Darwin Initiative
Final Report

*To be completed with reference to the Reporting Guidance Notes for Project Leaders (http://darwin.defra.gov.uk/resources/) it is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)*

Darwin project information

Project reference	21-014
Project title	Reconnecting poverty-alleviation to biodiversity conservation in Kenya's Eastern Arc Mountains
Host country(ies)	Kenya
Contract holder institution	Durrell Institute of Conservation and Ecology (DICE), School of Anthropology and Conservation, University of Kent
Partner institution(s)	Kenya Forest Service, Government of Kenya; Taita Taveta Wildlife Forum (TTWF); Nature Kenya. Zoological Society of London (ZSL); International Institute for Environment and Development.
Darwin grant value	£352,913
Start/end dates of project	1st July 2014 – 30th June 2017
Project leader's name	Prof Jim Groombridge
Project website/blog/Twitter	https://www.kent.ac.uk/sac/research/projects/jg Kenya http://www.ttwforum.org/
Report author(s) and date	

1 Project Rationale

The Taita Hills (lat 3°25´; long 38°20´) are situated in Taita-Taveta County in South-Eastern Kenya Fig. 1). They form the northernmost part of the eastern arc mountains.

From the level of 600-900 m a.s.l., the Taita Hills rise to a maximum elevation of 2208 m a.s.l. (Wuria peak). The mean annual rainfall ranges from 500 mm in the lowlands to over 1500 mm in the upper mountain zone. There are two rainy seasons in the area: March-May/June and October-December. The variability of precipitation from year to year is high, especially in lower altitudes. The Taita hills is comprises a range of hills: *Dawida massif* (main hill), Mbololo hill, Sagalla hill and Kasigau hill, among other small ones. The hilltops are covered by remnants of indigenous forests and planted exotic forests.

Figure 1. Location of Taita hills in Kenya.

In poverty-stricken areas, enhancing local livelihoods whilst conserving biodiversity and ecosystem services is a major challenge. Most poverty-alleviation projects fail due to poor outcomes in *local* conservation initiatives. This results in no long-term livelihood benefits.

- What biodiversity challenge was the project designed address?

Habitat re-connectivity and soil restoration could improve livelihoods while also benefiting three Critically-Endangered Taita endemics (Taita thrush/apalis/Sagalla caecilian), and at least three other threatened forest-specialists.

- What poverty challenge was the project designed to address?

Poor harvests make subsistence-farming alone unfeasible. Rectifying this situation requires a raft of livelihood initiatives to increase volume, stability and accessibility of alternative incomes

- Why are these challenges relevant and for whom? How did you identify these problems?

The Taita Hills (Biodiversity Hotspot, Birdlife IBA) contain many endemic, threatened species, but suffer high unemployment (>66% below the poverty-line). Loss of indigenous forest has degraded environments for both farming and biodiversity and compromised ecosystem services. This threatens the role of the region as a crucial water-catchment for lowland areas (including Tsavo National Parks).

- What was the project designed to do to address these challenges?

Tying livelihood gains to biodiversity gains by building capacity and strengthening TTWF's focus on livelihood diversification and sustainable environmental management. This will improve food and water security. *Six sustainable livelihood initiatives* (thoroughly ground-tested by TTWF) will increase income and income stability for both men and women, and for a range of ages and physical abilities.

2 Project Partnerships

The partnerships were based on demand from the host country (from TTWF). The partnerships grew even stronger as the various staff got to know each other during visits and in training courses. Project planning and decision making involved all partners through regular skype meetings and email communication circulated to all partners. The same applied to progress reports whose drafts were shared for comments before submission.

Institution	**Role**
Durrell Institute of Conservation & Ecology (DICE) School of Anthropology and Conservation (SAC)	Team coordination. DICE played a central role in the research/ training and capacity-building, by: (i) hosting a Kenyan project team member on DICE's interdisciplinary Conservation Science and Management MSc; (ii) taking a lead advisory role on species-level conservation activities and capacity building/wider network management; (iii) coordinating regular skype meetings of the PSC, and (iv) ensuring timely reporting and feedback.
Taita Taveta Wildlife Forum (TTWF)	TTWF has played the central role of delivery of actions on the ground. This includes community mobilisation, training, training and support of livelihood activities, establishment of community tree nurseries and raising of tree seedlings, tree planting and linking farmers to carbon credits trading scheme of TIST (The International Small Group Tree Planting Program https://www.tist.org/). Development of participatory/integrated natural resource management – in particular participatory forest management and water resource use management. Coordination of grants for MSc research in Taita Hills.
Kenya Forest Service (KFS)	KFS has provided advisory services on tree planting, development of participatory forest management plans and their approval. Linking with other government agencies such as WRMA (Water Resources Management Authority), Ministry of Livestock and Fisheries Development, and the County Government of Taita Taveta, among others.
Zoological Society of London (ZSL)	ZSL has provided capacity enhancement through training of TTWF staff through the EDGE Fellowship Programme. Further, it assisted on undertaking the Sagalla caecilian survey by providing a MSc student, sourcing of equipment for Sagalla caecilian survey, and technical support through visits and email discussion with the ZSL Country manager.
Nature Kenya (NK)	NK provided an Officer that has worked closely with the TTWF officer in *Dawida Massif* (Wundanyi). It has been instrumental in facilitating the development of the Species Action Plans (SAPs) for the Taita thrush/Apalis and Sagalla Caecilian. It has also spearheaded the preparation of a marketing strategy for products (such as handicrafts, honey, butterfly pupa) from the farmers. Also publicity for the project through promotional materials such as calendars, brochures and articles in newsletters.
International Institute for Environment and Development (IIED)	IIED has provided inputs in the design of questionnaires and collection of socio-economic information. Also provided advice and supervision to the Kenyan MSc student in the dissertation.

Each partner contributed on their activities and the consolidated the draft report was reviewed by all the partners (PSC members) before submission.

Close collaboration and regular discussions are crucial in keeping activities on track. One of the greatest challenges is the erratic way rainfall seasons have become. This has affected tree planting to some extent but the team has learnt to be prepared to always take advantage of any showers that may be received although this has meant increased cost of raising seedlings since they have to be maintained in the nursery longer than anticipated. The erratic rainfall also affected activities such as the Sagalla caecilian survey that has had to be delayed. The reluctance by farmers to plant indigenous trees on their farms was overcome through raising awareness of their role and importance in biodiversity conservation and livelihood generation, and also in introducing incentives where each farmer was given avocado seedlings with a high market value in exchange for registration into the carbon credits trading scheme. There were staff challenges where one of the most experienced staff resigned. He later reapplied for his job and was accepted on strict performance-related conditions and counselling. In order to keep the enthusiasm of the other staff, regular discussion meetings were held in addition to a staff retreat where general discussions were held on activity implementation, working environment and also workplan development. In these meetings, comments from reviewers were shared which helped targets and milestones to be met. The fall in the value of the pound meant less funds were available to undertake the activities. Equally, increases in prices of items, such as the cost of seedlings rising from Kes 12.50 to Kes 25 (Kes 20 after negotiation) severely impacted the number of tree seedlings that could be obtained. In order to minimise the impact, TTWF also raised indigenous tree seedlings in its own nurseries to augment those raised by the community-owned tree nurseries. One of the main challenges arose from the structure of the MSc programmes in Kenya. The analysis and write-up of the thesis takes time. Only one of the students awarded grants for research has been able to produce a draft while the other two are taking longer than expected. This situation was further compounded by the strike by university lecturers that hindered the progress of the students.

- Are partners likely to keep in touch?

Yes. A close link has been forged among the partners through the MSc training where the KFS/TTWF key person is now an alumnus of DICE. TTWF and NK are now working more closely than before in efforts to extend the activities to other forests within *Dawida massif* (particularly, Vuria). It is anticipated that the implementation of the SAPs will foster continued close collaboration between KFS, NK, TTWF and KWS.

3 Project Achievements

3.1 Outputs

Output 1

1.1 & 1.2: Training of farmers and cascade training and establishment of support network and training in sustainable livelihoods: Training of farmers through workshops and technical support visits were undertaken throughout the project. Training was undertaken by POs, government officers (e.g. Fisheries Officer). In addition, farmer-to-farmer training took place too, e.g. Tekida Bee-keepers group trained the Iyale Angamiza Jangwa Group on bee-keeping (Annex 1). In addition, Iyale Angamiza was trained on grafting of Avocado seedlings (Annex. 2).The Project Technical Advisor met the President of TIST - The International Small Group and Tree Planting Programme and held discussions on how TIST could expand its activities to the Taita Taveta County to assist with Carbon Credits activity. Consequently farmers and staff have travelled to Meru twice for training at the Gitoro Conference Centre (22-27th October 2015 & 17th to 22nd January 2016) (Annex 3). Staff of TIST have visited the farmers several times with the last visit being 5-10th June 2017 where signing of carbon trading agreements (Annex 4) and registration of 25 farmer groups into the TIST carbon credits trading programme took place (Annex 5) including awareness creation on carbon trading (Annex 6 & 7). In total, 989 farmers/local community members had awareness raised through public meetings on tree planting and opportunities within the carbon credit trading scheme. TTWF became member of the country working group for PELUM. Skills in tree planting, conservation farming and carbon credit business were acquired by these farmers. The farmers have been applying the skills acquired to raise awareness of other farmers about tree planting in Sagalla and Taita.

A total of 290,510 trees were planted in both Dawida massif (Annex 8) and Sagalla (Annex 9) and an additional 400 grafted avocado seedlings. The avocado seedlings were provided by the AFERIA Project with whom the TTWF has formed a close cooperation. These were supplied to the 200 farmers along the "Least-Cost Forest Connectivity model for Taita Hills" as an incentive for planting indigenous trees on their farms in addition to registration into the TIST Carbon credits trading scheme.

A total of 50 farmers (group representatives) (Annex 10) were trained on fish farming with follow ups undertaken of each group once per month by the POs and also the Fisheries Officer. A total of 20 fishponds were set up, 19 stocked with monosex fingerlings of tilapia and 1 to be stocked later in 2017.

A total of 44 farmers (Annex 11) were trained on Sustainable Agriculture that also included aspects of tree planting and husbandry, including grafting to improve fruit yields in terms of quantity, quality and reduction of period to fruit production. These training efforts have been supported by monthly follow-ups undertaken by the POs.

Over 70 people were trained on bee keeping representing over 6 groups (Sufi, Merumbi, Ngolia, Tekida, Wananyuki and Sagalla) that were also supported with Langstroth bee hives and bee kits (Annex 1, 13, 14 & 15).

Collaboration with other institutions/organisations was undertaken aimed at supporting the farmers. These include TIST - The International Small Group and Tree Planting Programme for Carbon Credits activity. TTWF participated in several activities organised by PELUM-Kenya among them a forum "Linking organic enterprises to market livelihood opportunities improvement", training on advocacy and sustainable agriculture among others. A close working relationship has been formed with TERRA (Taita Environmental Research and Resource Arc) where TTWF staff will provide the AFERIA Project (under TERRA) technical assistance on tree seedling production and tree planting, thereby providing linkage with the tree nursery groups/farmers under TTWF. A link was established for marketing of handicrafts (baskets and leather products) in Nairobi, identifying a need to provide the Mlilo Handicrafts group in Sagalla with tools to improve efficiency in production and quality of products. A value-chain analysis and development of business plans were undertaken by Nature Kenya to inform and guide future support and investment on nature-based enterprises in Taita Hills and other areas where it operates (Annex 16 & 17).

1.3 Training and support of women's groups in handicraft manufacture (and other livelihood options where appropriate) and marketing: Training in handicrafts using beads and leather was undertaken to groups in Dawida massif and Sagalla. Five groups representing 76 (4 in Dawida massif and 2 in Sagalla) were trained through workshops and follow-up visits (Annexes 18-21). The training was aimed at improving the quality and quantity of handicrafts produced, in particular the Taita basket for sale. This comprised the finishing of the baskets (made of sisal twine or strips of leaves of *Phoenix reclinata*) with beads, leather and/or cloth as decorations, inner lining, top-cover or straps. The groups have been able to attract some sales and orders although this is expected to grow once the business plan developed under the leadership of Nature Kenya is fully realized (Annex 17).

1.4 Socio-economic survey of household income: Following a pilot phase in January 2015, a total of 160 (Taita 100 and Sagalla 60) questionnaires were administered to 100 Taita and 60 Sagalla households from 7-15th July 2015. Preliminary findings show average baseline household income as Kshs 6000/month in Taita and Kshs 4,425/month in Sagalla. A terminal socio-economic survey conducted in June 2017 (15-18th Dawida massif; 22-24th Sagalla) indicated a household income of Kes 6,880 in Dawida massif and Kes 6,716 in Sagalla (Annex 22).

Output 2

2.1 Participatory Forest Management Plans (PFMPs), Forest Management agreements, and Sub-Catchment Management Plans (SCMPs): Three PFMPs were developed and approved for implementation. These were for Sagalla forest, Susu/Ndiwenyi/Fururu forest cluster and Iyale/Wesu/Mbili forest cluster (Annexes 23-25). Subsequently, public meetings have been

undertaken to raise awareness on the plans in the respective areas by the Project Officers working closely with the CFA officials and the government officers, in particular KFS.

2.2 Develop/approval/implement of Sub-Catchment Management Plans: Development of the SCMP for Sagalla/Voi river and the Kishenyi sub-catchment areas were also completed (Annex 26 & 27). This was done jointly with officers from the Water Resource Management Authority. Implementation of some of the recommendations such as riverine rehabilitation is underway.

2.3 Formation of Community Forest Associations (CFAs) and Water Resource Users Associations (WRUAs): The CFAs (NGACOFA, SUNDIFU and IYAWEMBI) were all registered by the Registrar of Societies (Annexes 28-30). The Kishenyi WRUA (Annex 31) is registered too but MVOSA WRUAs application (Annex 32) is yet to go through despite several follow up visits to the Registrar of Societies office in Nairobi.

2.4 Training of CFAs and WRUAs in governance and natural resource management: MVOSA WRUA and Kishenyi WRUA capacity building was undertaken jointly with WRMA and TTWF/Project staff (Annexes 33 & 34). The participants included the respective local administrators (Chiefs of Sagalla, Voi, Werugha, Wumingu and Mbale locations), government officers from KFS and the County Government of Taita Taveta.

Output 3

3.1 Training on DICE MSc programme: TTWF Technical Advisor completed the DICE MSc in Conservation Biology in September 2016 (Annex 35).

3.4 Kenyan Student Research Fund: The first MSc student (Vincent Nzau; *Animal Ecology programme*) from Kenyatta University awarded a research grant successfully completed his fieldwork, data analysis and produced a first draft (Annex 36). The other two students (Annex 37 & 38) have undertaken data collection and in the data analysis and writing stage. However, due to university lecturers strikes (Annex 39), these students will take longer than anticipated.

3.2 & 3.5 Training of 1 TTWF employee on ZSL EDGE Fellowship: In Q1+2 two ZSL staff visited the EDGE Fellows project in July/August 2015. Local POs were also trained in use of GPS and application of qGIS by Chris Gordon of ZSL (Annex 40 & 41), these skills are already being used for analysis of spatial data by the field team. In Q3 the Sagalla caecilian survey data collection was done involving a total of 50 new grids. Due to the unexpected resignation of the initial EDGE Fellow, the completion of the EDGE Fellowship had been delayed; however, a suitable replacement (Basil, PO) was identified and has now taken over the EDGE Fellowship training (Annex 42) and is about to complete the EDGE fellowship research project on the Sagalla caecilian. A MSc student from Imperial College undertook a survey of the Sagalla caecilian as part of his MSc research in April-June 2016, producing an additional output (Annex 43).

3.6 Training and involvement of community in biodiversity conservation: 46 community members (21 females & 25 males) were trained in bird identification, how to fill in IBA forms and how to conduct common bird monitoring and materials/tools/equipment required for the same. The training was done at 5 sites alongside August common bird monitoring exercises (Annex 44). This activity was carried out by Nature Kenya staff and increased community capacity to carry out common bird monitoring at their sites. The GIS skills imparted from the training conducted by the ZSL Country staff was very useful in aiding this work.

3.7 Implementation of CEPA strategy: CEPA strategy activities were implemented including the participation of Project Officers in public meetings organised by community Chiefs and Assistant Chiefs to create awareness on environmental conservation and on the project activities. A CEPA strategy was produced with input from ZSL staff following their visit to TTWF in August 2015 (Annex 45).

The activities implemented included;

(i) **Public awareness meetings:** These have been on various issues such as on the value of Taita ecosystems and community benefits of integrating sustainable livelihood activities to biodiversity conservation, participatory forest management, on-farm indigenous tree planting to enhance forest connectivity, on forest habitat conservation for Taita apalis and Taita thrush

(endemic birds to Taita Hills) for protection against frequent fires and other disturbances associated with human beings (Annex 46).

(ii) **School outreach:** 9 environmental clubs from 9 schools were involved; Iyale primary, St. Mary's High School, Kitumbi primary, Ngangao Secondary, Mazola primary, Kidaya Saghaighu primary, Kungu primary, Vichwala primary and Kimangachugu primary school. Environmental clubs were strengthened through election of new officials. The clubs were also assisted in establishing tree nurseries where none existed, and tree planting within their school compounds (Annex 47). 30 pupils/students from the Ngangao secondary & Kitumbi primary schools were involved in an educational/environmental trip to Wildlife Works where they were lectured on REDD+ project (climate change and carbon trade); its operation and importance in conservation, Eco-friendly activities i.e. charcoal bricks making and green house project. This involved 20 students (10 boys & 10 girls) from Ngangao Secondary and 10 pupils (4 boys & 6 girls) from Kitumbi primary school. In total 560 pupils/students were involved in school outreach programmes in 2015 (270 females & 290 males). The schools were also involved in activities to mark the World Wetlands Day (6th February 2016) which was commemorated at Kitumbi Secondary School located on the edge of Ngangao forest (Annex 48). Activities included bird counts, bringing together 84 people (14 adults + 63 students + 3 staff) (Annex 48).
An essay contest was also organised among the schools in Taita and Sagalla on the topic of environmental conservation (Annex 49 & 50). In preparation, meetings with environment school club patrons was held and discussions held on various issues/activities aimed at encouraging and boosting active participation (Annex 51 & 52).

(iii) Communication and publicity: Several tools were used to create awareness among the public about the Taita Hills and its biodiversity. Inadequate awareness was noted as one of the challenges in biodiversity conservation during the development of Species Action Plans. The following information dissemination activities were undertaken;

a. (a) Two articles were published in Kenya Birding, a Nature Kenya magazine that is distributed to over 1000 members and in the UK Bird fair in August 2015. The articles are on Taita apalis research work and how to secure the declining populations (Annex 53 shows article in Kenya Birding Issue Number 9).

b. Nature Kenya initiated a campaign to create awareness about Taita apalis and produced a factsheet, an online campaign in Nature Kenya website and a Stand up Banner (Annex 54) One article was published in The East African - a regional newspaper, to educate the public and hopefully raise funds for the implementation of the Taita Apalis Species Action Plan (see Annex 55; *The race for Taita apalis* is on *http://bit.ly/1KL2BVh)*

c. A 2016 calendar on coastal forest (Taita Hill, Dakatcha and Arabuko Sokoke) with high resolution photos of globally important birds and conservation messages. The calendar has been distributed to the Taita Community groups and stakeholders (see Annex 56).

d. A Facebook page was opened www.facebook.ttwforum giving updates on activities as they happen and reminding visitors of important issues such as tree planting with the upcoming rains. Posting of articles and photographs has continued and the traffic is building up gradually (Annex 57).

Output 4

Species Action Plans (SAPs) were developed and approved, and some of the activities prescribed are being implemented by other conservationists. Two SAPs were developed – one for the two endemic critically endangered birds (Annex 58) and the other for the endemic and critically endangered Sagalla caecilian (Annex 59).

Output 5

5.1 Development of seedling nurseries involving locally-led community groups & 5.2 Maintenance of seedlings: Taita: Six tree nurseries, Chawia (Chawia Environment Committee), Iyale (Angamiza, Msidunyi, Sere community groups), Wesu (Changamoto) and Fururu (Dogholonyi) are in operation. The tree seedlings being raised are mainly indigenous tree species – *Prunus africana*, *Milletia oblata* sp. *teitensis*, *Albizia gummifera, Tabernaemontana stapfiana, Syzygium guineense, Syzygium schlerophylum* among others. In Sagalla, partnership with Shauri Moyo Community Group in a nursery located in Kishamba/Ngolia area together with a private farmer is

in place. By the end of May 2017, 0ver 290,519 seedlings had been raised and planted in the degraded parts of the forests, community woodlots and on private farms. The support of community group nurseries has been on-going in both Taita and Sagalla through regular follow-ups by POs. In addition to technical assistance, support has included repair or water infrastructure such as taps to deliver water and provision of plastic tanks.

5.2 Development of seedling nursery(ies) involving locally-led community groups: The support of community group nurseries has been on-going in both Taita and Sagalla through regular follow-ups by the field project officers and supply of materials such as polytubes. Currently, some of the community group nurseries have attracted support from other institutions with which TTWF interacts with such as TERRA and PELUM-Kenya.

3.2 Outcome

Output 1	**Progress 2014 to 2017 (3 Yrs 1st April 2015 to 30th June 2017)**
Existing resource-based livelihoods diversified, to potentially include forest restoration, carbon-credits, fish-farming, handicrafts, bee-keeping, butterfly-farming[1], to benefit at least 300 households by end of Year 3.	20 fishponds were set up, 19 fully stocked with fish and 1 to be stocked later in 2017, plus 6 existing fishponds that have been enhanced by project support (see Annex 60). 53 farmers trained in fish-farming during the project[2] (Annex 10 shows the attendance list). 70 farmers have been trained in bee-keeping, plus an additional 35 have received advice delivered during project activities (see Annex 61 showing distribution documentation). 13 farmers trained by TIST on Carbon credits trading, plus an additional 3 staff trained and 989 farmers with awareness raised (Annex 62 shows report on TIST training event). 200 farmers registered in TIST for C credits trading (Annex 4 & 5). 184 farmers provided with grafted avocado seedlings as incentive to plant native tree seedlings but also to improve livelihood (Annex 67). 3 handicraft training workshops in handicraft production were run during the project totalling 98 persons (Annex 18 – 21, 63). 6 handicraft groups developed and supported with equipment/materials during the project (Annex 64). Terminal socio-economic survey conducted in June 2017 indicated an increase of monthly income of 14.7% in *Dawida massif* and 51.8% in Sagalla (Annex 22). **Indicator 1:** Average annual income of participating households increased by at least 30% from a baseline of KSh 72,000 per annum (2014) and diversified through inclusion of up to 6 additional sustainable alternative livelihood options by Year 3.

[1] Bee-keeping was not undertaken since the market for pupa had been severely affected by the slump in tourism as a result of travel advisories and also the change in air transport costs due to reclassification of pupa from general luggage to live luggage category.

[2] However, a much larger number was reached during follow ups by POs and Fisheries Officers (Govt) because the rest of the group members were met unlike during workshops where group representatives participate.

Output 2	**Progress 2014 to 2017 (3 Yrs 1st April 2015 to 30th June 2017)**
Output 2: Participatory Forest Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill) and approved and implemented. Forest Management Agreements produced and signed by KFS. Respective Community Forest Associations formed and registered. Sub-Catchment Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill). Respective Water Resource Users Associations formed and registered.	3 PFMPs developed and approved by KFS for Sagalla forest, Susu/Ndiwenyi/Fururu forest cluster and Iyale/Wesu/Mbili forest cluster, bringing the total number of PFMPs to 3 during the project (see Annex 23-25 PFMP documents). 3 CFAs have been developed (associated with each of the PFMPs) and registered (see Annex 28-30 shows the certificates). 2 SCMPs were developed (Annex 26 & 27 shows MVOSA and Kishenvi SCMP, respectively). Discussions held with WRMA Athi Catchment office indicated that it would be more cost effective to handle 2 SCMPs so that a little more investment can be made in capacity building of the WRUAs to enhance the potential for implementation. 2 WRUAs (associated with each of the SCMPs) were developed in Year 2 (Annex 33a-b & 34 show the attendance and the Capacity-building report for 1 WRUA; the 2nd WRUA documents are duplicated because WRUAs use standard training documents/procedures). **Indicator 2** Management of forest and catchment area improved through preparation of strategic plans (finalised by end of Yr-2) in partnership with community associations.

Output 3	**Progress 2014 to 2017 (3 Yrs 1st April 2015 to 30th June 2017)**
Output 3: 1x MSc completed by Year 3. 1x 2-year EDGE Fellowship completed by Year 3. Up to 4x Kenyan Student Research Fund projects completed by end Yr 3. 2+ TTWF staff trained on ZSL Conservation Tools course. CEPA strategy developed and implemented by end Year 2.	1 local Kenyan completed a taught MSc in Conservation Biology at the University of Kent (Annex 35). Additional MSc completed by UK student (Annex 43). 3 Kenyan students have been supported from the project's Kenyan Student Research Fund (Annex 36 Draft thesis and Annexes 37 & 38 shows award letters and Annex 39 shows reason for delay in their completion). 1 local Kenyan has completed ZSL EDGE Fellowship (Project Officer Basil Lewela, following resignation of previous EDGE Fellow Mr Dawson Mwanyumba; see Annex 16). 2 TTWF staff have been trained by ZSL (1 on ZSL Conservation Tools course (Mr Dawson Mwanyumba; 1 in situ by ZSL in-country staff (Mr Basil Lewela Mashanga; training materials are available for other TTWF staff) (Annexes 41 & 42). 3 TTWF staff were trained in GIS by ZSL (Annex 41 shows the certificates). 1 CEPA Strategy has been developed and is being implemented (Annex 45 shows the CEPA Strategy document reviewed by ZSL; Annex 46 shows planting activities; Annexes 47-57 show CEPA activities).

	More information generated on Sagalla caecilian (Annex 43) and factors influencing choice conservation options in Taita hills (Annex 65). **Indicator 3:** Generation of knowledge and improved technical expertise in biodiversity conservation among local communities and TTWF (at least 4 people with increased qualifications and experience)

Output 4	**Progress 2014 to 2017 (3 Yrs 1st April 2015 to 30th June 2017)**
Output 4: Conservation strategies for Taita thrush, Taita apalis, Sagalla caecilian developed and initiated by Year 3 of project. Research projects by Kenyan students on key endemic species incorporated into existing SAPs (by Year 3 of project).	• Species Action Plan developed and approved for the Sagalla caecilian (Annex 59 shows the Caecilian SAP 2015-2020; Annex 66 shows the field manual developed by the project). • Species Action Plans for the Taita thrush and Taita apalis developed and approved (Annex 58 shows the SAP final document for the two bird species). • Three Kenyan MSc students undertaking research on endemic species and forest ecosystems (Annex 36, 37 & 38). In addition, a student from UK studied the Sagalla caecilian (Annex 43). **Indicator 4:** Development and implementation of conservation strategies for three Critically- Endangered species through improved knowledge, and implementation of Species Action Plans (SAPs) for Critically- Endangered Taita thrush, Taita apalis and Sagalla caecilian, and contributions to SAPs for other threatened Taita endemics.

Indicator 5	**Progress 2014 to 2017 (3 Yrs 1st April 2015 to 30th June 2017)**
Output 5: Indigenous forest habitat restored through planting and maintenance of 500,000 native seedlings and tree saplings (450,000 in Dawida Massif; 50,000 on Sagalla Hill).	290,519 indigenous tree seedlings planted (Annex 66), this includes those planted by 184 farmers to enhance native forest connectivity between Iyale and Ngangao forests (Annex 67). **Indicator 5:** Native tree cover and forest connectivity in Dawida Massif and Sagalla Hill enhanced by end of Year 3; measured by appropriate spatial analysis (Annex 8 & 9).

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

Impact statement from logframe: Diversified livelihoods linked to sustainable natural resource management, achieved by marrying poverty-alleviation and biodiversity conservation. Enhanced land-management practices, which lead to improved ecosystem services, and which provide a model for use beyond project area.

- What Impact was in your agreed application form?

Average annual income increased by at least 30% above Ksh 72,000 per annum (Ksh 6000 per month).

- What contribution did your project make to this higher-level impact? Please present comments substantiated by evidence.

Following a pilot phase in January 2015, a total of 160 (Taita 100 and Sagalla 60) questionnaires were administered to 100 Taita and 60 Sagalla households from 7-15th July 2015. Preliminary findings show average baseline household income as Kshs 6,000/month in Taita and Kshs 4,425/month in Sagalla.

The socio economic survey undertaken in June 2017 in Taita (100 households) and Sagalla (60 households) indicate the average monthly income as Ksh 6,880 per month in Taita and Ksh 6,716 per month in Sagalla, representing 14.6% and 51.8%, respectively (Annex 22): an average of a 33% increase.

- For all projects, what contribution did your project make to human development (poverty alleviation) and wellbeing?

The project contributed positively towards poverty reduction through alternative livelihood generation activities. For example, fish farming improved nutrition within the local community and therefore wellbeing generally. In addition, there was some improvement on food security.

- Please substantiate all comments with evidence and use indicators from your logframe.

The socio-economic report (Annex 22) indicates that a slightly higher proportion in both sites had their food lasting longer than before the start of the project. At the beginning of the project 27% of the respondents said their harvest sustained them for 6 months, while at the end of the project this had improved to 43%. However, it is important to take note that the project was not solely responsible for this improvement but it definitely contributed. This is because there is a project being implemented in Dawida massif on biological pest control on maize, vegetable and fruits under the leadership of the *Africa Insect Science for Food and Health* (icipe) and Taita Environmental Research and Resource Arc (TERRA) that this project interacted with towards the end.

4 Contribution to Darwin Initiative Programme Objectives

The project has contributed towards the implementation of CBD in Kenya. The development of SAPs, PFMPs and SCMPs will contribute towards the attainment of CBD Obj 1 and particularly Article 6 which requires that strategies, plans and programmes are developed for conservation and sustainable use of biodiversity. Native tree planting within forest reserves, along riverine areas and on-farm contributes to Obj 1 and article 8 (f) which requires rehabilitation and restoration of degraded ecosystems while promoting recovery of threatened species including development and implementation of plans/management strategies (SAPs & PFMPs). The support of training of 1 Kenyan MSc in Conservation Biology at DICE adheres to provisions of Article 12(a) while the support of Kenyan MSc student research contributes towards article 12(b). The project developed and implemented a CEPA strategy directly responding to Article 13 of the CBD on Public Education and Awareness. The exchange of information among partners in UK and Kenya during the implementation of the project responds to Article 17. The visit of project partners and a MSc student from the UK who undertook his study on Sagalla Caecilian working closely with a staff (Basil Lewela) contributed towards building the skills of the Kenyan staff corresponding to Article 19 providing for Technical and Scientific Cooperation in the field of conservation and sustainable use of biodiversity through appropriate international and national institutions. The financial resources provided to undertake the project responds to Article 20 on provision of financial resources to countries rich in biodiversity but lacking the necessary financial resources for the conservation and sustainable utilisation.

4.1 Contribution to Global Goals for Sustainable Development (SDGs)

The relevant SDGs are No. 1, 2, 5, 6, 13 and 15. The project has contributed towards poverty reduction (SGD 1) by providing alternative livelihoods including sale of carbon credits (carbon sequestered by planted trees) to subsistence farming that majority practice. By promoting sustainable agriculture (SDG 2), the project has contributed towards reducing food insecurity and improved nutrition through promotion of fish farming and bee-keeping and provision of grafted avocado. Further, the project has promoted gender equality (SGD 5) by ensuring participation of men, women and youth in all activities including encouraging consideration of women in being elected to leadership positions within groups. Through improved management of forests and catchment areas and their rehabilitation, the project has contributed towards

ensuring availability of water (SDG 6) for the local community. Planting of native trees will sequester carbon thus contributing towards reduction in gases enhancing global warming while in addition contributing towards enhancement of ecosystem resilience against climate change impacts (SDG 13). Tree planting together with efforts towards improved management of ecosystems (PFMPs & SCMPs and respective CFAs & WRUAs) and also actions to reduce species extinction risks (SAPs) contribute towards SDG 15.

4.2 Project support to the Conventions or Treaties (CBD, CMS, CITES, Nagoya Protocol, ITPGRFA))

The project has contributed to Kenya meeting requirements of CBD objectives (1 & 2) and articles (6, 8, 10, 12, 13, 17 & 18) in general and more specifically in the following Aichi Targets;

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.

- *By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably*. This is through awareness creation and sensitisation activities as per the CEPA strategy.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable us.

- *By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.* This is through the alternative livelihood generation activities reducing reliance on the forest.
- *By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.* This is being contributed to by preparation of PFMPs and SCMPs and the formation of the respective CFAs and WRUAs responsible for participatory management of these resources as the plans.

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

- *By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.* The planting of native trees on-farm has contributed towards forest connectivity in the Taita hills landscape.
- *By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.* The planting of trees within degraded forest areas and on-farm has contributed towards habitat rehabilitation thus reducing species extinction within the project area.

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services.

- *By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.* Improvement on management through development and implementation of PFMPs and SCMPs and the formation of respective CFAs and WRUAs, including native tree planting have contributed towards the achievement of this target.
- *By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.* Native tree planting has contributed towards restoration of degraded forest areas. In addition, the enrolment of farmers into a carbon credit trading scheme will provide an incentive for further tree planting and thus enhancement of ecosystem resilience.

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building.

- The project has contributed towards this goal through the PFMPs and SCMPs that were developed using a participatory process. Thus the wishes and aspirations of the local community were captured and incorporated in these documents. Furthermore, capacity building of the local community was done in every activity undertaken through training, practical demonstration and through "doing-with-them" approach.

4.3 Project support to poverty alleviation

- Did the project contribute to improved human development and wellbeing?

The project contributed to human development through capacity building, development of plans (PFMPs, SCMPs and SAPs) which all have aspects of improving standards of living. In addition, the livelihood generation activities have contributed to wellbeing by improving nutrition (fish farming, bee-keeping) and income. However, the full impact of the activities are long-term and will not be apparent immediately, such as tree planting and sale of carbon credits[3] and grafted avocado fruit trees.

- Who and how many received benefits as a result of this work?

The immediate beneficiaries are the farmers that have benefitted through training and provision of materials and equipment totalling 402. Indirect beneficiaries include those that awareness raised (>989) and those that purchase fish harvested from the local ponds thus improving nutrition, those that are hired by handicrafts groups to provide raw materials such as leaves of *Phoenix reclinata,* sisal fibres and hides/skins for finishing of baskets etc.

Other beneficiaries include students on internships such as Mr. Collins Mwakoyi (later absorbed as an Assistant Project Officer by TTWF), Ms. Patriciah Wanjala and Ms. Gladys W. Machua. The Project also provided employment for 6 people.

4.4 Gender equality

The project observed gender equality in all its activities by ensuring inclusion of men, women and youth. All groups that the project engaged had adequate representation of men and women. In addition, in most cases there was a higher proportion of women participants than men except for activities such as a bee-keeping that has traditionally been regarded as being a male occupation. It is noteworthy that some of the groups were female-led such as Iyale Angamiza and Mlilio Handicrafts groups that have Chairladies.

4.5 Programme indicators

- **Did the project lead to greater representation of local poor people in management structures of biodiversity?**
    - One of the community group leaders was elected into the Board of Trustees of TTWF and became the Vice-chairperson. This ensured that issues related to local communities were voiced at higher levels.

- **Were any management plans for biodiversity developed?**
    - PFMPs[4] (3: Susu-Ndiwenyi-Fururu forest cluster, Iyale-Wesu-Mbili forest cluster & Sagalla forest) were developed and approved for implementation by the Kenya Forest Service and the County Government of Taita Taveta.
    - Project staff also assisted in the development of other PFMPs (3: Kasigau, Mbololo-Mwambirwa, Kitobo & Ngangao forests) through facilitation from the County Government of Taita Taveta (CGTT).

[3] From sequestered carbon that accumulate marketable C credits after around 7 years.
[4] Participatory Forest Management Plans

- SCMPs[5] (2: Voi-Sagalla & Kishenyi Sub-catchment areas) were developed together with the Water Resources Management Authority (WRMA).
- Species Action Plans were developed for the two critically endangered birds (Taita thrush & Taita Apalis) and the critically endangered Sagalla caecilian. These were done together with and approved by the Kenya Wildlife Service (KWS).

- **Were these formally accepted?**
  - The plans were formally approved by the respective government institutions;
    - PFMPs by KFS and CGTT.
    - SCMPs by WRMA
    - SAPs by KWS

- **Were they participatory in nature or were they 'top-down'? How well represented are the local poor including women, in any proposed management structures?**
  - The development of the plans was participatory. Every effort was made to involve the community as much as possible in their development. In addition, the manuals for development of PFMPs and SCMPs place a lot of emphasis on community involvement, planning, and decision-making of the plans. The SAPs were also developed in a participatory way where there was a stakeholder meeting in Wundanyi to discuss community issues in relation to biodiversity conservation.

- **Were there any positive gains in household (HH) income as a result of this project?**
  - There was an increase in household income of 33% which could be attributed partly to the project.

- **How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?**
  - The end of project socio-economic report undertaken in June 2017 indicated an increase in monthly income of 14.7% in *Dawida massif* and 51.8% in Sagalla above the figures obtained in the baseline report. This was measured by asking farmers what their monthly income was from their livelihood generation activities.

4.6 Transfer of knowledge

The project has shared knowledge through inputs during the development of the National Forest Programme (NFP) where one of the project staff participated in the regional stakeholder workshop for collection of public input. He was also incorporated as a member of the sub-committee on finance for the coast region that made several inputs and recommendations for consideration by the national team preparing the NFP. The Kenyan student in the MSc Conservation Biology also shared his experiences gained in project implementation during class discussions on various subjects. Information has also been shared through newsletters and also through electronic media (Facebook).

Did the project result in any formal qualifications?

1 male from Kenya attained a MSc in Conservation Biology at the University of Kent; one male from the UK obtained a MSc Conservation Science from ZSL/Imperial College.

4.7 Capacity building

- Did any staff from developing country partners see an increase in their status nationally, regionally or internationally?

[5] Sub-Catchment Management Plans

- Yes. Mr. James Mwang'ombe Mwamodenyi was nominated to the national expert committee of the Man and Biosphere Programme.

- What gender were they?
  - Male

5 Sustainability and Legacy

Please comment on which project achievements are most likely to endure? Has there been any impact on policy in the host country(ies) at regional/national/transboundary level?

- Fish farming, bee-keeping, handicrafts and tree planting especially on-farm due to the carbon credits trading scheme. We also anticipate sustainable agricultural practices to persist in Sagalla due to the awareness created on the Sagalla caecilian and the pride among the local people knowing that it occur only in the area.

What will happen to project staff and resources now the project funding has ceased?

- It is anticipated that TTWF will receive grants from other development supporters that will keep the staff and resources acquired engaged. Already, TTWF has been sub-contracted by NK to assist in the PFMPs development for Chawia and Vuria forests ensuring the staff in *Dawida massif* is maintained.

6 Lessons learned

- What worked well, and what didn't work well?
  - Generally, the workplan and the M & E worked well. Communication among the partners was good and especially the Skype meetings and follow up email communication. The main challenge was in the Kenyan MSc research activity that was affected by the strike by lecturers and the slow pace that MSc programmes generally take in Kenya.
- If you had to do it again, what would you do differently?
  - The approach of project implementation worked well, however, a greater focus and support of the poorest would have had greater impact where it is really needed. An affirmative approach to reach out to the very poor who cannot afford to attend meetings and training should have been put in place in order to cushion those that would mean no food on the table in the evening if they attended a training or meeting.
- What recommendations would you make to others doing similar projects?
  - Close involvement of the relevant government officers is key in ensuring smooth implementation of project activities. This includes awareness creation among local administrative officers such as the Chiefs and Assistant Chiefs (national government) and the Ward administrators (County government) since these are key in community mobilisation and creating legitimacy of a project with the community.
  - There is need to put in place support mechanisms to enable the very poor take part in project activities and adopt the livelihood activities being initiated.
- What key lessons have been learnt as a result of this project? (including administrative, management, technical, M&E).
  - Having a key lead person well experienced with the issues and the project area is very crucial with good rapport with government agencies.
  - The involvement of government officers in the implementation of project activities such as the preparation of PFMPs and SCMPs, fish farming activities, and bee-keeping among others is key in ensuring continuity. The farmers will be able to continue receiving technical support albeit not as much as during the life of the project.

6.1 Monitoring and evaluation

There were no major changes on the project design. The M & E system was effective and very helpful in providing tracking of achievements.

An internal review was undertaken in April 2015, covering the period from 1st July 2014 to 31st March 2015. The evaluation noted that good progress had been achieved and areas needing attention were mentioned. These were acted upon accordingly.

6.2 Actions taken in response to annual report reviews

All issues raised were responded in the subsequent half-year progress reports as expected.

The reviews of annual reports were shared with all the project partners. In addition, the reports were also shared with and discussed with the project staff. These provided a good motivation for the staff to continue with activities diligently and also to put more effort in areas of weakness.

7 Darwin identity

- What effort has the project made to publicise the Darwin Initiative, e.g. where did the project use the Darwin Initiative logo and promote Darwin funding opportunities or projects?
    - In all awareness raising meetings and trainings, among other activities, it has always been made clear that the project is supported by the Darwin Initiative.
    - The Darwin Initiative Logo has been included in all documents (SAPs, PFMPs and SCMPs), posters, banners, fliers etc.
- How has the UK Government's contribution to your project's work been recognised?
    - In awareness creation meetings and stakeholder meetings among others, it was made clear that Darwin Initiative is funded by the UK government. Therefore the contribution was made known.
- Was the Darwin Initiative funding recognised as a distinct project with a clear identity or did it form part of a larger programme?
    - Yes, the Darwin Initiative funding was recognised as a distinct project with very clear identity as a standalone project.
- To what extent is there an understanding of the Darwin Initiative within in the host country and who is likely to be familiar with it?
    - Darwin Initiative is mainly known within the civil society and the communities that have benefitted from projects by it.
- If you have a Twitter/Instagram/Flickr/Blog/YouTube etc. account is this effective and have you linked back to the Darwin social media accounts?
    - TTWF has a Facebook account in which activities have been featured. However, this was not linked to the Darwin social media accounts.

8 Finance and administration

8.1 Project expenditure

Project spend (indicative) since last annual report	2016/17 Grant (£)	2016/17 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			+2.64%	
Consultancy costs			+5.53%	

Overhead Costs			-4.69%	
Travel and subsistence			-35.73%	
Operating Costs			-2.14%	
Capital items (see below)			0.00	
Others (see below)			-7.46%	
TOTAL	88,693.77	84,127.35		

Staff employed (Name and position)	**Cost (£)**
Dawson Mwanyumba Mbela (Project Manager)	
Basil Lewela Mashanga (Project Officer – Sagalla)	
Carolyne Talu Ndela (Administrative/Accounts Secretary)	
Victor Gedion Mwanyigha (Driver)	
James Mwang'ombe Mwamodenyi (Technical Advisor)	
Gilbay Obunga (Project Officer – Taita, NK)	
TOTAL	**74,993**

Capital items – description	**Capital items – cost (£)**
Toyota Hilux Yamaha Motorbike	
TOTAL	£33,550.51

Other items – description	**Other items – cost (£)**
Vehicle Fuel and insurance costs Livelihood training	
TOTAL	6,882.28

8.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	**Total (£)**
TTWF	
University of Kent	
NERC CASE studentship	
ZSL	
Community Development Trust Fund	
USFWS (collaboration with National Museum of Kenya)	
IIED support for development/marketing	
TOTAL	**£141,074**

Source of funding for additional work after project lifetime	**Total**

	(£)
World Vision	
PELUM-Kenya	
TOTAL	**£11,500**

8.3 Value for Money

Every effort was made to ensure the project obtained goods and services of the desired quality at the lowest price. This was done by ensuring where possible materials were bought from wholesalers or manufacturers such as in the case of polytubes for seedlings production. Tree seedlings were produced and bought from farmers groups and where necessary from TTWF own nurseries unlike commercial nurseries where the prices were double. Equipment (Motorvehicle and Motorcycle) were procured from Toyota Kenya and of the type suitable for the hill rough terrain. These were also serviced by Toyota Kenya.

For technical services such as training of farmers on specific issues such as fish farming and bee keeping, among others, these were sourced from the officers of respective government agencies (or civil society organisations) that only required facilitation in form of transport and a lunch allowance. This ensured that the farmers would receive follow ups unlike engaging a consultant who would conduct a one-off training at a much higher cost. Furthermore, the engagement of government officers would potentially assure the farmers of future technical support even after the end of the project.

Annex 1 Project's original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your Stage 2 application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Diversified livelihoods linked to sustainable natural resource management, achieved by marrying poverty-alleviation and biodiversity conservation. Enhanced land-management practices, which lead to improved ecosystem services, and which provide a model for use beyond project area.			
Outcome: Capacity-building and diversified livelihoods in Kenya will result in a transition from unsustainable subsistence agriculture to sustainable livelihoods. This will yield empowered communities managing their natural resources effectively and improved biodiversity conservation.	1. Average annual income of participating households increased by at least 30% from a baseline of KSh 72,000 per annum (2014) and diversified through inclusion of up to 6 additional sustainable alternative livelihood options by Year 3. 2. Management of forest and catchment area improved through preparation of strategic plans (finalised by end of Year 2 of project) in partnership with community associations. 3. Generation of knowledge and improved technical expertise in biodiversity conservation among local communities and TTWF (at least 4 people with increased qualifications and experience). 4. Improved conservation status of three Critically-Endangered species through improved knowledge, and implementation of Species Action Plans (SAPs) for Critically-Endangered Taita thrush, Taita apalis and Sagalla caecilian, and contributions to SAPs for other threatened Taita endemics. 5. Native tree cover and forest connectivity in Dawida Massif and Sagalla Hill enhanced by end of	1. TTWF meeting minutes. Biannual reports from Community Associations. *Charting progress (biannual evaluation) in livelihood training sessions and subsequent uptake of livelihoods.* 2. TTWF Community Group reports and meeting minutes. Community Association registration documents. Meeting minutes of Community Association and strategic plan formation. Management plan documents endorsed by community. CEPA evaluation reports (progress evaluated annually). 3. MSc progress reports and final dissertation (by end year 3). EDGE Fellow research reports (by end Year 2, 3). EDGE training end-of-course reports (by end Year 2, 3). Kenyan Student Research Fund student reports/pubs (by end Year 2, 3). 4. Publication of research findings (Years 2 and 3). Production of Species Action Plan documents for key endemic species. Endorsement of SAPs by national authorities (by Year 3).	1. The new government remains committed to community empowerment and participation in natural resource management. 2. Target communities will continue to be open and positive in working with the project. 3. Minimal staff changes within the life of the project. Availability of suitably qualified local community members willing to undertake studies on biodiversity conservation. 4. Accessibility of up-to-date data from existing/previous Species Action Plans between all partners. 5. Weather conditions permit effective restoration of indigenous forest following tree planting.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	Year 3; measured by appropriate spatial analysis.	Progress reports outlining steps of implementation of Species Action Plans (Years 1, 2 and 3). 5. Tree planting reports (# trees planted; maps of planting activity (reports end Year 1,2,3); tree nursery records (end Year 1,2,3).	
Outputs: **1**. Existing resource-based livelihoods diversified, to potentially include forest restoration, carbon-credits, fish-farming, handicrafts, bee-keeping, butterfly-farming, to benefit at least 300 households by end of Year 3. • *Forest restoration: Train 300 farmers in tree nursery development.* • *Sustainable agriculture: Train 300 farmers in appropriate methods.* • *Fish-farming: Establish and maintain 25 ponds.* • *Handicrafts: Train 5 women's/mixed groups in manufacture.* • *Bee-keeping: Establish 5 additional bee-keeping groups.* • *Butterfly-farming: Train 15 farmers in pupae-production/harvesting.* • *Carbon credits: Provide technical support to 300 farmers in TIST.* • *Cascade-training: Train 4+ TTWF staff in sustainable livelihoods.*	1. Farming techniques: #TTWF employees trained in sustainable livelihood initiatives. # farmers trained in and implementing appropriate farming techniques. # farmers attending sustainable farming workshops. Fish-farming: # ponds established and maintained (measured via periodic assessment). Handicrafts: # women's/mixed-gender groups trained, producing & selling handicrafts. # women attending handicraft groups. # additional womens groups (aim for 5). # handicrafts produced and sold. Bee-keeping: # newly-formed bee-keeping groups. # hives & training sessions provided. Kgs honey produced. Butterfly-farming: # farmers trained in butterfly pupae-production/harvesting. # successfully harvesting and selling pupae. Carbon-credits scheme (TIST): # farmers recruited/supported in the TIST scheme. # seedlings produced and sold. 2. Change in knowledge/attitude as measured by socio-economic surveys. # trained trainers delivering cascade training.	Verification 1 **Section in Annual Project Report** showing; *# farmers trained in appropriate farming techniques;* *# women's/mixed gender groups;* *# new bee-keeping groups/hives established;* *# farmers trained in butterfly pupae-production;* *# recruited in TIST scheme;* *# TTWF staff trained in delivering sustainable livelihood training.* **TTWF End of Project Report** (submitted to KFS for endorsement and adoption) documenting change in diversity of livelihood options. **Socio-economic survey reports**, supported by Nature Kenya (NK will provide technical advice on business development and marketing of sustainable livelihoods). IIED case study report on this projects' use and impact of sustainable livelihoods (IIED will provide technical advice on how to maximise benefits to communities in the context of long-term poverty alleviation). Verification 2	Assumptions Local farmers are willing and able to attend training in sustainable farming techniques and to adopt these techniques on a long-term basis. Women community members are sufficiently motivated to sign up to and attend activities and training in sustainable livelihoods and subsequently implement them (and are able to profit from them). Support and market links for development of livelihoods are available via local and international partner links. Risk Management Will be monitored using Output 1 Measures 1-2. IIED and NK to provide expertise/advice on in-country business development.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	#'s *expected to increase as a consequence of project activities.*	**Attendance records** at women's community groups (individually named). Number of attendance sheets (1 per group). **Reports on handicraft production/sales.** Verification 3 **Attendance records** of farmers at sustainable farming workshops. Socio-economic survey results in Annual Reports showing change in knowledge/attitude. Audit by TTWF and NK of sustainable farming techniques being adopted. Verification4 **Record in Annual Report** of # new community members involved in planting activities.	
2.1 Participatory Forest Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill) and approved and implemented. 2.2 Forest Management Agreements produced and signed by KFS. 2.3 Respective Community Forest Associations formed and registered. 2.4 Sub-Catchment Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill). 2.5 Respective Water Resource Users Associations formed and registered.	Measure 1 • # Participatory Forest Management Plans approved and implemented. *Expectation is that 3 will be approved by end of Year 2.* Measure 2 • # Forest Management Agreements registered. • # Respective Community Forest Associations; approval by KFS. *Expectation is that these will be registered/approved by end of Year 2.* Measure 3 • # Sub-Catchment Management Plans prepared, registered and approved	Verification 1 Signed copies of Plans, Agreements, Association docs (& KFS approval where relevant) included as Appendices in Annual Project Reports. Verification2 Water Resources Management Authority letter confirming approval of 3 Sub-catchment Management Plans.	Assumptions Local community members and resource management agencies motivated to establish and sign up to Plans, Agreements and Associations. Risk Management This assumption will be monitored using Output 2 Measures 1-3 and Verification 1-2.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	by Water Resources Management Authority (WRMA). • # Respective Water Resource Users Associations formed. *Expectation is that 3 will be approved by end of Year 2.*		
3.1 1x MSc completed by Year 3. 3.2 1x 2-year EDGE Fellowship completed by Year 3. 3.3 Up to 4x Kenyan Student Research Fund projects completed by end Yr 3. 3.4 3x TTWF staff trained on ZSL Conservation Tools course. 3.5 CEPA strategy developed and implemented by end Year 2.	<u>Measure 1</u> • Attendance records of 3+ TTWF staff on ZSL Cons Tools course. • Attendance records of 1+ TTWF staff on ZSL Cons Leadership course. EDGE Fellow reports and blogs. # local community members trained/involved in biodiversity conservation and monitoring activities (via CEPA strategy reports). <u>Measure 2</u> • MSc attendance records and MSc dissertation by 1 TTWF staff. <u>Measure 3</u> • # applications received for funding via Kenyan Student Research Fund. Expectation *is that awarded projects will target specific technical/social issues central to the project.*	<u>Verification1</u> • ZSL Course Certificates to TTWF staff. • EDGE Fellowship Certificate. • ZSL pre/post-course knowledge assessments. • CEPA strategy progress reports (e.g. detailing biodiversity monitoring groups and forest restoration actions). <u>Verification 2</u> • MSc degree certificate (or confirmation of marks from Kent). <u>Verification 3</u> • Award letters to successful Kenyan Student Research Fund candidates. Post-project reports by successful candidates.	<u>Assumptions</u> Sufficient number of TTWF staff can be identified and have an appropriate background to undergo training on ZSL courses and DICE MSc programme. Local communities will be able to engage in activities associated with the CEPA strategy. <u>Risk Management</u> Will be monitored using Output 3 Measures 1-3 & Verification 1-3.
4.1 Conservation strategies for Taita thrush, Taita apalis, Sagalla caecilian developed and initiated by Year 3 of project. 4.2 Research projects by Kenyan students on key endemic species incorporated into existing SAPs (by Year 3 of project).	<u>Measure 1</u> • # locally-led, multi-authored publications to peer-reviewed journals by end of the project. *Expectation is that 3 publications will be produced by end of project.* <u>Measure 2</u>	<u>Verification 1</u> • Publication submission documents confirming submission of three multi-authored manuscripts/articles. <u>Verification 2</u> • Draft conservation strategies, biodiversity monitoring protocols, habitat survey reports and developed/updated SAPs on thrush,	<u>Assumptions</u> Timely submission and peer-review of manuscripts submitted to journals for publication. Availability of SAPs to the project team. <u>Risk Management</u>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	• Conservation strategies and biodiversity monitoring and evaluation protocols developed for Thrush, apalis and caecilian. *Expectation that effective M&E framework will be developed in Year 1.* <u>Measure 3</u> • Species Action Plans developed or updated for Taita thrush, Taita apalis and Sagalla caecilian. *Expectation is that they will be completed by Year-2 of project.*	apalis and caecilian submitted with annual reports.	Will be monitored using Output 4 Measures 1-3 & Verification 1-2.
5. Indigenous forest habitat restored through planting and maintenance of 500,000 native seedlings and tree saplings (450,000 in Dawida Massif; 50,000 on Sagalla Hill).	<u>Measure 1</u> • # native tree seedlings and saplings planted and maintained in Dawida Massif and Sagalla Hill. <u>Measure 2</u> • # existing and new community members involved in planting activities (to be measured biannually). <u>Measure 3</u> • Measures of forest cover/connectivity through appropriate spatial analysis.	<u>Verification 1</u> • Section in annual report detailing # native tree seedlings & # saplings planted (in Dawida and Sagalla), area covered. <u>Verification 2</u> • Section in annual report detailing # new community members involved in planting activities (both adult and school children). <u>Verification 3</u> • Maps showing new areas of planting activity and how they are connecting previously isolated forest fragments (guided by existing reforestation plans for Sagalla, and the "Least-cost forest connectivity model" for Dawida).	<u>Assumptions</u> Provision of sufficient supply of seedlings (and sufficient survival of them) and that the supply at any one time keeps pace with the planting activities during the course of the project, to meet the target of 500,000 planted tree seedlings. Sufficient availability/willingness of community members for planting work. <u>Risk Management</u> Will be monitored using Output 5 Measures 1-3 & Verification 1-3.
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 Training (and cascade-training) of farmers in sustainable farming practices and forest restoration methods. 1.2 Establishment of support network and training in sustainable livelihoods (fish-farming; handicrafts; bee-keeping; butterfly-farming; carbon-credits). Development of small businesses & marketing channels (where appropriate).			

Project summary	Measurable Indicators	Means of verification	Important Assumptions
1.3 Training and support of women's groups in handicraft manufacture (and other livelihood options where appropriate) and marketing. 1.4 Socio-economic survey of (i) uptake of sustainable farming practices, (ii) livelihoods, (iii) household income. 2.1 Develop/implement of Part.[y] Forest Plans & Forest Manag.[t] agreements. 2.2 Develop/approval/implement of Sub-Catchment Management Plans. 2.3 Develop/approval/implement of Community Forest Associations (CFAs) and Water Resource Users Associations (WRUAs). 2.4 Training of CFAs and WRUAs in governance and resource management. 3.1 Training of 1 TTWF staff on DICE MSc programme. 3.2 Training of 4+ TTWF staff on ZSL Cons Tools course (Kenya). 3.3 Training of 1+ TTWF staff on ZSL Cons Leadership training course (London). 3.4 Administration of Kenyan Student Research Fund, facilitation of projects. 3.5 Training of 1 TTWF staff on a 2-year ZSL EDGE Fellowship. 3.6 Training and involvement of community in biodiversity conservation. 3.7 Implementation of CEPA strategy. 3.8 Survey to gauge impact of CEPA strategy. 4.1 Analysis of project-generated data and writing of publications. 4.2 Development and updating of SAPs for the thrush, apalis and caecilian. 5.1 Maintenance of seedlings and their preparation for planting. 5.2 Surveys (for baseline data) to identify planting sites to enhance connectivity. 5.3 Planting of seedlings by community groups and members. 5.4 Maintenance of planted trees and monitoring of survival and growth. 5.5 GIS mapping of tree planting areas.			

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
Impact: Diversified livelihoods linked to sustainable natural resource management, achieved by marrying poverty-alleviation and biodiversity conservation. Enhanced land-management practices, which lead to improved ecosystem services, and which provide a model for use beyond project area.		
Outcome: Capacity-building and diversified livelihoods in Kenya will result in a transition from unsustainable subsistence agriculture to sustainable livelihoods. This will yield empowered communities managing their natural resources effectively and improved biodiversity conservation.	1. Average annual income of participating households increased by at least 30% from a baseline of KSh 72,000 per annum (2014) and diversified through inclusion of up to 6 additional sustainable alternative livelihood options by Year 3.	Terminal socio-economic survey conducted in June 2017 indicated an increase of monthly income of 14.7% in *Dawida massif* and 51.8% in Sagalla - overall average increase of 33% (Annex 22).
	2. Management of forest and catchment area improved through preparation of strategic plans (finalised by end of Year 2 of project) in partnership with community associations.	PFMPs prepared and approved for Sagalla, Iyale-Wesu-Mbili cluster, and Susu-Ndiwenyi-Fururu forests. Technical support also provided for preparation/review of PFMPs for Ngangao, Mbololo-Mwambirwa, Kasigau and Kitobo forest with support from CGTT and KFS. SCMPs prepared and approved for Kishenyi and Voi-Sagalla subcatchment areas. (Annexes 23-27)
	3. Generation of knowledge and improved technical expertise in biodiversity conservation among local communities and TTWF (at least 4 people with increased qualifications and experience).	1 person graduated with MSc in Conservation Biology at DICE (Annex 35). 1 person trained on the EDGE Fellowship programme of ZSL (Annex 42).
	4. Improved conservation status of three Critically-Endangered species through improved knowledge, and implementation of Species Action Plans (SAPs) for Critically-Endangered Taita thrush, Taita apalis and Sagalla caecilian, and	SAPs developed and approved for the Taita thrush/apalis and for the Sagalla caecilian. SAPs under implementation through partnerships between NMK, KFS, NK and TTWF. (Annexes 58-59)

Project summary	Measurable Indicators	Progress and Achievements
	contributions to SAPs for other threatened Taita endemics.	
	5. Native tree cover and forest connectivity in Dawida Massif and Sagalla Hill enhanced by end of Year 3; measured by appropriate spatial analysis.	290,519 indigenous tree seedlings planted both within forest reserves and on-farm to enhance habitat connectivity (Annexes 8,9,46,47).
Output 1. Existing resource-based livelihoods diversified, to potentially include forest restoration, carbon-credits, fish-farming, handicrafts, bee-keeping, butterfly-farming, to benefit at least 300 households by end of Year 3. • *Sustainable agriculture: Train 300 farmers in appropriate methods.* • *Fish-farming: Establish and maintain 25 ponds.* • *Handicrafts: Train 5 women's/mixed groups in manufacture.* • *Bee-keeping: Establish 5 additional bee-keeping groups.* • *Butterfly-farming: Train 15 farmers in pupae-production/harvesting.* • *Carbon credits: Provide technical support to 300 farmers in TIST*. • *Cascade-training: Train 4+ TTWF staff in sustainable livelihoods.*	Measure 1: Farming techniques: # TTWF employees trained in sustainable livelihood initiatives. # farmers trained in and implementing appropriate farming techniques. # farmers attending sustainable farming workshops. Fish-farming: # ponds established and maintained (measured via periodic assessment). Handicrafts: # women's/mixed-gender groups trained, producing & selling handicrafts. # women attending handicraft groups. # additional womens groups (aim for 5). # handicrafts produced and sold. Bee-keeping: # newly-formed bee-keeping groups. # hives & training sessions provided. Butterfly-farming: # farmers trained in butterfly pupae-production/harvesting. # successfully harvesting and selling pupae. Carbon-credits scheme (TIST): # farmers recruited/supported in the TIST scheme. # seedlings produced and sold.	Fish-farming • 20 fish ponds set up, 19 stocked and 1 to be stocked in a week or so. • 33 farmers trained (group representatives with resultant cascade training within groups raising the number to 300 based on group membership (Annex 10). Handicrafts • 5 groups trained (Annexes 18-21). • 98 persons trained (Annexes 18-21). Bee-keeping • 70 farmers trained (Annex 1,12,13). • 36 bee hives provided (Annex 15, 61) Butterfly farming • This activity could not be carried out due to marketing challenges arising from the rise in airfreight for pupa and the slump of tourism in coast due to travel advisories from the major tourist source countries for Kenya. Carbon credits • 13 farmers trained by TIST at their centre in Meru (2 workshops) (Annex 62). • 3 staff trained by TIST at their centre in Meru (2 workshops – Annexes 9-7). • 989 farmers sensitised in public meetings. • 5 public meetings for farmers held with a TIST staff participating. • 200 farmers formerly registered for Carbon credits trading (Annexes 3-6).
Activity 1.1 Training of farmers and cascade training.		Project Manager and both POs have visited farmers and attended training workshops

Project summary	Measurable Indicators	Progress and Achievements
Activity 1.2 Establishment of support network and training in sustainable livelihood techniques		Project Manager and both POs have visited farmers. Site visit by ZSL in-country Officer Chris Gordon with project staff identified staff training needs and implemented (Annex 40). Trainings for farmers have been undertaken on sustainable agriculture.
Activity 1.3 Training/support of women's groups in handicrafts and marketing, and introduction of other livelihood options		98 community members trained in handicrafts and leatherwork (participant list, and report on training). (Annex 18-21).
Activity 1.4 Socio-economic survey of household income, uptake of sustainable farming practices and livelihoods		Preliminary socio-economic surveys conducted in Taita and Sagalla regions. Additional surveys/ analysis of baseline data undertaken in second and third year (Annex 22).
Output 2. Participatory Forest Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill) and approved and implemented. Forest Management Agreements (FMAs) produced and signed by KFS. Respective Community Forest Associations formed and registered. Sub-Catchment Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill). Respective Water Resource Users Associations formed and registered.	<u>Measure 1</u> • # Participatory Forest Management Plans approved and implemented. *Expectation is that 3 will be approved by end of Year 2.* <u>Measure 2</u> • # Forest Management Agreements registered. • # Respective Community Forest Associations; approval by KFS. *Expectation is that these will be registered/approved by end of Year 2.* <u>Measure 3</u> • # Sub-Catchment Management Plans prepared, registered and approved by Water Resources Management Authority (WRMA). • # Respective Water Resource Users Associations formed. *Expectation is that 3 will be approved by end of Year 2.*	The PFMPs were prepared and approved by KFS and/or CGTT, respectively. The CFAs were formed and registered as required by law. The CFAs made formal request for the preparation and signing of the FMAs as required by law and are awaiting action by KFS and/or CGTT. SCMPs were prepared and approved by WRMA. WRUAs had already applied for registration (1 registered and 1 waiting) before the project was initiated being a process that had been put in motion by TTWF earlier.
Activity 2.1. Participatory Forest Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill) and approved and implemented.		3 PFMPs prepared and approved (Iyale-Wesu-Mbili forest cluster & Susu-Ndiwenyi-Fururu forest cluster & Sagalla forest). Project staff also involved on providing technical support for Ngangao, Mbololo-Mwambirwa, Kasigau, Kitobo with support

Project summary	Measurable Indicators	Progress and Achievements
		from CGTT and also Chawia and Vuria with support from NK (different funding). (Annexes 23-26).
Activity 2.2. Forest Management Agreements (FMAs) produced and signed by KFS.		Applications for FMAs done by the respective CFAs to KFS & CGTT. However, there has been some delay since there was a lack of clarity on the roles between KFS & CGTT since gazetted forest fall under KFS and non-gazetted forest fall under CGTT. While KFS is responsible for technical content of PFMPs for all forests, the responsibility for approving implementation (i.e. FMA) falls under the CGTT for non-gazetted forest reserves. This issue was resolve at the beginning of this year and preparation/negotiation for Sagalla forest (non-gazetted) is underway. *This particular activity is beyond the mandate of TTWF & NK. They can only facilitate the two parties (CFAs and either KFS or CGTT or both).*
Activity 2.3. Respective Community Forest Associations formed and registered.		3 CFAs formed and duly registered with the Registrar of Societies (Annexes 28-30).
Activity 2.4. Sub-Catchment Management Plans developed (2 in Dawida Massif; 1 in Sagalla Hill).		2 SCMPs developed with technical support of WRMA (Kishenyi subcatchment area in Dawida Massif; Voi-Sagalla subcatchment area) (Annexes 26-27). *The target was reduced to 2 based on advice from WRMA during discussions in preparation for the activity. WRMA adviced it was more prudent to develop 2 SCMPs and support implementation of some of the activities. Out of this, both WRUAs were supported in training and riverine rehabilitation.*
Activity 2.5. Respective Water Resource Users Associations formed and registered.		The WRUAs had already applied for registration (with prior support from TTWF) before approval of this project. Kishenyi WRUA (for Kishenyi Sub-Catchment Area) has been registered and MVOSA WRUA (for Voi-Sagalla Sub-Catchment Area) still awaiting (Annexes 32-34).
Output 3. 1x MSc completed by Year 3. 1x 2-year EDGE Fellowship completed by Year 3. Up to 4x Kenyan Student Research Fund projects completed by end Yr 3. 3x TTWF staff trained on ZSL Conservation Tools course. CEPA strategy developed and implemented by end Year 2.	<u>Measure 1</u> • Attendance records of 3+ TTWF staff on ZSL Cons Tools course. • Attendance records of 1+ TTWF staff on ZSL Cons Leadership course. EDGE Fellow reports and blogs. # local community members trained/involved in biodiversity conservation and monitoring activities (via CEPA strategy reports). <u>Measure 2</u> • MSc attendance records and MSc dissertation by 1 TTWF staff. <u>Measure 3</u>	Generally, all the planned outputs were achieved. However, some challenges had been encountered in not achieving the number of staff trained on Conservation Tools Course by ZSL arising from the travel advisories due to terrorism threat. Venue of the course was shifted from Kenya to Costa Rica and therefore only the EDGE Fellow could attend due to travel cost inhibitions. There have been challenges with the Kenyan Student Research as the budget allocated could only cater for three effectively, and also the completion of the students has been delayed by the strike of Kenya University lecturers countrywide and also the slow process in Kenyan University. However, one of the students awarded has completed the first draft of his MSc thesis.

Project summary	Measurable Indicators	Progress and Achievements
	• # applications received for funding via Kenyan Student Research Fund. Expectation *is that awarded projects will target specific technical/social issues central to the project.*	
Activity 3.1. Training of 1 TTWF staff on DOCE MSc programme.		1staff (Mr. James M. Mwamodenyi) trained at DICE and graduated with MSc in Conservation Biology from the University of Kent (Annex 35).
Activity 3.2. Training of 2+ TTWF staff on ZSL Cons Tools Course (Kenya).		I staff (Mr. Dawson Mwanyumba) attended the ZSL Cons Tools Course in Costa Rica.
Activity 3.3 Training of 1+ TTWF staff on ZSL Conservation Leadership training course (London)		I TTWF staff (Mr. Basil Lewela Mashanga) attended the ZSL Cons Leadership Course in London (Annex 42).
Activity 3.4. Administration of Kenyan student research fund, facilitation of projects.		3 Kenyan students awarded grants for research for MSc thesis. All students completed their fieldwork and undertaking analysis and writing. 1 student has completed his first draft (Annex 36).
Activity 3.5. Training of 1 TTWF staff on a 2-year ZSL EDGE Fellowship.		1 TTWF staff trained (Mr. Basil lewela Mashanga).
Activity 3.6 Training and involvement of community in biodiversity conservation.		The Taita Hills Site Support Group trained. Three workshops/sessions.
Activity 3.7. CEPA strategy developed and implemented by end Year 2.		CEPA strategy developed with technical support of ZSL and being implemented. (Annex 15).
Activity 3.8. Survey to gauge impact of CEPA strategy.		Survey undertaken showing relatively high levels of awareness on biodiversity conservation such as in Sagalla >70% and Taita >65%.
Output 4 Conservation strategies for Taita thrush, Taita apalis, Sagalla caecilian developed and initiated by Year 3 of project. Research projects by Kenyan students on key endemic species incorporated into existing SAPs (by Year 3 of project).	<u>Measure 1</u> • # locally-led, multi-authored publications to peer-reviewed journals by end of the project. *Expectation is that 3 publications will be produced by end of project.* <u>Measure 2</u> • Conservation strategies and biodiversity monitoring and evaluation protocols developed for Thrush, apalis and caecilian.	The conservation strategies were developed through the leadership of Nature Kenya involving other agencies such as Kenya Wildlife Service, Kenya Forest Service, National Museums of Kenya, TTWF and independent researchers such as Dr. Mwangi Githiru. The findings of research projects by Kenyan students are yet to be incorporated since the analysis and writing has taken long due to a strike by lecturers in addition to other factors. Only one student has so far managed to do his first draft that was received on 20th June 2017 (Annex 36).

Project summary	Measurable Indicators	Progress and Achievements
	Expectation that effective M&E framework will be developed in Year 1. <u>Measure 3</u> • Species Action Plans developed or updated for Taita thrush, Taita apalis and Sagalla caecilian. *Expectation is that they will be completed by Year-2 of project.*	
Activity 4.1 Conservation strategies for Taita thrush, Taita apalis, Sagalla caecilian developed and initiated by Year 3 of project.		2 SAPs for critically endangered organisms prepared and approved. 1 for the birds (Taita thrush and Taita apalis) and 1 for the Sagalla caecilian (Annexes 58-59).
Activity 4.2 Research projects by Kenyan students on key endemic species incorporated into existing SAPs (by Year 3 of project).		This activity has not been achieved since findings of research projects by Kenyan students have taken long to be produced. The first draft of the MSc thesis for the first one to be awarded (Mr. Vincent Nzau of Kenyatta University) was received on 20th June 2017. However, the outputs will be considered and incorporated through NK facilitation with support from another project (Annex 36).
Output 5 Indigenous forest habitat restored through planting and maintenance of 500,000 native seedlings and tree saplings (450,000 in Dawida Massif; 50,000 on Sagalla Hill).	<u>Measure 1</u> • # native tree seedlings and saplings planted and maintained in Dawida Massif and Sagalla Hill. <u>Measure 2</u> • # existing and new community members involved in planting activities (to be measured biannually). <u>Measure 3</u> Measures of forest cover/connectivity through appropriate spatial analysis.	A total of 290,519 native tree species were planted in Dawida massif (240,519) and Sagalla hill (50,000) (Annex 8-9, 46-47). In addition, 400 grafted avocado seedlings were planted provided as an incentive to farmers to plant native tree seedlings on their farms. GIS maps were produced by the staff using the skills acquired from the training by the ZSL country manager. They used the free GIS software qGIS (Annex 41).
Activity 5.1 Development of seedlings nursery(ies) involving locally-led community groups.		5 seedlings nurseries were developed or supported – 3 in Dawida Massif and 2 in Sagalla (Annexes 8-9, 46-47).
Activity 5.2 Maintenance of seedlings and their preparation for planting.		Seedlings maintenance was undertaken which was particularly demanding during dry seasons. There were challenges in some places like Sagalla where things like pipes/taps provided were vandalised.

Project summary	Measurable Indicators	Progress and Achievements
Activity 5.3 Surveys (for baseline data) to identify planting sites to enhance connectivity.		Surveys were undertaken before planting especially in forest areas. On-farm planting, the identification of farmers was done with guidance of the *Least-cost forest connectivity model* (LCFCM) in Dawida Massif although any other farmer willing to plant trees would be assisted with seedlings. Only farmers identified using LCFCM were provided with the incentive of grafted avocado seedlings (Annexes 8-9, 46-47).
Activity 5.4 Planting of seedlings by community groups and members.		Planting of tree seedlings was done by group members and other community members including schools through mobilisation on tree planting days done by the project staff through the CFAs, WRUAs, local chiefs and assistant chiefs (National government), and ward administrators (County government), including KFS and other government agencies such as NEMA (Annexes 8-9, 46-47).
Activity 5.5 Maintenance of planted trees and monitoring of survival and growth.		This was undertaken by the staff where survival counts (overall 65%) were done on sample plots and farmers. The below threshold[6] survival rate may be attributed to the severe drought experienced and below average rain experienced over the life of the project with the worst being the first quarter of 2017 (Annexes 8-9, 46-47).
Activity 5.6 GIS mapping of tree planting areas.		GIS maps of planting areas were produced (Annexes 8-9, 46-47).

[6] In the forest sector in Kenya, good survival rate is pegged at 70%.

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis						
1b	Number of PhD qualifications obtained						
2	Number of Masters qualifications obtained	2	Kenya UK	Male Male	Mr Mr	English English	MSc in Conservation Biology - University of Kent MSc in Conservation Science – ZSL/Imperial
3	Number of other qualifications obtained						
4a	Number of undergraduate students receiving training						
4b	Number of training weeks provided to undergraduate students						
4c	Number of postgraduate students receiving training (not 1-3 above)						
4d	Number of training weeks for postgraduate students						
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (e.g., not categories 1-4 above)	1	Kenya	Male	Mr.	English	ZSL EDGE Fellowship
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)						

6b	Number of training weeks not leading to formal qualification						
7	Number of types of training materials produced for use by host country(s) (describe training materials)						

Research Measures		**Total**	**Nationality**	**Gender**	**Title**	**Language**	**Comments/ Weblink if available**
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	7	Kenya			English	Participatory process.
10	Number of formal documents produced to assist work related to species identification, classification and recording.						
11a	Number of papers published or accepted for publication in peer reviewed journals						
11b	Number of papers published or accepted for publication elsewhere						Location?
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country						
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country						
13a	Number of species reference collections established and handed over to host country(s)						
13b	Number of species reference collections enhanced and handed over to host country(s)						

Dissemination Measures		Total	Nationality	Gender	Theme	Language	Comments
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work						
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	1	Kenya			English	Mr. J. M. Mwamodenyi invited to present a talk to the membership of the East African Wild Life Society.

Physical Measures		Total	Comments
20	Estimated value (£s) of physical assets handed over to host country(s)		Purchase value in 2014.
21	Number of permanent educational, training, research facilities or organisation established	None	
22	Number of permanent field plots established	None	Please describe

Financial Measures		Total	Nationality	Gender	Theme	Language	Comments
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work						Supply of grafted avocado seedlings and 7,000 native tree seedlings.

Annex 4 Aichi Targets

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	√
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	√
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	√
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	√
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	√
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	

14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	√
15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	√
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

Annex 5 Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)

Annex 6 Darwin Contacts

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