

Darwin Initiative Main Project Annual Report

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

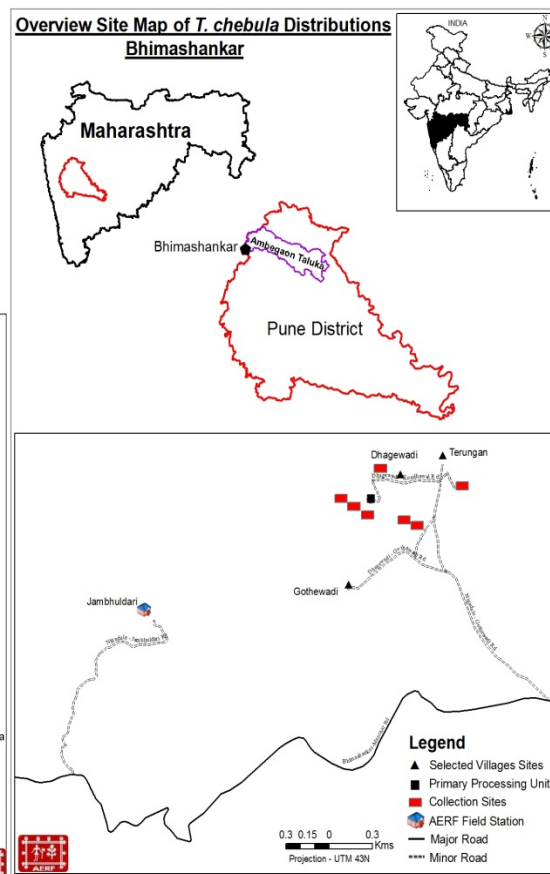
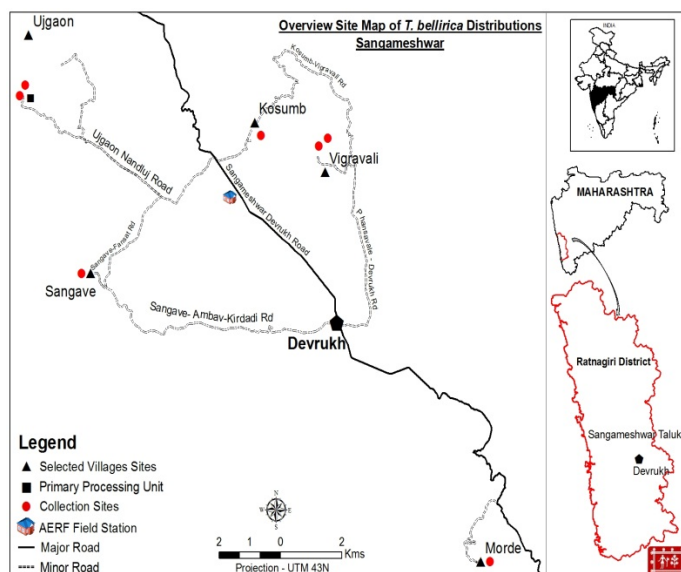
Darwin Project Information

Project Reference	20-016
Project Title	Reviving socio-ecological landscapes for biodiversity conservation and climate change adaptation
Host Country/ies	India + UK
Contract Holder Institution	Durrell Institute of Conservation and Ecology (DICE)
Partner institutions	Applied Environmental Research Foundation Pukka Herbs Ltd
Darwin Grant Value	£171.317
Funder (DFID/Defra)	Defra
Start/end dates of project	01/06/2013 - 31/05/2016
Reporting period (e.g., Apr 2015 – Mar 2016) and number (e.g., Annual Report 1, 2, 3)	Apr.2014 - Mar.2015 Annual Report 2
Project Leader name	Prof. D.MacMillan
Project website	http://aerfindia.org/darwin-initiative-project.html
Report author(s) and date	Dr. I.G.Bride, Dr. J.Sarnaik, Prof. D. MacMillan, Dr.Archana Godbole (20/05/2015)

1. Project Rationale

In the wider project region of the Western Ghats, a global biodiversity hotspot, the livelihoods and culture of the local communities are directly dependent on the biodiversity and ecosystem services provided by the socio-ecological landscapes. Yet the pressure to sustain livelihoods is driving the replacement of traditional crop varieties with hybrid cash crops, the clear felling of forests, and the erosion of traditional knowledge, causing degradation of ecosystem services and the loss of key species. DICE is working with experienced partners (AERF and Pukka Herbs) to address this problem through exploiting the economic opportunity offered by a diversity of medicinal plants, many in demand commercially by the traditional Indian system of medicine (Ayurveda) and/or having considerable potential on international markets. Central to this process is the development of a supply chain for the fruit of two high conservation value tree species (*Terminalia bellirica* and *T.chebula*), with an associated community regulated Access and Benefit Sharing (ABS) mechanism, and the creation of agro-forestry nurseries and plots with the aim of demonstrating how ecological restoration can help revive the social and economic capacity of fragile rural communities whilst pursuing the clear goal of conserving biodiversity rich habitats e.g. sacred groves and community forests over a longer period.

The two principle project sites are around the village of Dhagewadi, Bhimashankar and several villages in the vicinity of Sangameshwar, both located in the North Western Ghats, Maharashtra, India. The figures show the location of these sites and the main nearby distributions of *Terminalia bellirica* and *T.chebula* recorded by project surveys.



2. Project Partnerships

The project partnership between DICE, AERF and Pukka Herbs has further consolidated over the past year, primarily in the context of the development of the species supply chains and the organic and FAIRWILD certification processes as a key element of this. Representatives of Pukka Herbs worked alongside AERF staff in January 2015 to prepare for (paperwork and the training of locals) and host the visit of the FAIRWILD inspectors. DICE staff undertook project visits in June, October and November of 2014 and in March 2015, focussing on monitoring the project's progress and future developments. These visits involved lengthy discussion as to how to improve and grow the project process and deliver the intended outputs to guarantee legacy whilst extending the project scope and attracting further funding. The decision-making process has been transparent and informed by the partners according to the particular issue at hand and the specific expertise of each. The open and honest relationships established between the partners have been key to this process, not least in enabling the difficulties relating to implementation to be overcome. Regular Skype and email communications have supplemented the valuable periods spent together in the field: an estimated 60 person-days having been shared by individuals from at least two of the partner organisations.

An important strength (and challenge) of the partnership has been the fact that the three initial partners each represents a different type of institution (academic, NGO, and business), with each necessarily seeking to pursue its own organisational objectives whilst engaging in the common agenda. Discussing this issue has helped maintain a mutual respect of each other's needs. In addition, the support from the Keidanran Nature Conservation Fund, which the project helped lever in, is managed through TRAFFIC International, and has, in effect, brought TRAFFIC Int. in as an additional partner, albeit in a backseat role. The final project year currently supported by Darwin Initiative funding will involve a careful extension of existing partnerships to other institutions interested in researching, understanding and strengthening the link between the sustainable use of biodiversity and improved livelihoods. Currently candidates include: IIED-UK; the Swedish Biodiversity Center, Stockholm; Ayurveda research organizations and buyers of medicinal raw material in India; and international buyers of FAIRWILD and organic certified goods (Banyan Botanicals, USA; FIT Ingredients, Germany).

These partnerships will be established through visits of representatives of the respective organizations to the project sites, joint publications, and the development and linking of the website to promote the work accomplished through the project.

3. Project Progress

3.1 Progress in carrying out project activities

The activities reported against implementation timetable over the first four quarters of Year 2 are all on track (note: the 2-month start delay means that Y2Q4 ends 30th May 2015).

In terms of biological data: rapid surveys of amphibian and reptile diversity were completed at three target sites in Sangameshwar (Ujgaon, Vighravali and Kosumb sacred groves) and a detailed assessment completed for the Kundi sacred grove. Vegetation, carbon stock assessment and botanical surveys were also completed for a community-conserved forest spread over 538 acres at the target site village of Kalambaste. Capacity building training sessions in restoration and conservation of sacred groves were conducted for community representatives at two new sites, the villages of Sangave and Lovale, and, as part of this training, a total of ~450 saplings of 15 different species were planted as a restoration intervention over 4 acres in the sacred grove of Sangave, and ~250 saplings of 17 different species planted over 3 acres of the sacred grove of Lovale, with care and monitoring procedures also put in place.

In progressing with the research and provision of Traditional Knowledge based NRM practice, existing holdings continue to be organised and a framework for online access developed. Project field workers also have identified and conducted recorded interviews with key informants; to date, two from Sangameshwar and four from Bhimashankar. The intention is to edit and translate these and then provide the text in the archive (though this process has not been budgeted for in the context of this current DI project).

Consultations were held with marginal farmers and community leaders from the 4 villages selected for establishing the agro-forestry pilot plots and 5 locations finalized: community forests in the villages of Kalambaste and Wada Vesaravat, two locations in the village of Morde and one in the village of Vighravali. The conservation and management of these plots for the next 5 years has been agreed with the community members through signed formal agreement. Of these 5 locations, agro-forestry plantations were completed at 3 – with ~450 saplings of native timber and multi-purpose species planted in the open spaces of Kalambaste community forest, ~400 saplings of 13 species planted in the community forest of Wada Vesaravat, and 200 saplings of high yielding variety of *Pongamia pinnata* (a nitrogen fixing native bio-diesel feedstock tree species) planted on community land in Morde village. As part of this process plantation management training was delivered in the village of Kalambaste and personal training given to plot owners from Morde. Emphasis has been placed on native and fast growing high value timber species, as well as multi-purpose tree species with a view to facilitating revival of ecosystem services, such as pollination and nesting habitat provision. Detailed discussions were held with community members before finalizing the species make-up and location of the agro-forestry plots. The management challenges associated with livestock grazing, water availability and distance from the village were given due consideration and approaches developed to address them; including the appointment of community guards for the regular management of the plots and the creation of living protective hedges. Also, the plantation areas have been mapped using GIS to facilitate monitoring. In addition to the education provided through training and planning discussions, a public education programme is being developed to publicize the tangible developments within the wider community. Members of local communities, especially potential participants and graduate students, will be brought to plots and provided with an interpretative learning experience. In addition, AERF has begun talks with the ASP College for Science and Commerce, Devrukh, with the view to developing activities that involve their graduate students in researching and monitoring the project sites.

FAIRWILD protocol-based training was provided for 6 collectors of *Terminalia bellirica* fruits from the target villages in the Sangameshwar district, with 700 Kgs of *T. bellirica* fruits gathered from four target sites as part of this trial collection/training exercise. Subsequently the collection end

of the pilot supply chains was formally institutionalised at the chosen sites in Bhimashankar and Sangameshwar. Detailed discussions with community members, marginal farmers were conducted in order to address the equitable distribution of benefits, and to ensure the transparency, accountability and monitoring of the supply chain.

As part of compliance with organic certification criteria, contracts were signed between collectors and Nature Connect India Pvt Ltd (the company set up to facilitate the trade of certified goods developed through this project). This will help build a relationship of mutual trust and ensure a long-term supply of good quality fruits of the two target species – *T.bellirica* and *T.chebula*, with detailed documentation of the two species being completed as part of the organic certification, and further detail for FAIRWILD certification. All the collectors have been registered, their resource areas mapped and marked, with production yield estimates documented, and primary processing equipment tested. The location of processing facilities and nursery establishment were also agreed upon, and the necessary infrastructure in the form of buildings and picking and processing equipment put in place. In Bhimashankar this involved the community recognising the project's potential and declining the village chief's offer of land on which to build the processing facilities. They instead decided to restore a previously unused community hall and installed the *T.chebula* processing equipment in it. This equipment was formally handed over to the village in June 2014 by Dr. Bride during a project visit. Consisting of a nut-cracker and sieve (both designed by AERF and supplied by the project), this was subsequently added to with the provision of an electric mill. This mill will enable maximum value to be added at the beginning of the supply chain and the village is now also able to earn additional income by the primary processing of fruits from neighbouring villages. Nature Connect has received and completed orders for the purchase of 500kg of non-certified de-stoned *T.chebula* from Dynamic Remedies, a well-known manufacturer of medicinal plant material from Maharashtra. This is significant because it allows local community members not yet part of the certification scheme to benefit from the economic opportunities presented by the project. This 500kg is additional to the 2.5 tonnes of each species being supplied to Pukka Herbs and constitutes a significant strengthening of the supply chains through market spread.

The FAIRWILD certification standard is part of the strategy for establishing a link between sustainable livelihoods and biodiversity conservation which includes a benefit sharing mechanism. It was chosen due to the high importance it attaches to sustainable resource management, transparency in the supply chain, clear ownership of the resource being harvested, standard wage criteria, and an equitable sharing of benefits. These principles have helped indigenous community members from the Bhimashankar Wildlife Sanctuary claim ownership of and gain complete access to the resource. Prior to this project and for last thirty years following sanctuary declaration, these communities could not exploit the economic opportunities available in the local and international market for fruits of *Terminalia chebula* and had to submit to the often unfavourable pricing regime of the local tribal federation. In this manner, the Darwin project intervention has precipitated significant livelihood improvements by providing access to the resource through the certification tool. In Sangameshwar, where the target species are concentrated in sacred groves, economic benefits will be managed through the local level committee and it has been agreed that some of the revenue generated through the sale of the produce will be used for conservation of the respective sacred grove.

3.2 Progress towards project outputs

The restoration activities, such as the planting of native and rare species in the sacred groves of Sangave and Lovale, and the conservation agreement for the degraded forest area adjoining sacred grove of Vighravali have contributed to improved conservation status of these sacred groves. Following the Dhagewadi Indigenous Knowledge based NRM practice workshop in Feb. 2014, which identified key issues relating to the *T.chebula* groves in terms of sustainable harvesting and other candidate species, four additional potential supply chains are currently under study: mono-floral (ayurvedic) honey from *T.bellirica* and *T.chebula*, *Pterocarpus marsupium*, and *Hemidesmus indicus*, with two other candidate species having been identified as *Tinospora cordifolia* and *Rubia cordifolia*. These would provide additional income and conservation education opportunities, whilst building resilience into the villages' economy.

Additional community meetings have been conducted in the villages of Talawade, Kalambaste, Katavali, Umare, Devade and Wadi Adhishti in order to engage local communities in rapid resource assessments of the additional target species, sustainable collection and management of agro-forestry plots. Moreover, an effort has been made to pilot honey bee boxes to facilitate collection of honey from flowers of *T.chebula* in Bhimashankar.

Following the contracts signed in the villages of Ujgaon, Vighravali, Morde, Sangave and Kosumb collection of *T.bellirica* fruits under the FAIRWILD protocol, the order to Pukka Herbs (1000kg) is currently being processed. That of *T.chebula* has been completed in Dhagewadi, with a total of 3.8 tonnes collected from certified areas. These examples clearly demonstrate the viability of alternative sustainable livelihood options with clear and measurable conservation goals being achieved at the same time. Also a total three nurseries of native multi-purpose species having been established in the villages of Kosumb, Ujgaon and Wada Vesaravat, which will enable completion of agro-forestry pilot plantations to be established at remaining sites (total 75 acres) during the forthcoming monsoon season.

The supply chain for *T.chebula* and that for *T.bellirica* have been established to the point of processing facilities having been set up for both, orders received from Pukka, agreements signed with villagers and exporters, and the harvest and processing of both species undertaken. The order of 2.5 tonnes of *T.chebula* will be delivered to the exporter (Phalada) in May 2015 and the first batch is expected to arrive at Pukka Herbs UK in July for processing into retail product. These supply chains are being carefully monitored by AERF and Pukka so that accurate data on their livelihood impacts can be assessed.

3.3 Progress towards the project Outcome

The project purpose remains unchanged, namely: to increase the capacity of targeted local communities in the North-Western Ghats to adapt to climate change and participate in biodiversity conservation through the improved management of socio-ecological landscapes. The successful organic and FAIRWILD certification of *T.bellirica* and *T.chebula*, that followed the January 2015 assessment, is a highly significant project milestone. It is the first FAIRWILD certification in the whole of India, and constitutes a major project outcome that will facilitate supply chains of other species and offer considerable opportunities for publicity and promotion throughout the region. The project partners AERF and Pukka Herbs are confident that the FAIRWILD certified supply chains for two NTFPs will go long way in achieving or even exceeding the two important project outcomes: a) The viability and acceptability of alternative, ecologically-sound, yet commercially-viable, livelihood options are demonstrated; and, b) A complete and viable supply chain for at least one NTFP is established (two virtually completed and several others are being, or are planned to be investigated/researched).

In terms of the adequacy of indicators it has become clear to the project staff that although the baseline biodiversity assessments were useful, merely replicating them at the end of the project will be of dubious value and that therefore a range of indirect parameters, such as areas afforded better protection, enriched by the planting of key species, or more widely recognised to be of value, will be those to be measured. For example, the measure of significant progress in regards to the agroforestry interventions, will focus on the fate of the ~4000 saplings of sixteen different species currently being raised at three different locations in Sangameshwar region and the involvement of the fifteen farmers who have signed up for the agro-forestry pilot in four villages, plus the ~2000 saplings planted at three locations in community forests.

With respect to conservation status of the targeted sacred groves, detailed maps have been used to build consensus on restoration and protection activities with local communities in villages Lovale and Sangave. The plan is to build protective walls around the plantation areas in these sacred groves before the monsoon to stop livestock grazing and then monitor in the post monsoon period to assess the impact of conservation measures at these locations.

3.4 Monitoring of assumptions

The visits by DICE and Pukka Herbs staff have confirmed that the partnership collaboration remains healthy and productive, and that the key project assumption, namely that AERF

continues to enjoy good relations with the local communities at the project sites, is still being met. The hospitality and appreciation offered by these people is testament to this, but more significant are the efforts the communities have made in facilitating the supply chains in line with the rigorous requirements demanded by the certification frameworks and agro-forestry objectives. One assumption nearly compromised recently was the expectation that there would not be any 'natural disasters' that significantly undermined any of the project objectives. Recent unprecedented heavy March rains in the Sangameshwar area at the time of the *T.bellirica* harvest, although not disastrous, did impact production levels, though thankfully not large enough to prevent the orders being met. This event awoke the project participants to the need to establish storage capacity and/or alternative harvesting sites so as to be able to deal effectively with yield fluctuations. Similarly, the 2014 monsoon season was delayed by a month, which caused a significant delay in the sowing of paddy and in turn postponed community members' participation in the pilot plantation development. Moreover, the rains themselves were highly erratic, with very intense short spells of monsoon causing floods and landslides at many places in the project region and the overall monsoon period shortened by a full month, which meant that the establishment of the remaining three plantation sites was postponed until the following year. These climatic events underscore the need for this project to succeed and serve to emphasise the importance of building resilience into the portfolio of species being exploited to build sustainable supply chains and/or being restored at the target sites. The identification of candidate species for investigation has been made with this need in mind.

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

The original project goal remains unchanged: to reverse the degradation, restore and improve the value of socio-ecological landscapes in the North-Western Ghats, India, by training and educating local people to understand that preserving and sustainably harvesting natural biodiversity can directly improve their standard of living. Substantial progress has been made in reaching this goal, with ~600 large trees of *T.bellirica* and neighbouring habitats in 5 villages from Sangameshwar block having been conserved through the promotion of sustainable collection of its fruits under FAIRWILD certification. This has provided income opportunities to 6 collector families and an additional 15 families engaged in primary processing. Furthermore, in the villages of Kalambaste and Wada Vesaravat, Sangameshwar, local community members have signed agreements to stop indiscriminate cutting of trees from 538 acres of community forest for the next five years. In addition, agroforestry pilot plots have been established in the open spaces of this forest to improve its productivity and facilitate soil moisture conservation. In total the AERF team delivered 5 training sessions in restoration and sustainable management, benefitting 97 farmers from 3 villages, and trained 12 collectors from Bhimashankar and 6 from Sangameshwar in the proper sustainable collection of fruits of the target species. Furthermore, 2 marginal farmers each from Sangameshwar and Bhimashankar received training in the maintenance and operation of processing equipment and record keeping.

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

Through the promotion and establishment of agro-forestry schemes on degraded lands in the Western Ghats hotspot, the project is contributing to Aichi target 5 - reducing rates of habitat loss, fragmentation and degradation. AERF has now signed agreements for restoration and long term conservation of 538 acres of community forests with the aim to restore 75 acres.

In providing a premium price to the local communities for the sustainable collection of fruits of *T.chebula* and *T.bellirica*, the project is contributing to fulfilment of Aichi target 3 - providing positive incentives to local communities for biodiversity conservation. The successful FAIRWILD certification and supply chain creation for these two species is the very first of its kind throughout India, and is an incentive for conservation through sustainable utilization of these and many other species.

The promotion of sacred groves as flagships for biodiversity conservation and climate change adaptation is one of the key objectives of this project. Project activities aimed at achieving this objective are contributing to the Aichi Target 14 - safeguarding ecosystem services. AERF has collected data on pollinator diversity from six sacred groves and has held community meetings

with the six participating villages of Sangameshwar, highlighting the role of pollinators in sustainable agriculture. Moreover, restoration of open spaces through plantation of rare and endemic tree species within sacred groves of two villages – Lovale and Sangve have been taken up. Importantly, since last one year AERF team has initiated conservation of CITES listed and an endangered tree species – *Pterocarpus santalinus* through propagation and plantation of saplings taken from a giant specimen that the project team saved from being felled in the Chaphavali sacred grove in Sangameshwar in Sept 2013.

To date the project has not had specific interactions with host country CBD focal points, but following the successful FAIRWILD certification, will be doing so at the earliest opportunity.

5. Project support to poverty alleviation

The project intended to make significant impact with respect to improvement in economic conditions of target communities through value chain development and FAIRWILD certification, and the project achieved this by value addition through primary processing and using the FAIRWILD premium pricing mechanism. The amount received per kilo by the villagers for harvested *T.chebula* from certified areas at Dhagewadi increased from 3 to 12INR/kg for the product scheduled to be exported to the UK, with 25 families from this village benefitting from this premium price and selling a total of 4356kg to the processing centre. This is a highly significant contribution to incomes because some 60% of their annual income comes from *T.chebula* collection. Similarly, in Sangameshwar communities can now get as much as 10INR/kg for fruits collected from certified areas compared to nothing previously, with ~2600kgs of fruit so far having been sold to the processing centre in Sangameshwar.

An additional amount of 10% of the total turnover value of exported material will be invested back by the importer Pukka Herbs into relevant community projects via the agreed benefit sharing mechanism and *Nature Connect*. AERF has also linked up with local Ayurveda drug manufacturer *Dynamic Remedies Pvt. Ltd.* to sell medicinal plants from non-certified areas, and this company purchased 500 KGS of destined fruits of *T.chebula* from Dhagewadi this year.

6. Project support to Gender equity issues

Gender equality has been addressed in an effective manner in the project. Women have been engaged at the processing centres, especially in quality control operations. So far 35 women earned significant income from this engagement in the last *T.chebula* harvest season in Bhimashankar, and another 25 women will be involved in quality control and sorting of fruit and stones at Sangameshwar. An exploratory research project on the potential for the production of mono-floral (*T.chebula*) honey production is currently being undertaken (April-June 2015) by a female Ethnobotany student from the School of Anthropology and Conservation at the University of Kent, supervised by Dr. Bride. If the findings are positive and leads to honey production, a key objective will be to employ local women in processing and record keeping.

7. Monitoring and evaluation

Project monitoring and evaluation has taken place through the records of activities overseen by AERF and witnessed by partner representatives in the context of five project visits spread over the year. Each AERF staff member working for the project submits monthly work reports, which are reviewed by AERF technical officer and DICE project staff. During each project visit DICE staff verify these report findings through consultations with local communities and field visits - sacred groves, community forests, nurseries and agro-forestry plots. Similarly, Pukka Herbs appointed Mr. Ben Heron as International Supply Manager. He has provided training to the collectors, prepared field visit reports which include monitoring of collection sites, synopses of discussions with communities and the progress made on the field with respect to development of supply chains. All these have been further tested through the audits conducted as part of organic and FAIRWILD certification processes, where reporting on social, ecological and economic parameters of the supply chains is mandatory. AERF has successfully passed three such inspections.

In terms of the monitoring and evaluation targeted at project development, Dr Bride has recently completed a 3 day intensive workshop in Participatory Action Research – Planning and Evaluation, which he managed to have funded by his University under its staff development budget, and will be employing some of the techniques and instruments learnt in the monitoring and evaluation visits being prepared for Y3Q2 (September 2015) and Y3Q3 (January 2016).

8. Lessons learnt

The project partnership worked well; as did progress towards the designated project outcomes and the new initiatives we are developing from them. The most significant problem encountered in Y2 was meeting the costs of the FAIRWILD certification, which had not been adequately built into the original budget request and, even when resources were found proved to be significantly more than anticipated (e.g. the organic certification had to be repeated due to organisational changes to the FAIRWILD assessment process). Thankfully the DI budget carry-forward, together with the substantial additional contribution provided by the KNCF funding, enabled the shortfall to be met and a cost-crisis thereby averted. Some of these difficulties could not have been anticipated. However, a more detailed initial estimation of certification costs would have been helpful, and we would recommend others take care and learn from our oversight in this matter.

The other key lessons concern the development of robust supply chains, notably through improving harvesting efficiency and establishing storage facilities to cope with weather and market fluctuations. However, despite such difficulties, the partners have appreciated the importance of the certification process as a driver for involving members of the local community and adding value to the project outputs (the supply chains) and to the overall project profile. We are not unaware of the range of issues associated with certification, such as benefitting one community over others, but we recognise that it has been highly significant in giving momentum to this project in reaching its targets, and will smooth the way for the approval of any new candidate species supply chains.

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

The Y1 Annual Report Review identified three questions/concerns:

To what extent does the project's success depend on demand for products from the international market? – This demand is clearly very important to the project, and the international demand looks to be growing quickly. However, the development of the agreement with a major in-country trader in ayurvedic herbs means it is not crucial to the long-term success of the two established supply chains.

Please report against June 2014 Project Review – it is not clear who is taking responsibility for M&E – Monitoring and evaluation is being shared by the project partners and exercised according to interest. Thus in relation to the supply chains it is led by Pukka in terms of overseeing the certification application paperwork process and the UK side of the supply chains, and designing the collector training workshops, and led by AERF in the context of recording the development and monitoring of the supply chains in India, and delivering and evaluating the training workshops. DICE staff act as overarching reviewers monitoring the project activities and outputs against the logframe and ground-truthing these in the context of regular project visits, and one has undertaken relevant training in this area.

What progress to launch the project's website? – The website was launched on in YR2/Q2 2014. <http://aerfindia.org/darwin-initiative-project.html>

10. Other comments on progress not covered elsewhere

Over the past year the project potential has been considerably enhanced through the identification of other potential species supply chains, which are now undergoing preliminary investigation as to their viability - *Pterocarpus marsupium* (high valued IUCN Redlist species), *Tinospora cordifolia*, *Hemidesmus indicus*, and *Rubia cordifolia*. Clearly, additional funding would be needed to research, develop and realise these supply chains.

In 2014 AERF was approached by the established British artists Ackroyd and Harvey <http://www.ackroydandharvey.com/category/works/> who were interested exploring the conservation story associated with *Terminalia bellirica* – through a short film and installation. Entitled: *Conflicted Seeds*, it will be featured in the new Cambridge Conservation Initiative building being inaugurated later in 2015 <http://www.conservation.cam.ac.uk/> As part of this project *T.bellirica* seeds were delivered to the Cambridge Botanical Gardens in March 2015, and these have already germinated.

An oral presentation on the Darwin project was delivered by AERF Joint Director (Jayant Sarnaik) at the Global Conference of the Satoyama Initiative in South Korea in October 2014.

An oral presentation on the Darwin project was delivered by AERF Joint Director (Jayant Sarnaik) at the World Parks Congress in November 2014.

A poster presentation *Sacred Groves and Bird Diversity* was given by team member (Bhavendu Joshi) at the Students Conference on Conservation Science, Cambridge, in March 2015.

11. Sustainability and legacy

The planned exit strategy remains valid. AERF will continue to support the communities that the project has been working with, both via the business maintenance and development role provided by *Nature Connect India Pvt. Ltd.*, and through supporting and monitoring the conservation agreements, pilot plots and other agroforestry interventions.

The outcomes of the project so far have impressed local communities because they feel more empowered and have witnessed economic benefits coming to them through sustainable management of resources and innovative value-adding strategies. The success of the indigenous communities from Bhimashankar Wildlife Sanctuary in claiming ownership of their *T.chebula* trees (1700 so far), which in turn provided them access to domestic markets, is something that will likely sustain the project beyond its tenure, particularly as domestic manufacturers of ayurvedic drugs have visited the project and taken serious interest in purchasing certified raw material. There has also been considerable interest shown in the saplings of native and endemic species, and it is hoped that the nurseries set up through DI's support will become viable small enterprises in coming years. If it can successfully establish a significant and robust portfolio of species supply chains AERF would then seek to set up a centre for conservation and green entrepreneurship, where the focus will be on building the capacity of local communities alongside the interests of conservationists through developing on the ground conservation strategies as part of biodiversity based enterprises.

12. Darwin Identity

The Darwin identity has marked all aspects of project activities and promotion. The DI logo has been used on the website, on 300 project T-shirts and 1000 copies of promotional literature (in English and Marathi), and is prominently displayed on the buildings containing the processing machinery and storage facilities in Bhimashankar and Sangameshwar. The role of the DI has been clearly stated in publications, publicity and presentations to date, notably two articles in the TRAFFIC International journal, recent press releases concerning the successful FAIRWILD certification, and presentations by Jayant Sarnaik at two international conferences - *The Global Conference of the Satoyama Initiative*, in Incheon, South Korea and the *World Parks Congress* in Sydney. The DI core support has been recognised as the key project generator despite additional funding bodies also being recognised. Without the Darwin Initiative contribution this project would not have developed and it would have been unlikely that these additional funds would have been levered in. This aspect has been made clear amongst the villagers at the target sites, but it is true that more effort needs to be made to publicise the project in India. The recent achievement of FAIRWILD certification will significantly facilitate this process. So one focus of the Year 3 activities will be the promotion of the project idea and outcomes with a view to scaling it up; with Darwin identity comprising a major component in this process.

13. Project Expenditure

Table 1 Project expenditure during the reporting period (1 April 2014 – 31 March 2015)

Project spend (indicative) since last annual report	2014/15 Grant (£)	2014/15 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL				

14. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum).

I agree for the Darwin Secretariat to publish the content of this section

DI-assisted supply chain programme achieves first FAIRWILD certification for India

Darwin Initiative funding has led to a commercial supply chain involving two local communities in North Western Ghats becoming India's very first recipients of a FAIRWILD certificate. FAIRWILD certification ensures buyers know they are dealing legally and sustainably sourced products and adds value and benefits felt by all involved. Two fruit species are being collected: *Terminalia chebula* by Mahadev Koli tribal people living in the Bhimashankar Wildlife Sanctuary and, 400km further south, *Terminalia bellirica* by marginal farmers in Sangameshwar. These are two of the three ingredients of 'Triphala', amongst the most important ayurvedic (traditional Indian medicine) preparations. Prior to the project both communities lacked sustainable harvesting skills and market access. Working with a local Indian NGO (AERF – the Applied Environmental Research Foundation), Pukka Herbs Ltd. and TRAFFIC International, DICE has helped substantially increase the value of these crops and, by significantly boosting income at the front of the supply chain, and has directly incentivised villagers to protect the associated biodiversity. A company, Nature Connect, has been formed to co-ordinate trade and business relations, promote the products, develop business plans and ensure a long term project legacy.

This FAIRWILD certification success story provides a landmark example of how such a market tool can act as a key facilitating mechanism in a project designed to precipitate positive conservation outcomes through the improvement of livelihoods. The partners are now extending the work into researching the sustainable trade in other medicinal plant species, including *Pterocarpus marsupium*, used to treat a range of ailments including Type 2 diabetes, high cholesterol, rheumatoid arthritis, and skin conditions. The approach employed, utilising the FAIRWILD certification process to build collaboration between stakeholders in order to create complete and robust supply chains, offers considerable promise for the conservation of several tree species, their habitats, and the associated biological diversity, including the Great Pied Hornbill and Malabar Pied Hornbill, important seeds dispersers for many forest plants.

FAIRWILD Standard helps Pukka Herbs achieve 2014 Sustainability Champion Award

The Darwin Initiative project was instrumental in helping Pukka Herbs win the 2014 2Degrees Sustainability Champion Award in the Sustainable Supply Chain category – see:

<http://www.traffic.org/home/2014/7/10/FAIRWILD-standard-helps-pukka-herbs-achieve-2014-sustainable.html>

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2014-2015

Project summary	Measurable Indicators	Progress and Achievements April 2014 - March 2015	Actions required/planned for next period
<p>Goal/Impact</p> <p>To reverse the degradation, restore and improve the value of socio-ecological landscapes in the North-Western Ghats, India, by training and educating local people to understand that preserving and sustainably harvesting natural biodiversity can directly improve their standard of living.</p>		<p>The sustainable exploitation and conservation of significant populations of two wild species with positive impacts on livelihoods and wider biodiversity: enhanced through organic and FAIRWILD certification.</p>	
<p>Purpose/Outcome To increase the capacity of targeted local communities in the North-Western Ghats to adapt to climate change and participate in biodiversity conservation through the improved management of socio-ecological landscapes and the adoption of alternative, ecologically-sound livelihoods based on agroforestry principles and practice coupled with an effective access and benefit sharing mechanism that improves the situation of poor people. To these ends the project will conduct a NTFP feasibility study focussed on Sacred Groves, set up and run a supply chain for two products at two study sites, and seek to establish economically viable nurseries and experimental plots.</p>	<p>Ecological surveys and biodiversity assessment at target sites show increased biodiversity health of sacred groves and community forests within socio-ecological landscapes</p> <p>Significant increase in income for the NTFP collectors and other primary stakeholder participants</p> <p>Increased knowledge and understanding of traditional adaptive agricultural practices amongst project partners and stakeholders, and increased local stakeholder knowledge and practice of ABS, GACP and basic commercial principles.</p>	<p>Additional biodiversity surveys carried out as deemed necessary, and key species (hornbill) nesting sites protected as part of sustainable fruit collection.</p> <p>Agro-forestry pilot plots successfully established.</p> <p>Farmer families have benefitted from significant rise in income from sale of certified <i>T.chebula</i> fruits to Nature Connect. Marginal farmer families (35 women) earned 60 days wages working at the processing centres.</p> <p>Marginal farmers participated in training and capacity-building sessions on native species based agro-forestry. Interviews conducted with knowledge holders.</p> <p>FAIRWILD standard protocol necessitated full transparency in transaction, resource ownership and equitable sharing of benefits.</p>	<p>Further develop the agroforestry pilot scheme design and implementation, replicating and scaling it up using materials sourced from the nurseries set up under this Darwin Initiative project.</p> <p>To operate and monitor the species value chains to assess and increase their economic and other benefits to the community and to conservation</p> <p>To evaluate other candidate species for sustainable exploitation under FAIRWILD certification and seek funding in order to bring those deemed viable online.</p>

<p>Output 1. The conservation status of sacred groves is improved.</p>	<p>Existence of co-management plans for community forests</p> <p>Increase in number/area of forests conserved by the community</p> <p>Restoration activities in target forests/groves</p> <p>Improved community & stakeholder attitudes to sacred groves.</p>	<p>5-year conservation agreement signed for sustainable and participatory management of 538 acres of community forest in 2 villages (Kalambaste, Wada Vesaravat). Similarly, a 10 year contract signed upon for participatory management of agro-forestry plots in Morde and Vighravali villages.</p> <p>Total 600 acres of community forest will be conserved through community participation for 5-10 years and will serve as the first sentinel agro-forestry site in the North Western Ghats.</p> <p>700 saplings of 17 native and rare species planted as part of restoration in sacred groves of Lovale and Sangave. 850 saplings of 13 species in Kalambste, Wada Vesaravat and Morde villages.</p> <p>Four capacity building sessions in restoration helped communities from 8 villages to understand the role of sacred groves in biodiversity conservation and sustainable livelihoods.</p>
<p>Activity 1.1. Baseline monitoring of target site biodiversity – and subsequent measurement</p>		<p>Reptile and amphibian surveys have been completed for 5 sacred groves. Avian surveys carried out in 19 sacred groves including target sites show healthy presence of 6 endemic bird species and 2 threatened hornbill species. Protection of five hornbill nesting sites ensured through sustainable fruit collection in FAIRWILD certified sacred groves with healthy <i>T.bellirica</i> pops.</p>
<p>Activity 1.2. Baseline surveys of community-conserved forests</p>		<p>A detailed bird survey of community conserved forest of Kalambaste village has been completed covering all the three seasons.</p>
<p>Activity 1.3. Education and training in forest/grove restoration</p>		<p>Two training sessions in restoration held in Sangave and Lovale villages. Total number of participants = 87.</p>
<p>Activity 1.4. Design and implementation of pre and post project community and stakeholder attitudinal survey</p>		<p>Post project surveys to be conducted in Y3Q3</p>
<p>Output 2. A platform for gathering and sharing Indigenous Knowledge based NRM practices is created.</p>	<p>Locally facilitated knowledge-sharing workshops for indigenous communities.</p> <p>Information archive of Traditional Knowledge based NRM practices.</p> <p>Community acceptability in developing an ABS mechanism</p>	<p>Knowledge sharing process built into the FAIRWILD certification and protocol training (96 participants in Bhimashankar; 28 in Sangameshwar)</p> <p>TK-NRM archive under continued development.</p> <p>Each village has set up a committee to decide upon and monitor the ABS mechanism (2 in Bhimanshanka; 6 in Sangameshwar)</p>
<p>Activity 2.1. Organise and deliver knowledge-sharing workshops</p>		<p>Four capacity building sessions in restoration helped communities from 8 villages to understand the role of sacred groves in biodiversity conservation and sustainable livelihoods</p>
<p>Activity 2.2. Research, record and create TK base NRM practice archive</p>		<p>Six video interview sessions completed with 4 knowledge holders at three locations to document traditional knowledge based NRM – to be translated and</p>

		edited subject to funding being obtained for this purpose. TK-NRM archive under continued development.
Activity 2.2. Make this archive available through various media - subject to IP considerations and agreement with indigenous people		TK-NRM archive under continued development.
Activity 2.3. Work with target communities to develop acceptable ABS mechanism		During preparation for FAIRWILD inspections, local level committees have been formed in all 8 villages for equitable benefit sharing of the revenues generated from the supply of the certified goods..
Activity 2.4. Establish community organisation to manage ABS and process infrastructure		An organisation for this purpose (<i>Nature Connect</i>) has been formally constituted for this purpose.
Output 3. The viability and acceptability of alternative, ecologically-sound, yet commercially-viable, livelihood options are demonstrated.	Existence and performance of pilot plots No. of endemic species planted & and no. of saplings established Number of farmers signed up to pilot a/f scheme Raised awareness and interest amongst stakeholders Collection of non-timber produce based on protocols and standards	3 agroforestry pilot plots established (Kalambaste, Wada Vesaravat) Total of 1550 saplings planted at 4 different locations. Saplings include native multipurpose trees of 17 different species. 96 from Kalambaste; 14 Wada Vesaravat; 2 Morde Community surveys and village meetings in 10 villages in Sangameshwar region and three villages in Bhimashankar region along with capacity building sessions have raised awareness and interest among the stakeholders. 3.6 tonnes <i>T.chebula</i> fruits collected in Bhimashankar and 2.6 tonnes <i>T.bellirica</i> fruits collected in Sangameshwar, both under the FAIRWILD standard.
Activity 3.1. Work with members of target communities to establish pilot plots		3 agroforestry pilot plots established (Kalambaste, Wada Vesaravat) Total of 1550 saplings planted at 4 different locations. Saplings include native multipurpose trees of 17 different species
Activity 3.2. Train members of target communities to care for pilot plot species		96 from Kalambaste; 14 Wada Vesaravat; 2 Morde
Activity 3.3. Work closely with farmers to design pilot agroforestry scheme		Additional candidate species now under investigation, in discussion with discussion with local communities.
Activity 3.4. Conduct educational programmes amongst stakeholder groups		Informal and formal educational activities have taken place in the context of site visits and village meetings. Specific materials and activities are being designed for implementation in Year 3.
Activity 3.5. Collaborate with stakeholder groups to produce NTFP protocols		FAIRWILD is being followed for sustainable collection of target species and the same will be adapted for other species if deemed viable e.g. <i>Pterocarpus marsupium</i> , <i>Tinospora cordifolia</i> and <i>Rubia cordifolia</i> .
Output 4. A complete and viable supply chain for at least one NTFP	A supply chain for one NTFP Existence of collection/drying facilities	Supply chains for <i>T.chebula</i> and <i>T.bellirica</i> have been established. Processing facilities and equipment operating at both project field sites.

is established	Evidence of the successful performance of this supply chain FAIRWILD certification awarded	Supply chain performance data will be gathered during Y3. FAIRWILD certification awarded for <i>T.chebula</i> and <i>T.bellirica</i>
Activity 4.1. Work closely with Pukka Herbs and target communities to design, create and monitor the pilot supply chains		Existence of complete certified supply chains developed in collaboration with local communities with product currently passing along the chain and being monitored by AERF and Pukka.
Activity 4.2. Researching and maintaining a detailed record of the complete length of the pilot supply chain		Data gathered for the Indian side. First deliveries of product to Pukka UK due July 2015
Output 5. An enabling environment for scaling-up the project activities is catalysed	Training facilities and personnel in place. Demand for training from people outside the project area. Attendance at dissemination workshops.	Being developed Y3.
Activity 5.1. Identifying, bringing together and organising training teams and events		Being developed Y3.
Activity 5.2. Surveying potential training markets and gathering demand data		Being developed Y3.
Activity 5.3. Designing, organising and delivering project dissemination workshops		Being developed Y3.

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p>Sub-Goal: To reverse the degradation of sacred groves and restore and improve the biodiversity value of community forests in the North-Western Ghats, India.</p>			
<p>Purpose</p> <p>To increase the capacity of local communities to adapt to climate change and contribute to biodiversity conservation through improved management of sacred groves and the adoption of alternative, ecologically sound land-use practices.</p>	<ul style="list-style-type: none"> • Ecological surveys and biodiversity assessment at target sites show increased biodiversity health of sacred groves and community forests within socio-ecological landscapes • New participatory agro-forestry pilot schemes, with collection and marketing of non-timber forest produce by the local community following the FAIRWILD scheme and standards, and a functioning complete product chain for the two pilot species • Significant increase in income for the NTFP collectors and other primary stakeholder participants • Increased knowledge and understanding of traditional adaptive agricultural practices amongst project partners and stakeholders, and increased local stakeholder knowledge and practice of ABS, GACP and basic commercial principles 	<ul style="list-style-type: none"> • Survey data and reports. • Records of the agro-forestry model; business plans and detailed records of collection and sales along complete pilot supply chain; FAIRWILD certification granted; attendance at and successful completion of agroforestry, GACP and basic commercial principles training workshops • Data on participants' incomes • Attitudinal survey data and communication/educational materials 	<ul style="list-style-type: none"> • AERF will maintain good relations with the local communities and a minimum number of farmers sign up to the pilot schemes • No major legislative or policy changes in the region and no change in resource tenure • AERF maintains its good relationships with community leaders who will act as workshop facilitators • The good working relationship established between AERF, DICE and Pukka Herbs will be maintained • There are no unforeseen natural disasters or major economic or political changes

Outputs			Activities
1. The conservation status of sacred groves is improved.	<ul style="list-style-type: none"> • Existence of co-management plans for community forests • Increase in number/area of forests conserved by the community • Restoration activities in target forests/groves • Improved community & stakeholder attitudes to sacred groves. 	<ul style="list-style-type: none"> • Documentary evidence • Surveys (pre and post project), community reports, documentary evidence • Detailed records of restoration activities • Baseline pre and post-project surveys, number of stakeholder groups engaged, no. meetings held. 	<ul style="list-style-type: none"> • Baseline monitoring of target site biodiversity – and subsequent measurement • Baseline surveys of community-conserved forests • Education and training in forest/grove restoration • Design and implementation of pre and post project community and stakeholder attitudinal survey
2. A platform for gathering and sharing Indigenous Knowledge based NRM practices is created.	<ul style="list-style-type: none"> • Locally facilitated knowledge-sharing workshops for indigenous communities. • Information archive of Traditional Knowledge based NRM practices. • Community acceptability in developing an ABS mechanism 	<ul style="list-style-type: none"> • Workshop reports. • Seed banks of local crop varieties • Existence of archive and dissemination mechanisms. 	<ul style="list-style-type: none"> • Organise and deliver knowledge-sharing workshops • Research, record and create TK base NRM practice archive • Make this archive available through various media - subject to IP considerations and agreement with indigenous people • Work with target communities to develop acceptable ABS mechanism • Establish community organisation to manage ABS and process infrastructure
3. The viability and acceptability of alternative, ecologically-sound, yet commercially-viable, livelihood options are demonstrated.	<ul style="list-style-type: none"> • Existence and performance of pilot plots • No. of endemic species planted & and no. of saplings established • Number of farmers signed up to pilot a/f scheme • Raised awareness and interest amongst stakeholders • Collection of non-timber produce based on protocols and standards 	<ul style="list-style-type: none"> • Detailed records of pilot plots, including pre and post surveys, on-farm biodiversity inventory, annual data on growth, yield, sales etc. • Nursery logbooks and monitoring records • Register and feedback forms • Record of visits to demonstration sites • Record of the demand for and use of documentation and materials 	<ul style="list-style-type: none"> • Work with members of target communities to establish pilot plots • Train members of target communities to care for pilot plot species • Work closely with farmers to design pilot agroforestry scheme • Conduct educational programmes amongst stakeholder groups • Collaborate with stakeholder groups to produce NTFP protocols

<p>4. A complete and viable supply chain for at least one NTFP is established</p>	<ul style="list-style-type: none"> • A supply chain for one NTFP • Existence of collection/drying facilities • Evidence of the successful performance of this supply chain • FAIRWILD certification awarded 	<ul style="list-style-type: none"> • FAIRWILD Certification documentation 	<ul style="list-style-type: none"> • Work closely with Pukka Herbs and target communities to design, create and monitor the pilot supply chains • Work closely with Pukka Herbs and target communities to design, build and organise the management of the collection/drying facilities • Researching and maintaining a detailed record of the complete length of the pilot supply chain
<p>5. An enabling environment for scaling-up the project activities is catalysed</p>	<ul style="list-style-type: none"> • Training facilities and personnel in place. • Demand for training from people outside of the project area. • Attendance at project dissemination workshops. 	<ul style="list-style-type: none"> • Existence of training programme and infrastructure. • Certificates of training issued., attendance and participant f/back • Accounts and records of MFI institutions. • Survey of communities out of proj. area + expressions of interest. • Records of dissemination w/shops 	<ul style="list-style-type: none"> • Identifying, bringing together and organising training teams and events • Surveying potential training markets and gathering demand data • Designing, organising and delivering project dissemination workshops

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
Est. codes								
6A	Total number of villagers receiving collector training	6	9				Per need	per need
6B	Half-day collector training sessions conducted in five villages	5	3				2	per need
7	Best practice collection manual for training workshops	0	1				0	1
8	Number of weeks to be spent by UK project staff on project work in the host country	4	7				4	12
11A	Papers to be produced as major milestones are reached and evaluated	0	0				0	3
11B	As 11A - plus one final	0						4
12B	NRM Practice Archive to be created at AERF	0	0				0	1
14B	Number of conferences/ seminars/ workshops attended at which Darwin project work findings presented/ disseminated.	0	3				2	2
15	Local and national press releases in UK and India will be made as significant milestones are reached e.g. FAIRWILD certification granted in Year 2.	0	1				1	2
18	TV coverage will depend on media uptake from press coverage of major milestones (see 15) – though it will also be solicited in UK and India	0	0				0	Up to 3
19	Radio coverage will depend on media uptake from press coverage of major milestones (see 15) – though it will also be solicited in UK and India.	0	0				0	Up to 3
New -Project specific measures								
	Number of plant nurseries to be established	2	2				2	6
	Number of processing facilities to be set up	0	2				2	2
	Number of species supply chains created	0	2				2	2
	Number of organic certifications to be obtained	1	1				0	2
	Number of FAIRWILD certifications to be obtained	0	2				2	2
	Number of agroforestry pilot plots/interventions to take place	0	5				3	5

Table 2 Publications

Title	Type (e.g. journals manual, CDs)	Detail (authors , year)	Gender Lead Author	Nat. of Lead Author	Publishers (name, city)	Available from (e.g. website link or publisher)
First FAIRWILD certification for all of India	<i>Newsletter</i>	Bride, I. Sarnaik, J.	Male	UK/India	Darwin Initiative	http://www.darwininitiative.org.uk/publications/newsletter
Empowering Communities Promoting Fair Trade and Ensuring Conservation : FAIRWILD certification in India.	<i>Traffic Bulletin</i>	Bride, I. Sarnaik, J. and Heron, B. Vol. 27 (1) 2015	Male	UK	TRAFFIC Int.	http://www.traffic.org/bulletin