



**NAM NGIEP 1**  
**POWER COMPANY**

# **BIODIVERSITY ADVISORY COMMITTEE**

## **5<sup>TH</sup> MISSION REPORT**

J. W. Duckworth

January 2017

**Nam Ngiep 1 hydropower project  
Biodiversity Advisory Committee  
Report January 2017**

## **1. SCOPE**

This Biodiversity Advisory Committee (BAC) report covers the period since the new chair, J. W. Duckworth, was appointed, on 5 October 2016, to 20 January 2017. It reports the activities of the BAC in that period and offers recommendations on future direction of the biodiversity aspects of the Nam Ngiep 1 (NNP1) project. There are major differences of opinion between members of the BAC about the advice appropriate to provide. Thus, this report provides the BAC chair's observations and those of one of the members separately. Consistent with BAC members' role of freedom to express their individual views, the chair did not seek to modify the text of the other member, except to correct one factual error where an individual's viewpoint had been misrepresented as that of the BAC.

## **2. ACTIVITIES DURING THE PERIOD**

### **2.1 Commenting on documents**

The BAC provided comments on several draft documents of NNP1PC:

- the activities and budget for conservation activities for the Nam Chouane – Nam Xang Offset Area (NCNX) for the interim period while the Biodiversity Offset Management Plan (BOMP) is being prepared
- the Memorandum of Understanding (MOU) between NNP1PC and Bolikhamxay Province concerning NCNX
- the terms of Reference (ToR) for BOMP preparation
- the Biodiversity Management Sub Plan (BMSPP) for the Nam Ngiep 1 subcatchment

### **2.2 Meetings and site visits**

The BAC attended NNP1's Independent Advisory Panel (IAP) – Lenders' Technical Advisor (LTA) – Asian Development Bank (ADB) mission over 12–17 December 2016; the days of 13–16 December were spent in the ADB-led Biodiversity Offsets Technical Discussion (BOTD). Participants in the first two days of this meeting included all three BAC members, several ADB personnel, several NNP1PC personnel and four external offset specialists contracted by ADB. The final two days were expanded to include Government of Lao (GoL) personnel; one of the external specialists had left. Over 19–21 December (P. Phengsintham and J. W. Duckworth) / 20-21 December (R. Boonratana) the BAC visited the western fringe of NCNX, staying overnight in Ban Vangphieng. The day of 22 December was spent at the NCNX office in Pakxan, firstly debriefing the company and local government about activities of 12–21 December, then in discussion with C. Vongkhamheng and S. Duthy (contracted to NNP1PC for management planning in the NNP1 subcatchment) about possible biodiversity conservation activity in the NNP1 subcatchment. On the morning of 23 December the BAC had an internal discussion about mode of operation and functionality.

## **3. CHAIR'S OBSERVATIONS**

Several concepts or phrases relevant to the NNP1 contribution to biodiversity warrant BAC comment because of varying perspectives among the project partners. For some of them, considerable confusion over meaning is impeding constructive progress with the NNP1 project. These concepts and phrases lead to a series of priority recommendations for action. These chair's observations do

not repeat the recommendations made in the comments on the four draft documents mentioned above, unless those comments have much wider relevance.

### **3.1 No Net Loss**

The central issue for the NNP1 project and biodiversity is achieving 'No Net Loss' (or a net gain) of biodiversity (NNL). NNL is a potential outcome of the project, not something that can be attained at the start. But at this stage, a credible pathway to achieve NNL is required to conform with the safeguards of ADB, a project lender.

As far as the BAC chair can ascertain, the NNP1 project is not required to have any other commitments to biodiversity, nor has it made any. NNP1PC's underlying biodiversity obligations are stipulated in Annex C of the Concession Agreement and in the Facility Agreement with ADB. These obligations include:

- Prepare baseline biodiversity data both with respect to the area impacted by the project and with respect to the offset site;
- Prepare a biodiversity offset management plan;
- Provide funding to implementation of the biodiversity offset management plan (budget stated in Annex C).

These specify that the biodiversity management is to be through an offsetting framework – and the purpose of offsetting it to achieve No Net Loss.

The concept of No Net Loss is simple: project-driven biodiversity losses must be equalled (or exceeded) by project-driven biodiversity gains. Given that this requires, at the start of a project, prediction of what would happen under two scenarios (with project and no project; and for each of those two, multiple sub-scenarios may be envisaged) for decades into the future, and that these predictions will be based upon necessarily incomplete information on biodiversity 'starting point' of project area and of offset area(s), considerable discussion can be expected in order to arrive at a 'fair' offset 'demand' – the amount the project is predicted to be required to do to 'cancel out' its unavoidable damages. Achieving NNL has become a particularly thorny issue amongst the NNP1 project stakeholders because some approximate figures of what the project should contribute for biodiversity have been incorporated or implied in binding documents, the GoL – NNP1 Concession Agreement (CA), the ADB – NNP1 Facility Agreement (FA) and the GoL – NNP1 Biodiversity Offset Framework (BOF). These approximate figures were based on inadequate previous impressions of the likely extent of damage to biodiversity by NNP1. How to 'retrofit' the project to meet NNL, and the sources of the substantial additional funds necessary, need to be determined.

During the BAC's visit, the question was raised as to whether it was acceptable to follow national standards and norms, rather than international ones, and to be mindful of GoL capacity in determining the scope and standard of mitigation and offset activity appropriate. The requirement is to meet NNL, and if there is predicted to be difficulty in meeting it through capacity available, then external capacity support is likely to be required. This is covered specifically, below.

Because, from the ADB's point of view, it apparently would not be an option to proceed with involvement in the project expecting that NNL will not be met, a credible pathway to NNL must be developed and agreed. These BAC chair's observations therefore discuss NNP1's biodiversity in the context of NNL. Developing on from the discussions at the BOTD, ADB undertook to prepare a comprehensive project briefing document on options for the NNP1 project to reach NNL (see 3.8).

*Recommendation:* all future biodiversity discussion and documentation of the project should be set within a NNL context.

### **3.2 Holistic approach to NNL**

As frequently happens in South-east Asia, NNP1 has to date segregated aquatic and non-aquatic biodiversity in terms of survey and management considerations. This reflects the rarity of people qualified to assess and discuss both non-aquatic and aquatic biodiversity. Before December 2016, NNL discussion for NNP1 had, reflecting some individual people's backgrounds, focussed strongly on non-aquatic biodiversity. In fact, the challenges to meeting NNL are likely to be substantially more severe among the fish: the project has far more dramatic effects on types and connectivity of aquatic habitat than on land habitats, and a number of fish species are known only from the Nam Ngiep in the general area of the project. The ADB reported at the BOTD that the NNL options paper will take a holistic approach to NNL, including aquatic and non-aquatic biodiversity; so do these BAC chair's observations.

*Recommendation:* the information base for fish (notably, in potential offset areas) and consideration of fish needs relevant to NNL should be brought up to parity with groups such as large mammals.

### **3.3 Incomplete knowledge and its effects on considering NNL**

Discussions of NNL and parties' obligations towards it should base NNL targets and efforts on sound assessments of impacts that are reasonably predicted to occur and reasonably attributable to the project, and on impacts that can be foreseen in sufficient detail to design and implement mitigation measures of appropriate scope and scale. Total understanding of biodiversity of an area as complex as the NNP1 subcatchment is unattainable under any realistic scenario. This inevitable uncertainty raises important questions relevant to project economics. First, among species (and species comprise only one level of biodiversity), only birds, reptiles, amphibians, large mammals and fish have been covered in a broad-scale way by subcatchment surveys to date, and even for those groups species lists are not comprehensive. Neither invertebrates – among which are many hyperendemic species – nor fungi have been covered at all, and coverage of plants has been highly selective. Thus, it is possible that during project life-time, additional species will be discovered for which the subcatchment comprises an important part of their global range and which will be negatively affected by the project (this may be particularly likely among aquatic invertebrates of fast-flowing, highly oxygenated water). Another uncertainty is the changing global conservation status of species: some species not rare enough to be selected for specific consideration in the offset comparison today might, in 10 or 20 years' time (thus, within NNP1's concession period), warrant such treatment.

*Recommendation:* the effects that changes in knowledge and context would have on efforts to meet, and probabilities of meeting, NNL warrant clarity, so that all parties to have a common understanding of the goals and can make the best use of resources. ADB's forthcoming NNL options document warrants careful scrutiny and constructive criticism to ensure adequate coverage of this topic.

### **3.4 The geographic bounds of project negative effects**

There is no single hard geographic boundary to the NNP1 project's negative effects on biodiversity. The spatial extents of some of these impacts differ hugely from some of the others. Inundation will change greatly the aquatic habitat upstream of the dam and will flood an area of land habitat almost negligible in the regional context. It will ease access for collectors of wild plant and animal products, for example by allowing easier boat access further up tributaries in more months of the year. It will increase marketability of extracted wildlife because of the increased number of people with entrepreneurial outlook and connexions into markets who will be in the area because of the project,

and similarly the increased number of road vehicles able to transport wildlife. It may stimulate an increase in hunting for local demand too, given the influx of non-local labourers, many of whom are likely to value wild meat more highly in their diet than they do domestic meat. And as a contributor to income enhancement in the region, given that wildlife meat is seen as a luxury product, the general demand for it is likely to increase with greater affluence. There are multiple other detrimental effects of the project upon biodiversity. Thus, terms like 'impact area' need to be seen as a short-hand for the area relevant to whatever effect is being discussed at the time, not as one fixed area of land. Similarly, the assigned NNP1 subcatchment boundary is arbitrary with respect to the project. Some impacts occur in only a small proportion of the NNP1 subcatchment, while others extend beyond its boundary.

*Recommendation:* comment on impacts should be set within appropriate geographic context.

### **3.5 Determination of NNL**

Many of the project's negative impacts on biodiversity, even those close to project activity, are incremental enhancements of existing phenomena. For example, some species are so valuable in trade they have already been harvested out of this part of Lao PDR, such as rhinoceroses. In the absence of the NNP1 project, the subcatchment's biodiversity would continue to suffer successive losses of harvest-sensitive species, their sequence of loss depending on factors such as market demand and susceptibility to offtake. Conversely, at least some of the small-bodied endemic fish would probably show little change in status without NNP1 or a comparable project.

To understand what the project should do to achieve NNL, a reasonable estimate of the baseline (that is, events if there were no project, rather than an alternative meaning of 'baseline', i.e. starting point in time) scenario of loss needs to be compared with a similarly reasonable prediction for the anticipated losses in the with-project scenario, to estimate the project-driven losses. Similarly, in any candidate offset area, predictions of the likely future in a no-project (and thus no-offset) scenario need to be contrasted with those in a with-project scenario, to estimate the project-driven gains. These gains may be in the form of 'averted losses' from the baseline scenario, rather than positive advancements on the starting point. The appropriate comparison to determine the possibility of NNL is of losses versus gains anticipated over the project period.

Current biodiversity status in an offset area cannot be used alone to predict that area's offset suitability. An area currently of high biodiversity value could be anywhere between highly appropriate and highly inappropriate as an offset area: it is the magnitude of gain that realistically can be expected compared with the no-project scenario that is important. Indeed, early applications of what developed into the offset concept involved taking areas of extremely low biodiversity value and creating high-value biodiversity, such as flooding farmland to make wetland. In Lao terms, taking an area highly depleted of harvest-sensitive species but retaining good habitat and through reduction of further illegal offtake allowing populations to rebuild over the offset period could constitute a highly appropriate offset area. Such an area will not necessarily comprise a good offset; it may be too small, it may have lost recoverable populations of too many species, or for a host of other reasons may simply be too challenging. The alternative extreme, taking a little-degraded area of current high biodiversity which faces little likelihood of serious loss in a no-project situation, would probably not be a suitable offset area, because the offset activities could usually not add meaningfully to biodiversity value.

The losses and gains need to be compared mindful of possible externalities. One of these is that it is not acceptable offset practice to use resources for offsetting to pay for things which would have happened anyway, and count them towards the offset gain. Similarly, if the effort required to make

a mediocre offset area work sucks resources (not necessarily just money, but potentially also political commitment, citizen support or technical expertise, where any of these are in short supply) away from areas of higher biodiversity potential leading to losses in them, relative to a no-project scenario, this needs to be borne in mind in the overall offset calculation.

*Recommendation:* project discussion on NNL should be set in terms of project-driven biodiversity losses and project-driven biodiversity gains, not in terms of 'current status'. The expected losses and gains, and the anticipated baseline (no project) scenario, should all be based on reasonable, justifiable, prediction.

### **3.6 Setting NNL targets**

The BOTD selected an approach of seeking comparable land habitat to deal with the offsetting requirement for the 'general' forest community, coupled with specific attention to species for which project-induced damage could be significant for the species's global status. Four groups of species were identified for which NCNX would plausibly be insufficient: (i) a number of fish species known only from the Nam Ngiep and within the catchment only within the general area of the project; (ii) three fish species with more widespread ranges, categorised as globally threatened on the *IUCN Red List of Threatened Species*; (iii) Owston's Civet and (iv) Lao Newt. Fairly confident predictions can be made of the unsuitability of NCNX to offset effects on the newt and civet. Insufficient expertise was available at the BOTD for clarity over the fish potential of NCNX.

*Recommendation:* the information base for fish (notably, fish survey of potential offset areas) and consideration of fish needs relevant to NNL should be brought up to parity with groups such as large mammals.

### **3.7 Owston's Civet**

Owston's Civet emerged as a particular case warranting clarity. This species, restricted to Vietnam, eastern Lao PDR, a small part of adjacent China (apparently providing no recent records) and potentially a tiny part of north-east Cambodia is in rapid decline, has no effectively conserved population in the wild, has an only dubiously viable captive population, and has recently been re-categorised from Vulnerable to Endangered on *The IUCN Red List*. The number of stations at which it was camera-trapped in the subcatchment suggests a healthy population there. It was not camera-trapped or otherwise recorded in NCNX. If the losses to the species in the subcatchment cannot be offset by gains in NCNX, then it requires special measures additional to NCNX management. At the BOTD, it was asked whether Owston's Civet could in fact be in NCNX even though it has not yet been camera-trapped there, and how reasonable it was to decide already that action outside NCNX is needed for the species. The understanding of habitat use and camera-trap detectability of Owston's Civet has advanced considerably in the last 15 years (see 2016 revised edition of the species's *IUCN Red List* account), and this allows fairly confident answers to these questions. In sum: Owston's Civet is likely to occur in NCNX, but it is likely to be highly localised by natural habitat factors, meaning that there is no realistic opportunity to offset its anticipated losses in the subcatchment. The fact that Owston's Civet was not camera-trapped does not of itself strongly mean that NCNX is likely to be an unsuitable offset area. Indeed, an area of prime Owston's Civet habitat in which the species had been hunted to very low numbers from which offset management could rebuild a large population could be an ideal offset. But three factors lead to the conclusion that NCNX would be an unacceptably high risk for Owston's Civet offset.

First, where it is present, Owston's Civet is readily camera-trapped when camera-traps are set appropriately, and can be amongst the most commonly encountered small carnivores. The camera-

traps in NCNX recorded species smaller than Owston's Civet at many stations and vegetation structure and other observable setting attributes of most stations (as visible in the camera-trap images) resembled those in camera-trap images of the species from other survey areas. Thus, one can be highly confident that Owston's Civet is not at all common, if present at all, in the camera-trapped sectors of NCNX.

Second, multiple species camera-trapped in NCNX show a sensitivity to hunting comparable to or higher than that of Owston's Civet (Sambar, Coral-billed Ground Cuckoo, Sunda Pangolin, Large Indian Civet, probable Hog Badger...). This suggests strongly that the rarity or absence of Owston's Civet is habitat-related, not hunting-induced, and that, therefore, no amount of effective hunting suppression would result in a large Owston's Civet population in NCNX.

Third, the post-camera-trap survey of R. J. Timmins indicated that the camera-trapped areas were typical of the habitat of NCNX, and that wet evergreen forest, Owston's Civet's main habitat, is extremely limited in the area, echoing the conclusion earlier reached by the camera-trap survey's discussions with locals about two wet evergreen forest species more distinctive in appearance, and therefore amenable to village discussion: Annamite Striped Rabbit and Crested Argus. There are some areas lacking wet evergreen forest which hold Owston's Civet (the NNP1 subcatchment is one) so it remains possible, albeit unlikely, that NCNX could serve as a suitable offset area for the species, but if the species is presently very rare there, it would not be safe to assume that this was not a reflection of natural limitations.

*Recommendation:* specific survey in NCNX to try to find Owston's Civet is unlikely to be good use of resources, but project personnel should be made alert for records generated during project activities.

### **3.8 The potential role of NCNX in NNP1 reaching NNL**

The NNP1 project's chosen primary offset area, NCNX, has received a several-month camera-trapping survey in two blocks, selected as those likely to hold among the least depressed populations of hunting-sensitive ground mammals, supplemented by some direct observations and selective interview of local villagers; a four-week direct observation and sign-based survey of extensive spatial coverage by a surveyor highly experienced in Annamite, including wet evergreen, forests; and a number of few-day visits to easily accessible areas by members of the BAC and IAP. While not sufficient to find all species in the area, this information-base is sufficient for basic characterisations of habitat (from the point of view of threatened tetrapods) and, generally, of large mammals and birds. The area comprises largely 'ordinary' hill semi-evergreen and evergreen forest typical of Lao PDR and well represented in the Lao national protected area (NPA) system. Parts of the area hold relatively little degraded forest. Arboreal hunting-sensitive quarry species are encountered noticeably more frequently than in most of Lao PDR nowadays. Ground-dwelling species may persist in somewhat higher densities than typical in the Annamites. All these relatively positive features of its current situation doubtless reflect the generally rugged terrain and comparative remoteness from villages and, especially, roads and markets, and thus the high cost of extraction relative to many other areas. Nonetheless, the highest-value species are already gone or largely so, and as other Lao forests become progressively more depleted, those of NCNX will become relatively more appealing. There is thus a strong basis to believe that well-implemented offset activities would reduce this anticipated loss, contributing to the overall NNP1 project NNL goal. Indicative calculations at the BOTD, of a range of possible with-project and no-project scenarios in the subcatchment and in NCNX, indicated that it is possible that NCNX could make a large contribution towards NNL *if* highly effective conservation management of the area is organised and funded. These Indicative calculations remain to be confirmed by the NNL options document

presently under preparation by ADB. There was a broad consensus at the BOTD on the desirability of prompt initiation of biodiversity conservation activity for the NNP1 project: the sooner the NNL options document is finalised, the sooner it can inform such activity. The longer that actions to achieve NNL are delayed, the harder it will be to reach that goal.

*Recommendation:* ADB's forthcoming NNL options document warrants careful scrutiny and constructive criticism from all parties at draft stage, because it will be a primary foundation of the multiparty agreements necessary for what the NNP1 project partners will undertake to achieve NNL.

### **3.9 Trading up**

'Trading up' can occur where a specific biodiversity component is anticipated to be lost or reduced by the project, but that negative effect cannot be mitigated and the component is not available in any feasible potential offset area. To meet the offset need, an even more threatened component can be saved (or rebuilt) instead. For example, if the project would eradicate a population of an ungulate categorised as Vulnerable on the *IUCN Red List*, then preventing in the offset area the loss of a population of another ungulate categorised as Critically Endangered (a much higher level of global extinction risk), or rebuilding a population in an area where it has been severely depressed by hunting, could be acceptable.

There is no firm evidence, or good reason to predict, that the NNP1 project's primary offset area, NCNX, supports any species likely to give it a strong 'trading up' possibility. Lao PDR harbours a number of hunting-sensitive species on the brink of global extinction and while NCNX is certainly within the recent range of one of them, Saola (one of the most threatened mammals in the world), determining whether any (or, more meaningfully, a conservable population) survives there is not predictably achievable with currently available survey techniques. It is quite plausible that appropriate survey would find in NCNX small species in one class of high conservation interest, those not threatened by overharvest in groups prone to have species of very small range, e.g. various fish genera such as *Schistura*, frogs and some plant groups. To add to NCNX's potential offset value, it would have to be clear that these were threatened in a no-project scenario; in other words, that the offset project could make a positive difference to their status over what would otherwise happen.

Such threats would most plausibly come from habitat loss and, potentially for spectacular species of small reptile, amphibian, and plants such as cycad, orchid and pitcher plant, collection for the global pet/hobbyist trade. Although the habitat remains little degraded and unconverted over much of NCNX, a credible case can be made that this would be likely to change during the project lifetime (27 years). The main factor that has slowed habitat degradation and conversion in much of NCNX is probably the steepness of terrain, with areas of gentler terrain being converted in preference. But as these options are exhausted, NCNX would become more appealing. Land-use in rugged parts of northern Vietnam and parts of southern China shows that there is no inherent reason that hilly NCNX would not in time also be converted, for various forms of commercial agriculture. Thus, while NCNX seems rather unlikely to support a detectable, recoverable population of any known bird or mammal species of very high 'trading up' relevance – a species with a small range and a population driven already to the brink of global extinction by overharvest, such as Saola or Large-antlered Muntjac – it might be found to have some biodiversity elements that could to some extent help to ameliorate the severity of any shortfall in offsetting project-driven biodiversity losses. But, it is also possible that there are as-yet undetected such species in the subcatchment not being incorporated into considerations for NNL.

*Recommendation:* survey in NCNX to try to find ‘trade up’ species is unlikely to be good use of resources, but project personnel should be made alert for records generated during project activities.

### **3.10 Achieving the potential role of NCNX in NNP1 reaching NNL**

Because the positive contribution to NNL comes from the extent of positive difference the project makes over a baseline ‘no project’ scenario, an offset area with high potential promise may fail to deliver a satisfactory offset if the conservation management in the offset area is not sufficiently effective. Unfortunately, the conservation of forest wildlife in Lao PDR has proven extremely challenging in the 24 years since the Lao NPA system was declared in 1993. Biodiversity compensation projects for hydropower have had a particularly chequered history. The Nam Leuk project, overlapping with Phou Khaokhoay NPA, undertook to secure much of that NPA and left little discernible positive result in biodiversity terms. The Nam Theun 2 project makes an annual payment enormous by regional standards (USD 1 million, index-linked to inflation, through to the end of the 31-year concession period) to manage the Nakai – Nam Theun NPA, adjacent to the reservoir, through a specially constituted body, the Watershed Management and Protection Agency (WMPA). WMPA, formed in 2001, receives multiple layers of monitoring. All monitoring bodies agree it has achieved very little in terms of preventing steep declines of marketable wildlife species, although there has been little large-scale habitat conversion, mining and other such habitat changes. The Theun – Hinboun Expansion Project is the only one for which progress in the compensation area, if replicated in NCNX, would make a significant contribution to NNL.

The NCNX project should look carefully at the histories and attributes of these three projects in order to minimise the chance of repeating the poor progress of two of them. An obvious difference is that, even though all three have had experienced conservation advisors of international standing, the Theun – Hinboun Expansion Project involves an experienced conservation NGO co-implementing the project with GoL, but the other two do not. The Theun – Hinboun Expansion Project receives less money per year than does the WMPA: insufficient funding is certainly not the hurdle for WMPA. Looking more broadly at the general situation of conservation projects in Lao PDR over the last quarter-century, few have succeeded in materially slowing the ‘background’ rate of extraction from a large (at least several hundred square kilometres) tract of forest which retained, at the start of the project, viable populations of animals and plants of species sought by the trade. There seems to be none that has achieved this that did not involve a partnership approach of GoL with an experienced NGO (or multiple NGOs). While this does not mean that comparable levels of success could never be achieved by other management approaches, or that partnership with an NGO will always work, it seems highly advisable for the management of NCNX to be carried out by GoL in partnership with an experienced conservation NGO supplying people to the project of appropriate levels of experience. The 2015–2016 crisis-driven assessment of WMPA concluded that it needs to change its implementation model to one of partnership with an experienced conservation NGO, and discussions with suitable such NGOs are presently underway. Similarly, in 2004 the ADB’s Operations Evaluation Department’s Project performance audit report on the Nam Leuk hydropower project concluded that “implementation plans were not adequate to achieve the objectives of ... (ii) strengthening PKK Park management. Those objectives could have been addressed better with a TA or sector development program with appropriate implementation mechanisms and resources, rather than being included in a power generation project”.

Even though both Nam Leuk and Nam Theun 2 have squandered large amounts of money in their attempts to compensate hydropower damage to biodiversity, their first few years can be allowed some level of latitude given how early they were conceived and developed in the history of the Lao

protected area system. The Nam Ngiep 1 project, 15 years later, has a much bigger body of understanding to use in designing its biodiversity compensation activities.

The modality of the NCNX offset project is a decision best taken promptly. In particular, any reputable conservation NGO which would be a part of it will expect to be involved centrally in the planning stages of conservation management of NCNX, not to come in to implement an existing plan. NNP1PC has advertised for a planning team for the Biodiversity Offset Management Plan (BOMP) for NCNX, in isolation from follow-on implementation. Reputable conservation NGOs are unlikely to seek a planning-only contract, because they exist to achieve conservation, not to make money. Thus, unless there is some explicit linkage made with the whole NCNX project, most applicants may well be commercial consultants. If the contract were to be awarded to one of them, there is a high risk of repeating the history of the biodiversity baseline survey of the NNP1 subcatchment: a commercial consultant delivered a product of such low quality that a new survey had to be commissioned.

To implement conservation management in NCNX sufficient to slow declines in market-value hunting-sensitive species, substantial finance will be required. The BOTD used the figure of about USD 3.8 million as the figure guaranteed available, taken from USD 3.872 million given in the BOF. This is certainly far from sufficient for the 27-year window. Because this is an offset project, funding cannot be sought that would otherwise go to other conservation activities, e.g. through applications to conservation donors. The resource must be additional to the 'baseline' conservation 'pot'. But the money does not have to come solely as 'biodiversity tax' on the NNP1PC turnover; particularly given the 'false step' in consideration of the biodiversity aspect in the FA and CA, there may be a particular role here for creative thinking.

*Recommendation:* the NCNX management project should be delivered by a partnership of GoL, NNP1PC and one or more NGOs (or other conservation-oriented bodies) experienced in such projects in Lao PDR and supplying personnel of appropriate experience and ability. In this partnership all three parties should be involved in the decisions which guide the project, recognising the ultimate sovereignty of GoL and the need for NNP1PC to minimise its reputational risk. To allow such a partnership, the full level of funding needed and the sources need to be agreed, and with sufficient detail for a good lead-in period (perhaps 10 years) to allow confidence of the necessary parties.

### **3.11 Baseline biodiversity survey of NCNX**

Under an ideal arrangement, decision on location of a biodiversity offset area would be followed rapidly by a baseline biodiversity survey of the area. But even more important is the initiation of effective management in the offset area. Effective management needs to be based on a good understanding of the area's needs, but it would not be wise to defer any management until a full baseline has been undertaken. In the real world, it may be ideal to draft a framework management plan, with the full baseline survey as one of the plan's activities. Its results feed into revision of the plan as do other new information such as experience from the initial steps of implementation. In the context of a project mandated to achieve NNL, a 'biodiversity baseline survey' is appropriately one focused on finding the baseline condition of the biodiversity elements that are potentially management priorities in the achievement of NNL, not one which attempts to find all species present and document their status: most species do not need any specific action provided basic habitat protection occurs, and scarce resources do not need to be used on determining their status before, during and after the project. R. J. Timmins's draft report to ADB on the NCNX area includes well-explained specific recommendations on survey priorities for plants, birds, large mammals, reptiles and amphibians, and a recommendation for a general fish investigation of NCNX including in

stream sections contiguous with it. The fish investigation is perhaps the priority because it has ramifications for what needs to be done in the subcatchment as well as in NCNX, and might result in the conclusion that some offset activity for fish must be undertaken outside both NCNX and the subcatchment.

*Recommendation:* an exploratory survey for fish of high conservation priority is needed in NCNX as soon as is feasible. Otherwise, biodiversity baseline survey should be part of BOMP implementation, with the survey targets developed from those in the Timmins report on NCNX. Framework BOMP development and implementation should not be delayed for any of these surveys.

### **3.12 Conservation management expertise for NNP1PC**

The above very firm recommendation that an area-based conservation management support project to NCNX be executed jointly by GoL and an independent, experienced conservation NGO (or multiple such NGOs) recognises that such arrangements take time to set up. In the interim, there are many conservation-related tasks for the NNP1 partners that warrant personnel experienced in such activities in Lao PDR. Probably, the most effective route for such tasks is for NNP1PC to contract part-time a suitably experienced person to work closely with GoL and other partners. Multiple years resident in Lao working effectively on conservation implementation projects in partnership with GoL, and fluency in the Lao language and cultural norms seem the most important requirements, with working familiarity of wildlife survey and monitoring methods, and of offsetting principles and practices, being additional desirable attributes. All parties seem to agree that progress on NNP1's biodiversity aspects over the last year has been uneven and, overall, unsatisfactory. Among the various factors potentially contributing to this, the extremely part-time involvement in 'NNP1 biodiversity' by senior NNP1PC Environment Management Office (EMO) personnel and by each BAC member would be difficult to change. A new person of high relevant experience is probably the most efficient way to work past this situation.

Surveyors who have been in the field with junior EMO personnel agree that some have outstanding conservation potential. The position recommended above would allow this potential to be tapped through on-job training. And, consideration could be given to some of these individuals being seconded to the non-governmental NCNX management partner (as recommended above).

All NNP1 parties lack expertise in fish conservation through a species / faunal community perspective; this is very different from fisheries management as a food supply for people. The considerations for fish conservation are so different from land organism conservation that it is highly advisable for NNP1 to have on-hand fish conservation expertise.

The biodiversity component of NNP1 has thus far been primarily 'information generation and management' – documenting the situation to facilitate effective planning. The skills-set of the original BAC reflected that. But things are now moving to 'implementation' – changing the situation to allow effective conservation. Different skills are now needed by BAC members: full-time multi-year employment in effective conservation implementation in Lao PDR is the priority experience relevant to going forward. If a part-time in-house biodiversity conservation specialist is recruited, the BAC probably could be reduced in size, and still be able to perform its advisory, monitoring and evaluation functions as per its ToR (see BOMP: Annex 2).

*Recommendation:* NNP1PC EMO should contract, half-time, a person appropriately experienced in conservation implementation with primary responsibility for guiding the company's inputs in biodiversity conservation, including building capacity of junior EMO staff.

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**Appendix**

Please see separate file, at this draft stage: <NNP1-2017Feb11\_BAC\_M5\_Report\_Boonratana (3).pdf>.