Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative
Final Report

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

Darwin project information

Project Reference	19-011
Project Title	Conserving the critically endangered Bengal Florican – a Terai flagship species
Host country(ies)	India and Nepal
Contract Holder Institution	Royal Society for the Protection of Birds (RSPB)
Partner Institution(s)	Bird Conservation Nepal (BCN) and Bombay Natural History Society (BNHS India)
Darwin Grant Value	£290,417
Funder (DFID/Defra)	Defra
Start/End dates of Project	01/10/12 to 30/09/16 (2 x 6-month no cost extension agreed)
Project Leader's Name	Ian Barber
Project Website/blog/twitter	
Report Author(s) and date	Ian Barber April 2017– based on conversations and reports from BNHS (Rohit Jha) and BCN (Jyotendra Thakuri)

1 Project Rationale

The project focused on the lowland Terai grasslands of northern India and southern Nepal and the alluvial floodplains of the Brahmaputra in North East India.

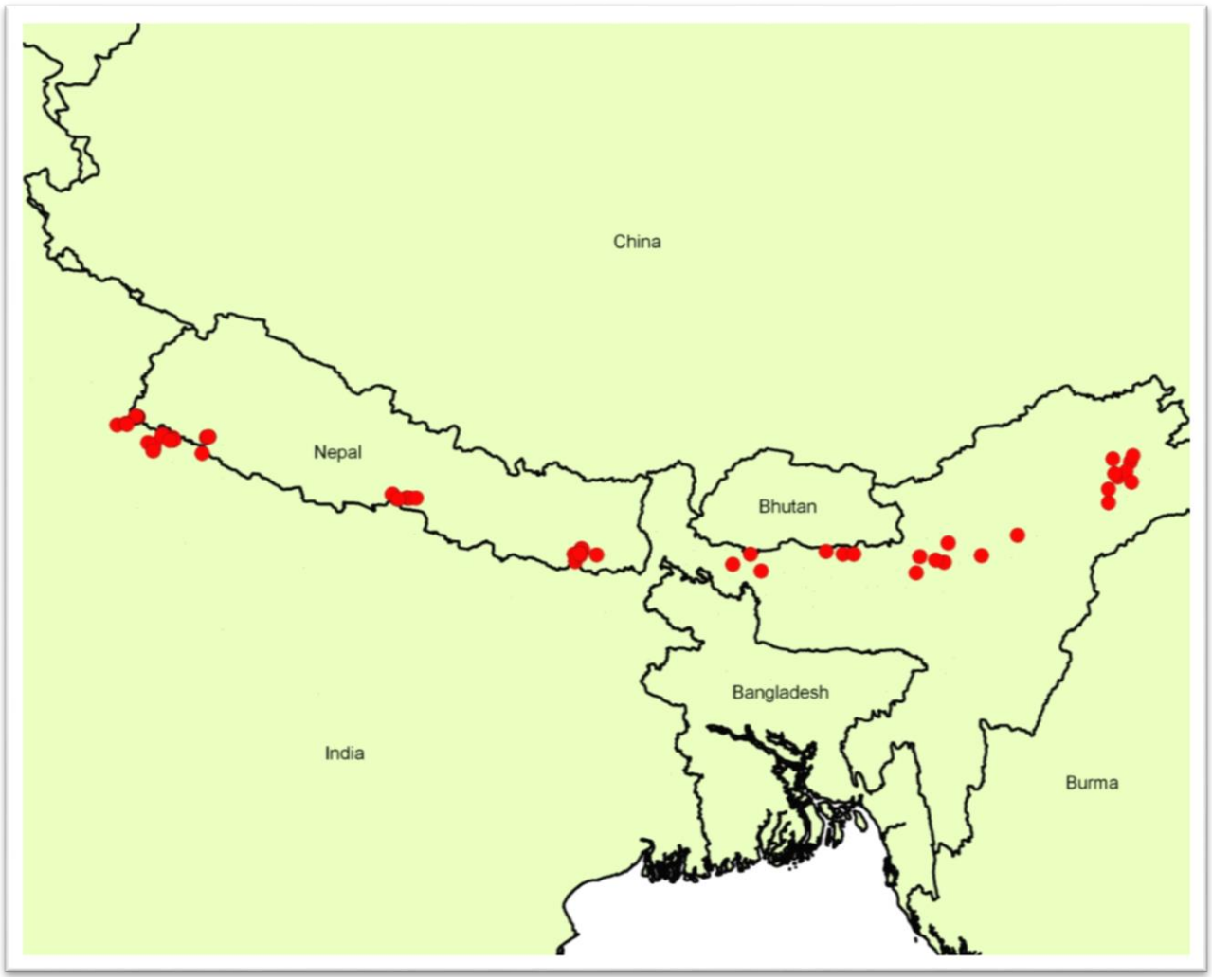

Fig 1 – The focus areas of the project, in southern Nepal and northern India, are indicated by red circles

The Critically Endangered Bengal florican has a very small, rapidly declining population. With the inclusion of figures from Cambodia, there are only between 250-999 mature individuals remaining, no more than half of which occur in the Indian sub-continent. This trend is predicted to continue and is inextricably linked to the loss of Terai grassland habitat. By taking measures to ensure the survival of Bengal florican, through direct species protection and improved habitat management, the project will have benefited other unique Terai grassland species. Traditionally, conservation activities in the region have focus on mega fauna such as Greater One-Horned Rhinoceros *Rhinoceros unicornis* and Bengal Tiger *Panthera tigris tigris*, which helps promote tourism but often overlooks the specific needs of the Bengal florican and its associated grassland habitat.

Grasslands globally are under threat, and are in retreat or decline in many areas due to their ease of conversion to agriculture, unsustainable grazing practices, the loss of natural browsers and changes in atmospheric carbon, which promotes scrub encroachment. Grasslands are among the most threatened and least protected biomes on the planet.

The main problems we aim to tackle are

1. The lack of knowledge regarding the distribution and habitat requirements of Bengal florican, particularly outside the breeding season.
2. The indiscriminate loss and unfavourable management of known Bengal florican habitat.

The project undertook surveys to assess the distribution of Bengal floricans in India and Nepal, and researched the movements of birds between breeding and non-breeding areas using satellite tracking. Once key breeding and non-breeding areas were identified, the location, extent and utilisation of potentially suitable habitat were modelled. The project developed grassland habitat restoration trials involving local farmers and Government Protected Area staff. These trials and observations of satellite tracked birds helped to develop management techniques to enhance grassland habitat for Bengal florican.

This project was approved under round 18 during the transition period between DEFRA and DfID funding and as such although the funding is through DfID, the project has a predominantly conservation focus with limit impacts on human development and welfare. The only benefits to people have been through their employment for grassland management trials and florican monitoring surveys.

2 Project Achievements

2.1 Outcome

Outcome: 1	Develop, demonstrate and advocate conservation measures for Bengal florican in India and Nepal			
	Baseline at start of project	**Change by EoP**	**Source of evidence**	**Comments**
Indicator 0.1 Needs of Bengal florican incorporated into management of four protected areas in India and Nepal	Protected Area management focus mainly on large mammals	Govt officials engaged in the programme and inputted to SRPs. Partner NGOs working with their Governments to develop grassland management practices and incorporate these into PA plans	See BCN and BNHS reports and SRPs in Annex 7	SRP for Nepal published Oct 2016 and for Uttar Pradesh send to State Govt for endorsement April 2017. (See Annex 7) Bengal florican friendly grassland practices are ongoing at 3 sites and will be written into management plans when they are up for review.

The project has largely achieved the intended Outcome to develop, demonstrate and advocate conservation measures for Bengal florican. The overall indicator was to have prescriptions for Bengal florican incorporated into relevant management plans which has not happened to date. One of the reasons has been synchronising with the timeframe for reviewing the individual protected area management plans. The country partners will engage in the process as the

plans come up for review and will advocate for appropriate grassland management practices in key Bengal florican areas.

However, other aspects of the project clearly show that we have made useful progress towards the overall Output. Relations with PA Government staff at a local level have generally been good and they have participated in survey work, grassland management and experimental plots within their sites. This includes work at Suklaphanta, Chitwan and Koshi in Nepal and Dudhwa in Uttar Pradesh, India. Workshops and site meetings were held at all key sites to discuss grassland management practices with PA staff. This engagement has yielded valuable results and will continue particularly as funds are available to support the work until at least the end of 2017-18 FY. (See BCN and BNHS reports in Annex 7)

In **Nepal** all the main protected areas at **Suklaphanta**, **Bardia Chitwan** and **Koshi** have Management Plans in place which make reference to the importance of Bengal florican, the need to manage grasslands accordingly, research collaboration particularly with NGOs and a call to improve cross border cooperation with India. However, at Suklaphanta and Koshi, the two main Bengal florican areas, the plans are being reviewed in 2017 and assurances have been given by the DNPWC that they will utilise the Conservation Action Plan for Nepal to incorporate recommendations into the management plan revisions and consult with BCN about other threatened birds. (see

In **India**, a Tiger Conservation Plan (TCP) was produced for **Dudhwa Tiger Reserve** in 2014 and superseded all the other local management plans for Dudhwa National Park, Kishanpur and Katerniaghat Wildlife Sanctuaries. The plan was developed during the initial stages of this Darwin project and too early for any significant input to grassland management recommendations for Bengal Florican conservation. As in previous plans, the focus is primarily on tiger conservation although there is recognition of the presence and importance of other threatened species, particularly Bengal Florican.

Under the main Grassland Zone Plan section the approaches to grassland management are laid out including recording and monitoring key species, manipulating areas by cutting and burning on a mosaic pattern of areas between 5-20ha, and burning to be completed by mid-February. Grasslands that traditionally support floricans have been identified and these areas singled out for no harrowing and burning after cutting in 1ha patches no later than mid-February.

There is also a Trans-Boundary Zone Plan section which highlights the need for better co-operation between India and Nepal particularly in relation to anti-poaching activities, identifying and strengthening migration corridors and conservation issues in general. There is also recognition of the need for more collaboration with national and international NGOs particularly with regard to research.

During the course of this project the **Pilibhit Wildlife Sanctuary** was upgraded to Tiger Reserve status, which triggered a new plan for the reserve following the standard format for TCPs. The layout, chapter headings and presentation of information is standardised for all Tiger reserves across India and so a draft TCP for Pilibhit was compiled in 2016 and is still at the approval stage. The content is very similar to the Dudhwa TCP with large sections of text appearing to have been lifted from the Dudhwa document with due recognition of the importance of Bengal florican as a Critically Endangered species, the same approach to grassland management and trans-boundary issues and connectivity between Lagga Bhagga in India and Suklaphanta in Nepal.

The TCP is still in the draft phase and with the submission of the Bengal Florican Recovery Plan for Uttar Pradesh there is every possibility that our recommendations and actions can feed directly into the final Pilibhit TCP.

It has become apparent that although there are what appear to be suitable grassland management practices for Bengal florican already incorporated into most of the plans the key to

success is working closely with the PA staff to ensure the prescribed actions are undertaken diligently. This will be the focus of future work by the country partners.

Unfortunately, there has been little progress in several of the key sites in NE India where positive engagement with Government staff is notoriously difficult. To some extent this was anticipated with our assumption of "State and National governments remain supportive of Grassland conservation management" holding true for the NE at least. We did manage to overcome some of the obstacles with permission to do basic survey work at some of the PAs granted in the 2nd year, but we were unable to get permission to tag any birds in the north east which has left a gap in our knowledge about breeding and non-breeding areas. We did also work closely with some existing researchers and NGO's in the region and undertook a survey of islands (chapori's) along the Brahmaputra River which enabled us to get a good overall picture of the status of the bird in the north east.

We were unsuccessful in developing a Recovery Plan for the NE region although BNHS will continue to engage with the State Government and work with individual PA staff to encourage appropriate management practices for Bengal florican.

Table 1 - Summary of existing management plans in Nepal and Northern India:

	Existing Plan dates	**Comments**
Nepal		
Suklaphanta NP	2012-16	Currently being reviewed and BCN will input to the process with approval by June 2017 (see letter Annex 7)
Bardia NP	2016-20	Will be reviewed in 2019. Main focus to then will be keeping existing grasslands clear of scrub and trees and cross-border dialogue with India to look at developing corridors with Katerniaghat
Chitwan NP	2013-17	Review will start later in 2017 and BCN will be consulted and input to the process.
Koshi Tappu WS	2012-16	Currently being reviewed and BCN will be consulted and input to the process with approval by June 2017 (see letter Annex 7)
Northern India		
Dudhwa TR (covering Kishanpur WS and Katerniaghat WS)	2013-22	Plan will be reviewed in 2021. Meanwhile BNHS are working with PA staff on experimental management practices.
Pilibhit TR	2017-26	New plan currently being approved and BNHS are working to get recommendations and actions from the Recovery Plan feeding directly into this plan.

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

Impact statement from logframe:

Sub-Goal:
Extinction threat to Bengal florican is significantly reduced.

The project sub-goal was to significantly reduce the extinction threat to Bengal florican, to be measured by a reduction in threat category five years after the end of the project. While it is too early to say if the IUCN threat category will be reduced within the next 5 years, the research components of the project will drive future conservation action for the species. The project has developed bird and habitat monitoring protocols which will facilitate status and distribution

assessment and has helped define the habitat requirements to be attained through grassland management techniques.
The unique satellite tagging work has given us a much better understanding of the seasonal movement patterns and habitat requirements, particularly outside of the breeding season, and therefore where to target conservation action in Nepal and in the northern state of Uttar Pradesh India. Adult survival rates were shown to be high and therefore unlikely to be a major cause of declines with productivity more likely to be the driver of declines. This needs to be addressed through providing suitable, undisturbed habitat and the response of birds to the grassland management experiments gives hope for some improvement in the outlook for Bengal florican.

Habitat monitoring and the trial plots have facilitated the development of management techniques to provide optimum grass conditions throughout the year. This has been incorporated into the Species Recovery Plans. The use of MaxEnt distribution models identified an area between 22,500 and 33,000km^2 of potentially suitable habitat and those areas currently not surveyed are a priority for targeting research efforts. Exploratory surveys in some of these identified areas has uncovered new grassland areas but to date has not resulted in any new sightings of floricans other than a foot print in 2014 (See BCN report Annex 7).

This project was awarded in 2012 as the Darwin scheme was transferring from DEFRA to DfID. It was primarily a conservation research project and as such was not explicitly focused on human development. However, the employment of local people is bringing some benefits to local communities as discussed below

2.3 Outputs

Output 1:	Knowledge of threats and distribution of Bengal florican in India and Nepal enhanced			
	Baseline at start of project	**Change recorded by EoP**	**Source of evidence**	**Comments**
Indicator 1a Population size in sub-continent estimated and key sub-populations identified by Sept 2014.	Limited knowledge outside of traditional display sites	Overall population size not estimated but key sites (breeding and non-breeding) and potential new grassland areas identified	Manuscript submitted to Journal of Ornithology in April 2017 with publication likely by late-2017 (see draft Abstract in Annex 7)	Populations at key sites monitored and key areas identified
Indicator 1b Habitat requirements of Bengal florican (both breeding and non breeding) identified by March 2016	Limited knowledge of breeding habitat and nothing known about non-breeding habitats	Better understanding of requirements of vegetation type and structure at both breeding and non-breeding areas. Trial plots and grassland management interventions yielded results	Sat tag data analysis and follow-up habitat monitoring. Management interventions at 4 sites (see reports in Annex 7) The results submitted to the Journal of Ornithology in April 2017	Better understanding of grass structure and cover has improved our knowledge of management requirements. Nature of non-breeding areas in agricultural landscape identified. Working with Govt bodies to

				incorporate habitat prescriptions into PA management plans
Indicator 1c Maps of remaining and potential Bengal florican habitat in India and Nepal published by Sept 2016	Traditional breeding sites only known.	Traditional sites confirmed and other potential grasslands identified including previously unknown non-breeding areas. Modelling estimated between 22,500km^2 to 33,000km^2 of potentially suitable habitat	Manuscript submitted to Journal of Ornithology with publication likely by late-2017 MaxEnt modelling output maps. (See Fig. 2 below)	Research methods produced significant results and improved our knowledge particularly regarding non-breeding areas. Surveys of potentially suitable habitat will continue.
Output 2:	Management techniques to produce suitable Bengal florican habitat in and around Protected Areas developed and trialled			
	Baseline at start of project	**Change recorded by EoP**	**Source of evidence**	**Comments**
Indicator 2a Two restoration management trials developed and are being utilised by Bengal floricans by Sept 2015	No trial management plots established	Three plots established (Suklaphanta and Koshi in Nepal and Dudhwa in India) and other management interventions introduced at Chitwan (Nepal)	See BCN and BNHS reports in Annex 7	Response by birds to interventions was frequently positive although work still ongoing
Output 3:	Local communities, Senior Protected Area decision makers, relevant conservation organisations and local Bengal florican Conservation Groups are aware of management techniques for Bengal florican			
	Baseline at start of project	**Change recorded by EoP**	**Source of evidence**	**Comments**
Indicator 3a Local farmers and pastoralists from one community involved in habitat management trials by Sept 2015.	Communities not positively engaged in Bengal florican conservation	Positive response particularly at sites in Nepal	See BCN report in Annex 7	Focus has been on PA breeding sites and next steps are to engage more with communities in non-breeding areas. This will form part of

				work for 2017-18
Indicator 3b Three local Bengal florican support groups established by Sept 2014.	Limited involvement of communities with florican conservation	SSGs took part in survey work and continued to assist in habitat monitoring in both countries.	See BCN report in Annex 7	
Indicator 3d Grassland management strategy developed and adopted by four protected areas by EOP	Grassland strategies in PAs focussed on large mammals	Meetings held at 4 PAs in Nepal and 1 in India to discuss management requirements and ongoing trials in both countries	See BCN and BNHS reports in Annex 7	Although not yet formally adopted into site management plans, PA staff are engaged with management interventions to establish protocols at 4 sites
Indicator 3e Key decision makers endorse species recovery plans (SRP)	No SRP in Nepal and outline SRP for India	SRP for Nepal published by Government and draft SRP presented to Uttar Pradesh Forest Dept for endorsement (Apr 2017)	See SRPs in Annex 7	Good engagement with Govt staff in Nepal and Uttar Pradesh during SRP process but no plan was developed for NE India. (See note below)
Output 4:	Capacity for Bengal florican Conservation Programme in India and Nepal built, sustainability and legacy of project outputs secured			
	Baseline at start of project	**Change recorded by EoP**	**Source of evidence**	**Comments**
Indicator 4.a National Scientists and Park Authority staff are monitoring Bengal florican using consistent replicable protocols by March 2015 and seeking funding from government for Bengal florican conservation	No systematic monitoring of Bengal floricans	PA staff assisting NGOs to monitor Bengal florican numbers. Govt of India has earmarked resources for “Bustards” which includes Bengal florican.	See BCN and BNHS reports in Annex 7	Govt of Nepal has limited resources for additional BF work other than annual survey work as part of management at PAs. However, BCN hopeful of securing funds to facilitate habitat management

programmes by March 2016				in and around Suklaphanta, Koshi Tappu.
Indicator 4.b Three local conservation groups monitoring and protecting floricans, by Sept 2014 and seeking funding to continue work beyond the end of the project by Sept 2015	Ad hoc surveys by NGOs and birdwatchers.	BNHS & BCN have undertaken monitoring surveys for 3 years and success in funding applications to non-Govt sources.	See BCN and BNHS reports in Annex 7	BNHS have Bengal florican as one of their priority species and have secured funding to continue work in Uttar Pradesh and new work in the Mishmi Hills in Arunachal Pradesh. BCN hopeful of more funding to continue working in and around Suklaphanta and Koshi Tappu.
Indicator 4.c Indian and Nepalese National Species Recovery Plan for Bengal florican published and launched by Sept 2016	No SRP in Nepal and outline SRP for India	SRP completed and endorsed in Nepal and draft SRP soon to be endorsed in Uttar Pradesh but no SRP developed for NE India.	See BCN and BNHS reports in Annex 7	Engagement of Govt officials and production of SRP was generally good and a useful indication of future work and collaboration on this species

The one area where the project was unsuccessful in meeting its targets was in effectively engaging with Government partners in NE India. Our assumption was that “project partnerships remain strong throughout the duration of the project” which held for all other partnership that were established but less so for Government Officials in the NE. We overcame this to some extent by utilising NGOs and LCGs already working in the area to get survey work done at some key sites and were able to survey inside some PAs and the grass islands (chapori’s) along the Brahmaputra River. However, we were not able to deploy any satellite tags in the area and were not successful in engaging the Government in producing a SRP for the region.

The project staff (including UK staff) were able to see firsthand the work being undertaken by some local NGOs on sites supporting Bengal floricans in the NE including at the Kakilabari Seed Farm adjoining Manas NP in Assam. Here the rice fields have very low chemical input and few grazing cattle after harvesting which enables local herb varieties to flourish providing good cover and presumably adequate insect source for birds to successfully breed and stay year round. This gives some hope for being able to recreate conditions that are favourable for both birds and agricultural interests in other areas and something we will investigate further.

The following information is summarised from the paper submitted to the Journal of Ornithology in April 2017:

Location	Sex	Date tagged	Days tracked	Total No. days for each site	Max distance from tagged site (km)
Koshi Tappu Wildlife Reserve, Nepal	m	01/04/13	1,490	4,086	12.7
	m	02/04/13	1,489		9.5
	f	19/04/14	1,107		33.9
Suklaphanta Wildlife Reserve, Nepal	f	03/06/14	1,061	2,831	36.3
	m	03/06/14	1,061		34.6
	m	22/05/15	709		10.4
Chitwan National Park, Nepal	m	14/05/16	351	351	5.0
Pilibhit Reserve Forest, India	m	09/05/14	1,087	2,264	26.8
	m	12/05/14 (transmission stopped 17/08/14)	97		23.2
	m	16/05/14	1,080		31.7
Dudhwa Tiger Reserve, India	m	27/06/15	673	673	51.8
Grand Total				**10,205 (~27.96 yrs)**	

Table 2 – Summary of satellite tag data for all birds up to 30th April 2017 (data supplied by Argos)

At the end of the study period (April 2017), 10 of the 11 tagged birds were still alive with the sole presumed mortality occurring around 3 months after the bird was tagged, however tag failure cannot be ruled out. The total exposure period across all birds was 10,205 days (27.96 years), yielding a daily survival rate of 0.99990 (95% CL: 0.99922–0.99998). This equates to an annual survival rate of 0.96486, although with such a small sample size, the confidence intervals were inevitably wide (95% CL: 0.764–0.995).

The adult survival rates appeared to be very high, as they were in a similar study undertaken on the Cambodian population. This suggests that, at least in the areas where tagging took place, the limiting factor is more likely to be productivity and not adult survival. Consequently, efforts should be made to increase productivity, for example by reducing disturbance during the breeding season and ensuring a heterogeneous grassland structure that allows females to nest in taller patches and birds to forage in more open areas. In many protected areas where birds were tagged (e.g. Dudhwa and Pilibhit reserves in India, Suklaphanta reserve in Nepal), annual winter burning of grasslands by the forest administration has been a long established management practice to stimulate the growth of fresh forage for large herbivores. However, the timing is crucial and sometimes grass is burnt very late in the season, in February-March, coinciding with the start of the Bengal Florican display season. The effect of such late season grass burning is not known, but is likely to be negative.

The study also revealed hitherto unknown movements of birds from July onward out of their grassland breeding habitats and into areas with a mosaic of unmanaged grasslands and low-intensity agriculture, largely along the seasonally flooded Sharda and Koshi rivers. Some of the tagged birds spent more than half the year outside their breeding sites. The distances moved were similar to those recorded from tagged birds in the Cambodian population, but the reasons for these movements are less clear. In Cambodia, birds are forced to move by seasonal flooding of the Tonle Sap, but there is no prolonged inundation in the sites at which breeding

birds were caught in India and Nepal. This has implications for the conservation of the species, which must take into account not only grasslands inside protected areas, but also the wider landscape. Furthermore, the frequency of cross-border movements of birds between India and Nepal indicates that international collaboration is required for conserving this species.

Bengal Florican now joins a list of globally threatened species for which low-intensity agriculture should be considered an important habitat. Whether similar movements are undertaken by birds breeding in the species' strongholds in Assam and Arunachal Pradesh remains to be assessed.

The following map shows the potentially suitable areas for Bengal florican across its range in India and Nepal.

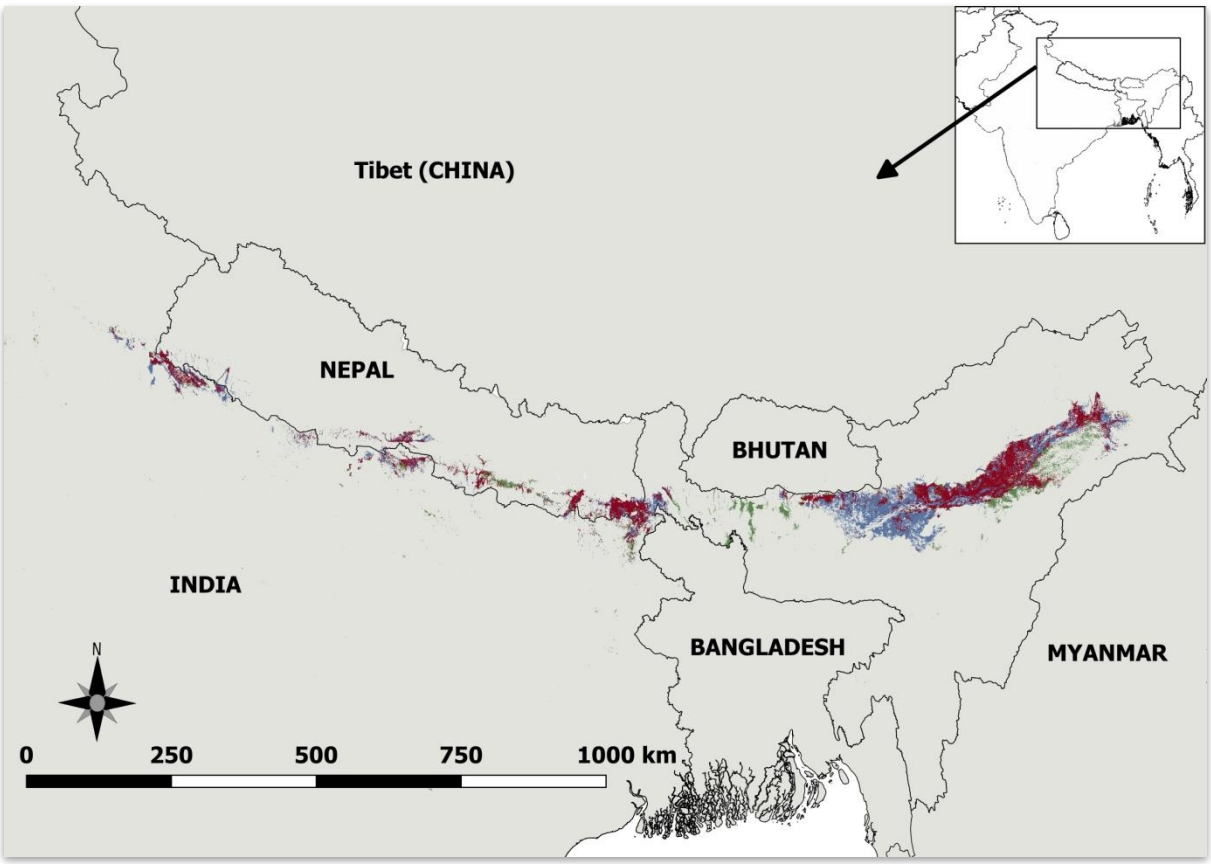

Fig. 2 - Modelled distribution of Bengal Florican across its historical range in India and Nepal; green indicates areas potentially suitable according to the model using pseudo-absences from 'unsupervised grassland' areas (22,500km^2), blue indicates areas/habitats potentially suitable according to the model built using pseudo-absences from all land cover types (33,000 km^2), red indicates areas predicted by both models

3 Project Partnerships

The key relationships were with the two BirdLife Partners, the Bombay Natural History Society (BNHS) in India and Bird Conservation Nepal (BCN) in Nepal. Both are well-established nature conservation organisations and recognised leaders in the field of bird research in their respective countries. BCN and BNHS were the partners responsible for undertaking the in-country research and other activities. The key personnel have been involved in preparing this report.

The RSPB has long-standing relationships with both organisations going back many years and they form part of our international programme of support to BirdLife International Partners around the globe. The project partnerships remained strong throughout the project with regular contact maintained between all partners. The Project Leader made regular visits (at least 3 per year) to India and Nepal which included site visits with the partners.

The other key partners were the Government at various levels who gave permissions to undertake and facilitated research work at the various sites. As is usual in many countries, the staff within Government departments changed on a regular basis. In addition, the political situation changed during the course of the project in both India and Nepal resulting in more changes than normal.

Nonetheless, in Nepal productive contact was maintained throughout the project with the Department of National Parks and Wildlife Conservation (DNPWC) officials and at both central and local level relationships have developed positively.

In India, relations at the central government level never really developed with the focus being on the State level Government officials particularly at the site level. In Uttar Pradesh after initial problems at Dudhwa TR, the park staff changed and the work progressed more smoothly. This was undoubtedly helped by catching and tagging a bird at Dudhwa as soon as they establish the trial management areas which boosted the credibility of the project staff. In Assam, it remains the case that research by people from outside the state and government circles is very difficult with permissions often not being granted to even do basis survey work inside protected areas. This issue was overcome to some extent in the second year but our initial plans to tag birds in the North East never happened and more senior Government staff did not actively engage in our work and hence we were unable to produce a Recovery Plan for the region.

4 Contribution to Darwin Initiative Programme Outputs

4.1 Contribution to SDGs

SDG 15.5 - Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.
The Bengal florican is one of the world's most threatened species with a declining population of less than 1,000 individuals. Species Recovery Plan workshops and meeting were held in 2016 and plans developed for Nepal and Uttar Pradesh, India. These set out actions needed to improve grassland habitats and halt the species decline.

SDG 15.9 - By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.
Grassland management protocols for Bengal florican were discussed at meetings held to disseminate information to PA managers. Work is ongoing to assist in reviewing individual site management plans and prescriptions necessary to safeguard the species.

SDG 15.a - Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.
During 2016 the project was able to secure ~£70k worth of funding to enable the continuation of activities through 2017/18. Other sources will continue to be explored.

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

The Governments of India and Nepal have benefitted from improved knowledge of the status and distribution of Bengal floricans in their countries. In addition, the habitat requirements are better understood which has enabled them to develop practical actions to help conserve this highly threatened species.

In summary:

- the research information to date is inputting to Article 12a, b & c and Article 7b, c & d and Aichi Target 19
- the trial management plots are contributing to Article 8c, d & e and Article 10b & c and Aichi targets 5 & 7
- the discovery of potential new grassland areas is in line with Article 12a and Aichi Target 5

In country partners had limited contact with their CBD Focal Points during the project but we will feed our results into the next country CBD reports for India and Nepal. In Nepal, the new CBD focal point in Dr. Maleshwar who was the Research Ecologist and more recently the Deputy Director of DNPWC and has been the main contact for the project within the department and very supportive of the project throughout.

4.3 Project support to poverty alleviation

This was a research conservation projects and as such poverty alleviation was not at the forefront of the project design. However, we are starting to identify and develop management techniques that benefit Bengal florican with a view to advocating practices that will benefit local communities and pastoralists. With increasing pressure on all grasslands and the lack of any coherent grassland policies, the benefits of sustainable grassland management will be relevant to communities living in grassland areas across India and Nepal.

Throughout the project, the only direct contribution towards human development and welfare was the short-term daily employment of local people. In India, 15 people were employed for two days to prepare the trial management plots at Dudhwa National Park in June. While in Nepal, trial plots were prepared at both Chitwan NP and Suklaphanta WS. At the former, 17 people from the Tharu and Bote indigenous communities and at the latter 21 Tharu people were employed for a month to complete the work. (See BCN and BNHS reports in Annex 7)

4.4 Gender equality

This was primarily a research conservation projects and as such there were no specific gender related objectives or equality impacts although women have been employed as part of the casual labour resource discussed above.

4.5 Programme indicators

- Did the project lead to greater representation of local poor people in management structures of biodiversity?
  In Nepal there was some progress as about 50 local people from all 4 areas (Suklaphanta, Bardia, Chitwan and Koshi) participated in a National Workshop on Bengal Florican Conservation in Chitwan in March 2015. An agreed output was to produce national Bengal Florican Recovery Plan which was published in 2016.
- Were any management plans for biodiversity developed?
  Habitat management and survey protocols were developed and will be recommended for adoption into site management plans as they become due for review.
- Were these formally accepted?
  DNPWC in Nepal have agreed to incorporate the recommendations from the Species Recovery Plan into individual site management plans and consult with BCN about other threatened species (see letter Annex 7). In India, BNHS continues to work with Govt PA staff on grassland management techniques and will input into site management plans as appropriate.
- Were they participatory in nature or were they ‘top-down’? How well represented are the local poor including women, in any proposed management structures?

Although the protocols were initiated by the project staff, they were further developed at the site level where local people were employed and trained as Field Technicians in survey techniques. Grassland management protocols were disseminated mainly via meetings and workshops but also through participation in surveys and habitat management trial plots at Koshi, Chitwan and Suklaphanta and Dudhwa.

- Were there any positive gains in household (HH) income as a result of this project? Some gains in income through employment to manage grasslands in some areas (Dudhwa, Suklaphanta, Chitwan, Koshi). Local staff were employed and trained as Field Technicians in survey techniques and during awareness raising events. Two permanent staff employed at Koshi & Nawalparasi and three seasonal staff at Suklaphanta, Koshi & Bardia
- How many HHs saw an increase in their HH income? Not measured
- How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured? Not measured

4.6 Transfer of knowledge

The project has greatly increased our understanding of the movements and habitat requirements of Bengal florican and as a result has endeavoured to inform those who have a direct impact on the survival of the species.

We have engaged with Government staff at all the key sites in Nepal and northern India utilising them for survey work and the trial management plots where possible. As well as regular site meetings we held joint meetings between Managers/Directors of sites including a trans-boundary Mid-Term Evaluation Workshop in Dudhwa TR in 2015 (see Annex 7). In Nepal, a poster and sticker were produced to facilitate a formal awareness programme in 2015 at the 4 keys sites and further work is planned post project (see BCN report in Annex 7).

The project concluded with Recovery Plan workshops in both countries and the production of a national Species Recovery Plan for India and a draft plan for Northern India (see annex 7).

One male student Nurendra Aryal, who was employed to do survey and habitat monitoring work, used the data he collected towards his MSc thesis from Tribhuvan University, Institute of Forestry Pokhara, Nepal (see Annex 7).

4.7 Capacity building

Jyotendra from BCN was on the expert committee formed to develop the Recovery Plan and will be invited onto a national committee proposed in the plan. He also obtained a ZSL EDGE Fellowship award for Bengal florican work at Suklaphanta which includes training programmes in Philippines (Jan/Feb 2016) & London (Oct 2017). ZSL are also proposing that EDGE Fellows are made members of the IUCN specialist group which would greatly increase his status if it happens. In both countries the partners have greater influence within Govt as the project has progressed and the results of the research have become clearer. Grassland species other than mega fauna are being given greater consideration by Governments as evidenced by their engagement in practical grassland management trials and the Recovery Plans. BCN are now being invited to Trans-boundary meetings between Chitwan/Suklaphanta (Nepal) and Valmiki/Dudhwa (India) where Jyotendra spoke about Bengal Florican project.

In April 2017, staff from BNHS and BCN were invited to participate in an exchange visit between Nepal/India/Cambodia to study Bengal Florican conservation work. This has been organised by the Corbett Foundation and sponsored by CEPF.

4.8 Sustainability and Legacy

Both governments in India and Nepal have recognised the need for grassland management for Bengal Florican through the Recovery Plans and trial management in some PAs. The Recovery Plans will form the basis for future Bengal Florican conservation work and engagement with Government staff and the subject is now on the agenda for trans-boundary meetings

In Nepal, funding for an additional year has been secured through ZSL EDGE Fellowship Award and a possible £35k Whitley Award (through to last 15 with outcome due in late April). ZSL money is supporting local employee at Suklaphanta from July 2016 – June 2017. In India funding has been secured through a combination of BirdLife PEP, BNHS and RSPB. The £15k PEP funding will focus on activities in Uttar Pradesh while BNHS will employ the project staff. BNHS have also secured funding for a new project in the Mishmi Hills in Arunachal Pradesh, part of which will focus on conservation of the grassland areas which support breeding Bengal floricans. The satellite tags are still transmitting and funding to continue downloading the data has been secured from RSPB. Five satellite tags remain and could be deployed in future once they have been refurbished. Other equipment purchased through the project including binoculars and GPS units remain with the project partners and LCGs.

5 Lessons learned

The management structure of having an in-country project leader responsible for the daily operations with visits by the UK Project Leader worked well but the long-distance relationship does have its drawbacks. It was difficult to monitor closely the project operations and to control the project direction at times which led to considerable delay in producing the final project outputs, particularly the scientific paper and SRP in India.

The local staff employed both for the science input (survey work, deploying tags and analysing data) and liaison work with communities and government officials were all capable people and suitable for the project.

The original application identified the problems and the planning of activities was appropriate. Adjustments were made as the project progressed such as engaging local bird trappers to deploy the tags and measuring habitat parameters at areas where the satellite tagged birds were located (rather than just at trial plots) gave more direct results. Habitat management protocols developed from trial plots, habitat monitoring at known Bengal Florican locations and trial management at Suklaphanta, Koshi and Dudhwa proved successful. These adjustments were reflected in the revised logframe.

Overall there were sufficient resources but the inability to carry forward underspend from the first year (when survey work and tagging was slow to start) resulted in a 1-year no-cost extension which proved difficult to manage financially. RSPB provided some additional funding but having the full project resources would have helped.

One assumption we made that did have an impact on the project was that we would be able to deploy all 16 satellite tags during the first 2 breeding seasons. This proved to be very difficult and we only managed to deploy 11 tags throughout the project. The main reason for the difficulty was the relatively small number of birds in any given area which greatly reduced the likelihood of catching the birds. With anyone site only supporting a handful of birds it was difficult to locate, monitor and catch the birds. The original method replicated from similar work done in Cambodia was less successful in the 2nd year and we modified our approach to using traditional trappers from India. This initially proved successful with 5 birds being caught using this technique in 2014, but less so in subsequent years.

5.1 Monitoring and evaluation

M&E was largely through meetings, site visits, reports and feedback from the field. There was no baseline information gathered for livelihoods, gender balance etc as the project had a more traditional research and conservation focus. The project was adjusted as it progressed including employing traditional bird trappers to catch and tag birds and monitoring habitat at known bird locations from the satellite tag data rather than rely on bird usage at trial management plots.

The M&E system employed was adequate with workshops, meetings, site visits etc held to disseminate the project outcomes. Jyotendra at BCN as part of his ZSL EDGE Fellowship has done a PRA workshop at Suklaphanta to discuss grassland management for BF and has secured agreement from the local community that they will collaborate in future grassland management for Bengal floricans if support is provided.

There was no internal or external evaluation of the project.

5.2 Actions taken in response to annual report reviews

Feedback from all previous annual reviews has been positive and all questions raised have been answered. The following two questions were raised during the last annual report in 2016:

1. Will the level of effort in Uttar Pradesh be restored in the final part of the project, and is work in India to feature as a significant part of the future funded work programme?

   During the latter stages of the project, work at the sites in UP did indeed increase after earlier problems with Government staff. The main focus of work in India during the last year was habitat surveys and grassland management trials in UP, particularly at Dudhwa TR. Work will continue in both countries after the end of the project and in India BNHS have been successful in securing funds to work in both UP and NE India. They have £15k funding from the BirdLife Preventing Extinction Programme (PEP) to work in UP and have a new programme in the Mishmi Hills in Arunachal Pradesh which involves work on an important privately owned grassland area which supports several Bengal floricans. The owner of this private area has given BNHS ~£70k for the programme. RSPB have set aside £10k to continue the downloading of data from the 10 satellite tag for the next 12 months.

2. Will a global assessment of the species' status be included in the Final Report?

   The surveys and subsequent modelling identified a number of areas likely to support further populations, one of which has already been located, so it is premature to speculate on population size, but future work will help take this forward.

All the reviews were discussed with the project partners.

6 Darwin identity

Darwin has been acknowledged and promoted at every opportunity throughout the project at meetings, presentations and on materials produced during the project including reports, awareness materials for schools and communities in Nepal, pin badges and the Species Recovery Plans (see Annex 7). This has been through either the logo or a short statement.

Darwin was also promoted at all the national workshops in India and Nepal including the initial Census Techniques workshops (1 each in India and Nepal), the Mid-Term Technical Evaluation Workshop (1 in India), Survey Training workshop (1 in Nepal) and Species Recovery Plan Workshops (1 each in India and Nepal).

In the UK, the Darwin Initiative was publicised at various events including through talks at the British Birdwatching Fair 2014 and the Oriental Bird Club AGM 2016 http://orientalbirdclub.org/2016/10/27/2016-autumn-meeting. In addition, Rohit Jha from BNHS (India) attended the Cambridge Student Conference in 2016 and presented a poster on his work on the project (see Annex 7)

The Darwin Initiative is generally understood by local communities and government staff in both countries. The frequent meetings between project staff and Government officials helped raise the profile of Darwin and the UK Government and there has been a better understanding among those NGOs that took part in various aspects of the project.

After some initial media exposure during the first and second years including newspaper articles, a local TV item and RSPB blogs, publicity was kept low due to the fear of adverse publicity should any of the tagged birds suffer any injury or mortality, particularly after one tag stopped transmitting in August 2014. The blanket ban on the use of satellite tags for wildlife purposes in India also hindered publicity as BNHS were wary of how the Government might reaction to tags fitted prior to the ban.

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)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	**46,809**	**46,809**		

Staff employed (Name and position)	Cost (£)
Ian Barber, Project Leader	
Paul Donald, Research Supervisor	
Jyotendra Thakuri, Project Coordinator (Nepal)	
Various satellite taggers (Nepal)	
Arjun Kumar Karki, Field research assistant (Nepal)	
Suraj Mahato, Field research assistant (Nepal)	
National Survey Field Researchers (Nepal) (5 people)	
Hem B. Katuwal, Advocacy Officer (Nepal)	
Asad Rahmani, Project Management (India)	
Ngulkholal Khongsai & Rohit Jha, Field Research Leaders (India)	
Rahul K. Talegaonkar, Swpan Jyto Das, Vinod Kumar Vijay, Field Research Assistants (India)	
Bridesh Kumar, Driver (India)	
TOTAL	**22,859.00**

Capital items – description	Capital items – cost (£)
TOTAL	

Other items – description	Other items – cost (£)
TOTAL	

7.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
RSPB (core funds)	
BNHS (core funds)	
BCN (core funds)	
BNHS (MoEF project)	
BCN (ZSL EDGE Fellowship Award)	
TOTAL	**115,676**

Source of funding for additional work after project lifetime	Total (£)
RSPB	
BirdLife Preventing Extinctions Programme	
BNHS	
TOTAL	**40,000**

7.3 Value for Money

The relatively low cost of the project has greatly improved our knowledge and understanding of the ecology and habits of Bengal florican a species about which very little was previously known. We were able to leverage additional funding throughout the project lifetime which enabled more survey work to be undertaken than was originally planned. About 20% of the project budget was spent on equipment with the most expensive items being the satellite tags. However, the tags have performed exceptionally well, some having been deployed for over 4 years, providing us with new and unique data sets. All the tagged birds are still transmitting and with a high adult survival rate we can expect to receive more information over the coming year and beyond, subject to funding availability.

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
Goal: Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.			
Sub-Goal: Extinction threat to Bengal florican is significantly reduced.	Five years after end of project (EOP) Bengal florican is downgraded from Critically Endangered to a lower category of threat.	- IUCN publications. - Peer reviewed publications.	
Purpose Develop, demonstrate and advocate conservation measures for Bengal florican in India and Nepal.	Needs of Bengal florican incorporated into management of four protected areas in India and Nepal.	- National park management plans - Community grassland management plans	State and National governments remain supportive of Grassland conservation management.
Outputs (add or delete rows as necessary) 1. Knowledge of threats and distribution of Bengal florican in India and Nepal enhanced.	1a. Population size in sub-continent estimated and key sub-populations identified by Sept 2014. 1b. Habitat requirements of Bengal florican (both breeding and non breeding) identified by Mar 2016. 1c. Maps of remaining and potential Bengal florican habitat in India and Nepal published by Sept 2016.	- Population monitoring reports - IUCN bustard group reports - Peer reviewed publications	Research methods produce significant results.

2. Management techniques to produce suitable Bengal florican habitat in and around Protected Areas developed and trialled.	2. Two restoration management trials developed and are being utilised by Bengal floricans by Sept 2015	- Habitat management trial reports. - records of Bengal Floricans on restoration trial areas - Media reports	Management techniques for Bengal florican and spatial extent to which they should be applied are compatible with requirements of other key species.
3. Local communities, Senior Protected Area decision makers, relevant conservation organisations and local Bengal florican Conservation Groups are aware of management techniques for Bengal florican.	3a. Local farmers and pastoralists from one community involved in habitat management trials by Sept 2015. 3b. Three local Bengal florican support groups established by Sept 2014. 3d. Grassland management strategy developed and adopted by four protected areas by EOP. 3e. Key decision makers endorse species recovery plans	- Project progress reports - Grassland habitat management guidelines - Endorsed species recovery plans	Traditional grazing regimes are shown to benefit Bengal florican habitat. Advocacy and awareness raising is successful in encouraging positive land management for Bengal florican.
4. Capacity for Bengal florican Conservation Programme in India and Nepal built, sustainability and legacy of project outputs secured.	4a. National Scientists and Park Authority staff are monitoring Bengal florican using consistent replicable protocols by March 2015 and seeking funding from government for Bengal florican conservation programmes by March 2016 4b. Three local conservation groups monitoring and protecting floricans, by Sept 2014 and seeking funding to continue work beyond the end of the project by Sept 2015.	- Park Authority florican monitoring reports - Park Authority funding applications - Local conservation group reports - Funding applications to support Local conservation groups - Bengal florican National Species Recovery Plans - Media reports of Recovery Plan launch.	Project partnerships remain strong throughout the duration of the project.

	4c. Indian and Nepalese National Species Recovery Plan for Bengal florican published and launched by Sept 2016.		

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

Note: For projects that commenced after 2012 the terminology used for the logframe was changed to reflect DFID's terminology.

Project summary	Measurable Indicators	Progress and Achievements	Actions required/planned for next period
Impact Extinction threat to Bengal florican is significantly reduced		The survey work and satellite tag monitoring has greatly increased our understanding of the species conservation requirements and the trial management plots have helped raise awareness of the need for positive management of the species among PA staff and communities. The MaxEnt model highlighting potential new grassland areas has been refined which may lead to new populations being found which will contribute towards an improved status.	[redacted]
Outcome Develop, demonstrate and advocate conservation measures for Bengal florican in India and Nepal.	Needs of Bengal florican incorporated into management of four protected areas in India and Nepal	Satisfactory progress was achieved although the Measurable Indicator was not and was probably too ambitious given the timeframe needed to review and revise management plans. The research work increased our knowledge of the species movements and conservation needs. The trial management areas and habitat monitoring of non-breeding areas have helped our understanding of the conservation needs which helped us engage with Government officials and community land managers. Workshops and site meetings to discuss grassland	

		management practices with PA staff was valuable.	
Output 1. Knowledge of threats and distribution of Bengal florican in India and Nepal enhanced.	1a. Population size in sub-continent estimated and key sub-populations identified by Sept 2014. 1b. Habitat requirements of Bengal florican (both breeding and non breeding) identified by Mar 2016. 1c. Maps of remaining and potential Bengal florican habitat in India and Nepal published by Sept 2016.	Research indicates that limiting factor to survival is productivity which is addressed thorough providing optimum habitat conditions. We have improved knowledge of habitat requirements but exact management prescriptions yet to be determined. Distribution maps of remaining potential habitat produced and submitted as part of publication in April 2017. Indicators were appropriate although an estimate of accurate population size and key-populations difficult until all potential habitat has been surveyed.	
Activity 1.1 - Recruit field staff in India and Nepal and identify capacity		In-country Project Co-ordinators employed from start of project and additional staff employed to assist with survey work engaged as required. Training provided as appropriate including survey technique workshops and deploying satellite tags.	
Activity 1.2 - Collate and digitise all existing information on distribution on Bengal florican into a GIS. Download and analyse remote sensing environmental layers in the GIS. Develop list of sites to survey.		Database established and populated with historical records. Remote sensing layers downloaded and survey sites refined annually through MaxEnt modelling.	
Activity 1.3 - Undertake Bengal florican population survey		Traditional sites initially surveyed and other potential sites added including grass islands along the Brahmaputra River. Still some sites yet to be surveyed.	
Activity 1.4 - Undertake satellite tracking studies		Total of 11 birds tagged (5 males in India, 4 males & 2 females in Nepal) with one tag failing in India. Remaining 10 tags still transmitting with 2 tags being deployed for over 4 years.	
Activity 1.5 - Download satellite data and measure distribution, population, movements and habitat requirements of Bengal florican		Tagged birds have given gave over 10,000 days (>27yrs equivalent) of data and pattern of movement established. Analysis shows high adult survival rates suggesting productivity is the limiting factor.	
Activity 1.6 - Research findings published in relevant reports/journals and disseminated to key stakeholders		Research findings submitted to Journal of Ornithology in April 2017. Findings used to inform the Species Recovery Plans and disseminated through workshops and meetings.	

Output 2. Management techniques to produce suitable Bengal florican habitat in and around Protected Areas developed and trialled	2. Two restoration management trials developed and are being utilised by Bengal floricans by Sept 2015	Trial plots and monitoring known bird locations proved informative but exact reasons for birds moving from within PAs during breeding season to extensive agricultural areas during non-breeding season not yet fully understood. Management techniques being developed using data from trial plots and habitat measurements at occupied sites. Indicator appropriate
Activity 2.1 - Engage key stakeholders to identify methods to recreate habitat conditions identified for Bengal florican under objective 1		Meetings and workshops with PA staff and local communities discussed management methods
Activity 2.2 - Identify at least three suitable sites for habitat restoration trials and negotiate participation in trials		Habitat restoration sites identified at 4 PAs (1 India & 3 Nepal) and 1 on community land
Activity 2.3 - Undertake habitat trials on at least three sites		Systematic trials progressed at 3 sites (1 in India and 3 in Nepal) and habitat restoration activities undertaken at another site in Nepal
Activity 2.4 - Measure changes in habitat condition at trial sites		Habitat at all trial sites were monitored as well as at breeding and non-breeding areas where tagged birds were recorded.
Activity 2.5 - Monitor Bengal florican usage of trial sites		Birds recorded at all sites and one male caught and tagged inside trial plot at Dudhwa TR.
Activity 2.6 - Produce report on habitat usage of Bengal florican and disseminate to key stakeholders		Results disseminated to key stakeholders at Species Recovery Plan meetings and habitat usage and monitoring results to form second peer reviewed paper later in 2017.
Output 3. Local communities, Senior Protected Area decision makers, relevant conservation organisations and local Bengal florican Conservation Groups are aware of management techniques for Bengal florican.	3a. Local farmers and pastoralists from one community involved in habitat management trials by Sept 2015. 3b. Three local Bengal florican support groups established by Sept 2014. 3d. Grassland management strategy developed and adopted by four protected areas by EOP. 3e. Key decision makers endorse species recovery plans	Engagement with key stakeholders and land managers at main sites in northern India and throughout Nepal progressed well but less so in NE India. Successful community managed trial on 1 site in Nepal and local support groups established at 3 sites. General management techniques of cutting and burning and timings established but exact reason for bird movements from inside to outside PAs not yet fully understood. Nepal SRP published in 2016 while SRP for Uttar Pradesh drafted for endorsement by State Govt in April 2017. Indicators appropriate

Activity 3.1 - Meet communities to advocate management techniques identified under objectives 1 and 2		Awareness campaign with communities and Govt officials at key sites in Nepal undertaken and follow-up actions planned
Activity 3.2 - Train individuals from local communities to take part in habitat trial monitoring		SSGs assisted in habitat monitoring in both countries.
Activity 3.3 - Identify and establish three local conservation groups to monitor Bengal florican populations.		In Nepal, we worked with existing LCGs at Chitwan (Bird Education Society), Koshi Tappu (Koshi Bird Society) and Suklaphanta (Nature Guide Association) to monitor Bengal Florican and undertake conservation awareness activities. In India, we worked with local NGO's in Assam who assisted with the monitoring, particularly Aaranyak to monitor Manas National Park and Laokhowa Burachapori Wildlife Conservation Society to monitor the Laokhowa Burachapori Wildlife Sanctuary.
Activity 3.4 - Identify and establish contact with key national/regional decision makers and visit demonstration trials		Contact maintained particularly at workshops. Trial plots visited as part of Awareness events in Nepal.
Activity 3.5 - Publish habitat management guidance and advocate to key stakeholders		Data analysis progressed and key stakeholders updated at workshops etc Species Recovery Plans highlighted management techniques but more work needed on exact management prescriptions which seem to vary across different sites.
Output 4. Capacity for Bengal florican Conservation Programme in India and Nepal built and sustainability and legacy of project outputs secured.	4a. National Scientists and Park Authority staff are monitoring Bengal florican using consistent replicable protocols by March 2015 and seeking funding from government for Bengal florican conservation programmes by March 2016 4b. Three local conservation groups monitoring and protecting floricans, by Sept 2014 and seeking funding to continue work beyond the end of the project by Sept 2015. 4c. Indian and Nepalese National Species Recovery Plan for Bengal	Involvement of communities and PA staff was generally good, particularly in Nepal. Awareness and Species Recovery workshops held and recovery plans produced. Fundraising efforts have progressed well with funding for the next year secured. Recovery Plan for Nepal published Oct 2016 and draft submitted to UP Forest Dept for endorsement in April 2017. Indicators appropriate

	florican published and launched by Sept 2016.	
Activity 4.1 - Workshop with PA staff and other key stakeholders to develop habitat management strategy for at least 4 Protected Area sites		Grassland management interventions undertaken in Nepal at Suklaphanta WR, Koshi Tappu WR & Chitwan NP in Nepal and Dudhwa TR in India. Grassland management techniques identified but exact prescriptions vary for individual sites.
Activity 4.2 - National scientists and PA staff agree implementation of ongoing survey protocols.		Protocols discussed and revised with national scientists at workshop in January 2015.
Activity 4.3 - Three local conservation groups participate in Bengal florican monitoring survey		All groups mentioned in 3.3 above participated in survey work throughout the project
Activity 4.4 - Workshops in India to review, and Nepal to develop National Species Recovery Plans		Workshops held in February 2016 (India) and March 2016 (Nepal)
Activity 4.5 - Species Recovery Plans for Bengal florican endorsed and launched in India and Nepal		Species Recovery Plan for Nepal published in Oct 2016 with final draft of plan for Uttar Pradesh India submitted to UP Forest Dept April 2017
Activity 4.6 - Funding activities undertaken to support local conservation groups		Funding secured to continue priority activities for next 1 year and other applications to be submitted

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
	Training Measures						
2	Number of Masters qualifications obtained	1	Nepali	M	Survey and Habitat Monitoring of Bengal Florican in Chitwan National Park	Nepali	Gathered survey data and used for MSc. dissertation.
3	Number of other qualifications obtained						
4a	Number of undergraduate students receiving training	6	Indian & Nepali	M	Catching and tagging birds in Nepal & India		
4b	Number of training weeks provided to undergraduate students	10			Catching and tagging birds in Nepal & India		
4c	Number of postgraduate students receiving training (not 1-3 above)	6	Indian & Nepali	M	Catching and tagging birds in Nepal & India		
4d	Number of training weeks for postgraduate students	13			Catching and tagging birds in Nepal & India		
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification(e.g., not categories 1-4 above)						

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	70	Indian & Nepali	M&F			Technical Evaluation Workshop in Dudhwa NP, India and Chitwan, Nepal
6b	Number of training weeks not leading to formal qualification	2					
7	Number of types of training materials produced for use by host country(s) (describe training materials)	2				Nepali	Poster and sticker for awareness raising in Nepal

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)	2	Indian and Nepali		Bengal Florican Conservation Action Plan 2016-2020 (Nepal) Draft Bengal Florican State Recovery Plan For Uttar Pradesh (2017-2021)	English	The Nepal document was published in October 2016. The Indian document was submitted to the State Forestry Department for endorsement in April 2017
10	Number of formal documents produced to assist work related to species identification, classification and recording.	1				English	Formal survey recording form

11a	Number of papers published or accepted for publication in peer reviewed journals	1	Indian, Nepali, British and Australian	M	Distribution and movements of the critically endangered Bengal Florican *Houbaropsis bengalensis* in India and Nepal	English	Submitted to Journal of Ornithology April 2017
11b	Number of papers published or accepted for publication elsewhere						
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	1				English	

Dissemination Measures		**Total**	**Nationality**	**Gender**	**Theme**	**Language**	**Comments**
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	4					Technical Evaluation Workshops and SRP workshops in India and Nepal
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	2					Presentation of results at British Birdwatching Fair 2015 and OBC AGM 2016

Physical Measures		Total	Comments
20	Estimated value (£s) of physical assets handed over to host country(s)	£12,000	5 Satellite tags, 10prs binoculars, 10 GPS units, 3 laptops
21	Number of permanent educational, training, research facilities or organisation established		
22	Number of permanent field plots established	3	Trial management plots were established at Suklaphanta, Koshi Tappu and in the buffer zone of Chitwan NP in Nepal and at Dudhwa TR in India. These plots will continue to be managed and monitored for the next year.

Financial Measures		Total	Comments
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work	**£155,676**	

Annex 4 Aichi Targets

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

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

Annex 5 Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
Journal*	Distribution, movements and survival of the critically endangered Bengal Florican *Houbaropsis bengalensis* in India and Nepal – Rohit Jha *et al*. Submitted April 2017 (see extract Annex 7)	Indian	Indian	Male	Journal of Ornithology	Open Access website: http://www.springer.com/life+sciences/animal+sciences/journal/10336 Publisher: Deutsche Ornithologen-Gesellschaft, Springer Verlag Berlin Heidelberger Platz 3 14197 Berlin Germany
Document*	Bengal Florican Conservation Action Plan 2016-2020 (Nepal) (See extract Annex 7)	Nepali	Nepali	Male	Department of National Parks and Wildlife BCN	PO Box 860, Kathmandu, Nepal PO Box 12465, Lazimpat, Kathmandu, Nepal
Sticker and Poster*	See details Annex 7	Nepali	Nepali	Male	BCN	PO Box 12465, Lazimpat, Kathmandu, Nepal

Annex 6 Darwin Contacts

Ref No	19-011
Project Title	Conserving the critically endangered Bengal Florican – a Terai flagship species
Project Leader Details	
Name	Ian Barber
Role within Darwin Project	Project Leader
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Phone	
Fax/Skype	
Email	
Partner 1	
Name	Jyotendra Thakuri
Organisation	Bird Conservation Nepal (BCN)
Role within Darwin Project	In-country Project Co-ordinator
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Fax/Skype	
Email	
Partner 2	
Name	Rohit Jha
Organisation	Bombay Natural History Society (BNHS)
Role within Darwin Project	In-country Project Co-ordinator
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