Process Framework for Involuntary Restrictions on Access to Natural Resources

Project Title: Re-wilding Western Siem Pang; Ecological Restoration in the Deciduous Dipterocarp Forests of Cambodia

Project Implementer: BirdLife International

The main project component of this CEPF funded project is the experimental manipulation of buffalo densities at 16 trapeangs in Western Siem Pang's Deciduous Dipterocarp Forest. In order to examine the effects of different buffalo densities on ibis foraging habitats at trapeangs, wooden fences will be used to prevent domestic buffalo not involved in the project from accessing project trapeangs. Though the final list of project trapeangs has not yet been finalised, approximately half will be located within the newly designated Siem Pang Protected Forest. This component of the project will run for approximately 3 years. CEPF have identified one World Bank Safeguard Policy which appears to be relevant to the project, namely Involuntary Resettlement (Operational Policy 4.1.2). This safeguard refers not only to physical resettlement of people, but also to the restriction of access to resources.

The project will impose some restrictions on access to natural resources within a legally designated protected area, namely livestock grazing at specific trapaengs but we believe that these restrictions will have minimal adverse impacts on local communities for the following reasons. The area selected for this project does not have any the site's seven local villages within it, and has trapeangs that are infrequently, if ever, visited by domestic buffalo. The project area includes several trapeangs that are covered in dense vegetation for most of the year, an indication that domestic buffalo do not frequently visit or use trapeangs in the project area. Approximately 80% of Western Siem Pang's trapeangs are located towards the south-eastern edge of the site, in close proximity to the majority of the site's local communities, and resource use at these trapeangs will not be affected by this project. Other natural resource use is likely to take place within the project area, namely the collection of fish and amphibians for subsistence. Neither of these activities, or the collection of other natural resources, will be restricted or prevented in the project area.

Project Background:

Western Siem Pang, Stung Treng province in North-eastern Cambodia is one of the best examples of Deciduous Dipterocarp Forest left in Indo-Burma. Covering approximately 150,000 hectares (ha) the site is dominated by lowland Deciduous Dipterocarp Forest, with a relatively small amount of Semi-evergreen Forest in the North. 67,000 ha has recently been declared a Protected Forest by Cambodia's government (hereby referred to as the Northern Sector). The remaining 80,000 ha, which includes most of the site's Deciduous Dipterocarp Forest (hereby referred to as the Southern Sector), has no formal protection. The entire site has been co-managed by BirdLife Cambodia and Cambodia's Forestry Administration since 2004.

Western Siem Pang supports globally-significant populations of two Critically Endangered bird species; Giant Ibis *Thaumatibis gigantea* and White-shouldered Ibis *Pseudibis davisoni*. Western Siem Pang has the largest known sub-population of White-shouldered Ibis in the world, supporting approximately 40% of the global population. The site supports regionally significant proportions of the Indochinese sub-populations of three Critically Endangered Vulture species; White-rumped Vulture *Gyps bengalensis*, Slender-billed Vulture *Gyps tenuirostris* and Red-headed Vulture *Sarcogyps calvus*. Several globally-threatened mammal species have been confirmed for Western Siem Pang including Banteng *Bos javanicus*, Gaur *Bos gaurus*, Dhole *Cuon alpinus*, Eld's Deer *Rucervus eldii* and Indochinese Silvered Langur *Trachypithecus germaini*. The site has high national, regional and global importance to biodiversity conservation.

In the absence of wild ungulates such as Wild Water Buffalo *Bubalus arnee* and Asian Elephant *Elephas maximus*, the wallowing and grazing behaviours of domestic water buffalo *Bubalus bubalis* play a crucial role in maintaining the ecological integrity of *trapeang*s (forest pools) in Western Siem Pang (Wright 2012). However, due to agricultural modernisation, buffalo ownership at Western Siem Pang is decreasing. The absence of domestic buffalo from the site would cause sedimentation and vegetation to increase at *trapeangs* (Wright 2012). The effects of this can already been seen at some of the more remote *trapeangs* in Western Siem Pang, which are becoming choked with dense vegetation, particularly *Sesbania spp*. Similar *trapeang* conditions can be seen at other sites in Cambodia such as Lomphat Wildlife Sanctuary, with the absence of large wallowing ungulates (both domestic and wild) considered to be the main factor behind this deterioration. A loss in the ecological integrity of *trapeangs* will have negative impacts on a wide range of dry forest species. Dry forest species rely on *trapeangs* during the harsh and relatively long dry season that affects the Northern and Eastern Plains of Cambodia.

Increased sedimentation and vegetation at *trapeangs* will decrease the amount of foraging habitats available to White-shouldered Ibis and to a lesser extent Giant Ibis (Wright 2012), and possibly other waterbird species too. White-shouldered Ibis is known to forage almost exclusively on dry exposed substrates at *trapeang*s that have little or no vegetative cover in the dry season (Wright et al. 2012). As the site has the largest known sub-population of White-shouldered Ibis in the world, any reduction in the extent and quality of suitable foraging habitats at Western Siem Pang is therefore likely to have significant negative impacts on the global recovery of this species.

The reintroduction of large wild ungulates that wallow to post-hunting densities at Western Siem Pang remains unfeasible (due to expense and the threat of poaching). Recent efforts by BirdLife to maintain the *status quo* in domestic buffalo ownership by implementing a vaccination programme have been unsuccessful. 80% of herd owners during follow up interviews stated that they would be replacing their buffalo with hand-tractors in the near future (i.e. within the next few years), with disease cited as the main reason. Acquiring stocks of domestic buffalo and using them to maintain *trapeang* habitats for waterbirds is therefore the only short to mid-term solution available for the site. A key question must therefore be what densities of domestic buffalo are needed to maintain and improve foraging habitats available to ibises and other threatened waterbird species at *trapeangs*.

Direct conservation management actions have rarely been implemented in tropical Asia, but small-scale trials on *trapeang* modification have shown that such actions have the potential to directly benefit the conservation of these two globally-threatened ibis species (Gray et al. *in press*). The success of this project in Western Siem Pang, and its subsequent application at other sites in Cambodia, would complement ongoing national efforts to improve nesting success in these two species, as well as broader scale habitat protection. Combined, these activities have the potential to greatly improve the global recovery of these two Critically Endangered ibis species. This pioneering and innovative project will demonstrate the value of direct conservation management in restoring the Dry Forest ecosystem of Central Indochina for the benefit of a suit of threatened waterbird species and local livelihoods.

Project activities are;

- Develop and train a team of Cambodian biodiversity monitoring officers at Western Siem Pang, specialising in ibis conservation
- Develop and train a team of Cambodian undergraduate level technical officers at Western Siem Pang, specialising in Ibis conservation and the conservation management of trapeangs
- Apply different domestic buffalo densities to a selection of trapeangs in Western Siem Pang over 3 years
- Monitor impacts of different buffalo densities on ibis foraging habitats at trapeangs and the use of trapeangs by ibises and other waterbird species over 3 years

- Produce a reliable Giant Ibis population estimate for Western Siem Pang, to enable the impacts of the conservation management of trapeangs (plus other ongoing activities i.e. nest protection) to be monitored at the site
- Produce a Trapeang Management Protocol, with a focus on the conservation management of trapeangs using domestic buffalos in Deciduous Dry Forest
- Produce a peer-reviewed scientific paper on the conservation status of Giant Ibis at Western Siem Pang
- Produce a peer-reviewed scientific paper on the impacts of direct management of trapeangs on Critically Endangered Ibis species at Western Siem Pang

Project Implementation

A key component of this project will be to investigate what densities of domestic buffalo are needed at trapeangs to improve the extent and quality of ibis foraging habitat at trapeangs. This is the only project activity that could potentially restrict local people's access to natural resources. 16 trapeangs will be selected for this project component out of approximately 300 that exist within Western Siem Pang IBA. All of the project trapeangs will be in the northern half of Western Siem Pang, and no villages are within the project area. These 16 trapeangs will have treatments of zero (i.e. a control), 4, 8 and 16 domestic buffalo applied over approximately three years, and the impacts on ibis foraging microhabitats and ibis use of trapeangs monitored. All 16 project trapeangs will be fenced to prevent other domestic buffalo from influencing the results. There will be no restrictions in place on the collection of fish, amphibians or other natural resources from these 16 trapeangs.

The project is unlikely to significantly negatively affect access to natural resources; the project trapeangs are not know to be heavily used by local communities or their domestic buffalo.

Roles and responsibilities during project implementation

BirdLife Cambodia has full-time project staff, both Cambodian and international Technical Advisers, based at Western Siem Pang. The full-time project staff includes a community outreach officer responsible for liaising with local communities. The role of community outreach officer will include facilitating any meetings to raise awareness on the project, gain acceptance of the project's aims and methods, and resolve any local conflicts. Field staff will facilitate village meetings (as they are often from the same communities) and will be responsible for monitoring waterbird species at trapeangs, and for managing the monitoring data.

Two full-time Cambodian technical staff will be based at Western Siem Pang. Their roles will be to ensure that activities are coordinated and following standardised protocols, and to monitor vegetation changes at trapeangs.

Restriction to natural resources and mitigation measures

All restrictions to access are completely voluntary. If local communities consider the fencing of a particular trapeang a restriction to their natural resources, then it will simply be excluded from the project and a replacement trapeang proposed and then discussed.

The impacts from restricting domestic buffalo access to trapeangs in the project area are likely to be extremely small, and there is no need for a one-for-one mitigation measure. There is no evidence to suggest that local communities are very dependent on trapeangs in the northern sector to feed and water their domestic buffalo – these trapeangs are the furthest from the site's local communities and are choked with vegetation, indicating that

domestic buffalo infrequently, if ever, visit these trapeangs. Western Siem Pang IBA contains approximately 300 trapeangs; this project will only involve approximately 5% of the available trapeangs at this site.

We conclude that no groups or persons are likely to be eligible for assistance and mitigation measures as a result of the project.

Grievance mechanisms and conflict resolution

The main mechanism for dealing with grievances is through local community groups. Illiteracy levels are high in Cambodia, especially in the rural communities project activities will take place. Nearly all communication between BirdLife and the local communities and any conflict/grievance resolution therefore has to be verbal. Community groups are well established at Western Siem Pang, as many other conservation interventions e.g. nest protection, bird censuses, awareness campaigns, are dependent on the voluntary involvement of people from the local communities. BirdLife set up Local Conservation Groups in 2010 and membership now totals 120 local villagers, with representatives in each of the site's seven villages. Local Conservation Groups and BirdLife's Community Outreach Officer will facilitate any conflict/grievance resolution with disaffected members of the local communities they represent. Minutes will be taken during meetings, with both Khmer and English language versions made. Copies of the Khmer version will be given to a suitable local authority, most likely a village chief and signed off by the village chief and a member of BirdLife project staff. Scanned copies of all signed minutes will be stored on a project database, and English copies will be made available to CEPF if requested. BirdLife's site-based community outreach officers and/or full-time field staff from the local communities will have the responsibility for working with individuals from local communities and/or local authorities and for resolving any complaints or local conflicts.

CEPF and the Regional Implementation Team will be informed of any grievances raised within 30 days, together with a plan for remedial action

References

Gray, T.N.E., McShea, W.J., Koehncke, A., Prum Sovanna and Wright, M. *in press*. Artificially deepening natural seasonal waterholes in eastern Cambodia: impact on water retention and use by globally-threatened large ungulates and waterbirds. Journal of Threatened Taxa.

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