The role of partnerships in effective impact assessment and avoidance

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Abstract: Impact avoidance is the most effective and, in many cases, economical way to achieve regulatory compliance, voluntary or mandatory No Net Loss commitments to biodiversity and reduce business risk. One of the main barriers to effective impact avoidance is knowing what to avoid. This includes a lack of access to data and data availability more generally but also a paucity of landscape level conservation and land use plans and the expertise to interpret, analyse and 'triage' the significance of these data. While a number of tools exist, such as the Integrated Biodiversity Assessment Tool (IBAT) and the Toolkit for Ecosystem Services Assessment (TESSA), challenges are also associated with understanding the complex nature of development impacts (direct, indirect and cumulative) and prioritizing biodiversity values at an appropriate scale. Care must also be taken to not confuse lack of data with low risk or sensitivity; many areas of high biodiversity importance are not formally designated or lie outside of national jurisdictions and thus should be avoided even though they may not show up on sensitivity maps. If Environmental, Social, and Health Impact Assessments (ESHIAs) are undertaken when project feasibility and design plans are already advanced, the opportunity to intervene early to address avoidance strategies, including the identification of alternative sites, is missed. While tools are important, effective partnerships are vital to understand and assess the data these tools provide and to achieve optimal and long-term avoidance; which requires that effective and measurable avoidance occurs but also that these 'avoidance areas' are maintained over the long-term.

Introduction

Specific to requirements under IFC PS6, widely acknowledged as best practice in biodiversity management, project proponents are required to manage habitat of significant importance to Critically Endangered and/or Endangered, endemic/range-restricted species, and/or habitat supporting globally significant concentrations of migratory species and/or congregatory species (IFC, 2012). The proponent must identify a 'sensible' boundary around such areas, for the purpose of management as a 'discrete management unit'. Such boundaries may already exist in the form of an IBA, KBA or World Heritage Site and designating organisations can be effective partners, but in areas where boundaries are not already established, local expertise in necessary to ensure that the boundaries are, indeed, sensible and encompass and deliver on the project's conservation priorities.

According to one widely quoted report (TBC, 2012), 38 companies (15 of which were extractives companies) have now set ambitious biodiversity commitments towards NNL or NPI that will require significant avoidance of biodiversity impacts. At the time of writing the report above, 17 other companies were in the process of developing similar commitments. Government legislation in several countries is following a similar trend, with a 2014 report (ten Kate and Crowe, 2014) showing that 39 countries have existing laws or policies on NNL/NG, biodiversity offsets or compensation and a further 22 countries (some of which already have laws and policies and are numbered in the existing 39) are developing laws or policies on NNL/NG, biodiversity offsets or compensation.

Along with an increase in legislation and corporate biodiversity commitments, the level of diligence and burden of proof for effective biodiversity management required by stakeholders is also increasing. There are several indicators for this, including the recent revision of IFC PS6 (IFC, 2012b), IUCN RedList updates leading to additional species risks to be managed, the expanding portfolio of

projects funded by Equator Banks which require application of IFC PS6, and the ongoing EU No Net Loss Initiative (Tucker et al, 2014).

The mitigation hierarchy is a widely used principle and framework (PwC, 2010) and describes how companies should first seek to avoid their impacts as much as possible, minimise those which cannot be avoided, restore areas which have been degraded, and finally offset residual impacts (BBOP, 2012). The first and arguably most important stage in the mitigation hierarchy - **avoidance** - requires that *"measures* [are] *taken to anticipate and prevent adverse impacts on biodiversity before actions or decisions are taken that could lead to such impacts"* (CSBI, 2015). Effective impact avoidance is vital to achieving No Net Loss (NNL) or Net Positive Impact (NPI) goals and reducing business risk.

Perhaps most significantly, 'avoided' areas can be difficult to maintain in the long-term as the pressure to utilise these areas can be significant and may even come from within the organisation or a national government agency (RSPB, 2016). While strategic biodiversity partnerships between companies and non-government organisations (NGOs) can enable effective impact avoidance, they are not without challenges and a set of pre-conditions must exist or be created in order for them to succeed – trust being the most important. Without open data sharing and joint prioritization, opportunities are missed and more critically, risks are not adequately screened and can be overlooked entirely. Avoidance decisions often involve sensitive commercial information such as the value of a particular ore body, parcel of land, or housing development.

Knowing what to avoid

Lack of data to inform decision is an important barrier to effective impact avoidance, as without good data it is hard to know what species exist in an area, in what numbers, and thus to what extent the area should or should not be avoided. For example Ledec (2011), argued that total mortality rate of birds and bats is often hard to measure as observed mortality does not reflect the actual impact, as results are affected by scavenger removal, searcher efficiency and poor monitoring in general. It can also be hard to measure and quantify the direct impacts of development (e.g. forest clearance), let alone indirect impacts (e.g. increased prevalence of invasive species in an area). Raiter et al. (2014) refer to these indirect impacts as enigmatic impacts, defined as "*any one of a large range of impacts that is not systematically accounted for in impact evaluations*".

Requirements for the resolution of data are increasing as a result of increased scrutiny and improving stakeholder capacity. Broad species polygons such as those provided by the Integrated Biodiversity Assessment Tool (IBAT, 2016) are a useful screening tool but are inadequate for estimating loss-gain and developing biodiversity action plans. Long-term site management is difficult without local partners who understand the context of the data, are able to demonstrate that biodiversity protection is their primary agenda, and who have a vested interest in the long-term protection of a site and/or species.

Tools have limited ability to keep up with these data demands due to inherent technical limitations in hosting and analysing data in a desk-based system. These limitations include image resolution of available satellite data, seasonality in species' use of sites and varying dependence on sites by migratory species, the varying ecological needs of species, and understand the needs of the broader ecosystem on which biodiversity depends. Tools are also, obviously, unable to address the need to manage avoidance areas and ensure that they remain 'avoided'.

Levels of Avoidance

Avoidance can take place at several levels and these have been categorized by one cross-sector guidance document (CSBI, 2015) at three levels: site selection avoidance, design avoidance, and temporal avoidance. Additional studies (Birdlife International et al, 2015) point out that *pre-site selection* is another level at which avoidance is important to consider, and this links to landscape-level planning and ecosystem approaches to development.

Pre-site selection includes the production of landscape-level plans, country-level assessment of key sites such as Key Biodiversity Areas (KBAs). These designations provide a first screening step to flag areas where development, or specific types of development, should not occur or occur only under a specific set of circumstances and conditions. As the data and needs for these key conservation areas are held by various NGOs, they provide good opportunities for avoidance-focused partnerships as conservation and business needs overlap.

Site-selection avoidance is primarily focused with the location of a project or infrastructure boundary and mainly deals with direct project footprint. Partnerships at this stage centre on identifying species and sites of conservation concern, and prioritizing these in terms of sensitivity and irreplaceability. An example is Rio Tinto QMM who, with several national and international NGO partners, established three avoidance zones in their ilmenite mine in Madagascar. These areas represent a cost (2012 estimate) to Rio Tinto QMM of about 8% of foregone resource, as well as the management cost of maintaining these areas, and protect 27% of the best quality remaining forest cover on the deposit covering an area of 624 ha (Temple et al, 2012).

Design avoidance involves changes to engineering, construction and other project design elements to better avoid impacts to biodiversity. Partnerships here include specie, site and ecosystem expertise to inform the best design options. The Yemen LNG project, driven by legislation and internal corporate policy, re-designed their Materials Offloading Facility to be in between two important coral banks and also re-designed shoreline works to avoid physical damage to corals by moving some of the facilities onshore (Birdlife International et al, 2015). The company has support from two external partner organisations to monitoring their performance in terms of water quality and coral survival and persistence rates.

Temporal avoidance is not a new concept, however it is gaining importance and traction due to its inclusion in IFC PS6. It requires consideration of temporally-linked ecological components including breeding and migratory seasons within the ESHIA and subsequent management planning processes. The in-depth and site-specific knowledge required to make appropriate temporal avoidance decisions can rarely be found in tools alone, and appropriate avoidance strategies are often specific to a single site or relatively small areas. Sakhlin Energy, in partnership with the International Union for the Conservation of Nature (IUCN), carried out temporal avoidance for three key species - Stellar's sea-eagle, salmon and Western Gray Whale – considering breeding/nesting, migration, and feeding periods.

Partnerships for Avoidance

Long-term avoidance, or maintaining avoided areas, is where biodiversity initiatives can fall short – while biodiversity offset strategies often attract a high degree of scrutiny by lending institutions, avoided areas do not carry same burden of proof and may go 'unnoticed' (CSBI, 2015). This can be a challenge to achieving biodiversity targets such as NNL as avoided impacts underlie loss-gain calculations, impact minimization, rehabilitation and finally, offset implementation. Long term avoidance is dependent on adequate legislation and strong institutional support (BirdLife et al, 2015)

but also on maintaining the biodiversity and ecosystem service value of a particular site. As an analogue Richard's Bay Minerals, a minerals sands mining operation in South Africa has spent close to thirty years restoring previously mined sand-dunes. Research (for example van Aarde et al, 1996) has shown that forest community structures in the oldest of these rehabilitated land parcels are similar to those recorded in undisturbed coastal forest, indicating that mined sand dunes can be successfully restored. However, maintaining these restored areas in the long-term will be a challenge as coastal dune forests in the area are under high pressure from grazing and collection of fuel wood. One way to address this has been through a partnership between Richard's Bay Minerals and BirdLife South Africa (Rio Tinto, 2008), promoting the Zululand Birding Route (ZBR, 2016) which trains bird guides, creating livelihood options that to reduce dependence on these forests.

Partnerships are important for maintaining sites; conservation management is rarely core business for a company and external organisations with overlapping priorities and long-term interest in an area might be more effective at delivering biodiversity objectives. An example is the Ingula project, on the border of Free State and KwaZulu-Natal in South Africa - a number of objections were highlighted through the Environmental Impact Assessment (EIA) process, particularly with regard to the presence of significant high altitude wetland habitat. Furthermore, the site was identified as one of the few sites within South Africa hosting the Critically Endagered White-winged Flufftail *Sarothrura ayresi*. In light of these findings, the Ingula Partnership was established in 2004 between Eskom, BirdLife South Africa and the Middelpunt Wetland Trust, with the primary purpose of ensuring the conservation of key habitats and priority species on site (Eskom, 2012). Currently 7000ha of high altitude grassland is managed at Ingula, conserving an area of South Africa's most threatened Biome, grassland, and the respective species hosted within it, but also securing the conservation of a large wetland system within Ingula that comprises an IBA.

Finally, monitoring avoided areas is a key element of any project applying the mitigation hierarchy and aiming to demonstrate overarching biodiversity targets such as NNL. For reasons including local context, conflict of interest and transparency, monitoring should be carried out by a third party, but not in isolation. It is equally important for monitoring capacity to be build up within a project proponent as the ultimate responsibility for achieving and reporting on targets should lie with the developer.

In conclusion, conservation partnerships can enable effective impact avoidance, particularly where conservation priorities overlap with biodiversity risks faced by a developer who is also under obligations to meet IFC Performance Standards. The mitigation hierarchy is an important framework to enable avoidance, but its use must be guided by appropriate legislation to ensure that the initial stages of the hierarchy are prioritised. Finally, partnerships are important for generating and interpreting data and knowing what to avoid by prioritising key species, site and ecosystem services, but also for managing and monitoring avoidance areas in the long-term to ensure that they meet their conservation targets and that companies comply with regulatory, financing and internal policy.

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