Darwin Initiative Main & Extra 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: 30th April 2025

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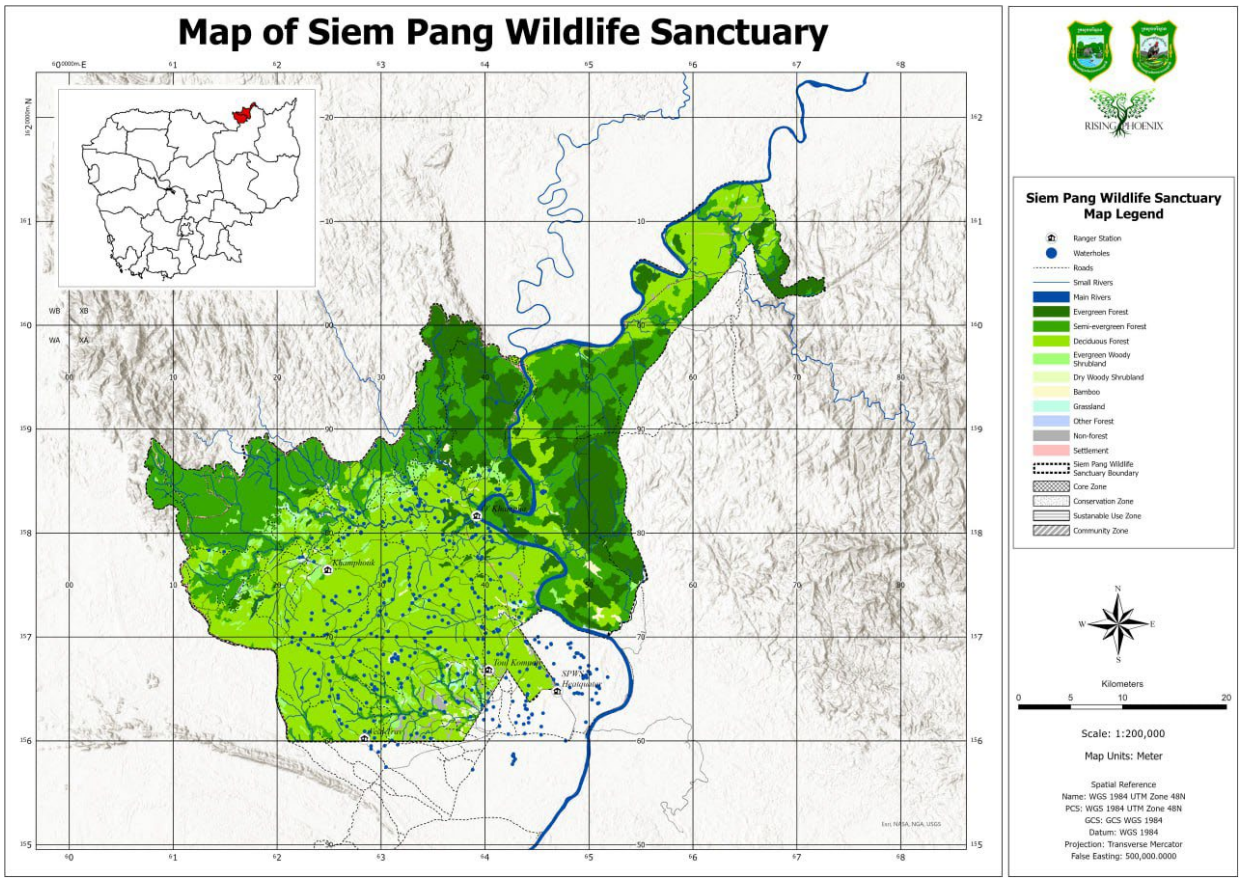
Darwin Initiative Project Information

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)	1. Village forums 2. Department of Primary Industries, New South Wales, Australia 3. Siem Pang District Governor's Office 4. Tetra Tech – USAID Morodok Baitang 5. IBIS Rice Conservation Co. Ltd. 6. Sansom Mlup Prey
Darwin Initiative grant value	£566,261.00
Start/end dates of project	01/04/2023 to 31/03/2026
Reporting period	April 2024 to March 2025. Annual Report Year 2
Project Leader name	Jonathan C. Eames
Project website/blog/social media	N/A
Report author(s) and date	Sopheap Mak: 6 - 22 April 2025 Romain Legrand: 20 - 22 April 2025 Jonathan C Eames: 24 and 29 April 2025

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 events and erratic 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

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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 UNFCCCC

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, September 2024 and January 2025 with 235 participants (43 women) (Annex 1A, 1B & 1C- Minutes of quarterly village forum meetings in Apr, Sep 2024 and Jan 2025).

In March 2025, with the village forum committees in six villages of Pong Kriel, Khes Svay, Khes Kroam, Phabang, Nhang Sum and Khampourk we conducted trapeang awareness meetings with a total attendance of 241 villagers (63 women) (Annex 2- Trapeang restoration report 2025).

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

Dr. Paul Meek has over 30 years' experience as an 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 responsibilities include 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, October 2024 and January 2025 (Annex 3A, 3B & 3C- Minutes of quarter stakeholder forum meetings in May, Oct 2024 and Jan 2025).

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 Samsum 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 2024 UMB also established four Producer Groups in Thmor Keo, Preak Meas, Sre Sambo and Sekong communes. The last Producer Group will be established in Sekong commune in May 2025. In 2024 UMB continued to support the expansion of the IBIS Rice scheme to a total of 19 villages in Siem Pang with a total membership of 1,234 households.

On 25 January 2025 a stop work notice was issued by USAID for this project. On 10 March 2025, Rising Phoenix received a project termination notice from UMB.

IBIS Rice Conservation Co Ltd.

The mission of IBIS Rice Conservation Co Ltd. (IRCC) 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 Samsum 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.

In 2023 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 2025 will become available at Waitrose supermarkets.

In December 2024, IBIS Rice Conservation Co., Ltd purchased 2,018 tonnes of organic paddy rice from 1,025 households in Siem Pang district. These sales had a total value of US$ 933,701 or US$ 910 per household (Annex 4- IBIS Rice annual report 2024).

Samsum Mlup Prey (SPM) finished their grant contract with UMB in December 2024. From January 2025, all the project activities of SMP were absorbed into IRCC. Three main staff of SMP in Siem Pang were also transferred to work with IRCC in the same place and role. Currently, IRCC is continuing the scope of work as SMP in providing agricultural technical skills and capacity building to the IBIS Rice Producer Groups, which were transformed from VMNs in 2024 with UMB support.

This change did not affect Rising Phoenix in project implementation. In 2025, IRCC provided an annual budget of $ 15,000 to each IBIS Rice Producer Group to cover village operations.

Samsum Mlup Prey

Samsum Mlup Prey (SMP) supports agricultural livelihoods and provides an alternative to destructive activities like logging and poaching. SMP has worked in Siem Pang district since 2017 supporting IBIS Rice production. Throughout this time SMP has worked first with BirdLife International and now with Rising Phoenix. During 2024 SMP has five staff based at an office in Siem Pang district working across 11 villages.

In 2024, SMP trained households and village marketing networks (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.

At the end of December 2024, SMP finished their grant with UMB All project activities and most of staff in Siem Pang were transferred to IRCC to continue the IBIS Rice project activities as normal (see above).

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).

Ten irrigation ponds were dug in Khampourk village in Year 1. In Year 2 we dug 30 additional irrigation ponds, ten in each of the villages of Khes Svay, Khes Kraom and Pong Kriel which surround the Siem Pang Wildlife Sanctuary. Between 1-8 February 2024, we conducted meetings to discuss and validate the protocol for irrigation ponds, select new locations for the 30 new ponds to be dug in 2024 with village chiefs, and villagers in the three villages with a total 22 participants (2 women). As the result the irrigation pond protocol was finalized (Annex 5- Protocol of irrigation pond), 30 locations were selected, ten in each village.

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

In April 2024, 102 households in three villages who received the 30 irrigation ponds (Annex 6- List of irrigation pond members in KS, KK & PK) signed in the community irrigation pond agreement and witnessed by the relevant village chiefs (Annex 7- The 30 irrigation pond agreement in KS, KK & PK villages 2024).

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

On 27 May 2024 we conducted an inauguration ceremony for the new irrigation ponds in Khes Kraom village with 94 households (23 women) from the three villages representing 470 rural people. At the ceremony we trained participants on the principles of safety and maintenance of the irrigation ponds (Annex 8- Minute of irrigation ponds inauguration ceremony May 2024).

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

We conducted the training needs assessment during the inauguration ceremony in Khes Kraom village with the 94 participants representing 470 rural people (Annex 8) – before training, 30-40% knew the principles of the safety and maintenance for the ponds, after the training, 100% understood the principles.

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

This activity was completed in Year 1. In April 2023 we dug 10 irrigation ponds with a volume of 1,050 m^3 each (20 m x 15 m x 3.5 m) in Khampourk village (Annex 9-LSU monthly report in March 2023).

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

In March and April 2024, we dug 30 irrigation ponds in three villages of Khes Svay, Khes Kraom and Pong Kriel, 10 in each village (Annex 10A,10B and 11- CDU monthly reports of March and April and maps of irrigation ponds), benefiting 102 households representing 505 rural people. The remaining 15 irrigation ponds to be dug in November 2025.

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.

In July 2024, the irrigation pond monitoring framework was established in an excel spread sheet and was used to monitor and update the data since then (Annex 12- Updated monitoring framework).

On 12 July 2024, the community engagement team led by Soeurn Mey monitored the irrigation ponds in Kham Phouk village using the framework table to record the data through interviewing the farmers and direct observation. The monitoring framework included data of pond use, maintenance, water level, water quality, rainfall, cover crop, rice production and income of participating households (Annex 13- Minute of irrigation pond monitoring in July 2024).

In late October 2024, we monitored the 30 irrigation ponds in Khes Svay, Khes Kraom and Pong Kriel villages (Annex 14- Minute of irrigation pond monitoring in October 2024) and the progress was updated in the monitoring framework.

In January 2025, we monitored the 40 irrigation ponds once again in Khes Svay, Khes Kraom, Pong Kriel and Kham Phouk (Annex 15- Minute of irrigation pond monitoring in January 2025) and the progress was updated in the monitoring framework.

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

During the reporting period, the community engagement team monitored the irrigation ponds and updated the data in the monitoring framework and in the CDU monthly reports.

In July, October 2024 and January 2025, we monitored the 40 irrigation ponds in the four villages of Kham Phouk, Khes Svay, Khes Kraom and Pong Kriel. All the progress and results were updated in the monitoring framework and reported in the CDU monthly reports (Annex 16A, 16B & 16C- CDU monthly report of July, October 2024 and January 2025).

In January 2025, 31 ponds remained full of water, seven ponds remained 70% full and two ponds retained less than 50% of water capacity. Nine ponds were used for irrigating cover crops after harvesting rice. 20 ponds were used for irrigating vegetable gardens. 15 Ponds were being used for family daily activities including bathing, washing clothes, cooking, feeding animals, etc. Twenty other ponds are being used by domestic cows and buffalos.

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 was produced in January 2025 (Annex 17- Irrigation Pond Annual Report 2024) after the 40 irrigation ponds were fully operational in four villages in the second year. This annual report also covered the first-year operation data from Kham Phouk village where 10 irrigation ponds were firstly dug in year 1.

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.

Raising awareness and sharing lessons learnt of irrigation pond activities was achieved through the quarterly village and stakeholder forums, the irrigation pond inauguration ceremony and the farmers day event with a total 932 participants (182 women) attended. Three village forum meetings were conducted in April, September 2024 and January 2025 (Annex 1A, 1B and 1C) and three stakeholder forum meetings were conducted in May, October 2024 and January 2025 (Annex 3A, 3B & 3C). An irrigation pond inauguration ceremony was conducted on 27 May 2024 (Annex 8). A Farmer's Day event was celebrated on 13 January 2025 (Annex 18-Minute of the farmer's day event in Jan 2025). H.E Sen Vansim, Deputy Governor of Stung Treng Province and chairman of the meeting in the Stakeholder Forum in January 2025 was very impressed with IBIS Rice and irrigation ponds in Khes Svay, Khes Kraom, Pong Kriel and Kham Phouk villages and the overall achievement of IBIS Rice harvest of 2024. This intervention has gained strong support from the communities. We plan to share the lessons learnt and best practice to two other sites in Year 3.

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 March 2025, 253 community labourers (2 women) from the six villages around SPWS registered and signed trapeang restoration contracts and successfully restored 13 trapeangs (Annex 2). Those villages are Pong Kriel, Khes Kroam, Khes Svay, Pha Bang, Nhang Sum and Kham Phouk. 63 women attended the awareness meetings and their husbands signed labour contracts to dig the trapeangs. Those women who did not dig trapeangs were not required to sign the restoration contracts. By their presence they learnt about the work. It was never the intention to employ 50% women in the digging and simply having 50% of women sign the contract serves no practical purpose. Trapeang digging is arduous, takes place in remote locations far from villages during the dry season. Most women are mothers with the daily needs of small children to meet.

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

In February 2025 13 trapeangs were selected for manual restoration. Then six village awareness meetings were carried out at six villages from 26 February to 28 March and 241 participants (63 women or 26%) attended the meetings. Through the meetings, we trained participants about the benefit of trapeangs, 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 2). Those villages were Pong Kriel, Khes Kraom, Khes Svay, Pha Bang, Nhang Sum and Kham Phouk. After the meetings, 253 community labourers registered to restore 13 trapeangs manually.

Between 7 March to 3 April 2025, the 253 people (2 women) involved in the trapeang restoration.. 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 and staying overnight at the trapeangs in the forest which is far from their villages.

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

As reported previously, the trapeang monitoring protocol was reviewed during Dr. Meek's visit to SPWS in 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 were published in a peer reviewed journal (Annex 19- Legrand *et al*, 2024). A primary constraint in 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 it was decided not to continue with the use of camera traps for trapeang monitoring and the survey was discontinued for the 2023-2024 dry season.

We have therefore developed a new protocol using a drone to monitor water level change in trapeangs. The survey started for the dry season 2024-2025 in December 2024 with nineteen trapeangs monitored and the protocol was revised and improved after each monthly survey. As of March 2025, a total of fifty-two trapeangs are surveyed in eight different flight routes, including six trapeangs with pump, ten manually deepened trapeangs, eight mechanically deepened trapeangs and twenty-eight unrestored trapeangs.

Flights are automated and not flown in "manual" mode, meaning the drone returns to the same point in space over each trapeang (with small uncertainties due to the accuracy of the GPS) and take a picture with the same flight parameters (altitude and aircraft orientation). This is not operator dependent. Altitude was set so that all the trapeang is encompassed in the picture (usually 150m above ground level, but higher for bigger trapeangs). (Annex 20- Trapeang Monitoring Protocol).

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

Six staff were trained during Dr. Meek's visits in November 2023 and April 2024. Training included best practice in camera trap surveys, data collection and data analysis.

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).

Continuous monitoring of trapeangs using camera traps have been discontinued following re-evaluation of the previous protocol and assessment of the data collected and results obtained so far. Camera trap monitoring was discontinued for the 2023-2024 dry season and replaced by monitoring by drone for the 2024-2025 dry season. Drone monitoring will capture changes in water level for fifty-two monitored trapeangs (including six trapeangs with pump, ten manually deepened trapeangs, eight mechanically deepened trapeangs and twenty-eight unrestored trapeangs and compared to twelve trapeangs monitored with the previous camera traps monitoring protocol) but not use by wildlife and people, which was already difficult to monitor with camera traps.

2.6 Monthly trapeang and biodiversity reports

The Biodiversity Monitoring Unit produced a monthly report on its activities over the reporting period (Annex 21- Biodiversity monthly report 2024-2025).

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. Results and findings of future monitoring by drone will be reported to future stakeholder forum.

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 published in the August 2024 issue of the Cambodian Journal of Natural History: Legrand, R., Ladd, R., Eang S., Meek, P. & Eames, J.C. (2024) Use of trapeangs by Eld's deer *Rucervus eldii siamensis* in Siem Pang Wildlife Sanctuary, Cambodia. *Cambodian Journal of Natural History*, **2024**, 101–111.
(Annex 19)

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.

Raising awareness and sharing lessons learnt from trapeang restoration activities was achieved through the quarterly village and stakeholder forums, trapeang awareness meetings and the farmers day event with a total 1,079 participants (222 women) attended. Three village forum meetings were conducted in April, September 2024 and January 2025 (Annex 1A, 1B and 1C) and three stakeholder forum meetings were conducted in May, October 2024 and January 2025 (Annex 3A, 3B & 3C). An irrigation pond inauguration ceremony was conducted on 27 May 2024 (Annex 8). A Farmer's Day event was celebrated on 13 January 2025 (Annex 18- Minute of the farmer's day event in Jan 2025). This intervention has gained strong support from the communities. We plan to share the lessons learnt and best practice to two other sites in Year 3.

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

The protocol for long-term Eld's deer camera trap monitoring was designed and implemented in November 2023 during Dr. Meek's visit. Six Biodiversity Monitoring Unit staff were trained in best practice in camera trap surveys. A camera trapping protocol for Eld's deer was drafted with the staff and translated into Khmer as reported previously.

3.2 Establish long-term Eld's deer camera trap monitoring BEO Year1 at SPWS (designed by Paul Meek at start of the project based on Rachel Ladd's PhD research)

Dr. Paul Meek visited SPWS in November 2023 and again in April 2024. A protocol for the monitoring of Eld's deer in the sanctuary was designed and implemented with the Rising Phoenix team. 54 Reconyx Professional HyperFire 2 White Flash cameras were placed in the field in a grid pattern. Camera traps were serviced every 4-6 weeks and retrieved at the end of the survey in June 2024. Some cameras were damaged by grass fire in February and March 2024 which may have impaired their detection capacities and damaged the Fresnel lens or

camera lens. When necessary and possible, damaged cameras were repaired, and the staff was further trained to address this issue for the next survey.

We followed the same protocol for Year 2 and dispatched 54 camera traps in November 2024, that are regularly serviced. In 2023-204, the 54 camera-traps were active for a combined 10,956 trapping nights. A total of 349,392 images were retrieved. As of March 2025, a total of 222,877 images were retrieved for the 2024-2025 dry season survey. Two camera traps were damaged by fire in January 2025.

3.3 Journal paper submitted on Eld's deer population 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 was revised and resubmitted to the Pacific Conservation Biology Journal on 10 April 2025 after a change in first authorship (now Meek *et al.,* Annex 22- PC25029_Proof_hi).

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. A Threat mitigation protocol will be developed by the end of Year 3, once data from camera traps collected in dry seasons of Year 1 and Year 2 are all analysed, and at the same time that a conservation strategy for Eld's deer is produced.

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 third 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.

The Giant Ibis breeds from May to October during the wet season. In 2023, a total of 17 nests were monitored, with 10 nests successfully fledging a total of 16 young, results that appeared to be in line with the results from the 2021 and 2022 breeding season. In 2024, a total of 11 nests were monitored with 9 nests successfully fledging 13 young. The small drop observed in 2024 compared to the previous years may be linked to 2024 suffering an *El Niño*. It is also worth noting that the monitoring effort from our team was impacted by the concurrent

monitoring of a herd of Critically Endangered Banteng, which may have decreased the number of nests effectively discovered.

	Nests	Failed	Succeeded	Young fledged
2021	17	6	11	14
2022	16	5	11	18
2023	17	7	10	16
2024	11	2	9	13

4.2 Satellite trackers placed on three giant ibis BEO Yr2

This activity planned for year 2 of the project has been delayed as our workplan was impacted by the concurrent monitoring of a herd of Critically Endangered Banteng located near the sanctuary. This activity will be conducted during year 3.

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

The Rising Phoenix Biodiversity Monitoring Unit team survey for White-shouldered Ibis nests during the breeding season from November to May. The breeding season 2023-2024 (Year 1 of the project) marked a new record for SPWS, with 41 nests monitored, highest point since monitoring started, and 62 young successfully fledging from 31 nests. So far in 2025, our team monitored 30 nests, of which 23 already fledged 44 young. As of the end of March, three nests monitored failed.

Season	Number of nests	Number of nests fledged	Number of fledge chicks	Success rate %
2022-23	32	27	51	84
2023-24	41	31	62	76
2024-25 (as of March 2025)	30	23	44	Ongoing

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

Twelve monthly biodiversity reports were produced over the reporting period, and three stakeholder forums were held on 31 May 2024, 18 October 2024 and 13 January 2025 where key data were shared with district level stakeholders. We assisted to and shared data at Cambodia Ibis Working Group meetings held in Phnom Penh on 26 April, 20 August and 13 December 2024. Next CIWG in-person meeting will be in May 2025.

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

Three Cambodia Ibis Working Group meetings were held over the reporting period, on 26 April, 20 August and 13 December 2024. Breeding survey results for Giant and White-shouldered Ibis were shared with other members.

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).

Partially achieved. 102 households or 510 rural people who received the 30 irrigation ponds (Annex 6) in Khes Svay, Khes Kraom and Pong Kriel villages signed the community irrigation pond agreement in April 2024 and witnessed by the relevant village chiefs (Annex 7).

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).

Achieved and exceeded. In Year 2, 94 households (23 women) representing 470 rural people from three villages of Khes Svay, Khes Kraom and Pong Kriel received training in pond safety use and maintenance held in an inauguration ceremony of new 30 irrigation ponds in Khes Kraom village on 27 May 2024 (Annex 8).

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)

Achieved and exceeded. The pilot of ten irrigation pond in Kham Phouk village was completed in Year 1 in April 2023. Following the request from the deputy provincial governor of Stung Treng province during the stakeholder forum meeting in May 2023, he suggested to excavate 30 irrigation ponds in three villages in Year 2. Therefore, in March and April 2024, we dug 30 irrigation ponds in Khes Svay, Khes Kraom and Pong Kriel village, 10 in each village (Annex 10A,10B & 11). In total we have dug 40 irrigation ponds in four villages in by end of Year 2. Those villages included Kham Phouk, Khes Svay, Khes Kraom and Pong Kriel.

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.

Achieved. In July 2024, the irrigation pond monitoring framework was established in an excel spread sheet and available for monitoring and updating the data (Annex 12).

In July, October 2024 and January 2025, we monitored the 40 irrigation ponds in the four villages of Kham Phouk, Khes Svay, Khes Kraom and Pong Kriel. All the progress and results were updated in the monitoring framework and reported in the CDU monthly reports (Annex 16A, 16B & 16C).

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).

Partially achieved. In 2023 and 2024, 134 households, representing 670 rural people had improved water security as a result of access to the ponds. 112 households increased 24% of their rice production compared to 2023 production (Annex 17). We believe we remain on schedule to achieve this target by the end of Year 3.

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

Partly achieved. Raising awareness and sharing lessons learnt was achieved through the quarterly village and stakeholder forums and the farmers day event. Three village forum meetings were conducted in April, September 2024 and January 2025 (Annex 1A, 1B and 1C) and three stakeholder forum meetings were conducted in May, October 2024 and January 2025 (Annex 3A, 3B & 3C). A Farmer's Day event was celebrated on 13 January 2025 (Annex 18). H.E Sen Vansim, Deputy Governor of Stung Treng Province and chairman of the Stakeholder Forum in January 2025 was very impressed with IBIS Rice and irrigation ponds in Khes Svay, Khes Kraom, Pong Kriel and Kham Phouk villages and the overall achievement of IBIS Rice harvest of 2024. This intervention has gained strong support from the communities.

We plan to share the lesson learnt and best practice to two other sites in Year 3 of the project.

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).

Partially achieved. In February and March, 241 rural people (63 women) who attended the awareness meetings were trained in trapeang restoration, trapeang benefits in livelihoods and conservation, trapeangs challenges linked climate change, benefits of digging, the locations of trapeangs, the size and method of digging (Annex 2).

Between 7 March to 3 April 2025, 253 people (2 women) signed the contract and involved in restoring 13 trapeang manually. Other female villagers learnt, aware and 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.

Due to the reasons provided in Act 2.1,

2.2 20 forest trapeangs restored by EOP.

Partially achieved. Between 7 March to 3 April 2025, we dug 13 trapeangs and 253 people were employed in their restoration. Totally, in Year 1 and 2, we have restored 23 manual trapeangs.

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

Achieved. The trapeang monitoring protocol was reviewed during Dr. Meek's visit to SPWS in November 2023 and it was decided not to continue with the use of camera traps for trapeang monitoring and as such the survey was discontinued for the 2023-2024 dry season. This was replaced by a new protocol using a drone to monitor water level evolution in trapeangs. The survey started for the dry season 2024-2025 in December 2024. As of March 2025, a total of fifty-two trapeangs are surveyed monthly, including six trapeangs with pump, ten manually deepened trapeangs, eight mechanically deepened trapeangs and twenty-eight unrestored trapeangs.

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

Achieved. Six staff were trained during Dr. Meek's visits in November 2023 and April 2024. Training included best practice in camera trap surveys, data collection and data analysis.

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).

Modified and achieved. Continuous monitoring of trapeangs using camera traps have been discontinued following re-evaluation of the previous protocol and assessment of the data

collected and results obtained so far. Camera trap monitoring was discontinued for the 2023-2024 dry season and replaced by monitoring by drone for the 2024-2025 dry season. Drone monitoring will capture changes in water level for fifty-two monitored trapeangs (including six trapeangs with pump, ten manually deepened trapeangs, eight mechanically deepened trapeangs and twenty-eight unrestored trapeangs and compared to twelve trapeangs monitored with the previous camera traps monitoring protocol) but not use by wildlife and people, which was already difficult to monitor with camera traps.

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

Achieved. Twelve monthly biodiversity reports were produced over the reporting period, and three stakeholder forums were held on 31 May 2024, 18 October 2024 and 13 January 2025 where key data were shared with district level stakeholders. One paper was published in the August 2024 issue of the *Cambodian Journal of Natural History*.

From 6-8 November 2024 we hosted eight Vietnamese officials and conservationists for a study tour focused on wetlands restoration, recommended and financed by the Critical Ecosystem Partnership Fund (CEPF) and organized by IUCN Vietnam. We visited and discussed Boeng Kampha Siamese crocodile release site, trapeangs with solar water pumps, mechanically deepened trapeangs and water buffalo rewilding programme. The following people were present:
Mr. Vo Quang Trung, Deputy head Conservation Division and International Cooperation, Dong Nai Nature Reserve
Ms. Mai Ngoc Bich Nga, Nature and Biodiversity Conservation Agency (NBCA), MONRE
Mr. Pham Ngoc Duong, Head Conservation Division and International Cooperation
Mr. Nguyen Hoang Hao, Director Dong Nai Nature Reserve
Mr. Nguyen Van Thanh, Vice Director Cat Tien National Park
Mr. Ngo Le Tru, Department of Forestry (DOF), MARD
Mr. Nguyen Manh Ha, Director Center for Nature Conservation and Development (CCD)
Mr. Ho Kim Cuong, IUCN Vietnam

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.

Achieved. The protocol for long-term Eld's deer camera trap monitoring was designed and implemented in November 2023 during Dr. Meek's visit. Six Biodiversity Monitoring Unit staff were trained in best practice in camera trap surveys. A camera trapping protocol for Eld's deer was drafted with the staff and translated into Khmer as reported previously.
Camera trap monitoring started again for Year 2 in November 2024.

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

Completed. A manuscript entitled "Deriving a population estimate for Eld's deer *Rucervus eldii siamensis* in Siem Pang Wildlife Sanctuary, Cambodia" was submitted to a peer reviewed journal BEO Yr1.

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

Ongoing. 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. Threat mitigation protocol will be developed BEO Yr3, once data from camera traps collected in dry seasons of Yr1 and Yr2 are all analysed, and at the same time that a conservation strategy for Eld's deer is produced.

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.

Delayed. Threat mitigation protocol will be developed BEO Yr3, once data from camera traps collected in dry seasons of Yr1 and Yr2 are all analysed, and at the same time that a conservation strategy for Eld's deer is produced with key stakeholders at selected villages.

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

Ongoing. Eld's Deer population estimate will be produced during Year 3 based on the analysis of data collected during camera trap surveys conducted in Year 1 and 2.

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

On track. Giant Ibis breeds from May to October during the wet season and baseline at the start of the project was year 2022 when 16 nests where monitored, of which 11 successfully fledged 18 young.

In 2023, a total of 17 nests were monitored, with 10 nests successfully fledging a total of 16 young, results that appeared to be in line with the results from the 2021 and 2022 breeding season. In 2024, a total of 11 nests were monitored with 9 nests successfully fledging 13 young. The small drop observed in 2024 compared to the previous years may be linked to 2024 suffering an El Nino. It is also worth noting that the monitoring effort from our team was impacted by the concurrent monitoring of a herd of Critically Endangered Banteng, which may have decreased the number of nests effectively discovered.

Year	Nests	Failed	Succeeded	Young fledged
2021	17	6	11	14
2022	16	5	11	18
2023	17	7	10	16
2024	11	2	9	13

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

On track. White-shouldered Ibis breeds from November to May and baseline at the start of the project was year 2021-2022 when 36 nests were monitored, of which 28 successfully fledged 61 young. In 2022-2023 we monitored 32 nests, of which 27 successfully fledged 51 young. The breeding season 2023-2024 marked a new record for SPWS, with 41 nests monitored, highest point since monitoring started, and 62 young successfully fledging from 31 nests. So far in 2025, our team monitored 30 nests, of which 23 already fledged 44 young. As of the end of March, three nests monitored failed.

Season	Number of nests	Number of nests fledged	Number of young fledged	Success rate %
2021-22	36	28	61	78
2022-23	32	27	51	84
2023-24	41	31	62	76
2024-25 (as of March 2025)	30	23	44	Ongoing

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

On track. Baseline for this project is the number of nests recorded in 2021-2022, 36 nests. In 2022-2023 we recorded 32 nests (-11% compared to baseline) and in 2023-24 we recorded 41 nests (+14% compared to baseline). As of the end of March, for the breeding season 2024-25 we monitored 30 nests.

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 March and April 2024, we dug the additional 30 irrigation ponds for additional 102 households representing 510 rural people in three village of Khes Svay, Khes Kraom and Pong Kriel villages having access to the ponds. In Years 1 and 2, we have dug 40 irrigation ponds for 134 households representing 670 rural people in four villages.

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 March and early April 2025, we restored 13 trapeangs and 253 people were employed in restoration. In Year 1 and 2, we restored the total 23 trapeangs (10 in 2024 and 13 in 2025).

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

A monitoring protocol with camera trap was designed and implemented in Year 1 and Year 2 of the project. A new population estimate based on the data collected will be produced by end of Year 3.

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

For Giant Ibis, baseline is 16 nesting pairs in 2022. We recorded 17 pairs in 2023 and 11 pairs in 2024. Numbers are considered stable for the period 2021-2024.

For White-shouldered Ibis, baseline is 36 nesting pairs in 2021-2022, slightly decreasing in 2022-2023 with 32 nesting pairs (-11% compared to baseline), increasing from 14% compared to baseline in 2023-24 to 41 breeding pairs, and on track in 2024-25 at the end of March with 30 nesting pairs monitored so far.

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.

In Year 2, 763 people (318 women) comprising 253 people in trapeang restoration activities and 510 people in irrigation pond activities in six villages received training in water management through trapeang restoration and irrigation pond maintenance. This included people who are members of the irrigation ponds and people who involved in trapeang restoration.

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, Stakeholder Forum meetings, irrigation ponds inauguration ceremony, trapeang awareness meetings and Farmer's Day event. Three village forum meetings were conducted in April, September 2024 and January 2025 with 335 participants (43 women) and three stakeholder forum meetings were conducted in May, October 2024 and January 2025 with 168 participants (4 women). An irrigation pond inauguration ceremony was conducted on 27 May 2024 with 94 participants (23 women) (Annex 8). Trapeang awareness meetings in six village with 241 participants (63 women) (Annex 2). A Farmer's Day event held in January 2025 with 340 participants (112 women). (Annex 1A, 1B, 1C, 3A, 3B, 3C and 18- relevant meeting minutes). Totally, we have increased knowledge of climate resilience and the management of natural resources to a total 1,178 people (245 women or 21%) from not only 11 villages, but 19 villages who are members of the IBIS Rice scheme in Year 2. These figures do not include the 763 people who are members of the irrigation ponds and people who involved directly in trapeang restoration which will be more or less overlapped.

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: This 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: This assumption has proved correct to date. Political stability has been maintained since the beginning of the project. General elections were held in Cambodia on 23 July 2023 to elect members of the National Assembly. After the elections, Prime Minister Hun Sen announced that he would be stepping down following the formation of a new government, with his son Hun Manet taking over. Hand over took place in August 2023.

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

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: This assumption proved correct with the 2023–2024 *El Niño* event regarded as the fifth-most powerful El Niño–Southern Oscillation event in recorded history. This event formed in June 2023 and dissipated in May 2024 and resulted in a dryer and longer dry season than usual in Cambodia.

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 were reported poached during the reporting period and the assumption remains valid. One incident involving the poaching of a Sun bear (*Helarctos*

malayanus) occurred on 9 February 2024 within SPWS, the incident was investigated and the case submitted to a judge on 9 April 2024. On 14 of February 2025 two suspects within Siem Pang Wildlife Sanctuary were found in possession of a homemade firearm, the suspects were transported to Provincial Department of Environment to be processed and were then taken to the Stung Treng Royal Gendarmerie Khmer Headquarters to be detained prior to the provincial judge ordering their detention in the provincial jail to await trail. They are currently imprisoned and awaiting trial on charges of illegal possession of a weapon. This marks the first instance within the Siem Pang Wildlife Sanctuary where armed poachers have been arrested and detained for trial. Legal procedures were strictly adhered to, preventing any potential misconduct or cover-up. This case highlights the critical role of multi-agency collaborations in combating corruption and complacency, setting a precedent for improved law enforcement within the protected area.

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 40 irrigation ponds and restored 23 trapeangs using locally hired labour. Construction of these irrigation ponds assisted the 1,300 households across 19 villages in Siem Pang district who are in the IBIS Rice programme, make the 2024 harvest the most successful on record. Since 2024 was an *El Niño* year with a prolonged dry season, the irrigation ponds have contributed to increased climate resilience. The restoration of 23 trapeangs has provided extended water sources for domestic cattle and buffalo and Eld's deer and the two ibis species. Trapeang restoration may have contributed towards stable or increased populations of key species compared to the baseline.

4. Project support to the Conventions, Treaties or Agreements

During the reporting period, our project has made significant contributions to Cambodia's national policies and international commitments, reinforcing efforts in biodiversity conservation, climate resilience, and sustainable development.

The project directly advances the goals of Cambodia's National Biodiversity Strategy and Action Plan (NBSAP) by:

- Restoring 13 trapeangs and digging 30 irrigation ponds to improve water availability, benefiting both local communities and wildlife.
- Reducing hunting pressure by strengthening conservation management for three globally threatened species at SPWS.
- Enhancing community participation in sustainable land management, supporting NBSAP's priority of integrating local stakeholders into biodiversity conservation.

Aligned with Cambodia's Updated Nationally Determined Contribution (NDC), the project promotes climate resilience and sustainable practices by:

- Increasing climate adaptability through 30 irrigation ponds and 13 restored trapeangs, ensuring reliable water access during dry seasons.
- Encouraging sustainable land use to mitigate climate change impacts on agriculture and biodiversity.
- Boosting carbon sequestration by preserving natural habitats and preventing land degradation.

The project also directly supports Cambodia's National Adaptation Plan (NAP) by implementing climate adaptation strategies that strengthen local resilience:

- Enhancing water security for rural communities, agricultural crops, and livestock, reducing vulnerability to droughts.
- Building local adaptation capacity by integrating sustainable water management practices into community livelihoods.
- Supporting biodiversity conservation as an effective climate adaptation measure, ensuring ecosystems remain resilient to environmental change.

Through these interventions, the project also actively advances multiple Sustainable Development Goals (SDGs):

- SDG 1 (No Poverty) – Strengthening food security supports economic stability for vulnerable communities.
- SDG 2 (Zero Hunger) – Enhanced irrigation infrastructure has increased rice harvests, ensuring sustainable food sources.
- SDG 3 (Good Health and Well-being) – Reliable food and water access improve community well-being.
- SDG 6 (Clean Water and Sanitation) – Restoration of trapeangs ensures water access for both human and ecological systems.
- SDG 13 (Climate Action) – Adoption of sustainable land-use practices enhances resilience to climate change.
- SDG 15 (Life on Land) – Strengthening conservation efforts safeguards ecosystems and biodiversity.
- SDG 17 (Partnerships for the Goals) – Collaboration between national and international INGO partners, donors, and rural communities fosters effective, locally-driven solutions for land management in Cambodia.

5. Project support for multidimensional poverty reduction

In March and April 2024, we dug 30 irrigation ponds utilized by 102 households in Khes Svay, Khes Kraom and Pong Kriel village. This contributed in increasing climate resilience, food security, income and poverty reduction for an equivalent 510 people (50% women) in three villages. In March 2025, we restored 13 trapeangs manually and 253 people (2 women) from six villages were involved in restoration.

6. Gender Equality and Social Inclusion (GESI)

Please quantify the proportion of women on the Project Board[1].	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[2].	1 (USAID Morodok Baitong) out of 6

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	

[1] 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.

[2] 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.

Sensitive	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
Empowering	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	
Transformative	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 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 6,000) 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 second 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 log frame, 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.

CDU team monitored the irrigation ponds three times at the start and end of harvest season 2024 using the monitoring framework developed in July 2024 and updated in the CDU monthly report.

8. Lessons learnt

We have found it hard to recruit women to dig trapeangs. In Year 1 we provided training in trapeang restoration to 300 participants (55 women) and in Year 2 we continued to train to 241 participants (63 women) who attended the awareness meetings in target villages. Totally, we have trained 541 participants (118 women or 22%). In Year 1 and 2, only 4 women (1% women) involved in digging trapeangs. Women have shown little interest in digging trapeangs for the following reasons: The work is arduous, takes place in remote locations during the height of the dry season, far from villages. Some men do not want their wives to be away from home and are jealous of them spending time with other men. Men as fishermen and cattle.

/buffalo herders, have a stronger relationship with trapeangs and the forest. Women have childcare responsibilities.

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

1.The contribution of the project to poverty reduction.

By end of Year 2, 134 households who joined the irrigation pond initiative, had improved water security as a result of access to the ponds. 112 out of 134 households (83%) increased their rice production by 24% compared to 2023 levels. This contributed to the increasing rice production sold in 2024 to 2018 tonnes, our best year for IBIS Rice. This is despite 2023 being an El Nino year, when lower yield would be expected.

2. Please consider including the Ministry of Environment/ Department of Environment in Stung Treng, who is the management authority for Siem Pang Wildlife Sanctuary, as a key partner in the project. It is also important and beneficial to involve government rangers in biodiversity monitoring training and activities for the Eld's deer and giant and white-shouldered ibis populations.

Rising Phoenix works under a 30 year agreement between our parent NGO Siem Pang Conservation and the Ministry of Environment. Whilst this is an overarching agreement for our work the Ministry of Environment is not an implementing partner for our work. As this project works principally outside the Siem Pang Wildlife Sanctuary in villages and the focus is improving food security, the Department of Environment is not an appropriate key partner. Currently we have six Department of Environment rangers assigned to work with Rising Phoenix. These individuals are badly trained and poorly motivated. They participate in law enforcement only and they are not suitable for involving in biodiversity monitoring.

3. The project report shows low women's participation in project implementation, particularly in training and awareness raising. For example, less than 10 % of women (20/230) participated in the Trapeang awareness meeting, and only about 14 % of women (27/189) participated in the three village forum meetings. Please provide a plan to promote women's participation in the project implementation.

Whilst we strive to provide equal opportunities to women and men to participate in project activities we cannot force women to participate if they are either not interested or have other responsibilities or commitments. We suspect that lower levels of literacy amongst women may also account for lower levels of participation, since this impact their confidence.

We will be happy to discuss with the Darwin consultant in early June ways of addressing greater female participation.

10. Risk Management

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

Over the life of the project there has been five risks added to the risk register. Out of these five risks, one risks 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.

11. Scalability and durability

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 2024 Rising Phoenix began development of a REDD+ project in conjunction with Earthshot Labs. In the last quarter of 2024, Siem Pang Experience began construction of a five star tented camp at the site. These two initiatives form part of a sustainable finance mechanism to underwrite the future costs of Rising Phoenix. By the end of 2024, Rising Phoenix employed 103 people and was the largest non-state employer in the district.

Beyond the lifetime of this project Rising Phoenix expects to continue to expand the number of irrigation ponds as part of its commitment to further expansion of the IBIS Rice programme. Rising Phoenix has pioneered restoration of trapeangs and the total number restored now approaches 80.

12. Darwin Initiative identity

Rising Phoenix maintains a website, produces regular reports about our work. The Darwin Initiative logo and information has been included in the Rising Phoenix 2023 and 2024 Annual Report. Ten signboards with Darwin Initiative branding have been installed at the 10 irrigation ponds in Khampourk village.

13. Safeguarding

[redacted]

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative) since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	**169,760.00**	**169,757.00**	0%	

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)	[redacted]	[redacted]	Rising Phoenix Conservation Inc, Morodok Baitong USAID, Cartier Philanthropy, CEPF, IUCN
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best	[redacted]	[redacted]	CEPF, IUCN Segre

practices and the project (£)			

15. Other comments on progress not covered elsewhere

The Community Engagement Section Leader Mr. Soeurn Mey resigned at the end of July 2024, and we welcomed the new section leader Mr. San Teap who started his work in late August 2024. He is fully in charge of leading both irrigation ponds digging/monitoring and trapeang restoration.

16. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

We have no outstanding achievements to report. We have no photos or videos to share. The BCF Comms team can work to create an alternative graphic if it so wishes.

Annex 1: Report of progress and achievements against log frame for Financial Year 2024-2025

Project summary	Progress and Achievements April 2023 - March 2024	Actions required/planned for next period
Impact *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*	The project to date has created 40 irrigation ponds and restored 23 trapeangs using locally hired labour. Construction of these irrigation ponds assisted the 1,300 households across 19 villages in Siem Pang district who are in the IBIS Rice programme, make the 2024 harvest the most successful on record. Since 2024 was an *El Niño* year with a prolonged dry season, the irrigation ponds have contributed to increased climate resilience. The restoration of 23 trapeangs has provided extended water sources for domestic cattle and buffalo and Eld's deer and the two ibis species. Trapeang restoration may have contributed towards stable or increased populations of key species compared to the baseline.	[redacted]
Outcome: 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.		
Outcome indicator 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 March and April 2024, we dug the additional 30 irrigation ponds for additional 102 households representing 510 rural people in three village of Khes Svay, Khes Kraom and Pong Kriel villages having access to the ponds. In Years 1 and 2, we have dug 40 irrigation ponds for 134 households representing 670 rural people in four villages.	We intend to dig 15 irrigation ponds in year 3 of the project, across 3 villages.
Outcome indicator 0.2 20 forest wetlands (trapeangs) are restored, increasing climate resilience and access to water and food for at least 2,000 rural	In March 2024, we restored 10 trapeangs and 180 people were employed in restoration.	The current fund for this line is still available, we plan to restore 10 trapeangs in 2026 (Year 3) of

people, their livestock, Eld's Deer and two Critically Endangered Ibis (Giant and White shouldered Ibis) BEOP.	In March 2025, we restored 13 trapeangs and 253 people were employed in restoration. To date we restored 23 trapeangs and 433 people were employed in restoration	the project, utilising local rural people.
Outcome indicator 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 the monitoring protocol was improved based on these results. The new protocol was implemented with the dispatchment of 54 camera traps in Year 1 and Year 2 to monitor the evolution of the population during the project.	We will continue to implement the camera trap survey protocol in Year 3. Data collected over Year 1 and Year 2 will be analysed to produce a new population estimate by the end of the project.
Outcome indicator 0.4 Numbers of nest pairs of Critically Endangered Giant and White-shouldered Ibis increase 10% above the baseline BEOP in SPWS.	Numbers of nest pairs of Giant Ibis are considered stable over the first two years of the project, while number of nest pairs of White-shouldered Ibis increased by 14% compared to baseline in 2023-2024 and are likely stable compared to baseline in 2024-2025.	We will continue to monitor the nests of Giant and White-shouldered Ibis over the next reporting period.
Outcome indicator 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.	In Year 2, 763 people (318 women) comprising 253 people in trapeang restoration activities and 510 people in irrigation pond activities in six villages received training in water management through trapeang restoration and irrigation pond maintenance. This included people who are members of the irrigation ponds and people who involved in trapeang restoration.	We will implement training in year 3 of the project with the households that participate in the irrigation tanks.
Outcome indicator 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, Stakeholder Forum meetings, irrigation ponds inauguration ceremony, trapeang awareness meetings and Farmer's Day event. Totally, we have increased knowledge of climate resilience and the management of natural resources to a total 1,178 people (245 women or 21%) from not only 11 villages, but 19 villages who are members of the IBIS Rice scheme in Year 2.	We will continue to hold quarterly village forum and stakeholder forum meetings in year 3 of the project.

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).		
Output indicator 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).	In Year 1, 32 households, representing 160 people in Khampourk village signed the community irrigation pond use agreement in September 2023. In Year 2, 102 households who received the 30 irrigation ponds in Khes Svay, Khes Kraom and Pong Kriel villages signed the community irrigation pond agreement in April 2024 and witnessed by the relevant village chiefs.	Additional agreements will be signed in the year 3 of the project.
Output indicator 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).	In Year 1, 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. In Year 2, 94 households (23 women) representing 470 rural people from three villages of Khes Svay, Khes Kraom and Pong Kriel received training in pond safety use and maintenance held in an inauguration ceremony of new 30 irrigation ponds in Khes Kraom village on 27 May 2024.	New members will be trained in year 3 of the project.
Output indicator 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 Year 1, the pilot of ten irrigation pond in Kham Phouk village was completed since Year 1 in April 2023. In Year 2, in March and April, we dug 30 irrigation ponds in Khes Svay, Khes Kraom and Pong Kriel village, 10 in each village. To date, we have expanded up to 40 irrigation ponds in four villages of Kham Phouk, Khes Svay, Khes Kraom and Pong Kriel.	We intend to dig 15 irrigation ponds in year 3 of the project, across 3 villages.
Output indicator 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,	In July 2024, the irrigation pond monitoring framework was established in an excel spread sheet and available for monitoring and updating the data.	Continue monitoring the irrigation ponds and updating in the framework

maintenance, rainfall, rice crop production and income in participating and non-participating households.	In July, October 2024 and January 2025, we monitored the 40 irrigation ponds in the four villages of Kham Phouk, Khes Svay, Khes Kraom and Pong Kriel. All the progress and results were updated in the monitoring framework and reported in the CDU monthly reports.	
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. 112 households increased 24% of their rice production compared to 2023 production. We believe we remain on schedule to achieve this target by the end of Year 3.	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.	In Year 1, 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. In Year 2, raising awareness and sharing lessons learnt was achieved through the quarterly village and stakeholder forums and the farmer day event. Three village forum meetings were conducted in April, September 2024 and January 2025and three stakeholder forum meetings were conducted in May, October 2024 and January 2025. A Farmer's Day event was celebrated on 13 January 2025. H.E Sen Vansim, Deputy Governor of Stung Treng Province and chairman of the meeting in the Stakeholder Forum in January 2025 was very impressed with IBIS Rice and irrigation ponds in Khes Svay, Khes Kraom, Pong Kriel and Kham Phouk villages and the overall achievement of IBIS Rice harvest of 2024. This intervention has gained strong support from the communities. We plan to share the lesson learnt and best practice to two other sites in Year 3 of the project.	We will continue to hold quarterly village forum and stakeholder forum meetings in year 3 of the project.

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.		
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, 241 rural people (63 women) who attended the awareness meetings were trained on trapeang restoring, trapeang benefits in livelihoods and conservation, trapeangs challenges linked climate change, benefits of digging, the locations of trapeangs, the size and method of digging, etc. Between 7 March to 3 April 2025, 253 people (2 women) signed the contract and involved in restoring 13 trapeang manually. Other female villagers learnt, aware and 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.	We plan to restore the additional 10 trapeangs utilising local labour in year 3 of project.
Output indicator 2.2. 20 forest trapeangs restored by EOP.	Completed: In Year 1, we restored 10 trapeangs In Year 2, we restored 13 trapeangs To date, we have restored 23 trapeangs	Restore 10 additional trapeangs in year 3 of the project, with budget from other donor
Output indicator 2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established and operating within 3 months from project start	Completed - The trapeang monitoring protocol was reviewed during Dr. Meek's visit to SPWS in November 2023 and it was decided not to continue with the use of camera traps for trapeang monitoring and as such the survey was discontinued for the 2023-2024 dry season. This was replaced by a new protocol using a drone to monitor water level evolution in trapeangs. The survey started for the dry season 2024-2025 in December 2024. As of March 2025, a total of fifty-two trapeangs are surveyed monthly, including six trapeangs with pump, ten manually deepened trapeangs, eight mechanically deepened trapeangs and twenty-eight unrestored trapeangs.	Change request submitted
Output indicator 2.4 5 BMU staff trained in trapeang camera trap data collection and collation BEO Y1	Six BMU staff underwent refresher training during Dr. Meek's visit in April 2024 (After his first visit in November 2023).	Further refresher trainings will be implemented by Dr. Meek during

		his visits to the site over the next reporting period.
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 reported previously, the trapeang camera monitoring was discontinued and a protocol for the monitoring of water level in trapeangs by drone was developed instead.	Continue to monitor changes in water level in trapeang by drone survey.
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.
Output 3. 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. A first survey was conducted in year 1 and we are currently conducting the second survey (Year 2).	Continue to implement the Eld's deer camera trap monitoring protocol in Year 3.
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 (*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, the manuscript was revised and resubmitted to the Pacific Conservation Biology journal on 10 April 2025 after a change in first authorship (now Meek *et al.*)	Corrections of the manuscript after reviewing process and publication in Pacific Conservation Biology.
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. A threat mitigation protocol will be produced by EOP.	Continue to implement the Eld's deer camera trap monitoring protocol and develop a threat mitigation 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 3 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. A new population estimate will be produced BEOP and compared to the baseline.	Continue monitoring and produce a population estimate.

Output 4. 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 2024 we recorded a total of 11 nests, compared to 16 in 2022 (baseline) and 17 in 2023. However, due to a lesser monitoring effort in 2024 and a concurring El Nino event which may have impacted the breeding, we believe the Giant Ibis number of nests will be higher in 2025.	Continued monitoring of Giant ibis' nests.
Output indicator 4.2 BEOP White-shouldered Ibis nests found in SPWS increases compared to baseline	We recorded 36 nests in 2022 (baseline), 32 nests in 2023 and 41 nests in 2024, the highest number recorded since counting started in December 2012 (+14% compared to baseline). As of March 2025, we recorded 30 nests. The breeding season usually ends in May.	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), 32 nests in 2023 and 41 nests in 2024, the highest number recorded since counting started in December 2012 (+14% compared to baseline). As of March 2025, we recorded 30 nests. The breeding season usually ends in May.	Continued monitoring of White-shouldered ibis' nests.

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

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: 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 .			
Outcome: 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. 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. 0.3 BEOP the Endangered Eld's Deer population at SPWS is stable compared with baseline. 0.4 Numbers of nest pairs of Critically Endangered Giant and White-shouldered Ibis increase 10% above the baseline BEOP in SPWS. 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. 0.6 BEOP 3,375 people (at least 50% women) from 11 villages around SPWS (and at least two additional	0.1a Darwin Initiative Final Report 0.1b Rising Phoenix Annual Reports 0.1.c Village and Stakeholder Forum minutes 0.1.d Overhead drone photographs during construction, completion and at predetermined intervals to show water retention. 0.1.e Regularly updated M & E report (info is collected in M & E see indicator 1.4) 0.2a Village contracts and lists of workers hired. 0.2.b Remote sensing data and photographic evidence of restored trapeangs. 0.2.c Contracts with contractor Tonnage of rice paddy sold to IBIS Rice from target villages compared to baseline. 0.2.d Camera trapping at selected trapeangs demonstrates community use of trapeangs. 0.3a Biodiversity Monitoring Unit monthly reports 0.3b.Camera trap data Journal paper submitted for publication 0.3c 2021	Communities living around and within SPWS continue to be willing to work with Rising Phoenix in sustainable agriculture, water and land management practices Political stability in Cambodia allows for business as usual The current La Niña conditions with resulting dry season rainfall, will continue through the 2023 dry season. There will be a strong El Niño event in Cambodia during the lifetime of the project resulting in a prolonged and extreme dry season. 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.

	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.	Eld's deer baseline and journal paper submitted for publication 0.3d Annual monitoring reports 0.4a Monthly Biodiversity Monitoring Reports 0.4b Breeding survey results for Giant and White-shouldered ibis 0.5a Irrigation pond contracts with rural people from 11 villages. 0.5b Photographs and maps of completed irrigation ponds 0.5c Increased rice yields amongst households utilizing irrigation ponds compared to baseline 0.5d Trapeang restoration contracts 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 0.6a Village forum attendance lists 0.6b Stakeholder Forum attendance lists 0.6c Study Tour attendance lists 0.6d Pre and post training knowledge assessments of participants engaged in Village forums, Stakeholder forums and Study Tours.	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.

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). 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). 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) 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. 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). 1.6 Awareness raised, lessons learnt and best practice shared	1.1a Irrigation pond excavation safety and maintenance protocols. 1.1b Signed excavation irrigation pond use agreements. 1.2.a Signed safety and maintenance protocols (disaggregated by gender) 1.2.b Minutes of host village stakeholder meetings (disaggregated by gender) 1.2.c Pre- and post-training assessments of participating households (disaggregated by gender) 1.3 Photographs and maps of completed irrigation ponds. 1.4 Monitoring framework and annual reports. 1.5a Annual data on rice produced and sold from participating households compared to baseline. 1.5b Annual data on cover crop available for livestock. 1.5c Monthly Community Development Reports show Irrigation ponds retain sufficient water. 1.6a Minutes of Stakeholder forums (disaggregated by gender). Pre and post project knowledge assessment amongst key stakeholders. 1.6b Reports from study tour to Siem Pang by IBIS Rice growers from two other sites.	

	amongst key stakeholders at district level and two other sites.		
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). 2.2 20 forest trapeangs restored by EOP. 2.3 Trapeang monitoring framework (for both restored and unrestored trapeangs) established and operating within 3 months from project start 2.4 5 BMU staff trained in trapeang camera trap data collection and collation BEO Y1. 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). 2.6 Lessons learnt and best practice shared amongst key stakeholders at district level and two other sites.	2.1a Trapeang restoration contracts (disaggregated by gender) 2.1b List of participants undertaking training and restoration of trapeangs (disaggregated by gender) 2.2 Before and after photographs and maps of restored trapeangs 2.3Trapeang monitoring framework 2.4 Training records of BMU staff and pre and post training assessments. 2.5a Monthly biodiversity and trapeang reports 2.5b Journal paper drafted and submitted by EoP. 2.5c Camera trap survey reports 2.6aVillage forum minutes 2.6b Participants knowledge assessments at start and end of project 2.6c Reports on study tours to Siem Pang WS, from two other PAs	
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. 3.2 Eld's deer population estimated and journal publication BEO Yr1. 3.3 Continue study on overlapping activity patterns of Eld's deer and free roaming dogs to establish a threat mitigation protocol BEO Yr2	3.1a Camera trap monitoring protocol and camera trap survey manual 3.2 Journal paper published 3.3a Two journal papers submitted and published 3.3b Threat mitigation protocol produced	

	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. 3.5 BEOP Eld's Deer population remains stable /or increases compared to baseline at start of project.	3.4 Conservation strategy for Eld's Deer produced 3.5a Journal article written and submitted on results of Eld's Deer project conservation efforts and results at SPWS	
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 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	4.1 Monthly Biodiversity Monitoring Reports 4.2 Breeding survey results for Giant and White-shouldered ibis 4.3 Journal paper written and submitted for publication	

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

1.1.1 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).

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

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

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

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

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

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.

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

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.

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

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

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

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

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

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

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

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).

2.6 Monthly trapeang and biodiversity reports

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

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

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.

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

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 BEOP.

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 BEOP.

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

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

DI Indicator number	Name of indicator	If this links directly to a project indicator(s), please note the indicator number here	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).	1.2	household	23 females	32	94		126	275
DI-B02	A Conservation strategy (including threat mitigation) for Eld's deer produced with key stakeholders at selected villages implemented in SPWS.	3.4	Number	Language: English & Khmer	0	0		0 This activity is planned for the third year of the project.	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	510		670	1,375
DI-D12	20 forest trapeangs restored by EOP.		Number	wetland	10	13		23 (exceeded)	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 adjacent to a wildlife sanctuary	Journal	Ladd, R., Meek, P., Eames, J.C. and Leung, L.K.-P. (2024)	Female	Australian	Cambodian Journal of Natural History	https://www.fauna-flora.org/wp-content/uploads/2024/02/CJNH-2024-Full-Issue.pdf
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
Use of trapeangs by Eld's deer *Rucervus eldii siamensis* in Siem Pang Wildlife Sanctuary, Cambodia	Journal	Legrand, R., Ladd, R., Eang S., Meek, P. & Eames, J.C. (2024)	Male	French	Cambodian Journal of Natural History:	*Cambodian Journal of Natural History*, **2024**, 101–111.

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 **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	X
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Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	X
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	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.	