These included facilitation guidelines and training to integrate local knowledge in the co-design of agricultural and natural resource management in sub-catchments and promote social learning and collective action in the project site (see facilitation guidelines in Annex 5a)

On-going research is being conducted on a general cost benefit analysis of the programme, the most appropriate outreach models, and the agricultural support most appreciated by different types of farmers. The work is being led by Sven Ten Napel, a previous Agricultural Coordinator of Dahari's on a consultancy basis. This will inform a workshop planned for June/ July that will bring together all the learning from the first two years of the project to finalise a sustainable agricultural strategy for Dahari to continue its scaling efforts in improving smallholder productivity in the future.

In line with the expansion to new beneficiaries due to the work with village associations and new degraded watersheds, the project has been able to implement the monitoring and evaluation baseline. The Rural Household Multi-Indicator Survey (RHoMIS) was chosen as the most cost-effective method for rapid characterisation of households to inform climate-smart agriculture interventions. It has been widely tested and applied in a range of development projects. The international Livestock Research Institute (ILRI) and ICRAF provided support for the design, training and deployment of the survey in March 2019. The survey was rolled out with a sample of 280 farmers (147 women and 133 men) randomly selected across seven villages grouped in four socio-ecological zones (Annex 11). Results will be analysed during Q1 of Year 3.

Output 4: Status of at least one critically endangered species is secured and 50 hectares of biodiversity hotspots are conserved.

Conservation agreements to protect roost-sites of the Critically Endangered *Pteropus livingstonii* have now been signed with four of the five planned farmers (see map in Annex 12). Biannual monitoring of the bat population has been undertaken (Annex 13) and databases set up to monitor tree cover around roost sites and benefits to farmers (Annexes 14 and 15). The map of other biodiversity hotspots taken from studies of birds, butterflies and reptiles has been produced (see draft results in Annex 12), and discussions and planning are now underway to expand the protected areas around roost sites and to identify a mechanism for protecting other biodiversity hotspots.

Output 5: The landscape approach and forest landscape restoration (FLR) are promoted locally and nationally through communications, advocacy and engagement with the authorities and other key actors, and internationally through social media and publications.

The first national advocacy workshop was put back to year 3 due to political instability in an agreed change. Regular meetings with local, regional and national authorities (although reduced due to the political evolutions), media outputs (see Annex 16), and communication events (see question 12) were organised throughout the year.

3.2 Progress towards project Outputs

Output 1: A new participatory and integrated approach to water catchment management has been developed and rolled out in two initial water catchments aiming to get greater local buy-in to management. This integrates the other field outputs, by promoting agricultural development, agroforestry and biodiversity conservation in key degraded and sensitive areas. In terms of indicators, 10.937 of a targeted 20,000 trees have been planted in four of the targeted six water catchments in collaboration between community management groups and individual farmers (see Annex 4 for tree database monitoring). A method for monitoring the institutional development of community management groups is being developed, and sanction regimes are being discussed in pilot areas. This is a multi-layered output and progress in largely on track,

other than for GIS mapping which has been delayed due to complications arising from the political situation (see Question 11).

Output 2: The participatory research work led by ICRAF has been completed as planned during Year 2 and the manual and tools were produced (Annexes 8 and 9). A training workshop in July of Year 3 will lay out the plan for dissemination of the tree selection decision-support tool to allow technicians and farmers to choose the trees best adapted to their needs and context during the remainder of the project. No problems are anticipated in supporting adoption by 500 farmers in the project timeframe.

Output 3: During Year 2 there has been a two-fold effort undertaken on Dahari's agricultural package: integrate lessons learnt from the research and reflection undertaken in Year 1 whilst performing ongoing research to inform further improvement during the reminder of the project. Through working with community associations, outreach has greatly expanded to reach a total of 1707 farmers in Year 2, 44% of which were women (see database in Annex 10). The project is thus well on its way to exceeding the 2000 farmers targeted by the end of the project. A workshop will be held in June/July to finalise a new, complete agricultural strategy for the rest of project and beyond. At the same time, monitoring of this new set of beneficiaries has been implemented using the RHoMIS methodology (Annex 11), and improvements on the beneficiary database implemented with the support of ILRI (Annex 10).

Output 4: Conservation agreements have been signed to protect four of the targeted five roost sites of the Livingstone's fruit bat, with monitoring of tree cover and benefits to landowners in place (Annexes 14 & 15). The bat population continues to be monitored at all roost sites, with current data in Annex 13. The maps of other biodiversity hotspots have been produced (Annex 12) and discussions underway between all partners as to the best mechanisms for protecting these as well as widening the bat roost site protection schemes.

Output 5: The key national advocacy workshop had to be postponed to Year 3 due to political strife (see Question 11). In the meantime, regular meetings were held with key figures in the Environment Ministry and the Environment Commissariat on Anjouan, advocacy meetings were held with local authorities, media outputs delivered (Annex 16), and local communications events continued to be organised over the course of the year. IUCN and the government have been regularly briefed on project progress in relation to the workshop delays, which are not anticipated to impact on delivery of this output.

3.3 Progress towards the project Outcome

Strong progress towards the outcome has been achieved at the halfway point of this project: reforestation has been undertaken in 300 hectares of the 400 hectares of the six targeted water catchments, and participatory monitoring of impact on water flows has been set up with three community groups (see database in Annex 6); four *Pteropus livingstonii* roost-site conservation agreements have been signed and population baselines established, whilst planning is underway to exploit the biodiversity hotspot maps produced to implement wider conservation measures, and a participatory monitoring scheme of other biodiversity indicators has been trialled and is readying for expansion (see Annex 17); meanwhile Dahari has supported 1707 farmers (44% of which were female) through its agricultural extension package (Annex 10) which is undergoing continual improvement thanks to the research led by the international partners – the impact of this is now being monitored through a baseline established using RHoMIS methodology (Annex 11).

The outcome indicators remain adequate for measuring outcome and the project is in general on-track to achieve its outcome by the end of Year 4 – the major delayed activity is the GIS mapping, now planned under a new arrangement for Year 3. Achieving 50 hectares of biodiversity hotspots under management and a 15% increase in farmer incomes by the end of project are likely to be challenging targets, however they are maintained at this stage.

3.4 Monitoring of assumptions

The following assumptions have continued to be impacted in Year 2 of the project –

Assumptions on Government collaboration: Government continues to support landscape approach for the Moya forest Key Biodiversity Area (KBA)

New national authorities show continued interest in engaging with IUCN

New national and regional authorities continue to support Dahari's long-term landscape management approach for the Moya zone

Comments: As reported in the Year 1 report, prior to the beginning of the project the government had engaged to leave the Moya forest KBA outside of their new UNDP-led protected areas programme and instead partner with Dahari to develop a landscape approach under this Darwin programme as per the Ministry support letter. However, the Moya zone was subsequently included within the protected areas programme.

Dahari has held regular meetings with the Protected Areas team, and with the Ministry to ensure alignment. In Q2 of Year 2 a partnership proposal was solicited and elaborated by Dahari, including delegation of the zone to Dahari, but this has not moved forwards and the situation remains unclear. In practice, the Protected Areas team has not looked to work in the Moya zone, and does not have the resources to do so. Dahari will continue its advocacy work in this regard, but it remains a concern. To this end the project management team is looking to expand the remit of the advocacy workshops (now planned for Q2/3 of Year 3) by looking to work with high-level ICRAF representatives on the delivery of the workshops to ensure buy-in from the government and donor bodies represented in Moroni. One aim to work towards resolving these issues.

The political developments in the Comoros over the past year have also prevented progress on these questions, given the change in constitution and subsequent new Presidential elections in Q4. Dahari will engage with the new government representatives once calm has been restored, and is working with the IUCN to push back the dates of the first workshop as far as possible without effecting their impact.

Assumption 2: Other donor-funded projects working in the same domains and looking to work in Moya forest area engage constructively with Dahari

Comments: Difficulties regarding collaboration with the UNDP-Protected Areas Programme, a new UNEP-led water catchment project involving intervention in some of the same areas, and an IFAD-led agricultural development programme also targeting some of the same areas, continue to be a major challenge for the project. Attempts by Dahari to constructively engage and look to clarify and divide targeted zones have not been fruitful. Again, the political situation has not helped. The aim is to work with the international project partners to address these questions through the first advocacy workshop planned for Q2/Q3.

Assumption 3: Funding obtained for expansion of lowland agricultural package

Comments: Dahari has extended the funding for its agricultural programme until the end of 2020, but a funding shortfall is approaching towards the end of 2019. Discussions are underway with multiple donors for new envelopes, in particular the EU, CEPF, and the French Development Agency.

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

Four roost sites of the Critically Endangered *Pteropus livingstonii* are now under protection through conservation agreements signed with local landowners, and a population baseline has been established to monitor impact towards the species' conservation. Participatory monitoring of other key species and habitat indicators has also been implemented in a first community. Maps highlighting other key biodiversity hotspots have been produced and planning is now underway towards bringing 50 hectares under protection.

1707 farmers (44% female) have been supported to improve agricultural yields and revenues since the beginning of the project. A baseline to monitor the impact of support on livelihoods has been established using RHoMIS methodology, and workshop planned for June/ July to support the rollout of an improved extension programme based on the research and learning since the start of project. Research has been completed to support the improvement of the agroforestry outreach programme, which will be applied during Year 3. The overall aim is to reach 2500 households by the end of project and improve combined cash and non-cash benefits by 15%.

Reforestation has been undertaken in four water catchments covering 300 of the targeted 400 hectares, and monitoring of springs and rainfall implemented. The end goal is to ensure water security for 5000 villagers.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

The project contributes contribute directly to SDGs 1 (no poverty – through agricultural and agroforestry development), 2 (no hunger – through agricultural and agroforestry development), 5 (gender equality – through developing gender-sensitive agricultural outreach packages and representative community management bodies), 6 (clean water and sanitation – through protecting watersheds) 13 (climate action – through reforestation and adoption of climate-smart agricultural methods), 15 (life on land – through biodiversity conservation measures).

During Year 2 activities have concentrated on improving the pro-poor and gender transformative aspects of the agricultural outreach programme whilst expanding its reach, on improving the approach to participatory watershed management, and on expanding biodiversity protection measures.

5. Project support to the Conventions, Treaties or Agreements

This project is working to support the Comoros' commitments to the Convention on Biological Diversity. By looking to protect forest habitat and improve the sustainability of local agricultural practices through context-appropriate agricultural intensification and agroforestry interventions, thus reducing anthropogenic pressure on natural resources, the project contributes to all five of the overarching targets of the updated national biodiversity strategy and action plan.

Contact with the authorities has been limited during Year 2 given the consitutional referendum and subsequent Presidential elections. New civil servant posts are currently being decided with various changes underway at the Ministry. Once the new regime is embedded the local partner Dahari will renew contact with the new CBD focal point and other key figures at the Agriculture and Environment Ministry, in particular regarding the advocacy components of the project.

6. Project support to poverty alleviation

The project is working to alleviate poverty directly both through supporting farmers to improve yields and revenues, and by securing water resources through reforesting water catchments and supporting the development of management regimes for the catchments. The project aims to improve agricultural yields for 2500 households, and secure water resources for 5000 beneficiaries.

During Year 2 1707 farmers have been supported via Dahari's agricultural extension package, with improvements to delivery already implemented based on research undertaken and further evolutions planned. Reforestation has also been undertaken in four water catchments, with 10,937 trees planted. A monitoring database using RHoMIS methodology has been created with a subset of 280 beneficiaries to evaluate the impact on livelihoods.

7. Project support to gender equality issues

The Comoros Islands are a complex society in terms of gender roles and decision-making largely due to a mixed system of matrilineality and rules influenced by Islamic faith. Improving how women farmers and especially poor women farmers can be reached and supported during the scaling efforts of this project requires significant effort and focus.

Based on research and analysis undertaken during Year 1 (see Year 1 report), the project has developed an explicit gender-sensitive agricultural outreach approach and put an emphasis on engaging more women. In Year 2 key developments have been the recruitment of female outreach agents, and engaging women's associations in the villages. The goals in the logframe are that at least 30% of the 2500 farmers reached through agriculture and agroforestry support

are women. In Year 2, the result of these evolutions has been that the percentage of women farmers supported has increased from 37% to 44%.

Dahari also aims to increase the representation of women in community management bodies to support watershed management as the current committees are heavily male-dominated. Work towards this goal in ongoing, with reflection started on how to improve the representativeness and capacity of the existing and new committees.

8. Monitoring and evaluation

The project management team is tracking progress and indicators on a quarterly basis and regular communication is ensured during key periods to follow up on seasonal activities such as agricultural and tree planting campaigns. We are using the log frame and indicators provided to evaluate progress and these have not required any adjustments. As evidenced in this report and the annexes, the means of verification are consistent with the project proposal and data collection and analysis is taking place as planned. The main recommendation this year was to strengthen Dahari's capacity to manage data. Training and support were provided on the agricultural and natural resource management components by ILRI and Bangor University.

The major change to the framework has been the switch to using the Rural Household Multi-Indicator Survey (RHoMIS) toolkit for livelihoods assessment. This method was felt to be more appropriate than the IUCN forests toolkit following discussion between the management team, and was rolled out in March 2019 with a sample of 280 beneficiaries, with analysis now underway. Qualitative and process tracking remain essential to the project monitoring and evaluation framework but the management team was keen to complement the analysis by also applying a robust quantitative method to collect a series of standardised indicators across the spectrum of agricultural production and market integration, nutrition, food security and poverty.

Based on the studies and workshops conducted in years 1 and 2, the strategy for upscaling and outscaling was refined to customise agricultural packages according to gender and agroecological context. In Year 3 a series of focus group discussions will be held with farmer groups to evaluate changes in knowledge, attitude, behaviour and adoption of practices

9. Lessons learnt

The key aim of this project, and the most important added value that the Darwin funding is bringing, is delivering international expertise to the improvement and implementation of Dahari's intervention strategy and activities. In this, way the flexibility that has been provided through the agreed change to use the salary of the planned in-country social scientist – a profile that proved simply too hard to recruit with the budget available – for consultancy inputs and increasing the support of the expatriate staff, has proved critical to the successful development of the project.

In Year 2, this money has been used in particular to fund ILRI to set up and implement the RHoMIS surveys to produce a baseline livelihood assessment, including through sending a consultant to the Comoros to train the team and support initial surveying. It has also funded an ex-agricultural manager of Dahari's to perform a financial cost-benefit analysis of the agricultural programme. And supported an additional month of work by Dr Emilie Smith Dumont, the lead researcher on the programme.

The learning for this project and potentially other Darwin projects concentrated on delivering international expertise to local NGOs is that this flexibility has been invaluable in allowing a quick response to needs arising during the course of the project – where otherwise adaptive management would have been hindered and important constraints would have arisen to project delivery and potential impact.

At the same time, the project senior management team has also got better at maximising the contributions of all involved – a growing roster of experts in support of Dahari, with the aim of creating long-lasting relationships whilst building capacity within the NGO. The trust and collaborative spirit between the partners has been fundamental to achieve this.

In terms of management, the Trello management system set up in Year 1 proved too heavy for the team to manage – in particular the Dahari team struggled getting on top of a whole new

software package. Instead, the key to improving management in Year 2 has proved to be more regular calls and missions to maintain a strong connection between the international partners and the field teams. The management team has thus gone back to using the logframe and workplan as the tools with which to keep track of progress, and there are now fortnightly Skype calls between Dr Emilie Smith Dumont and the team running the fieldwork.

One area where the Dahari team has required more significant support than anticipated relates to data management. To this end the ILRI consultant working on RHoMIS implementation was engaged for three extra days to work with the team on improving the project databases in the annexes – another important use of the flexible expertise fund. Bangor University is also providing regular assistance to improve data collection, storage and analysis.

Lastly, the project communications under Output 5 have remained unsatisfactory, largely due to weakness in the skills of the communications team at Dahari. The learning has been for the project management team to engage directly in communications, leading to improvements and increased outputs towards the end of the year. New recruitments are also underway and planned to improve the efficacy of the Dahari team in this regard.

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

N/A

11. Other comments on progress not covered elsewhere

Improving the design of Dahari's interventions across all the outputs is an overall goal of the project, which is being achieved through a research-action approach via the support of the international partners. Particular evolutions this year are covered in the previous sections.

The main project difficulty this year has been the political instability that has been almost constant in the Comoros since early 2018. An armed insurgency in October led to the evacuation by the United Nations of a partner mission, and further missions have been affected since then. Thanks to the commitment of the international partners and the team in-place, the impact on progress has been limited. However, as mentioned previously, the ICRAF GIS consultant who had to be evacuated in October was unable to return to continue the contract and so the timetable for this work has been heavily affected. A new partnership is under development with Wageningen University to deliver this package, we hope early in Year 3. Meanwhile the political situation in the Comoros remains tense, so security of the project team – both in-country and visiting - will remain the priority.

An additional emerging risk is the impact from a cyclone that hit the Comoros towards the end of April 2019 just before submission of this report. Dahari are still assessing the effects in the villages and on the activities, and whether programmes will need to be reoriented to shorter-term aid via eg short-cycle cropping - given widespread destruction of agricultural crops and trees.

12. Sustainability and legacy

The project as part of Dahari's intervention in the Moya forest KBA (see section 13) maintains a high profile within-country via media coverage and public communications events. The major events during the year linked to Darwin funding and where Darwin were publicised were the launch of the reforestation campaign in Q4 (attended by 200 people), a conference on the biodiversity of Anjouan at the University in Q3 (200 attendees), and the presentation of the water management committees in Adda in Q3 (200 attendees).

The exit strategy and sustained legacy are based on developing Dahari's capacity to pursue the work into the future, by building up the capacity of community agents and management groups, and by building key potential funders into the advocacy component of the project. This strategy is still valid, with discussions about future funding advancing with CEPF, the EU and the AFD. These organisations will be invited to the key advocacy workshop planned for 2019. The capacity of the Dahari team continues to evolve through trainings delivered by the partners on mission,

as well as the development of management tools and databases (see previous sections and Annexes).

13. Darwin identity

The Darwin Initiative support forms part of a larger intervention that encompasses funding from the European Union, the UN's Food and Agriculture Programme and the Critical Ecosystem Partnership Fund, as well as smaller contributions from other funders. The Darwin logo is publicised on Dahari's website, and figures on Dahari's communication materials such as t-shirts and posters. This year Dahari has installed large panels publicising its work in all of its intervention villages, and these include the Darwin logo as one of the NGO's three key funders.

Beyond this, understanding of the Darwin Initiative in the Comoros is likely to be limited to the project partners i.e. Dahari and the Ministry of the Environment.

Internationally, Dahari has published regular social media updates and blogs through the year covering the project activities that have cited the support of the Darwin Initiative. More recently Dahari has started to write key tweets and Facebook posts in English, which have been reposted by the project partners and Darwin itself. A regular schedule has been set up to increase this visibility at the international level during the rest of the project.

14. Project expenditure

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2018 – 31 March 2019)

Project spend (indicative) since last annual report	**2018/19 Grant (£)**	**2018/19 Total Darwin Costs (£)**	**Variance %**	**Comments (please explain significant variances)**
Staff costs (see below) Dahari staff Bangor staff				
Consultancy costs				
Overhead Costs Dahari Bangor				
Travel and subsistence Partners and consultants Bangor				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

*This includes the £20500 originally assigned to the salary of the Dahari social scientist that is instead being used as a flexible pot to provide additional expertise to the project – through an agreed change. In 2018/2019 this money was used to fund ILRI's work on the RHoMIS methodology for livelihoods monitoring, a consultant performing a cost-benefit analysis of Dahari's agricultural programme, a further month of time for the lead researcher Dr Emilie Smith Dumont, and salary and flights for Dahari's expatriate strategic advisor and programmes manager. The reporting table can be reworked if this expenditure should be distributed under the headings where it was used.

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Impact Anjouan's endemic biodiversity and remaining water resources are conserved, and the food security of the rural population is ensured		The project is on schedule with forest restoration, implementation of biodiversity conservation measures, and delivery of agroforestry and agricultural development packages. We expect the project to deliver its planned impact within the four years.	[redacted]
Outcome Catchment restoration and management ensures water security of 5000 villagers in the Moya forest and enhances biodiversity management, whilst agroforestry and agricultural development improve livelihoods for 10,000 villagers	1. 50 hectares of biodiversity hotspots are under conservation measures, maintaining population of the Livingstone's fruit bat and other forest-dependent endemics 2. 400 hectares of headwater catchment reforested – which buffer biodiversity hotspots and restore the supply of water in six catchments (5000 villagers affected) 3. 2500 households have 15% increase in combined cash and non-cash benefits from agriculture and agroforestry	Significant progress towards the outcome has already been reached. Dahari supported 1707 farmers (44% women) through its agricultural extension package during Year 2, with a livelihoods monitoring baseline established. Reforestation has been undertaken in 300 hectares of targeted water catchments, and monitoring of the impact on water provision is being implemented around three water sources. Four roost-site conservation agreements have been signed and *Pteropus livingstonii* population baselines established, and participatory monitoring of other biodiversity indicators established based on the finalisation of biodiversity hotspot analyses.	A workshop in Q2 will finalise a model for agricultural outreach into the future Reforestation work will be expanded based on a new participatory water catchment management approach The results of the agroforestry study will be applied to tree selection and farmer training A mechanism will be devised for expanding protected around roost sites and other biodiversity hotspots The first landscape restoration advocacy workshop will be organised International communication outputs will be reinforced
Output 1. Community groups are supported to restore and manage water catchment areas	1a. GIS maps of Moya forest zone published delimiting target water catchments, priority remaining tracts of natural forest for biodiversity management, as well as zones suitable for agroforestry and agricultural intensification	1.a. Preliminary maps have been developed and used for participatory assessments; wider mapping has been delayed due to complications arising from the political strife 1.b. 10,917 of the targeted 20,000 trees have been planted in collaboration between community management groups and individual farmers (see Annex 4 tree nursery database).	

	1b. 20,000 trees are produced from community tree nurseries, planted and monitored in priority water catchments 1c. Management rules and sanctions on tree-cutting are applied over 400 hectares of water catchments conserving six water sources 1d. Five community groups with improved functioning	1.c. The water catchment of Anteniju in the village of Adda has been identified as the pilot area for implementation of a tree-cutting management regime, with initial planning under way 1.d. Five community reforestation groups were trained in endemic tree propagation by an ICRAF expert (see Annex 7)	
Activity 1.1 GIS mapping of Moya landscape, prioritising areas for different activities		Mapping work cancelled due to armed unrest and consultant no longer available	New plan being developed with Wageningen University
Activity 1.2 Participatory discussions on reforestation with farmers in targeted water catchment areas		A further 100 farmers were engaged in reforestation in the targeted water catchments, bringing the total to 250	Expansion to two further water catchments to meet the target six
Activity 1.3 Installation and management of community tree nurseries		Five tree nurseries were managed by the community groups, focusing more on endemic species following the training	New tree nurseries will be established as usual during Q1
Activity 1.4 Reforestation campaigns		A further 3337 trees were planted in Q4, less than Y1 due to focus on endemic species	Tree planting each year in Q4
Activity 1.5 Participatory work with community groups to develop, implement and monitor rules and regulations		Discussions on wider regulations involving regional authorities put doubt on viability	Pilot community-based regulation being developed for a first water catchment
Activity 1.6 Participatory monitoring of water quality and flow of sources targeted for protection, and areas reforested		Monitoring of three water sources implemented	Expansion to three further sources through the year
Output 2. Customised agroforestry technical packages are developed for upland areas and adopted by farmers	2a. Drivers of land degradation and tree cover change in upland areas identified, local knowledge about agroforestry practices, social analysis of tree preferences and opportunities for developing socially-inclusive agroforestry development assessed 2b. Customised decision-support tools for agroforestry development are produced and disseminated to promote	Participatory research on local agroforestry practices and knowledge of tree species completed (Annex 8). Decision-support tool to assist with selection of trees to plant elaborated (Annex 9). Tree nursery monitoring database established (Annex 4). Livelihoods monitoring baseline of a subset of beneficiaries created (Annex 11).	

	tree diversity including native and endemic forest species 2c. 500 farmers (at least 30% women) receive at least 20 hours of training in agroforestry development optimising the choice of trees to plant for different purposes and conditions 2d. 10,000 trees of mixed species matched to the needs of farmers, adjusted to gender, are planted in strategic location on farms to improve food security and maintain ecosystem services		
Activity 2.1 Participatory research and knowledge acquisition with farmers surrounding agroforestry practices, land and forest degradation, agroforestry opportunities		Research completed in Q1 and Q2 and report finalised Q3	Activity complete, though learning on these subjects will continue
Activity 2.2 Development of customised decision-support tools to drive agroforestry adoption		Draft decision-support tool produced Q4	Workshop in Q1/2 with Dahari team to plan for application of tool and agroforestry training
Activity 2.3 Training of farmers with the decision support-tools and in agroforestry practices towards increased tree-planting		Planned from Year 3	From Q3
Activity 2.4 Participatory monitoring of trees planted and seedling survival		Planned from Year 2	From Q3
Activity 2.5 Assessment of impact on livelihoods for a subset of agroforestry adopters using the forest poverty toolkit		RHoMIS livelihoods monitoring system applied in Q4 with a subset of 280 beneficiaries	Re-application in Year 4
Output 3. A socially inclusive package of lowland climate-smart agriculture is streamlined, its impact proven, and rolled out to a further 2000 farmers	3a. Assessment of which agricultural techniques are appropriate for different zones and men and women farmers, feeding into plan for wider rollout 3b. 2000 farmers (at least 30% women) receive at least 40 hours of training in implementing lowland agricultural package	Cost-benefit analysis of Dahari's agricultural package nearing completion. Lessons from research undertaken during Year 1 applied to develop a new outreach model based on working with community associations, leading to an increase to 1707 farmers supported in Y2, 44% of whom were female (Annex 10).	
Activity 3.1 Participatory research into contextual variation in the uptake of Dahari's agricultural practices		Cost-benefit analysis of Dahari's agricultural package nearing completion	Further participatory research into uptake and appreciation of different techniques

Activity 3.2 Improvement of Dahari's agricultural outreach programme based on research results, and plan for expansion		Development of an outreach approach based on working with community associations, leading to large increase in the number of farmers supported	Workshop planned in Q1/Q2 to exploit all the learning and research from the first two years to devise an improved agricultural outreach approach
Activity 3.3 Training of additional farmers in climate-smart agricultural methods		1707 farmers trained in Year 2, 44% of whom were female	Continued rollout of improved agricultural outreach programme
Activity 3.4 Assessment of impact on livelihoods for a subset of agricultural adopters using the forest poverty toolkit		Baseline established with 280 farmers using RHoMIS methodology in Q4	Re-application in Year 4
Output 4. Status of at least one critically endangered species is secured and 50 hectares of biodiversity hotspots are conserved	4a. PES agreements maintain the population of the Livingstone's fruit bat at five roost sites 4b. At least 50 hectares of forest areas of high-value for biodiversity conservation are under management by end of project 4c. Landowners around biodiversity hotspots improve livelihoods through conservation schemes	Conservation agreements signed to protect four of the targeted five roost sites of the Livingstone's fruit bat (Annex 12), with monitoring of roost populations (Annex 13), tree cover (Annex 15) and benefits to landowners in place (Annex 14). Maps of wider biodiversity hotspots produced (Annex 12). Planning under way to develop mechanisms to expand protection around roost sites and other biodiversity hotspots.	
Activity 4.1 Discussions with landholders around targeted Livingstone's roost-sites surrounding protection schemes		Discussions ongoing at last targeted roost-site	Continue
Activity 4.2 Development and signature of conservation agreement contracts with targeted landholders		Conservation agreements to protect roost-sites of the Critically Endangered *Pteropus livingstonii* signed with four farmers	Signature with fifth farmer
Activity 4.3 Regular agricultural support and ecotourism contributions to targeted farmers, and reforestation using endemic species as per contracts		Regular support from the agricultural team has been provided to the farmers (seeds, tools, training) and guiding payments were received during visits.	Continue, look at mechanism for widening protection areas around roosts
Activity 4.4 Publication of GIS maps highlighting other priority zones for conservation (finances through other funding)		Maps produced Q4 with publications being written up	Publish maps and papers
Activity 4.5 Adaptation of scheme to highland areas critical for other endemic biodiversity, and application with farmers		Planned for Year 3	Workshop with Bangor University and University of Oxford in Q1 to devise scheme
Activity 4.6 Participatory monitoring of roost site populations, other key biodiversity indicators, and benefits to farmers		Biannual monitoring of the bat population, tree cover, and benefits to farmers.	Continue. Expand wider participatory monitoring to two further villages.

		Participatory monitoring scheme of other biodiversity and pressure indicators developed and implemented in one village	
Output 5. The landscape approach and forest landscape restoration (FLR) are promoted locally and nationally through communications, advocacy and engagement with the authorities and other key actors, and internationally through social media and publications	5a. Two multi-stakeholder workshops led by IUCN promoting the landscape approach and working towards FLR commitments engage key decision makers at a national level 5b. Meetings and engagement with local, regional and national environmental authorities 5c. 10 articles/ films promoting landscape approach published in local media 5d. At last one peer-reviewed paper is published about the landscape approach 5e. 5 blogs published by international partners highlighting progress and results in the Comoros 5f. Attendance at regular community communications events (music, football, traditional dances)	The key national advocacy workshop was postponed to Year 3 due to political instability. Meetings continued to be held with key figures in the Environment Ministry and the Environment Commissariat on Anjouan, though contact was reduced due to concentration on the referendum and elections. Regular advocacy meetings were held with local authorities, and local communications events organised over the course of the year, as well as media outputs (Annex 16).	
Activity 5.1 National workshops led by IUCN to advocate for the landscape approach and Forest Landscape Restoration		Workshop postponed due to political problems	First workshop planned for Q3
Activity 5.2 Regular meetings with authorities and other key actors between all partners		Regular meetings were held with key figures in the Environment Ministry and the Environment Commissariat on Anjouan, advocacy meetings were held with local authorities, and one meeting with the UNDP Protected Areas team.	Outreach and meetings will be stepped up from Q2 in preparation for the workshop
Activity 5.3 Regular media outputs in Comoros, and on partner social media accounts and blogs		Regular media coverage of Dahari's activities was achieved, and international social media outputs initiated.	Regular international social media outputs planned for Year 3
Activity 5.4 Regular communications events in the villages		Regular events organised around agricultural and reforestation	Continue and increase output during Year 3

	campaigns, with the recruitment of dedicated outreach agents increasing engagement.	
Activity 5.5 Peer-reviewed paper on the landscape approach published		Planned for Year 4

Annex 2: Project's full current logframe as presented in the application form

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Anjouan's endemic biodiversity and remaining water resources are conserved, and the food security of the rural population is ensured			
Outcome: Catchment restoration and management ensures water security of 5000 villagers in the Moya forest and enhances biodiversity management, whilst agroforestry and agricultural development improve livelihoods for 10,000 villagers	1. 50 hectares of biodiversity hotspots are under conservation measures, maintaining population of the Livingstone's fruit bat and other forest-dependent endemics 2. 400 hectares of headwater catchment reforested – which buffer biodiversity hotspots and restore the supply of water in six catchments (5000 villagers affected) 3. 2500 households have 15% increase in combined cash and non-cash benefits from agriculture and agroforestry	1. Participatory population monitoring of Livingstone's fruit bat roost sites, and other key biodiversity indicators 2. GIS maps of biodiversity hotspots and water catchment areas under management 3. Baseline livelihood survey of 250 households using IUCN's forest poverty toolkit, repeated end of years 2 and 4 4. Database of flow and quality monitoring of water sources	Government continues to support landscape approach for the Moya forest KBA Other donor-funded projects working in the same domains and looking to work in Moya forest area engage constructively with Dahari Climate change and natural disasters do not outweigh positive impacts of livelihood field programmes; nor impact on forest areas and Livingstone's fruit bat roost sites targeted for protection
Outputs: 1. Community groups are supported to restore and manage water catchment areas	1a. GIS maps of Moya forest zone published delimiting target water catchments, priority remaining tracts of natural forest for biodiversity management, as well as zones suitable for agroforestry and agricultural intensification 1b. 20,000 trees are produced from community tree nurseries, planted and monitored in priority water catchments 1c. Management rules and sanctions on tree-cutting are applied over 400 hectares of water catchments conserving six water sources 1d. Five community groups with improved functioning	1.1 GIS maps published locally and online 1.2 Database of trees planted (nursery records and annual monitoring records of in-situ seedling survival monitoring) 1.3 Maps of management zones and agreed rules and regulations developed with local people, and published locally and online 1.4 Reports of community group meetings and activities, evaluation of management decisions taken and implemented	Effective community groups for catchment management and restoration can be developed in all villages (currently developing well in 3) Farmers in new targeted catchment areas engage in restoration and management
2. Customised agroforestry technical packages are developed for upland areas and adopted by farmers	2a. Drivers of land degradation and tree cover change in upland areas identified, local knowledge about agroforestry practices, social analysis of tree preferences and opportunities for	2.1 Report published locally and online 2.2 Technical guides and decision-support tools published locally and online	Farmers in upland areas motivated to adopt improved agroforestry regimes

	developing socially-inclusive agroforestry development assessed 2b. Customised decision-support tools for agroforestry development are produced and disseminated to promote tree diversity including native and endemic forest species 2c. 500 farmers (at least 30% women) receive at least 20 hours of training in agroforestry development optimising the choice of trees to plant for different purposes and conditions 2d. 10,000 trees of mixed species matched to the needs of farmers, adjusted to gender, are planted in strategic location on farms to improve food security and maintain ecosystem services	2.3 Database of farmers supported, training evaluation reports with record participants, and farmers records of uptake of agroforestry options 2.4 Database of trees planted (nursery records and annual monitoring records of in-situ seedling survival monitoring)	
3. A socially inclusive package of lowland climate-smart agriculture is streamlined, its impact proven, and rolled out to a further 2000 farmers	3a. Assessment of which agricultural techniques are appropriate for different zones and men and women farmers, feeding into plan for wider rollout 3b. 2000 farmers (at least 30% women) receive at least 40 hours of training in implementing lowland agricultural package, and adopt at least two best-fit practices	3.1 Technical report published locally and online 3.2 Plan for enlargement of lowland climate-smart agriculture package published, including priority geographical targets 3.3 Database of farmers receiving support and seed varieties distributed, lists of presence at trainings and participatory evaluation reports, field monitoring records of uptake of practices	Funding obtained for expansion of lowland agricultural package

4. Status of at least one critically endangered species is secured and 50 hectares of biodiversity hotspots are conserved	4a. PES agreements maintain the population of the Livingstone's fruit bat at five roost sites 4b. At least 50 hectares of forest areas of high-value for biodiversity conservation are under management by end of project 4c. Landowners around biodiversity hotspots improve livelihoods through conservation schemes	4.1 Signed agreements with landowners around roost-sites 4.2 Participatory population monitoring of Livingstone fruit bat roost sites and other key biodiversity indicators 4.3 GIS map of forest areas of high value for biodiversity are published 4.4 Map of areas under management published accompanied by rules and regulations 4.5 Database of cash and in-kind benefits received by participating farmers.	Newly-engaged landholders attracted to PES scheme for conserving Livingstone fruit bat roosts (currently 2) Upland farmers in areas with remaining old-growth natural forest engage in conservation management actions
5. The landscape approach and forest landscape restoration (FLR) are promoted locally and nationally through communications, advocacy and engagement with the authorities and other key actors, and internationally through social media and publications	5a. Two multi-stakeholder workshops led by IUCN promoting the landscape approach and working towards FLR commitments engage key decision makers at a national level 5b. Meetings and engagement with local, regional and national environmental authorities 5c. 10 articles/ films promoting landscape approach published in local media 5d. At last one peer-reviewed paper is published about the landscape approach 5e. 5 blogs published by international partners highlighting progress and results in the Comoros 5f. Attendance at regular community communications events (music, football, traditional dances)	5.1 Workshop and meetings reports and attendance lists 5.2 Database of meetings and participatory evaluation reports 5.3 Database of media publications and blogs 5.4 Journal acceptance of paper 5.5 Database of local communication events held, including estimates of attendance	New national authorities show continued interest in engaging with IUCN New national and regional authorities continue to support Dahari's long-term landscape management approach for the Moya zone Local authorities in Moya forest area continue to engage constructively with Dahari

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 GIS mapping of Moya landscape, prioritising areas for different activities
1.2 Participatory discussions on reforestation with farmers in targeted water catchment areas
1.3 Installation and management of community tree nurseries
1.4 Reforestation campaigns
1.5 Participatory work with community groups to develop, implement and monitor rules and regulations and seedling survival
1.6 Participatory monitoring of water quality and flow of sources targeted for protection, and areas reforested

2.1 Participatory research and knowledge acquisition with farmers surrounding agroforestry practices, land and forest degradation, agroforestry opportunities
2.2 Development of customised decision-support tools to drive agroforestry adoption
2.3 Training of farmers with the decision support-tools and in agroforestry practices towards increased tree-planting
2.4 Participatory monitoring of trees planted and seedling survival
2.5 Assessment of impact on livelihoods for a subset of agroforestry adopters using the forest poverty toolkit

3.1 Participatory research into contextual variation in the uptake of Dahari's agricultural practices
3.2 Improvement of Dahari's agricultural outreach programme based on research results, and plan for expansion
3.3 Training of additional farmers in climate-smart agricultural methods
3.4 Assessment of impact on livelihoods for a subset of agricultural adopters using the forest poverty toolkit

4.1 Discussions with landholders around targeted Livingstone's roost-sites surrounding protection schemes
4.2 Development and signature of conservation agreement contracts with targeted landholders
4.3 Regular agricultural support and ecotourism contributions to targeted farmers, and reforestation using endemic species as per contracts
4.4 Publication of GIS maps highlighting other priority zones for conservation (finances through other funding)
4.5 Adaptation of scheme to highland areas critical for other endemic biodiversity, and application with farmers
4.6 Participatory monitoring of roost site populations, other key biodiversity indicators, and benefits to farmers

5.1 National workshops led by IUCN to advocate for the landscape approach and Forest Landscape Restoration
5.2 Regular meetings with authorities and other key actors between all partners
5.3 Regular media outputs in Comoros, and on partner social media accounts and blogs
5.4 Regular communications events in the villages
5.5 Peer-reviewed paper on the landscape approach published

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Total to date	Total planned during the project
4A 4B	Training in biodiversity monitoring techniques for undergraduate students	4 male, 2 female	Comorian	6 4wk	6 3wk	6 7wk	
6A 6B	Training in agricultural techniques for farmers	44% female	Comorian	1707			2000 (30% female) 1 week
6A 6B	Training in agroforestry techniques for farmers		Comorian	0			500 (30% female) 1 week
6A 6B	Training in facilitation, agricultural outreach, research and mapping techniques for Dahari staff	15 male, 5 female	Comorian	2 1wk	20 3wk	20 4wk	20 10 weeks
7	Training guides for agricultural and agroforestry outreach			0	1	1	2
11B	Paper on landscape approach submitted to peer reviewed journal			0			1
12A	Monitoring databases as per annexes				4		
14A	Two conferences on the landscape approach			0	0		2
20	Computers for Dahari						
23	Cofunding raised						

Table 2 Publications

Title	Type (e.g. journals,	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not

	manual, CDs)					available online)

Supplementary material

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. However, we would expect that most material will now be electronic.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	