



**BIODIVERSITY
CHALLENGE FUNDS**



Biodiversity Challenge Funds Projects Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus

Half Year Report

It is expected that this report will be a **maximum of 2-3 pages** in length.

If there is any confidential information within the report that you do not wish to be shared on our website, please ensure you clearly highlight this.

Submission Deadline: 31st October 2025

Please note all projects that were active before 1st October 2025 are required to complete a Half Year Report.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Project reference	DARNV022
Project title	Community cricket farming for conservation
Country(ies)/territory(ies)	Cambodia
Lead Organisation	Rising Phoenix Co. Ltd.
Partner(s)	1. Agri House 2. Siem Pang Conservation Organisation 3. Angkor Wildlife and Aquarium
Project Leader	Jonathan C. Eames
Report date and number (e.g. HYR1)	1 April – 30 September 2025, HYR2
Project website/blog/social media	N/A

1. Outline progress over the last 6 months (April – September) against the agreed project implementation timetable (if your project started less than 6 months ago, please report on the period since start up to end of September).

Although we are not looking for specific reporting against your indicators, please use this opportunity to consider the appropriateness of your monitoring, evaluation and learning (MEL) systems (are your indicators still relevant, can you report against any Standard Indicators, do your assumptions still hold true?). The guidance can be found on the resources page of the relevant fund website.

Output 1. Feasibility study completed testing if cricket farming is viable alternative livelihood for conservation, and scalable.

1.1. Investigate different accreditation bodies and requirements

Agri House received four quotes and met twice online and face to face with two local consultants to define the design and construction requirements for its upgraded processing facility. The meetings were focussed on achieving Hazard Analysis and Critical Control Points (HACCP) and Good Agricultural Practices (GAP). These are a systematic and science-based food safety systems used to identify, evaluate, and control hazards in the food production process. The consultations helped identify the estimated certification and implementation costs, which are projected at around USD 10,000. Work is also continuing to map export certification

pathways across EU, US, and APAC markets, ensuring alignment with the Asia Food and Feed Insect Association (AFFIA)'s forthcoming Insects for Food and Feed Code of Practice.

1.2. Investigate appropriate conservation branding for product

Agri House continued researching and designing the Golden Cricket brand to highlight the environmental and conservation benefits of cricket farming. Initial packaging and label prototypes were created for both local and international markets (Khmer/English). Feedback informed refinements to the brand concept, with strong interest in traceability and “Produced for Conservation” positioning. The next step is to finalise a brand narrative linking farmer livelihoods with forest protection outcomes at Siem Pang Wildlife Sanctuary.

1.3. Investigate organic cricket feed production and scaling

Feed production trials continued with local families across the Rising Phoenix village network to build a reliable supply of plant-based ingredients. Some challenges came up with growing the chaaya plant (*Cnidioscolus chayamansa* or *C. aconitifolius*) – a perennial plant that grows easily throughout Cambodia – as a nutritional source for the crickets as family-owned buffalo and cows have been eating the plants before they mature. There's also been limited use of frass – the cricket waste produced during the raising period – as fertiliser so far, although a few farmers have started feeding it to their pigs instead. The pigs appear to respond well, but no formal records have been kept yet to see if this has reduced overall pig feed costs.

1.4. Complete financial modelling and business plan

The financial model and business plan is still in development and keeps being refined. Agri House met with the Rising Phoenix team to review fluctuations in yields and how these are affecting supply-side volumes. On the global demand side, market activity has slowed due to new tariffs introduced by the Trump administration in the USA, which have dampened export sentiment and prices for insect-based products. These factors are being reflected in the updated business plan and sensitivity analysis to ensure projections capture both local production variability and broader market shifts. In addition, Chinese producers have now entered the market with wild-caught crickets being sold for animal feed at prices we can't compete with, creating additional downward pressure on regional pricing. There are reports and signals that Chinese producers (possibly using wild-caught crickets, especially from regions with lax collection regulation) are entering lower-cost supply streams for animal feed and pet feed products. While we have not yet verified whether these are truly wild-catch operations or industrial farms, their pricing appears aggressive and may continue to affect regional competitiveness in the coming period.

1.5. Produce feasibility study for cricket farming

The first feasibility study was modelled on our earlier experience working with cricket farmers across Cambodia. Now that we have results from the second and third cycles, the information for the final feasibility study needs to be updated to reflect longer-term performance. Around 80% of participating farmers remain viable, though results and profits vary between households. The main influencing factors include fluctuating yield volumes — especially in the third cycle, which goes against the trend — and difficulties in growing local green feed inputs, along with limited use of frass (cricket waste) as a cost-reducing fertiliser or feed supplement. These insights will guide the revision of the final feasibility study and help shape future support to improve feed consistency, farmer profitability, and long-term sustainability.

1.6. Get feasibility study for cricket farming endorsed by a third party

We've started early discussions with the Asian Feed and Food Insect Association (AFFIA) and Insect Production Association of Australia (IPAA) as possible third-party partners to review and endorse the feasibility study. No formal validation has been done yet, as we have been closely tracking the Australian market as they are developing one for the local industry. The endorsement is still planned for 2026, after we have more data from additional farming cycles and can show clearer results on farmer income, feed use, and conservation impact.

Output 2: 50 cricket breeding units established in two villages providing additional income for 50 households.

2.8. Continued mentoring support to participating households

During this reporting period, Rising Phoenix and Agri House teams actively mentored and monitored 50 cricket farming households, focusing on technical skills (raising, harvesting, packaging, freezing, transporting, feeding, egg collection, nesting, watering, ventilation, and hygiene) as well as financial literacy, book-keeping, digital communication, and leadership.

On 20–21 August, the teams met with 67 farmers (55 women) to review production costs, income, and challenges after completing their third farming cycle. Farmers shared achievements, identified cost-saving opportunities, discussed key challenges, and exchanged best practices. Similar follow-up meetings were held on 10–12 September with 55 farmers (44 women) to review progress, address issues, and strengthen capacity. Rising Phoenix continues regular mentoring through weekly and/or daily farm visits and Telegram group communication

2.9. Buy back of crickets from compliant farmers and provision of cricket feed.

All 50 farming households have complied with the feeding requirements and project rules, and the first cricket harvest began in April 2025. All the five farmer groups had completed two production cycles and three of the groups have now completed the third cycle production. All cricket products were purchased by Agri House at a price of US\$3.00 per kilogram, in accordance with the contract signed at the start of the project. To date, a total of 5,826 kilograms of crickets have been produced, of which 5,559 kilograms were sold to Agri House, generating a total cash income of US\$16,679. This partnership and purchasing commitment have continued during this reporting period.

Output 3: Drivers of biodiversity loss (hunting, logging, land encroachment) are reduced at SPWS compared to baseline at start of project.

3.1. Update household information on compliance database for households who have signed the conservation agreements.

A database of 50 households with a family code, contact information and progress tracking table was regularly updated to monitor and track the compliance. There is no record of the non-compliant farmer were found during the reporting period

3.2. Regular law enforcement patrols in Siem Pang Wildlife Sanctuary

During the reporting period, regular law enforcement patrols were conducted by the Siem Pang PATROL Unit (SPPU) in collaboration with rangers from the Department of Environment, the Forestry Administration, and the Royal Gendarmerie Khmer. Rising Phoenix scout patrols comprising up to 50% female members, also worked alongside Department of Environment rangers to carry out regular snare removal operations within Siem Pang Wildlife Sanctuary. In addition, the Compliant Monitoring Team of the Community Development Unit (CDU) conducted routine ground-truthing activities to detect and verify cases of illegal land expansion inside the sanctuary. Monthly report from the SPPU, Scout patrols, and CDU were produced, providing detailed accounts of these activities

3.3. Regular biodiversity monitoring patrols, vulture restaurants, nest, and roost monitoring for key species.

Over the reporting period, the Rising Phoenix Biodiversity Monitoring Unit conducted regular monitoring patrols by motorbike and on foot to monitor five Critically Endangered bird species. The vulture population was monitored by the attendance at a vulture restaurant conducted weekly with a water buffalo carcass. A total of 15 vulture nests were found and monitored by the end of the breeding season in May 2025. We found and monitored 31 White-shouldered Ibis and 11 Giant Ibis nests in 2025. We conducted three roost site counts to monitor the White-shouldered Ibis population over the reporting period (monthly over the July-October period). Six monthly biodiversity reports were produced over the reporting period to report on these activities.

3.4. Monthly cross checking of law enforcement data against compliance database

Monthly reports on law enforcement were produced by the Siem Pang PATROL Unit (SPPU) and the Surveillance and Intelligence Reporting Unit (SIRU). Data was checked against the compliance database. Between April to September 2025 no cricket farmer was found to have broken the terms of their agreement.

3.5. Annual forest cover change study completed and report produced

The forest cover change assessment report for the period January 2024 - January 2025 was finalized in October [REDACTED]. Forest cover in SPWS was 90.8% as of January 2024 and declined slightly to 90.7% by January 2025. In total 166 ha of forest were lost over the reporting period. Agricultural land area decreased slightly from 1,949 ha (1.5%) in 2024 to 1,903 ha (1.4%) in 2025. This net reduction is largely associated with the abandonment of farmland left unattended, which has allowed for natural vegetation regeneration.

3.6. Tarantula harvesting survey implemented, data analyses and short communication submitted.

A questionnaire comprising 24 questions was prepared for the survey with spider collectors. The survey was conducted in November 2024 in two villages—Khes Svay and Khes Kraom—located adjacent to Siem Pang Wildlife Sanctuary (SPWS). These villages were selected because they have the highest number of identified tarantula collectors. A total of 30 households identified as spider collectors participated in the survey, which coincided with the tarantula harvesting period. Another questionnaire comprising 17 questions targeted tarantula traders and was conducted in January 2025 with 7 people.

The data of both surveys were recorded in an excel database for analyses. A summary of the results of the analysis is attached [REDACTED]. A short communication will be prepared and submitted to the Cambodian Journal of Natural History before the end of the project.

3.7. Tarantula breeding pilot is established

The pilot project proves particularly challenging because this species is territorial. Attempts at keeping the animals in communal groups were unsuccessful because of cannibalism, and all animals are now housed separately to avoid further loss. Two females presumably died of natural causes over the reporting period. At the time of reporting, seventeen females but zero males remain at Angkor Wildlife and Aquarium facilities, our partner for this pilot study. To continue to attempt breeding we will need to collect around five additional adult males in November.

3.8. Case study of tarantula breeding pilot is prepared and published

Case study of tarantula breeding pilot will be prepared and published by the end of the project in March 2026 on Rising Phoenix website and submitted for publication in the Cambodian Journal of Natural History as part of the short communication on tarantula trade.

2. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

During project implementation, two main production cost challenges emerged: The first challenge is that farmers must cover the transportation cost of cricket products from Siem Pang to Phnom Penh [REDACTED]. The second challenge is the high cost of cricket feed transportation from Phnom Penh to Siem Pang, which is currently covered by Rising Phoenix at approximately [REDACTED] per cycle per farmer. To address this issue, we are working with Agri House and the farmers to find a sustainable solution. Agri House has agreed to offer a 10% discount on feed orders that exceed 60 bags (approximately 1,800kg) per order. Given that the farmers have started earning income from cricket farming, they have agreed to contribute 50% of the transportation cost for cricket feed from Phnom Penh to Siem Pang (equivalent to [REDACTED] per cycle per farmer). The remaining 50% ([REDACTED] per cycle per farmer) will be covered by the project. Since the project is supporting part of this cost, the farmers have

agreed to make their 50% contribution during the project period rather than after its completion, as they are now generating revenue from their farming activities.

The unexpected lessons we've seen this period mainly relate to the environment and growing conditions at Siem Pang. Those include:

- The geographic conditions are quite difficult — the soil is rocky and poor, which makes it hard to grow green vegetables locally to feed the crickets and reduce feed costs. Green vegetables are also eaten by the local livestock.
- The climate is also much hotter and drier than other areas where Agri House has worked previously, and whilst the kits maintain a level of humidity, this has had a real impact on yields.
- Many farmers have low roof structures with little airflow, and a few don't have proper roofing at all. This means the crickets may be exposed to direct sun and heavy rain, which has caused higher mortality during some cycles. We will work with cricket farmers to address this problem. We will encourage farmers to improve the roofing by installing carton ceiling under the roof to reduce the direct heat, a cheap and effective solution.
- This pilot project highlighted the need to account for local conditions in future designs, with proper housing ventilation systems and shading, as well as alternative options for growing or sourcing green feed locally. We are now working on addressing the lack of green feeding and have demonstrated to cricket farmers the use of banana stems to supplement the feeding. Stems are cut open, giving crickets access to inner fibres and moisture. We will monitor the evolution of the yield by the end of the project.

3. Have any of these issues been discussed with NIRAS and if so, have changes been made to the original agreement?

Discussed with NIRAS:

No

Formal Change Request submitted:

No

Received confirmation of change acceptance:

No

Change Request reference if known: *If you submitted a financial Change Request, you can find the reference in the email from NIRAS confirming the outcome*

Guidance for Section 4: The information you provide in this section will be used by Defra to review the financial status of projects. This review will identify projects at random for spot checks on financial management and will include requests for evidence of the actual spend information provided below. Please ensure the figures you provide are as accurate as possible and that you have the evidence to support it. You do not need to provide it now.

4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2025 – 30 September 2025)

Actual spend:



4b. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this financial year (ending 31 March 2026)?

Yes ☐ No ☒ Estimated underspend: £

4c. If you expect an underspend, then you should consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a re-budget Change Request as soon as possible, and not later than 31st December. There is no guarantee that Defra will agree a re-budget so please

ensure you have enough time to make appropriate changes to your project if necessary.
Please DO NOT send these in the same email as your report.

NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.

5. Are there any other issues you wish to raise relating to the project or to BCFs management, monitoring, or financial procedures?

Suspensions or allegations related to fraud and error concerns should be reported to fraudanderror@Defra.gov.uk

6. Project risk management

6a. If your project has an Overseas Security and Justice assessment, please provide an update on any related risks, and any special conditions in your award paperwork if relevant for your project.

N/A

The Project Risk Register was updated and attached in Annex B.

7. Please use this section to respond to any feedback provided when your project was confirmed, or from your most recent Annual Report. As a reminder, all projects that were scored as 'Not Yet Sensitive' in the Gender Equality and Social Inclusion (GESI) assessment of their latest Annual Report should demonstrate how they are meeting the minimum GESI-Sensitive standard.

As of the time of submission of this report, we have not yet received a finalised version of the review of our year 1 annual report. We received comments from the Safeguarding Officer that we have addressed in section 6b.

Checklist for submission

Have you responded to feedback from your latest Annual Report Review ? You should respond in section 6, and annexe other requested materials as appropriate.	N/A
Have you reported against the most up to date information for your project ?	Yes
Have you clearly highlighted any confidential information within the report that you do not wish to be shared on our website?	Yes
Include your project reference in the subject line of submission email.	Yes
Submit to BCF-Reports@niras.com	Yes
Please ensure claim forms and other communications for your project are not included with this report.	Yes