

Applicant: **Broadis, Nev**
Organisation: **Wildlife Conservation Society (WCS)**
Funding Sought: **£300,000.00**

DIR29S2\1068

Ecosystem restoration of watering holes in Cambodia's Northern Plains

This project will support the ecological maintenance of tropeangs (watering holes), an integral component of the ecosystem in Cambodia's Northern Plains Landscape (NPL), home to 84 globally threatened species, by complementing the remaining herbivore populations with actions in partnership with communities through introduction of domestic Water Buffalo. Community Protected Area (CPA) committees will be trained to manage buffalo herds and generate income from the sale of buffalo meat and milk products to reduce poverty and support community patrols long-term.

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Ecosystem restoration of watering holes in Cambodia's Northern Plains

Section 1 - Contact Details

CONTACT DETAILS

Name	Nev
Surname	Broadis
Organisation	Wildlife Conservation Society (WCS)
Tel (Work)	[REDACTED]
Email	[REDACTED]
Address	[REDACTED]

GMS ORGANISATION

Type	Organisation
Name	Wildlife Conservation Society (WCS)
Phone	[REDACTED]
Email (Work)	[REDACTED]
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Section 2 - Title, Ecosystems, Approaches & Summary

Q3. Title:

Ecosystem restoration of watering holes in Cambodia's Northern Plains

What was your Stage 1 reference number? e.g. DIR28S1\1123

DIR29S1\1380

Q4. Key Ecosystems, Approaches and Threats

Select up to 3 biomes that are of focus, up to 3 conservation actions that characterise your approach, and up to 3 threats to biodiversity you intend to address, from dropdown lists.

Biome 1

Tropical-subtropical forests

Biome 2

Palustrine wetlands (flooded forests, wetlands, marshes, floodplains)

Biome 3

No Response

Conservation Action 1

Land/water management (area, invasive control, restoration)

Conservation Action 2

Species management (harvest, recovery, re-introduction, ex-situ)

Conservation Action 3

Livelihood, economic & other incentives (incl. conservation payments)

Threat 1

Agriculture & aquaculture (incl. plantations)

Threat 2

Biological resource use (hunting, gathering, logging, fishing)

Threat 3

Other threats

Q5. Summary of project

Please provide a brief summary of your project: the problem/need it is trying to address, its aims, and the key activities you plan on undertaking. Please note that if you are successful, this wording may be used by Defra in communications e.g. as a short description of the project on the website.

Please write this summary for a non-technical audience.

This project will support the ecological maintenance of tropeangs (watering holes), an integral component of the ecosystem in Cambodia's Northern Plains Landscape (NPL), home to 84 globally threatened species, by complementing the remaining herbivore populations with actions in partnership with communities through introduction of domestic Water Buffalo. Community Protected Area (CPA) committees will be trained to manage buffalo herds and generate income from the sale of buffalo meat and milk products to reduce poverty and support community patrols long-term.

Section 3 - Title, Dates & Budget Summary

Q6. Country(ies)

Which eligible host country(ies) will your project be working in? Where there are more than 4 countries that your project will be working in, please add more boxes using the selection option below.

Country 1	Cambodia	Country 2	No Response
Country 3	No Response	Country 4	No Response

Do you require more fields?

No

Q7. Project dates

Start date:	End date:	Duration (e.g. 2 years, 3 months):
01 April 2023	31 March 2025	2 years

Q8. Budget summary

Year:	2023/24	2024/25	2025/26	2026/27	Total request
Amount:	£152,521.00	£147,479.00	£0.00	£0.00	£300,000.00

Q9. Proportion of Darwin Initiative budget expected to be expended in eligible countries: %



Q10a. Do you have matched funding arrangements?

Yes

What matched funding arrangements are proposed?

Matched funding will be sourced for this project from the Carbon Credit sales from the Northern Plains Landscape REDD+ Project being implemented in Preah Vihear by Ministry of Environment (MOE) and WCS.

Q10b. Total confirmed & unconfirmed matched funding (£)

£ [REDACTED]

Q10c. If you have a significant amount of unconfirmed matched funding, please clarify how will you fund the project if you don't manage to secure this?

Section 4 - Problem statement

Q11. Problem the project is trying to address

Please describe the problem your project is trying to address in terms of biodiversity and its relationship with poverty. What is the need, challenge or opportunity?

For example, what are the drivers of biodiversity loss that the project will attempt to address? Why are they relevant, for whom? How did you identify these problems? Please cite any evidence you are using to support your assessment of the problem (references can be listed in a separate attached PDF document).

Cambodia supports the largest remaining Indochinese Dry Forests on earth. This habitat is located in the protected areas of the NPL and managed by the Ministry of Environment (MOE). The NPL supports some of the rarest species in the world, such as Giant Ibis, White-shouldered Ibis and Banteng, as well as a large human population reliant on subsistence use of natural resources and small-scale farming. Despite conservation actions, the NPL has lost significant populations of large herbivores - elephant, rhinoceros and four species of wild cattle would have grazed and browsed grasslands and forests extensively (Tordoff et al, 2012). These natural processes would have opened the forest and maintained large areas of grassland by preventing succession while also dispersing and deepening seasonal forest pools (tropeangs) through bathing and wallowing. This in turn provides vital habitat for all species (Eames, 2018), in particular globally threatened bird species such as the White-shouldered and Giant Ibis, White-winged Duck and the Eastern Sarus Crane that rely on the tropeangs as feeding grounds.

While native populations of herbivores have been greatly reduced for bush meat and wildlife trade, there is a domestic alternative - Water Buffalo. Two communities have trialled a project managing water buffalo to perform these processes on 6 tropeangs in the NPL. Preliminary results show positive correlation between buffalo activities and tropeang restoration processes. This project will expand on the success of this community-led initiative by managing more herds within and around 4 CPA situated across the NPL. Results from the initial study show that small herds (around 20 head of buffalo) can be rotated through 3-4 tropeangs to avoid over-grazing. The database of tropeangs in the project area currently number 445 tropeangs - with more found each year. As such the scope and need of the project is great. Alongside expanding the restoration of tropeangs, we will protect biodiversity through ongoing nest protection and nest monitoring of key species of large waterbirds, and community patrolling. These patrols provide further protection of tropeangs; initially funded by the project, ultimately through the buffalo-bank.

Communities will be integrated to the programme and receive training on financial literacy, herd management and project planning in order to create healthy, productive herds of buffalo for the purposes of tropeang restoration. Buffalo milk is an excellent source of nutrition (BPP Partner Factsheet, 2019), and will be used to supply nutrition groups or school meal programmes. Community dairies, using very simple methods will be staffed by community members who have been trained by project partners on milking techniques and practices. As herds grow, surplus animals will be sold either to local markets or to the biodiversity programmes of WCS (such as vulture feeding stations) creating income managed by CPA committees. In turn, these committees will employ community members on all aspects of the buffalo restoration project from animal husbandry to patrol teams.

Section 5 - Darwin Objectives and Conventions

Q12. Biodiversity Conventions, Treaties and Agreements

Q12a. Your project must support the commitments of one or more of the agreements listed below.

Please indicate which agreement(s) will be supported and describe which objectives your project will address.

- Convention on Biological Diversity (CBD)
- Convention on International Trade in Endangered Species (CITES)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- Global Goals for Sustainable Development (SDGs)

Q12b. National and International Policy Alignment

Using evidence where available, please detail how your project will contribute to national policy (including NBSAPs, NDCs, NAP etc.) and in turn international biodiversity and development conventions, treaties and agreements that the country is a signatory of.

The project supports delivery of the CBD (Strategic Goals A-E), and its Aichi Targets 2, 7, 11, 12, and 14. For instance, the project promotes sustainable management of agricultural areas, ensuring conservation of biodiversity (Target 7), and safeguards an agricultural ecosystem that contributes to the livelihoods and well-being of communities (Target 14).

The project also delivers on Cambodia's country-specific CBD national actions by addressing themes stipulated in the National Biodiversity Strategy and Action Plan (NBSAP), most directly Group 1: Protection of Biodiversity – Theme 1: Protected Area System, Theme 2: Threatened Species and Theme 7: Sustainable Water resources; and Group 3: Enabling Environment – Theme 19: Community Participation and Theme 22: Quality of Life and Poverty Reduction.

Amongst others, the project targets the habitat of Sarus Crane, listed under CMS and CITES as an Appendix II species. While Cambodia is not a primary party to the CMS, it attends meetings, and has signed several MoU/Agreements. The project provides immediate protection to the Crane's agricultural habitat, directly supporting CMS and CITES implementation.

The project supports SDGs within the 2030 Agenda for Sustainable Development, especially Goals 1, 2, 8, 12 and 15: 'reduce poverty', 'promote sustainable agriculture', 'ensure sustainable production and consumption patterns', and 'reverse land degradation and halt biodiversity loss'.

Section 6 - Method, Change Expected, Gender & Exit Strategy

Q13. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and contribute towards your Impact. Provide information on:

- how you have reflected on and incorporated evidence and lessons learnt from past and present similar activities and projects in the design of this project.

- the specific approach you are using, supported by evidence that it will be effective, and justifying why you expect it will be successful in this context.
- how you will undertake the work (activities, materials and methods)
- what will be the main activities and where will these take place.
- how you will manage the work (governance, roles and responsibilities, project management tools, risks etc.).

WCS has two decades of experience in the NPL supporting protected area (PA) management with a strong focus on communities. Through the establishment and ongoing support of 21 CPAs our work has developed successful conservation enterprises including Sam Veasna Conservation Tours Ltd (SVC) for ecotourism and IBIS Rice for conservation agriculture. Monitoring and expansion of tropeangs with buffalos began in 2014 with Birdlife International. In 2020, WCS in partnership with local communities, a consortium of NGOs, and government partners expanded the habitat restoration by buffalos to 2 PAs in the NPL. Our work has been successful in establishing a protocol for monitoring tropeangs and initiated a technical working group to create protocols for adoption by national government. Utilising these relationships, and including expertise on buffalo husbandry from project partners at the Laos Buffalo Dairy (LBD), we will build on the success of these previous projects and create income streams linked to healthy tropeangs and buffalo herds. Buffalo herds will continue to restore tropeangs, with the additional benefit of producing milk products and superior meat quality, generating revenue for CPAs.

Output 1

The project team will work with 4 CPA committees to purchase 25 buffalo, expanding the current population to 60 animals across the NPL. Buffalo will be sourced locally where possible and in collaboration with the Provincial Department of Agriculture, Forestry and Fisheries (PDAFF). LBD will assist in buffalo purchasing to create the optimum herd dynamic for milk production. Herd management capacity of CPA committees will be built through participation in 12 animal husbandry and veterinary workshops. These workshops will focus on husbandry protocols for rearing techniques that farmers can employ to improve meat quality, milk production and reduce mortality. Veterinary-focused trainings will take place with competent veterinary staff from PDAFF located within the project sites focusing on preventative medicine such as supplements and vaccinations.

Replicating the success of the LBD community dairy, CPA committees will be trained to milk buffalo using locally sourced equipment and minimally invasive techniques allowing the buffalo to continue their role in tropeang restoration on a daily basis. Buffalo milk is superior to that of cattle with a higher fat content and good flavour (Becksei, 2020), as such it is gaining popularity - nutrition groups are already exploring ways to utilise buffalo milk to combat malnutrition (Diana et al, 2021, and Chheanghong, GIZ personal communication). Sales of milk products to school meal programmes and nutrition groups will be funded by the NPL REDD+ Project, and, as the milk production grows, market linkages will be made to further bolster sales. As herds are managed effectively to support their role in ecosystem management, further income will be generated from meat sales of surplus animals to local markets, or to supply WCS vulture feeding stations, thus further protecting globally threatened species.

Output 2

CPA committees from 4 CPAs in the NPL will utilize managed herds to restore at least 2 tropeangs each (total 8 restored tropeangs). Tropeang restoration requires adaptive management of rotations to avoid over-grazing and so exact numbers will depend on herd dynamics. Buffalo will be guided to project tropeangs on a schedule ultimately decided by the community. Community monitoring of physical characteristics and camera trapping of tropeangs will be conducted at 8 restored tropeangs and at a further 16 tropeangs to form a control by which to measure change. Communities will be trained by WCS Biodiversity Team using the tropeang monitoring protocol already produced by WCS. Additionally, a survey protocol will be established within the first quarter of Y1 by project partners and WCS specialists which will be used to assess the biodiversity value of tropeangs. Research surveys with participation from communities will then be conducted at 8 of the 24 project tropeangs to understand more about the

ecology of restored tropeangs. Focusing on species biodiversity, these surveys will be conducted in conjunction with a partner institution – the Royal University of Phnom Penh (RUPP).

Output 3

Community-led patrols across 4 CPAs will take place monthly, with emphasis on tropeang protection. This direct protection will lead to a reduction in poisoning events, and snaring/trapping. Community members within the NPL will be recruited to monitor or protect nests of globally threatened bird species such as the Giant Ibis, White-shouldered Ibis and Red-headed Vulture. This model has proven to be successful in the NPL and creates a revenue for local communities. Incentives are paid to community members on successful fledging of birds. These activities will be supported by the project but ultimately through income generation of buffalo-banks.

Q14. Capability and Capacity

How will you support the strengthening of capability and capacity in the project countries at organisational or individual levels, please provide details of what form this will take, who will benefit, and the post-project value to the country.

The NPL is home to a predominantly rural population (90%, General Population Census 2019), shown to correlate with lower literacy rates than urban populations, and with a majority of the workforce involved in labour for agriculture (78.9%). Within the PA network, access to healthcare, education and employment are further restricted. Capacity and capability of the communities where WCS focuses our activities is inherently low. We propose to connect these communities with partners at the LBD to increase their skills and knowledge on raising healthy buffalo, creating an income stream that will support their activities on environmental monitoring and protection.

Trainings will consist of workshops at a fully-functioning community dairy in Luang Prabang, Lao PDR and within the villages where we propose to expand our buffalo work. Whilst smallholder buffalo farming has been performed in the past (and in the proposed communities) simple husbandry techniques, including vaccinations are not commonplace yet can increase productivity significantly. Milking of buffalo is unheard of in the project area, yet trials in other locations have shown a swift uptake once simple skills are taught. WCS has had great success in working with communities in the field, conducting practical trainings that are tailored to the audience.

Communities will receive training and support from WCS on monitoring and protection activities through workshops and on-the-job training. WCS staff (the majority of whom are community members that have trained under previous WCS projects) will continue to work closely on community activities until it is deemed appropriate to step back. As the project naturally grows and more tropeangs can be restored with healthy buffalo herds, benefits for communities involved will grow too, providing a positive feedback loop and mitigating some of the factors limiting biodiversity conservation in the NPL.

Q15. Gender equality

All applicants must consider whether and how their project will contribute to reducing inequality between persons of different gender. Explain how your understanding of gender equality within the context your project, and how is it reflected in your plans. Please summarise how your project will contribute to reducing gender inequality. Applicants should, at a minimum, ensure proposals will not increase inequality and are encouraged to design interventions that proactively contribute to increased gender equality.

Gender equality is a WCS core value, foundational to its culture and realised through proactive approaches to the inclusion of women in staff positions, working groups, communities, trainings, fieldwork, and assessments in Cambodia.

In the project area, women are actively and equally involved in herding buffalo. It has been noted by the community that buffalo tend to respond positively to women, as witnessed during treatment or direct interaction with buffalo. It is therefore beneficial to the project to ensure that women are involved in all aspects of training on husbandry and milking. However, training and workshops on animal husbandry tend to be favoured by men and as a result we will therefore actively select community members for trainings based on their roles and skills within the project with a target of 60% women.

CPA membership in the NPL is approximately 33% women, yet participation in community patrols over the last year was only 18% women. Community patrolling is a staple activity of almost all CPA in the project area. Indeed, of the trainings that were conducted over the last year attendees were 25% women. When interacting with communities for planning and assessment for their involvement in the project we will hold discussions around gender equity in livestock and farming, and also project activities to collect data to support benchmarking of gender roles. WCS have an active Biodiversity Monitoring Team with a growing number of women incorporated into the team. This will be used to the advantage of the project when discussing recruitment of women from the community for project activities.

Q16. Awareness and understanding

How will you raise awareness and understanding of biodiversity-poverty issues in your stakeholders, including who your stakeholders are, what approaches/formats/products will you use, how you will ensure open and free access to all data, and how will you know that the messages are understood?

WCS is actively involved in and supports monthly CPA Meetings in all target communities. These provide a useful forum for dissemination of information and discussion on relevant topics. During assessments of CPA to be involved in the project, project staff will present topics to the CPA Committee to be discussed during monthly meetings. These same methods will be used to seek continued feedback from the communities as the project develops. Additionally, after each workshop or training, the community members involved in the training will report back to the wider CPA members during these open village meeting sessions. They will be asked to disseminate key lessons learned and messages to the wider community. The project will respond to requests for support in producing materials such as posters or other media for these events.

Using best practices developed by Action Against Hunger – Care Groups 2020 (see reference document) nutrition groups will be formed through collaborative efforts of the CPA committee to identify the stakeholders that stand to benefit and to discuss and ultimately create a shared vision of change. These nutrition groups will then meet on a daily basis thus creating an avenue for open discussion and communication.

Outputs such as training manuals on husbandry, survey protocols, monitoring protocols will all be developed in dual language format and shared with stakeholders and partners within the government. Additionally, for subject matter that is relevant to the wider community (such as vaccinations) will be shared using posters and community awareness events in target project areas.

Project reporting to sub-national and national government will follow standard formats and schedules of WCS. In addition, communication channels (such as Facebook and Telegram Groups) developed for the NPL REDD+ Project will be used to disseminate varied media throughout the NPL.

Q17. Change expected

Detail the expected changes to both biodiversity and poverty reduction, and links between them, this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended) and the potential to scale the approach.

When talking about how people will benefit, please remember to give details of who will benefit, differences in benefits by gender or other layers of diversity within stakeholders, and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used.

Communities selected for the project will come from 4 CPAs, with a total of at least 2,500 members (1,300 women). In the short term, direct benefits will come in the form of payments for services related to buffalo herd management. Through discussions with the community, it may be that the community prefers to spread these roles out so that more people (identified as living in remote areas, with potentially vulnerable groups) benefit. Each activity will require a minimum of the following:

Herding:

At least 2 community members per herd will be required daily to rotate the herds through the selected tropeangs.

Milking:

Daily activity that will require at least 2 community members per dairy.

Nutrition groups:

At least 3 community members will be required to process meals and establish nutrition groups.

Animal husbandry, veterinary: 1 veterinarian in each of the 4 CPA will be engaged to oversee vaccinations and other preventative practises.

Additionally, community members will be recruited for bird nest protection (2 nest protectors per nest for a period of time based on the nesting activity of each bird but potentially 6 weeks), patrolling (patrols consist of 5-day patrols with 10 community members each month) and monitoring (team of 4 community members spending 3 days per month, for 9 months of the year); all activities that would be remunerated and thus lead to poverty alleviation. The result of increased patrolling and protection will lead to safer habitats for the 84 globally threatened species in the NPL.

In the longer term, the physical characteristics of the tropeangs will continue to improve, their ability to hold water for longer periods will reverse issues of water scarcity in the dry season. Depth and increased edges within tropeangs created by wallowing buffalos will provide habitat for species such as the Giant Ibis who rely on the soft mud for feeding. Healthy tropeangs will also aid in ecosystem processes creating a more natural environment especially increases in insects and other prey species. Communities will be dedicated not only to protecting natural resources, but proactive restoration of degraded areas. Buffalo milk production, and knowledge of its benefits, especially for infants in the first 1,000 days of life, will improve nutrition in 100 households in the NPL.

This project focuses on 4 CPAs in the NPL. Currently there are 22 CPAs, and over 400 known tropeangs in the NPL Protected Area Network. There is great potential to scale this project with healthy buffalo herds producing offspring each year. Our preliminary exploration of external markets for buffalo milk has revealed that it is a highly sought-after commodity within the restaurant trade in nearby cities. The

potential to upscale and include cold-chain transport is high for this value-added product. The scope for involvement in the project by community members also extends past direct interactions with buffalos – buffalo feed for example will require community members skills in producing animal feed during the dry season – an avenue that will be explored in the later stages of the project.

Q18. Pathway to change

Please outline your project's expected pathway to change. This should be an overview of the overall project logic and outline why and how you expect your Outputs to contribute towards your overall Outcome and, longer term, your expected Impact.

Tropeangs in the NPL are a critical habitat for a myriad species, yet are threatened by drying out through the decline of ecosystem processors. Utilising natural behaviour of domestic water buffalo will restore the tropeangs and their ecosystems. Water buffalo will be owned and managed by CPA committees and together with WCS and RUPP, the community will monitor and adapt the restoration process.

Through partnership with PDAFF and LBD, capacity-building of CPAs in herd management, mortality will be decreased, meat and milk production will be increased. Buffalo milk has been proven to combat malnutrition in infants, and so the wider project will establish community nutrition groups capable of purchasing milk directly from CPA buffalo herds. This will effect positive change in childhood health within these remote communities.

Revenue from buffalo-banking will fund activities that lead to direct cash payments to community members creating a clear benefit to project activities. Further scope for expansion will come in the form of market linkages for value-added buffalo milk products; which will create further revenue used to directly support CPA activities such as patrolling, monitoring and protecting the tropeang network that ultimately leads to the safeguarding of globally threatened wetland biodiversity.

Q19. Exit Strategy

How will the project reach a sustainable point and continue to deliver benefits post-funding?

How could post-project scaling of the approach (if proven) be delivered: through new finance or through uptake by stakeholders or other mechanisms? Are there any barriers to scaling and how will these be addressed?


How will the required knowledge and skills remain available to sustain the benefits?


Contrasting with other cattle bank initiatives, this project is unique in that the buffalo are owned by a community committee that is dedicated to protecting the habitat of globally threatened species by the very nature of their membership of the CPA. Whereas a traditional cattle-bank may improve the well-being of the family, the community-owned buffalo bank creates benefits for the wider community through each of the project activities that revolve around maintaining the herd and restoring the tropeang network for globally-threatened wildlife. Some of the communities in which WCS works benefit from ecotourism projects driven by partners at SVC who rely on the community to protect and monitor critically endangered birds such as the White-winged Duck. Through skills gained from the project activities, communities will manage productive herds and gain income from sale of meat and milk products that will go directly to finance community activities in a self-sustaining manner.


Coupled with funding from the NPL REDD+ Project, tropeang restoration also has the ability to scale up to other communities in the NPL, and indeed other parts of the country. Veterinarians and community members who have trained with partners at the LBD, and have experience from managing buffalo herds, will be in a position to assist in this expansion and will also have good genetic stock with which to start new herds of buffalo in other CPA. There is also scope for diversifying within existing projects. A well-run community dairy in a remote village frequented by tourism geared towards environmental sustainability is a novel attraction in its own right. Opening the community dairies to the general public and supporting enterprises such as coffee shops using buffalo milk could create new income streams. Ultimately, WCS stand ready to support the community as they grow this innovative project.

If necessary, please provide supporting documentation e.g. maps, diagrams, references etc., as a PDF using the File Upload below:

 [Map and References](#)

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Section 7 - Risk Management

Q20. Risk Management

Please outline the 6 key risks to achievement of your Project Outcome and how these risks will be managed and mitigated, referring to the [Risk Guidance](#). This should include at least one Fiduciary, one Safeguarding, and one Delivery Chain Risk.

Projects should also draft their initial risk register using the [Risk Assessment template](#) provided, and be prepared to submit this when requested if they are recommended for funding. Do not attach this to your application.

Risk Description	Impact	Prob.	Gross Risk	Mitigation Header	Residual Risk
Fiduciary Corruption within government agencies may lead to misappropriated funds meant for project activities.	Moderate	Rare	Minor	WCS has strong financial management policies and procedures in place to mitigate the risks of fraud or bribery. WCS will be solely responsible for managing this budget.	Minor

Safeguarding	Buffalo are large animals, working with these animals carries an inherent risk of injury – especially during direct contact	Minor	Possible	Moderate	All community members will receive training on handling techniques for buffalo and safety protocols will be produced for activities putting people in direct contact with buffalo. Further, buffalo dairies and corrals will have safety devices such as rudimentary crushes for vaccination.	Minor
Delivery Chain	Communities are reluctant to become engaged in nutrition groups or local schools are unwilling to diversify their nutrition sources to include buffalo milk.	Major	Unlikely	Major	CPA members will experience first-hand the use of buffalo milk during workshops at the LBD. These community members will become local ambassadors for the inclusion of milk in community nutrition groups. Additional field visits to Cambodian locations using buffalo milk are possible.	Moderate
Risk 4	Protected area land under the management of the MOE cannot be protected adequately, including preserving locations of project tropeangs.	Severe	Rare	Major	The implementation of the NPL REDD+ will see an upscaling of support for conservation activities in the NPL, with MOE standing to gain substantial benefits for renewed efforts to prevent forestry crime within protected areas and expand benefits to local communities achieving positive results in forest protection.	Moderate

<p>Risk 5</p> <p>Nesting birds do not return to the project area in significant numbers and their populations are affected by factors outside of the project area such as hunting or poisoning in other locations.</p>	Moderate	Rare	Minor	<p>WCS is a national technical working group member for globally threatened bird species and is highly active in prevention of poisoning events even outside of our project areas. Building on previous success such as advocating for national bans on harmful substances, national awareness of environmental security will be conducted.</p>	Minor
<p>Risk 6</p> <p>National MSc researcher does not have capacity to complete the thesis that will form part of the monitoring of the project.</p>	Rare	Insignificant	Minor	<p>WCS Biodiversity Team will support the researcher throughout the term of their MSc – including development and operation of the protocol defining biodiversity. Having successfully collaborated with RUPP previously, we will learn from past MSc research projects and ensure timely completion of field work and adherence to agreed workplans</p>	Minor

Section 8 - Implementation Timetable


Q21. Provide a project implementation timetable that shows the key milestones in project activities


Provide a project implementation timetable that shows the key milestones in project activities. Complete the Word template as appropriate to describe the intended workplan for your project.


Implementation Timetable Template

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and fill/shade only the quarters in which an activity will be carried out. The workplan can span multiple pages if necessary.

 [Implementation Timetable - Final](#)

 12/12/2022

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Section 9 - Monitoring and Evaluation

Q22. Monitoring and evaluation (M&E)

Describe how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E.

Darwin Initiative projects are expected to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact. Additionally, please indicate an approximate budget and level of effort (person days) to be spent on M&E (see [Finance Guidance](#)).

The Monitoring and evaluation of the project will be conducted by in-country WCS staff in collaboration with our government partners. The WCS M&E system was developed to accomplish the following objectives, which include generating data on project progress for donors, providing data for adaptive management, and producing learning documentation for sharing, collaborating, and course correction. The Performance Indicator Reference Sheet (PIRS) documentation, data collection forms, Data Quality Assessment (DQA) tools, form tools for various assessments, Activity Management Database (Asana), and M&E Database (Airtable) are among the resources used in the project's M&E system. The M&E framework documents all indicator names and codes, donor names and codes, baseline values, baseline dates, annual targets and results for each performance indicator, cumulative target type, unit of measure, indicator status and reporting frequency. The PIRS documentation for particular donor project indicators provides the following: indicator description and definition; the unit of measure; data disaggregation, rationale or justification for the indicator; plan for data collection; potential risks related to data quality; baseline timeframe and rationale for the target, changes made to the indicator; and the date of modifications.

To promote learning and knowledge management, other tools have also been developed and applied for rapid assessments that depend on the topics of learning identified. These types of tools include checklists and questionnaires for direct observations, in-depth interviews (IDI), key informant interviews (KII) and focused-group discussions (FGD). Asana, which is an online project management tool, has been adopted for activity planning, monitoring, and reporting. Reporting through Asana replaces the need for submitting activity reports because all activity information and supporting documents can be submitted through Asana. Furthermore, this system provides clear framework of outputs, activities, and sub-activities from the annual work plan; direct, collaborative access for monthly work planning; and up-to-date tracking of work plan activity status and streamlined activity reporting due to its integration with Airtable, the M&E system. Airtable, the project's M&E database, is an online, collaborative relational database and shared platform for activity and indicator data management, assessment, and visualization. Using Airtable means direct and collaborative M&E data management; up-to-date tracking of indicator data; and streamlined activity reporting (integration with Asana system) and data management.

The WCS M&E Officer is responsible for overseeing and supporting data collection that engages the following steps:

Step 1: Data is collected by the program team and submitted to the M&E team.

- Step 2: Data is reviewed and cleaned by the M&E team.
- Step 3: Data is entered into the Airtable M&E database by the M&E team
- Step 4: Data is generated from the M&E database for analyzing and reporting by the M&E team.

Total project budget for M&E in GBP (this may include Staff, Travel and Subsistence costs)	£ [REDACTED]
Percentage of total project budget set aside for M&E (%)	[REDACTED]
Number of days planned for M&E	92

Section 10 - Logical Framework





Q23. Logical Framework (logframe)

Darwin Initiative projects will be required to monitor and report against their progress towards their Outputs and Outcome. This section sets out the expected Outputs and Outcome of your project, how you expect to measure progress against these and how we can verify this.

- [Stage 2 Logframe Template](#)

The **logframe template** (N.B. there is a different template for Stage 1 and Stage 2) needs to be downloaded from Flexi-Grant, completed and uploaded as a PDF within your Flexi-Grant application – **please do not edit the logframe template structure (other than adding additional Outputs if needed) as this may make your application ineligible.**

Please upload your logframe as a PDF document.

-  [Logical Framework - Final](#)
-  12/12/2022
-  19:54:47
-  pdf 156.73 KB

Impact:

Tropeangs within the Northern Plains Landscape are restored by buffalos that are owned by communities with sustainable livelihoods, safeguarding threatened biodiversity and creating a scalable model for other protected areas.

Outcome:

Globally threatened wetland biodiversity is restored through community-owned buffalos performing important ecosystem processes and protected through sustainable income, community-led monitoring, and patrolling.

Project Outputs

Output 1:

Livelihoods are developed and diversified through CPA-led buffalo banking schemes linking producers to markets.

Output 2:

Restoration of the ecological functionality of tropeangs through community-led and managed buffalo herds.

Output 3:

Globally threatened wetland biodiversity is protected through community conservation activities.

Output 4:

No Response

Output 5:

No Response

Do you require more Output fields?

It is advised to have fewer than 6 Outputs since this level of detail can be provided at the Activity level.

No

Activities

Each activity is numbered according to the Output that it will contribute towards, for example, 1.1, 1.2, 1.3 are contributing to Output 1.

Output 1: Livelihoods are developed and diversified through CPA-led buffalo banking schemes linking producers to markets.

- 1.1 CPA assessment across the landscape to select suitable locations for buffalo-bank restoration project based on pre-defined criteria such as importance for threatened species
- 1.2 Using existing buffalo herds as starter stock, purchase new buffalo locally to create adequate herds for restoration projects
- 1.3 Collaborating with project partners, conduct training workshops both in-situ and at Laos Buffalo Dairy on animal husbandry, breeding, herd management, and milking techniques
- 1.4 Create 4 community buffalo dairies using simple structures and locally-sourced equipment and associated protocols for keeping buffalo in suitable environment
- 1.5 Assessment of community needs, and development of either school meals programme or community nutrition groups

Output 2: Restoration of the ecological functionality of tropeangs through community-led and managed buffalo herds.

- 2.1 Train community members on tropeang rotation for buffalo herds and create herding schedule based on tropeang area and herd size
- 2.2 Collaborating with project partners, create a tropeang survey protocol as a means to assess biodiversity value and complete surveys in project tropeangs
- 2.3 Conduct both community workshops including field training, and extended support for tropeang monitoring using previously-developed pragmatic tropeang monitoring protocols
- 2.4 Conduct community monitoring of tropeangs on a monthly basis and adaptively update the herding

schedule based on results

2.5 Conduct camera trapping surveys during the dry season to assess use of tropeangs by mammal and bird species

Output 3: Globally threatened wetland biodiversity is protected through community conservation activities.

3.1 Train and build capacity of CPA patrol teams on the use of SMART and patrol techniques used in tropeang protection, with a focus on poisoning and snaring

3.2 Conduct monthly community patrols in the project area, in collaboration with MOE to ensure forest crimes are adequately addressed

3.3 Community members conduct bird nest monitoring and protection based on species requirements

3.4 Enlist an MSc Student from a national university to conduct research on habitat biodiversity of restored tropeangs

Section 11 - Budget and Funding

Q24. Budget

Please complete the appropriate Excel spreadsheet, which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet. Note that all Darwin Main should be using the over £100,000 template. Please refer to the [Finance Guidance](#) for more information.


- [Budget form for projects over £100k](#)


Please ensure you include any co-financing figures in the Budget spreadsheet to clarify the full budget required to deliver this project.


N.B.: Please state all costs by financial year (1 April to 31 March) and in GBP. The Darwin Initiative cannot agree any increase in grants once awarded.

Please upload the Lead Partner's accounts at the certification page at the end of the application form.

 [6. Budget - Approved](#)

 12/12/2022

 20:06:00

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Q25. Funding

Q25a. Is this a new initiative or does it build on existing work (delivered by anyone and funded through any source)?

- Development of existing work

Please provide details:

This initiative builds on existing work carried out by WCS in the NPL, with funding from Critical Ecosystems

Partnership Fund from 2020-2022 (project end date is December 2022). Under that project, an assessment was conducted on the restoration of tropeangs by buffalo herds in order to create pragmatic protocols for restoration of these critical ecosystems. Similar initiatives for this type of restoration are being trialled in Siem Pang Wildlife Sanctuary in the east of the country.

Q25b. Are you aware of any current or future plans for similar work to the proposed project?

Yes

Please give details explaining similarities and differences, and explaining how your work will be additional and what attempts have been/will be made to co-operate with and learn lessons from such work for mutual benefits.

The expansion of this original project to include direct benefits from buffalo products stems from the success of the LBD in creating a sustainable model of community dairies to produce high quality buffalo products such as milk, cheese, yoghurt and ice cream. The introduction of nutrition groups is currently being studied by LBD in partnership with GIZ in another province of Cambodia, although with a different model of buffalo ownership and no link to biodiversity conservation. We have initiated conversations with GIZ and through our relationship with the LBD, will continue to explore possible collaborations between the two projects – especially on subjects such as school meals and nutrition groups.

Q26. Capital items

If you plan to purchase capital items with Darwin funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

Capital costs will be used to setup community dairies, in particular infrastructure such as corral with shade structure for milking, biogas digester for buffalo waste, and other simple structures required for housing buffalo – all these items will remain with the buffalo herd for continued use at project end.

Handheld Android Smart Devices will be used by the community for conducting surveys and patrolling (using SMART and KoboCollect) will remain with the community after project end.

No other capital costs are anticipated. Less than 10% capital costs are expected.

Q27. Value for Money

Please demonstrate why your project is good value for money in terms of impact and cost-effectiveness of each pound spend (economy, efficiency, effectiveness and equity). Please make sure you read the guidance documents, before answering this question.

Our community-centric approach to building sustainable livelihoods through buffalo banks replicates a successful model implanted by LBD in Lao PDR. Similarly, benefits to communities from protection of bird nests and habitats is already being implemented successfully in NPL and other landscapes by WCS Cambodia.

Our project leverages an existing population of buffalo in the NPL, reducing the start-up costs of these activities and essentially kickstarting what would otherwise be a much longer project. The additional buffalo needed to realize this project are readily available in neighbouring communities and can be

acquired for reasonable prices. Our approach builds on the expertise of partners including LBD and RUPP, incorporating local and regional knowledge to maximize the impact of trainings and ensure effective outcomes. Activities focus on strengthening the nutrition and livelihoods of high poverty communities in remote rural CPA in the NPL by refining and diversifying domestic husbandry activities that already occur in the region to include milk production. The managed herds provide a direct economic and health benefit to remote rural populations who are generally disconnected from economic opportunities, creating an alternative livelihood and nutrition source to reduce pressure on natural resources in the NPL.

A significant portion of WCS staff salaries will be covered through match funding, allowing the project to minimize operating costs and maximize the project impact. We will also leverage existing relationships in-country built through previously invested time and effort to secure the necessary commitments from key stakeholders to contribute to project success.

Section 12 - Safeguarding and Ethics

Q28. Safeguarding

Projects funded through the Darwin Initiative must fully protect vulnerable people all of the time, wherever they work. In order to provide assurance of this, projects are required to have appropriate safeguarding policies in place.

Please confirm the Lead Partner has the following policies in place and that these can be available on request:

Please upload the lead partner's Safeguarding Policy as a PDF on the certification page.

We have a safeguarding policy, which includes a statement of our commitment to safeguarding and a zero tolerance statement on bullying, harassment and sexual exploitation and abuse	Checked
We have attached a copy of our safeguarding policy to this application (file upload on certification page)	Checked
We keep a detailed register of safeguarding issues raised and how they were dealt with	Checked
We have clear investigation and disciplinary procedures to use when allegations and complaints are made, and have clear processes in place for when a disclosure is made	Checked
We share our safeguarding policy with all partners	Checked
We have a whistle-blowing policy which protects whistle blowers from reprisals and includes clear processes for dealing with concerns raised	Checked
We have a Code of Conduct for staff and volunteers that sets out clear expectations of behaviours - inside and outside the work place - and make clear what will happen in the event of non-compliance or breach of these standards	Checked

Please outline how you will implement and strengthen your safeguarding policies in practice and ensure that all partners apply the same standards as the Lead Partner. If any of the responses are “no”, please indicate how it is being addressed.

WCS policies used in the field are designed to ensure that conservation actions are consistent with best practices for social safeguards and comply with international human rights standards. Projects receive support from WCS Social Safeguards Management Team (SSMT) for issues regarding WCS global social safeguards policies/procedures. SSMT provides guidance to teams in the implementation of global social safeguard strategies and thought leadership and training regarding best practices. WCS personnel are held accountable for their actions and those of others under their management authority, and for ensuring compliance. Staff will be briefed on WCS safeguards policy at the project's commencement.

Q29. Ethics

Outline your approach to meeting the key principles of good ethical practice, as outlined in the guidance.

WCS has a robust Code of Conduct that details institutional and employee obligations to create an environment of safety in fulfilment of our mission. WCS is committed to compliance with human rights standards and protections, and as such has adopted national and global standards for safeguarding rights.

We are further supported by WCS Institutional Review Board that outlines the ethical principles and guidelines for the protection of human subjects of research. WCS IRB reviews the level of risk to human subjects, assesses methodology and protections, and mitigates risk by ensuring Free, Prior and Informed Consent has been obtained at all levels of our engagement with local communities.

Communities will be empowered through direct participation in project co-design, implementation, and evaluation to ensure interventions are practical, while incorporating their interests and traditional knowledge. Rights and privacy of communities will be respected always, and WCS acknowledges the sensitive nature and confidentiality required when interacting with communities.

WCS will ensure anyone participating in patrolling, monitoring or other project activities has been appropriately trained and equipped with necessary personal protective equipment. Health and safety of project stakeholders will be top priority.

As with all projects through WCS Cambodia, national laws are strictly followed.

Section 13 - FCDO Notifications

Q30. FCDO Notifications

Please state whether there are sensitivities that the Foreign Commonwealth and Development Office will need to be aware of should they want to publicise the project's success in the Darwin Initiative in any country.

No

Please indicate whether you have contacted FCDO Embassy or High Commission to discuss the project and attach details of any advice you have received from them.

Yes (no written advice)

Section 14 - Project Staff

Q31. Project staff

Please identify the core staff (identified in the budget), their role and what % of their time they will be working on the project.

Please provide 1-page CVs or job description, further information on who is considered core staff can be found in the [Finance Guidance](#).

Name (First name, Surname)	Role	% time on project	1 page CV or job description attached?
Nev Broadis	Project Leader	10	Checked
Mao Khean	Biodiversity Conservation Officer	35	Checked
Tan Sophan	Biodiversity Field Team Leader	30	Checked
Phann Sithan	Communities Technical Advisor	30	Checked


Do you require more fields?


Yes


Name (First name, Surname)	Role	% time on project	1 page CV or job description attached?
Men Ratha	GIS and Remote Sensing Officer	30	Checked
Leam Minea	Biodiversity Field Team Leader	30	Checked
Lor Sokhoeurn	Law Enforcement Team Leader	25	Checked
Sun Khunni	Community Engagement Officer	32	Checked
Neang Kheang	Community Protected Area Officer	30	Checked
Keo Sovanna	Community Engagement Team Leader	20	Checked
Sun Tola	Community Protected Area Officer	25	Checked
Hang Meta	Community Protected Area Officer	25	Checked


Please provide 1 page CVs (or job description if yet to be recruited) for the project staff listed above as a combined PDF.

Ensure the file is named clearly, consistent with the named individual and role above.

 [CVs_combined](#)

 12/12/2022

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 pdf 1.2 MB

Have you attached all project staff CVs?

Yes

Section 15 - Project Partners

Q32. Project Partners

Please list all the Project Partners (including the Lead Partner - i.e. the partner who will administer the grant and coordinate the delivery of the project), clearly setting out their roles and responsibilities in the project including the extent of their engagement so far and planned.

This section should demonstrate the capability and capacity of the Project Partners to successfully deliver the project. Please provide Letters of Support for all project partners or explain why this has not been included.

The partners listed here should correspond to the Delivery Chain Risk Map (within the Risk Register template) which you will be asked to submit if your project is recommended for funding.

Lead partner name:	Wildlife Conservation Society (WCS)
Website address:	www.wcs.org
Details (including roles and responsibilities and capacity to engage with the project):	With two decades of experience conducting biodiversity conservation and community projects in the focal area WCS is the obvious lead partner for this initiative. The majority national staff with long-term links to the NPL have experience on buffalo projects not only with WCS but also other NGO in Cambodia. As the lead partner, WCS will drive the project forward and leverage excellent relationships with both communities and government to overcome potential obstacles as the project develops.
Allocated budget (proportion or value):	£0.00
Represented on the Project Board	<input checked="" type="radio"/> Yes
Have you included a Letter of Support from this organisation?	<input checked="" type="radio"/> Yes

Have you provided a cover letter to address your Stage 1 feedback? Yes

Do you have partners involved in the Project?

Yes

1. Partner Name: Laos Buffalo Dairy (LBD), Lao PDR

Website address: <http://www.laosbuffalodairy.com/>

Details (including roles and responsibilities and capacity to engage with the project): LBD has successfully created a community buffalo dairy in a similar setting in northern Lao PDR. With staff experienced in buffalo husbandry and veterinary care, alongside experience in milking. LBD will therefore be excellently placed to provide expertise and training on health and husbandry of community-based buffalo herds with a specific focus on increasing the quality of the meat and milk products. Further, LBD specialists will support in-country training of community members and host workshops at the LBD in Lao PDR.

Allocated budget: £0.00

Represented on the Project Board Yes

Have you included a Letter of Support from this organisation? Yes

2. Partner Name: Centre for Biodiversity Conservation (CBC) of the Royal University of Phnom Penh (RUPP), Cambodia

Website address: <http://www.rupp.edu.kh/graduate/biodiversity/>

Details (including roles and responsibilities and capacity to engage with the project): CBC of RUPP will select and provide support to a Master of Science in Biodiversity researcher to assist on field research of tropeangs with regards to biodiversity value. CBC is currently in the 18th cohort of students on this course which runs for two years each cohort. The RUPP will also provide access to university resources vital in surveying tropeangs.

Allocated budget: £0.00

Represented on the Project Board No

Have you included a Letter of Support from this organisation? Yes

3. Partner Name: Provincial Department of Agriculture, Forestry and Fisheries (PD AFF), Cambodia

Website address: none

Details (including roles and responsibilities and capacity to engage with the project): As the competent authority in the NPL for livestock and agricultural projects, PD AFF will provide vaccination services, assist in health checks for purchasing buffalo and take part in workshops and veterinary assessments.

Allocated budget: £0.00

Represented on the Project Board No

Have you included a Letter of Support from this organisation? Yes

4. Partner Name: Ministry of Environment (MOE)

Website address: <https://www.moe.gov.kh/>

Details (including roles and responsibilities and capacity to engage with the project): MOE is a close government partner working together with WCS across multiple key biodiversity areas. They are primarily responsible for law enforcement to protect and conserve natural habitats and wildlife, including globally threatened species, by conducting regular patrols in protected areas. MOE brings expertise and local knowledge about wildlife and their respective habitats, and policy around these. MOE are the project proponent of the NPL REDD+ Project, the source of matched funding and through the Provincial Department of Environment partner with WCS on all project activities in the NPL. In addition, the MOE has established buffalo banks in neighbouring provinces.

Allocated budget: £0.00

Represented on the Project Board No

Have you included a Letter of Support from this organisation? Yes

5. Partner Name: *No Response*

Website address: *No Response*

Details (including roles and responsibilities and capacity to engage with the project): *No Response*

Allocated budget: £0.00

Represented on the Project Board Yes No

Have you included a Letter of Support from this organisation? Yes No

6. Partner Name: *No Response*

Website address: *No Response*

Details (including roles and responsibilities and capacity to engage with the project): *No Response*

Allocated budget: £0.00

Represented on the Project Board Yes
 No


Have you included a Letter of Support from this organisation? Yes
 No


If you require more space to enter details regarding Partners involved in the project, please use the text field below.


No Response

Please provide a cover letter responding to feedback received at Stage 1 if applicable and a combined PDF of all letters of support.


 [2. Combined LettersOfSupport](#)


 12/12/2022


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 [1. WCS Cambodia Cover Letter - Final](#)

 12/12/2022

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Section 16 - Lead Partner Capability and Capacity

Q33. Lead Partner Capability and Capacity

Has your organisation been awarded Darwin Initiative, Darwin Plus or Illegal Wildlife Trade Challenge Fund funding before (for the purposes of this question, being a partner does not count)?

Yes

If yes, please provide details of the most recent awards (up to 6 examples).

Reference No	Project Leader	Title
29-010	Edgard Herrera	Community conservation of critically endangered Hawksbill turtles in Nicaragua
28-015	Jeni Pareira	Delivering public-private partnerships to benefit farmers and biodiversity in Sulawesi
IWT116	Rhett Bennett	Equipping southwest Indian Ocean countries to combat illegal shark trade
IWT115	Md. Zahangir Alom	Demand reduction for threatened freshwater turtles and tortoises in Bangladesh

IWTEV003	Thuy Hoang	Exploring drivers of wild meat consumption and interventions in Vietnam
IWTEV001	Sarah Fumey	Developing a problem-oriented approach to reduce turtle trafficking in Cambodia

Have you provided the requested signed audited/independently examined accounts?

If yes, please upload these on the certification page. Note that this is not required from Government Agencies.

Yes

Section 17 - Certification

Certification

On behalf of the

Trustees

of

Wildlife Conservation Society (WCS)

I apply for a grant of

£300,000.00

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- I have enclosed CVs for project key project personnel, cover letter, letters of support, a budget, logframe, Safeguarding Policy and project implementation timetable (uploaded at appropriate points in application)
- Our last two sets of signed audited/independently verified accounts and annual report are also enclosed.





Checked

Name

Joe Walston

Position in the organisation

Executive Vice President, Global Conservation Program





Signature (please upload e-signature)  [Joe w sign](#)
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Date 12 December 2022

Please attach the requested signed audited/independently examined accounts.

 Audited Financial Statements 2020 WCS	 Audited Financial Statements 2021 WCS
 12/12/2022	 12/12/2022
 16:55:17	 16:55:17
 pdf 355.95 KB	 pdf 375.63 KB

Please upload the Lead Partner's Safeguarding Policy as a PDF

 [CombinedSafeguards](#)
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 16:56:28
 pdf 1.3 MB

Section 18 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance, including the "Darwin Initiative Guidance", "Monitoring Evaluation and Learning Guidance", "Risk Guidance" and "Financial Guidance".	Checked
I have read, and can meet, the current Terms and Conditions for this fund.	Checked
I have provided actual start and end dates for the project.	Checked
I have provided my budget based on UK government financial years i.e. 1 April - 31 March and in GBP.	Checked
I have checked that our budget is complete, correctly adds up and I have included the correct final total at the start of the application.	Checked
The application been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
I have attached the below documents to my application	
• my completed logframe as a PDF using the template provided	Checked
• my budget (which meets the requirements above)	Checked
• my completed implementation timetable as a PDF using the template provided	Checked

I have included a 1 page CV or job description for all the Project Staff identified at Question 31, including the Project Leader, or provided an explanation of why not.	Checked
I have included a letter of support from the Lead Partner and partner(s) identified at Question 32, or an explanation of why not.	Checked
I have included a cover letter from the Lead Partner, outlining how any feedback received at Stage 1 has been addressed where relevant.	Checked
I have included a copy of the Lead Partner's safeguarding policy, which covers the criteria listed in Question 28.	Checked
I have been in contact with the FCDO in the project country/ies and have included any evidence of this. If not, I have provided an explanation of why not.	Checked
I have included a signed copy of the last 2 annual report and accounts for the Lead Partner, or provided an explanation if not.	Checked
I have checked the Darwin Initiative website immediately prior to submission to ensure there are no late updates.	Checked
I have read and understood the Privacy Notice on the Darwin Initiative website.	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under the Darwin Initiative and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. You are free to unsubscribe at any time.

Unchecked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the **Privacy Notice**, available from the [Forms and Guidance Portal](#).

This **Privacy Notice must be provided to all individuals** whose personal data is supplied in the application form. Some information may be used when publicising the Darwin Initiative including project details (usually title, lead partner, project leader, location, and total grant value).

Implementation Timetable

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 1	Livelihoods are developed and diversified through CPA-led buffalo banking schemes linking producers to markets.									
1.1	CPA assessment across the landscape to select suitable locations for buffalo-bank restoration project based on pre-defined criteria such as importance for threatened species	6								
1.2	Using existing buffalo herds as starter stock, purchase new buffalo locally to create adequate herds for restoration projects	6								
1.3	Collaborating with project partners, conduct training workshops both in-situ and at Laos Buffalo Dairy on animal husbandry, breeding, herd management, and milking techniques	12								
1.4	Create 4 community buffalo dairies using simple structures and locally-sourced equipment and associated protocols for keeping buffalo in suitable environment	6								
1.5	Assessment of community needs, and development of either school meals programme or community nutrition groups	9								
Output 2	Restoration of the ecological functionality of tropeangs through community-led and managed buffalo herds.									
2.1	Train community members on tropeang rotation for buffalo herds and create herding schedule based on tropeang area and herd size	6								
2.2	Collaborating with project partners, create a tropeang survey protocol as a means to assess biodiversity value and complete surveys in project tropeangs	18								
2.3	Conduct both community workshops including field training, and extended support for tropeang monitoring using previously-developed pragmatic tropeang monitoring protocols	9								
2.4	Conduct community monitoring of tropeangs on a monthly basis and adaptively update the herding schedule based on results	18								
2.5	Conduct camera trapping surveys during the dry season to assess use of tropeangs by mammal and bird species	12								

Project Title: Ecosystem restoration of watering holes in Cambodia’s Northern Plains

	Activity	No. of months	Year 1 (23/24)				Year 2 (24/25)			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 3	Globally threatened wetland biodiversity is protected through community conservation activities.									
3.1	Train and build capacity of CPA patrol teams on the use of SMART and patrol techniques used in tropeang protection, with a focus on poisoning and snaring	18								
3.2	Conduct monthly community patrols in the project area, in collaboration with MOE to ensure forest crimes are adequately addressed	18								
3.3	Community members conduct bird nest monitoring and protection based on species requirements	18								
3.4	Enlist an MSc researcher from a national university to conduct research on habitat biodiversity of restored tropeangs	24								

Project Title: Ecosystem restoration of watering holes in Cambodia's Northern Plains

Project Summary	SMART Indicators	Means of Verification	Important Assumptions
<p>Impact: Troveangs within the Northern Plains Landscape are restored by buffalos that are owned by communities with sustainable livelihoods, safeguarding threatened biodiversity and creating a scalable model for other protected areas.</p>			
<p>Outcome: Globally threatened wetland biodiversity is restored through community-owned buffalos performing important ecosystem processes and protected through sustainable income, community-led monitoring, and patrolling.</p>	<p>0.1 At least 16 troveangs will be monitored and at least 8 will be restored by buffalo herds by project end.</p> <p>0.2 4 CPA that are managing buffalo will have at least 2 community patrols (total 8) with participation from at least 25% women supported by income from buffalo products by the end of Year 1.</p> <p>0.3 By project end, bird nests of globally threatened species within the project area (vicinity of troveangs) will be stable compared to the baseline at project start, based on multi-year biodiversity surveys results already conducted.</p>	<p>0.1 Monthly community troveang monitoring reports (including digital sketch map of physical characteristics). Habitat survey reports (focused on biodiversity) by project lead and partners.</p> <p>0.2 Financial Records of CPA Committees including bookkeeping and patrol financial clearance documents.</p> <p>0.3 Nest Survey and Protection Reports from biodiversity monitoring team and SMART Patrol Data from biodiversity monitoring, community, and Ministry of Environment patrols.</p>	<p>0.1 Extreme weather events do not impact seasonal troveangs to the extent that project interventions are negated.</p> <p>0.2 Mortality rates and disease can be mitigated to create healthy and productive herds.</p> <p>0.3 Poisoning events do not cause crashes in populations of globally threatened species.</p>

Project Title: Ecosystem restoration of watering holes in Cambodia's Northern Plains

<p>Output 1: Livelihoods are developed and diversified through CPA-led buffalo banking schemes linking producers to markets.</p>	<p>1.1 By the end of Y1, buffalo herds across 4 CPAs will increase through purchasing 25 buffalo and breeding from a baseline of 30 animals up to 60 animals with herd dynamics at optimum levels for milk and meat production.</p> <p>1.2 By end of Q1, Y2, at least 20 community members (at least 60% women) will be managing buffalo banks and trained in animal husbandry techniques that maximize production to provide income generation to the CPA Committee of at least \$2,400 per year per CPA.</p> <p>1.3 By end of Q2, Y2, buffalo herds will be producing a combined daily average of 10 litres of milk to support 100 children (50 girls/50 boys) across 4 communities.</p>	<p>1.1.1 Community studbooks on herd dynamics.</p> <p>1.1.2 Purchase reports and pre-assessments of animals by partners.</p> <p>1.2.1 Workshop reports from both in-country and exchange trips, including assessments of CPA skills (where possible, disaggregated by gender) by partners</p> <p>1.2.2 Income generation tracked using the CPA bookkeeping/financial records process already in place for participating CPA.</p> <p>1.3.1 Daily farmer diaries expanded to incorporate milk production records.</p> <p>1.3.2 Nutrition group reports, with combined participant lists of</p>	<p>1.1 Emerging disease does not affect herds in terms of reducing productivity or increased infant mortality.</p> <p>1.2 Travel restrictions (such as Covid-19) do not restrict training workshops being conducted at the Laos Buffalo Dairy.</p> <p>1.3 Community nutrition groups or local schools are engaged and willing to diversify their nutrition sources.</p>

Project Title: Ecosystem restoration of watering holes in Cambodia's Northern Plains

		participating families/children (disaggregated by gender).	
Output 2: Restoration of the ecological functionality of tropeangs through community-led and managed buffalo herds.	<p>2.1 By end of Y1, 4 buffalo herds of at least 10 individuals per herd frequent at least 8 tropeangs on a rotational basis, increasing water depth by an average of least 30cm when compared against 16 control tropeangs without buffalo.</p> <p>2.2 By end of Y1, a biodiversity survey protocol, used to assess restoration of tropeangs, will be developed with project partners and will have been conducted in at least 8 tropeangs within the project area.</p> <p>2.3 By end of Y1, 16 community members from 4 CPA (8 women/8 men) trained in habitat survey methods for biodiversity monitoring and tropeang monitoring protocols for physical characteristics and using these skills on a monthly basis</p>	<p>2.1.1 Buffalo herd diaries and studbooks used to compile and track herd data and schedule of tropeang restoration.</p> <p>2.1.2 Community tropeang monitoring reports (monthly) to track changes in physical characteristics or tropeangs.</p> <p>2.2.1 Report/publication on the development of the protocol, including contributors (disaggregated by gender).</p> <p>2.2.2 Assessment report on each of the tropeangs assessed using the protocol outlining results.</p> <p>2.3.1 Participant lists (disaggregated by sex) from training sessions for community members.</p> <p>2.3.2 Monthly tropeang monitoring surveys and field training conducted in conjunction with the project lead</p>	<p>2.1 Buffalo numbers can be increased through purchase of appropriate animals and successful breeding.</p> <p>2.2 Project collaborators are able to refine techniques used to survey tropeangs, and survey techniques are possible in a local setting.</p> <p>2.3 Protected area land under the management of the MoE can be protected adequately, including preserving locations of project trapeangs.</p>

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	to monitor and adapt use of tropeangs by buffalo herds.		
<p>Output 3: Globally threatened wetland biodiversity is protected through community conservation activities.</p>	<p>3.1 By project end, at least 240 patrol days by community patrol teams comprising at least 8 members (6 women) monitor and protect 24 tropeangs and surrounding habitat.</p> <p>3.2 By end of Q1, Y2 at least 68 bird nests of globally threatened species in habitats containing project tropeangs monitored or protected by community members of which 20% are women .</p> <p>3.3 By project end, at least 4 tropeangs show an improvement in biodiversity value based on surveys conducted by the close of Q2, Y1. Note that the project will create a protocol to assign a biodiversity value as part of Output 2.</p>	<p>3.1.1 SMART reports from CPA Patrol teams, number of patrols, locations of tropeangs, tropeang specific crimes (such as poisoning) targeted, participants (disaggregated by sex).</p> <p>3.1.2 Financial records from CPA Committees highlighting beneficiaries of patrols.</p> <p>3.2.1 Nest protection reports from biodiversity team</p> <p>3.2.2 Participant lists (disaggregated by sex) from community members actively monitoring bird nests.</p> <p>3.3.1 Reports of biodiversity surveys conducted in collaboration with partner institutions.</p> <p>3.3.2 Results of MSc Student thesis.</p>	<p>3.1 Community patrol teams are permitted to operate in the project areas, either with or without support from MOE.</p> <p>3.2 Nesting birds return to the project area in significant numbers and their populations are not affected by factors outside of the project area such as hunting or poisoning.</p> <p>3.3 A suitable candidate to conduct freshwater surveys can be enlisted.</p>

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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. Each activity should start on a new line and be no more than approximately 25 words.)

Output 1: Livelihoods are developed and diversified through CPA-led buffalo banking schemes linking producers to markets.

1.1 CPA assessment across the landscape to select suitable locations for buffalo-bank restoration project based on pre-defined criteria such as importance for threatened species

1.2 Using existing buffalo herds as starter stock, purchase new buffalo locally to create adequate herds for restoration projects

1.3 Collaborating with project partners, conduct training workshops both in-situ and at Laos Buffalo Dairy on animal husbandry, breeding, herd management, and milking techniques

1.4 Create 4 community buffalo dairies using simple structures and locally-sourced equipment and associated protocols for keeping buffalo in suitable environment

1.5 Assessment of community needs, and development of either school meals programme or community nutrition groups

Output 2: Restoration of the ecological functionality of tropeangs through community-led and managed buffalo herds.

2.1 Train community members on tropeang rotation for buffalo herds and create herding schedule based on tropeang area and herd size

2.2 Collaborating with project partners, create a tropeang survey protocol as a means to assess biodiversity value and complete surveys in project tropeangs

2.3 Conduct both community workshops including field training, and extended support for tropeang monitoring using previously-developed pragmatic tropeang monitoring protocols

2.4 Conduct community monitoring of tropeangs on a monthly basis and adaptively update the herding schedule based on results

2.5 Conduct camera trapping surveys during the dry season to assess use of tropeangs by mammal and bird species

Output 3: Globally threatened wetland biodiversity is protected through community conservation activities.

3.1 Train and build capacity of CPA patrol teams on the use of SMART and patrol techniques used in tropeang protection, with a focus on poisoning and snaring

3.2 Conduct monthly community patrols in the project area, in collaboration with MOE to ensure forest crimes are adequately addressed

3.3 Community members conduct bird nest monitoring and protection based on species requirements

3.4 Enlist an MSc Student from a national university to conduct research on habitat biodiversity of restored tropeangs