

**Environmental Impact Assessment
and
Environmental Management Plan**

Date: 2nd April 2021

CEPF Grant 111977

Rising Phoenix Co. Ltd.

Conserving vultures and ibises in their last Cambodian stronghold

Siem Pang Wildlife Sanctuary, Stung Treng Province, Cambodia

Grant Summary

1. Grantee organization: Rising Phoenix Co. Ltd.
2. Grant title: Conserving vultures and ibises in their last Cambodian stronghold
3. Grant number: 111977
4. Grant amount (US dollars): 235,000 USD
5. Proposed dates of grant: 1st July 2021 to 30th June 2024
6. Summary of the project.

The project sets out to conserve the 3 Critically Endangered Vulture and 2 Critically Endangered Ibis in their last Cambodian Stronghold of Siem Pang Wildlife Sanctuary (SPWS). This will be achieved through the establishment of a feral water buffalo herd which will actively improve the quality of forest wetlands and increase the food source for Giant and White-shouldered Ibis. Additional food will be provided at vulture restaurants and artificial nesting platforms will be installed at SPWS. A monitoring and research programme will assess the impact of the project interventions.

7. Date of preparation of this document. 2nd April 2021.
8. **Status of area to be impacted:** This section should describe the applicant's understanding of the site.

Siem Pang Wildlife Sanctuary (SPWS), is located in the Northern Plains Seasonally Inundated Forests and the Sekong River, part of the Mekong River 3S Rivers Confluence which flows through the site. This site, inundated for part of the year, includes over 200 ephemeral wetlands known as trapeangs.

Trapeangs are a vital source of food and water for wildlife including important populations of two CEPF priority species the Critically Endangered White-shouldered ibis *Pseudibis davisoni* and Giant Ibis *Thaumatibis gigantea* (Gray et al. 2015, Wright et al. 2012). SPWS also supports the largest known population of the Endangered Eld's deer *Recervus eldii* a species likely to become Critically Endangered following future assessment. Additionally SPWS supports populations of the Endangered Banteng *Bos javanicus*, and the Vulnerable Gaur *Bos frontalis*. As well as being the last stronghold for three Critically Endangered Vulture Species (red-headed vulture *Sarcogyps calvus*, Slender-billed vulture *Gyps tenuirostris* and White-rumped Vulture *G. bengalensis*).

A recently published paper and output from a CEPF supported project, recommended reinforcement and reintroduction of Siem Pang's Eld's Deer and Banteng populations, in addition to establishing a feral herd of domestic buffalo (Gray et al. 2019). Many protected areas in Cambodia, especially in the deciduous dipterocarp landscape are now empty forests, almost entirely devoid of populations of the large charismatic mammals that existed there until recently.

Re-wilding involving species restoration and reintroduction coupled with habitat restoration are viewed as essential management tools but the factors leading to species' decline must be addressed before such costly efforts can be attempted. This is made more complicated when the ecological roles of extinct wild mammal species, such as Asian Elephant *Elephas maximus* and Wild Water Buffalo *Bubalus arnee* responsible for maintaining trapeangs have been replaced by domestic cattle and buffalo, which may themselves be carrying disease preventing the rehabilitation of wild mammal populations. Evidence suggests that numbers of domestic livestock are declining at SPWS and insufficient to ensure the ecological integrity of the *trapeangs*.

References

Gray, T.N.E., W.J. McShea, A. Koehncke, P. Sovanna and M. Wright (2015). Artificial deepening of seasonal waterholes in eastern Cambodia: impact on water retention and use by large ungulates and water birds. *Journal of Threatened Taxa* 7(6): 7189–7195; <http://dx.doi.org/10.11609/JoTT.o3935.7189-95>.

Gray, T.N.E., Eames, J.C., Lyon, J.R.A. and Meyerhoff, M. (2019) Rewilding in Southeast Asia: an assessment of conservation opportunities in Western Siem Pang Wildlife Sanctuary, Cambodia. *Cambodian Journal of Natural History*, 2019 (2) 98-113.

Wright, H. 2012. Synanthropic survival: low-impact agriculture and White-shouldered Ibis conservation ecology. PhD Thesis. University of East Anglia [UEA], England

Wright, H.L., Collar, N.J., Lake, I.R., Bou Vorsak and Dolman, P.M. 2012. Foraging ecology of sympatric White-shouldered Ibis *Pseudibis davisoni* and Giant Ibis *Thaumatibis gigantea* in northern Cambodia. *Forktail* 28: 93-100.

9. **Approach:** This section will describe proposed actions during the project. Specifically, what do you intend to do and how will you do it?

The project intends to establish a feral water buffalo herd within Siem Pang Wildlife Sanctuary which will provide a source of food for the vulture population and assist in maintaining the ecological function of waterholes via their grazing and wallowing.

A protocol on buffalo management and release will be developed and implemented. The project will purchase 50 drought resilient domestic water buffalo from Stung Treng province. The buffalo will be vaccinated against foot and mouth disease and hemorrhagic septicemia, ear-tagged and cold-branded. We aim to buy or establish small herds, the herd leaders will be fitted with GPS collars, including Nofence devices that can deliver mild electric shock. The buffalo will then be released into Siem Pang Wildlife sanctuary. During the lifetime of the project we will continue vaccination and will also make provision for providing supplementary feeding should this be necessary. Beyond the lifetime of the project is intended that the buffalo herd will become feral and revert to pre-domestication behavior.

10. **Anticipated impact:** this section will describe the impact and how this impact has been determined.

This intervention forms part of Rising Phoenix rewilding strategy for Siem Pang Wildlife Sanctuary. The herd of feral water buffalo will play a key ecological role in maintaining the trapeangs which are essential feeding ground for the two Critically Endangered Ibis species. The buffalo will also provide a food source for the three critically endangered vultures.

11. **Mitigation measures:** Describe measures that will be taken to mitigate negative impacts.

The buffalo will be vaccinated against foot and mouth disease and hemorrhagic septicemia, ear-tagged and cold-branded. This will reduce the risks of buffalo mortality. The buffalo herd will be fitted with GPS collars and live tracked via the Earth Ranger system already established at Siem Pang Wildlife Sanctuary. The GPS collars allows a geofence to be created for the animals, which allows the project to control which locations the buffalo are allowed to enter without the use of fence. This will ensure the buffalo are in an area with water and food availability, and out of an area where rustling may be an issue.

In addition, project team member will regularly check up on the buffalo herd to ensure animals are in good health, and no rustling has occurred.

A monitoring protocol which will be established to monitor the impact of the buffalo herd on the deciduous dipterocarp forest and trapeangs. Data will be collected throughout the project and regularly analyzed, to ensure there are no adverse impacts from the presence of the buffalo herds. If negative impacts are discovered, action can be taken to mitigate these, taking an adaptive management approach.

Experts will be consulted to support the development of a protocol on buffalo management and release, in addition to the development of a Protocol for monitoring wetlands in buffalo grazing area

12. **Actions to ensure health and safety**: Describe actions that will be taken to ensure the health and safety of workers as well as the site. Include a description of waste management and/or disposal.

The project staff that will regularly check up on the buffalo herds, as well as those who will collect the data of the waterhole monitoring protocol, will travel in pairs to ensure their safety. They will also carry a radio with them encase of emergency and they require evacuation.

All Rising Phoenix staff will follow the waste management policy of Rising Phoenix when in Siem Pang Wildlife Sanctuary.

13. **Monitoring and Evaluation**: This section aims to outline what steps the proponent will take to monitor and evaluate the impact of the proposed intervention.

- Remote live tracking of animals.
- Weekly physical checkups on the animals.
- Data collection on the impact of grazing and buffalo wallowing in Siem Pang Wildlife Sanctuary following protocol for monitoring wetlands in buffalo grazing area
- Publication of studies looking at the impact establishing a feral water buffalo herd.

14. **Permission of the landowner**: Please verify permission of the landowner to undertake actions on the site, and verify that you have the required permits to undertake this work.

The land is designated as a Wildlife Sanctuary and comes under the jurisdiction of Stung Treng Department of Environment, under the Ministry of Environment. Rising Phoenix operates at Siem Pang Wildlife both within the framework of the MoU between Birdlife International and Ministry of Environment and a recently signed agreement between Rising Phoenix and the Ministry of Environment. The Ministry of Environment are aware and fully supportive of the project, and no additional permits are required to implement the work, aside from the agreements which are already in place

16. **Consultation**: This section aims to outline the range of informed consultations that the grantee has had both with experts to optimize the potential for success, and with stakeholders, particularly local communities, who are potentially affected by the proposed actions. Include dates of consultations.

The main new activity in this project is the establishment of the feral herd of water buffalo in the protected area. Through Jonathan C Eames, Rising Phoenix is the custodian of institutional knowledge regarding buffalo herd establishment and management at SPWS (Eames *et al.* 2018). The experience gained under these activities carried-out under a previous CPEF funded project will inform this new project. This concept was discussed with the district governor of Siem Pang and Head of Stung Treng Department of Environment with the publication of the rewilding feasibility study for Siem Pang Wildlife

Sanctuary. Both agreed with the need for this intervention and supported the rewilding vision for SPWS. Additional discussion around the project and establishment of a feral water buffalo herd was held with representatives for the GDANCP in March 2021.

Reference

Eames, J. C., Eang, S., Loveridge R., and Gray, T. N. E., (2018) Impact of experimental domestic water buffalo *Bubalus bubalis* grazing on waterhole dynamics in north-eastern Cambodia Cambodian Journal of Natural History, 2018, 101–109.

17. **Disclosure:** CEPF requires that safeguard documents are disclosed to affected local communities and stakeholders prior to project implementation. Please describe efforts to disclose this impact assessment and environmental management plan and provide dates.

Within the first quarter of project implementation a launch workshop will be held with all the key stakeholders of the project including Department of Environment, Provincial and District government representatives, district law enforcement agencies and villages and commune representatives. At this workshop the project will be presented including the environmental management plan, the grievance mechanism will also be discussed.

The grievance mechanism displayed in the below section, will be translated into Khmer and Laotian. Three versions of the grievance mechanism will be printed in English, Khmer and Laotian and distributed across the 7 target villages of the project, as well at the three commune halls. Any grievances received will be dealt with in a timely manner.

The implementing partners of Siem Pang Wildlife Sanctuary will hold a stakeholder forum every quarter, in addition to village forums in the seven target villages surrounding the sanctuary. This provides a regular opportunity for the stakeholders to express concern or grievance on the project implementation.

18. **Grievance mechanism:** All projects that trigger a safeguard must provide local communities and other relevant stakeholders with a means to raise a grievance with the grantee, the relevant Regional Implementation Team or the CEPF Secretariat.

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Grievance mechanism

To Whom It May Concern

This document provides a grievance mechanism in relation to the above-named project.

Stakeholders will be informed of the objectives of the project and the existence of the grievance mechanism via a public notice posted outside the Rising Phoenix office Siem Pang in Khmer, Lao and English languages. Stakeholders will further be made aware of the objectives of the project and the existence of the grievance mechanism via notices available at project meetings and public announcements at village meetings in Khmer.

Rising Phoenix will share all grievances – and a proposed response – with the Regional Implementation Team and the CEPF Grant Director within 15 days. If the claimant is not satisfied following the response, they may submit the grievance directly to the CEPF Executive Director at cepfexecutive@conservation.org.

If the claimant is not satisfied with the response from the CEPF Executive Director, they may submit the grievance to the World Bank at the local World Bank office.

Any signboards and posters created as a project output will contain the contact information for Rising Phoenix and CEPF as provided below. Anyone wishing to communicate with the grantee and the CEPF Regional Implementation Team on matters relating to this project may do so via the following contact information:

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