

Final Project Evaluation Report

Your Details	
Full Name	Sophea Chhin
Project Title	Ecological and conservation status of the endemic <i>Arborophila cambodiana</i> and common <i>Tropicoperdix chloropus</i> in Southwest Cambodia
Application ID	19194-1
Grant Amount	£4,996
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1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
1) to refresh the conservation status assessment of CHP and SBP throughout the Elephant and Cardamom mountains				With regard to IUCN Red List status and criteria, we have shown that <i>A. cambodiana</i> is range and habitat restricted (Brickle et al., 2008), its habitat has been dramatically fragmented and that human disturbance and development activities negatively affect the species. We also believe that these threats and pressures will only increase across the species' range. We believe there is a strong case to revise the global status of <i>A. cambodiana</i> under the IUCN Red List from 'Least Concern' to 'Vulnerable' (A2abc; B1b (iii) c (i); C1) under the following criteria: A. Reduction in population size based on 2. An observed (a) direct observation (20,000-50,000 individuals (BirdLife International, 2016)) compared to this study (1,400-5,500 pair); (b) an index of abundance appropriate to the taxon measured as density was small (0.63-2.39 calling males/km ²); (c) a decline in area of occupancy, over the past 20 years (1996-2016) the potential habitat of <i>A. cambodiana</i> was degraded by approximately 12% and the total evergreen forest in the Cardamom Mountain range has decreased by 20%). B. Geographic range 1. Extent of occurrence estimated to be less than 20,000 km ² , and estimates indicating at b. continuing decline (iii) quantity of habitat lost by 20% over 20 years; c. Extreme fluctuations in (i) extent of occurrence (18,200 km ² within 'Least Concern' status then this study 2,308

			<p>km²). C. Population size is estimated to fewer than 10,000 mature individuals, this study which include almost the whole of the species range, estimates 2,800-11,000 individuals. 1. Imply an estimated continuing decline of at least 10% within 10 years or three generations, this study found that the remaining habitat for <i>A. cambodiana</i> is approximately 2308 km² showing an estimated decline rate up to 100 km² in every 10 years. However, the SBP still keeping the same when the population is in healthy condition. The paper is submitted to BCI and in the 3rd revision.</p>
<p>2) to assess home range and habitat utilisation of CHP and SBP</p>			<p>The home range study was conducted at Bokor National Park, Elephant mountain. Birds were captured and collared with the radio telemetry. From three individuals collared of CHP with 96 detection locations, we estimated the home range of 3.1 to 5.7ha and core area of 0.2 to 1.7ha compared to two individual with 90 locations of SBP; we estimated the home range of 3.1 to 4.2ha and core area of 0.3 to 1.2ha. Different range estimators produced discrepant estimates of range sizes measured over both species.</p>
<p>3) to strengthen awareness and capacity amongst local communities, students, authorities and medias to address the conservation and management needs of priority habitats and globally-threatened species through site-based training, guest speakers and leaflets</p>			<p>During the project, seven local people, 13 Ministry of Environment' park rangers, five MSc in biodiversity conservation and one BSc in biology from the Royal University of Phnom Penh had been trained along the site based training. Within 15 different locations or villages (five locations/study site) the environmental education awareness also raised with those villagers. The Natural Protected Area and Forestry Laws were also included in the outreach.</p>

<p>4) to build the capacity of the 6 project teams from CBC and 3 site managers for biological research through action-based learning-in bird surveying, data analysis and preparing papers for publication</p>			<p>Seven local people and 13 Ministry of Environment' park rangers were mostly trained in the field on such as bird trapping, radio signal tracking and environmental variable measurement. When six students had been involved to all field work, data analysis, data interpretation and reporting.</p> <p>Three park managers from different protected areas (BKNP, CCNP and PSWS) were strongly involved in study designed and mapping. The home range estimation techniques have been trained them; especially MCP in ArcGIS.</p> <p>In addition, the home range techniques were also lectured at the Royal University of Phnom Penh then practised surround the campus.</p>
<p>5) to create the Cambodian Galliformes Conservation Team, based at the CBC</p>			<p>Unfortunately, we didn't create the Cambodian Galliformes Conservation Team, yet we formed the "Birds of Cambodia Education and Conservation". It is a programme that encourages young Cambodian photographers to take photos of birds and other wildlife and share them so that people may learn about various species via social media, schools, and other platforms. All wildlife images taken are also going to be compiled as scientific books to be distributed to libraries in Cambodia</p>
<p>6) to develop a national conservation action plan for the species through a consultation process with local authorities and community members in Cambodia</p>			<p>We are still waiting for the paper to be published; especially the reassess the IUCN Redlist category.</p>

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

There were some difficulties during the project. Especially, we could not capture the number of individual birds we expected because CHP is a rare and shy birds. However, we captured just enough for analysis.

3. Briefly describe the three most important outcomes of your project.

1. Our team had accessed to the large remaining suitable habitat of CHP where this information has been gaped for over 10 years.
2. The habitat utilization and home range size of both species have been calculated and documented. This provided a scientific based information for site managers to prepare management plan to conserve those available habitats in order to protect the species.
3. The project not just gained the information for species conservation, but also play an important role in human capacity building and local education awarens raising as well.

4. Briefly describe the involvement of local communities and how they have benefitted from the project.

The environmental education awareness was raised to local communities at 15 villages (five locations/study site) where the project team stopped by before we moved to the camping site. Seven local people were encouraged and hired to involve in the field assessment the same as 13 Ministry of Environment' park rangers. Those local people and rangers have received training on such as bird identification, wildlife research techniques and radio signal tracking.

5. Are there any plans to continue this work?

Yes, our team still continue to work with the local communities and park' rangers in radio single tracking. In addition, we are preparing two more publication papers on home range and social conflict of both CHP and SBP. Those paper hope to finish at the end of 2018. The knowledge refreshment for students, rangers and local people will keep doing at least one (for 5 nights) every year especially at Bokor National Park where it is easier to access and good habitat for both studied species.

6. How do you plan to share the results of your work with others?

The results of the project will be published with the international peer review paper then the data will be available on the RUPP/CBC's website as well as share with other relevant stakeholders including the provincial Department of Environment and Ministry of Environment. When the data is published, that information/news about the project will always be placed or made available on the organisation's social media pages and on the Rufford Foundation website.

7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The fund from the RSG was used through October 2016 to June 2017. In addition, the funds helped the project team to carry out essential activities during the actual length of the project.

8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Travel to/from Kampot, Pursat and Koh Kong province, public bus	213	260	(47)	
Local travel, car/tuktuk hire	638	609	29	
Field allowance for local guide	511	490	21	
Daily field subsistence	2979	2930	49	
Accommodation: guesthouses & village stays	170	210	(40)	
Survey consumables: mist nets, batteries waterproofing	113	125	(12)	
Medical supplies	74	78	(4)	
Awareness materials, printing	213	200	13	
Field Equipment such as hammock, boots, tarpaulin	85	96	(11)	
Total	4,996	4,998	(2)	

9. Looking ahead, what do you feel are the important next steps?

As an important next step, the project will

- i. Continue to work on paper development and publication.
- ii. Keep promoting the "Birds of Cambodia Education and Conservation programme" with students, photographer and media. This way will increase the number of people who know and love birds in Cambodia.
- iii. Keep building the capacity among CBC team, rangers and local people to ensure their ability to take over future wildlife research and wildlife information gathering which is in need for the government of Cambodia;
- iv. Continue yearly refreshment training activities.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

Yes, the RF logo was used on awareness leaflets, slide presentation and other conservation materials. Our team continuously mentioned RSGF to key stakeholders during our field work and other organization meetings.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

N/A

12. Any other comments?

We thanks to The Rufford Foundation for its financial support to our galliform research team. Its amount of money was really useful and helped us to discover a lot of information on such as species hidden in the jungle to be discussed and recognized among the decision makers.



Left: Chestnut-headed partridge was spotted at the roosting site during. Right: Chestnut-headed partridge is collared with radio transmitter.



Left: Silver peasant has been trapped along the bird capture for radio tracking.
Right: Sophea Chhin is tracking the radio signal for home range estimation.



Left: Research team is ready for camping. Right: Students in field are learning how to identify birds and doing wildlife research.

Group photos consist of research team, rangers, and mentors.

