Darwin Initiative Main Project Annual Report

Darwin Project Information

Project reference	23-017
Project title	Building resilient landscapes and livelihoods in Burkina Faso's shea parklands.
Host country/ies	Burkina Faso
Contract holder institution	BirdLife International
Partner institution(s)	Naturama, RSPB, Trinity College Dublin, Global Shea Alliance, Vogelbescherming Nederland (VBN), and University of Ouagadougou.
Darwin grant value	£302,996.
Start/end dates of project	1st May 2016 – 30th April 2019.
Reporting period (e.g., Apr 2016 – Mar 2017) and number (e.g., Annual Report 1, 2, 3)	April 2016 – March 2017, Annual Report 1.
Project Leader name	Elaine Marshall (maternity cover for Cath Tayleur).
Project website/blog/Twitter	http://www.BirdLife.org/news/tag/shea
Report author(s) and date	Elaine Marshall, Adama Nana, Assita Dembele, and Nonie Coulthard.

1. Project rationale

Approximately 40% of Sub-Saharan Africa is dryland habitat which is rapidly degrading resulting from over 4 decades of increasing agricultural intensification, immigration, and resource demand, including for fuelwood. The Shea parklands of West Africa form part of this critically threatened ecosystem which will play an important role in buffering, and adapting, to the effects of climate change.

Butter, from insect-pollinated shea trees (*Vitellaria paradoxa*) found in 21 sub-Saharan countries is the primary edible oil for 80 million people[1], and the fruit-pulp is vital food during the 'hungry season'. Women, almost exclusively, are the collectors and processors of shea, and local trade provides a timely cash income for some 18 million families[2]. In Southern Burkina Faso communities live in extreme poverty (<0.41$/day) and rely heavily on Parkland resources, with shea butter trade contributing to almost half the total value of income generating activities.

Current parkland management of farmer selection, weeding out natural regeneration and a culture of no tree planting, is greatly reducing tree and shrub diversity. Habitat degradation and pollinator decline have contributed to a reduction in shea yields by 40% over 20 years[12], with severe implications for food security and livelihoods. The loss of healthy ecosystems to shea monoculture has resulted in low plant diversity which is unlikely to maintain the pollinator richness required for optimal pollination services. The rapid declines of Afro-Palearctic migrant birds that overwinter in the shea-zone, have also been linked to the loss of preferred insect-rich tree species. Previous research identified an urgent need to both better understand the landscape diversity required for optimum pollination, and work with community members to increase awareness and develop a series of practical interventions for Parkland biodiversity. The project

has developed and is testing a resource management strategy ("Trees, Bees and Birds" - TBB) in 10 communities. This strategy will be delivered with technical support and training, to provide practical agroforestry solutions to biodiversity loss, and support additional livelihood opportunities. Drawing from the implementation of the TBB, guidelines for sustainable shea production are also being developed for the Sustainable Working Group of the Global Shea Alliance. These will support the integration of biodiversity into parkland management, and contribute to environmental advocacy for improved policy and practice across the shea industry.

2. Project partnerships

BirdLife International (Secretariat) is responsible for overall project management and measuring progress, and in collaboration with BirdLife Partners RSPB (UK) and VBN (The Netherlands), contributes conservation and development experience and expertise on birds and ecosystems. The project directly supports the agrobiodiversity work of Naturama, the BirdLife Partner in Burkina Faso. The pollinator research was designed and being implemented by Trinity College Dublin (TCD), working with the University of Ouagadougou, to help strengthen the latter's research capacity. This included training site managers and a Master's student in fieldwork techniques, pollination science, and site monitoring protocols for bees, habitats and birds. Through the new relationships with pollinator scientists, the project has strengthened Naturama's capacity both to collaborate with universities, and support ongoing scientific research and monitoring work. Naturama staff and university students are gaining an improved understanding of pollination and its role as an ecosystem service. This in turn expands their organisational and professional areas of biodiversity competence, and their capacity to sustain support for shea parkland communities by ensuring optimum pollination services associated with the TBB strategy implementation.

Naturama established collaborative working partnerships with local communities around Kaboré Tambi National Park (KTNP) 20 years ago (see Map, section 3). There is a long history of successful interventions developed jointly with the communities bordering the park, through engagement of locally elected representatives. The project builds on these relationships to facilitate the introduction of new innovative approaches to ecosystem conservation and rural development. In the focal communities surrounding the KTNP 272 out of 500 individuals have received training in implementation of the TBB strategy, and the 500 target will be met in project year 2. Naturama will also continue to increase awareness around pollinators and the relationship between pollination and habitat diversity, using the network of 20 trained pollination ambassadors from 10 villages, established in year 1, to facilitate the dissemination of project findings across other villages in the region, ultimately reaching out to 1800 households.

The Darwin Initiative project has enabled closer and more effective collaboration: notably between BirdLife, (Naturama in Burkina Faso), and TCD, and with the non-profit Global Shea Alliance (GSA), via the membership of BirdLife in the GSA Sustainability Working Group. The GSA, founded in 2011, promotes quality and sustainability in the shea industry, (with more than 400 members from 31 countries). It offers networking opportunities for women's groups, NGOs and small businesses, as well as international food and cosmetics retailers and suppliers. It liaises with governments to promote policy change, builds warehouses for women's groups and stimulates replanting. In Year 1 of the project, staff from Naturama and BirdLife International Secretariat (Ghana and Cambridge) have represented the project at 4 International meetings of the GSA. Personnel from the BirdLife Secretariat, Naturama, and VBN (BL Partner in the Netherlands), have participated in ongoing discussions with the GSA, around the development of biodiversity conservation guidelines for parkland management. There is now an established relationship directly between Naturama and the GSA Secretariat, and the project team has been working hard to identify a private sector partner for Naturama, which is a condition of co-financing for USAID-funded follow up work in Burkina, following GSA's successful grant application. As such, membership of the GSA and potential subsequent top up funding, will further support the sustainability of the Darwin Project legacy, and extend its impact over the longer term.

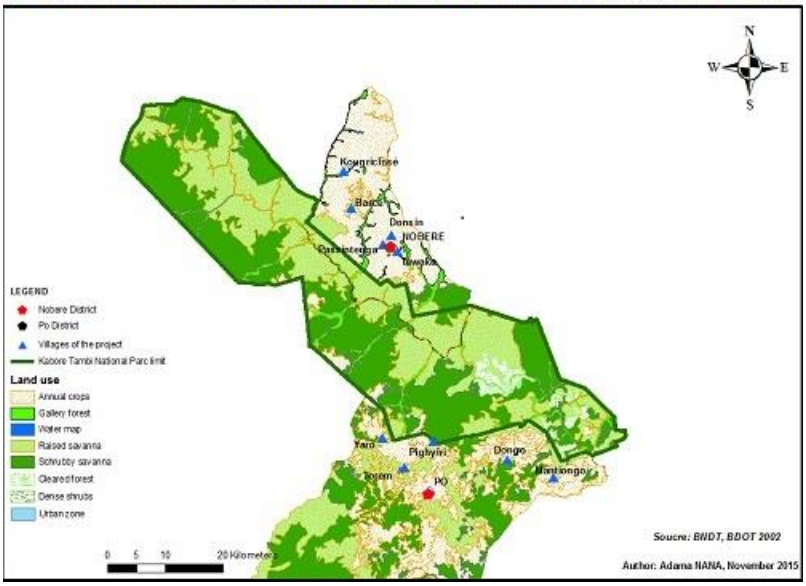
3. Project progress

Project management and staffing

During Year 1 of the project there were several staff changes, including a maternity cover for the Project Leader, interim sabbatical cover for the Project Advisor role, and a new Burkinabe Research Assistant. The project also identified and recruited dedicated pollinator and bird researchers. These additional staff bring relevant technical, regional, and project implementation experience. Regular email and Skype contact is maintained with all project partners, exchanging information, discussing activities and reviewing written outputs, and supporting the identification of opportunities to network and mainstream biodiversity.

The Project Leader and project adviser visited Ghana and Burkina Faso for 10 days in January to meet regional BirdLife project staff and the research team, some of the farming communities, the pollination ambassadors, and two of the women's shea butter producer groups. The field visit (see map below for location of project sites) was timed to coincide with shea tree flowering, but as the season began late, they assisted with establishing the final pollination fieldwork plots. Despite some unforeseen changes in BirdLife personnel, the project has undertaken activities to time and has had a very positive first year, meeting all its targets and has renewed partnerships with key stakeholders, established new ones and expanded networks which are key to the delivery and sustainability of this project.

LOCATION OF DARWIN PROJECT SITE IN BURKINA FASO



In addition to the log-frame change requests for personnel, the project submitted an output change relating to 'training women's groups in certification'. Community and industry consultation indicated this was not likely to be the most cost-effective way to improve livelihoods, so training has been refocused to help women achieve improvements in shea butter quality (leaving the potential for future certification options open) and product diversification, thereby improving livelihood security and potential income generation.

3.1 Progress in carrying out project Activities

Project start up:

Year 1 incorporated project inception/start up activities, and timetabled Output related activities. A revision to the official project start date was agreed (via Change Request), amending the start date to 1st May 2016, in light of the limited time between notification of the grant award and the original proposed start date. Reporting lines and administration and management structures have been established and working well, and staff recruitment has been efficient and timely. All project activities have been implemented in line with the original timetable from this revised start date, and the supporting documents listed below in the annual report text, are detailed in Annex 4 of the annual report.

OUTPUT 1:

Activity 1.1: A working group formed and workshop held in Quarter 1 of Year 1, bringing together key stakeholders and experts to draft a "trees, bees and birds" (TBB) shea parkland management strategy.

Initial project skype meetings engaged key project partners in work planning. The inception meeting in Nobéré, presented the objectives of the project to 44 stakeholders (local communities, NGOs, government, science and private sector). It initiated development of the "Trees, Bees and Birds" (TBB) strategy and feedback from the meeting fed into the first draft. Two additional community workshops in Po and Nobéré involved more than 50 community representatives, in validation and refinement of the TBB strategy, and selection of 'pollination ambassadors (activity 1.5), (see Annex 4, Output 1 for supporting documents, and draft TBB strategy).

Activity 1.2 Plan fieldwork, including site selection and GIS analysis of habitat degradation and tree density

Initial planning meetings and skype discussions between Burkinabe pollinator scientists, the TCD team and Naturama project researchers. An evaluation of the floristic potential (woody and herbaceous) of the experimental sites for the Darwin project undertaken, and site selection of 20 pilot sites for the trial TBB implementation and testing confirmed (QR2 report annex, Output 1 of Annex 4). Pollination research sites were selected near Pô and Nobéré, and semi-permanent marker posts were installed. A local farmer and pollination assistant, Frank Gnane Lirasse facilitated each site selection, ensuring suitability for the bird survey work, with Chris Orsman and John Mallord (RSPB) and Naturama researchers, Ali and Omar (Output 1, pollination and bird transect reports).

Activity 1.3 Fieldwork to determine pollinators, tree species and fruit set. Taxonomic identification, data analysis

Ten trees which had flowers or flower buds were selected at each site and data relating to shea flower visitation and hand pollination are based on these ten trees. Data collection will be completed during Q1 of Project Year 2, and analysis is scheduled for Q2 (Output 1, pollination reports).

Activity 1.5 Recruit pollination ambassadors and facilitate visits to pollination research sites.

Meeting held with pollinator team and Pô and Nobéré pollination ambassadors to communicate the survey results and planned pollinator training activities. 19 representatives from the project villages participated. Ongoing development of a Pollination Information Guide, for use as a farmer training aid (QR4, Output 3, draft pollination brochure).

Activity 1.7 Pollinator education activities– one public meeting a year in each of the ten village

Community meetings held in November, and in Pô these were attended by 128 producers, and in Nobéré, 113 producers of whom 35 were female participated (see QR3, pollination training guide).

Activity 1.8 Surveys to establish knowledge of pollinators

Survey developed and implemented by Naturama (with support from BirdLife Secretariat) to establish a baseline on pollinator and pollination knowledge, across the research sites: Reported 60 community members, including 30 women interviewed, to provide a point of reference against which future project impact on improved awareness and understanding of pollination services, can be measured (QR1 'RC-TBB', QR2 annexed report a).

OUTPUT 2

Activity 2.1: Develop the training and capacity building plan for education of KTNP stakeholders on TBB

Baseline surveys assessed knowledge and capacity around pollination, and community willingness and capacity to implement the proposed TBB strategy, during Q1 and 2. Results demonstrated that shea producers were eager to be involved in the initiative, whilst highlighting important knowledge gaps amongst local farmers (of whom 1 in 5 interviewed were illiterate), on

pollination services and the role of pollinators (QR2 c). A comprehensive training and capacity building strategy was developed and approved by the communities during municipal workshops (QR1 'RC TBB', and QR2 annexed reports). Surveys also recorded that women make a considerable contribution to decision-making around natural resources, but in particular around the use of shea, and other NTFPs (QR2 b).

Activity 2.2: Hold TBB farmer training sessions for 100 stakeholders in the KTNP region initially followed by 400 after revision of the strategy

The TBB strategy is being directly implemented in 5 villages of Pô district, and 5 of Nobéré, giving a total of 10 project intervention villages. There are 2 TBB sites located in each village, giving a total of 20 TBB active research sites (the pollination research sites 'map onto' these). 100 additional TBB piloting sites are also being influenced through TBB outreach training to farmers (see activity 2.3), to provide feedback which further informs and refines the strategy. 94% of farmers interviewed were recorded as understanding the importance of natural regeneration (QR2 annex report) but a need for training in tree planting was identified, and subsequently delivered to 181 small-holders (including 40 women) on assisted natural regeneration and planting techniques producers, and a total of >10,000 trees representing 6 different species were planted (QR2 annex 'support to tree planting'). Ongoing support will be provided to facilitate further farmer:farmer new knowledge dissemination during project year 2.

Capacity building in assisted natural regeneration delivered during 10 days of training across communities in Pô and Nobéré. The trainers were two community members and previously trained pollination ambassadors, Ouédraogo Karim and Gnané Lirassé Franck (who is also the field research assistant to Aoife Delaney). In Pô 250 producers participated, including 20 TBB ambassadors, and in Nobéré, 125 producers participated, including 38 women (Output 2, 'Community consultation TBB' report).

Activity 2.3: Surveys to monitor shea yields, socio-economics, biodiversity, habitat, including a review of the 100 pilot sites to inform TBB revision

Practical training sessions on planting techniques were given by the project research assistant, to some 332 producers, 107 of which were women (QR2 annex, 'support to tree planting').

Activity 2.4: Identify 10 suitable TBB demonstration sites

Twenty potential pilot demonstration sites for the TBB strategy were identified during biodiversity and habitat surveys (see activity 1.2, and QR2 'assessment of floristic potential' and 'RC-TBB').

Installation of pollination research sites in Pô and Nobéré

Identification of insect pollinators: Insects were captured before dawn and after dusk by sweeping Shea flowers with a butterfly net to catch pollinators visiting the flowers. Insect identification is now underway in the lab. Every pollination site was visited once in early February, and all sites were revisited and pollinators sampled in the last week in February and the first week in March (Output 1, QR pollinators).

Pollination experiments: These were carried out in 5 fields (1 in each of the 5 villages pertaining to Pô and Nobéré). In each field, 10 trees were sampled, and on each tree, 2 treatments were applied. One set of inflorescences was manually pollinated and other set was left open to natural pollination. Each treatment was repeated 3 times per tree during February and March, with a total of 300 treatments put in place to monitor the effect of both manual and free pollination. No more than 3 inflorescences will be hand pollinated on any one tree. 10 X 10 meter quadrats were used to assess vegetation diversity, and cover has been recorded in all sites by the end of March.

Baseline bird surveys were carried out in the same sites around Pô and Nobéré in January and February 2017. Birds were monitored between 06.30 and 11.00 am, at point counts along a 1 km transect route that traversed each (TBB) intervention site. All birds (Afro-Palaearctic migrants and residents / intra-African migrants) seen and heard within 50 m of each point, were recorded within 10 m distance bands. At the end of each point count, simple measures of habitat were recorded (Output 1, Mallord report). Two surveys will be carried out during each winter, with at least one month between them: in Year 1 (2016/17), these were carried out in January and February, but in year 2, the first survey will be carried out earlier to better coincide with peak North South migration (during November), and again in January / February. Results of all habitat, pollination

and bird research work will be analysed and written up in Year 2. (Output 1). The bird survey work will continue, subject to RSPB funding, beyond Darwin project end in 2019.

Activity 2.5: Provide support to stakeholders who have attended training sessions to facilitate farmer-farmer communication

Work contributing to this activity has begun with farmer tree needs and preference assessments, and the first stage of planting has been undertaken (a total of 10660 trees, of 6 species). This saw the participation of 332 producers, one third of whom were women (QR3 annex reports, 'Mission Appoui…'). Work to continue during Year 2.

Activity 2.6: Surveys to monitor capacity of community empowerment and ability to implement TBB including mid-point review of pilot

The mid-point review of the TBB pilot sites (the 100 TBB pilot sites to date, which are under TBB management transition) highlighted the need for ongoing support in techniques for tree coppicing, pruning, and planting, and assisted natural regeneration (QR3, annex report 3). Visits to support monitoring of progress in the 20 TBB implementation sites (where pollination and bird research are concurrently implemented), have observed management techniques (used by the ambassadors to encourage growth of planted trees) including 'protective hedges' (95%), 'watering' (60%), 'firebreaks' (35%), 'regular monitoring' (15%), and 'fertilization' (10%). The trees and shrubs favoured for planting by the pollination ambassadors as part of their TBB implementation strategy included (QR3 annex report 'Mission appui'):

Pô: 1,772 trees planted, including *Acacia nilotica* (1080), *Faiderbia albida* (145), *Khaya. senegalensis* (150) *Ziziphus mauritiana* (160) and other species in smaller numbers.

Nobéré, 2,054 trees including *Acacia nilotica* (1380), Khaya. senegalensis (85), Tamarindus indica (107), Ziziphus mauritiana (100), Parkia biglobosa (204), others.

In addition, 5,000 plants of *Ziziphus mauritiana*, *Balanites aegyptiaca*, *Mangifera indica*, *Azadirachta indica*, and *Khaya senegalensis* were successfully planted at a rate of 100 of each species per village school in the 10 intervention villages of the project.

Activity 2.7: Provide training in processing for improved butter quality and market access

Project stakeholders identified a preference and need for training provision in production techniques for high-quality shea butter and soap, as opposed to achieving certification (deemed an expensive option with no guarantee of providing tangible livelihood benefits (QR3 annex, 'Termes de référence sur la formation en production du beurre de qualité et du savon').Two training sessions were delivered by Tree Aid Enterprise, to bring product quality more in line with that required by certified markets. A total of 39 women participated from both the Pô and Nobéré villages, representing 30 different 'kernel' (*d'amande*) and 'butter' (*karité*) producer groups.

Output 3*.*

Activity 3.1: Form pollination advisory committee

The Pollination Advisory Committee (PAC) was formed (Prof. Jane Stout,TCD; Prof. Issa Nombré, Univ of Ouagadougou; Cath Tayleur / Elaine Marshall, BirdLife, and Mr Adama Nana, Naturama).

Activity 3.2: Recruit Pollination Scientist and Masters Student.

The post-doctorate pollination scientist (Aoife Delaney) was appointed following a competitive recruitment process in late 2016, and travelled to Burkina Faso in January 2017 to lead the 6 months pollination fieldwork from Pô (Output 3). Prof Issa Nombré (Ouagadougou), recruited Masters Student Kasoum Zabo, to support the pollination fieldwork in Nobéré.

Activity 3.3: Education of Naturama Staff about the role of insect pollinators;

Naturama staff undertook a training session, led by Prof. Nombré to improve their knowledge of pollinators. All project staff were involved and the training provided them with the knowledge they require to work with the communities and produce educational materials for training, and also covered practical pollinator survey techniques (Output 3 supporting documents).

Activity 3.4: Training of Naturama research assistant in survey methods for pollinators and birds;

At the beginning of January 2017, the PAC met farmers and visited the TBB intervention sites in both Pô and Nobéré districts, and appropriately refined and confirmed the pollination field research design. In parallel, the RSPB scientists arrived in Po (overlapping with the field visit of the project leader & advisor), to establish the bird baselines in alignment with the pollination sites (see Monitoring Protocols for both). Assita, the Naturama research assistant, received training in methods for surveying pollinators/ pollination and site/ habitat monitoring (see 1.2, and Output 3 supporting documents, and QR4). Visits from international (RSPB) conservation scientists allowed for additional training and mentoring for the Naturama bird research team who will implement ongoing bird survey and monitoring.

Activity 3.5: Training of Masters Student in pollination research

The PAC finalised the pollinator field research methods and conducted the necessary training required for the project team to ensure methodological consistency. Naturama staff and Kasoum Zabo have received training in aspects of landscape ecology, pollinator sampling and hand pollination (see QR3, Output 3). Aoife Delaney is responsible for data collection in the Pô district (5 pollination sites + 5 experimental control sites), and Kasoum (5 sites) around Nobéré.

Activity 3.6: Monitoring protocols for pollinators, birds, tree diversity and shea yields developed in collaboration with bird and pollinator experts.

Monitoring protocols developed and baselines established for 1. assessing tree species richness and density (using GIS, satellite imagery and field survey); 2. quantifying Shea yield and carrying out hand pollination experiments; 3. quantification of floral resources and insect flower visitors (on Shea and other non-Shea trees and shrubs). 4. Bird surveys on transects related to the pollination sites (see Output 3 supporting docs Annex 4, and Output 1 AR activity text): initial results expected Q2 PY2.

Output 4.

Activity 4.1 Develop a policy and advocacy plan

Key policy related stakeholders have been identified across different thematic areas, and whilst the strategy will not be finalised until mid-project (Q2, PY2), the policy engagement experiences in Year 1 are feeding helpfully into ongoing discussions with RSPB, BirdLife, and Naturama policy staff. The project leader and Naturama are investigating the recently adopted National Strategy for Sustainable Development of the Shea Sector (2015-2019), which is Burkina Faso's policy framework for building resilience of the Shea value chain. Future development of the policy and advocacy plan will reference this framework.

Activity 4.2 Hold advocacy workshops for Shea Industry

Project staff participated in the meeting of the Sustainability Working Group of the Global Shea Alliance (GSA),Tamale, Ghana (November 2016); presented the biodiversity best practice draft guidelines based on the 'TBB strategy' in Benin (see Output 4), following GSA's commitment to include biodiversity in their 'Sustainable Shea Initiative' (see letter of acknowledgement from GSA to BirdLife.

Activity 4.5 Participation at annual AEMLAP meetings

Presentations of the project and 'TBB' strategy made at AEMLAP (CMS: Africa-Eurasia Migratory Landbird Action Plan) Land Use workshop meeting: «Sustainable Land Use in West Africa: National and International Policy Responses that Deliver for Migratory Birds and People", and participation in the 14th Pan-African Ornithological Congress (Output 4; QR3).

Activity 4.7 Participation in GSA working groups

BirdLife a paying member of the GSA's Sustainable working group (SWG), made presentations in Tamale; prepared draft biodiversity guidelines for presentation at the Regional Sustainable Working Group meeting, Cotonou (being reviewed by GSA); participated in GSA national workshop to develop a Sustainable Shea Strategy for Burkina Faso, where 30 participants from women's groups private enterprises (processors, distributors, brands) government representatives, NGOs and donors, all met; made a presentation and was a panel member at the

GSA EU trade and Industry Conference on Shea Butter, 3rd April, The Body Shop, London (see Output 4).

3.2 Progress towards project Outputs

Output 1. *Research outputs completed and used to educate the shea-growing community around KTNP via pollination demonstration sites. The entire evidence base reviewed and used to inform development of the "trees, bees and birds" agri-environment strategy.*

The project team has made ambitious progress, with all the Year 1 targets met, and significant progress towards Year 2 targets and the overall Output.

In relation to ***Indicator 1.1***, the TBB ("Trees, Bees and Birds") strategy Working Group (WG) was formed and the draft TBB strategy was developed (with stakeholder input at the project inception and follow-up community meetings). It has been promoted widely and is now being trialled in the field. Progress on integration of this into wider Shea Parkland management is detailed under Output 4. In relation to ***Indicator 1.2***, the sites, methodology and protocols for research on the impact of pollination on shea yields and optimum diversity of tree species are established and linked with baseline bird surveys in the same sites. Data collection and initial analysis are underway, with results anticipated on target in Year 2. Under ***Indicator 1.3***, the targets are for Year 2 but significant progress has already been made in Year 1, with the establishment of the community "pollination ambassadors" network and visits to demonstration field sites and farms underway (for detail, see 3.1 Output 1 Activities, above). ***Indicators 1.4 and 1.5*** relate to the TBB strategy (finalization following results of research and field trials and advocacy/ mainstreaming into policy and practice), with targets for Years 2 and 3. Significant progress has been made towards these in Year 1 – see 3.1 Activities (above) and Annex 4 for development of the TBB strategy and Output 4 for promotion and advocacy relating to wider Shea Parkland management and policy. For all evidence of progress, see quarterly project progress including photographs and maps and technical reports (pollination and bird survey research protocols); baseline survey reports (all listed in Annex 4 and some supplied as Supporting Evidence).

Output 2. *500 people from 10 communities around KTNP have implemented the "trees, bees and birds" parkland management strategy, while another 1000 via farmer-to-farmer education have the knowledge and capacity to do so.* Access to market and potential revenue streams have increased through product diversification and training to improve butter quality (*Note revised wording following change request*).

Progress under Output 2 is well on target, with all Year 1 Indicator targets met or exceeded. The indicators remain relevant as worded in the original Log Frame, apart from 2.5 which was subject to a change request to remove the specific objective of groups obtaining certification (see explanation under 3.1, Output 2 Activities, above).

In relation to ***Indicator 2.1***, a comprehensive training and capacity building plan was developed by Naturama, drawing on the results of baseline socio-economic, awareness and capacity assessment surveys. This was subsequently approved and adopted by the communities during municipal workshops. The surveys revealed great interest in the project and willingness to engage with the TBB strategy, that women do engage in natural resource decision-making, and 75% of decisions around shea are taken jointly between man and wife (see QR2 report annex b). Low levels of awareness of pollination and low levels of capacity are recorded (see 3.1, and QR2 a). In relation to ***Indicator 2.2*** 181 small-holders (including 40 women) have participated in Naturama training on 'assisted natural regeneration' and 'tree planting techniques', and subsequently have started tree planting and other measures already on their farms. This training has had an associated impact of increasing the contribution made by women, to on-farm decision-making (QR2). A further 400 (including 160 women) from the KTNP region will have undergone direct training by Naturama, by the end of Year 2. This exceeded the Year 1 training target of 100 smallholders to receive "TBB" training. Evidence recorded from this implementation of key on-farm management measures indicated an increase. In relation to ***Indicator 2.3***, the 20 TBB demonstration sites were identified (each with a "pollination ambassador", and farmer:farmer

visits are scheduled for Year 2. ***Indicator 2.4*** targets relate to dissemination of the training through farmer-to-farmer education, community training and open days. A good foundation for achieving these (EOP) targets has been established in Year 1 through the initial farmer training, pollination ambassador network and demonstration sites and open days. The baseline surveys carried out will allow for (Year 3) assessment of project impact on community and other stakeholder awareness, capacity and women's involvement in decision-making.
The approved change request in Year 1 changed Indicator 2.5 to: ***Indicator 2.5*****:** "*By the end of Year 2, 100 women from 10 producer groups have received training in improving the quality of shea butter and obtaining access to market. By the end of the project at least 5 of the communities have women producer groups that have improved their market access.*"

Progress was made in Year 1 through 2 training sessions for entrepreneurs on the improvement of product quality (butter and soap) and introduction to the requirements to achieve certification (see 3.1, activity 2.7). These topics and the need for processor training were identified by women's' groups as more likely to be cost effective in providing livelihood benefits during the project than achieving certification itself which is an expensive process). Discussion on how best to achieve (and measure) improved market access will start in Year 2, Q1, using experience from the training and women's groups' feedback.

For all evidence of progress, see: Training and capacity building/ development Plan; quarterly project progress reports (and specific reports from training/ education and on-farm activities – e.g. "Support to tree planting" and "Assessment of floristic potential of experimental sites" etc.) – with materials, photographs and maps; TBB strategy; baseline survey methods and reports (all listed in Annex 4 and some supplied as Supporting Evidence).

Output 3. *Capacity of the host country for pollination research, long-term impact monitoring, and pollination education has been developed via mentoring by in-country and international pollination experts. Naturama have the capacity for ongoing development and monitoring of the "Trees, bees and birds" strategy.*

Progress towards this Output is very good, with all Year 1 targets achieved on or ahead of schedule and good progress towards Year 2 and 3 Indicator targets. Capacity is being built in Naturama, the University of Ouagadougou and more widely, through joint research, training and the involvement and guidance of national and international experts working with the project research teams and all project staff.

In relation to ***Indicator 3.1***, the pollination advisory team was established and is carrying out its function effectively to guide the research; the Conservation Scientist and Masters student were successfully recruited, the research teams are collaborating well and field work is proceeding on schedule and with no major difficulties or delays. In relation to ***Indicator 3.2***, all Naturama staff have received training (including in practical pollinator survey techniques) and continue to be mentored by the research team and advisors. They now have the requisite understanding of pollination services and capacity to produce educational materials for training and to lead a community educational programme (see pollination brochure draft in Output 3 of Annex 4). Under ***Indicator 3.3***, the Naturama research assistant has additionally received training in methods for surveying pollinators/ pollination and site/ habitat monitoring. Training was completed during the visit of the advisory team in January 2017 and provided an opportunity to update and revise the methods for pollinator monitoring with the Conservation Scientist and the Naturama field team. Visits from international (RSPB) conservation scientists allowed for refinement and finalization of the bird survey methods (in relation to the pollination research sites and protocols) and additional training and mentoring for the Naturama bird research team who will carry out ongoing bird survey and monitoring. For ***Indicator 3.4***, progress towards the Master's student degree (Year 3 target) included establishing the topic for his thesis and participation in early fieldwork to gain basic understanding of pollination and survey methodologies fieldwork. The targets under ***Indicator 3.5*** were fully achieved, with the finalization of monitoring protocols for surveys of pollinators, bird populations, tree diversity and shea yields which are now being implemented in the field. Elaboration of the longer-term strategy for development and monitoring of the TBB strategy (***Indicator 3.6*****)** is a Year 3 target; the results from the field research and trials in Year 1 will inform its preparation.

For all evidence of progress, see: quarterly project progress reports (and specific technical annexed reports: inception workshop; pollination research/ monitoring protocols and bird survey transect methodology); educational materials and training reports (examples listed in Annex 4 as Supporting Evidence).

Output 4: *An advocacy programme for integration of the 'trees, bees and birds' management strategy into policy and practice leading to the integration of TBB advice into GSA sustainability guidelines*

Progress under Output 4 is good, with the focus on engagement with and influencing the GSA (Global Shea Alliance) with a view to "mainstreaming" good practice for biodiversity into wider Shea Parkland management and policy development. The Darwin project activities, research results and lesson learning with Shea producers around KTNP are informing the development of the policy and advocacy approaches to achieve wider impacts on practice and policy across the Shea Parklands. Project staff and partners have engaged extensively with the GSA Secretariat and membership in West Africa and the UK, participating very actively as a member of the GSA Sustainability WG, in GSA meetings and conferences and in the development of biodiversity guidelines for inclusion in the GSA Shea Parklands Management Manual (in development). The "Darwin Shea Parklands project" and the "science to practice and policy" approach are being widely promoted and their validity and effectiveness are recognized and attracting great interest within GSA membership and more widely. Another key advocacy approach in Year 1 has been presentation of the "TBB" strategy and linked biodiversity and livelihoods approaches as they relate to sustainable land management and migratory bird conservation under the AEMLAP instrument (Africa-Eurasia Migratory Landbird Action Plan) under the CMS.

All the specific indicator targets were achieved (or exceeded) apart from ***Indicator 4.1***: Work towards the policy and advocacy strategy for the project has started, with Project Leader engaging key policy related stakeholders, across different policy thematic areas. The strategy has not been finalised, and the policy engagement experiences in Year 1 are feeding into current discussions with RSPB, BirdLife, and Naturama policy staff. A template is in preparation to produce the strategy in the first half of Year 2, and the delay in production of the strategy is not anticipated to have any impact on achievement of the overall Output (in fact it is preferable to use the Year 1 experience to guide its development). The experience from Year 1 and the results from the pollination field research and trials and demonstration of the TBB strategy will now inform the development of the broader project policy and advocacy strategy. Under ***Indicator 4.2***, (presentations to GSA meetings and participation in the GSA working groups) project staff from all partners have contributed extensively to GSA workshops and meetings, presenting the TBB strategy and the project and joining panel discussions in various meetings in West Africa and the UK. The project has prepared draft biodiversity guidelines for GSA as part of the Sustainability Working Group (see specific details of presentations and progress on the biodiversity guidelines under 3.1, Output 4 Activities above). The ***Indicator 4.3*** target was met, with presentation of the TBB strategy and contribution to discussions and the "Abuja Declaration" at the AEMLAP annual meeting on: "Sustainable Land Use in West Africa: National and International Policy Responses that Deliver for Migratory Birds and People"[1]. Specific targets for ***Indicators 4.4 to 4.6*** are all for Year 2 or EOP but progress has been made towards these with wider advocacy and dissemination of the "TBB strategy" and the project approach. This includes presentation of the TBB and migratory birds in the Shea Parklands at the 14th Pan-African Ornithological Congress[2] and input to the keynote address at a Darwin Initiative event on plant conservation (coordinated by the Global Diversity Foundation) at the forthcoming Global Botanic Garden Congress.

For all evidence of progress, see: quarterly project progress reports; reports and minutes of GSA workshops and WG meetings; conference and other presentations of TBB strategy and the project approach; draft "Biodiversity guidelines" prepared by BirdLife (the project) for the GSA Sustainability WG. (All listed in Annex 4 and some supplied as Supporting Evidence).

[1] http://www.cms.int/en/news/workshop-abuja-agrees-key-policies-sustainable-land-use-west-africa
[2] http://www.cms.int/en/news/pan-african-ornithological-congress-promoting-conservation-birds-africa

3.3 Progress towards the project Outcome

Project Outcome: "*Understanding of the relationship between tree diversity, pollination, shea yields, agricultural land use and migratory birds in Burkina Faso, informs management of 500 parkland smallholdings, and sector-wide guidance, promoting livelihood resilience and biodiversity."*

Progress in Year 1 is well on track to achieve the mid-point and EOP targets for all 5 indicators – and hence to achieve the overall Outcome, promoting both livelihoods resilience and biodiversity in the Shea Parklands in 500 smallholdings around KTNP.

Indicator 0.1 measures progress towards better understanding (and quantification) of the role and importance of insect pollinators for resilient shea production; establishment of the habitat requirements for healthy populations of pollinators and birds; and building capacity for pollinator and bird research and monitoring in Burkina Faso. The baseline was: "*The status of insect pollinators in West African agro-ecosystems poorly understood; in particular, only limited information on their role in the pollination and yield of shea trees*".

Good progress has been made in Year 1, towards the mid-point targets and leading to improved understanding and the scientific underpinning needed to inform management of the shea parklands (project Outcome). The project inception workshop launched and discussed the TBB strategy, which is now being tested in demonstration sites. Field research on pollination, pollinators and shea production is proceeding according to the planned implementation timetable. Research and monitoring protocols have been established, research sites set up; experiments and monitoring are underway (including baseline surveys of biodiversity and socio-economics). The research advisory committee was established and Naturama staff and the MSc student have received training and are carrying out field work with supervision from the pollination scientist and University of Ouagadougou. The first results (on Shea production, pollinators and biodiversity) will become available in June 2017 when shea is harvested and will be written up as scientific papers and used to revise the TBB strategy in Year 2. For detailed evidence of progress, see Outputs 1, 2 and 3 (in 3.1 and 3.2 above) and supporting documents in Annex 4.

Indicator 0.2 relates to awareness-raising among target communities (of the value of pollination services and diverse on-farm habitats to sustainable agriculture and availability of non-timber forest products (NTFP)). There are specific numerical targets for men, women, school children, NGOs and government stakeholders (by EOP) and starting from a baseline of "*Pilot socio-economic work highlighted little to no appreciation amongst shea-growing communities of the importance and value of pollination services*". Baseline surveys have been carried out and reported on in Year 1 as planned (see 3.1, 3.2: Output 2, above and supporting documents in Annex 4, including: "Assessment of the state of knowledge of local communities on insects and pollinators" (QR2 report annex). In addition to community members, 8 local NGOs participated in the project inception workshop.

One target for awareness raising was "3 certification schemes" but these are no longer a specific target of the project and the advocacy plan (see Change Request relating to Output 2 and Indicator 2.5 under section 3.1, 3.2 above). Other stakeholders (NGOs, regional and national governments, the Global Shea Alliance membership) are targeted under the advocacy plan and Output 4 (see progress above and under Indicator 0.5, below).

Indicator 0.3 relates to testing and implementation of the pilot "trees, bees, and birds (TBB) strategy", with EOP targets for increased diversity and enhanced shea parkland habitats producing benefits for biodiversity and livelihoods (fuelwood supply and NTFPs). In Year 1, the 10 villages and communities have been selected; 20 pollination "ambassadors" appointed and trained; 241 shea producers have been made aware and informed about the TBB strategy and capacity building plan and are being trained and supported in tree planting and other pilot TBB activities (farmer-to-farmer training). Surveys have been carried out to establish project baselines

for: farmers' attitudes/ awareness and ability to implement the TBB strategy; the potential of various trees and shrubs to be used for habitat diversification and sustainable use/ livelihoods. (See 3.1, 3.2: Output 2, above and supporting documents in Annex 4).

Indicator 0.4 is designed to monitor increases in shea yields and household incomes as well as benefits derived from diversification of NTFPs and sustainable fuelwood sources; and women's empowerment. EOP targets include % increases in shea yield on farms implementing the TBB strategy (relative to control farms); increases in incomes through better prices and access to markets; increases in diversity of NTFPs and sustainable sources of fuelwood and women's involvement in on-farm decision making. Year 1 progress towards these targets includes establishment of project baselines for shea yield on pilot and control farms and socio-economic surveys and assessments to determine baselines for incomes and other benefits. The Change request under Output 2 means that there is no longer an EOP target for groups to achieve certification. It is revised to: "*By the end of Year 2, 100 women from 10 producer groups have received training in improving the quality of shea butter and obtaining access to market. By the end of the project at least 5 of the communities have women producer groups that have improved their market access"*. The indicator targets for assessment of "improved market access" will be developed in Year 2, based on the baseline surveys conducted in Year 1. (See 3.1, 3.2: Outputs 2 and 3, above and supporting documents in Annex 4, including: "*Evaluation of shea yield*", and "*Analysis of the contribution of women to decision-making in the management of natural resources*" (Field visit progress report: support to and monitoring of tree planting activities (QR2 annex reports).

Indicator 0.5 has an EOP target for incorporation of guidance on optimising pollination for shea yields and sustainable habitat diversity, (informed by the "TBB" strategy pilots), incorporated into the GSA sustainability programme and awareness and willingness to implement the strategy raised amongst at least half of the GSA's 380 members – against a baseline of: "*Current GSA sustainability guidelines do not include guidance in relation to improving pollination services or negating biodiversity loss*" (see GSA letter of support, Annex 4). Progress against this indicator has exceeded Year 1 targets (for input to the GSA sustainable shea programme and promotion of the TBB strategy and Darwin project outputs). BirdLife has become a member of GSA and the GSA Sustainability Working Group; presentations about the TBB strategy and contributions to shea sustainability discussions have been made at 5 GSA meetings and workshops (in Ghana, Benin, Burkina Faso, UK); draft "Biodiversity Guidelines" for management of the Shea Parklands have been developed by project staff. Discussions continue to try to access USAID funding which has been granted to the GSA Sustainable Shea Initiative, to allow Naturama in Burkina Faso to expand implementation of the TBB strategy and "Darwin project" activities with communities around KTNP in Burkina Faso (and possibly with BirdLife in Ghana – Ghana Wildlife Society). A condition of this co-financing is partnership with the private sector. Project staff are trying to help KTNP producer-group networks and find a partner with aligned geographic coverage, willing to support the project approach and interventions.

Following promotion by the project of the importance of habitat biodiversity for optimal insect pollination and resilient shea production (at GSA Sustainability Working Group (SWG) conferences in July and Nov. 2016), the GSA invited BirdLife and Naturama staff to develop the "Biodiversity Guidelines" component under their Sustainability Programme, as part of the "Shea Parkland management manual". Informal measures of the level of awareness of GSA member organisations can be gauged from the reports of the meetings attended (very low awareness at the start of the project), and growing interest from GSA members in the TBB strategy and Guidelines (see Section 3.1 and Annex 4 for project presentations and reports of meetings; draft "Biodiversity Guidelines" etc.). See also GSA Letter of Support confirming the increasing levels of interest and awareness amongst GSA members of the importance of habitat biodiversity on pollination and shea production (Output 4, annex 4). The impact of the Guidelines and other project input to raising awareness within the GSA, will be assessed in Years 2 and 3 (for example, number of member organisations voluntarily adopting the Guidelines, once these are finalized by the SWG).

3.4 Monitoring of assumptions

Outcome level:

Assumption 1: Stability in the project area does not decline
Comment: Shortly before the start of the project (January 2016), there was a bomb in Ouagadougou. There have been no further terrorist activities in country, and FCO advice remains consistent with no travel warnings pertaining to southern Burkina.

Assumption 2: The production and processing of shea remains a high priority for regional development.
Comment: Burkina Faso production dominates the shea export market outside West Africa, with industry estimates at over 25% of total volume. Regional trade remains an important engine for development and estimates of the number of women 'employed' in shea activities, have grown from under 1m to over 4m in the past 20 years. Approximately half of the $200 million income generated across the sector, is cited as directly benefiting women producers.

Assumption 3: Communities and the wider shea industry find the sustainability arguments convincing.
Comment: the GSA Secretariat is committed to promoting sustainable use across the shea sector, and industry partners show a growing interest in following the development of sustainability guidelines. As the adoption of these will be voluntary, the findings from our pollinator research - where optimal pollination conditions require a biodiverse landscape - will provide an important lever by which to initiate the process of change. Naturama has established, trust based relationships with all communities around the KTNP. They continue to work transparently, engaging communities for their input whilst managing expectations, and communicating the benefits of agro-ecological practices to address the very concerns farmers have around longer term resource availability.

Assumption 4: There are no extreme or unseasonal weather patterns (drought, floods) that affect research results or the level of interest and uptake of management recommendations.
Comment: There have been no severe weather incidents during the first project year, and although the shea trees flowered slightly later than normal in 2017, the pollinator work has reported good fruit set, and we wait for harvesting to begin in June, to determine how productive yields have been this season.

Assumption 5: Demand for certified shea remains high.
Comment: The formal log-frame change resulting from additional industry and community consultation, saw a move away from certification as a tool for improved market access, because it was deemed unlikely to be cost effective and deliver the necessary financial returns now. Training to improve processor quality and diversify product range (to include soap), were deemed more effective value addition strategies for delivering tangible and immediate benefits.

Output level:

Output 1 assumptions:

- Experimental work is not adversely affected by weather conditions.
- Availability of government staff and pollination ambassadors can be timed to coincide with fruiting periods of the shea trees

No adverse weather conditions have impacted on the timetabling of the project's activities (nor any illnesses or accidents), and although the shea trees began flowering on the later side of normal, sufficient flexibility had been built into the planning of the research activities, that availability of key stakeholders was possible to coincide with this. The 'fruiting' and harvesting of kernels, is not expected to start until June 2017.

Output 2 assumptions:

- Those farmers trained and supported to do so implement TBB strategies.
- Those attending training sessions can disseminate the findings to a further two people

Naturama's approach to engaging community participation has an established and successful history, and trained farmers, pollination ambassadors, and field based researchers are present to provide technical support and guidance on a relatively continuous basis. The communities illustrate strong levels of social cohesion, and as a result of development interventions during the past 20 years, organisational capacity to cooperate and take collective responsibility is high.

Output 4 assumptions:

- Industry and policy makers see value in supporting and participating in the scheme

The project has maintained a strong presence in discussions and meetings in Year 1. It has been represented at 4 International GSA meetings, delivering presentations and project updates at each event. It is envisaged that support to and participation in implementation of project recommendations going forwards, will be best achieved through a combination of incentives to achieve voluntary engagement (optimal pollinator conditions equating to increased yield value for industry), and by the development of norms and policies which support ecosystem based resource management for shea production, in Burkina, and across the region.

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

The full enjoyment of human rights, including the right to life, health, food and water, depends on the services provided by ecosystems (Special rapporteur to the UN on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, 2017). As noted in the Millennium Ecosystem Assessment Biodiversity synthesis (2005), '*biodiversity is the foundation of ecosystem goods and services and it contributes to the productivity and stability of ecosystem processes. Furthermore, food security depends on biodiversity: raising any single crop involves a multitude of species including microbes, insects, worms and small vertebrates in the soil, and a host of species above ground which control pests, fertilise soil, and pollinate flowers*'[3] (*Ibid*). This project is making an important contribution to improved knowledge of biodiversity and pollination in the shea parklands. Shea is pollinated predominantly by the western honey bee (*Apis mellifera*), which is also a globally important pollinator. An IPBES report states that the honey bee colonies have been subject to unusually high losses in recent years '*which has been of particular concern, as pollination is necessary for more than 75% of the 107 leading global food crops*'[4]. As the first independent thematic assessment of pollinators, pollination and food production for IPBES is released (March 2017), this biodiversity dependent service is described as a '*compelling example of how connected people and their environment are*'. The report notes the growing threat to pollinators and associated implications thereof for global food security, and recognises that protection of pollination services and pollinator density and diversity will have a direct positive impact on crop yields, promoting food and nutrition security and ultimately achieving the SDGs[5]. There is an urgent need to protect ecosystem resilience which will have a direct impact upon the adaptive capacity of millions of small holder farmers, to the effects and impacts of climate change.

The project's first year has witnessed active community engagement, including input to prioritising training and capacity building for improved livelihoods. A total of 12 training workshops (2 communal meeting and ten village meetings) have been delivered to 291 farmers and shea producers, on increasing the technical capacity for multiple benefit agroforestry practices. On the ground implementation is testing the TBB strategy, and these messages are currently being integrated into biodiversity guidelines for best practice across the parklands of West Africa. Active participation of BirdLife and Naturama within the Global Shea Alliance and its Sustainability Working Group, has allowed us to take the lead on the parklands manual, which incorporates information and advocacy tools for improved ecosystem conservation. The project lessons – and

[3] Millennium Ecosystem Assessment, ecosystems and Human well-being: Biodiversity Synthesis (WRI, Washington, D.C. 2005), p18.

[4] Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services. Summary for policy makers of the assessment report on pollinators, pollination and food production, 2016, pp8 & 16. Connecting Global Priorities, p81

[5] *http://www.ipbes.net/publication/thematic-assessment-pollinators-pollination-and-food-production. Online access March, 2017*

the methods emerging from this project - will be disseminated amongst, and implemented by, the private and NGO sector member organisations of the GSA. This strengthens member capacity to integrate biodiversity conservation in their parkland management, and make a sustained positive impact upon the livelihoods, and specifically food security, of 18 million African families.

In Year 2, the development and implementation of a project Policy and advocacy strategy and plan will allow for wider dissemination of the results and approaches tested and demonstrated by the project (the "TBB strategy"). In addition to the Shea sector (producers and industry), this will target other stakeholder groups, decision-makers and development organizations to integrate practices and policy which support dual biodiversity conservation and community livelihoods and resilience objectives in the Shea Parklands.

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

During the project cycle, the greatest contribution will be made towards SDG 15. Progress towards protecting, restoring and promoting the sustainable use of terrestrial ecosystems in the first project year, has been derived principally from the implementation of the TBB strategy across 20 field sites in 10 villages of varying resource degradation (See Output 2 and 3. Supporting evidence pertaining to Outputs 1, 2 3 and 4, is all held in Annex 4.). This implementation has already triggered the process of parkland landscape restoration, through tree planting, reduced shrub clearance and natural regeneration to create pollinator friendly habitats (Output 3). Through the initial drafting of parkland biodiversity guidelines, the project has also made progress towards integrating biodiversity values into planning and development strategies, and is actively trying to mobilize additional financial resources through the development of a private partnership, facilitated by the GSA USAID funded initiative (SDG 15.9; Output 4). In the 20 intervention sites where the TBB has been implemented, the use of agro chemicals has been eliminated, thereby contributing directly to SDG 6 (6.3), and to SDG 3 (healthy lives and well-being) with reduced exposure to hazardous chemicals, and ultimately to SDG 12 (Output 2). Continued and scaled up implementation of the TBB will over the longer term also help combat desertification in this dryland ecosystem, making a crucial contribution to strengthened resilience and increased adaptive capacity to the effects of climate change (SDG 13). Finally, it is too early to measure the impact, but changes in landscape management through the adoption, roll out and scale up of the TBB, will see a positive solution towards SDG 1 and 2. In particular reduced vulnerability from increased environmental resilience and enhanced household income deriving from an increase in shea yield and an already observed improvement in butter quality. With an already tangible diversified cropping regime across the intervention sites, the project, and training target of 100 women from the research communities in improved butter processing, associated positive socioeconomic, nutritional, and gender benefits are being observed, thereby contributing to SDG 5.5 (Output 2).

5. Project support to the Conventions, Treaties or Agreements

Naturama is a member of several national consultation frameworks on environmental and development issues, and during project year one, there have been several opportunities for informal liason between Naturama and the CBD focal point, Mr Sonmanagre, and project quarterly reports are shared, to facilitate a closer monitoring of how project activities and outputs are supporting the achievement of Burkina's National Biodiversity Strategy and Action Plan.

The project has also benefitted from BL Secretariat's support to Naturama, in discussions with GSA around mainstreaming biodiversity in the shea sector, and this advocacy process has been initiated with the drafting of parkland management guidelines. (Output 4, Annex 4)

Aichi targets:

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

- Incorporating project results into the GSA Sustainability Programme for voluntary member uptake across the shea industry, and NGO led tree-planting programmes and local government engagement, will contribute to addressing the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society (Output 4, Annex 4). Specifically Targets 1 (biodiversity value), 2 (incorporation into national and local biodiversity and poverty strategies, and 4 (government and business stakeholder plans for sustainable production and consumption). See Activity 4.1

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

- Biodiversity guidelines based on empirical project evidence will form the basis of the biodiversity component of GSA's Parkland Management Strategy, which will help GSA in their sustainability advocacy work across the network, and ultimately a mechanism for influencing policy, from local to international scale (see sections 3.4; Output 4 Annex 4). Specifically Target 7 (sustainable agriculture), 8 (pollution and excess nutrient load brought to sustainable levels through organic mulching and composting in favour of external agro chemical input), and 13 (maintaining plant genetic diversity), 14 and 15.

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

- Specifically Targets 14 (ecosystem services restored and safeguarded) and 15 (ecosystem resilience). See Sections 3.4 and 4 (Contribution to SDG 13).

6. Project support to poverty alleviation

The World Food Programme's Human Development Index ranks Burkina Faso 183 out of 188, making it one of the poorest countries in the world: the average citizen in Pô and Nobéré districts survives on US$0.41 a day. After 1 year of project implementation, it is not yet possible to measure the project's direct impact on household income, nor livelihood diversification. However, both the contribution of shea to household income, and the number of income generating activities derived from natural resources, will be measured at the end of the project. The positive effects of knowledge and awareness resulting in improved land management for increased natural capital and enhanced food security, are keenly anticipated. In the longer term, a biodiverse shea agro-ecosystem will help regenerate dryland habitat and protect ecosystem services (including pollination), and make a sustainable contribution to livelihood resilience.

Indirect contributions to poverty alleviation have been made via the awareness training and capacity building on pollination and habitat diversity, already delivered to 431 farmers, 99 of which were women, equating to one quarter of the 1800 total during the first year of the project (see Output 2, Annex 4). The result of this is that these farms are already implementing more resilient land management. Active community engagement in the project has resulted in enhanced decision-making participation, especially of women, which is reported to be associated with feelings of empowerment (Output 2, QR2 annex report b). Women's contribution to on-farm decision-making will be measured at the end of the project.

Of the 500 farms which will come to manage their land under the TBB strategy during project years 2 and 3, 431 farms are. Additional co-benefits of project participation include increased opportunities for farmers and shea producers to participate in the formulation of norms and policies around the sustainable management of their parkland resources (Outputs 2 and 4, Annex 4). Naturama staff have also received research training during year 1, and this capacity will facilitate the regional expansion of their work, subject to securing additional funding.

7. Project support to gender equality issues

The project strives to achieve joint positive impact upon men and women, through equal access to capacity building, training, and employment opportunities, including model farmers and pollination ambassadors (QR3, Output 2, Annex 4). Women participate in all project activities and two women have already been appointed as ambassadors for their community, despite the

problematic, culturally entrenched land use access rights, which (in Burkina Faso) can mean women are excluded from land ownership titles. Women's groups in particular appear well organised in both districts, and the project has reinforced this capacity for women to work together. Individuals are dedicated to fulfilling both specific shea activities, and a variety of traditional NTFP ones.

All women interviewed during project surveys work with shea: extracting the edible pulp for home consumption and a source of cooking oil; selling the nuts ('*amande'*) prior to processing; or processing the creamy pale butter. From within Po and Nobéré districts, the 30 shea groups (average size of 20 affiliates) are split into 11 who process the shea nuts for butter, and 19 groups who work principally with the '*amande'*, essentially de-husking and cleaning the kernels. An estimated 8 kg of firewood is required to cook /boil 1 kg of butter, so the potential environmental impact is significant, highlighting the urgent need for the tree planting activities within the TBB strategy. Processing is also labour intensive; undertaken entirely by women, 1 kg of nuts yields approximately 450g of oil.

Approximately two-thirds of shea is harvested from personal plots, one-third from the bush, and less than 5% from the National Park buffer zone. Decisions around collection sites is generally taken jointly by men and women, and shea income expenditure is relatively evenly split across education, health, food and clothing, with a small amount on social obligations (QR2, annex b, Annex 4). The contribution women made to natural resource management was assessed at project inception, and this baseline data will be analysed and used in advocacy work around resource management decision-making processes, and re-evaluated at EOP.

Capacity building in processing technologies for product diversification and value addition, has been delivered to date by Tree Aid Enterprise to 39 women working with shea, from 21 (butter and kernel) producer groups. It has been reported to have improved butter quality and contributed to product diversification, to access additional markets (QR3, annex 4). Should the project be successful in accessing the USAID co-financing via GSA, training for women in parkland management and shea processing, will be implemented across additional communities. To date, see a summary of participation in capacity building techniques by women: the project is happy to report than more than one-third of those having received training, are women.

Participation in capacity building activities by gender.

Capacity building activities	Women	Men	Total		Women participation level
Project inception workshop	10	40	39		26%
Processing training for butter quality	39	0	39		100%
Natural regeneration technical support, and tree planting 2016	40	141	181		22%
Community workshops for TBB implementation	75	166	241		31%
Natural regeneration technical support, and tree planting 2017	59	191	250		24%
TOTAL			**672**	**1800**	**37%**

8. Monitoring and evaluation

Operational management:

Two experienced Programme Managers oversee monitoring and evaluation in UK and Burkina Faso, and are in frequent email contact and hold monthly skype meetings. All partners were involved in establishing the planning and monitoring framework from the project outset and will be providing inputs to this: specific M&E plans were drawn up to monitor progress against Outputs, and a gant chart constructed to schedule activities. In addition, the WASRO (BirdLife West Africa) office provides regional support to Naturama. The Project Advisory Committee (PAC) was

established at outset from representatives of the key partner implementation team (due to staff changes some members have changed temporarily). All current PAC members have met one another at least once in person during the first year, but not necessarily at the same time! On average, monthly skype calls, and regular email discussions facilitate close contract, especially during key phases, between the Project Leader and the Naturama team in Burkina, the pollinator scientists, bird ecologists and policy experts.

Naturama's quarterly progress is monitored by the timely submission of technical reports in french, produced against the project log-frame. Partners are always prompt to respond to any questions or points requiring clarification, and as these reports are submitted with annexes, additional detail and evidence of meetings, workshop participants, photos, and training sessions etc, is provided. In additional to technical reporting, quarterly financial reporting is undertaken on a standard template, and a spreadsheet detailing all transactions and rolling balance is submitted prior to approval of subsequent tranches of money. Original receipts are sent recorded delivery twice a year, and held in the accounts department of BirdLife, for future auditing purposes.

Baselines:

Following project inception, Naturama conducted baseline surveys by way of community consultation, to provide a point of reference and allow for change to be measured, around the understanding and valuation of pollination services and NTFPs: specifically producer knowledge of pollination; awareness of and desire and capacity to implement the TBB strategy (farmer attitude to tree removal and planting, uptake of the scheme etc); and women's empowerment measured by their contribution to decision-making around natural resource management) (See QR2, annexed a, b, c, documents). The baselines will be replicated at the end of the project to generate impact data. However Naturama estimate that 40% of the overall project contribution has already been made, towards outputs 1 and 2.

Additional baselines were conducted in Q3 to provide project measures of habitat and tree diversity, pollinator and bird abundance (see Output 3, Annex 4). BirdLife produced a short questionnaire to undertake industry perception on the value of biodiversity and pollination services in the shea parklands, but timing did not permit this to be implemented at the first GSA meeting in July. Several further attempts were made during the following months to engage GSA in rolling out the survey on BirdLife's behalf to its 400 members, but this was not possible. In November, the project presented the TBB strategy to the shea industry at the GSA sustainability working group meeting in Tamale, where consensus amongst members at that time, was that there should be a biodiversity component in the Sustainability Programme of the GSA. BirdLife / Naturama was invited to lead on this, based on the Darwin project 'TBB' work, and in January 2017, a first draft of guidelines was produced to present to GSA members in Cotonou in February, and again in London at the EU GSA conference. Industry adoption of sustainable parkland management guidelines would be voluntary, and the project will undertake an end of project survey of Industry and NGOs to evaluate their understanding of the TBB strategy, and assess their willingness to integrate it into their future workplans.

Output 1: Pollinator research is being executed by the competent Aoife Delany, and overseen by Prof. Jane Stout, and the internal project reports have been submitted, and the concepts for 2 journal articles been drafted out. Naturama will undertake a mid-term analysis of the TBB strategy and these will update a revised set of guidelines, and EOP monitoring will evaluate the efficacy of the strategy, and propose additional amendments and future research priorities.

Output 2: Monitoring by way of interim targets established within training and capacity planning (see Annex 4, RC-TBB annex to Q2 report), and site establishment monitored with maps, photos and written reports from the two site managers, and a field visit in January 2017. Women's empowerment and community capacity to implement tree, bees and birds will be evaluated via baseline and end of project social surveys, overseen by AN.

Output 3: Naturama's capacity to undertake pollination work will be assessed via their ability to develop education material for pollination and TBB training (see Annex 4 QR3, 'draft pollination

brochure'. A perceived change in community understanding of 'pollination processes and the role of pollinators', coupled with the desire to implement the TBB strategy, will be used as proxy indicators of success. Burkina Faso's capacity for pollination research will be assessed via their contributions to peer-review papers and Master's thesis.

Output 4 – Success of the advocacy programme will be evaluated by the change in knowledge of, and willingness to consider, pollination services in policy, industry sustainability guidelines, and tree-planting programs.

9. Lessons learnt

Naturama has cited the implementation of the project in Burkina Faso as having been a positive experience to date, but one that has benefitted from ongoing technical and management support from BirdLife International. It has provided a successful opportunity for Naturama to grow its organisational capacity in executing scientific field work and pollination research in a timely and effective manner, develop networks for disseminating advocacy and policy findings, and foster collaborative relationships with International and National research organisations / academic institutions. Effective collaboration via BirdLife's membership of the GSA has led to the recognition of biodiversity as a core component of sustainability. This is an important step in securing long term impact of the "Trees, Bees, Birds" strategy, for sustainable parkland management, enhanced production, and valuation of shea products. Naturama report that nothing would have been done differently, however the project recognises that it would be strategically advantageous to mobilize additional resources to scale up impact for a greater project legacy. As such, recommendations that this project makes at this stage is to continue to seek additional co-funding, ideally with established private sector partners. Technical and methodological support from BirdLife to Naturama will be sustained and incorporated into future regional workplans, along with continued communication, dissemination and advocacy support.

10. Actions taken in response to previous reviews (not applicable)

11. Other comments on progress not covered elsewhere

The project team has been working hard with the GSA secretariat to identify, as per condition of funding, a private sector partner with joint interests and regional coverage, for Naturama to collaborate with in supporting the Darwin sustainability work going forwards. The USAID funding will support and expand GSA's Sustainability Programme, and of the six work streams which make up the 'Sustainable Shea Initiative, BirdLife has been selected to contribute to 'parkland management training', by building on and scaling up the impact of the Darwin project.

The BirdLife Secretariat are providing ongoing support to a Dutch Post Code lottery funding application, which would engage ICCO for a wider regional implementation (including Mali and Ghana), and enhance the potential to extend the TBB strategy. Notification expected Q2 PY2.

Monitoring the potential impact of exchange rate differences resulting from the Brexit vote closely, and to date these do not seem to have been specifically problematic to this Darwin project.

12. Sustainability and legacy

Promotion of the project has been undertaken in many ways and at different levels, including the involvement of decision makers and partners in the launch workshop; the promotion and endorsement of the project approach and the TBB strategy in the development of new partnerships; negotiation of additional resources to strengthen the project and extend the activities and impact to other villages. Naturama's increased capacity, and enhanced profile as an independent nature conservation organisation within Burkina Faso, will strengthen its national and international advocacy in relation to mainstreaming biodiversity and ecosystem services into land management planning. Project results will also feed into AEMLAP's sustainable land management working group. The project's long-term impact will be evaluated and fed into future revision of the parklands management guidance through Naturama's biodiversity/site monitoring programme and BirdLife's membership of GSA.

13. Darwin identity

The Darwin Initiative logo is used on all documents and presentations produced by the project, which in itself was formally introduced at the inception workshop, and during the first phase of community and village meetings. Naturama has ensured that the purpose of the Darwin project has been clearly communicated to beneficiary populations and other stakeholders, including national partners (University of Ouagadougou), the national Biodiversity Focal Point; and Naturama member NGOs. The Darwin logo has also been added to Naturama's website where partnership work is promoted (www.naturama.bf), and the project is recognized as a distinct research initiative financed by the UK Government, and implemented by Naturama in Burkina Faso. Strategically, it sits within a broader programme of work (the Local Engagement and Empowerment Programme of BirdLife International), coordinated from the Global Secretariat in Cambridge. Two project stories are published on the BirdLife website, and discussions with the Communications Team are underway to develop an internet based project platform to coordinate the online dissemination of Darwin project outputs, and also provide an opportunity for information to continue to be shared, following project completion.

http://www.birdlife.org/europe-and-central-asia/news/shea-shea-everywhere-no-insects-left-eat

http://www.birdlife.org/africa/news/shea-butter-nourishes-more-dry-skin

Social media based opportunities (including Twitter) are also used for sharing key project findings and progress https://twitter.com/BirdLife_News. The Project Leader follows the Darwin Initiative on Twitter, and has had project tweets retweeted by them and others.

14. Project expenditure:

Table 1: Project expenditure during reporting period (1 April 2016 – 31 March 2017).

Project spend (indicative) since last annual report	2016/17 Grant (£)	2016/17 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs			105%	
Consultancy costs			103%	
Overhead Costs			101%	
Travel and subsistence			98%	
Operating Costs			98%	
Capital items (see below)			65%	Some purchases (computers) more affordable than budgeted. Camera available so not purchased. Naturama proposed purchasing external hard drives.
Monitoring & Evaluating			96%	
Others			70%	As above. Project leader will monitor both budget lines closely during first half of PY2.
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2016-2017

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
Impact Shea parklands in sub-Saharan Africa are managed for improved tree diversity and pollination, enhancing food and livelihood security for 80 million people, and enhancing habitat for wintering Afro-Palearctic migrant birds.		It is too early to be able to demonstrate the project's impact upon improved tree diversity and pollination, and livelihood security. However early contributions to promote parkland biodiversity have been made in the TBB intervention sites, and investments made in human and social capital with the delivery of farmer-led training in agroforestry practices and pollination techniques, apiculture, and shea processor capacity building.	
Outcome Understanding of the relationship between tree diversity, pollination, shea yields, agricultural land use and migratory birds in Burkina Faso, informs management of 500 parkland smallholdings, and sector-wide guidance, promoting livelihood resilience and biodiversity	**0.1** By the mid-point of the project, the role and importance of insect pollinators for resilient shea production has been quantified, and habitat requirements for healthy populations of pollinators and birds established, through field research undertaken at 10 pairs of sites in habitats of differing tree diversity around KTNP. Capacity for pollinator and bird research and monitoring in Burkina Faso will have increased Baseline: The status of insect pollinators in West African agro-ecosystems poorly understood; in particular, only limited information on	Inception workshop launched and discussed the TBB strategy, (now being tested in demonstration sites). Field research on pollination, pollinators and shea production proceeding according to implementation timetable. Research and monitoring protocols established, research sites set up; experiments and monitoring underway (including baseline surveys of biodiversity and socio-economics). Research advisory committee established; Naturama staff and MSc student have received training and are carrying out field work with supervision from the	Initial quantitative results (on shea production, pollination and biodiversity) will become available in late Q1, 2017, as the shea will be harvested in June. Results will be documented and used to help revise the TBB strategy during Year 2, and also written up as (at least 2) peer-reviewed scientific papers on pollinators and habitat management.

	their role in the pollination and yield of shea trees.	pollination scientist and University of Ouagadougou. (See methodologies/protocols and reports/ evaluations in Section 3 of main report and Annex 4).	
	0.2 By the end of the project, awareness of the value of pollination services and diverse on-farm habitats to sustainable agriculture and availability of non-timber forest products (NTFP) has increased from a baseline assessment in year one, amongst: 1800 adults (800 men and 1000 women); 900 school children in the 10 target communities[6]; 20 agroforestry NGOs; 3 certification schemes; regional and national government stakeholders as defined in the project's advocacy plan. Baseline: Our pilot socio-economic work highlighted little to no appreciation amongst shea-growing communities of the importance and value of pollination services.	Baseline surveys carried out among target communities and reported against (on the value of pollination services and diverse on-farm habitats to sustainable agriculture and availability of non-timber forest products (NTFP)): (see 3.3 and Annex 4 for assessments and survey reports). Other target groups made aware of TBB strategy/ information disseminated through awareness and training events (see 0.3 and 0.5 below in Annex 1).	Pollination education and awareness activities and TBB training events including "farmer-to-farmer" training continue. Wider project policy and advocacy plan to be developed.
	0.3 By the end of the project, 500 smallholdings within 10 villages in the KTNP region are being managed under the pilot 'trees, bees, and birds' strategy, optimising tree diversity for pollination, increasing supply of sustainable fuelwood, NTFP and habitat for migrant birds. Sapling removal will have halved, while migrant bird densities and pollinator levels will remain steady or improved	10 trial/ demonstration villages/ communities selected; pollination "ambassadors" appointed and trained; 241 shea producers made aware and informed about the TBB strategy and capacity building plan and are being trained and supported in tree planting and other pilot TBB activities (farmer-to-farmer training). Surveys carried out to establish project baselines for: farmers'	Tree planting and other TBB strategy pilot initiatives continue to be implemented, supported by pollination ambassadors and project staff; ongoing monitoring of results (livelihoods and biodiversity). Training in other aspects as requested by producers (improved quality and access to markets for shea; other NTFPs).

[6] Calculations are based on 60 adults attending each dissemination event, 1 held each year in each village, and 30 schoolchildren attending each education event, 1 held in each village each year.

	relative to the year one baseline.	attitudes/ awareness and ability to implement the TBB strategy; the potential of various trees and shrubs to be used for habitat diversification and sustainable use/ livelihoods; and biodiversity (habitat diversity, pollinator and bird abundance: see 0.1 above). See Section 3 and Annex 4 for assessments and survey reports).	Mid-point review of TBB strategy implementation.
	0.4 By the end of the project 100 household incomes will have increased via a combination of increased shea yields (10% increase) on farms implementing TBB and through better prices and market access resulting from training in processing techniques to improve butter quality (20% price premium, increasing total household cash incomes by 5%). Livelihood benefits generated through a more diverse supply of NTFP (at least 3 extra products) and sustainable fuelwood on 100 farms. 200 female shea producers will be empowered to contribute to on-farm decision making.	Project baselines established for shea yield on pilot and control farms and socio-economic surveys/ assessments carried out to determine baselines for incomes and other benefits (diversification of NTFPs and sustainable fuelwood sources; and women's empowerment). (see Section 3 and Annex 4 for evaluations/ assessments and survey reports).	TBB strategy pilot activities continue to be implemented; ongoing monitoring of results (shea yield, livelihoods/ incomes, diversification of NTFPs and sustainable fuelwood; women's empowerment and contribution to on-farm decision making). Mid-point review of TBB strategy implementation.
	0.5 By the end of the project, guidance on optimising pollination for shea yields and sustainable habitat diversity, informed by the "trees, bees and birds" strategy pilot, incorporated into GSA sustainability programme[7] and awareness and willingness to implement raised amongst at least half of GSA's 380 members – compared to	BirdLife has become a member of GSA and the GSA Sustainability Working Group; presentations (TBB strategy) and contributions to shea sustainability discussions made at 5 GSA meetings/ workshops; draft "Biodiversity Guidelines" for management of the Shea Parklands developed by project staff. GSA	Continued input to GSA meetings/ sustainability discussions and development of Biodiversity Guidelines for management of the Shea Parklands (informed by testing/ pilots and development of the "TBB strategy"). Discussions continue to try to access

[7] Current GSA sustainability guidelines for shea do not include any specific guidance in relation to improving pollination services or negating biodiversity loss.

	baseline survey in year one. Baseline: Current GSA sustainability guidelines do not include guidance in relation to improving pollination services or negating biodiversity loss.	Secretariat unable to distribute survey among membership to obtain a baseline for awareness of biodiversity and the importance of insect pollination and diverse habitats for resilient shea production (see also 0.1). "Informal" measures gauged from reports of meetings attended and interest from GSA membership in the TBB strategy and Darwin project outputs and requests to project staff to contribute to development of the Sustainable Shea Initiative, the GSA "Biodiversity Guidelines" and Shea Parkland management manual. (See Section 3 and Annex 4 for reports of meetings; draft "Biodiversity Guidelines"; project presentations etc.).	USAID funding (to the GSA Sustainable Shea Initiative) for expansion of "Darwin project" (TBB) activities with communities around KTNP in Burkina Faso (also possibly in Ghana).
Output 1. Research outputs completed and used to educate the shea-growing community around KTNP via pollination demonstration sites. The entire evidence base reviewed and used to inform development of the "trees, bees and birds" agri-environment strategy.	1.1 A working group formed and workshop held in Quarter 1 of Year 1, bringing together key stakeholders and experts to draft a "trees, bees and birds" shea parkland management strategy.	Working group on the TBB ("Trees, Bees and Birds" strategy) established and preliminary draft of strategy developed through stakeholder meetings: Project inception workshop (44 community, government, NGO, science, private sector), July 2016. Two follow-up community workshops (Indicator 1.3). See Main report Section 3.1, 3.2 and Annex 4 supporting documents (QR2 report annex TBB workshop report; TBB flier, Output 4 GSA Cotonou presentation, January 2017, and QR3 community workshop annex report.	
	1.2 By the mid-point of the project, a study of the impact of pollination on shea yields and optimum diversity of tree species for pollinators, planned and carried out at 10 degraded and 10	Evaluation of floristic potential (trees and shrubs) and selection of 20 pollination sites (2 sites (fields) in 5 villages around Po = 10 'non-degraded' sites, plus 5 experimental control sites ; and 2 sites (fields) in 5 villages around Nobéré = 10 'degraded' sites. GPS mapping and site marking completed. Baselines recorded for biodiversity, shea yields and socio-economics.	

	non-degraded sites around KTNP	Pollination experiments and monitoring underway. See Activity 1.3 below. See Quarterly Progress reports; Main report 3.1, 3.2 and Annex 4: "Assessment of floristic potential of experimental sites. 20 intervention sites selected for TBB implementation. (QR2: July-Sept. 2016); Aoife Delaney: "Shea_pollination_report_1-AD March 17" and "REPORT-Shea Pollinators1 AD Mar 17"; John Mallord: "Bird Transect methodology JM RSPB Mar 17").
	1.3 By end of Quarter 2 Year 2, 20 "pollination ambassadors" (2 per village, including at least 10 women) from the shea farming community, along with at least 2 local government officials, will have visited an experimental pollination plot leading to increased awareness of the link between pollinators and yield. Pollinator ambassador network established.	20 Pollination ambassadors appointed and network established: meet regularly with project staff (formal meetings; field/ site visits and training). Two community workshops held (Po and Nobéré communities) with participation of 60 people including 14 women, Sept 2016. See Main report 3.1, 3.2 and Annex 4: "Community workshop report and feedback on the TBB strategy", (Annex 1 to the QR3 (Oct-Dec. 2016); updated on 11 April 2017).
		Report on community awareness of pollinators / pollination in 'RC-TBB' annex to Q2 – baseline survey (see Output Indicator 2.1 below) and Annex to Q2 report 'Pollination and pollinator training report - 'Rapport de formation sur la pollinisation et les pollinisateurs'.
	1.4 By the beginning of Quarter 3 in Year 2, a "Trees, bees and birds" strategy revised and finalised incorporating updated information from pilot implementation and pollination research and feedback from the wider shea industry	Ongoing progress – draft "TBB strategy" produced and presented/ discussed at GSA and other meetings (see Output 5) and pilot field testing and research underway (Output 2).
	1.5 A final assessment of the efficacy of the TBB strategy is completed in the final Quarter of the project and the strategy published. A launch event will be timed to coincide with a GSA meeting. Social media campaign to promote the strategy.	*No activities Yr 1.*
Activity 1.1 Form TBB working group and hold a workshop to draft a preliminary strategy.		TBB working group established and launch workshop held to produce preliminary draft of TBB strategy.

	The next stage is the implementation and testing/ refinement of the strategy (now underway – see Output 2).
Activity 1.2 Plan fieldwork, including site selection and GIS analysis of habitat degradation and tree density.	Evaluation of floristic potential and selection, mapping and baseline survey of 20 demonstration / intervention sites, for pilot implementation of the TBB strategy). Next steps are continued implementation of habitat improvement activities (Assisted Natural Regeneration; tree planting); site monitoring (habitats and tree and shrub species diversity); diversification of production/ livelihoods activities.
Activity 1.3 Fieldwork to determine pollinators, tree species and fruit set. Taxonomic identification, data analysis.	The pollination expert and team have selected and marked sites for pollination research (10 + 5 controls around Po for the 'non-degraded selection', and 10 around Nobéré for the 'degraded' sites); characterised the species richness and density at selected sites (GIS, satellite imagery, field survey); started quantification of shea flower visitors and floral resources and flower visitors at other trees and shrubs. Capacity is being built for pollination monitoring in Burkina Faso through involvement and training of local community and Naturama project staff in all stages of field work and research. Next steps include completion of experiments and monitoring; quantification of shea yields and analysis and publication of results (see Activity 1.4 below).
Activity 1.4 Write scientific papers on shea pollination and habitat management.	Next steps: analysis and publication of results of pollination research after June 2017 field season completed.
Activity1.5 Recruit pollination ambassadors and facilitate visits to pollination research sites. Establish ambassador network.	20 Pollination ambassadors appointed and network established: meet regularly with project staff (formal meetings; field/ site visits and training). Two community workshops held (Po and Nobéré communities) with participation of 60 people including 14 women, providing feedback on preliminary results of the TBB strategy pilots (Sept 2016). See Indicator 1.3 above for sources of evidence (Main report, Annex 4). (The next stage will be implementation of activities in the demonstration sites; see Output 2).
Activity 1.6 Hold workshop to refine "trees, bees and birds" strategy and publish document.	*No activities Yr 1.*
Activity 1.7 Pollinator education activities– one public meeting a year in each of the ten villages.	Activities to inform and raise awareness about pollination and the TBB strategy have been carried out in 10 villages, with the participation of 241 community members (including approx. 75 women).
Activity1.8 Surveys to establish knowledge of pollinators.	Baseline questionnaire survey to establish levels of understanding and

		knowledge of pollination among producers completed and practices required to optimise pollination and production (based on trials to date) explained to producers and included in the TBB strategy. Survey showed: 71.7% of those interviewed did not know what pollination is; 15% thought there is a 'very strong' decline in pollinators, 26.7% thought the decline 'strong' and 58.3% thought it 'average'. Additional baseline report in QR2 report Annex 'Pollination and pollinator training report - 'Rapport de formation sur la pollinisation et les pollinisateurs'.
		See Indicator 1.3 above for sources of evidence (Main report, Annex 4).
Activity1.9 Final assessment of TBB efficacy.		*No activities Yr 1.*
Activity 1.10 Publication of TBB, launch event and social media campaign.		*No activities Yr 1.*
Output 2. 500 people from 10 communities around KTNP have implemented the "trees, bees and birds" parkland management strategy, while another 1000 via farmer-to-farmer education have the knowledge and capacity to do so. Access to market and potential revenue streams have increased through product diversification and training to improve butter quality.	**2.1** Development of a training and capacity building plan for the wider KTNP region for the "trees, bees and birds" strategy completed by the end of Quarter 1 in Year 1.	Training and capacity building plan developed through: 1. Technical discussions and feedback (56 people, project inception workshop). Recommendations made on improving knowledge and diversification of agricultural habitats to promote biodiversity (trees, insects and birds) and recognition/ realization of the benefits for communities and livelihoods; 2. Baseline surveys on: a) level of knowledge of communities on pollinators/ pollination; b) the contribution of women to natural resource management and on-farm decision-making c) evaluation of the capacity of local communities for natural resource management and implementation of the TBB strategy (see Annex 4, Output 2, a) b) c). 3. Production of a first draft Plan for consultation and feedback through community workshops. See Section 3.1 and 3.2 in Main Report and Annex 4: Quarterly reports; Draft training and capacity building plan for the wider KTNP region for the "trees, bees and birds" strategy (In annex to QR2 (July-Sept. 2016); TBB Strategy Reinforcement Plan.
	2.2 100 small-holders (including 40 women) from the pilot region will have attended "trees, bees and birds" training sessions led by Naturama, will have	332 producers (including 107 women) took part in training activities on ANR («Assisted Natural Regeneration ») and reforestation and planted nearly 11,000 trees of 6 different species. See Section 3.1 and 3.2 in Main Report and Annex 4: Report: "Support to tree

	implemented key on-farm management measures (tree retention, fallow, shrub) in the strategy by the end of year 1 and a further 400 (including 160 women) from the KTNP region will have undergone direct training by Naturama by the end of year 2. Women who participate in TBB training increase their contribution to on-farm decision making.	planting" in annex of QR2 (July Sept. 2016) – including Training materials, attendance reports, and feedback; Reports of baseline surveys of women's contribution to decision making (see Indicator 2.1 above). Annex 4: Report: b) "Aperçu de la contribution des femmes aux prises de decision sur la gestion des ressources naturelles" in annex of QR2 (July Sept. 2016).
	2.3 10 "trees, bees, birds" demonstration sites (1 per village) drawn from the initial 100 pilot farms used to illustrate the "trees, bees and birds" strategy during open-days for farmer-to-farmer education and training purposes by the beginning of year 2.	20 pilot/ demonstration sites/ farmers selected for implementation and testing of the TBB strategy. Training and practical tree planting training sessions carried out for over 300 producers to date (see Indicator 2.2 above). See main report and Annex 4: "Support to tree planting" in annex of QR2 (July-Sept 2016), including: Photos from demonstration sites in QR2.
	2.4 By the end of the project, the 500 who have received direct training have participated in farmer-to-farmer education, each trained individual disseminating information to 2 more[8], educating a further 1000 people in the TBB strategy. Knowledge will be reinforced through a mix of community training sessions, and visits to pilot site open days. Women in the project area show an increase in their empowerment to contribute to farm management decisions.	Farmer training started (see Indicator 2.2 and 2.3 above) and baseline surveys of community understanding, desire and capacity to implement "trees, bees and birds" strategy carried out (see Indicator 2.1 above). Reports of baseline measures of empowerment – see Output Indicator 2.1, above.

[8] A dissemination reach of two people is based on work by Naturama for the 'Living on the Edge' project which trained famers in natural regeneration techniques and tree-planting.

	2.5 By the end of Year 2, 100 women from 10 producer groups have received training in improving the quality of shea butter and obtaining access to market. By the end of the project at least 5 of the communities have women producer groups that have improved their market access.	Note this is a **change of wording to Output Indicator 2.5** (as per change request form dated 3.10.16). There is no longer an objective to achieve certification agreements for 5 women's groups. Instead the project has responded to womens' needs/ requests for training in quality improvement and support to increasing market access. 40 women representing 22 enterprise groups received training on improving the quality of butter and soap and introduction to the requirements to achieve certification, see Activity 2.7 below and evidence in main report and Annex 4 (QR3 (Oct-Dec 2016), QR3 annexed 'Training report on butter and soap', records of attendance, photos, etc.
Activity 2.1. Develop the training and capacity building plan for education of KTNP stakeholders on "trees, bees and birds"		Training and capacity building plan developed and integrated with the development of the TBB strategy. Next steps will include implementation of the plan through training events and information sessions.
Activity 2.2. Hold "trees, bees and birds" farmer training sessions for 100 stakeholders in the KTNP region initially, followed by 400 after revision of the strategy.		332 producers (including 107 women) participated in training activities on TBB strategy training, specifically on ANR («Assisted Natural Regeneration ») and reforestation and planted nearly 11,000 trees. The next steps in year 2, will be devoted to reforestation planning through identification of tree species which meet the needs of producers (from the list proposed to support the TBB strategy); continued tree planting and monitoring the sites and trees planted.
Activity 2.3. Surveys to monitor shea yields, socio-economics, biodiversity, habitat, including a review of the 100 pilot sites to inform TBB revision.		Surveys carried out to establish socio-economic baselines and community willingness and capacity to implement the proposed TBB strategy. Shea producers are eager to take part in the initiative; 20 sites/ farmers were selected (see Activity 2.4). Important knowledge gaps were identified (to address through training). Surveys were also conducted to investigate the role of women in NRM decision-making. See Output Indicator 2.1 and 2.3 above for survey reports and other sources of evidence (reports etc. in Annex 4).
Activity 2.4. Identify 10 suitable "trees, bees and birds" demonstration sites.		20 pilot/ demonstration sites/ farmers selected for implementation and testing of the TBB strategy. Next steps are implementation of the TBB strategy and monitoring results on these sites.
Activity 2.5. Provide support to stakeholders who have attended training session to facilitate farmer-to-farmer communication.		Regular support and advice is given to farmers on a daily basis through daily site visits by the project site managers.
Activity 2.6. Surveys to monitor capacity of community empowerment and ability to implement TBB, including mid-point review of pilot.		Survey on producers' attitudes and capacity to implement the TBB strategy completed. See Output Indicator 2.1 and 2.3 above for survey reports and other sources of evidence (reports etc. in Annex 4). Next steps include mid-point review of pilot, in Q2, Y2.
Activity 2.7. Provide processing training in improving butter quality and access to markets.		See **change of wording to Output Indicator 2.5 above.** 2 training sessions carried out for groups of entrepreneurs on the improvement

		of the quality of the products (butter and soap) and introductory training on the requirements to achieve certification. (In total 40 women representing 22 enterprise groups involved with shea processing have received training). As per change request (3.10.17) the next steps on assessing 'improved market access' depend. The MOV was not changed for Output Indicator 2.5 at the formal log frame change. Our response is to propose a) using income share from shea as a proxy indicator for market access, and triangulate these findings at EOP using participatory methods to assess perception of whether producers and processors consider their market access to have improved; or b) propose additional activities to provide an overview of the regional shea value chains, market intermediaries and other actors, barriers to entry as perceived by women's processing and producer groups, etc. The Project Leader could undertake this rapid value chain analysis to provide a market access baseline, but there would be probable budgetary implications, and it would necessitate a formal change request.
Output 3. Capacity of the host country for pollination research, long-term impact monitoring, and pollination education has been developed via mentoring by in-country and international pollination experts. Naturama have the capacity for ongoing development and monitoring of the "Trees, bees and birds" strategy.	3.1 Pollination advisory team formed by the end of the first quarter, consisting of local expert (Issa Nombré), international expert (Jane Stout). Expert recruited for Conservation Scientist research role, plus student recruited for local Master's project.	Pollination advisory team formed, Conservation Scientist and Master's student recruited and carrying out field work according to research plan. See Main report 3.1, 3.2 and Annex 4 (CVs for recruited research posts; Minutes /ToRs of advisory team meetings; Aoife Delaney Shea_pollination_report_1-AD March 17).
	3.2 By the end of Year 1, 4 Naturama staff, involved in pollination education, via mentoring via the Pollination advisor team, have and understanding of pollination services that allows them to develop and lead an educational program.	Naturama staff trained (by Prof. Nombré) to improve their knowledge of pollinators, practical pollinator survey techniques; ways of working with communities and production of educational materials for training. (See Main report 3.1, 3.2 and Annex 4 - Copies of education materials on pollination produced for the community by Naturama).
	3.3 By the end of Year 1, a Naturama research assistant trained in methods for surveying of pollinators and birds.	Naturama research assistant (pollination) trained as above and now conducting pollination research and monitoring activities at Nobéré sites with ongoing supervision in the field from pollination scientist. Naturama bird survey team capable of implementing survey protocols. Received follow-up training through joint field work, site selection and

		development of monitoring protocols during RSPB Research Scientist field visits in Jan. 2017. (See Main report 3.1, 3.2 and Annex 4 – Aoife Delaney: "Shea_pollination_report_1-AD March 17"; John Mallord: "Bird Transect methodology JM RSPB Mar 17").
	3.4 By the end of Year 3, 1 Masters student gains training in pollination fieldwork, contributing to degree.	Masters student received training and started field work on pollination around Noberé in association with Naturama field staff and under supervision of Prof. Nombré, January 2017.
	3.5 Monitoring protocols for surveys of pollinators, bird populations, tree diversity and shea yields by the end of Quarter 2 Year 1.	All in place and being implemented. (See Main report 3.1, 3.2 and Annex 4 – Aoife Delaney: "Shea_pollination_report_1-AD March 17"; John Mallord: "Bird Transect methodology JM RSPB Mar 17").
	3.6 Strategy for continued support of monitoring and development of "Trees, bees and birds" by the end of Year 3.	*No activities Yr 1.*
Activity 3.1 Form pollination advisory committee.		Pollination Advisory Committee formed (Prof. Jane Stout, Prof. Issa Nombré, Dr Cath Tayleur – replaced during maternity leave by Elaine Marshall - and Mr Adama Nana). The pollination scientist (Aoife Delaney) was appointed following a competitive recruitment process. Various e mail and Skype discussions and meetings in the field in January 2017 to agree timetable, methods and protocols Next steps will include reports on preliminary results and the production of scientific articles based on the results of the research and monitoring of the sites.
Activity 3.2 Recruit Pollination Scientist and Masters Student.		Pollination scientist recruited (Aoife Delaney) and Masters student (Kasoum Zabo); currently in the field monitoring pollination and pollinator species. For more detail and Next steps See Activity 1.3 above (and in Main report) and Annex 4 reports.
Activity 3.3 Education of Naturama staff about the role of insect pollinators.		The Naturama project team received training in the science of pollination and pollination research. Next steps focus on using this knowledge to inform and raise awareness among producers and other stakeholders during project meetings (see Outputs 1 and 2 above and in Main report).

Activity 3.4 Training of Naturama research assistant in survey methods for pollinators and birds.		Naturama Research staff trained and conducting pollination research and bird monitoring activities at Po and Nobéré sites (See Output 3.3 above for detail and supporting evidence).
Activity 3.5 Training of Masters student in pollination research.		Masters student recruited and trained and is now working in the field. The next steps will be the site based monitoring and the university supervision provided by Prof. Nombré Issa (See Output 3.4 above for detail and supporting evidence).
Activity 3.6 Monitoring protocols for pollinators, birds, tree diversity and shea yields developed in collaboration with bird and pollinator experts.		All monitoring protocols developed and under implementation. See Indicator 3.5 above for detail and source of evidence (pollinators, birds, trees) and Output Indicator 1.2/ Activity 1.3 (for shea yields). Initial bird surveys in 20 intervention sites (Jan/ Feb. 2017): 1,423 individuals of 104 identified species. In control sites: 1,552 individuals of 104 identified species, of which 6 were migrants (of 5 species).
Activity 3.7 Legacy strategy developed for on-going monitoring of the efficacy of the TBB strategy.		*No activities Yr 1.*
Output 4 An advocacy programme for integration of the 'trees, bees and birds' management strategy into policy and practice leading to the integration of TBB advice into GSA sustainability guidelines.	**4.1.** By end of Quarter 3, Year 1, a policy and advocacy plan prepared by BirdLife, under guidance from the RSPB and Naturama, identifying key sector-wide organisations and decision-makers and advocacy channels.	No written plan prepared (scheduled for first half Year 2). Local level (community and local administrations, NGOs) advocacy activities Yr 1 – see Outputs 1 and 2, above). Policy/ advocacy in Year 1 targetted national, regional and international stakeholders and meetings; attendance at/ presentations of project and TBB strategy including: 14th Pan-African Ornithological Congress (Dakar, Senegal 16-21 October 2016); GSA meetings and workshops (see 4.2 and 4.4 below) and AEMLAP (see 4.3 below). See QR3, report annex 5 (in Annex 4), for PAOC presentation.
	4.2 Presentations at the AGM of the Global Shea Alliance in 2017 and 2018. Participation in the GSA working groups from 2016 onwards.	GSA meetings attended and project presentations made/ panel discussions joined: - Sustainability Working Group of the Global Shea Alliance (GSA) meeting, Tamale, Ghana (6-10 Nov 2016), presentation of the Darwin project and the TBB strategy (WASRO, Naturama). - Draft biodiversity guidelines presented at the Regional Sustainable Working Group meeting (13 – 14 March 2017, Cotonou Benin). - Participation in the GSA national workshop to develop a Sustainable Shea Strategy for Burkina Faso (Ouagadougou, 21 Feb 2017), Naturama. - GSA EU Trade and Industry Conference, 3 April 2017, The Body Shop offices, London (presentation and participation in panel discussions: BirdLife and VBN). BirdLife became paid-up member of the GSA Sustainability Working Group;

		attended WG and BirdLife-GSA Secretariat meetings; developed draft Biodiversity Guidelines for the Secretariat and WG (for eventual inclusion in a GSA Shea Parklands Management Manual). See main report, sections 3.1 and 3.2 and Annex 4 for supporting documents/ evidence (draft Biodiversity Guidelines; Quarterly Progress reports; PowerPoint presentations etc.)
	4.3 Presentations at the annual AEMLAP meetings from 2016 onwards. And discussed within the sustainable land use working group.	Presentation and discussions by Naturama and VBN at: annual AEMLAP meeting: CMS: Africa-Eurasia Migratory Landbird Action Plan) Land Use workshop (Abuja, Nigeria, 24-26 November 2016). See main report, sections 3.1 and 3.2 and Annex 4 (presentations and outputs from meeting – including CMS "Abuja declaration". The Darwin project has been invited to submit a written contribution for the AEMLAP electronic newsletter, about the project and progress to date.
	4.4 Advocacy workshops held in Years 2 and 3 of the project in collaboration with the GSA with the aim of disseminating the results of the "Trees, bees and birds" more widely throughout the shea industry, and receiving stakeholder feedback.	See Output 4.2 above (and main report Section 3) for progress in Year 1 on advocacy and dissemination of project outputs and "TBB" strategy among GSA membership and shea industry.
	4.5 By end of Year 2 policy briefs prepared that include executive summaries following completion of the "trees, bees and birds" strategy development.	*No activities Yr 1.*
	4.6 An end of project advocacy workshop with the aim of integrating the "Trees, bees and birds" into policy held for government, NGOs and certification standards.	*No activities Yr 1.*
Activity 4.1 Develop a policy and advocacy plan.		Many policy and advocacy meetings attended and documents prepared (see Outputs 4.2, 4.3 above). Next steps: review and prepare (biodiversity and poverty reduction) policy and advocacy plan in Q1 and Q2 Year 2 (BirdLife, RSPB, Naturama).

Activity 4.2 Hold advocacy workshops for Shea Industry.	See Output 4.2 above (and main report Section 3) for progress in Year 1 on advocacy and dissemination of project outputs and "TBB" strategy among GSA membership and shea industry.
Activity 4.3 Prepare and distribute policy briefs.	Next steps: preparation of targeted policy briefs to support implementation of the policy and advocacy plan in Year 2.
Activity 4.4 Participation at the Global Shea Alliance AGMs.	See Output 4.2 above (and main report Section 3). Next steps: continued engagement with GSA membership and Secretariat (including 2017 AGM) and Sustainability Working Group.
Activity 4.5 Participation at annual AEMLAP meetings.	See Output 4.3 above (and main report Section 3). Next steps: participate in annual AEMLAP meeting 2017.
Activity 4.6 Advocacy workshop for government, NGOs and certification schemes.	*No activities Yr 1.*
Activity 4.7 Participation in GSA working groups.	See Output 4.2 above (and main report Section 3). Next steps: continued engagement with GSA Sustainability Working Group; development of Biodiversity Guidelines; efforts to access USAID/ GSA funding for Naturama in Burkina Faso to enhance and expand "Darwin project" biodiversity and livelihoods activities around KTNP.

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: Shea parklands in sub-Saharan Africa are managed for improved tree diversity and pollination, enhancing food and livelihood security for 80 million people, and enhancing habitat for wintering Afro-Palearctic migrant birds. (Max 30 words)			
Outcome: (Max 30 words) Understanding of the relationship between tree diversity, pollination, shea yields, agricultural land use and migratory birds in Burkina Faso, informs management of 500 parkland smallholdings, and sector-wide guidance, promoting livelihood resilience and biodiversity.	**0.1.** By the mid-point of the project, the role and importance of insect pollinators for resilient shea production has been quantified, and habitat requirements for healthy populations of pollinators and birds established, through field research undertaken at 10 pairs of sites in habitats of differing tree diversity around KNTP. Capacity for pollinator and bird research and monitoring in Burkina Faso will have increased. Baseline: The status of insect pollinators in West African agro-ecosystems poorly understood; in particular, only limited information on their role in the pollination and yield of shea trees. **0.2.** By the end of the project, awareness of the value of pollination services and diverse on-farm habitats to sustainable agriculture and availability of non-timber forest products (NTFP) has increased from a baseline assessment in year one, amongst: 1800 adults (800 men and	**0.1.1** Two open-access peer-reviewed scientific papers on pollinators and habitat management co-authored by Naturama and University of Ouagadougou employees. Executive lay summary of research Update to the CBD Pollination Information Management System. **0.1.2** Baseline and end of project survey of the communities to examine the change in	Political stability in the project area does not decline. The production and processing of shea remains a high priority for regional development Communities and the wider shea industry find the sustainability arguments convincing. There are no extreme or unseasonal weather patterns (drought, floods) that affect research results or the level of interest and uptake of management recommendations. Demand for certified shea remains high.

	1000 women); 900 school children in the 10 target communities[9]; 20 agroforestry NGOs; 3 certification schemes; regional and national government stakeholders as defined in the project's advocacy plan. Baseline: Our pilot socio-economic work highlighted little to no appreciation amongst shea-growing communities of the importance and value of pollination services. **0.3.** By the end of the project, 500 smallholdings within 10 villages in the KTNP region are being managed under the pilot 'trees, bees, and birds' strategy, optimising tree diversity for pollination, increasing supply of sustainable fuelwood, NTFP and habitat for migrant birds. Sapling removal will have halved, while migrant bird densities and pollinator levels will remain steady or improved relative to the year one baseline. **0.4** By the end of the project 100 household	understanding and valuation of pollination services and NTFPs (Gender disaggregated statistics collected). Baseline and end of project surveys of attitudes to sapling removal, fallows and tree-planting on farms. Quarterly training reports and materials **0.1.3** Baseline and end of project participatory surveys within the pilot region measuring willingness and capacity to implement "trees, bees and birds", uptake of the scheme. Baseline and end of project measures of on-farm tree diversity and density, including number of coppice and NTFP species.	

[9] Calculations are based on 60 adults attending each dissemination event, 1 held each year in each village, and 30 schoolchildren attending each education event, 1 held in each village each year.

	incomes will have increased via a combination of increased shea yields (10% increase) on farms implementing TBB and through better prices and market access resulting from training in processing techniques to improve butter quality (20% price premium, increasing total household cash incomes by 5%). Livelihood benefits generated through a more diverse supply of NTFP (at least 3 extra products) and sustainable fuelwood on 100 farms. 200 female shea producers will be empowered to contribute to on-farm decision making. and through better prices and improved market access achieved by training in processing to improve butter quality	Baseline and end of project measures of habitat diversity, pollinator and bird abundance. **0.1.4** Baseline and end of project measures of shea yield on TBB sites relative to control sites. Baseline and end of project measures of cash income generated by shea. Baseline and end of project measures of firewood sourced sustainably from on-farm. % of firewood sourced sustainably Baseline and end of project measures of community use of NTFP. Baseline and end of project participatory surveys of women's contribution to on-farm decision making. Quarterly reports and maps of pilot scheme implementation and demonstration sites. Training materials and records of attendance at training and	

		demonstration site open days.	
	0.5 By the end of the project, guidance on optimising pollination for shea yields and sustainable habitat diversity, informed by the "trees, bees and birds" strategy pilot, incorporated into GSA sustainability programme[10] and awareness and willingness to implement raised amongst at least half of GSA's 380 members – compared to baseline survey in year one. Baseline: Current GSA sustainability guidelines do not include guidance in relation to improving pollination services or negating biodiversity loss.	**0.1.5** GSA sustainability guidelines and best practice manual. Copies of minutes and presentation from GSA AGM Results from baseline and end of project questionnaires directed at relevant NGOs and Development agencies on the awareness and importance of pollination. Presentations and attendance records from end of project workshop.	
Outputs: 1 Research outputs completed and used to educate the shea-growing community around KTNP via pollination demonstration sites.	**1.1.** A working group formed and workshop held in Quarter 1 of Year 1, bringing together key stakeholders and experts to draft a "trees, bees and birds" shea parkland management strategy. **1.2.** By the mid-point of the project, a study of the impact of pollination on shea	**1.1.1** List of working group members Minutes from workshop meetings Draft TBB strategy, including list of trees with justifications.	Experimental work is not adversely affected by weather conditions. Availability of government staff and pollination ambassadors can be timed to coincide with

[10] Current GSA sustainability guidelines for shea do not include any specific guidance in relation to improving pollination services or negating biodiversity loss.

	The entire evidence base reviewed and used to inform development of the "trees, bees and birds" agri-environment strategy.	yields and optimum diversity of tree species for pollinators, planned and carried out at 10 degraded and 10 non-degraded sites around KTNP. **1.3.** By end of Quarter 2 Year 2, 20 "pollination ambassadors" (2 per village, including at least 10 women) from the shea farming community, along with at least 2 local government officials, will have visited an experimental pollination plot leading to increased awareness of the link between pollinators and yield. A pollinator ambassadors network established. **1.4.** By the beginning of Quarter 3 in Year 2, a "Trees, bees and birds" strategy revised and finalised incorporating updated information from pilot implementation and pollination research and feedback from the wider shea industry. **1.5.** A final assessment of the efficacy of the TBB strategy is completed in the final Quarter of the project and the strategy published. A launch event will be timed to coincide with a GSA meeting. Social media campaign to promote the strategy.	**1.1.2** Research strategy and field-work plan. Map of experimental sites Report from field-work component **1.1.3** Reports and photos from visits to the pollination sites. Notes of meetings from the pollination ambassadors network. **1.1.4** Notes from stakeholder consultations. Final TBB strategy document published. **1.1.5** Assessment of the TBB strategy. Reports from the launch event. Details from social media campaign, including 'audience reached'	fruiting periods of the shea trees.
2	500 people from 10 communities around KTNP have implemented the "trees, bees and birds"	**2.1** Development of a training and capacity building plan for the wider KTNP region for the "trees, bees and birds" strategy completed by the end of Quarter 1 in Year 1.	**2.1.1** Training and development plan.	Those farmers trained and supported to do so implement TBB strategies.

parkland management strategy, while another 1000 via farmer-to-farmer education have the knowledge and capacity to do so. Access to market and potential revenue streams have increased through product diversification and training to improve butter quality.	**2.2** 100 small-holders (including 40 women) from the pilot region will have attended "trees, bees and birds" training sessions led by Naturama, will have implemented key on-farm management measures (tree retention, fallow, shrub) in the strategy by the end of year 1 and a further 400 (including 160 women) from the KTNP region will have undergone direct training by Naturama by the end of year 2. Women who participate in TBB training increase their contribution to on-farm decision making. 2.3 10 "trees, bees, birds" demonstration sites (1 per village) drawn from the initial 100 pilot farms used to illustrate the "trees, bees and birds" strategy during open-days for farmer-to-farmer education and training purposes by the beginning of year 2. 2.4 By the end of the project, the 500 who have received direct training have participated in farmer-to-farmer education, each trained individual disseminating information to 2 more[11], educating a further 1000 people in the TBB strategy. Knowledge will be reinforced through a mix of community training sessions, and visits to pilot site open days. Women in the project	**2.1.2** Training materials attendance reports, and feedback. Maps and records from implementing farms. Reports of baseline and end of project surveys of women's contribution to decision making. **2.1.3** Photos, maps and reports from demonstration sites. Reports of education events held on sites. **2.1.4** End of project survey of community understanding, desire and capacity to implement "trees, bees and birds" strategy. Reports of baseline and end of project measures of empowerment.	Those attending training sessions are able to disseminate the findings to a further two people.

[11] A dissemination reach of two people is based on work by Naturama for the 'Living on the Edge' project which trained famers in natural regeneration techniques and tree-planting.

	area show an increase in their empowerment to contribute to farm management decisions. **2.5** By the end of Year 2, 100 women from 10 producer groups, have received training in improving the quality of shea butter and obtaining access to market. By the end of the project at least 5 of the communities have women producer groups that have improved their market access.	**2.1.5** Training report and photos	
3 Capacity of the host country for pollination research, long-term impact monitoring, and pollination education has been developed via mentoring by in-country and international pollination experts. Naturama have the capacity for ongoing development and monitoring of the "Trees, bees and birds" strategy.	3.1 Pollination advisory team formed by the end of the first quarter, consisting of local expert (Issa Nombré), international expert (Jane Stout). Expert recruited for Conservation Scientist research role, plus student recruited for local Master's project. 3.2 By the end of Year 1, 4 Naturama staff, involved in pollination education, via mentoring via the Pollination advisor team, have an understanding of pollination services that allows them to develop and lead an educational program. 3.3 By the end of Year 1, a Naturama research assistant trained in methods for surveying of pollinators and birds. 3.4 By the end of Year 3, 1 Masters student gains training in pollination fieldwork, contributing to degree.	**3.1.1** CV's for recruited Conservation Scientist and Master's student. Minutes /ToRs of advisory team meetings **3.1.2** Copies of education materials produced for the community by Naturama about pollination. **3.1.3** Records of Naturama assistants that have received training. Naturama capacity statement. **3.1.4** Masters theses **3.1.5** Records of survey protocols and reporting strategy.	.

	3.5 Monitoring protocols for surveys of pollinators, bird populations, tree diversity and shea yields by the end of Quarter 2 Year 1.. 3.6 Strategy for continued support of monitoring and development of "Trees, bees and birds" by the end of Year 3.	**3.1.6** Strategy document.	
4 An advocacy programme for integration of the 'trees, bees and birds' management strategy into policy and practice leading to the integration of TBB advice into GSA sustainability guidelines.. **5** .	**4.1** By end of Quarter 3, Year 1, a policy and advocacy plan prepared by BirdLife, under guidance from the RSPB and Naturama, identifying key sector-wide organisations and decision-makers and advocacy channels. **4.2** Presentations at the AGM of the Global Shea Alliance in 2017 and 2018. Participation in the GSA working groups from 2016 onwards. **4.3** Presentations at the annual AEMLAP meetings . from 2016 onwards. And discussed within the sustainable land use working group. **4.4** Advocacy workshops held in Years 2 and 3 of the project in collaboration with the GSA with the aim of disseminating the results of the "Trees, bees and birds" more widely throughout the shea industry, and receiving stakeholder	**4.1.1** Policy and advocacy strategy document. **4.1.2** Global Shea Alliance policy documents, minutes from AGM and working group meetings. Presentations. **4.1.3** Minutes from working group meetings. Presentations. **4.1.4** Workshop reports and list of attendees. Presentation detailing "trees, bees and birds" (will be openly available on FigShare).Feedback reports from participants. **4.1.5** Policy briefs and list of recipients.	Industry and policy makers see value in supporting and participating in the scheme.

	feedback. **4.5** By end of Year 2 policy briefs prepared that include executive summaries following completion of the "trees, bees and birds" strategy development. **4.6** An end of project advocacy workshop with the aim of integrating the "Trees, bees and birds" into policy held for government, NGOs and certification standards.	**4.1.6** Workshop reports and list of attendees. Meeting feedback reports from participants.	

Output 1 Research outputs completed and used to educate the shea-growing community around KTNP via pollination demonstration sites. The entire evidence base reviewed and used to inform development of the "trees, bees and birds" agri-environment strategy.

1.1 Form TBB working group and hold a workshop to draft a preliminary strategy

1.2 Plan fieldwork, including site selection and GIS analysis of habitat degradation and tree density

1.3 Fieldwork to determine pollinators, tree species and fruit set. Taxonomic identification, data analysis.

1.4 Write scientific papers on shea pollination and habitat management.

1.5 Recruit pollination ambassadors and facilitate visits to pollination research sites. Establish ambassador network.

1.6 Hold workshop to refine "trees, bees and birds" strategy and publish document

1.7 Pollinator education activities– one public meeting a year in each of the ten villages

1.8 Surveys to establish knowledge of pollinators

1.9 Final assessment of TBB efficacy

1.10 Publication of TBB, launch event and social media campaign

Output 2 500 people from 10 communities around KTNP have implemented the "trees, bees and birds" parkland management strategy, while another 1000 via farmer-to-farmer education have the knowledge and capacity to do so. Access to market and potential revenue streams have increased via better knowledge of certification

2.1 Develop the training and capacity building plan for education of KTNP stakeholders on "trees, bees and birds"

2.2 Hold "trees, bees and birds" farmer training sessions for 100 stakeholders in the KTNP region initially, followed by 400 after revision of the strategy.

2.3 Surveys to monitor shea yields, socio-economics, biodiversity, habitat, including a review of the 100 pilot sites to inform TBB revision.

2.4 Identify 10 suitable "trees, bees and birds" demonstration sites

2.5 Provide support to stakeholders who have attended training session in order to facilitate farmer-to-farmer communication.

2.6 Surveys to monitor capacity of community empowerment and ability to implement TBB, including mid-point review of pilot.

2.7 Provide training in processing to improve butter quality and access to market (as per change request: 3.10.16).

Output 3 Capacity of the host country for pollination research, long-term impact monitoring, and pollination education has been developed via mentoring by in-country and international pollination experts. Naturama have the capacity for ongoing development and monitoring of the "Trees, bees and birds" strategy.

3.1 Form pollination advisory committee
3.2 Recruit Pollination Scientist and Masters Student.
3.3 Education of Naturama staff about the role of insect pollinators.
3.4 Training of Naturama research assistant in survey methods for pollinators and birds.
3.5 Training of Masters student in pollination research.
3.6 Monitoring protocols for pollinators, birds, tree diversity and shea yields developed in collaboration with bird and pollinator experts.
3.7 Legacy strategy developed for on-going monitoring of the efficacy of the TBB strategy.

Output 4 An advocacy programme for integration of the 'trees, bees and birds' management strategy into policy and practice leading to the integration of TBB advice into GSA sustainability guidelines.

4.1 Develop a policy and advocacy plan
4.2 Hold advocacy workshops for Shea Industry
4.3 Prepare and distribute policy briefs
4.4 Participation at the Global Shea Alliance AGMs
4.5 Participation at annual AEMLAP meetings.
4.6 Advocacy workshop for government, NGOs and certification schemes
4.7 Participation in GSA working groups

Annex 3: Standard Measures

Table 1 Project Standard Output Measures (PL to complete – awaiting partner confirmation).

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
Established codes								

Table 2 Publications (not applicable for Project Year 1).

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

Annex 4 - supplementary material included as evidence of project achievement.

Referenced in	Title	EN/ FR - in Word (unless specified: PPP/ other)
Outputs	Yr. 1 Quarterly progress reports (QR) 1, 2, 3, 4 and annexed reports detailed below.	FR
Output 1	TBB inception workshop report	FR
	Capacity building plan for the implementation of the TBB strategy (Plan de renforcement des capacites pour la mise en œuvre de la strategie ' arbres-insectes-oiseaux').	FR
	Draft TBB strategy Project Flier.	PPP flier, EN
	"Assessment of floristic potential of the 20 TBB intervention sites" Evaluation du potentiel floristique (ligneux et herbacees) des sites d'experimentation de la zone d'intervention du projet Darwin).	FR
	Aoife Delaney: "Shea_pollination_report_1-AD March 17" and "REPORT-Shea Pollinators1 AD Mar 17"	EN
	Pollination Research and Monitoring Plan? (in "Shea_pollination_report_1-AD March 17")	EN
	John Mallord: "Bird Transect methodology JM RSPB Mar 17")	EN
Output 2	QR2 report annexes: 'TBB Strategy Reinforcement Plan' (RC-TBB Ateliers communaux de restitution des etudes et d'information sur la strategie « arbres, insectes et oiseaux » Pô et Nobere). References baseline surveys on: a) level of knowledge of communities on pollinators/ pollination; b) the contribution of women to natural resource management and on-farm decision-making c) evaluation of the capacity of local communities for natural resource management and implementation of the TBB strategy (see QR2 annex reports, including 'aptitude fermier').	FR
	a) 'Pollination and pollinator training report - 'Rapport de formation sur la pollinisation et les pollinisateurs'	FR

	b) Aperçu de la contribution des femmes aux prises de decision sur la gestion des ressources naturelles.	FR
	c) Aperçu des attitudes des fermiers envers les arbres dans les champs et de la capacite a mettre en œuvre la strategie « arbres-insectes-oiseaux »	FR
	State of knowledge report (to inform capacity building plan for the wider KTNP region for the "trees, bees and birds" strategy) 'Etat de lieux.…'	FR
	Community consultation 'Sensibilisation' report – ('Rencontres villageoises…')	FR
	Mid pilot follow up 'Support to tree planting' (Rapport de 'Mission d'appui a l'organisation des reboisements').	FR
	Training report (butter/ soap quality improvement and certification requirements), records of attendance etc. and photos from training events, and ToRs (Formation des groupes d'entrepreneurs sur l'amelioration de la qualite des produits, beurre et savon).	FR
Output 3	Education materials: Pollination training guide, and brochure draft (produced for the community by Naturama.	FR, pdf
	Monitoring protocols (in Aoife Delaney: "Shea_pollination_report_1-AD March 17 report, and John Mallord: "Bird Transect methodology JM RSPB Mar 17).	EN
	CV – Dr. Aoife Delaney, Pollination scientist.	EN
Output 4	Presentation of project and TBB strategy to 14th PAOC Pan-African Ornithological Congress (Dakar, Senegal 16-21 October 2016. 'Bird Presentation'	FR PPP
	Other presentations to GSA/ Sustainability Working Group conferences/ workshops (Tamale, Ghana, The Body Shop, Croydon, UK).	EN and FR ppt
	Draft Biodiversity Guidelines, January 2017, for GSA Sustainability Working group meeting, Cotonou, Benin, and GSA letter of support.	FR PPP EN
	Report on Tamale workshop USAID funding opportunity.	FR
	Presentation to AEMLAP meeting: CMS: Africa-Eurasia Migratory Landbird Action Plan) Land Use workshop (Abuja, Nigeria, 24-26 November, 2016). http://www.cms.int/en/meeting/cms-workshop-land-use-policies-and-their-effects-migratory-landbirds-west-africa Abuja Declaration on Sustainable Land Use for People and Biodiversity in West Africa	EN hyperlinks

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Report and annexed information emailed separately.
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	