



Darwin Initiative Final Report Darwin project information

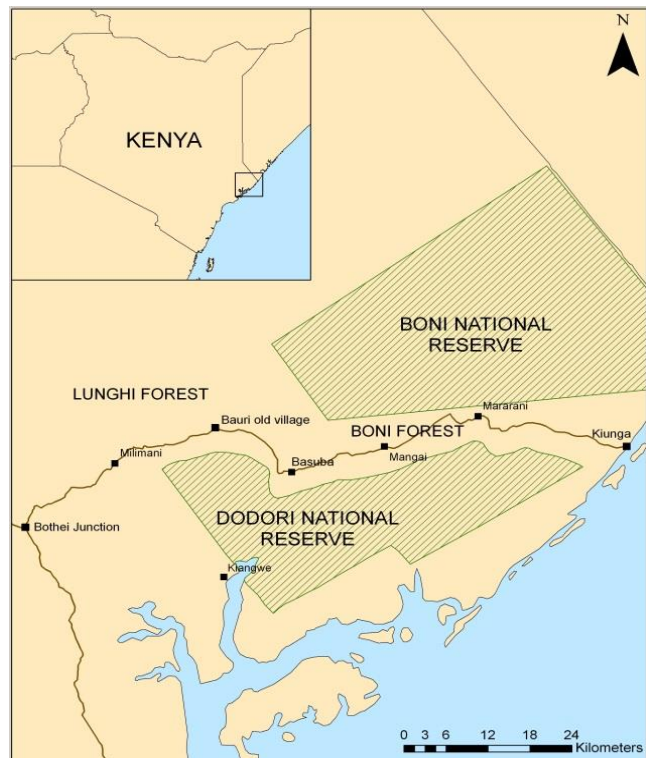
Project Reference	Ref # 20-011
Project Title	Community-based conservation and livelihoods development within Kenya's Boni-Dodori forest ecosystem
Host country(ies)	Kenya
Contract Holder Institution	WWF Kenya Country Office
Partner Institution(s)	Zoological Society of London (ZSL), Kenya Wildlife Service (KWS), Kenya Forest Service (KFS), WWF-UK, WWF Coastal East Africa Global Initiative
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Project Leader's Name	Kiunga Kareko
Project Website/blog/twitter	https://wwf.basecamphq.com/projects/6149521-boni-dodori-livelihoods-and-forest-project-a-coalition-approach/log https://blogs.wwf.org.uk/blog/author/jbett/
Report Author(s) and date	Kiunga Kareko, John Bett, Ann Komen & Nickson Orwa (WWF Kenya); Francis Mang'ee (KFS); Cath Lawson & Mike Morris (WWF-UK); Raj Amin & Chris Gordon (ZSL)

1 Project Rationale

The Boni-Dodori forest ecosystem complex is located in Northern region of the Kenya coast, forming the northern most part of the Eastern Africa Coastal Forest Ecoregion and bordering Somalia. The area comprises the Boni and Lungi forests and the Boni and Dodori National Reserves (Figure 1).

The forest complex harbours unique biodiversity, much of it endemic and endangered. WWF and Conservation International classify the area as a global biodiversity hotspot – one of the Earth's 35 biologically richest places.

The forest is also home to the indigenous Aweer people whose culture and livelihood co-evolved with and depends on these forests. They were resettled in villages along the Hindi-Kiunga road, which traverses the ecosystem west to east, for security reasons in the 1960s. Much of 'their' forests were gazetted as National



Reserves in 1975 and hunting banned nationally in 1976, thus alienating their rights to the ancestral lands, their access to and use of natural resources, and contributing to the undermining of their culture, including traditional resource use.

Although designated as conservation areas, the forests have been, and are being, impacted by illegal logging, unplanned development, agricultural expansion and unsustainable agricultural practices. The Aweer now mostly depend on shifting cultivation for sustaining their livelihoods which they practice along the corridor where they were resettled, and predictably human-wildlife conflicts have intensified here. They also practice their traditional hunter-gatherer lifestyle through collection of wild honey and fruits, and some bush-meat hunting, especially in those forest areas that have not been gazetted. The forests are further threatened by climate change, and by development of the Lamu deep-water port and a proposed coal plant, part of the larger Lamu Port South Sudan-Ethiopia Transport (LAPSSET) Corridor. The forests have moreover been used by Al Shabaab, a jihadist terrorist group operating in the region and based in Somalia.

Little formal knowledge on biodiversity and ecosystem services in the area and limited understanding or awareness of opportunities for poverty reduction had hindered formulation of adaptive management strategies by formal natural resource managers and policy-makers. While the Kenyan government acknowledged that involvement of the forest communities in the stewardship of these unique resources was good, they were impeded by both gaps in the existing legislation and limited capacity associated with extending community-based natural resource management or similar arrangements.

These challenges were identified through, amongst other things, a participatory situation analysis conducted in 2011 by WWF, government agencies and communities.

Threatened by economic development and unsustainable land use, and with ambiguities in governance arrangements, this project set out to consolidate critical relationships established with the communities and service providers, build on scientific and indigenous knowledge, to explore and deliver sound natural resources management and improved livelihoods.

The design involved establishing a management team comprising of representation from WWF, KFS, KWS, State Department of Fisheries and Blue Economy, ZSL, the County Government and the Aweer community. Component strategies involved: (1) Participatory assessments of local biodiversity and measurement of ecosystem services drawing on indigenous knowledge and the expertise of partners; (2) In response to a priority concern of the communities, exploring mechanisms to address human-wildlife conflict (HWC); (3) Developing partnerships and capacity to facilitate and advance community stewardship; (4) Exploration and development of ways to enhance and diversify the Aweer's livelihoods; (5) Advocacy and dissemination of information and learning to establish and promote sound and equitable management practices and improved livelihoods.

2 Project Achievements

2.1 Outcome

The project outcome has been partially achieved. There has been highly informative biodiversity survey work; positive inroads into building potentially resilient livelihoods and significant progress on enabling the Aweer to engage in the decision-making processes that affect their lives and wellbeing. Full achievement of the outcome requires a longer timeframe than the project allows and has been impeded by the challenging regional security situation, which has been a constant theme throughout implementation of this project and the ongoing absence of supporting legislative frameworks.



Outcome: By 2016, the biodiversity and ecosystem services associated with the Boni-Dodori forest complex are understood and the knowledge generated is being used by the responsible agencies and six Aweer and two Ijara forest communities, to sustain community-based forest management and deliver resilient conservation-based livelihoods for the poorer majority (1,800 people) of the local population.				Comments (if necessary)
	Baseline	Change by 2016 (see Annex for full details)	Source of evidence	
Technical capacity and knowledge base increased by end of Yr 3 on the following: (i) biodiversity contributions to ecosystem function; and the value, population and abundance of threatened, endemic, indicator species trends within the Boni-Dodori forest ecosystem - based on standardised monitoring methods; (ii) connections between and opportunities for Boni-Dodori biodiversity and conservation to underpin food security and sustainable livelihoods for local communities; (iii) ecological, social and economic valuation of Boni-Dodori forest ecosystem services	Inadequate technical capacity among staff and partners on scientific biodiversity assessments and valuation of ecosystem services; lack of documentation on the local indigenous knowledge; 2010 Mammal camera trapping findings by KWS and ZSL.	Adequate technical capacity among staff and partners on scientific biodiversity assessments and valuation of ecosystem services; Improved documentation on the local indigenous knowledge; repeat Mammal camera trap survey findings.	Mammal camera trapping training report Bird survey report Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community TESSA training report Aweer sacred sites Documentation	
The most vulnerable households in 8 villages report year on year decrease in HWC, and/or year on year increase (>10%) in agricultural yields and/or income for years 2 and 3.	Low agricultural yields; high HWC cases/ incidences and crop raids	Increased agriculture yields by at least 50%. Crop raids reduced in farms where game moats were established and maintained.	HWC assessment in Aweer villages HWC assessment in areas adjacent to Boni forest Stories of change HWC case study Impact of chilli farming HWC mitigation strategy on crop yields in Ndera village in Ijara. Impact of Agricultural extension services in Aweer villages Study visit to PFM and HWC community projects in Arabuko-Soko and Kwale	HWC incidences wasn't adequately measured/ recorded
Integrated land use plans and sustainable use quotas agreed between the community stewardship teams and functioning in at least 5 of 8 villages by end of year 3.	Draft Kiunga-Boni-Dodori Conservation area management plan; no integrated land use plans and sustainable use quotas.	Final KBDCA management plan completed accepted by stakeholders. No change in integrated land use plans existence nor sustainable use quotas agreement(s).	KBDCA management plan	No change due to policy and institutional arrangements concerning land use plans and

				policy constraints on sustainable use quotas.
Uptake of diversified livelihoods strategies, with market links, related to conservation practices and/or ecosystem services amongst poorer households (based on previous WWF situation analyses) within 8 villages by end of year 3.	Limited livelihood options (traditional honey gathering by men, handicrafts and shift cultivation both by men and women)	Improved and diversified livelihoods options – Bee keeping, farming, VICOBA functional	Training on the Wildlife Conservation and Management Act Status of Beekeeping Activities in Aweer villages VICOBA records VICOBA case study	
Commitment and implementation on CBNRM, land and tenure rights for the Aweer and Ijara communities in the Boni and Dodori forests by county governments, KWS and KFS, show marked increases by end of year 3; and scientific support and tourism generated among national and international academia by year 3 (security conditions allowing).	Informal indigenous knowledge management system; inadequate knowledge on and limited appetite amongst authorities for CBNRM; limited awareness on existing NR laws amongst communities (and others)	Fairly improved community based natural resource management through strong natural resource stewardship. Improved working knowledge on NR laws	Exposure visit to CBNRM projects in Northern Kenya CBNRM exposure visit to Namibia ADR training	Lack of CBNRM policy in country
Repeat surveys show selected locally important and globally/nationally threatened, endemic and indicator mammal species populations are stable or increasing by end of year 3	N/A	Successful repeat of mammal camera traps and bird survey	Mammal camera trapping training report Bird survey report	Comparison on the last grid not possible as the original grid was not accessed due to insecurity



Although impeded by security challenges, through in-depth biodiversity monitoring and the collation of indigenous knowledge, knowledge of the value, population and abundance of threatened, endemic, indicator species has increased. Through associated targeted training efforts, technical capacity on standardised monitoring methods has also increased as a result of this work. Across this output, data indicates that the Boni-Dodori forest ecosystem exhibits a high richness of terrestrial mammal species, which is greater than the nearby Arabuko-Sokoke forest ecosystem, which previous studies have already identified as a biodiversity hotspot. The Boni-Dodori forest ecosystem is also a stronghold for a number of highly threatened species. Survey findings have also resulted in the Boni-Dodori forest complex being recognised as an Important Bird Area (IBA) – a globally important habitat for the conservation of bird populations – by Birdlife International¹. It was not possible to assess the change in important and globally/nationally threatened, endemic and indicator mammal species populations over the course of the project (outcome indicator 6), as security conditions limited access to the forest, meaning that repeat camera trap deployment could not be done in the same place as baselines surveys (as originally intended and best for comparison of results). Whilst inference about change cannot be drawn, pooling of information has provided data over a wider geographical area which is of significant value.

Progress in undertaking the ecological, social and economic valuation of Boni-Dodori forest ecosystem services has been slower due to challenges associated with insecurity.

Six game moats have been established around HWC hotspots in five Aweer villages and informal assessment of the effectiveness of the moats in Milimani and Basuba villages has shown a decrease in human wildlife conflict (HWC) – referencing numerous sightings of a variety of wildlife (and cattle) trying but failing to cross the moats. Two targeted villages in Ijara were not reached due to insecurity. Informal assessment² and data from the Ministry of Agriculture³ also show a corresponding increase (>10%) in crop yields (also partly attributable to agricultural extension activities so disassociation of impact is, at this stage, difficult). Testimonies from selected participating farmers^{4,5} also reemphasise the positive impact that the game moats (in conjunction with agricultural extension activities) have. The success of the game moats has also been inspiring those who were not reached by the pilot to construct their own as exemplified by eight households (two in Milimani, three in Basuba, three in Kiangwe villages. Chilli planting has been adopted as another human-elephant conflict mitigation method and is now being implemented by 20 households in Halbathiro village in Ijara. Those with established chilli plants reported an increase in crop yield⁷ and household incomes⁸ over the last season. Unlike in the Aweer villages, agricultural extension services have not yet been implemented in Ijara (a partnership with the MoA Extension Officer is yet to be established) and so these crop yield increases are more directly attributable to the decrease in HWC, although it is acknowledged that more robust HWC data is needed to fully interrogate this change.

Integrated landuse plans and sustainable use quotas agreed between the community stewardship teams and functioning in at least 5 of 8 villages by end of year 3. New legislation and institutional arrangements placed development of landuse plans under spatial planning for the whole county. It was therefore not possible to carry out landuse plan for the project area in

¹ Important Bird and Biodiversity Areas: <http://www.birdlife.org/datazone/sitefactsheet.php?id=20921>

² Per comms: Farmers from Milimani and Basuba

³ Crop yield data 2014 / 2015 : https://wwf.basecampHQ.com/projects/6149521/file/219689701/Average Farming Yields_2_seasons.pdf

⁴ Testimonies: <https://wwf.basecampHQ.com/projects/6149521-boni-dodori-livelihoods-and-forest-project-a-coalition-approach/posts/89176362/comments>

⁵ Testimonies related to Game moat, Bee keeping, VICOBAs, trainings: <https://arenadocs.wwf.org.uk/share/page/site/managing-programmes-and-projects/document-details?nodeRef=workspace://SpacesStore/e6cf4c2a-73e8-45c5-9768-c73396424bef>

⁶ Stories of change (VICOBAs and HWC): https://wwf.basecampHQ.com/projects/6149521/file/219718657/Draft_Stories_of_Change.docx

⁷ Chilli yield data: https://wwf.basecampHQ.com/projects/6149521/file/220065920/Ndera-Chilli%20farmers%20_Yields%20_20142015.pdf

⁸ Evidence to follow

isolation. Agreement on sustainable use quotas were hindered by law banning consumptive use of wildlife and timber which had been hoped would be influenced to enable this. However, the community are able to continue harvesting other forest products (such as herbs, wild fruits, berries, etc.) albeit in small quantities.

Diversified livelihoods strategies have been taken up in five villages, primarily through the adoption of beekeeping. Since inception, this initiative has generated honey with an estimated value of *KES 1,086,000* (approximately *USD 10,745*). Two Village Community Banks (VICOBAs) have also been established within the Aweer community, and beneficiary feedback⁹ highlights the positive impact these community structures have had on livelihoods. In Yr3 of the project (with additional funding to the Darwin Initiative) the use of a WWF wellbeing assessment tool was piloted in the project area. The tool measures progress against four social indicators: institutional capacity for resource governance; conflict over natural resource use; access to resources; and human wellbeing. Initial results, which are subject to further analysis, highlight positive change over the last four years in all aspects of economic wellbeing except access to markets. Given the prevailing security situation, which has made access to markets difficult, this is not surprising. Scoping of existing and potential markets for forest and non-forest products¹⁰ has been undertaken but further work is needed to adaptively respond to the current security situation.

The aforementioned wellbeing assessment also highlighted positive changes across a number of indicators related to natural resource governance. In the Aweer community, positive change was reported against: rights to natural resources, legitimacy of voice in community, conflict over natural resource use (including tenure) and access to natural resources. For pastoralist communities in Ijara, change was overall positive but more variable and this reflects the project's emphasis of resource allocation.

Positive steps have also been made in building awareness and understanding of relevant community based natural resource policies and approaches (e.g. PFM, CBNRM). However some institutional reluctance amongst the responsible authorities and their technical staff to abandon joint management approaches for community led approaches (i.e. CBNRM) was apparent. Significant progress in this area has, however, been hampered by ongoing legal and institutional dynamics. For example, with respect to the Aweer, despite explicit recognition in the Constitution of Kenya 2010 that the ancestral lands occupied by hunter-gatherer communities are considered to be 'community land'¹¹ (where CBNRM in its truest sense could be implemented), the relevant legislation still awaits enactment. The Community Land Bill required to enact this commitment has been subject to numerous delays (it was expected in August 2015 but this has been delayed until at least August 2016)¹². Earlier ambiguities in the policy and institutional frameworks have moreover been further complicated by decentralisation and the creation of a new layer of governance, the county governments, while 'land grabs' have taken place on the ground. Most recently, and in the absence of the prescribed consultation, Kenya Forest Service has 'gazetted' large tracts of the Aweer's remaining ancestral lands, ostensibly on the basis of security which, under the Constitution, should be recognised as community land, at the same time as the military is in occupation of parts of the forest. The planned use of the Commitment and Action tool was not effected as staff were not familiar with it, however, other similar tools were used instead.

Opportunities for strengthening community land and natural resource tenure rights in Kenya's Constitution (Chapter 5, Land & Environment) are progressed, and envisaged land laws passed and communities made aware of them and/or provide input in the making of these laws, especially that of community land was recognised as an assumption in the project proposal and this assumption was not fully met, in spite of ongoing lobbying at a national level. In response, WWF-Kenya sought – and is seeking – to establish stronger links with indigenous peoples'

⁹ Stories of change: https://wwf.basecamphq.com/projects/6149521/file/222160217/Stories%20of%20Change_revised.docx

¹⁰ Scoping study for potential markets of forest and non-forest products from the Boni-Dodori forest ecosystem: <https://arenadocs.wwf.org.uk/share/page/site/managing-programmes-and-projects/document-details?nodeRef=workspace://SpacesStore/cef4a77c-0940-49dc-860d-dfc3801a8d67>

¹¹ Article 63, (2), (d), (ii), *The Constitution of Kenya, 2010, Nairobi, 27th August, 2010* (pp 46).

¹² Report Card on Implementation of Land Reforms Enacted in the Constitution: <https://wwf.basecamphq.com/projects/6149521-boni-dodori-livelihoods-and-forest-project-a-coalition-approach/posts/97209067/comments>

expertise to ensure that the rights of the Aweer are upheld in the prevailing legal and institutional context. A fuller understanding of the very complicated legal and institutional frameworks, which is dynamic in very immediate sense at the time of reporting, is also needed and going forward this is something WWF-Kenya is seeking to address.

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

Impact: Land and resource tenure rights of the Aweer and Ijara will be secure, and the communities will be thriving as a result of improved conservation-based livelihoods. They will be fully integrated into community stewardship regimes. CBNRM policy and legislation will be enacted and implementation mainstreamed.

The Boni-Dodori forests will be fully protected, with threatened and endemic species populations better understood and increasing. Forest communities will be benefiting from the revenues of nature tourism, subject to security. Threats to communities or forest ecosystems associated with major infrastructural developments for the new Lamu port (including land grabs/conversion, pollution) will have been addressed.”

Building on the work carried out by Kenya SECURE project¹³ on securing land and natural resource tenure, the project undertook many efforts to advance the cause of the Aweer and communities in Ijara, building their (and Government Authorities') awareness of and capacity for CBNRM/PFM. Achievements were, however, in effect overtaken by the increasing instability at the coast (see section 2.3), and by the dynamics of the legal and institutional processes linked to Kenya's devolution, which the World Bank¹⁴ describes as among the most rapid and ambitious devolution processes going on in the world (see section 2.1).

Good progress has been made in securing gazettement of the Aweer's 25 sacred Duri / Gedhi forest sites as National Museums of Kenya (NMK) national monuments, in a similar fashion to the Kaya forests in the Southern Kenyan coast. NMK gazettement would not restrict local community access to the forest but would offer enhanced protection against threats such as LAPSSET and related land grabs. A dossier and petition calling for NMK gazettement of the Duri and Gedhi sites was presented to representatives of NMK at the national level. This provoked NMK to request for further mapping work to support the call for gazettement. This mapping has been completed and submitted to NMK for feedback. The implications of the recent gazettement on the national monument gazettement (see section 2.1) are still being unpacked as part of WWF-Kenya's response to the gazettement.

Through the livelihoods interventions, encompassing adoption of improved agricultural practices, modern beekeeping methods and the VICOBAs, couple with HWC interventions mitigation methods there is evidence of positive impact on both household food security and incomes (see section 2.1 and 2.3). The prevailing security situation has constrained the full potential of this work whilst the dynamic legislative framework has limited full integration of this work into community stewardship regimes (see section 2.1) but achieving these impacts remains a priority for project partners in their future work. The security situation has also prevented progress of nature tourism but, by highlight the region's unique biological and cultural diversity and by building local natural resource management capacity (and to a lesser extent financial management capacity through the VICOBAs), arguably the achievements of the project have laid strong foundations for future tourism opportunities. Expanding this process at this time is likely to be hampered by prevailing insecurity, but a platform for interaction has been built and will be maintained.

Threatened and endemic species populations in the Boni-Dodori forest complex are certainly better understood as a result of this project (see section 2.1 and 2.3). Significant knowledge has been generated through indigenous knowledge surveys and scientific assessments and disseminated to the responsible agencies (as well as with local communities through face-to-

¹³ USAID SECURE project: <http://www.usaidlandtenure.net/content/project-brief-land-tenure-and-property-rights-kenya-secure-project>

¹⁴ World Bank on Kenyan devolution: https://www.google.co.uk/webhp?gws_rd=ssl#q=Kenya+devolution%2C+World+Bank

face meetings, and nationally and internationally with the general public and scientific community through publication and media coverage) for whom the knowledge will provide a solid basis on which to develop conservation strategies for the protection of threatened and endemic species populations.

Management effectiveness, measured through use of the World Bank/WWF Management Effectiveness Tracking Tool (METT), of forest areas has improved over the project period. Capacity of government agencies mandated with natural resource management has been enhanced and, by working in collaboration with Northern Rangelands Trust (NRT)-Coast, capacity for community biodiversity monitoring and patrolling has also been increased. There has been, for example, a significant increase in the quality and quantity of monitoring and there is evidence that data from community game scout patrols is improving the scientific basis for management decisions. Correspondingly, the prevalence of hunting and illegal logging has remained low, thanks to the concerted efforts of the community and the responsible government agencies.

There are ongoing efforts to reduce the threats to forest ecosystems (land grabs, land conversion, pollution, etc.) associated with major infrastructure developments in the region, such as the new Lamu port. Outside of this project, in Lamu WWF Kenya is engaging in the government mandated process to produce a county spatial plan which will guide development in the county for the next 10-15 years. Biodiversity knowledge generated by this project has been shared for integration in this plan so as to ensure that critical biodiversity areas are conserved at the same times as identifying zones for development. WWF Kenya is also involved in engaging with port steering team to make sure that development, social and environmental concerns of the two communities are addressed. Advocacy capacity built during this project has significantly strengthened the communities' ability to engage in this ongoing conversation.

2.3 Outputs

Output 1: Knowledge base: Comprehensive understanding of forest biodiversity (i.e. locally important, endemic or nationally/globally threatened species), and ecosystem services (i.e. values of specific services and distribution of costs and benefits for forest and plausible 'alternative' through trialling and development of the 'TESSA' toolkit) established.			
	Baseline	Change recorded by 2016	Source of evidence
Participatory appraisal of local indigenous knowledge, amongst indigenous Aweer hunter gatherers and Ijara pastoral communities, regarding local biodiversity (locally important species / taxa) is completed and captured in a report and resource use maps and increases the level of understanding of local indigenous knowledge (Yr 1).	Resource map done by Kenya SECURE project PRA (2010) PSA (2011)	Increased indigenous knowledge on local biodiversity, socio-economic use of forest resources	Kenya SECURE resource map Camera trap training workshops Community biodiversity monitoring training report
Biodiversity inventory established for Boni-Dodori forests with comprehensive data from survey work on species / taxa identified as being important by local communities and those that are nationally / globally threatened or endemic (Yr 1-2). At least 3 biodiversity survey reports – botanical (particularly herbs and medicines); mammal and bird by Yr 3.	2010 Mammal camera trapping survey report (In Press)	Biodiversity inventory established for Boni-Dodori forests (bird and mammal species) giving rise to better recognition of the area	Bird diversity survey report & Mammal diversity survey report Documentation & participatory appraisal of local indigenous knowledge in local biodiversity
Maps generated of natural resource distribution, cultural sites, and development of sustainable levels of harvest underway for main forest resources (Yr 1-2).	2011 bird distribution in Boni Dodori; 2010 mammal camera traps; 2010 Kenya Secure project	Better understanding of existing NRs and uses through updated Kenya SECURE resource map. Harvesting levels not developed due to ban in indigenous timber and	Kenya SECURE resource map Aweer sacred sites documentation

		hunting	
At least 10 ToT from the community and local stakeholders trained in survey techniques and species identification are working directly with local communities collecting high quality data to monitor changes in the biodiversity status and harvested species of the forests (Yr 1-3).	Zero number of community members trained on survey techniques and species identification	15 community and local stakeholders trained in survey techniques and species identification	Aweer community scouts and Kenya Forest Service rangers training on effective biodiversity monitoring, data collection and recording Documentation & participatory appraisal of local indigenous knowledge in local biodiversity
A Boni-Dodori ecosystem co-management plan has produced and agreed and sustainable harvesting plans for key resources are in place (Yr 2, 3)	Draft KBDCA management plan	KBDCA Management plan completed used to inform management decision	KBDCA Management plan
At least 3 papers published in international peer reviewed journals by Yr 3.	None known	2010 Mammal camera trapping survey report	2010 mammal camera trap survey report

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Output 2: Human Wildlife Conflict: Understanding of human wildlife conflicts in the Boni-Dodori corridor established, and optimal strategies to counter HWC, based on piloted mitigation measures, developed, deployed and documented for wider dissemination.			
	Baseline	Change recorded by 2016	Source of ¹⁵ evidence
Level and types of HWC in high impact areas established, and event book recording system introduced (Yr 1). At least 80 local farmers trained in logging HWC and 5 project staff.	Limited knowledge on levels and types HWC, draft event book	Improved knowledge on extent and impact of HWC on livelihoods	HWC assessment in Aweer villages HWC assessment in areas adjacent to Boni forest Stories of change HWC case study
Review of relevant HWC literature completed with key implications and recommendations for the project compiled and integrated into the project design (Yr 1)	Undocumented tradition HWC mitigation measures	Document traditional HWC mitigation measures	HWC assessment in Aweer villages
At least two different mitigation measures investigated and piloted in at least two high HWC villages (Yr 2-3).	Undocumented tradition HWC mitigation measures	Complete HWC strategy and identification of measure (game moat & use of chilli) to pilot	Study visit to PFM and HWC community projects in Arabuko-Soko and Kwale HWC strategy
Lessons learnt document on HWC produced and disseminated; HWC resolution strategy developed through stakeholder workshops; # of people whose capacity has been built regarding HWC (Yr 3).	Undocumented tradition HWC strategies	Documented lessons learnt on HWC	Case study on HWC

¹⁵ Output 2 MOVs:

A HWC mitigation strategy was developed and from that three strategies were identified for piloting namely; construction of game moats, use of chilli plants and use of ropes soaked in used engine oil. Logistical challenges associated with use of oil-soaked ropes proved too great but the other strategies have been successfully piloted. Farmers in 20 households in Halbathiro, Ijara have adopted chilli planting as a means of reducing human-elephant conflict. In addition to the benefits associated with human-wildlife conflict benefits, farmers implementing chilli planting have, through facilitation by WWF-Kenya, sought assistance from the local Cooperative Officer to commercialise chilli production. Community scouts are monitoring HWC and documenting incidences in event books.

Six game moats have also been established around HWC hotspots: two moats in Milimani [20 households], and one moat each in Basuba [10 households], Mangai [30 households], Kiangwe [30 households], and Mararani villages [30 households]. Success stories from these established moats have been inspiring those who were not reached by the pilot to construct their own moats. So far, eight households (two in Milimani, three in Basuba, three in Kiangwe) have dug their own moats, operational at an individual/household level rather than at village level, without assistance from WWF. .

Output 3: Community stewardship: Community stewardship regimes – structures and systems – established and functioning in and across the eight villages, with an integrated management plan (including for key indicator / endemic species) and sustainable use quotas for the Boni-Dodori corridor and adjacent National Reserves.			
	Baseline	Change recorded by 2016	Source of evidence ¹⁶
At least 16 representatives (equally split male/female, youth/elders) in each of the eight villages and 10 KWS/KFS staff with working familiarity of participatory forest management/CBNRM and sustainable resource use (Yr 2-3).	At least 5 KWS/KFS representatives (4men: 1woman) with working familiarity of PFM/CBRNM and sustainable resource use	Improved understanding and implementation of PFM	PFM Training report Study visit to PFM and HWC community projects in Arabuko-Sokoke and Kwale Exposure visit to CBNRM projects in Northern Kenya CBNRM exposure visit Namibia
Community stewardship structures/agreements in development for eight villages (Yr 2-3).	Nascent and weak AWER community conservancy	Strong and functional community stewardship structures in form of community conservancies	CSO Capacity Assessment report
Community led monitoring and evaluation plan established and implemented (Yr 1-3). As least 80 community members collecting M&E data, which is collated and used to inform local management decisions by Yr3.	No MEL framework; uncoordinated collection and analysis of data	Completed MEL framework and better coordinated collection and analysis of data	Boni-Dodori MEL workshop report Boni-Dodori MEL framework Community scouts data analysis report
Enhancement of current community based and/or participatory patrolling and enforcement activities in project area (Yr 2-3)Patrol data / information collection form in use, being collated by project staff and informing management decisions (Yr3)	Uncollated patrol data and not informing management decision	12 scouts actively collecting & recording patrol data and informing management	Community scouts data analysis report Aweer community scouts and Kenya Forest Rangers on effective biodiversity monitoring, data collection and recording

More than 16 representatives (equally split between male and female, youth/elders) in each of the eight villages and ten KWS and KFS staff have been equipped with working familiarity of participatory forest management (PFM). The training was conducted with the aim of establishing a common understanding on principles of PFM and their role in forest management.

¹⁶ Output 3 MOVs (1) Project documents; (2) Meeting attendance records and minutes; (3) Community diaries; (4) Study site visit reports; (5) Key informant interviews; (6) Official documents; (7) Monitoring and Evaluation plan; (8) Protocol document and forms; (9) County development plans; (10) Training reports; (11) Project progress reports.

Over the 3 years, three community conservancies were supported and strengthened through trainings and exposure visits. Community led monitoring and evaluation plan established and implemented. 12 community scouts from Aweer in addition to community members collect and report incidences to relevant government agencies for action. Community Liaison Persons (facilitated to establish by the project) take part in M&E data collection which is collated and used to inform local natural resources management decisions.

Community scouts have been trained and equipped and are currently patrolling and reporting illegal activities such as poaching and logging of timber. Patrol data and/ or information collected are taken by security agencies and Kenya Wildlife Service for decision making

Output 4: Diversified conservation-based livelihoods: Improved livelihood strategies identified and developed by stewardship facilitation teams, and piloted by target groups in the forest communities.			
	Baseline	Change recorded by 2016	Source of evidence ¹⁷
At least 10 staff from local stakeholders trained in participatory appraisal and social survey techniques (Yr 1)	At least 5 staff and stakeholders with the participatory appraisal and social survey skills	12 community scouts are trained and collecting data on biodiversity, HWC and changes in habitat	Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community Community appraisal of community livelihoods report Enterprise training report
Participatory appraisal of community livelihoods and use of forest resources (including use of medicinal herbs, sacred sites, plus other resources) undertaken and used to inform viable livelihood options by end of Yr. 1.	PSA report	Increased understanding of socio-economic importance of forest resources. Modern beekeeping in 5 villages as part of the nature-based enterprise	Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community Community appraisal of community livelihoods report Enterprise training report
Piloting of identified and agreed enhanced and/or diversified livelihood options, with identified market linkages established, with targeted community groups (Yr 2-3).	Non-market (subsistence) oriented livelihoods	Sustainable farming, Beekeeping in 5 villages and VICOBA in two villages	Beekeeping report VICOBA report Scoping study for potential markets of forest and non-forest products from the Boni-Dodori forest ecosystem

In Yr1 of the project, a Participatory Situational Analysis (PSA) was undertaken. As part of this, and other social surveys conducted during the project period (i.e. recent wellbeing assessments), a total of 15 people have been trained in participatory appraisal or social survey techniques. Building on this, diversified livelihood options have been piloted, focusing on beekeeping and VICOBAS (in addition to the marketing of chilli highlighted above).

At the time of reporting, a total of 96 community members (71M:25W) are operating 90 beehives. To date, more than an estimated 2,280kgs of honey has been produced with an estimated value of KES 1,086,000 (approximately USD 10,745). Based on average hive productivity, it is estimated that (if all colonised hives are harvested, sold and recorded) the total honey harvest this year could be 1,395kgs, translating into total potential earnings of KES 790,000 (approximately USD 7,816). Honey is sold externally, used at the household level, and exchanged for other goods or used to settle debts. The programme has also been supporting three women beekeepers who have been bulking their produce in order to be able to negotiate for better prices. Other farmers are also being encouraged to bulk their produce and eliminate the need for middlemen who reduce the benefit that reaches the community (middlemen typically offer KES 300 per litre whereas market value is more like KES 450-600 per litre).

¹⁷ Output 4 MOVs:

Two VICOBA groups, with a total membership of 40 women (Basuba VICOBA = 15 women; Mararani VICOBA = 25 women), have also been established and are providing community members with rare access to financial services. Since inception in March-April 2014, a total of KES 72,000 (approximately USD 720) has been saved by both groups (Basuba VICOBA = KES 64,000; Mararani VICOBA = KES 18,000). Although impeded by the security situation, stories of change collected show that the VICOBA are having a positive impact on livelihoods.

Output 5: Advocacy and dissemination: Practical implementation of CBNRM advocated targeting County and National governments and biodiversity value and community stewardship of Boni-Dodori disseminated to national and international academia.			
	Baseline	Change recorded by 2016	Source of evidence ¹⁸
CBNRM policy leveraging within (i) Lamu and (ii) Garissa County development plans (Yr2-3)	CBNRM principles embedded in sectoral laws	CBNRM principles incorporated in Lamu CIDP, however limited influence in Garissa county	Lamu CIDP report ¹⁹
At least 2 project staff and 2 community representatives trained in effective NRM advocacy (Yr 2-3).	Only 2 project staff trained in effective NRM advocacy	Improved advocacy on NRM by staff and community members	Advocacy training report World bank meeting on indigenous people
A Boni-Dodori ecosystem co-management plan has been drafted (Yr 2, 3)	Draft Boni-Dodori ecosystem co-management plan	Increased focused and attention on Boni-Dodori ecosystem	KBDC management plan
Community based and/or participatory patrolling and enforcement activities in place within project area	Uncollated patrol data and not informing management decision	Collated data informing management decisions	Scouts data report
At least one discussion paper / case study on the development of CBNRM in the Boni-Dodori area produced.	None	Production of lessons learnt on CBNRM	Case study on CBNRM
At least three papers published in international peer-reviewed journals by year 3	none	1 paper published. 2 additional papers awaiting to be published	2010 camera trap report, 2015 Bird diversity survey report & 2015 Mammal diversity survey report
Findings of the project presented at one or more scientific forums by year 3	None	No paper presented in any forum	none

As part of leveraging CBNRM policy in county development plans, the project did contribute to the development of the Lamu County integrated Development Plan (CIDP) where principles of CBNRM were recommended and considered. However, due to geographical location of Garissa County and limited interaction with relevant agencies, it was not possible to influence the development of Garissa County development plan.

Over the three years, more than two project staff and 15 community representatives were trained in effective NRM advocacy. Finalization of draft Boni-Dodori ecosystem co-management plan was supported and agreed to by the stakeholders. The plan is currently being implemented by responsible government agencies in conjunction with other stakeholders. Community scouts were strengthened to engage in patrolling and enforcement activities. Monitoring data from the scouts and community members are taken up and used by relevant agencies for decision making.

One discussion paper / case study on the development of CBNRM in the Boni-Dodori area was produced and shared with different partners. The paper will be used to inform and strengthen

¹⁸ Output 5 MOVs = (1) Lamu County development plans; (2). Advocacy training report, (3). Ecosystem management plan, (4). CBNRM in Boni-Dodori discussion paper / case study manuscript, (5). 3 x submitted scientific papers (6) 1 x set of proceedings from an international fora / conference

¹⁹ <http://cog.go.ke/images/stories/CIDPs/Lamu.pdf>

future CBRNM efforts in the area. One paper was published in an international peer-reviewed journal. By end of year 3, two additional reports (2015 Bird diversity survey and 2015 repeat mammal diversity survey report) is in press. However, there were no opportunities to present project findings in any scientific forums

Across multiple outputs, insecurity has impacted progress. WWF staff and project partners have been involved in very serious incidences, including encountering suspected Al-Shabaab militants, and the repelling of Al-Shabaab militants during an attack on a police escort convoy, in which tragically, six police officers died²⁰, whilst carrying out field activities in the forest. In addition to increasing risk to staff, this negatively impacted on a number of activities both by limiting WWF staff's ability to directly engage with the community and by limiting the community's ability to implement livelihood activities, meaning that income did not grow as initially anticipated and market links are not as strong as hoped. Insecurity has further impacted negatively on the community by limiting their access to education (as many teachers were forced to flee the region); reducing their access to forest products such as wild honey, herbs and wild foods; and limiting their access to sacred sites within the forest. Regional security fluctuated significantly throughout implementation of the project period and, whilst at the beginning of Yr3 there was some initial improvement in security which allowed staff to visit the field, by the end of the period security had again deteriorated.

In response, the project enlisted Voluntary Community Liaison Persons (CLPs) from within the Aweer community. CLPs are individuals who have demonstrated active participation in project activities and, because they are not limited by security concerns in the same way as WWF staff, initially offered a conduit to maintain community contact during times of high insecurity. CLPs have also been crucial in addressing the challenge of low literacy levels among the community, which was resulting in a significant investment of staff time to achieve intended results. In advance of training events, for example, sessions have been set up with CLPs to ensure that they have a good understanding of the intended training and are therefore well equipped to support staff in communicating key messages. Community members are also encouraged to engage with CLPs after training should they have follow up queries and WWF staff are available (albeit remotely) to support this need when it arises.

3 Project Partnerships

Partner	Role	Involved in project design	Involved in final reporting
WWF-Kenya	Oversight of all project activities; lead on CBNRM/PFM, HWC, livelihood development and diversification	Y	Y
WWF-UK	Programme management support; technical expertise in social development; matched funding	Y	Y
ZSL	Technical expertise in design, implementation and analysis of biodiversity monitoring surveys	Y	Y
KFS	Programme management support, part of the team implementing HWC mitigation measures	Y	Y
KWS	Programme management support, Lead in development of KBDCA management plan, played a role in strengthening community stewardship structures; security during fieldwork	Y	management not in post
WWF-CEA GI	Support in assessing management effectiveness, review of activity reports	Y	WWF-CEAI (GI) programme ended by time of writing report

In addition to partners formally recognised in the Darwin Initiative proposal, the project also established a multi-stakeholder coalition group / learning alliance to ensure that both, the WWF project and those other agencies / parties operating in the programme area, are aware of one another's activities and are able to collaborate effectively and avoid duplication – whilst

²⁰ News article on attack in which 6 police died: http://www.standardmedia.co.ke/article/2000189457/6-police-officers-killed-3-injured-as-rdu-lorry-drives-over-ied-in-lamu-county?articleID=2000189457&story_title=6-police-officers-killed-3-injured-as-rdu-lorry-drives-over-ied-in-lamu-county&pageNo=1

considering the needs of the local community, again increasing the effectiveness of the project. This group included representatives from the Aweer community (including the AWER Community Conservancy), pastoralists from Ijara county (including Ndera and Ijara Community Conservancies), KFS, KWS, Northern Rangelands Trust-Coast, the Kenya Red Cross, National Environment Management Authority (NEMA), ZSL, National Museums Kenya, Kibodo Trust and Lamu and Ijara County Administration and natural resource management departments within the two.

Strategic partnerships have been recognised as an important tool in achieving intended outcomes. As noted in the final independent evaluation: *“Through the coalition approach, the program succeeded in bringing on board all the key actors, both in Government as well as civil society in key planning and implementation processes. This was a key factor that partially contributed towards the success of the interventions. By working through a coalition of likeminded partners, the program has been able to cultivate broad base support as well as leverage on the individual and collective influence of its partners in advancing the conservation agenda in relevant decision making fora both at the county and national levels”*.

As also noted in the final evaluation, this approach to partnership has meant that implementation has helped to strengthen partnership relationships between coalition members as well as between coalition members and WWF. For example, the consultant carrying out the evaluation notes that: *“KWS and KFS are for instance now working jointly as a result of the efforts of the program”*. That said, it is noted that implementation of the coalition approach has become more difficult as implementation has gone on and this is primarily linked to competing demands for coalition partners’ time and change in partner agency staff resulting in reduced buy-in of the coalition approach.

There has been considerable learning around partnerships. For example, for partnerships to work there must be jointly agreed and clearly defined objectives, as well as clearly defined roles and responsibilities. Developing MoAs / MoUs can help with this greatly. It has also been learnt that individuals at the helm of an organisation can have strong influence on organisational / institutional relationships. Formalising relationships so that they are beyond individuals, again most likely through MoAs / MoUs, reduces the risks posed by this reality and, to some extent, future proofs against subsequent staff changes. That said, leveraging good personal relationship with influential individuals in institutions works well in cultivating relationships and so should not wholly be abandoned in favour of formalised institutional relationships.

It is also clear that regular communication is key to sustaining partnerships, as is the identification and promotion of areas of mutual interest. The project’s steering committee meetings, and to lesser degree Basecamp, have provided excellent forums to achieve this. Joint field visits strengthen relationships and make areas of mutual interest easier to identify. Strong facilitation is needed in each incidence to ensure that there is openness and transparency in partner relationships and that mistrust is minimised.

By working in close partnership with certain stakeholders, there is a risk that WWF alienates itself from other stakeholders (e.g. WWF’s strong working with KFS might limit WWF’s ability to be seen by the community as an objective partner to facilitate their engagement in matters of natural resource management). Evidence collated during the project’s evaluation suggests that there is some risk of this and highlights the importance of WWF maintaining a clear identity whilst working in partnership.

There is also the risk that by working in close partnership with others (especially government agencies), WWF reduces the need for other stakeholders to deliver on their own mandates. Again, evidence collated during the project’s evaluation suggests that there is some risk of: *“To KWS, WWF is like the government, I wonder what we would do without them. For instance the fuel we use is normally supplied by WWF. My organisation is really thankful to WWF, otherwise how would we working here with the limited budgetary support from the government?-KWS staff”*. Whilst this is seemingly a positive endorsement of WWF’s support, it also raises questions about sustainability and the extent to which the KWS is relying on WWF to deliver its mandate.

Building on this learning and learning from elsewhere, WWF-Kenya is planning to develop a partnership framework to help guide further collaboration. Partnership training is also expected to be rolled out as part of the WWF Kenya's new national strategy.

Partnership relationships developed as part of this project will continue. WWF-Kenya is scaling up its investment in the coastal region and as such, strengthening links with key partners will be vital to achieve impact at scale. In some cases this partnership will be formalised (i.e. WWF-UK has made contractual commitments for financial support to WWF-Kenya beyond this project's lifetime while an MoU for collaboration in natural resource management and conservation has been signed with the Lamu County Government), in other cases this partnership will be in kind (i.e. ZSL have not contractual commitment beyond this project's lifetime but are providing *ad hoc* technical advice as a result of relationships established during this project).

4 Contribution to Darwin Initiative Programme Outputs

4.1 Contribution to SDGs

Full mapping of SDG alignment is planned as part of work in the coming year, but rapid assessment highlights contribution to a number of SDGs:

- **Goal 1: No Poverty - End poverty in all its forms everywhere; Goal 2: Zero Hunger - End hunger, achieve food security and improved nutrition and promote sustainable agriculture:** By piloting sustainable income generating activities such as beekeeping, supporting sustainable farming practices and mitigating the effects of human wildlife conflict, the project has contributed to improved household incomes and food security (see sections 2.1, 2.3).
- **Goal 5: Gender Equality - Achieve gender equality and empower all women and girls:** By adopting a gender sensitive approach (see section 4.4) and promoting the representation and participation of women, including in leadership roles, the project has made a significant contribution to enhancing gender equity in the project area.
- **Goal 10: Reduced Inequalities - Reduce inequality within and among countries:** Interventions under this project have focused on strengthening the capacity and 'voice' of poor and marginalised communities, including the indigenous Aweer people, and as such the project has contributed to reducing inequalities at a national and county level.
- **Goal 13: Climate Action - Take urgent action to combat climate change and its impacts**
By working in partnership to support climate smart agricultural practises through the provision and promotion of drought-resistant crops and other adaptation strategies, the project has helped to build resilience to the impacts of climate change in some of Kenya's poorest and most marginalised communities.
- **Goal 15: Life on Land - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss:** The increased knowledge of biodiversity, strengthened capacity of community and state actors, increased food security and diversified livelihoods achieved by this project create the opportunity for, and promote, the more sustainable use of natural resources and enhanced management of key biodiversity areas.

Goal 17: Partnerships for the Goals - Strengthen the means of implementation and revitalize the global partnership for sustainable development

4.2 See section 3. Project support to the Conventions or Treaties (CBD, CMS, CITES, Nagoya Protocol, ITPGRFA))

Kenya is a signatory to CBD and has a National Biodiversity Strategy and Action Plan with six objectives, which this project has contributed to:

1. *Promote sustainable utilisation of biodiversity:* Increased knowledge of biodiversity, strengthened capacity of community and state actors, increased food security and diversified livelihoods achieved by this project create the opportunity for / promote the more sustainable use of natural resources and enhanced management of key biodiversity areas.

2. *Create an enabling environment for biodiversity conservation.* See NBSAP Outcome 1 response. Positive steps have also been made to build awareness and understanding of relevant community-based natural resource policies and approaches but ongoing legal and institutional dynamics have impeded full achievement of project aspirations. Direct input and facilitation of CSO input into key national and county policy developments (including County Integrated Development Plan, Lamu County Natural Resources Benefit Sharing Bill, Lamu County Forest Conservation and Management Bill) has also helped to create an enabling environment for biodiversity conservation.
3. *Promote awareness in biodiversity conservation.* Awareness has been built across a wide range of stakeholders at various levels (see section 4.6 and response to Output 1)
4. *Promote and enhance the conservation of biodiversity.* See NBSAP Outcome 2 response.
5. *Strengthen research and monitoring activities.* Project activities have provided a knowledge base on the Boni-Dodori biodiversity and built the capacity for future assessment of ecosystem services using the Toolkit for Ecosystem Service Site-based Assessment (TESSA).
6. *Promote environment-friendly activities like ecotourism:* The prevailing security situation has limited progress on achieving this objective, but key project activities, including pioneering biodiversity assessments, have laid the foundation and potentially created appetite for future ecotourism, including nature-based educational and academic tourism, when the security situation allows.

Kenya's CITES commitments relate to the rhino and elephant, which are WWF flagship species. Output 2 is addressing human-wildlife conflict and particularly piloted use of chilli to wade off elephants from crop raiding. There have been no cases of reported retaliatory killing of elephants as a result of human wildlife conflict, and this, together with enhanced protected area management have augured well for elephants and their habitat.

4.3 Project support to poverty alleviation

Implementation of this project has benefited (in the form of resilient conservation-based livelihoods and, to a lesser extent, community-based forest management) more than 1,800 people in the Aweer community/pastoralists in Ijara. Pastoralists in the Ijara community are poor and highly marginalized as they have limited access to government services coupled perennial insecurity. At the national and county level the Aweer are a highly marginalised and impoverished group – infrastructure, government services, markets, communications etc. are extremely limited and poverty rates are high²¹²².

Direct poverty benefits of project activities to target communities include increased income (cash and barter) and increased food security via livelihood initiatives and HWC mitigation activities. Indirect benefits include increased 'voice' in natural resource management and enhanced sustainability of natural resource management (see section 2.1 and 2.3 for details of direct and indirect benefits). Additionally, as a result of advocacy work (both direct by project partners and by building community capacity for advocacy), the County Government and other stakeholders are focusing more on the Aweer community in addressing other needs that are outside the mandate of the project. For example, the County Government has initiated water project and there are plans to improve the social amenities services i.e. transport, education, health and security by the National Government which will provide a good environment for community livelihoods to thrive.

The PSA conducted during the inception phase of this project gives some indication as to those who will have benefited most from the project's work. For example, it is identified that: "*All groups suffer the knock-on effects of crop raids on food security and income, but poorer households with less margins of safety and more reliant on the collection of wild foods during the hungry period, are most vulnerable to the effects of human-wildlife conflict*". Households piloting the game moats were identified, with the support the relevant village's farm leader

²¹ Kenya Poverty Strategy 2012:

https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjztvLDvbyMAhUBBMAKHShUCfIQFgceMAA&url=https%3A%2F%2Fwww.imf.org%2Fexternal%2Fpubs%2Fft%2Fscr%2F2012%2Fcr1210.pdf&usq=AFQjCNE04jJC2vI9nHghk1gB5S_F5UaXyA&bvm=bv.121070826.d.ZGg

²² Kenya National Bureau of Statistics: <http://www.knbs.or.ke/>

(known as *Mkuu wa Honde*), from the poorest strata of the community. Selection was based on willingness to engage rather than pre-existing assets (access to seeds, farming implements, etc.) as these were then provided by the project / Ministry of Agriculture. The project's gains in HWC mitigation are therefore likely to have most benefitted poorer households, but benefits are far from limited to this group – the PSA also identified that >60% of the community are almost certainly food insecure in most years and so HWC mitigation efforts and agricultural extension services will have benefited them also.

Work to progress modern beekeeping practices has helped to open up this activity to both genders. Traditional beekeeping practices involve a need to venture deep into the forest which, for security reasons, means that women have often been excluded from this activity. By contrast, modern techniques promote the closer proximity of hives to settlements and this means that security is less an issue for women when accessing the hives. That said, as noted elsewhere, elderly males have shown reluctance to adopt modern techniques because of other cultural practices associated with traditional methodologies.

Women's willingness to engage with the VICOBAs being piloted by the project means that they have benefited most from this activity. Again, however, the benefit is likely to be farther reaching as whole households will benefit.

The recent wellbeing assessment (see section 2.1) provides evidence of positive change across a number of dimensions of wellbeing (institutional capacity for resource governance; conflict over natural resource use; access to resources; and human wellbeing) over the last four years (timeframe was based on significant events that communities would remember rather than the project period) for both the Aweer and pastoralist in Ijara. For the Aweer, positive change was seen in all aspects of food security (hunger from lack of resources / variety of food in all seasons) and economic wellbeing, aside from access to markets which has been impeded by insecurity. Results also showed that for the Aweer conflict with animals has also reduced. For the pastoralists in Ijara, food security and most economic wellbeing indicators have also shown positive change. Conflict with animals has, however, shown negative change. Insecurity has limited the extent to which mitigation methods could be piloted in Ijara so whilst there have been positive impacts where mitigation activities (chili planting) have been implemented, the impacts have perhaps not been felt across the community.

4.4 Gender equality

Through the initial undertaking of a PSA, the project developed a richer understanding of the diversity of groups within the Aweer community and this knowledge has helped to inform project interventions. This is noted by the consultant carrying out the project's final evaluation: *"The adoption of both PRA and PSA in the needs identification process enriched the design of the program by bringing on board community perspectives of their vulnerabilities, resources and capacities and how these impacted on their livelihood choices"*.

The PSA highlighted that: *"...men are responsible for most household decision-making, including that relating to agricultural practices, produce sales, and house construction. Women make decisions about household activities (e.g. cooking, fetching water), child care and family health – and undertake most if not all of the associated work. They also decide on issues relating to the sale of the mats and baskets that they weave."*

Productive roles: Men and women jointly engage in most aspects of the farming cycle, but only men are involved in opening up new farmland and the overnight guarding of crops. Women have recently secured customary rights to land but this is under threat from the youths. In addition to crop production women typically rear poultry, process the honey collected by their husbands, and (with older girls) gather the forest foods which are critical during the lean periods. Most women weave baskets and mats for use and sale, and a few better off women engage in petty trade. Many men engage in casual labour to supplement income from their farming activities. Some also collect honey from the forest and/or fish, which they smoke before selling. A few of the richer men have salaried employment."

Given this diversity of roles, adequate engagement with women has certainly been a challenge throughout implementation of the project. WWF has consistently and actively promoted female representation, but in many cases when dealing with CSO leadership this leadership has been appointed by an independent election process which WWF has limited ability (and right) to influence. That said, gains have been made, as noted in the project's independent final evaluation: *“The program approach was deliberate in terms of gender inclusion as evidenced from the number of women beneficiaries. Due to the robust assessments undertaken, the program was alive to the dynamics relating to gender roles within the local communities. Therefore some of the interventions essentially mirrored the gender roles demarcations within the local communities. For instance, most women engage in livelihoods activities such as farming and micro-enterprises hence they constituted a significant proportion of the beneficiaries of the livelihoods diversification interventions. The program was also alive to the need to promote gender equity as evidenced from the equal participation between men and women on the various capacity building, awareness creation and policy engagement fora that were implemented. From the numbers reached it is safe to conclude that in terms of empowerment, the program made modest but very significant contribution in empowering women by exposing them to leadership and decision making processes”.*

By way of example, one seat on the newly formed Lamu County Wildlife Conservation and Compensation Committee (CWCCC), mandated to work with KFS on governance and decision-making on wildlife matters, is now held by a woman who is in charge of reporting issues that arise in the community to KWS. Following support and mentorship by WWF, this represents a small but important shift in the role being played by women in society.

The appointment of a female member of WWF staff (Ann Komen), recruited as a Project Officer in March 2014) has greatly helped improve the project's ability to engage with women and women's groups. It became clear that most women were not comfortable dealing with men only and many of the successes in strengthening the female voice in natural resource management are attributed to enhanced working relationships as a result of the presence of female WWF staff.

Following consultancy support in Yr1 of the project, a monitoring, evaluation and learning framework was finalised which included, where appropriate, disaggregation of indicator data by gender. Beneficiary testimonies / feedback processes are also disaggregated by gender and recent efforts to pilot a wellbeing assessment tool disaggregated data across a number of parameters. Initial results of the wellbeing narrative support the narrative outlined above – both men and women are reporting improvements in wellbeing, but women are reporting less improvement. This reemphasises the need for this to be a continued area of focus for the work going forward.

4.5 Programme indicators

- *Did the project lead to greater representation of local poor in management structures of biodiversity?* Yes to a greater extent the project led to better representation of poor and marginalised communities in management structures of biodiversity. Whilst the full CBRNM aspirations of the project have not yet been realised (see section 2.1), significant progress has been made in increasing community voice in natural resource management which has been formalised in a number of cases. For example, the Aweer are now represented in the newly formed County Wildlife Conservation and Compensation Committee (CWCCC) which oversee wildlife management at a county level in coordination with KWS.
- *Were any management plans for biodiversity developed?* No new management plans were developed but the project played a significant role in strengthening of the existing Kiunga Boni-Dodori Conservation Area (KBDCA) management plan (see below).
- *Were these formally accepted?* Yes, although on initial implementation (i.e. prior to the project's involvement) concerns were raised about inadequate stakeholder consultation / collaboration in development of the KBDCA management plan. To address this, a collaborative review process was facilitated, focusing on operationalising the plan and addressing identified gaps (chief among them little stakeholder participation). As a result, there was an improved focus on the area and the allocation of an additional ten KWS

rangers. Since then, commitment to improved allocation has continued although hampered by recurrent staff changes in KWS.

- *How well represented are the local poor and women, in any proposed management structures?* See previous response.
- *Were there any positive gains in HH income as a result of this project?* Yes, see sections 2.1 and 2.3.
- *How many HH saw an increase in their HH income?* More than 256 individuals (120 farmers: 96 beekeepers, 40 VICOBA members) particularly those participating in farming and beekeeping saw increase in household incomes
- *How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?* Increase in household incomes were not adequately measured as community do not keep records of other incomes such as remittances, sale of handicraft, proceeds from sale of fish or from their shops. However, the project does acknowledge that from the increase in agricultural yields, the income exceeded more than 40% from the baseline. Proceeds from sale of agricultural produce and honey did increase household incomes of the participating community members.

4.6 Transfer of knowledge

There has been extensive knowledge transfer as a result of this project through a variety of channels, including:

- Quarterly coalition steering group meetings (Representation from: WWF, KFS, KWS, State Department of Fisheries, ZSL, the County Government, and the Aweer community)
- CKP biannual reflection retreats (Key audience: WWF-Coastal Kenya Programme; WWF Kenya staff)
- WWF network technical progress report (TPR) process (Key audience: WWF Kenya [WWF-Kenya employs a peer-review process for development of its TPRs and this provides a further opportunity for cross-programme sharing and learning]; WWF Network)
- Project Basecamp (Key audience: project coalition partners, wider scientific community)
- Face to face meetings (Key audience: community; coalition partners)
- Bi-monthly blog (Key audience: WWF-UK supporters; donors)
- DI newsletter (Key audience: NGO sector; donors)
- National media coverage (Key audience: Kenyan general public; national level stakeholders)

4.7 Capacity building

Not applicable . More than 6 trainings provided in year including CFM; alternative livelihoods; HWC (revised up from year 1 and 2). The following trainings were conducted:

Biodiversity monitoring: Training was held for 18 (16M: 2W) composed of: ten (10M) AWER community scouts, five WWF staff (3M, 2W), and three stakeholder representatives (KFS (2M) and National Museums of Kenya (1M)) on identification of plants and birds^{23,24}. The training was conducted by local qualified ornithologists, including those with indigenous knowledge, and botanical guides.

Climate-smart agricultural production systems: A training attended by 12 (4W:8M) was held, facilitated by Ministry of Agriculture Extension Officer with logistical support from WWF, to promote climate-smart agricultural production systems among the forest communities through increased awareness, understanding and adoption of sustainable agricultural practices. A recommendation to farmers to grow drought-resistant and perennial crops saw an engagement of private sector players in contract farming to promote chilli and cassava crops. About 100

²³ WWF blog on plant / bird identification training: <https://blogs.wwf.org.uk/blog/campaigns/a-haven-for-bird-life-is-under-threat-these-new-rangers-could-hold-the-key-to-protecting-it/>

²⁴ Report: Enhancing capacity of Aweer community scouts for long term biodiversity monitoring: https://wwf.basecampHQ.com/projects/6149521/file/219085117/COMMUNITY_BIODIVERSITY_MONITORING_TRAINING.docx

farmers in five Aweer villages are now actively growing cassava crops, while more than 20 farmers in Ijara are engaged in production and sale of chilli.

Entrepreneurship training: Entrepreneurship skills training was held for 15 Aweer community members (5M:10W) to respond to gaps identified in year 2r. Skills that would provide new income generating opportunities (including soap production, kitchen gardening, and seedling nurseries), facilitated participants to consider the advantages and disadvantages of different forms of enterprise, and provided guidance on tapping into identified markets.

Ishaqbini Hirola Community Conservancy Board capacity building: Responding to findings from the application of the CSO capacity assessment tool (CAT) and working with NRT-Coast, training to build capacity on a variety of aspects was provided to the Ishaqbini Hirola Community Conservancy Board²⁵ and members of other conservancies (15 participants (13M:2W) in total: AWER Conservancy (3M:1W); Ndera Conservancy (4M:1W); Ishaqbini Conservancy (6M). Representatives of KWS and the Office of the President (Chiefs and Assistant Chiefs) were also trained.

Lamu CWCCC capacity building: Training to build capacity on a variety of aspects was provided to members of the newly formed Lamu CWCCC²⁶. This included representatives from the community (12M:4W), KWS, Ministry of Agriculture and Irrigation, Ministry of Fisheries, and Lamu County Government (in total: 48M:11W).

4.8 Sustainability and Legacy

The participatory approaches adopted in the design, the coalition approach to implementation, capacity building and embedding of interventions on community based structures have all contributed towards a fairly strong foundation for sustainability of the project.

WWF Kenya (with financial and technical support from WWF-UK), KFS and KWS will continue to implement projects in the project area and sustain / further develop many of the achievements of the project. Project staff and resources will be redirected to support this work, utilising additional funds (secured / to be secured) where needed.

The policy related aims of this project which have not yet been fully achieved will remain a priority for these partners working in the Boni-Dodori forest complex. In line with the new WWF Kenya national strategy and responding to emerging and rapidly increasing threats, WWF Kenya is in fact scaling up its efforts in the Kenya coast, moving from a project based approach to a landscape/seascape approach, and so seeking greater investment in the project area as part of a wider coastal Kenya programme.

Knowledge gained on biodiversity, indigenous knowledge and the interplay of the two has been captured in a number of formal, often peer-reviewed reports / publications (with additional publications planned) and shared widely (see section 4.6) thereby creating a legacy beyond the project period.

Leveraging support from additional service providers, drawn both from government and non-governmental organisations, and partnerships are also being, and will be, used to sustain the impact of the project's achievements. For example, the World Agroforestry Centre (ICRAF)²⁷ is now working with the Aweer community and promoting livelihood activities (i.e. beekeeping) initiated and supported through this programme. Going forward, WWF Kenya will transition formal leadership of beekeeping pilots to the AWER Community Conservancy. The AWER Community Conservancy has the capacity and appropriate institutional framework to carry on

²⁵ Ishaqbini Hirola Community Conservancy Board capacity building report: https://wwf.basecampHQ.com/projects/6149521/file/219896223/ISHAQBINI-HIROLA%20CONSERVANCY%20TRAINING_Report_Revised.docx

²⁶ CWCCC capacity building report: <https://wwf.basecampHQ.com/projects/6149521/file/219895526/CWCCC%20WORKSHOP%20REPORT%20DRAFT%20EDITED%202.docx>

²⁷ ICRAF website: <http://www.worldagroforestry.org/>

this initiative, but WWF Kenya is also, at least initially, likely to continue to play a facilitative role to ensure a smooth transition and consistency in data keeping, monitoring and reporting change.

It is also the intention that the HWC mitigation project, that has to date been championed by WWF Kenya, will be taken on by the newly formed Lamu County Wildlife Conservation and Compensation Committee (CWCCC), and by association KWS. This will free WWF Kenya resources to take the learning from this project and apply it in other priority areas to ultimately achieved impact at scale.

Drawing on partnerships to formalise WWF's role in the Lamu county spatial planning process²⁸²⁹ is another key way in which partnerships are helping to sustain outcomes. Kenya's County Government Act (2012)³⁰ requires county government administrations to develop county-level spatial plans to guide development and investment over a ten year period and help to ensure that future development is sustainable, and that competing demands on finite land and resources are managed appropriately. WWF Kenya's formalised role in this process, combined with input being provided at a national level to advise on the generic process design, strengthens its ability to ensure a consultative process which takes into account all stakeholders' concerns, including those of the local community and to ensure the sustainability of project achievements.

5 Lessons learned

As noted elsewhere, a key lesson in achieving the outputs and outcomes of this project has been the value of strategic partnerships (see section 3). More specific examples include the development of strong working relations with National Museums Kenya (NMK) in Lamu, which holds a seat on the LAPSSET Board, in order to better engage on issues associated with LAPSSET and the establishment of an MoU with the County Government in order to formalise engagement in county spatial planning processes as well as wider conservation issues. The diversity of partners formally recognised in the project, further supplemented by the coalition approach taken in design and implementation, has ensured a broad base of relevant expertise to draw from during the project period. Given the emerging context and with the benefit of hindsight, expertise in indigenous peoples should have been incorporated into the coalition group at the outset of design and implementation of the project, if not identified as a formal partner in this project. Action has been taken more recently to address this gap and will allow for significant strengthening of the work going forward.

It has also been learnt that livelihood based interventions require more time and support to succeed than initially perhaps anticipated. This is because there is often significant capacity building needs but also because other cultural challenges may be encountered. For example, during implementation of the beekeeping pilots it was noted that some community members, especially the elderly men, continued to show a reluctance to relinquish traditional beekeeping methods. Further analysis of this situation, including cost-benefit analysis, brought forth the fact that reluctance to adopt modern beekeeping techniques is not solely directly linked to beekeeping. Venturing deep into the forest while collecting wild honey also provides community elders with the opportunity to collect rare medicinal herbs, nourish spiritual connections with the forest, and pass on traditional skills to younger generations. It became apparent that these elders believed that engaging in modern beekeeping practices would deny them the opportunity to undertake visits to deeper forest. These deep-seated cultural traditions are not easy to change and require strong working relationships built on trust. As such, long-term commitment (such as the multi-year commitment offered by the Darwin Initiative) is hugely beneficial.

²⁸ LCG-WWF bilateral agreement: <https://arenadocs.wwf.org.uk/share/page/site/managing-projects-and-projects/document-details?nodeRef=workspace://SpacesStore/669d3856-98d8-472d-8377-aa3471f134e2>

²⁹ LCG-WWF MoU: <https://arenadocs.wwf.org.uk/share/page/site/managing-projects-and-projects/document-details?nodeRef=workspace://SpacesStore/e3039424-faa1-4cdb-932e-a9bccfb9dc31>

³⁰ http://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/CountyGovernmentsAct_No17of2012.pdf

Furthermore, to achieve long-term and far-reaching impact that is not dependent on WWF, local institutional mechanisms need to be in place and resources may need to be directed to the strengthening of these institutions. Examples of progress toward achieving this include planning for the AWER Community Conservancy's progressively undertaking leadership of beekeeping work and the CWCCC progressively undertaking responsibility for the continuation and further roll out of HWC mitigation methods.

It has also become apparent that communities learn better from practical examples and peer-to-peer learning. For example, during programme implementation the expertise of community counterparts from Msambweni Beekeepers' Association and Kaya Kinondo Financial Services Association in Kwale (southern Kenya coast) have been drawn upon to provide training to the beekeeping groups and VICOBA's in the project area. This has proved highly effective and is ultimately a more sustainable approach to capacity building. Similarly 'learning by doing', through demonstration plots, piloting, and cross-programme study tours / exposure visits, are likely to be more effective than formalised trainings in building capacity. Working with women's groups can also be an effective means by which to generate local support for the adoption of new ideas and / or technologies. This was found to particularly be the case in regard to piloting VICOBA's in the region; both men and women were exposed to VICOBA's through study tours and training but it was the women's groups which showed strong support in implementing their own VICOBA's.

The participatory approaches adopted in project design and implementation helped to insure that the programme was based on a good understanding of the underlying issues. Overall resource allocation was sufficient for the project, but the challenges associated with the fluctuating security situation increased the costs of certain activities and prevented others from happening as intended.

The security situation also resulted in learning on the value of CLPs (or similar) as an effective mechanism to strengthen WWF's relationship with the community. Because they are not limited by security concerns in the same way that WWF staff are, CLPs initially offered a conduit to maintain community contact during times of high insecurity but it soon became apparent that CLPs were able to play a crucial role in addressing challenges associated with low literacy levels and obtaining objective beneficiary feedback to inform adaptive management.

5.1 Monitoring and evaluation

There were no major changes to the project design or logframe. A monitoring, evaluation and learning (MEL) framework was developed through a consultative process between project partners and other stakeholders. This incorporated indicators outlined in the Darwin Initiative proposal, seated within a wider programme of work. This framework provided comprehensive documentation of the information that is required to provide evidence of results (disaggregated by gender where appropriate) and the data sources for this information. The framework also set out a number of opportunities for the sharing of lessons learnt and associated reflections which have proved very useful in providing feedback to partners and stakeholders.

An independent final evaluation was carried out by the project, again seated within a wider programme of work (i.e. the evaluation covers all programme work, not specifically the Darwin Initiative project alone). Key findings from the evaluation were:



Relevance	
Good and elaborate design process but inadequate documentation	A key strength of the program was the elaborate design process characterised by multiple iterations informed by assessment findings and lessons from project implementation. However, some of the key steps were inadequately documented or not completed altogether hence presenting some limitations in understanding the ultimate progression of the design. While the concept note presents brief but very informative contextual analysis the first strategic plan is comparatively weak on the same. The revised strategic plan was not available for review.
Clarity in the defining ultimate success in terms of improved status of conservation targets and intended beneficiaries	The Program has been consistent in defining its overall goal in terms of conservation targets and intended beneficiaries. The goal and corresponding outcomes were fairly ambitious for the current duration of the program but achievable in the long term. In our view, they define an ambition level that is both realistic and appropriate in relation to the magnitude of issues, challenges and problems that confront the targeted forest ecosystems.
Targeting/remaining relevant to issues of highest priority to critical factors affecting conservation targets /beneficiaries	The program design and subsequent changes were informed by a robust analysis of the forest ecosystem and the key actors, including the forest communities and key stakeholders as well as lessons from program implementation. The analyses were based on findings from multiple assessments that incorporated extensive consultations of stakeholders. The program was consistent in identifying and articulating issues of the highest priority in terms of sustainable forest management.
Description of a clear and well justified ToC and sufficient and efficient strategic approach to attaining planned results	The design of the program as already stated reflects a very robust needs analysis focusing on forest communities and complementary analyses of stakeholders, policy and legal regime and the forest ecosystem hence providing a holistic perspective of the overall situation. However, there is no clearly articulated theory of change describing the cause and effect relationships at different levels of the intervention logic.
Adoption of a climate-smart pro-poor approach	The program design has primarily adopted a pro-poor approach informed largely by the pervasive conditions of poverty and marginalization that define the existence of the Aweer people. This has been extensively documented in the Program strategy document.
Efficiency	
Operating under a well-defined and regularly reviewed and updated work plan	Fully operationalised mechanisms in place for annual workplan development and periodic reviews with the full participation and inputs of all the coalition partners. Served to strengthen the ownership of the interventions within the coalition partners / ensured that the project was able to make adjustments in response to changes within a rather fluid operating context. The success of the project in spite of the many external challenges encountered is testimony to effective management.
Organisation of Human Resources within the Program and with Partners	The project was not optimally resources to effectively deliver on both the core conservation and sustainable livelihoods components of the project. The project delivery structure at the field level was lean much as it consisted of technically competent personnel. An ideal structure for a project of this scale would have consisted of dedicated technical personnel for the conservation and sustainable livelihoods components of the project. The evaluation however does acknowledge that despite a lean structure, the Program was able to deliver on all the expected results.
Decisions about Spending	Sufficient evidence to demonstrate that key decisions were made to enable the best possible delivery of the project outputs. Illustrative examples include the adoption of a coalition approach to implementation which ensured that the project benefited from the experience and expertise of key partners involved in ecosystem management and conservation. Moreover, it was much easier for the project to leverage on such resources and expertise in undertaking complex studies and assessments that were required for purposes of availing critical data for measuring performance.
Effectiveness	
Comprehensive understanding of forest biodiversity / ecosystem services	Several studies including bird and mammal survey were conducted resulting in increased knowledge of the forest ecosystem. The studies conducted together with other stakeholders including Aweer Community, Zoological Society of Kenya and KFS and KWS and findings were disseminated widely for learning purposes.

Increased understanding of HWC in the Boni-Dodori corridor and piloting of mitigation measures undertaken	Community members wholly understand the causes of HWC and have instituted mitigation measures to reduce the incidences with support from the program. There have been positive outcomes on HWC intervention strategies, with majority of respondents in the FGDs pointing out that the moats have kept away wild animals resulting in increased harvests. Households are now more likely to store extra harvest reducing the need to venture into the forest to gather food. The immediate impact of the game moat strategy has seen a marked rise in the number of community members adopting the strategy.
Community stewardship regimes established/functioning in >six villages, with an integrated management plan and sustainable forest management regimes based on CBNRM principles	There is sufficient evidence to show that through WWF supported training there are dependable people within the community to spearhead conservation efforts of the Boni-Dodori forest complex. A total of 15 Aweer community rangers are supported by NRT, who have been effective in continuing the community support programme and firmly establishing the AWER Conservancy as a respected conservation institution.
Poor women /men actively engaged in/benefitting from piloting of diversified livelihood strategies based, where possible, on the sustainable use of natural resources	Available evidence indicates significant improvements in household food security levels as a result of engagement of households in various livelihoods diversification activities. Data submitted on maize production, honey harvested, and VICOBA saving indicate steady growth over time. If this is sustained in the long run, it will have a positive impact on household food security.
Practical implementation of CBNRM principles advocated, targeting County & National government and the biodiversity value and community stewardship of Boni-Dodori forests disseminated to national and international academia.	There has been a measurable improvement in implementation of CBNRM principles advocated by the program. The coalition has continued to work together with the aim of enhancing biodiversity value and community stewardship of Boni-Dodori forests. The program has actively engaged different stakeholders at different levels. Stakeholder engagement and collaboration in the implementation of different components of the program has been critical in cultivating a strong sense of partnership and ownership of the conservation agenda in the Boni-Dodori ecosystem.
Value for Money (VfM)	VfM considerations based on WWF's 4 Es framework. The response to the self-assessment tool in FY2015 and interviews with the program staff, the systems and mechanisms established were adequate in attaining the VfM considerations and mirrored WWF's comparative advantages in terms of knowledge of the context and existing networks/ social capital within the area.
Gender and diversity	Gender responsiveness was very satisfactory. Approach was deliberate in terms of gender inclusion as evidenced from the number of women beneficiaries. Due to the robust assessments undertaken, the program was alive to the dynamics relating to gender roles within the local communities.
Climate smart and Pro-Poor Conservation	Both design and implementation informed by a very strong analysis of the poverty situation / invariably adopted a strong pro-poor orientation. From the outset, recognised that an effective approach to addressing poverty will entail adoption of a dual approach, whereby, the community based natural resource management (CBNRM) approaches which underpinned conservation interventions is complemented with a sustainable livelihoods approach.
Improving evidence for results: Strong evidence base despite challenges in MEL system documentation	Robust framework for collecting and improving the quality of evidence to measure results at different levels of the intervention logic. Consisted of both routine and periodic data collection processes, multiple triangulation mechanisms for collected data as well as specialized studies and surveys for gathering evidence on key outcome and impact level indicators. Use of community structures to collect monitoring data proved to be both reliable and sustainable - allowed the program to monitor progress despite access challenges owing to long periods of insecurity.
Impact	
Achievements relating to positive changes in biodiversity quality	So far succeeded in securing community buy in and support of the CBNRM/PFM principles and practices. Local forest communities are now playing an active role in protecting the forest ecosystem through enhanced supervision, monitoring and reporting that is being conducted through the established system of village scouts and the Community Liaison Persons. The impact of this is visible in terms of the increased number of reports and arrests of persons destroying the forest. The completion of the mammal camera trap survey has availed critical data and information on the biodiversity value of the forest including the animal and plant resources and sites among others
Achievements relating to policies	Evidence from the interviews and program documents shows that the program was very instrumental in facilitating, mobilizing community participation and/or providing leadership in the formulation, review and input into a number of policy and legislative initiatives aimed at operationalizing the CBNRM/PFM principles. These include: gazettelement of the Lungi Forest and setting aside of adequate land for the Boni community; Wildlife Conservation and Management Act (2013); formulation of Lamu County Forest Management Bill (2015); Natural Resources Sharing Bill (2014) among others.
Achievements relating to human well being	Through the livelihoods interventions encompassing, adoption of improved agricultural practices, modern beekeeping methods and the VICOBA's coupled with the HWC interventions, there is evidence of positive impact on both household food security and incomes. The farmers interviewed indicated that they recorded very significant increase in product yields as a result of adoption of modern farming methods, extension support by local MOA officials as well as reduced incidences of wild animals' invasion of farms following adoption of the game moat strategy.



Key recommendations from the evaluation include:

- Mainstreaming of Boni-Dodori Priorities in County Integrated Development Plan and Affirmative Action
- Further capacity development of VICOBA's
- Review beekeeping strategy through a participatory process
- Strengthen Collaboration with the county Ministry of Agriculture
- Explore the opportunities for diversification in fishing sector
- Community capacity building - expand focus to address constitutionally provided rights issues
- Targeting children and youths as change agents
- Learning and reflection – conduct consultative fora on lesson learning

A management response to these recommendations, which considers their relevance and outlines future actions, has been developed.

5.2 Actions taken in response to annual report reviews

All previous annual report reviews were shared and discussed with partners. Issues that were raised have been addressed.

6 Darwin identity

The Darwin Initiative has been promoted, with use of Darwin Initiative logo where appropriate, in relevant project meetings, including during the project inception, at quarterly steering committee meetings, and during meetings with the community and other stakeholders. The project work falls within a wider programme of WWF work in the Boni-Dodori region, and in Coastal Kenya more generally, and so on occasion the project was promoted as part of the wider work rather than as a distinct project. A bi-monthly [blog](#) – which credits the contribution of the Darwin Initiative and other donors, has been produced since August 2014 and widely promoted via the social media channels of WWF Kenya, WWF-Cymru and WWF-UK.

Publications resulting from this project (mammal diversity^{31,32}, bird diversity³³, and indigenous knowledge^{34,35}) have highlighted the support provided by the Darwin Initiative, with use of Darwin Initiative logo where appropriate, and have been shared widely through scientific publication, the programme's Basecamp site, popular media and face-to-face interactions with the local community. A press release highlighting the biodiversity importance of the Boni-Dodori forests, and acknowledging the support of the Darwin Initiative, was issued in Kenya and the UK following the completion of the mammal camera trap surveys.

³¹ ZSL report - Mammal diversity surveys in the coastal forest: Kenya: <http://www.zsl.org/file/kenya-coastal-forest-mammal-diversity-reportpdf>

³² Mammal diversity survey in the northern coastal forests of Kenya - Arabuko-Sokoke Forest and the Boni-Dodori forest system: [https://wwf.basecampHQ.com/projects/6149521/file/218364291/Kenya%20A-S%20and%20B-D%20mammal%20survey%20report%20\(2010-2015\).pdf](https://wwf.basecampHQ.com/projects/6149521/file/218364291/Kenya%20A-S%20and%20B-D%20mammal%20survey%20report%20(2010-2015).pdf)

³³ Bird Diversity Survey in the Boni-Dodori Forest System, Kenya (2015): [https://wwf.basecampHQ.com/projects/6149521/file/218364292/Boni-Dodori%20Bird%20Survey%20Report%20\(2015\).pdf](https://wwf.basecampHQ.com/projects/6149521/file/218364292/Boni-Dodori%20Bird%20Survey%20Report%20(2015).pdf)

³⁴ Documentation of indigenous knowledge of local biodiversity: <https://arenadocs.wwf.org.uk/share/page/site/managing-programmes-and-projects/document-details?nodeRef=workspace://SpacesStore/2bea9e78-b1d5-4e62-a9d0-8714474fdcf6>

³⁵ Validation workshop for indigenous knowledge report: <https://arenadocs.wwf.org.uk/share/page/site/managing-programmes-and-projects/document-details?nodeRef=workspace://SpacesStore/f8b9e51b-10ea-4715-9a9e-8319c1d33432>

7 Finance and administration

7.1 Project expenditure

Project spend (indicative) since last annual report	2015/16 Grant (£)	2015/16 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			95%	
Consultancy costs			0	
Overhead Costs			100%	
Travel and subsistence			100%	
Operating Costs			103%	Insecurity increased security costs of fieldwork
Capital items (see below)			100%	
Others (see below)			71%	Insecurity prevented some planned surveys
Audit costs			100%	
TOTAL	210,076	210,076		

Lead Organization - Salaries

Staff employed (Name and position)	Cost (£)
Ann Komen- (in recruitment) – 100%	
Kiunga Kareko Project Manager 15%	
John Bett-Community Development Officer – 40%	
Francis Ekai (Now Jamal Khalif-) Finance operations – 20%	
Frank Beborah- Programme Accountant – 5%	
Hosea Mwangi- Payables finance – 5%	
Sam Weru- Conservation Manager – 5%	
TOTAL	78, 812

Partner Organization - Salaries

Staff employed (Name and position)	Cost (£)
Raj Amin – Technical Advisor	
Olivia Needham – Technical Advisor	
Chris Gordon (In recruitment) ZSL Kenya Project Coordinator	
TOTAL	38, 024

Capital items – description	Capital items – cost (£)

-Laptop for WWF-KCO DI PC	
-	
-	
TOTAL	1,500

Project spend (indicative) since last annual report	2015/16 Grant (£)	2015/16 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			94.5%	
Consultancy costs			0	
Overhead Costs			103%	
Travel and subsistence			100%	
Operating Costs			103%	
Capital items (see below)			0	
Others (see below)			71%	Targeted areas were not reached due to insecurity hence under-expenditure.
Audit costs			100%	
TOTAL	8,2037	79,003.29		

7.2 Additional funds or in-kind contributions secured

Please confirm the additional funds raised for this project. This will include funds indicated at application stage as confirmed or unconfirmed, as well as additional funds raised during the project lifetime. Please include all funds relevant to running the project as well as levered funds for additional work after the project ends. NB: the total of both these sections is the figure required for Annex 4, Q23.

Were any additional in-kind contributions secured during the project?

Confirmed as match for the proposed project:

TOTAL = £170,854 (40% match), comprising:

WWF-UK: From DFID PPA (£43,425) and Size of Wales (£43,425) for Years 1 and 2 and the first quarter of Year 3; internal/core funding support (£10,500) for Years 1-3; in-kind contribution (£46,507) for Years 1-3.

ZSL: In kind contribution (£8,315) for Years 1-3.

KWS: In kind contribution (£18,682) for Years 1-3

7.3 Additional funds or in-kind contributions secured

Please confirm the additional funds raised for this project. This will include funds indicated at application stage as confirmed or unconfirmed, as well as additional funds raised during the project lifetime. Please include all funds relevant to running the project as well as leveraged funds for additional work after the project ends. NB: the total of both these sections is the figure required for Annex 4, Q23.

Were any additional in-kind contributions secured during the project?

Source of funding for project lifetime	Total (£)
WWF-UK in-kind - CORE funds	
ZSL in-kind - CORE funds	
KWS in-kind - CORE funds	
WWF-UK CORE funds	
WWF DFID PPA funds	
WWF Size of Wales funds	
TOTAL	170, 854

Source of funding for additional work after project lifetime	Total (£)
WWF-UK DFID PPA	
TOTAL	147, 380

7.4 Value for Money

WWF Kenya is committed to using available resources to maximise results for people and nature, thus running all operations in a cost effective manner and applying donors' funds according to the highest standards of accountability. Within WWF, value for money (VfM) is analysed around the 4E framework (economy, efficiency, effectiveness and equity) to maximise results. These principles are embedded in the WWF Network Operational Manual and project and organisational level tools have been developed to help assess and improve VfM.

VfM was considered in the design of this project by building on work that has been proven to deliver in the past, benchmarking against other NGOs working in the same sector/region, and through consideration of the relative benefits of other approaches before selecting the ones described here. The budget was constructed by identifying the inputs required for implementing each activity and assigning known / estimated cost based on local knowledge.

Technical and financial staff have conducted regular assessment to ensure VfM is monitored throughout project implementation. Central to this assessment has been application of a project tool for assessing VfM, developed by WWF-UK as part of its Project Partnership Agreement with DfID. Overall, the project has performed scored highly when applying this tool, and used the results of this assessment to enhance VfM over the course of project implementation.

By seeking, and succeeding, to leverage additional funds and in-kind commitments from service providers (e.g. County Government, KWS, MOA) and the community, the efficiency of this work has been further enhanced.

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

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

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Goal: Land and resource tenure rights of the Aweer and Ijara will be secure, and the communities will be thriving as a result of improved conservation-based livelihoods. They will be fully integrated into community stewardship regimes. CBNRM policy and legislation will be enacted and implementation mainstreamed. The Boni-Dodori forests will be fully protected, with threatened and endemic species populations better understood and increasing. Forest communities will be benefiting from the revenues of nature tourism, subject to security. Threats to communities or forest ecosystems associated with major infrastructural developments for the new Lamu port (including land grabs/conversion, pollution) will have been addressed.</p>			
<p>Outcome: By 2016 the biodiversity and ecosystem services associated with the Boni-Dodori forest complex are understood and the knowledge generated is being used by the responsible agencies and six Aweer and two Ijara forest communities, to sustain community-based forest management and deliver resilient conservation-based livelihoods for the poorer majority (1,800 people) of the local population.</p>	<p>1a. Technical capacity and knowledge base increased by end of Yr 3 on the following:</p> <p>(i) biodiversity contributions to ecosystem function; and the value, population and abundance of threatened, endemic, indicator species trends within the Boni-Dodori area</p> <p>(ii) connections between and opportunities for Boni-Dodori biodiversity and conservation to underpin food security and sustainable livelihoods for local communities</p> <p>(iii) ecological, social and economic valuation of Boni-Dodori forest ecosystem services</p> <p>1b. The most vulnerable households (based on previous WWF situational analyses) in 8 villages report year on year decrease in HWC, and/or year on year increase (>10%) in agricultural yields and/or income for years 2 and 3.</p> <p>1c. Integrated land use plans and sustainable use quotas agreed between the community stewardship teams and functioning in at least 5 of 8 villages by end of year 3.</p> <p>1d. Uptake of diversified livelihoods strategies, with market links, related to conservation practices and/or ecosystem services amongst poorer households (based on previous WWF situation analyses) within 8 villages by end of year 3</p> <p>1e. Commitment and implementation on CBNRM, land and tenure rights for the Aweer and Ijara communities in the Boni and Dodori forests by county governments, KWS and KFS, show marked increases by end of year 3; and scientific support and tourism generated among national and international academia by year 3 (security conditions allowing).</p> <p>1f. Repeat surveys show selected locally important and globally/nationally threatened, endemic and indicator mammal species populations are stable or increasing by end of year 3</p>	<p>1a.(i) Raw monitoring data; use of the 'TESSA' toolkit; scientific publications in reputable international ecological and social science journals; (ii) targeted dissemination materials: policy advocacy report; academic, NGO and donor promotional and 'required next steps' materials (iii) Participatory appraisals; focus group reports; documented actions</p> <p>1b. Participatory household surveys and focus group reports; HWC report and strategy (Yr 1)</p> <p>1c. Minutes of community stewardship facilitation team meetings; user group harvesting diaries/records; management plans</p> <p>1d. Participatory livelihood surveys and focus group reports</p> <p>1e. Changes recorded by WWF 'commitment and action' tool developed for DFID PPA portfolio (e.g. movement from declarations to plans and budgets in place); increase in number of scientific/educational visits to project area and exposure of project nationally and internationally (security allowing).</p> <p>1f. Repeat survey reports; populated biodiversity inventory database</p>	<p>1a. Opportunities for strengthening community land and natural resource tenure rights in Kenya's Constitution (Chapter 5, Land & Environment) are progressed. Envisaged land laws passed and communities made aware of them and/or provide input in the making of these laws, especially which of community land.</p> <p>1b. Commitment of national and local partners to community stewardship regimes sustained.</p> <p>1c. Potential environmental impacts associated with proposed Lamu deep-water port developments are averted or mitigated.</p> <p>1d. Complementary initiatives being undertaken by Boni-Dodori Coalition members are sustained (e.g. WWF's Sustainable Forestry Management project; CEA-GI Terrestrial project; North Coast Conservation (NCC) Ltd).</p> <p>1f. No major natural disasters e.g. extreme drought, fire, etc. impact the project area.</p> <p>1g. Local security conditions remain stable to allow effective project implementation by project staff, and enable scientific and/or educational tourism.</p>

<p>Outputs:</p> <p>1. Knowledge base: Comprehensive understanding of forest biodiversity (i.e. locally important, endemic or nationally/globally threatened species), and ecosystem services (i.e. values of specific services and distribution of costs and benefits for forest and plausible 'alternative' through trialing and development of the 'TESSA' toolkit) established</p>	<p>1a.Participatory appraisal of local indigenous knowledge, amongst indigenous Aweer hunter gatherers and Ijara pastoral communities, regarding local biodiversity (locally important species / taxa) is completed and captured in a report and resource use maps and increases the level of understanding of local indigenous knowledge (Yr. 1).</p> <p>1b.Biodiversity inventory established for Boni-Dodori forests with comprehensive data from survey work on species / taxa identified as being important by local communities and those that are nationally / globally threatened or endemic(Yr. 1-2). At least 3 biodiversity survey reports – botanical (particularly herbs and medicines); mammal and bird by Yr. 3.</p> <p>1c.Maps generated of natural resource distribution, cultural sites, and development of sustainable levels of harvest underway for main forest resources (Yr. 1-2).</p> <p>1d.At least 10 ToT from the community and local stakeholders trained in survey techniques and species identification are working directly with local communities collecting high quality data to monitor changes in the biodiversity status and harvested species of the forests (Yr. 1-3).</p> <p>1e.A Boni-Dodori ecosystem co-management plan has produced and agreed and sustainable harvesting plans for key resources are in place (Yr 2, 3)</p> <p>1f.At least 3 papers published in international peer reviewed journals by Yr 3.</p>	<p>1a.Report on indigenous knowledge and collated resource maps</p> <p>1b.Populated database on biodiversity and inventory reports for Boni-Dodori forest ecosystem.</p> <p>1cCopies of biodiversity and cultural survey reports; collated land cover maps; harvesting plans.</p> <p>1d.Technical project progress and training reports and materials.</p> <p>1e .# of scientific manuscripts</p>	<ul style="list-style-type: none"> ○ Different status of the Boni and Dodori National Reserves (i.e. state owned) and the Boni and Lungu forests (i.e. open access) equitably accommodated by authorities in respective management plans (e.g. co-management and CBNRM respectively). ○ Sufficient trust and rapport developed with and between local forest communities, state services and project staff to enable mapping of cultural and other natural resource uses and implementation of agreed ecosystem management and sustainable use plans, ○ National, local partners and communities continue to be willing to engage.
<p>2. Understanding of Human Wildlife Conflicts (HWC) in the Boni-Dodori corridor established, and optimal strategies to counter HWC, based on piloted mitigation measures, developed, deployed and documented for wider dissemination</p>	<p>2a. Level and types of HWC in high impact areas established, and event book recording system introduced (Yr1). At least 80 local farmers trained in logging HWC and 5 project staff.</p> <p>2b.Review of relevant HWC literature completed with key implications and recommendations for the project compiled and integrated into the project design (Yr 1)</p> <p>2c.At least two different mitigation measures investigated and piloted in at least two high HWC villages (Yr 2-</p> <p>2d.Lessons learnt document on HWC produced and disseminated; HWC resolution strategy developed through stakeholder workshops; # of people whose capacity has been built regarding HWC (Yr 3)</p>	<p>2a.Records of key informant interviews,</p> <p>2.bMinutes of community meetings,</p> <p>2c.Event books</p> <p>2d.HWC survey report,</p> <p>2e.HWC review study report.</p> <p>2f.Project progress reports</p> <p>2g.HWC strategy document</p>	
<p>3. Community stewardship regimes – structures and systems – established and functioning in and across the eight villages, with an integrated management plan (including for key indicator / endemic species) and sustainable use quotas for the Boni-Dodori corridor and adjacent National Reserves</p>	<p>3a.At least 16 representatives (equally split male/female, youth/elders) in each of the eight villages and 10 KWS/KFS staff with working familiarity of participatory forest management/CBNRM and sustainable resource use (Yr. 2-3).</p> <p>3b.Community stewardship structures/agreements in development for eight villages (Yr. 2-3).</p> <p>3c.Community led monitoring and evaluation plan established and implemented (Yr. 1-3). At least 80 community members collecting M&E data, which is collated and used to inform local management decisions by Yr3.</p> <p>3d.Enhancement of current community based and/or participatory</p>	<p>3a. Project documents;</p> <p>3b.Meeting attendance records and minutes;</p> <p>3c.Community diaries;</p> <p>3d.Study site visit reports;</p> <p>3e.Key informant interviews;</p> <p>3f.Official documents;</p> <p>3g.Monitoring and Evaluation plan;</p> <p>3h.Protocol document and forms;</p> <p>3i.County development plans;</p> <p>3j.Training reports;</p> <p>3k.Project progress reports</p>	

	patrolling and enforcement activities in project area (Yr. 2-3). Patrol data / information collection form in use, being collated by project staff and informing management decisions (Yr3)		
4.Understanding of, and engaged responsiveness to improving the livelihoods of vulnerable groups (amongst forest communities) developed by multi-partner/community stewardship facilitation teams	4a.At least 10 staff from local stakeholders trained in participatory appraisal and social survey techniques (Yr. 1). 4b.Participatory appraisal of community livelihoods and use of forest resources (including use of medicinal herbs, sacred sites, plus other resources) undertaken and used to inform viable livelihood options by end of Yr. 1. 4c.Piloting of identified and agreed enhanced and/or diversified livelihood options, with identified market linkages established, with targeted community groups (Yr. 2-3)	4a.Technical project progress 4b.Training reports and materials. 4c.Project and participatory planning reports. 4d.Project reports	
5.Capacity building, advocacy and effective dissemination of project research findings will have positively influenced the implementation of CBNRM in the Boni-Dodori forests of Lamu and Garissa County in Kenya as well as built understanding on CBNRM nationally and within the wider academic community	5a.CBNRM policy leveraging within (i) Lamu and (ii) Garissa County development plans (Yr2-3) 5b.At least 2 project staff and 2 community representatives trained in effective NRM advocacy (Yr. 2-3). 5c.A Boni-Dodori ecosystem co-management plan has been drafted (Yr. 2, 3) 5d.Community based and/or participatory patrolling and enforcement activities in place within project area 5e.At least one discussion paper / case study on the development of CBNRM in the Boni-Dodori area produced. 5f.At least three papers published in international peer-reviewed journals by year 3 5g.Findings of the project presented at one or more scientific forums by year 3	5a.Lamu and Garissa County development plans 5b.Advocacy training report 5c.Ecosystem management plan 5d.CBNRM in Boni-Dodori discussion paper / case study manuscript 5e.3 submitted scientific papers 5c.1 set of proceedings from an international fora / conference	

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Conduct Resource Mapping and/or collate and analyse

- undertake appraisal of local indigenous knowledge to build on current knowledge regarding forest resources and their use, trends and seasonality and a situational analysis
- Generation of additional land cover (inc. natural resource distribution) maps and changes. Data analysis (quantification of extraction rates of forest and non-timber forest products (NTFP);
- mapping new information on key natural resource use, could include - food, medicinal plants, honey collection and wildlife hunting, and cultural sites;
- identification of key harvest species;
- Identification of possible viable livelihood options.
- Production and dissemination of report to key stakeholders.

1.2 Provide training to establish a standardised biodiversity database for the region maintained by trained local partners.

1.3 Conduct biodiversity assessments

- undertake a series of biodiversity assessments for recognised key nationally / globally threatened species or endemics, namely:
- conduct repeat mammal diversity assessment - refinement of survey protocols and data recording forms, development of training material; training workshop in camera trap surveys and data analysis; camera trap surveys in Boni, Dodori and Lungwi forests; populating database, data processing and analysis (inventory, species richness, relative abundance and occupancy analysed with habitat and disturbance covariates for indicator and threatened species, species activity / migration patterns including particularly elephant and buffalo); production and dissemination of mammal diversity assessment report for management.
- conduct a plant diversity assessment - development of survey design / implementation plan with particular focus on CBNRM species, data recording forms and training material; preparation and training of survey team; field surveys in Boni, Dodori and Lungwi forests; populating database, data analysis; production and dissemination of assessment report.

- Conduct a bird diversity assessment – identify a leading regional ornithologist to design and undertake as a consultancy a comprehensive survey of bird species working closely with KWS, local community representatives and WWF-Kenya; utilise findings to lobby for recognition as an Important Bird Area (IBA) if appropriate.
- 1.4 Pilot the Toolkit for Ecosystem Service Site-based Assessment (TESSA) – working with local communities and other stakeholders pilot use of the TESSA toolkit, record data and collate feedback and recommendations regarding toolkit development.
- 1.5 Disseminate key findings – Boni-Dodori biodiversity report published and circulated to all relevant institutions and at least 3 papers prepared submitted to peer reviewed journals and presentation of selected findings at one scientific fora.
- 2.1 Carry out a Human Wildlife Conflict assessment:
- Identification and assessment of HWC high impact areas. Meta-analysis of existing HWC mitigation approaches in relevant systems (i.e. collate case studies and best practice).
 - Preparation and dissemination of report with recommendations to stakeholders.
- 2.2 Establish a system for recording HWC:
- Set up system in identified high impact areas based on event book re-cording system
 - Development of HWC data recording forms;
 - Training of local project staff in conflict assessment and data collection, and community scouts in use of event book in each village.
- 2.3 Develop a HWC strategy – Stakeholder workshop to discuss lessons learnt, develop an agreed wider HWC resolution/mitigation strategy and implementation plan.
- 2.4 Conduct an exposure / cross visit for selected local staff and community members to project sites / communities that have HWC mitigation strategies in place.
- 2.5 Piloting of mitigation measures of HWC
- Mitigation measures piloted in at least two high conflict village systems
 - training and support of at least 30 affected local community members in HWC mitigation
 - Evaluation through on-going monitoring and data recording, preparation and dissemination of evaluation report.
- 3.1 Natural Resource Management awareness raising
- Series of community meetings and information dissemination to build general awareness amongst the local community on (1) relevant community based NRM policies and approaches (e.g. PFM, CBNRM); (2) tenurial rights issues (building on the recently ended USAID SECURE project) and (3) the proposed Lamu deep-water port and associated infrastructure development (4) Capacity assessment surveys - Initial and repeat survey work to identify local community understanding of the biodiversity and ecosystem services
- 3.2 Establishment of multi-partner/community stewardship facilitation teams, capacity strengthening of community platforms and/or establishment of new community structures.
- Local community, WWF and KWS/KFS representatives involved in the formation
 - Consolidation and functioning of facilitation teams and interfacing community platforms (e.g. community based organisations) as representatives of the forest communities.
 - Includes training in developing key elements of a good CBO - administrative skills, technical competencies, conflict management, and good governance (e.g. accountability, transparency, inclusion etc.).
- 3.3 Capacity building in Participatory Forest Management (PFM) and Community Based Natural Resource Management (CBNRM)
- Train local community representatives for the eight villages, KWS/KFS staff and other stakeholders involved in a series of targeted trainings,
 - Conduct workshops, exposure visits and field work that build their skills and knowledge wrt all aspects of PFM and CBNRM
- 3.4 Natural Resource Management advocacy. Training of at least 2 local staff and 2 community representatives to effectively advocate for relevant Natural Resource Management (NRM) policies (e.g. Participatory Forest Management, CBNRM) with relevant local and country government representatives in relation to local development plans and wrt the proposed Lamu deep-water port and associated planned major developments.
- 3.5 Participatory or community patrolling and enforcement activities already in place within the project area are identified, evaluated and enhanced (e.g. protocols, data collection forms, standardised reporting templates, training materials etc.) in key selected areas, training at least an additional 10 KWS / KFS staff and 20 community representatives. Explore the viability of the establishment of a monitoring and enforcement GIS database system and if found to be viable train at least 2 local staff in its use.
- 4.1 Carry out capacity building in participatory appraisal and social survey techniques for at least 10 staff from local stakeholders
- 4.2 Conduct a participatory appraisal of livelihood options (particularly conservation activities and issues surrounding the use of the forests) through
- regular community meetings, exposure visits, specific workshops
- 4.3 Initiate enhanced and/or diversified livelihoods based initially on sustainable use options and complementary initiatives from WWF-DFID work and identification of market links. Undertake on-going and

final evaluation to determine final impact, disseminate report with findings and recommendations for wider uptake and lesson learning.

4.4 Advocacy initiatives for community rights: With support and direction from WWF-KCO's civil society expert and the SC, stewardship facilitation teams draw up and support implementation of advocacy strategies amongst communities.

4.5 Mobilisation of community service providers: With support and direction from SC, stewardship facilitation teams draw up and support implementation of engagement/mobilisation strategies for communities to secure services.

5.1 Initiate a process for CBNRM policy leveraging within county development plans

- As per 3.4

5.2 Support the development of a Boni-Dodori ecosystem management plan

5.3 As per 3.5

5.4 Draft, publish and disseminate discussion paper / case study on development of CBNRM in Boni-Dodori.

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

Outcome:	“By 2016, the biodiversity and ecosystem services associated with the Boni-Dodori forest complex are understood and knowledge generated is being used by the responsible agencies and six Aweer and two Ijara forest communities, to sustain community-based forest management and deliver resilient conservation-based livelihoods for the poorer majority (1,800 people) of the local population.			Comments (if necessary)
	Baseline	Change by 2016	Source of evidence	
Indicator 0.1: <i>Indicator 1:</i> Technical capacity and knowledge base increased by end of Yr 3 on the following:(i) Biodiversity contributions to ecosystem function; and the value, population and abundance of threatened, endemic, indicator species trends within the Boni-Dodori forest ecosystem - based on standardised monitoring methods (ii) connections between and opportunities for Boni-Dodori biodiversity and conservation to underpin food security and sustainable livelihoods for local communities (iii) ecological, social and economic valuation of Boni-Dodori forest ecosystem services	<ul style="list-style-type: none"> Inadequate technical capacity among staff and partners on scientific biodiversity assessments and valuation of ecosystem services Lack of documentation on the local indigenous knowledge 2010 Mammal camera trapping findings by KWS and ZSL 	<p>Capacity of project staff, partners and forest communities build on:</p> <ul style="list-style-type: none"> Bird survey: basic bird identification techniques, Field identification training for 10 Scouts, police reservists and other members of the AWER Community Conservancy, 4 Field Identification Bird Guide Books handed over to the Conservancy. Mammal surveys: 22³⁶ personnel trained in camera set-up and recovery protocols, including in-situ training during deployment of mammal camera trap grids. Additional training was provided to local scientists³⁷ in the management and analysis of camera-trap data using the ZSL data analysis tool. TESSA toolkit³⁸-15 personnel³⁹ were introduced to and trained in the methodology of the use of TESSA toolkit Participatory appraisal of indigenous knowledge: 21⁴⁰ personnel trained on participatory appraisal of indigenous knowledge in local biodiversity Extensive scientific and indigenous knowledge collected and documented; Bird survey: updated ornithological knowledge and informed the declaration of Boni-Dodori ecosystem as an Important Bird Area (IBA) Indigenous biodiversity knowledge on local biodiversity and uses mapped. Mammal survey: new findings on species distributions and range extensions, notable indications of relative abundance and presence of species under threat reported. TESSA piloting: Desktop assessment of two classes of services derived from Boni-Dodori corridor was considered by the stakeholders: harvested wild goods and cultivated goods. 	<p>Mammal camera trapping report</p> <p>Bird survey report</p> <p>Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community</p> <p>Aweer sacred sites documentation</p> <p>TESSA training report</p> <p>Mammal camera trapping publication:http://www.hirolacervation.org/images/scientific-publications/Kenya%20Coastal%20Forest%20Mammal%20Diversity%20Report.pdf</p>	<ul style="list-style-type: none"> The insecurity challenges hindered the completion of a few assessments as envisaged i.e. camera traps couldn't be deployed in the same grid as the baseline so a direct repeat survey wasn't possible whereas those delayed in being retrieved. An ecosystem assessment of the alternative site was undertaken but due to insecurity in the area, comparisons were not possible.
Indicator 0.2: The most vulnerable households (based on previous WWF situational analyses) in 8 villages report year on year	Low agricultural yields High HWC cases/ incidences and crop raids	A total of 20 farmers in Halbathiro village in Ijara are adopting chilli planting as a means of reducing human-elephant conflict. In Aweer villages six game moats have been in operation around HWC hotspots: two moats in Milimani [20 households], and single moats in Basuba [10	<ul style="list-style-type: none"> HWC assessment in Aweer villages HWC assessment in areas adjacent to Boni 	The agricultural yields was augmented by increased agricultural extension services

³⁶ Zoological Society of London (2 staff based in Kenya), WWF Kenya(4), Kenya Wildlife Service(9), Kenya Forest Service(1), AWER conservancy community scouts(6)

³⁷ Eighteen people from AWF, KWS, NMK, BirdLife, Mara Cheetah Project, Maralal, Masai Wilderness Conservation Trust, WWF-Kenya and ZSL attended the training workshop

³⁸ TESSA toolkit: a step by step approach to assess selected ecosystem services at the site scale and was developed by a consortium of experts under a Cambridge Conservation Initiative and Birdlife International/Darwin Initiative project.

³⁹ WWF Kenya(5), Kenya Forest Service(1),Kenya Wildlife Service(1), Kenya Forestry Research institute(1) , Aweer community representatives(7)

⁴⁰ 8 community members and 11 multi-agency representatives

decrease in HWC, and/or year on year increase (>10%) in agricultural yields and/or income for years 2 and 3.		households], Mangai [30 households], Kiangwe [30 households], and Mararani villages [30 households]. The adoption of these strategies, in combination with agricultural extension services, has translated to an average increase of 40-50% agricultural yields in year 2 and year 3 of implementation (5 Aweer villages). In Halbathiro those with established chilli plants reported an increase in crop yield ⁴¹ and household incomes ⁴² over the last season. Unlike in the Aweer villages, agricultural extension services have not yet been implemented in Ijara and so these crop yield increase are more directly attributable to the decrease in HWC, although it is acknowledged that more robust HWC data is needed to fully interrogate this change.	<p>forest</p> <ul style="list-style-type: none"> • Stories of change • HWC case study • Impact of chilli farming HWC mitigation strategy on crop yields in Ndera village in Ijara • Impact of Agricultural extension services in Aweer villages 	In year 3, the sixth village (Halbathiro Ijara) reported increase in crop yields due to decrease in human elephant conflict
Indicator 0.3: Integrated land use plans and sustainable use quotas agreed between the community stewardship teams and functioning in at least 5 of 8 villages by end of year 3.	Draft Kiunga-Boni-Dodori Conservation area management plan. No integrated land use plans and use quota.	Supported completion of KBDCA management plan; Supported training of AWER community conservancy on Wildlife Conservation and Management Act which provides opportunities for preparation of management plans.	<ul style="list-style-type: none"> • KBDCA management plan • Training on the Wildlife Conservation and Management Act 	It was not feasible to establish formal sustainable use quotas as a total ban on wildlife harvesting and logging is in force despite customary harvesting plans
Indicator 0.4 Uptake of diversified livelihoods strategies, with market links, related to conservation practices and/or ecosystem services amongst poorer households (based on previous WWF situation analyses) within 8 villages by end of year 3	Limited livelihood options (traditional honey gathering by men, handicrafts and shift cultivation both by men and women)	<p>Five bee-keeping groups functioning in each of Aweer villages within the Boni corridor (Milimani, Mangai, Basuba, Kiangwe, Mararani) – with a total of 96 members (71M: 25W) operating 90 bee hives. Within the project cycle the cumulative amounts of more than an estimated 2,280 kgs of honey has been produced with an estimated value of KES 1,086,000 (approximately USD 10,745). Similarly, honey is used to barter other goods.</p> <p>Two VICOBA groups established within the Aweer community, with a total membership of 40 women (Basuba VICOBA = 15 women; Mararani VICOBA = 25 women). Since inception (in March/April 2014) a total of KES 72,000 (approximately USD 720) has been saved by both groups combined (Basuba VICOBA = KES 64,000;</p> <p>Sustainable farming: Refer to indicator 0.3 above on how adoption of HWC strategies coupled with adoption of sustainable agricultural yields has increased farming productivity</p> <p>What about market links? This is referenced in the outcome. The project will continue to link the beekeepers with markets and encourage value addition of their honey. This will include supporting the three women who have bulked their honey production to negotiate strong prices with the market contacts that have already been established.</p>	<ul style="list-style-type: none"> • Stories of change from the field • Impact of chilli farming HWC mitigation strategy on crop yields in Ndera village in Ijara. • Impact of Agricultural extension services in Aweer villages • Status of Bee keeping Activities in Boni-Dodori ecosystem • VICOBA records • VICOBA case study 	<p>Piloting of beekeeping was subsidised by the project and now farmers are meeting their own costs such as buying and installing their hives.</p> <p>Game moat digging is sustainable as it is the only proven affordable method of preventing crop raids</p> <p>Subsistence agricultural activities in the Boni Forest is desirable as it is the only viable livelihood activity in the area</p> <p>Outcome is 8 villages, only talking here about 5 – what are the reasons for this?</p>
Indicator 0.5: Commitment and implementation on CBNRM, land and tenure rights for the Aweer and Ijara communities in the Boni and Dodori forests by county governments, KWS and KFS, show marked increases by end of year 3; and scientific support and	<p>Informal indigenous knowledge management systems</p> <p>Inadequate knowledge on and limited appetite amongst authorities for CBNRM.</p> <p>Limited awareness on</p>	<p>Knowledge and capacity of Aweer and Ijara communities built on CBNRM/PFM strategies.</p> <p>The project promoted CBNRM and engaged in activities:</p> <ul style="list-style-type: none"> • Training on PFM and NR governance. • Advocacy training and events to influence management of NR • Lobbying for position in management of NR committee (CWCCC) 	<ul style="list-style-type: none"> • Study visit to PFM and HWC community projects in Arabuko-Sokoke and Kwale • Exposure visit to CBNRM projects in Northern Kenya • CBNRM exposure visit 	<p>The state – KFS – gazetted much of the Aweer’s land in 2016, ostensibly because of insecurity; but this is being challenged.</p> <p>It’s proven difficult to advance CBNRM as practised elsewhere, because of lack of enactment of community land bill, and KFS’ preference for and prior investment in joint forest management approaches (known as PFM)</p>

⁴² Evidence to follow

tourism generated among national and international academia by year 3 (security conditions allowing).	existing NR laws amongst communities (and others?)	<ul style="list-style-type: none"> • Training on NR Conflict resolution mechanisms • Support to contribution and inputs to NR laws and policies. 	<p>Namibia</p> <ul style="list-style-type: none"> • ADR training 	<p>Tourism activities in the area has not picked due to insecurity</p> <p>However, the project was exposed through scientific publications and media publications</p>
Indicator 0.6: Repeat surveys show selected locally important and globally/nationally threatened, endemic and indicator mammal species populations are stable or increasing by end of year 3.	2010 camera trapping survey (Mammal species diversity)	<p>The 2010 and 2015 mammal camera trap surveys confirm very high levels of terrestrial mammal species richness, further highlighting the northern coastal forests as a biodiversity hotspot. The Boni-Dodori forest system emerges as the global centre for the Critically Endangered Aders' duiker, as well as being important for other threatened species such as the African wild dog and a potentially new species of elephant shrew.</p> <p>KWS animal censuses further revealed presence of large populations of other species of animals</p>	Mammal camera trapping report	that the change wasn't assessed due to surveys not being directly comparable (primarily because of security) as baseline sites were not assessed

Output 1:	Knowledge base: Comprehensive understanding of forest biodiversity (i.e. locally important, endemic or nationally/globally threatened species), and ecosystem services (i.e. values of specific services and distribution of costs and benefits for forest and plausible 'alternative' through trialling and development of the 'TESSA' toolkit) established		
	Baseline	Change recorded by 2016	Source of evidence
Indicator 1.1 Participatory appraisal of local indigenous knowledge, amongst indigenous Aweer hunter gatherers and Ijara pastoral communities, regarding local biodiversity (locally important species / taxa) is completed and captured in a report and resource use maps and increases the level of understanding of local indigenous knowledge (Yr. 1).	Resource map done by SECURE project PSA (2011) PRA (2010)	<i>Progress/success:</i> Increased knowledge and understanding of local biodiversity and particularly the importance of traditional governance systems on natural resource management. Additionally, resource use maps for Aweer and Ijara pastoral communities on local biodiversity reviewed and updated.	<ul style="list-style-type: none"> Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community Aweer sacred sites Documentation
Indicator 1.2 Biodiversity inventory established for Boni-Dodori forests with comprehensive data from survey work on species / taxa identified as being important by local communities and those that are nationally / globally threatened or endemic (Yr 1-2). At least 3 biodiversity survey reports – botanical (particularly herbs and medicines); mammal and bird by Yr 3.	2010 Mammal camera trapping survey report(In Press)	<i>Progress/success:</i> refer to section 2.2 on contribution to impact.	<ul style="list-style-type: none"> Mammal camera trapping report Bird survey report Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community
Indicator 1.3: Maps generated of natural resource distribution, cultural sites, and development of sustainable levels of harvest underway for main forest resources (Yr 1-2).	2011 bird distribution in Boni Dodori, 2010 mammal camera traps 2010 Kenya Secure project	Natural resources identified by the Aweer mapped by KWS and KENYA SECURE project reviewed. Aweer sacred sites (Gedhi ⁴³ and Duri ⁴⁴) mapped as part of a dossier report regarding Aweer sacred sites and indigenous natural resource management systems-Report has been used to advocate for the recognition of the sacred sites as National heritage sites. The mammal and bird survey work showed an indication of distribution of a range of rare / endangered species .	<ul style="list-style-type: none"> Mammal camera trapping report Bird survey report Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community
Indicator 1.4: At least 10 TOT from the community and local stakeholders trained in survey techniques and species identification are working directly with local communities collecting high quality data to monitor changes in the biodiversity status and harvested species of the forests (Yr1-3)	Zero number of community members trained on survey techniques and species identification	<i>Progress/success:</i> Increased capacity of community members in collecting and monitoring biodiversity changes as a result of three trainings (a total of 15 [10 men, 5 women] trained in survey techniques and bird species; and 22 [3 women: 19 men] trained in use of mammal camera traps. KWS and KFS trained rangers together with the scouts on participated in deployment of cameras in last grid. Some scouts are reporting alien invasive species to KFS	<ul style="list-style-type: none"> Kenya Camera Trapping training workshops Community biodiversity monitoring training report
Indicator 1. 5: A Boni-Dodori ecosystem co-management plan produced and agreed and sustainable harvesting plans for key resources are in place (Yr 2, 3)	Draft KBDC management plan	<i>Progress/success:</i> Improved management of Kiunga-Boni-Dodori ecosystem through support of implementation of KBDC management plan developed by KWS and other stakeholders. As for the harvesting quotas, the customary harvesting plans remains to be formalized while the government agencies are constraint by both legal and institutional policies against harvesting of Natural resources (See outcome indicator 3)	<ul style="list-style-type: none"> KBDC management plan Operationalization of Dodori National NR planning meeting report
Indicator 1. 6: At least 3 papers published in international peer reviewed journals by Yr 3.	None known	<i>Progress/success:</i> 2 mammal survey publications by ZSL, KWS and WWF on Biodiversity Conservation a paper highlighting the presence of the Critically Endangered Aders' duiker (<i>Cephalophus adersi</i>) utilising data from the 2010 and 2015 camera trap surveys. However, by the end of year 3 only one peer-reviewed publication had been released while the rest are awaiting to be published	Mammal survey publication: http://www.hirolaconservation.org/images/scientific-publications/Kenya%20Coastal%20Forest%20Mammal%20Diversity%20Re

⁴³ Women sacred sites

⁴⁴ Men sacred sites

			port.pdf
Output 2	Understanding of Human Wildlife Conflicts (HWC) in the Boni-Dodori corridor established, and optimal strategies to counter HWC, based on piloted mitigation measures, developed, deployed and documented for wider dissemination		
Indicator 2.1 Level and types of HWC in high impact areas established, and event book recording system introduced (Yr 1). At least 80 local farmers and 5 project staff trained in logging HWC cases.	Limited knowledge on levels and types of HWC, draft event book	<i>Progress/success:</i> The level and types of HWC within and adjacent to Boni-Dodori ecosystem established despite the limitation of assessing the change resulting from piloting HWC/HEC measures. The event book recording system used by NRT reviewed and adopted. Capacity of community scouts who are collecting data enhanced.	<ul style="list-style-type: none"> HWC assessment in Aweer villages HWC assessment in areas adjacent to Boni forest Stories of change from the field HWC case study Aweer community scouts and Kenya Forest Rangers on effective biodiversity monitoring, data collection and recording.
Indicator 2.2 Review of relevant HWC literature completed with key implications and recommendations for the project compiled and integrated into the project design (Yr 1)	Undocumented tradition HWC mitigation measures	<i>Progress/success:</i> Based on HWC assessment in the area and HWC literature recommendations were developed on two HWC mitigation methods - game moats and use of chilli	<ul style="list-style-type: none"> Human Wildlife Conflict Mitigation strategy report
Indicator 2.3 At least two different mitigation measures investigated and piloted in at least two high HWC villages (Yr 2-3).	Undocumented tradition HWC mitigation measures	<i>Progress/success:</i> HWC mitigation measures use of game moats to deter wildlife was investigated and piloted across five Aweer villages. The use of chilli to deter mainly elephant has been piloted in one Ijara village (Halbathiro).	<ul style="list-style-type: none"> Human Wildlife Conflict Mitigation strategy report Report on Monitoring of game moats, VICOBAS and Bee keeping activities
Indicator 2.4 Lessons learnt document on HWC produced and disseminated; HWC resolution strategy developed through stakeholder workshops; # of people whose capacity has been built regarding HWC (Yr 3).	Undocumented tradition HWC strategies	<i>Progress/success:</i> Lessons learnt from similar HWC projects was produced and shared. HWC resolution strategy was developed. To date at least 200 people have had their capacity built regarding HWC	<ul style="list-style-type: none"> Human Wildlife Conflict Mitigation strategy report HWC case study
Output 3	Community stewardship regimes – structures and systems – established and functioning in and across the eight villages, with an integrated management plan (including for key indicator / endemic species) and sustainable use quotas for the Boni-Dodori corridor and adjacent National Reserves		
Indicator 3.1 At least 16 representatives (equally split male/female, youth/elders) in each of the eight villages and 10 KWS/KFS staff with working familiarity of participatory forest management/CBNRM and sustainable resource use (Yr 2-3).	At least 5 KWS/KFS representatives (4men: 1woman) with working familiarity of PFM/CBRNM and sustainable resource use	<i>Progress/success:</i> Key partners in Lamu County; 4 Aweer community members, 1 KWS and 1 KFS facilitated PFM and CBRNM projects in Northern Kenya 2 WWF staff and 3 community members facilitated to visit CBRNM projects in Namibia 23 key stakeholders on NRM issues and awareness creation on the NR policies 12 Aweer Conservancy board members educated on the WCMA 2013 and aligning the conservancies management plan.	<ul style="list-style-type: none"> Study visit to PFM and HWC community projects in Arabuko-Sokoke and Kwale Exposure visit to CBNRM projects in Northern Kenya CBNRM exposure visit Namibia ADR training
Indicator 3.2 Community stewardship structures/agreements in development for eight villages (Yr 2-3).	Nascent AWER community conservancy	<i>Progress/success:</i> The project supported community conservancies (being the only viable community structures) as it was already being formed by the time the project was beginning. Community scouts under these structures were strengthened through training, equipping and deployed in their respective villages to monitor and report cases of illegal and unsustainable use of natural resources. Training of Ishaqbini and AWER community conservancies were undertaken.	<ul style="list-style-type: none"> AWER board training Conservancies training report
Indicator 3.3 Community led monitoring and evaluation plan established and implemented (Yr 1-3). As least 80 community members collecting M&E data, which is collated and used to inform local management decisions by Yr3.	No MEL framework; uncoordinated collection and analysis of data	<i>Progress/success:</i> A project MEL framework completed with input from community members and which, for some indicators, involves community monitoring and data collection. Currently 12 community scouts are regularly patrolling forest blocks and effectively collecting data. 10 community liaisons persons and other community members providing data to community	<ul style="list-style-type: none"> Aweer conservancy Community scouts data analysis summary. Aweer community scouts and Kenya Forest Rangers on effective biodiversity monitoring,

		scouts.	<ul style="list-style-type: none"> data collection and recording. Human Wildlife Conflict Mitigation strategy report
Indicator 3.4 Enhancement of current community based and/or participatory patrolling and enforcement activities in project area (Yr 2-3)Patrol data / information collection form in use, being collated by project staff and informing management decisions (Yr3)	Uncollated patrol data and not informing management decision	<p>12 Aweer community scouts were trained and participated in mammal camera trapping.</p> <p>The community has continued to enhance and support the Aweer community scouts in their regular patrols and monitoring within the forest including proficient use of equipment such as GPS used in data recording.</p> <p>Training of community scouts and joint patrols with KWS and KFS rangers.</p>	<ul style="list-style-type: none"> Aweer conservancy Community scouts data analysis summary. Aweer community scouts and Kenya Forest Rangers on effective biodiversity monitoring, data collection and recording.
Output 4	Understanding of, and engaged responsiveness to improving the livelihoods of vulnerable groups (amongst forest communities) developed by multi-partner/community stewardship facilitation teams		
Indicator 4.1: At least 10 staff from local stakeholders trained in participatory appraisal and social survey techniques (Yr 1)	At least 5 staff and stakeholders with the participatory appraisal and social survey skills	21 persons from local stakeholders trained in participatory appraisal and social survey techniques	<ul style="list-style-type: none"> Documentation & participatory appraisal of Local Indigenous Knowledge in local biodiversity - Aweer community
Indicator 4.2: Participatory appraisal of community livelihoods and use of forest resources (including use of medicinal herbs, sacred sites, plus other resources) undertaken and used to inform viable livelihood options by end of Yr. 1.	PSA report	Community members began to take up diversified livelihoods strategies particularly those that are related to conservation practices such as bee keeping and sustainable farming practices. A number of them are now accessing identified markets	<ul style="list-style-type: none"> Participatory appraisal of community livelihoods report Enterprise training report
Indicator 4.3 Piloting of identified and agreed enhanced and/or diversified livelihood options, with identified market linkages established, with targeted community groups (Yr 2-3).	Non-market (subsistence) oriented livelihoods	Identification and implementation of livelihood activities i.e. modern bee keeping , sustainable agriculture & provision of extension services and VICOBA (1) bee keeping implemented by 90 members; (2) The piloting of model farms and kitchen gardens in all Aweer villages (3) Two VICOBA groups established and running in two Aweer villages (4) Market scoping survey undertaken to establish existing and potential markets for forest and non-forest products.	Scoping study for potential markets of forest and non-forest products from the Boni-Dodori forest ecosystem
Output 5	Capacity building, advocacy and effective dissemination of project research findings will have positively influenced the implementation of CBNRM in the Boni-Dodori forests of Lamu and Garissa County in Kenya as well as built understanding on CBNRM nationally and within the wider academic community		
Indicator 5.1 CBNRM policy leveraging within (i) Lamu and (ii) Garissa County development plans (Yr2-3)	CBNRM principles embedded in sectoral laws	Facilitated stakeholders to provide input into County Integrated Development Plan as an avenue of influencing county development plans to respond to CBNRM challenges (CIDP being a devolved governance tool that recognizes the right of communities to manage their own affairs and to further their development and protects and promotes the interests and rights of minorities and marginalized communities).	CIDP plan: http://cog.go.ke/images/stories/CIDPs/Lamu.pdf
Indicator 5.2: At least 2 project staff and 2 community representatives trained in effective NRM advocacy (Yr 2-3).	Only 2 project staff trained in effective NRM advocacy	3 project staff and 12 community representatives trained in a number of NRM advocacy trainings.	<ul style="list-style-type: none"> Civic Society Organization(CSO) assessment report World Bank meeting on indigenous people
Indicator 5.3 :A Boni-Dodori ecosystem co-management plan has been drafted (Yr 2, 3)	Draft Boni-Dodori ecosystem co-management plan	Supported completion of KWS-led Kiunga Boni Dodori Conservation area management plan	<ul style="list-style-type: none"> KBDC management plan
Indicator 5.4 Community based and/or participatory patrolling and enforcement activities in place within project area	Uncollated patrol data and not informing management decision	See indicator 3.4	<ul style="list-style-type: none"> Aweer conservancy Community scouts data analysis summary.

Annex 3 Standard Measures

We use these figures as part of our evaluation of the wider impact of the Darwin Initiative programme. Projects are not evaluated according to quantity. That is – projects that report few standard measures are not seen as being of poorer quality than those projects which can report against multiple standard measures.

Please quantify and briefly describe all project standard measures using the coding and format of the Darwin Initiative Standard Measures. Download the updated list explaining standard measures from <http://darwin.defra.gov.uk/resources/reporting/>. If any sections are not relevant, please leave blank.

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis						n/a
1b	Number of PhD qualifications obtained						n/a
2	Number of Masters qualifications obtained						n/a
3	Number of other qualifications obtained						
4a	Number of undergraduate students receiving training						
4b	Number of training weeks provided to undergraduate students						n/a
4c	Number of postgraduate students receiving training (not 1-3 above)						n/a
4d	Number of training weeks for postgraduate students						n/a
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(e.g., not categories 1-4 above)						n/a
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)						n/a
6b	Number of training weeks not leading to formal qualification	19					6 in yr1, 7 in yr2, and 6 in yr3

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
7	Number of types of training materials produced for use by host country(s) (describe training materials)	N/A					n/a

Research Measures		Total	Nationality	Gender	Title	Language	Comments/ Weblink if available
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (ies)	1				English	
10	Number of formal documents produced to assist work related to species identification, classification and recording.	N/A					
11a	Number of papers published or accepted for publication in peer reviewed journals	1				English	
11b	Number of papers published or accepted for publication elsewhere	2					Mamma and bird diversity reports
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	N/A					Database not completed by end of yr3
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	N/A					
13a	Number of species reference collections established and handed over to host country(s)	N/A					
13b	Number of species reference collections enhanced and handed over to host country(s)	N/A					

Dissemination Measures		Total	Nationality	Gender	Theme	Language	Comments
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	5					Bringing together project stakeholders
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	N/A					

Physical Measures		Total	Comments
20	Estimated value (£s) of physical assets handed over to host country(s)	N/A	
21	Number of permanent educational, training, research facilities or organisation established	N/A	
22	Number of permanent field plots established		Please describe

Financial Measures		Total	Nationality	Gender	Theme	Language	Comments
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work	N/A					

Annex 4 Aichi Targets

Please note which of the Aichi targets your project has contributed to.

Please record only the **main targets** to which your project has contributed. It is recognised that most Darwin projects make a smaller contribution to many other targets in their work. You will not be evaluated more favourably if you tick multiple boxes.

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

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

Annex 5 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (*) all publications and other material that you have included with this report

Type *	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address)
Survey Report	Kenya's Coastal Forest Mammal diversity, Raj Amin, 2016	British	British	Male	The Zoological Society of London, Regents Park, London, NW1 4RY	http://admin.zsl.org/sites/default/files/2016/02/ForestMammalDiversityReport.pdf