



Department  
for Environment  
Food & Rural Affairs



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## Darwin Initiative Main: Annual Report

To be completed with reference to the "Project Reporting Information Note":

(<https://www.darwininitiative.org.uk/resources/information-notes/>)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2024**

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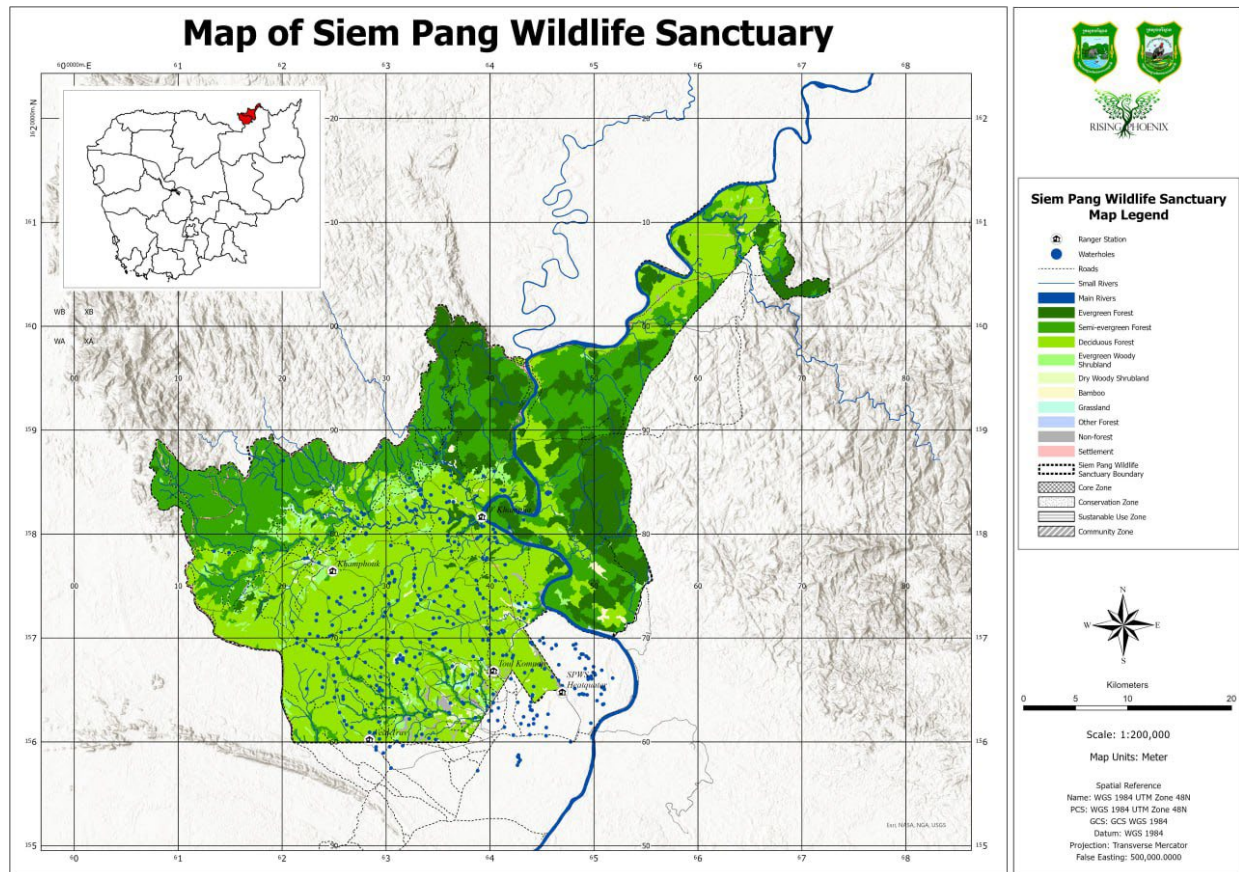
### Darwin Initiative Project Information

Project reference	30-021
Project title	Increasing climate resilience for communities and wildlife in Siem-Pang, Cambodia
Country	Cambodia
Lead Partner	Rising Phoenix Co. Ltd.
Project partner(s)	<ol style="list-style-type: none"> <li>1. Village forums</li> <li>2. Department of Primary Industries, New South Wales, Australia</li> <li>3. Siem Pang District Governor's Office</li> <li>4. Tetra Tech – USAID Morodok Baitang</li> <li>5. IBIS Rice Conservation Co. Ltd.</li> <li>6. Sansom Mlup Prey</li> </ol>
Darwin Initiative grant value	£566,261.00
Start/end dates of project	01/04/2023 to 31/03/2026
Reporting period	April 2023 to March 2024. Annual Report Year 1
Project Leader name	Jonathan [REDACTED]
Project website/blog/social media	N/A
Report author(s) and date	<p>James [REDACTED] 4-8 April 2024, 28 – 30 April 2024</p> <p>Sopheap [REDACTED]: 8 -19 April 2024</p> <p>Romain [REDACTED]: 8 -19 April 2024</p> <p>Jonathan [REDACTED] 25 April 2024</p>

# 1. Project summary

## Project summary

Rural communities and globally threatened wildlife are both at risk from extreme climatic events. Building community irrigation ponds and restoring natural wetlands will increase climate resilience, enhanced livelihoods for communities, and reduced hunting and disturbance pressures for globally threatened wildlife, including the Endangered Eld’s deer and two Critically Endangered Ibis species at Siem Pang Wildlife Sanctuary. Village and stakeholder forums will share best practice, allowing for these integrated community water management models to be scaled up across the region.



## Problem statement

Stung Treng Province in which Siem Pang Wildlife Sanctuary (SPWS) is located is one of the two poorest provinces in Cambodia (ADB 2014). Poverty is a driver of biodiversity loss, resulting in over exploitation of natural resources, unsustainable hunting of globally threatened wildlife, impacting rural rice growing communities who also fish to meet their needs. 76% of Cambodians live in rural areas (World Bank 2021), with a heavy reliance on subsistence rainfed agriculture. Climate change is expected to result in more extreme weather patterns (World Bank 2020). Increasing frequency of extreme El Niño events due to greenhouse warming has also been predicted (Cai, W., et al. 2014). An assessment of the vulnerability of SPWS to climate change was published pointing out climate science is complex and the modelling insufficiently developed to predict certainty (Timmins 2012). During routine and regular consultations with villagers participating in the IBIS Rice scheme around SPWS, it is consistently reported that water shortage in the early dry season as a reason for reduced rice yield. Increasing rice yield increases household income and has been shown to reduce pressure on threatened wildlife caused by hunting and habitat loss (Eang et al 2021, Ladd et al 2022 and Pin et al 2020).

The project will work with the community to build community irrigation ponds at selected villages storing excess water during the rainy season, to be used during dry periods, in the early growing season. The ponds are designed to make the rice crop more resilient to climate

change, whilst additionally allowing communities to grow a cattle fodder crop (post rice harvest). Overall enhancing rice yields, food security, income, and climate resilience, for 1,375 rural people living around SPWS.

Trapeangs, palustrine wetlands, are a critical source of food and water, for people, livestock, and wildlife, but deteriorate in value to people and wildlife via ecological succession, unless maintained. The project will work with communities to restore trapeangs, enhancing climate resilience, water and food security, for at least 2,000 rural people and their livestock, also building a local constituency for conservation.

The Endangered Eld's deer (*Rucervus Eldii siamensis*) and Critically Endangered White-shouldered and Giant Ibis populations will also directly benefit from trapeang restoration providing a more continuous supply of water and food (fish and frogs) during the dry season. Increased monitoring of these globally threatened species, and the development and implementation of the conservation plan for the Eld's deer aims to improve or stabilise the conservation status of all three species at SPWS.

Already established forums will allow villagers and government stakeholders to share lessons learnt and best practices allowing for these sustainable agriculture techniques to be scaled up at sites beyond SPWS and demonstrating how these techniques can benefit rural communities in the region, as well as benefiting globally threatened species.

## References

ADB (2014) Cambodia Country Poverty Analysis

Cai, W., Borlace, S., Lengaigne, M. et al. Increasing frequency of extreme El Niño events due to greenhouse warming. *Nature Climate Change* 4, 111–116 (2014).  
<https://doi.org/10.1038/nclimate2100>

Eang S., Vann V. & Eames, J.C. (2021) A second population assessment of the Critically Endangered giant ibis *Thaumatibis gigantea* in Siem Pang Wildlife Sanctuary, Cambodia. *Cambodian Journal of Natural History*, 2021, 12–20.

Ladd, R., Crouthers, R., Brook, S. and Eames, J.C. (2022) Reviewing the status and demise of the Endangered Eld's deer and identifying priority sites and conservation actions in Cambodia *Mammalia*. 2021-0151.

Pin C., Bou V., Eames, J.C., Samorn V. and Thol S. (2020) The first population assessment of the Critically Endangered giant ibis *Thaumatibis gigantea* in Lomphat Wildlife Sanctuary, Cambodia. *Cambodian Journal of Natural History*, 2020, 7–14.

Timmins, R. J. (2012) An assessment of the vulnerability of the proposed Western Siem Pang protected forest to climate change with recommendations for adaptation and monitoring

World Bank (2020) World Bank DataBank. World Development Indicators, Cambodia.

World Bank (2021) Cambodia's Second National Communication submitted under the UNFCCC

## 2. Project stakeholders/ partners

### **Khampourk, Khet Svey and Khet Kroam Village forums and eight additional Village forums around Siem Pang Wildlife Sanctuary**

Village forums are already established as part of an earlier Darwin project. They are the main point of contact and interaction between the project and the rural communities living in the villages around SPWS with whom Rising Phoenix works.

Village forums meet quarterly and attendance is open to all. They provide the main mechanism for villagers to feedback on their needs and project developments, and for the project team to inform villagers on progress and share lessons learnt, best practice, and training and employment opportunities resulting from the project.

During the reporting period, three village forum meetings were conducted in April, July and October 2023 with 189 participants (27 women) (Annex A1, A2, A3 Village forum minutes)

From 19 February to 13 March 2024, the village forum committees in seven villages of Pong Kriel, Khes Svay, Khes Kroam, Phabang, Lakay, Nhang Sum and Khampourk we conducted trapeang awareness meetings with a total attendance of 230 villagers (20 women). (Annex A14 & A15, relevant CDU monthly reports)

From 1-16 February 2024, together with 19 village forum members and VMNs (VMNs) in Khes Svay, Khes Kraom and Pong Kriel villages we organized consultation and awareness raising meetings on irrigation pond site selection for the 2024 dry season. A total of 102 households were selected for membership of the irrigation ponds. (Annex A14, CDU monthly report February 2024)

### **Dr. Paul Meek, Department of Primary Industries, New South Wales Australia**

Dr. Paul Meek has over 30 years' experience as a pest animal researcher. He is currently a part of the Prep4Reset and Feral Cat research project. Previously he was Project Officer with New South Wales National Parks and Wildlife Service and Regional Ecologist with Forests NSW. He has worked as an ecologist throughout Australia, and overseas.

Dr. Meek has worked at SPWS since 2015 on Eld's deer conservation, advising and training staff and students in camera trap monitoring, radio tagging, ecology and general survey design. He supervised Dr Rachel Ladd who completed her PhD on Eld's deer monitoring and threat assessments at SPWS. He has visited SPWS, twice to assist in establishing trapeang monitoring for Eld's deer, and free-roaming dog collaring.

During the reporting period, Dr. Meek travelled to Cambodia from 13-26 November 2023, with a second visit between 1-13 April 2024. (Annex A32, BMU monthly report November 2023). During his first visit, we designed a camera trap survey protocol and methodology for Elds deer monitoring (Annex A36 Camera Trapping Protocol for Eld's deer survey). Six staff from the Biodiversity Monitoring Unit were trained in protocol for camera trap management, and 54 Reconyx H2W camera traps were deployed.

### **Siem Pang district Governor's office.**

The Governor of Siem Pang district is responsible for 27,000 people across four communes and 27 villages. His responsibility improving economic conditions and well-being for people in the district. He coordinates government offices within the district, including agriculture, environment and law enforcement. The governor is the senior point of contact for Rising Phoenix in the district.

The district Governor chairs quarterly stakeholder forums held at the Siem Pang district office. Attending these meetings are the four commune chiefs and 11 village heads participating in this project. Together these officials represent all IBIS Rice members and beneficiaries under this project. Other local government representatives including the departments of agriculture and environment also attend. These forums have been very successful providing the best mechanism for sharing information on projects and other local developments. During the reporting period three stakeholder forum meetings were conducted in May, August 2023 and January 2024. (Annex A16, A17, A18, stakeholder forum meeting minutes)

### **USAID Morodok Baitang Project.**

Tetra Tech manage the five-year USAID Morodok Baitang (UMB) project in Cambodia. This project aims to reduce greenhouse gas emissions and promote biodiversity conservation working with natural resource-dependent communities, the private sector, civil society, and other development partners to mitigate climate change, enhance biodiversity, increase economic development, and strengthen natural resource governance. A focus is the promotion and expansion of IBIS Rice in Siem Pang district working with Rising Phoenix, IBIS Rice Co. Ltd. and Samsun Mlup Prey.

UMB provides co-financing for Community Development Unit staff time, trapeang restoration, and compliance and land-mapping under the IBIS Rice scheme. Although not directly related to this project, they also fund a value chain coordination officer at Rising Phoenix, to promote future sustainability of IBIS Rice and to identify other crops for development.

In 2023, UMB supported the expansion of the IBIS Rice scheme from 11 to 15 villages across Siem Pang district. The total members of the scheme increased from 697 households to 949 households. The total paddy rice sold increased from 670 tonnes to 1,348 tonnes. In January and March 2023 UMB also established three Producer Groups in Thmor Keo, Preak Meas and Sre Sambo communes. The last Producer Group will be established in Sekong commune in May. In 2024, UMB will support to expand the scheme to a total of 19 villages in Siem Pang.

### **IBIS Rice Conservation Co Ltd.**

The mission of IBIS Rice is to grow fragrant jasmine rice that protects endangered species, preserves forests, and supports livelihoods in Cambodia. IBIS Rice began working in Siem Pang district in 2017 where it works closely with Samsun Mlup Prey (SMP) and Rising Phoenix. SMP leads on agricultural extension, whereas Rising Phoenix leads on compliance and land mapping. IBIS Rice buys the paddy and markets the products under its brand.

Siem Pang district has become the main producer of IBIS Rice, accounting for 70% of national production. IBIS Rice is available in the UK at Plant Organic supermarkets and in 2024 will be available at Waitrose.

In December 2023, IBIS Rice Conservation Co., Ltd purchased 1,348 tonnes of organic paddy rice from 807 households in Siem Pang district. These sales had a total value of [REDACTED] or [REDACTED] household.

### **Samsun Mlup Prey**

Samsun Mlup Prey (SMP) supports agricultural livelihoods and provides an alternative to destructive activities like logging and poaching, our work is an essential component of biodiversity conservation efforts.

SMP has worked in Siem Pang district since 2107 supporting IBIS Rice production. Throughout this time SMP has worked first with BirdLife International and now with Rising Phoenix. Currently SMP has five staff based at an office in Siem Pang district working across 11 villages.

In 2023, SMP trained households and VMNs in agricultural technical skills and capacity building, covering topics including nutrition management, pest management, post-harvesting, cover crops, keeping farm diary and threshing records, leadership skill and Internal Compliance System (ICS) inspection. They manage all databases related to ICS and IBIS Rice.

## **3. Project progress**

### **3.1 Progress in carrying out project Activities**

**Output 1: 55 Climate change resilient community irrigation ponds established at three villages around SPWS leading to a reliable water supply for rice cultivation for 1,375 rural people (50% female)**

***1.1.1 Meetings with key stakeholders from host villages to develop and agree irrigation pond excavation, safety and maintenance protocols and agreements. First protocol developed with Khampourk village within 3 months of project start date. Similar protocols developed and signed at start of year 2 and year 3 for remaining villages (one village per year).***

Prior to the start of the project on 11 February 2023, the Community Development Unit (CDU) conducted a meeting in Khampourk village with the village chief and 32 villagers (2 women) to discuss and select 10 community irrigation pond locations to be excavated for IBIS Rice farmers. Topics covered included the purpose of the ponds, some rules for pond use, including shared us, maintenance and responsibilities, safety, and the contract between households and Rising Phoenix. (Annex A19, Irrigation tank selection meeting minutes)

***1.1.2 Protocols and agreements relating to irrigation ponds signed by key stakeholders from host villages***

In September 2023, 32 households in Khampourk village signed use agreements. (Annex A20: Signed irrigation tank agreements). An irrigation pond use protocol was also developed. (Annex A23: Irrigation Pond use protocol)

### **1.2.1 275 rural people from host villages trained in pond safety and maintenance on completion of each irrigation pond**

In September 2023, the 32 households representing 160 rural people in Kham Phouk village were trained on the principles of safety and maintenance of the irrigation ponds. (Annex A9: CDU monthly report September 2023)

### **1.2.2 Pre and post training assessments for 275 participating rural people on irrigation pond safety and maintenance**

Pre and post training assessment was not implemented in the first year of the project with the 32 households that attended the irrigation pond training. Due to time constraints on the CDU team linked to the expansion of the IBIS Rice programme at Siem Pang. We will complete the pre and post-test assessment for the next year of the project of the next cohort of irrigation pond members.

### **1.3.1. Pilot of ten irrigation ponds completed in Khampourk village (year 1)**

In April 2023 we dug 10 irrigation ponds with a volume of 1,050 m<sup>3</sup> each (20 m x 15 m x 3.5 m) in Khampourk village. (Annex A21: Irrigation ponds report)

### **1.3.2. Expansion of pilot irrigation ponds (years 2 and 3) in Khet Svey village (20 ponds) and Khet Kroam village (25 ponds)**

This activity is planned for years two and three of the project.

### **1.4. Monitoring framework established and implemented with key stakeholders: pond use, pond maintenance, water levels, water quality, rainfall, rice production, cover crops, income in participating/non-participating households.**

Monitoring data was gathered by the CDU on water retention, quality and reported use by the members of the Khampourk village irrigation ponds, and included in the monthly reports. (Annex A4-A15, CDU monthly reports). In the second year of the project there will be a focus on developing a participatory monitoring framework. Although focus is needed on appropriateness of monitoring linked to education level as there are low levels of literacy in target villages.

### **1.5. Monthly Community Development Reports include progress updates and details of water retention, quality and use.**

In February 2024, one irrigation pond in Khampourk village dried-out. This pond was located on rocky soils and was initially dug to a depth of 3.0 m, whilst the standard depth was 3.5 m. it has since been deepened. The other nine ponds are still storing water at 30% to 50% capacity. Four ponds were used for irrigating rice in 2023. Five other ponds are being used by domestic cows and buffalos. The purpose of the ponds is to provide irrigation in case of an early drought during the rice growing season (climate change adaption), in the 2023 rice growing season this did not occur.

### **1.6. Annual report compiled, including photographs and maps of completed irrigation ponds and monitoring data, shared with key stakeholders, including representatives from participating communities at Stakeholder forums.**

The first annual report of irrigation ponds will be produced in May 2024 after the first full year of operation.

### **1.7. Study tour to Siem Pang by IBIS Rice growers from two other sites**

This activity is planned for the third year of the project

### **1.8. Report compiled from study tour to Siem Pang by IBIS Rice growers**

This activity is planned for the third year of the project

### **1.9. Lessons and best practice from irrigation pond activities shared amongst key stakeholders at district level and two other sites.**

This activity is planned for the third year of the project

**OUTPUT 2. 20 forest trapeangs restored within SPWS, improving climate resilience and access to water and food for 2,000 rural people (20 trapeangs x 20 households each household x 5 people =2,000 people) their livestock, Eld's Deer, and the Giant and White-shouldered ibis.**

***2.1 Trapeang restoration contracts, developed and signed by rural people (50% women) from participating villages.***

In February and March 2024, 180 community labourers (2 females) in seven villages around SPWS signed trapeang restoration contracts and successfully restored 10 trapeangs (Annex A22, Signed trapeang restoration contracts). Those villages are Pong Kriel, Khes Kroam, Khes Svay, Pha Bang, Lakay, Nhang Sum and Khampourk.

***2.2 400 rural people (200 women) (20 per trapeang) receive training and experience in trapeang restoration.***

In February 2024, we selected 10 trapeangs for manual restoration. Seven village awareness raising meetings were carried out at target villages from 19 February to 13 March and 300 participants (55 women) attended the meetings. Those villages are Khampourk, Khes Svay, Nhang Sum, Khes Kroam, Pong Kriel, Phabang, and Lakay. After the meetings, 180 community labourers registered to restore trapeangs. Through the meetings, participants learnt the importance of trapeangs, the recent year challenges in trapeangs caused by climate change, benefits of digging, the target trapeangs for restoration, the size and method of digging, and preparing the work plan with communities. (Annex A14, CDU monthly report February 2024)

Between 21 February and 14 March, 180 people (2 women) undertook restoration work. Other female villagers supported these activities by organizing logistics, preparing the food for their husbands, and taking care of their houses and families while their husbands were working at the trapeangs. (Annex A14, A15, relevant CDU monthly reports)

***2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established (including photographs of trapeangs) and operating within 3 months from project start.***

The project started in April 2023, but from January to June 2023 twenty-one camera traps were deployed at eleven trapeangs. This followed the previous monitoring protocol established at the start of the trapeang monitoring study in 2020.

A total of 250,714 images were retrieved in 2023 of which 102,601 images have been reviewed and tagged so far (41%). Visual analysis remains a fastidious and time-consuming process as images are all reviewed manually. The 2023 survey collected 2.5 times more images than the 2021 and 2022 surveys combined. Analysis of 2021 and 2022 surveys (104,000 images) was conducted earlier last year and a paper presenting the results was submitted and accepted for publication in the next issue of the Cambodian Journal of Natural History. (Annex A24: Legrand et al, 2024)

***2.4 5 Biodiversity Monitoring Unit (BMU) staff trained in trapeang camera trap data collection and collation.***

The trapeang monitoring protocol was reviewed during Dr. Meek's visit to SPWS from 13-26 November 2023.

Previous investigations using camera traps to monitor wildlife responses to water provisioning in SPWS identified difficulties in collecting a robust data set to compare detections of wildlife, particularly Elds deer. However, the limited results of the pilot study have been submitted for publication (Annex A24: Legrand et al, 2024). A primary constraint is using camera traps at trapeangs, is installing enough camera traps around the water body to monitor all wildlife use. Camera traps can only accurately detect animals within a short distance of the water and as such gaps occur where wildlife could visit the water edge and leave the site without being detected.

Further, monitoring water height has proved impossible because water buffalo access to the entire water body in the dry season results in them knocking over water height measuring instruments. The team have invested time assessing a 360-degree live stream camera at one of the main trapeangs, while this is an effective tool for the conservation efforts in SPWS, one site is not enough for a robust assessment. To this end we have decided not to continue with the trapeang camera monitoring.

### ***2.5 Continuous trapeang monitoring, including camera traps, capture changes in water level, and use by Eld's deer, two Endangered ibis species, and people at restored and unrestored trapeangs (controls).***

A total of 250,714 images were retrieved during the 2023 survey of which 102,601 images have been reviewed and tagged so far (41%). Continuous monitoring of trapeangs have been discontinued following re-evaluation of the previous protocol and assessment of the data collected and results obtained so far

### ***2.6 Monthly trapeang and biodiversity reports***

The Biodiversity Monitoring Unit produced 12 monthly reports on its activities over the reporting period. (Annex A25-35. BMU monthly reports)

### ***2.7 Annual reports on trapeang monitoring results (including camera trap data)***

Results from the camera trapping has been reported at the stakeholder forum and within a publication. The decision to stop monitoring the trapeangs (reason explained in point 2.4.5), means this activity will not occur in the next two years of the project.

### ***2.8 Journal paper on trapeang restoration and use, drafted and submitted.***

A paper presenting the result from the analysis of the 104,000 images retrieved from the trapeang monitoring for the 2021 and 2022 surveys was submitted and accepted for publication in the next issue of the Cambodian Journal of Natural History (A24: Legrand et al, 2024).

### ***2.9 Lessons learnt and best practice from trapeang restoration activities shared amongst key stakeholders at district level (via village and stakeholder forums) and two other sites via village forums.***

This activity is planned for the 3<sup>rd</sup> year of the project

## **OUTPUT 3. Endangered Eld's deer population at SPWS is maintained/or increases BEOP, compared to population baseline at start of project.**

### ***3.1 Develop camera trap monitoring protocol and camera trap survey manual for use by field staff***

Six BMU staff were trained during Dr. Meek's visit. Training included good practice in camera trap surveys. A camera trapping protocol for Eld's deer was drafted with the staff and translated into Khmer. (A36: Camera Trapping Protocol for Eld's deer survey)

### ***3.2 Establish long-term Eld's deer camera trap monitoring BEO Yr1 at SPWS (designed by Paul Meek at start of the project based on Rachel Ladd's PhD research)***

Dr. Meek visited SPWS from 13-26 November, during which time an Eld's deer monitoring was designed and implemented. To this end, 54 Reconyx Professional HyperFire 2 white flash camera were deployed in a grid pattern. Camera traps were since serviced every 4-6 weeks and images were retrieved for sessions 1-3. Images from session 1 and 2 have been tagged. Once the 2023-2024 survey is completed, the team will attempt to apply a capture-recapture model to the data to estimate Eld's deer population in the sanctuary.

### ***3.3 Journal paper submitted on Eld's deer population BEO yr1***

A manuscript entitled "Deriving a population estimate for Eld's deer in Siem Pang Wildlife Sanctuary, Cambodia" has been submitted to Wildlife Research and underwent a peer-review process. We received comments from the reviewers on 23 February 2024 and the manuscript is currently under revision.



### **3.4 Continue study on overlapping activity patterns of Eld’s deer and free roaming dogs to establish a threat mitigation protocol BEO Yr2**

Overlapping activity patterns of Eld’s deer and free roaming dogs is being monitored through camera trapping in the new Eld’s deer monitoring protocol.

### **3.5 Two journal papers on overlapping activity patterns of Eld’s deer and free-roaming dogs written and submitted for publication BEOP.**

Two papers were published in peer-reviewed journals:

Ladd, R., Meek, P., Eames, J.C. and Leung, L.K.-P. (2024) Demographics and practices of dog ownership in a rural Cambodian village adjacent to a wildlife sanctuary. *Cambodian Journal of Natural History*, 2024, 23–35. (Annex A37, Ladd et al, 2024)

and

Ladd, R., Meek, P., Eames, J.C., and Leung, L.K.-P. (2023) Activity range and patterns of free-roaming village dogs in a rural Cambodian village. *Wildlife Research*, 51, WR23024.

Doi:10.1071/WR23024 (Annex A38: Ladd et al, 2023)

### **3.6 Conservation strategy (including threat mitigation) for Eld’s deer produced with key stakeholders at selected villages BEO Yr 2 and 3**

This activity is planned for the second year of the project

### **3.7 One journal paper on Eld’s deer conservation written and submitted for publication BEOP.**

This activity is planned for the final year of the project

## **Output 4. Numbers of Critically Endangered Giant Ibis remain stable and White-shouldered ibis population increases 10% above the baseline at SPWS BEOP**

### **4.1 Giant Ibis nests located and monitored at SPWS throughout the project’s lifetime.**

For 2023 we recorded a total of 17 nests, 7 failed (40%) and 10 successfully fledged 16 young. Causes of failure were as follows: egg fell down in two cases, chick fell down in two cases, and unknown cause in three cases. Proposed mitigation measures for next year include the use of drone for remote surveillance of nests during the rainy season. Based on data obtained since the baseline, no population trend is discernible.

The results for this year appear to be in line with the results from 2021 and 2022:

	<b>Nests</b>	<b>Failed</b>	<b>Succeeded</b>	<b>Young fledged</b>
<b>2021</b>	17	6	11	14
<b>2022</b>	16	5	11	18
<b>2023</b>	17	7	10	16

### **4.2 Satellite trackers placed on three giant ibis BEO Yr2**

This activity is planned for year 2 of the project

### **4.3 White-shouldered Ibis nests located, and monitored in SPWS throughout the project’s lifetime.**

The BMU was dedicated to locating and monitoring White-shouldered Ibis nests during the 2024 breeding season. As of beginning of March 2024, we recorded a total of 41 nests, the highest number recorded since counting started in December 2012. So far in 2024 30 nests have fledged 60 young. One nest is still actively feeding two young, while ten nests failed at the incubation stage.

### **4.4 Monthly Biodiversity Monitoring Reports produced and key data shared at Stakeholder forums and the Cambodia Ibis Working Group**

Twelve monthly biodiversity reports (Annex A25-A35, BMU monthly reports) have been produced over the reporting period, and three stakeholder forums have been held where key

data was shared with district level stakeholders (Annex A16-A18, Stakeholder forum meeting minutes).

Romain Legrand and Eang Samnang assisted and shared data at the Cambodia Ibis Working Group on 29 August 2023 and 11 December 2023. (Annex A39, A40 Cambodia Ibis Working Group meeting minutes)

#### ***4.5 Annual Breeding survey results for Giant and White-shouldered ibis produced and shared at stakeholder forums and the Cambodia Ibis Working Group***

Two Cambodia Ibis Working Group meetings were held over the reporting period, on 29 August 2023 and 11 December 2023. Breeding survey results for Giant and White-shouldered Ibis were shared with other members. (Annex A39, A40 Cambodia Ibis Working Group meeting minutes)

#### ***4.6 Journal paper about Giant Ibis and White-shouldered Ibis conservation actions, project results and recommendations, written and submitted for publication.***

This activity is not planned until the year 3 of the project.

### **3.2 Progress towards project Outputs**

**Output 1. 55 climate change resilient community irrigation ponds established at three villages around SPWS leading to a reliable water supply for rice cultivation for 1,375 rural people (50% female).**

#### ***1.1 Irrigation pond excavation, safety and maintenance protocol and agreements signed with key stakeholders from host villages. Developed and signed at start of year 1, 2 & 3 (one village per year).***

32 households, representing 160 people in Khampourk village signed the community irrigation pond use agreement in September 2023.

#### ***1.2 At least 275 rural people receive training in pond safety and maintenance held at Khampourk village on completion of each pond. At least one representative from each participating household to attend training (Yr2 and Yr3 for other selected villages).***

32 households representing 160 rural people in Khampourk village were trained on the principles of safety and maintenance of the irrigation ponds in September 2023

In February 2024, the CDU team met 102 households as part of the promotion of future membership for the second stage of irrigation ponds (Year 2) of the ponds and raised awareness of the purpose and principles of the irrigation ponds.

#### ***1.3 Pilot of ten irrigation ponds completed in Khampourk village by EOYr1. Expansion of pilot in Y2, Y3, Khet Svey village (20 ponds) and Khet Kroam village (25 ponds)***

In April 2023, we dug 10 irrigation ponds in Khampourk village.

#### ***1.4 Monitoring framework established and implemented within six months of the project start date with participating households and key stakeholders, covering pond use, water levels, water quality, maintenance, rainfall, rice crop production and income in participating and non-participating households.***

This framework has not been established yet during the reporting period; however, CDU team always recorded the progress of water retention, quality and use of those ponds in Khampourk village and updated in CDU monthly report. The final monitoring framework will be established in the second year of the project. Delay in establishment was linked to due to additional work load linked with IBIS rice expansion, and delay in village agents building their capacity to support IBIS internal control system.

#### ***1.5 1,375 rural people (50% women) see improved water and food security for their rice and cover crops (55 ponds x5 households using each pond x5 people in each household).***

In 2023 and 2024, 134 households, representing 670 rural people had improved water security as a result of access to the ponds.

**1.6 Awareness raised, lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.**

Raising awareness and sharing lessons learnt was achieved through the quarterly village and stakeholder forums. Three village forum meetings were conducted in April, July and October 2023 and three stakeholder forum meetings were conducted in May, August 2023 and January 2024. Mr. Chao Monira, Stung Treng Deputy Governor, and chairman of the meeting in the Stakeholder Forum on 15 May 2024 was very impressed with IBIS Rice and irrigation ponds and suggested to split the expansion of 20 ponds in Year 2 into two villages – Khes Svay and Khes Kroam. This intervention has gained strong support from the community. (Annex A1, A2, A3, A16, A17, A18, relevant meeting minutes)

**Output 2. 20 forest trapeangs restored at 20 forest sites within SPWS, improving climate resilience and access to water and food for 2,000 rural people (20 trapeangs x20 households each household x5 people =2,000) their livestock, Eld's deer, and the Giant and White-shouldered ibis.**

**2.1 At least 400 (200 women) rural people (20 per trapeang) receive training and experience in trapeang restoration).**

In February and March 2024, 180 people received training on trapeang restoration through the village awareness meeting and were involved in restoring 10 trapeangs manually.

**2.2 20 forest trapeangs restored by EOP.**

From 27 February to 19 March 2024, we dug 10 trapeangs and 180 people (2 women) were employed in their restoration.

**2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established and operating within 3 months from project start**

The trapeang monitoring protocol was reviewed during Dr. Meek's visit to SPWS. Previous investigations using camera traps to monitor wildlife responses to water provisioning in SPWS identified difficulties in collecting a robust data set to compare detections of wildlife, in particular Eld's deer. Camera traps can only accurately detect animals within a short distance of the water and as such gaps occur where wildlife could visit the water edge and leave the site without being detected. Further, monitoring water height has proved because water buffalo access the entire water body in the dry season and knock over water height measuring implements. The team have invested time assessing a 360-degree live stream camera at one of the main trapeangs, while this is an effective extension tool for the conservation efforts in SPWS, one site is not enough for a robust assessment. To this end we have decided not to continue with the trapeang camera monitoring.

**2.4 5 BMU staff trained in trapeang camera trap data collection and collation BEO Y1.**

Six BMU staff were trained during Dr. Meek's visit. Training included good practices in camera trap surveys, data collection and data analysis. A camera trapping protocol for Eld's deer survey was drafted with the staff and translated into Khmer. (A36: Camera Trapping Protocol for Eld's deer survey).

**2.5 Trapeang camera trap monitoring, monitors changes in water level, Endangered Eld's Deer and two Critically Endangered ibis, and human use at restored and unrestored trapeangs (controls).**

For reasons explained in 2.3 we have chosen to end the trapeang camera monitoring, after four years of implementation.

**2.6 Lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.**

This activity is due in the third year, at this stage we are still collecting data on the effects of trapeang restoration, and we will share lessons learnt at a later stage.

**Output 3. Endangered Eld’s deer population at SPWS is maintained/or increases BEOP, compared to population baseline at start of project.**

**3.1 Establish long-term Eld’s deer camera trap monitoring BEO Yr1.**

The protocol for long-term Eld’s deer camera trap monitoring was designed and implemented in November 2023. We are currently collecting data from camera traps and will proceed to the first analysis later this year.

**3.2 Eld’s deer population estimated and journal publication BEO Yr1.**

A manuscript entitled “Deriving a population estimate for Eld's deer (*Rucervus Eldii siamensis*) in Siem Pang Wildlife Sanctuary, Cambodia” was submitted to *Wildlife Research* and underwent a peer-review process. We received comments from the reviewers on 23 February 2024 and the manuscript is currently under revision.

**3.3 Continue study on overlapping activity patterns of Eld’s deer and free roaming dogs to establish a threat mitigation protocol BEO Yr2**

Overlapping activity patterns for Eld’s deer and free roaming dogs is covered in the Eld’s deer monitoring protocol.

**3.4 BEO Yr1 Conservation strategy (including threat mitigation) for Eld’s deer produced with key stakeholders at selected villages implemented in SPWS Yrs 2 & 3.**

The conservation strategy has not yet been developed but is planned for Year 2 of the project.

**3.5 BEOP Eld’s Deer population remains stable /or increases compared to baseline at start of project.**

It is too early in the project for the population trend to be determined. We have taken the preliminary steps to achieve the activity BEOP.

**Output 4. Numbers of Critically Endangered Giant Ibis remain stable and White-shouldered ibis population increases 10% above the baseline at SPWS BEOP**

**4.1 BEOP Giant Ibis nests found remain stable compared to baseline**

For 2023 we recorded a total of 17 nests, 7 failed (40%) and 10 successfully fledged 16 young. The results for the last three years indicate stability compared to the baseline.

	<b>Nests</b>	<b>Failed</b>	<b>Succeeded</b>	<b>Young fledged</b>
<b>2021</b>	17	6	11	14
<b>2022</b>	16	5	11	18
<b>2023</b>	17	7	10	16

**4.2 BEOP White-shouldered Ibis nests found in SPWS increases compared to baseline**

The below table shows White-shouldered Ibis breeding success at SPWS 2022-2023. The number of nest found and successful has increased from the baseline but this is not a indication of change in population.

<b>Year</b>	<b>Nests found</b>	<b>Successful nests</b>	<b>Nest success rate (%)</b>	<b>Young fledged</b>
2022 (baseline)	36	28	78	61
2023	32	27	84	51
2024 (to date)	41	30	73	60

**4.3 BEOP White-shouldered Ibis nests increase 10% above the baseline**

We recorded 36 nests in 2022 (baseline) and 32 nests in 2023. As of March 2024, we recorded 41 nests, the highest number recorded since counting started in December 2012. (+ 14% compared to baseline). No clear trend is currently discernible.

### 3.3 Progress towards the project Outcome

**Outcome Statement: Integrated community water management models increase climate resilience for 3,375 rural people, Endangered Eld's deer, and two Critically Endangered Ibis species, around and within, SPWS Cambodia.**

***0.1 55 climate change resilient irrigation ponds are established at three villages around SPWS improving climate resilience for at least 1,375 rural people BEOP.***

In April 2023 we dug 10 irrigation ponds for 32 households representing 160 people in Khampourk village having access to the ponds.

***0.2 20 forest wetlands (trapeangs) are restored, increasing climate resilience and access to water and food for at least 2,000 rural people, their livestock, Eld's Deer and two Critically Endangered Ibis (Giant and White shouldered Ibis) BEOP.***

In February and March 2024, we restored 10 trapeangs and 180 people were employed in restoration.

***0.3 BEOP the Endangered Eld's Deer population at SPWS is stable compared with baseline.***

A baseline of Eld's deer population was established by Ladd et al. (2024), and we have improved the protocol and implemented a camera trap survey to monitor the evolution of the population during the project.

***0.4 Numbers of nesting pairs of Critically Endangered Giant and White-shouldered Ibis increase 10% above the baseline BEOP in SPWS.***

After Year 1, no population trend is discernible.

***0.5 BEOP 675 rural people from 11 villages (at least 50% women) around SPWS have acquired new skills (through training) in water management (building and maintaining irrigation ponds and restoring trapeangs) via training and/or Village forums.***

340 people in seven village received training in water management through trapeang restoration or irrigation pond maintenance.

***0.6 BEOP 3,375 people (at least 50% women) from 11 villages around SPWS (and at least two additional villages outside SPWS) have increased knowledge of climate resilience and the management of natural resources, through Village forums and Stakeholder forums which promote sustainable use and equitable benefit sharing of natural resources at SPWS and scaling up of more climate resilient land management practices in Cambodia.***

We share lessons learnt and best practice through the quarterly Village forum and Stakeholder Forum meetings. Three village forum meetings were conducted in April, July and October 2023 with 189 participants (27 women) and three Stakeholder Forum meetings were conducted in May, August 2023 and January 2024 with 182 participants (5 women). (Annex A1, A2, A3, A16, A17, A18, relevant meeting minutes)

### 3.4 Monitoring of assumptions

**Assumption 1:** Communities living around and within SPWS continue to be willing to work with Rising Phoenix in sustainable agriculture, water and land management practices

**Comment:** Assumption proved to be correct to date, with active expansion of IBIS Rice, irrigation ponds and community engaging with trapeang restoration.

**Assumption 2:** Political stability in Cambodia allows for business as usual

**Comment:** Political stability has been maintained since the 2023 general election.

**Assumption 3:** The current *La Niña* conditions with resulting dry season rainfall, will continue through the 2023 dry season.

**Comment:**

*La Niña* conditions prevailed from July 2020 to March 2023, resulting in regular rainfall in Cambodia throughout the dry season 2023. It was followed by an *El Niño* starting in July 2023, which as predicted has made the 2024 dry season long and hot with no immediate prospect of rain.

**Assumption 4:** There will be a strong *El Niño* event in Cambodia during the lifetime of the project resulting in a prolonged and extreme dry season.

**Comment:**

2024 is an *El Niño* year with a prolonged dry season in Cambodia, with no or very little precipitation in Siem Pang district from early December 2023 to mid-April 2024. The mango rains, usually expected mid-April, have not occurred this year. At the time of writing it is impossible to predict whether the impact of the *El Niño* will impact rice production later in 2024.

**Assumption 5:** Local communities, government stakeholders involved at SPWS, and academic institutions and conservation organisations involved in Eld's Deer conservation continue to engage and contribute to the conservation management plan and wider Eld's Deer conservation initiatives in Cambodia.

**Comment:**

No change of engagement toward the project was perceived in local communities and stakeholders over the reporting period and the assumption remains valid.

**Assumption 6:** Counter poaching initiatives established by Rising Phoenix at SPWS continues to be effective in deterring poaching of Eld's Deer and other Globally Threatened species at SPWS.

**Comment:**

No Eld's Deer poaching incidents were reported during the reporting period.

### **3.5 Impact: achievement of positive impact on biodiversity and poverty reduction**

**Impact statement:**

Sustainable community agriculture, water and land management practices, improve local livelihoods and increase climate resilience for rural communities and globally threatened wildlife at Siem Pang Wildlife Sanctuary, Cambodia

**Comments:**

The project to date has created 10 irrigation ponds and restored 10 trapeangs using locally hired labour. These are the first steps in securing long term climate resilience for rural communities and globally threatened wildlife in and around Siem Pang Wildlife Sanctuary.

Continued monitoring of the Critically Endangered Ibis species has continued, and population indicators have remained stable. A new protocol has been developed and the first year of implementation for tracking changes in the population of the Eld's Deer, and ensuring that the impact of the project on this species can be monitored.

## **4. Project support to the Conventions, Treaties or Agreements**

Over the reporting period the project contributed to increasing food security by improving water availability for crops and livestock and by increasing the rice harvest of rural communities at SPWS through irrigation ponds and trapeang restoration, thus directly addressing several Sustainable Development Goals: helping address poverty (SDG1), achieving greater food sustainability (SDG2), promoting greater wellbeing (SDG3) and access to water (SDG6) as well as contributing to SDG 15 by halting and reversing land degradation and biodiversity loss, through greater water and food provision for wildlife at trapeangs whilst reducing hunting pressure and increasing conservation management of three globally threatened species at SPWS. The project is taking urgent action to combat climate change (SDG13) by encouraging

more sustainable land use practices and increasing communities' resilience to climate change through the provision of water during the dry season, for communities, their crops and livestock. It is supporting the global partnership for sustainable development (SDG17) by combining the expertise of national and international INGO partners and donors with rural communities in Cambodia who are working together to find sustainable solutions to land management in Cambodia.

### 5. Project support for multidimensional poverty reduction

In March 2023, we dug 10 irrigation ponds utilized by 32 households in Khampourk village. This contributed in increasing climate resilience, food security, income and poverty reduction for an equivalent 160 people (50% women) in one village.

In February and March 2024, we restored 10 trapeangs manually and 180 people (2 women) from seven villages were involved in restoration.

### 6. Gender Equality and Social Inclusion (GESI)

Please quantify the proportion of women on the Project Board <sup>1</sup> .	There is one woman and two male board members of Rising Phoenix.
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women <sup>2</sup> .	1 (USAID Morodok Baitong) out of 6

GESI Scale	Description	Put X where you think your project is on the scale
<b>Not yet sensitive</b>	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
<b>Sensitive</b>	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	X
<b>Empowering</b>	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
<b>Transformative</b>	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

Rising Phoenix Co Ltd is a gender neutral meritocracy and is cognizant that gender roles within Cambodia, especially within the remote rural areas where we work, are deeply divided where women are traditionally seen as working within the household or store-shop orientated positions. Rising Phoenix has been able to adjust these traditional roles within our organization

<sup>1</sup> A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

<sup>2</sup> Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

without applying stigma by ensuring males and females train together and promoting staff on the basis of ability only.

Based on our experience of working at SPWS we anticipate that the number of people benefiting from this project (over 3,300) will be equally split between men and women, and that there will be a reasonably equal gender split amongst those attending the village forums and stakeholder forums, ensuring that lessons learnt and best practise are disseminated equally amongst genders. To date this has been accurately reflected in the first years activities.

We anticipate that the safety and maintenance training may be attended by more women than men, whereas the trapeang restoration work is more likely to have a male bias due to the physicality of the work. In the first year of the project this has also been accurately reflected.

Means of verification have been disaggregated by gender wherever appropriate and Rising Phoenix has continued to be sensitive to gender and work towards greater equity whilst avoiding potential negative impacts from changes to societal norms.

## **7. Monitoring and evaluation**

The project has been monitored, evaluated, managed and adapted (where necessary), using a comprehensive M & E framework based on the project logframe, implementation table and project budget which will be detailed in full at the start of the project and shared with stakeholders and project partners at the Project Inception meeting to ensure that all parties are clear on the M & E plan, responsibilities for data collection and collation, and that any required changes to the M & E plan made early on.

Due to the project starting in April, at the end of the dry season. The project had to dig the irrigation tanks first before completing the pre-activities to ensure they could be constructed prior to the monsoon starting. The project implemented initial meetings in Khampourk village in February 2023 prior to the start of the project.

From July to the start of September, Rising Phoenix Community Development Unit had to focus on the completion of the internal control system (ICS) to allow IBIS rice members to receive organic certification. The IBIS rice members had significantly increased in 2023 compared to 2022, which has increased the scale of this job. Therefore, additional activities linked with the irrigation tanks could not be completed until September. Therefore, in the following 2 years of the projects, full activities will be able to be completed (in the dry season) prior to the digging of additional irrigation tanks.

We have dropped the trapeang camera trapping as we have collected data in this study for four years and it has become clear with the available resources it is not viable. We have also made slow progress in establishing a monitoring system for the irrigation ponds that can fully engage the participating members, as a lack of literacy and interest in monitoring has hindered attempts. Although additional effort will be made in the 2<sup>nd</sup> year, and the villages that are targeted have higher literacy rates.

Data collected from the project monitoring has been be used to inform reporting to stakeholders at the quarterly village and stakeholder forums.

## **8. Lessons learnt**

Regarding the camera trap survey to monitor Eld's deer population, we underestimated the impact of fire on the study. A handful of camera traps were burnt during dry season, which necessitated to purchase replacement shells. We have considered installing fire protection devices as well as using brush cutters to reduce the amount of fuel around camera traps.

## **9. Actions taken in response to previous reviews (if applicable)**

This is the first annual report, and no feedback has been received.

## **10. Risk Management**

The most recent version of the project risk register has been attached as Annex B.



Over the first year of the project there has been five risks added to the risk register. Out of these ten risks, one risk has been closed and four risks are still open. Regular monitoring of the open risks is implemented by the named owners of the risk. No significant adaptation of the project has been required to date.

## 10. Sustainability and legacy

Rising Phoenix Co. Ltd was established to conserve SPWS and has made a long-term commitment to supporting the site. Rising Phoenix was incorporated in Cambodia in 2015 managed as a social enterprise and seeks to bring a business approach to the management of the site. It is currently funded from a combination of sources including international donors, high net worth individuals and its board. However, the development of a sustainable financing mechanism drawing on amongst others high-end tourism and nature-based solutions is under development with guarantee sustainability in the long-term. For example, in 2022 our sister NGO, Siem Pang Conservation signed a 30-year agreement with the Cambodian Ministry of the Environment to manage the site. Under this agreement Rising Phoenix will continue to manage the site and retain its current responsibilities, including community development. In the first quarter of 2023 we registered a new company called the Siem Pang Experience, which will develop high-end ecotourism at the site, providing new employment opportunities. By the end of 2023, Rising Phoenix employed 95 people and was the largest non-state employer in the district.

To date the project has created 10 irrigation ponds in Khampourk village and restored 10 trapeangs within SPWS. The impact of these new wetlands will have a long-term positive impact linked to climate adaptation for people and the wildlife of SPWS extending past the life of the project.

## 11. Darwin Initiative identity

Rising Phoenix has a soul focus on SPWS. We are funded through annual shareholder contributions, regular donations from our network of high-net-worth individuals and through grants.

Rising Phoenix currently holds a portfolio of 11 donor grants. Each project contributes to a different aspect of our work at SPWS. The Darwin grant forms part of the scope of work at SPWS.

Rising Phoenix maintains a website, produces annual reports and promotions films about our work. Darwin Initiative logo and information has been included in Rising Phoenix 2024 Annual Report.

The team also made 10 signs with Darwin Initiative branding and installed them at the 10 irrigation ponds in Khampourk village (A41: LSU monthly report November).

## 12. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	Yes
Have any concerns been reported in the past 12 months	No
Does your project have a Safeguarding focal point?	No
Has the focal point attended any formal training in the last 12 months?	No
What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 100% [80] Planned: 16% [15] staff planned to be recruited in 2024

Has there been any lessons learnt or challenges on Safeguarding in the past 12 months?  
Please ensure no sensitive data is included within responses.

Rising Phoenix holds quarterly village forums in each village in which we work. This activity will continue each quarter for the next year of project implementation.

Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify.

Rising Phoenix holds quarterly village forums in each village that Rising Phoenix works with. This activity will continue each quarter for the next year of project implementation.

Please describe any community sensitisation that has taken place over the past 12 months; include topics covered and number of participants.

Three village forum meetings were conducted in April, July, and October 2023 with a total 189 participants (27 women) in four communes of Preak Meas, Thmor Keo, Sre Sambo and Sekong. Topics discussed has included updates on Rising Phoenix activities, Protected Area law, disease outbreaks with cattle and buffalo, producer group development.

Have there been any concerns around Health, Safety and Security of your project over the past year? If yes, please outline how this was resolved.

No

### 13. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2023 – 31 March 2024)**

Project spend (indicative) since last Annual Report	2023/24 Grant (£)	2023/24 Total 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)				
<b>TOTAL</b>	<b>224,586.80</b>	<b>224,586.77</b>		

**Table 2: Project mobilised or matched funding during the reporting period (1 April 2023 – 31 March 2024)**

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)			Rising Phoenix Conservation Inc, Morodok Baitong

			USAID, Cartier Philanthropy.
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices, and the project (£)			Darwin Innovation project, Oriental Bird Club, Peregrin fund

#### 14. Other comments on progress not covered elsewhere

Due to the project starting in April, at the end of the dry season, irrigation ponds had to be dug in parallel with project start-up activities prior to the start of the monsoon. Had this not been done, we would not have been able to dig the irrigation ponds.

From July to September, the CDU had a focus on the completion of the annual internal control system (ICS) under the IBIS Rice project to guarantee households would receive organic certification. As the number of IBIS Rice members had significantly increased in 2023 compared to 2022, that significantly increased the scale of the task. Therefore, additional irrigation pond activities were completed until September.

Rising Phoenix BMU team also led on the production of a White- shouldered Ibis action plan, which was completed in December 2023.

## Annex 1: Report of progress and achievements against logframe for Financial Year 2023-2024

Project summary	Progress and Achievements April 2023 - March 2024	Actions required/planned for next period
<p><b>Impact</b></p> <p>Sustainable community agriculture, water and land management practices, improve local livelihoods and increase climate resilience for rural communities and globally threatened wildlife at Siem Pang Wildlife Sanctuary, Cambodia</p>	<p>The project to date has created 10 irrigation ponds and restored 10 trapeangs using locally hired labour. These are the first steps in securing long term climate resilience for rural communities and globally threatened wildlife in and around Siem Pang Wildlife Sanctuary.</p> <p>Continued monitoring of the Critically Endangered Ibis species has continued, and population indicators have remained stable. A new protocol has been developed and the first year of implementation for tracking changes in the population of the Eld's Deer, and ensuring that the impact of the project on this species can be monitored.</p>	
<p><b>Outcome:</b> Integrated community water management models increase climate resilience for 3,375 rural people, Endangered Eld's deer, and two Critically Endangered Ibis species, around and within, SPWS Cambodia.</p>		
<p>Outcome indicator 0.1</p> <p>55 climate change resilient irrigation ponds are established at three villages around SPWS improving climate resilience for at least 1,375 rural people BEOP.</p>	<p>In April 2023 we dug 10 irrigation ponds for 32 households representing 160 people in Khampourk village having access to the ponds.</p>	<p>We intend to dig 30 irrigation ponds in year 2 of the project, across 3 villages.</p>
<p>Outcome indicator 0.2</p> <p>20 forest wetlands (trapeangs) are restored, increasing climate resilience and access to water and food for at least 2,000 rural people, their livestock, Eld's Deer and two Critically Endangered Ibis (Giant and White shouldered Ibis) BEOP.</p>	<p>In February and March 2024, we restored 10 trapeangs and 180 people were employed in restoration.</p>	<p>We intend to restore 10 trapeangs in the year 2 of the project, utilising local rural people.</p>
<p>Outcome indicator 0.3</p> <p>BEOP the Endangered Eld's Deer population at SPWS is stable compared with baseline.</p>	<p>A baseline of Eld's deer population was established by Ladd et al. (2024), and we have improved the protocol and implemented a camera trap survey to monitor the evolution of the population during the project.</p>	<p>We will continue to implement the camera trap survey protocol, and be able to make another population estimate to check of the population trend.</p>
<p>Outcome indicator 0.4</p> <p>Numbers of nest pairs of Critically Endangered Giant and White-shouldered Ibis increase 10% above the baseline BEOP in SPWS.</p>	<p>After Year 1, no population trend is discernible.</p>	<p>We will continue to monitor the nests of Giant and White-shouldered Ibis.</p>

<p>Outcome indicator 0.5</p> <p>BEOP 675 rural people from 11 villages (at least 50% women) around SPWS have acquired new skills (through training) in water management (building and maintaining irrigation ponds and restoring trapeangs) via training and/or Village forums.</p>	<p>340 people in seven village received training in water management through trapeang restoration or irrigation pond maintenance.</p>	<p>We will implement training in year 2 of the project with the households that participate in the irrigation tanks.</p>
<p>Outcome indicator 0.6</p> <p>BEOP 3,375 people (at least 50% women) from 11 villages around SPWS (and at least two additional villages outside SPWS) have increased knowledge of climate resilience and the management of natural resources, through Village forums and Stakeholder forums which promote sustainable use and equitable benefit sharing of natural resources at SPWS and scaling up of more climate resilient land management practices in Cambodia.</p>	<p>We share lessons learnt and best practice through the quarterly Village forum and Stakeholder Forum meetings. Three village forum meetings were conducted in April, July, and October 2023 with 189 participants (27 women) and three Stakeholder Forum meetings were conducted in May, August 2023, and January 2024 with 182 participants (5 women).</p>	<p>We will continue to hold quarterly village forum and stakeholder forum meetings in year 2 of the project.</p>
<p><b>Output 1</b> 55 climate change resilient community irrigation ponds established at three villages around SPWS leading to a reliable water supply for rice cultivation for 1,375 rural people (50% female).</p>		
<p>Output indicator 1.1</p> <p>Irrigation pond excavation, safety and maintenance protocol and agreements signed with key stakeholders from host villages. Developed and signed at start of year 1, 2 &amp; 3 (one village per year).</p>	<p>32 households, representing 160 people in Khampourk village signed the community irrigation pond use agreement in September 2023.</p>	<p>Additional agreements will be signed in the year 2 &amp; 3 of the project.</p>
<p>Output indicator 1.2</p> <p>At least 275 rural people receive training in pond safety and maintenance held at Khampourk village on completion of each pond. At least one representative from each participating household to attend training (Yr2 and Yr3 for other selected villages).</p>	<p>32 households representing 160 rural people in Khampourk village were trained on the principles of safety and maintenance of the irrigation ponds in September 2023</p> <p>In February 2024, the CDU team met 102 households as part of the promotion of future membership for the second stage of irrigation ponds (Year 2) of the ponds and raised awareness of the purpose and principles of the irrigation ponds</p>	<p>New members will be trained in year 2 &amp; 3 of the project.</p>
<p>Output indicator 1.3</p> <p>Pilot of ten irrigation ponds completed in Khampourk village by EOYr1. Expansion of pilot in Y2, Y3, Khet Svey village (20 ponds) and Khet Kroam village (25 ponds)</p>	<p>In April 2023, we dug 10 irrigation ponds in Khampourk village.</p>	<p>We intend to dig 30 irrigation ponds in year 2 of the project, across 3 villages.</p>
<p>Output indicator 1.4</p> <p>Monitoring framework established and implemented within six months of the project start date with participating households and</p>	<p>This framework has not been established yet during the reporting period; however, CDU team always recorded the progress of water retention, quality and sue of those ponds in Khampourk village and updated in CDU monthly report. The</p>	<p>Finalise and implement with participating households.</p>

key stakeholders, covering pond use, water levels, water quality, maintenance, rainfall, rice crop production and income in participating and non-participating households.	final monitoring framework will be established in the second year of the project. Delay in establishment was linked to due to additional work load linked with IBIS rice expansion, and delay in village agents building their capacity to support IBIS internal control system.	
Output indicator 1.5 1,375 rural people (50% women) see improved water and food security for their rice and cover crops (55 ponds x5 households using each pond x5 people in each household).	In 2023 and 2024, 134 households, representing 670 rural people had improved water security as a result of access to the ponds.	Continue project activities to ensure more rural people benefit from improved water and food security.
Output indicator 1.6 Awareness raised, lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.	Raising awareness and sharing lessons learnt was achieved through the quarterly village and stakeholder forums. Three village forum meetings were conducted in April, July and October 2023 and three stakeholder forum meetings were conducted in May, August 2023 and January 2024.	We will continue to hold quarterly village forum and stakeholder forum meetings in year 2 of the project.
<b>Output 2.</b> 20 forest trapeangs restored at 20 forest sites within SPWS, improving climate resilience and access to water and food for 2,000 rural people (20 trapeangs x20 households each household x5 people =2,000) their livestock, Eld's Deer, and the Giant and White-shouldered ibis.		
Output indicator 2.1. At least 400 (200 women) rural people (20 per trapeang) receive training and experience in trapeang restoration).	In February and March 2024, 180 people received training on trapeang restoration through the village awareness meeting and were involved in restoring 10 trapeangs manually.	Restore 10 trapeangs utilising local labour in year 2 of project.
Output indicator 2.2. 20 forest trapeangs restored by EOP.	From 27 February to 19 March 2024, we dug 10 trapeangs and 180 people (2 women) were employed in their restoration	Restore 10 additional trapeang in year 2 of the project.
Output indicator 2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established and operating within 3 months from project start	The trapeang monitoring protocol was reviewed during Dr. Meek's visit to SPWS. Previous investigations using camera traps to monitor wildlife responses to water provisioning in SPWS identified difficulties in collecting a robust data set to compare detections of wildlife, in particular Eld's deer. Camera traps can only accurately detect animals within a short distance of the water and as such gaps occur where wildlife could visit the water edge and leave the site without being detected. Further, monitoring water height has proved because water buffalo access the entire water body in the dry season and knock over water height measuring implements. The team have invested time assessing a 360-degree live stream camera at one of the main trapeangs, while this is an effective extension tool for the conservation efforts in SPWS, one site is not enough for a robust assessment. To this end we have decided not to continue with the trapeang camera monitoring.	A change request will be submitted in the 2 <sup>nd</sup> year of the project to adjust output indicators.

Output indicator 2.4 5 BMU staff trained in trapeang camera trap data collection and collation BEO Y1	Six BMU staff were trained during Dr. Meek's visit.	Refresher trainings will be implemented by Dr. Meek during his visits to the site.
Output indicator 2.5 Trapeang camera trap monitoring monitors changes in water level, Endangered Eld's Deer and two Critically Endangered ibis, and human use at restored and unrestored trapeangs (controls).	For reasons explained in 2.3 we have chosen to end the trapeang camera monitoring, after four years of implementation.	Submit a change request to update output indicator.
Output indicator 2.6 Lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.	This output will be achieved in the third year, at this stage we are still collecting data on the effects of trapeang restoration, and we will share lessons learnt at a later stage.	Share lessons learnt in year 3 of the project.
<b>Output 3.</b> Endangered Eld's deer population at SPWS is maintained/or increases BEOP, compared to population baseline at start of project.		
Output indicator 3.1 Establish long-term Eld's deer camera trap monitoring BEO Yr1.	The protocol for long-term Eld's deer camera trap monitoring was designed and implemented in November 2023. We are currently collecting data from camera traps and will proceed to the first analysis later this year.	Continue to implement the Eld's deer camera trap monitoring protocol.
Output indicator 3.2 Eld's deer population estimated and journal publication BEO Yr1.	A manuscript entitled "Deriving a population estimate for Eld's deer ( <i>Rucervus Eldii siamensis</i> ) in Siem Pang Wildlife Sanctuary, Cambodia" was submitted to Wildlife Research and underwent a peer-review process. We received comments from the reviewers on 23 February 2024 and the manuscript is currently under revision.	Continue process until paper has been published.
Output indicator 3.3 Continue study on overlapping activity patterns of Eld's deer and free roaming dogs to establish a threat mitigation protocol BEO Yr2	Overlapping activity patterns for Eld's deer and free roaming dogs is covered in the Eld's deer monitoring protocol.	Continue to implement the Eld's deer camera trap monitoring protocol.
Output indicator 3.4 BEO Yr1 Conservation strategy (including threat mitigation) for Eld's deer produced with key stakeholders at selected villages implemented in SPWS Yrs 2 & 3.	The conservation strategy has not yet been developed but is planned for Year 2 of the project.	Develop conservation strategy.
Output indicator 3.5 BEOP Eld's Deer population remains stable /or increases compared to baseline at start of project.	It is too early in the project for the population trend to be determined. We have taken the preliminary steps to achieve the activity BEOP.	Continue monitoring until population trend can be determined.
<b>Output 4.</b> Numbers of Critically Endangered Giant Ibis remain stable and White-shouldered ibis population increases 10% above the baseline at SPWS BEOP		
Output indicator 4.1 BEOP Giant Ibis nests found remain stable compared to baseline	For 2023 we recorded a total of 17 nests, 7 failed (40%) and 10 successfully fledged 16 young. The results for the last three years indicate stability compared to the baseline.	Continued monitoring of Giant ibis' nests.

Output indicator 4.2 BEOP White-shouldered Ibis nests found in SPWS increases compared to baseline	The number of nests found and successful has increased from the baseline but this is not an indication of change in population.	Continued monitoring of White-shouldered ibis' nests.
Output indicator 4.3 BEOP White-shouldered Ibis nests increase 10% above the baseline	We recorded 36 nests in 2022 (baseline) and 32 nests in 2023. As of March 2024, we recorded 41 nests, the highest number recorded since counting started in December 2012. (+ 14% compared to baseline).	Continued monitoring of White-shouldered ibis' nests.



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

Project summary	SMART Indicators	Means of verification	Important Assumptions
<p><b>Impact:</b> Sustainable community agriculture, water and land management practices, improve local livelihoods and increase climate resilience for rural communities and globally threatened wildlife at Siem Pang Wildlife Sanctuary, Cambodia</p>			
<p><b>Outcome:</b> Integrated community water management models increase climate resilience for 3,375 rural people, Endangered Eld’s deer, and two Critically Endangered Ibis species, around and within, SPWS Cambodia.</p>	<p>0.1 55 climate change resilient irrigation ponds are established at three villages around SPWS improving climate resilience for at least 1,375 rural people BEOP.</p> <p>0.2 20 forest wetlands (trapeangs) are restored, increasing climate resilience and access to water and food for at least 2,000 rural people, their livestock, Eld’s Deer and two Critically Endangered Ibis (Giant and White shouldered Ibis) BEOP.</p> <p>0.3 BEOP the Endangered Eld’s Deer population at SPWS is stable compared with baseline.</p> <p>0.4 Numbers of nest pairs of Critically Endangered Giant and White-shouldered Ibis increase 10% above the baseline BEOP in SPWS.</p> <p>0.5 BEOP 675 rural people from 11 villages (at least 50% women) around SPWS have acquired new skills (through training) in water management (building and maintaining irrigation ponds and restoring trapeangs) via training and/or Village forums.</p> <p>0.6 BEOP 3,375 people (at least 50% women) from 11 villages around SPWS (and at least two additional villages outside SPWS) have increased knowledge of climate resilience and the</p>	<p>0.1a Darwin Initiative Final Report</p> <p>0.1b Rising Phoenix Annual Reports</p> <p>0.1.c Village and Stakeholder Forum minutes</p> <p>0.1.d Overhead drone photographs during construction, completion and at predetermined intervals to show water retention.</p> <p>0.1.e Regularly updated M &amp; E report (info is collected in M &amp; E see indicator 1.4)</p> <p>0.2a Village contracts and lists of workers hired.</p> <p>0.2.b Remote sensing data and photographic evidence of restored trapeangs.</p> <p>0.2.c Contracts with contractor Tonnage of rice paddy sold to IBIS Rice from target villages compared to baseline.</p> <p>0.2.d Camera trapping at selected trapeangs demonstrates community use of trapeangs.</p> <p>0.3a Biodiversity Monitoring Unit monthly reports</p> <p>0.3b. Camera trap data Journal paper submitted for publication 0.3c 2021 Eld’s deer baseline and journal paper submitted for publication</p>	<p>Communities living around and within SPWS continue to be willing to work with Rising Phoenix in sustainable agriculture, water and land management practices</p> <p>Political stability in Cambodia allows for business as usual</p> <p>The current La Niña conditions with resulting dry season rainfall, will continue through the 2023 dry season.</p> <p>There will be a strong El Niño event in Cambodia during the lifetime of the project resulting in a prolonged and extreme dry season.</p> <p>Local communities, government stakeholders involved at SPWS, and academic institutions and conservation organisations involved in Eld’s Deer conservation continue to engage and contribute to the conservation management plan and wider Eld’s Deer conservation initiatives in Cambodia.</p>

	<p>management of natural resources, through Village forums and Stakeholder forums which promote sustainable use and equitable benefit sharing of natural resources at SPWS and scaling up of more climate resilient land management practices in Cambodia.</p>	<p>0.3d Annual monitoring reports</p> <p>0.4a Monthly Biodiversity Monitoring Reports</p> <p>0.4b Breeding survey results for Giant and White-shouldered ibis</p> <p>0.5a Irrigation pond contracts with rural people from 11 villages.</p> <p>0.5b Photographs and maps of completed irrigation ponds</p> <p>0.5c Increased rice yields amongst households utilizing irrigation ponds compared to baseline</p> <p>0.5d Trapeang restoration contracts</p> <p>0.5e. Camera traps at restoration sites and take time lapse photos during construction, morning and midday each day until complete and then stitched together as a video and shared online. trapeangs</p> <p>0.6a Village forum attendance lists</p> <p>0.6b Stakeholder Forum attendance lists</p> <p>0.6c Study Tour attendance lists</p> <p>0.6d Pre and post training knowledge assessments of participants engaged in Village forums, Stakeholder forums and Study Tours.</p>	<p>Counter poaching initiatives established by Rising Phoenix at SPWS continues to be effective in deterring poaching of Eld's Deer and other Globally Threatened species at SPWS.</p>
<p><b>Output 1</b></p> <p>55 climate change resilient community irrigation ponds established at three villages around SPWS leading to a reliable water supply for rice cultivation for 1,375 rural people (50% female).</p>	<p>1.1 Irrigation pond excavation, safety and maintenance protocol and agreements signed with key stakeholders from host villages. Developed and signed at start of year 1, 2 &amp; 3 (one village per year).</p>	<p>1.1a Irrigation pond excavation safety and maintenance protocols.</p> <p>1.1b Signed excavation irrigation pond use agreements.</p>	

	<p>1.2 At least 275 rural people receive training in pond safety and maintenance held at Khampourk village on completion of each pond. At least one representative from each participating household to attend training (Yr2 and Yr3 for other selected villages).</p> <p>1.3 Pilot of ten irrigation ponds completed in Khampourk village by EOYr1. Expansion of pilot in Y2, Y3, Khet Svey village (20 ponds) and Khet Kroam village (25 ponds)</p> <p>1.4 Monitoring framework established and implemented within six months of the project start date with participating households and key stakeholders, covering pond use, water levels, water quality, maintenance, rainfall, rice crop production and income in participating and non-participating households.</p> <p>1.5 1,375 rural people (50% women) see improved water and food security for their rice and cover crops (55 ponds x5 households using each pond x5 people in each household).</p> <p>1.6 Awareness raised, lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.</p>	<p>1.2.a Signed safety and maintenance protocols (disaggregated by gender)</p> <p>1.2.b Minutes of host village stakeholder meetings (disaggregated by gender)</p> <p>1.2.c Pre- and post training assessments of participating households (disaggregated by gender)</p> <p>1.3 Photographs and maps of completed irrigation ponds.</p> <p>1.4 Monitoring framework and annual reports.</p> <p>1.5a Annual data on rice produced and sold from participating households compared to baseline.</p> <p>1.5b Annual data on cover crop available for livestock.</p> <p>1.5c Monthly Community Development Reports show Irrigation ponds retain sufficient water.</p> <p>1.6a Minutes of Stakeholder forums (disaggregated by gender). Pre and post project knowledge assessment amongst key stakeholders.</p> <p>1.6b Reports from study tour to Siem Pang by IBIS Rice growers from two other sites.</p>	
<p><b>Output 2</b></p> <p>20 forest trapeangs restored at 20 forest sites within SPWS, improving climate resilience and access to water and food for 2,000 rural people (20 trapeangs x20 households each)</p>	<p>2.1 At least 400 (200 women) rural people (20 per trapeang) receive training and experience in trapeang restoration).</p>	<p>2.1a Trapeang restoration contracts (disaggregated by gender)</p> <p>2.1b List of participants undertaking training and restoration of trapeangs (disaggregated by gender)</p>	

<p>household x5 people =2,000) their livestock, Eld's Deer, and the Giant and White-shouldered ibis.</p>	<p>2.2 20 forest trapeangs restored by EOP.</p> <p>2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established and operating within 3 months from project start</p> <p>2.4 5 BMU staff trained in trapeang camera trap data collection and collation BEO Y1.</p> <p>2.5 Trapeang camera trap monitoring monitors changes in water level, Endangered Eld's Deer and two Critically Endangered ibis, and human use at restored and unrestored trapeangs (controls).</p> <p>2.6 Lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.</p>	<p>2.2 Before and after photographs and maps of restored trapeangs</p> <p>2.3 Trapeang monitoring framework</p> <p>2.4 Training records of BMU staff and pre and post training assessments.</p> <p>2.5a Monthly biodiversity and trapeang reports</p> <p>2.5b Journal paper drafted and submitted by EoP.</p> <p>2.5c Camera trap survey reports</p> <p>2.6a Village forum minutes</p> <p>2.6b Participants knowledge assessments at start and end of project</p> <p>2.6c Reports on study tours to Siem Pang WS, from two other PAs</p>	
<p><b>Output 3</b></p> <p>Endangered Eld's deer population at SPWS is maintained/or increases BEOP, compared to population baseline at start of project.</p>	<p>3.1 Establish long-term Eld's deer camera trap monitoring BEO Yr1.</p> <p>3.2 Eld's deer population estimated and journal publication BEO Yr1.</p> <p>3.3 Continue study on overlapping activity patterns of Eld's deer and free roaming dogs to establish a threat mitigation protocol BEO Yr2</p> <p>3.4 BEO Yr1 Conservation strategy (including threat mitigation) for Eld's deer produced with key stakeholders at selected villages implemented in SPWS Yrs 2 &amp; 3.</p> <p>3.5 BEOP Eld's Deer population remains stable /or increases compared to baseline at start of project.</p>	<p>3.1a Camera trap monitoring protocol and camera trap survey manual</p> <p>3.2 Journal paper published</p> <p>3.3a Two journal papers submitted and published</p> <p>3.3b Threat mitigation protocol produced</p> <p>3.4 Conservation strategy for Eld's Deer produced</p> <p>3.5a Journal article written and submitted on results of Eld's Deer project conservation efforts and results at SPWS</p>	
<p><b>Output 4</b></p> <p>Numbers of Critically Endangered Giant Ibis remain stable and White-</p>	<p>4.1 BEOP Giant Ibis nests found remain stable compared to baseline</p>	<p>4.1 Monthly Biodiversity Monitoring Reports</p>	

<p>shouldered ibis population increases 10% above the baseline at SPWS BEOP</p>	<p>4.2 BEOP White-shouldered Ibis nests found in SPWS increases compared to baseline 4.3 BEOP White-shouldered Ibis nests increase 10% above the baseline</p>	<p>4.2 Breeding survey results for Giant and White-shouldered ibis 4.3 Journal paper written and submitted for publication</p>	
<p><b>Activities</b> (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)</p> <p>1.1.1 Meetings with key stakeholders from host villages to develop and agree irrigation pond excavation, safety and maintenance protocols and agreements First protocol developed with Khampourk village within 3 months of project start date. Similar protocols developed and signed at start of year 2 and year 3 for remaining villages (one village per year).</p> <p>1.1.2 Protocols and agreements relating to irrigation ponds signed by key stakeholders from host villages</p> <p>1.2.1 275 rural people from host villages trained in pond safety and maintenance on completion of each irrigation pond</p> <p>1.2.2 Pre and post training assessments for 275 participating rural people on irrigation pond safety and maintenance</p> <p>1.3.1 Pilot of ten irrigation ponds completed in Khampourk village (year 1)</p> <p>1.3.2 Expansion of pilot irrigation ponds (years 2 and 3) in Khet Svey village (20 ponds) and Khet Kroam village (25 ponds)</p> <p>1.4 Monitoring framework established and implemented with key stakeholders: pond use, pond maintenance, water levels, water quality, rainfall, rice production, cover crops, income in participating/non-participating households.</p> <p>1.5 Monthly Community Development Reports include progress updates and details of water retention, quality and use.</p> <p>1.6 Annual report compiled, including photographs and maps of completed irrigation ponds and monitoring data, shared with key stakeholders, including representatives from participating communities at Stakeholder forums.</p> <p>1.7 Study tour to Siem Pang by IBIS Rice growers from two other sites</p> <p>1.8 Report compiled from study tour to Siem Pang by IBIS Rice growers</p> <p>1.9 Lessons and best practice from irrigation pond activities shared amongst key stakeholders at district level and two other sites.</p> <p>2.1 Trapeang restoration contracts, developed and signed by rural people (50% women) from participating villages.</p> <p>2.2 400 rural people (200 women) (20 per trapeang) receive training and experience in trapeang restoration.</p> <p>2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established (including photographs of trapeangs) and operating within 3 months from project start.</p> <p>2.4 5 Biodiversity Monitoring Unit (BMU) staff trained in trapeang camera trap data collection and collation.</p> <p>2.5 Continuous trapeang monitoring, including camera traps, capture changes in water level, and use by Eld's Deer, two Endangered ibis species, and people at restored and unrestored trapeangs (controls).</p> <p>2.6 Monthly trapeang and biodiversity reports</p> <p>2.7 Annual reports on trapeang monitoring results (including camera trap data)</p> <p>2.8 Journal paper on trapeang restoration and use, drafted and submitted.</p> <p>2.9 Lessons learnt and best practice from trapeang restoration activities shared amongst key stakeholders at district level (via Village and Stakeholder forums) and two other sites via Village forums.</p> <p>3.1 Develop camera trap monitoring protocol and camera trap survey manual for use by field staff</p>			

- 3.2 Establish long-term Eld's deer camera trap monitoring BEO Yr1 at SPWS (designed by Paul Meek at start of the project based on Rachel Ladd's PhD research)
  - 3.3 Journal paper submitted on Eld's deer population BEO yr1
  - 3.4 Continue study on overlapping activity patterns of Eld's deer and free roaming dogs to establish a threat mitigation protocol BEO Yr2
  - 3.5 Two journal papers on overlapping activity patterns of Eld's deer and free-roaming dogs written and submitted for publication BEO Yr2.
  - 3.6 Conservation strategy (including threat mitigation) for Eld's deer produced with key stakeholders at selected villages BEO Yr 2 and 3
  - 3.7 One journal paper on Eld's deer conservation written and submitted for publication BEO Yr2.
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- 4.1 Giant Ibis nests located and monitored at SPWS throughout the project's lifetime.
  - 4.2 Satellite trackers placed on three giant ibis BEO Yr2
  - 4.2 White-shouldered Ibis nests located, and monitored in SPWS throughout the project's lifetime.
  - 4.3 Monthly Biodiversity Monitoring Reports produced and key data shared at Stakeholder forums and the Cambodia Ibis Working Group
  - 4.4 Annual Breeding survey results for Giant and White-shouldered ibis produced and shared at stakeholder forums and the Cambodia Ibis Working Group
  - 4.5 Journal paper about Giant Ibis and White-shouldered Ibis conservation actions, project results and recommendations, written and submitted for publication.

## Annex 3: Standard Indicators

**Table 1 Project Standard Indicators**

DI Indicator number	Name of indicator	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DI-A01	At least 275 rural households receive training in pond safety and maintenance held at Khampourk village on completion of each pond. At least one representative from each participating household to attend training (Yr2 and Yr3 for other selected villages).	household	Gender	32			32	275
DI-B02	A Conservation strategy (including threat mitigation) for Eld's deer produced with key stakeholders at selected villages implemented in SPWS.	Number	Language: English & Khmer	0			0	2 – 1 English & 1 Khmer
DI-D02	1,375 rural people see improved climate resilience through irrigation ponds) (55 ponds x5 households using each pond x5 people in each household).	People	Climate resilience	160			160	1,375
DI-D12	20 forest trapeangs restored by EOP.	Number	wetland	10			10	20

**Table 2 Publications**

Title	Type (e.g. journals, best practice manual, blog post, online videos, podcasts, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Demographics and practices of dog ownership in a rural Cambodian village	Journal	Ladd, R., Meek, P., Eames, J.C. and Leung, L.K.-P. (2024)	Female	Australian	Cambodian Journal of Natural History	<a href="https://www.fauna-flora.org/wp-content/uploads/2024/02/CJNH-2024-Full-Issue.pdf">https://www.fauna-flora.org/wp-content/uploads/2024/02/CJNH-2024-Full-Issue.pdf</a>

<b>Title</b>	<b>Type</b> (e.g. journals, best practice manual, blog post, online videos, podcasts, CDs)	<b>Detail</b> (authors, year)	<b>Gender of Lead Author</b>	<b>Nationality of Lead Author</b>	<b>Publishers</b> (name, city)	<b>Available from</b> (e.g. weblink or publisher if not available online)
adjacent to a wildlife sanctuary						
Activity range and patterns of free-roaming village dogs in a rural Cambodian village	Journal	Ladd, R., Meek, P., Eames, J.C., and Leung, L.K.-P. (2023)	Female	Australian	Wildlife Research	WR23024. Doi:10.1071/WR23024



## **Annex 4: Onwards – supplementary material (optional but encouraged as evidence of project achievement)**

### Annex A – Supporting Documents

A1: Village forum minutes 26-28 April 2023  
A2: Village forum minutes 28-30 July 2023  
A3: Village forum minutes 28-31 October 2023  
A4: CDU monthly report April 2023  
A5: CDU monthly report May 2023  
A6: CDU monthly report June 2023  
A7: CDU monthly report July 2023  
A8: CDU monthly report August 2023  
A9: CDU monthly report September 2023  
A10: CDU monthly report October 2023  
A11: CDU monthly report November 2023  
A12: CDU monthly report December 2023  
A13: CDU monthly report January 2024  
A14: CDU monthly report February 2024  
A15: CDU monthly report March 2024  
A16: Stakeholder forum meeting minutes 15 May 2023  
A17: Stakeholder forum meeting minutes 24 August 2023  
A18: Stakeholder forum meeting minutes 12 January 2024  
A19: Irrigation tank selection meeting minutes  
A20: Signed irrigation tank agreements  
A21: Irrigation ponds report  
A22: Signed trapeang restoration contracts  
A23: Irrigation pond use protocol  
A24: Legrand et al, 2024  
A25: BMU monthly report April 2023  
A26: BMU monthly report May 2023  
A27: BMU monthly report June 2023  
A28: BMU monthly report July 2023  
A29: BMU monthly report August 2023  
A30: BMU monthly report September 2023  
A31: BMU monthly report October 2023  
A32: BMU monthly report November 2023  
A33: BMU monthly report December 2023  
A34: BMU monthly report January 2024  
A35: BMU monthly report February 2024  
A36: Camera Trapping Protocol for Eld's deer survey  
A37: Ladd et al, 2024  
A38: Ladd et al, 2023  
A39: Cambodia Ibis Working Group meeting minutes 19 August 2023  
A40: Cambodia Ibis Working Group meeting minutes 11 December 2023  
A41: LSU monthly report November 2023

### Annex B: Updated Risk Register

## Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the <b>correct template</b> (checking fund, type of report (i.e. Annual or Final), and year) and <b>deleted the blue guidance text</b> before submission?	X
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> putting the project number in the Subject line.	X
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:BCF-Reports@niras.com">BCF-Reports@niras.com</a> about the best way to deliver the report, putting the project number in the Subject line.	
<b>Have you included means of verification?</b> You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	X
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	
Have you involved your partners in preparation of the report and named the main contributors	X
Have you completed the Project Expenditure table fully?	X
Do not include claim forms or other communications with this report.	