OUTSIDE BOUNDARIES: CONSERVATION AND MINING IN PNG

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As a signatory to the 1992 United Nations Convention on Biological Diversity (CBD), Papua New Guinea (PNG) is committed to the conservation and sustainable use of biodiversity. This commitment comes hand in hand with a desire to develop globally significant mineral assets and for the benefits that they may bring to improve the standard of living for local communities. The implementation of the CBD recognises the importance of an "Ecosystem Approach" and encompasses the goal of 'balancing biodiversity' conservation with other needs of society (Faith et al. 2001). Consequently, the demands of conservation in PNG are complex and the task of delivering clear and quantifiable conservation gains enormous. Success in conservation is often measured by the area of land reserved for conservation. This article reflects on the process of delineating spatial boundaries that in PNG whether they are for conservation or economic outcomes.

CONSERVING THE ISLAND OF NEW GUINEA

The heart of the PNG nation comprises half the island of New Guinea. This island is home to about 6 per cent of the world's known land species, around half of which are endemic. At the same time, about nine million people depend on the forests and fresh waters of the island of New Guinea for their subsistence, livelihoods and cultural heritage (WWF, 2011). There is no question that PNG is a global priority for biodiversity conservation. About 4.5 per cent of the world's mammal species are found in New Guinea: a remarkable nine times the average global density of mammal species (Melick et al. 2012). New Guinea also supports the third largest expanse, and perhaps the most resilient, intact tropical forest in the world. Coastal and marine resources are also highly significant to local communities. PNG sits within the Coral Triangle, a region of exceptional marine biodiversity, with extensive reef and marine ecosystems.

Given PNG's remarkable biodiversity, and because it is the foundation of the livelihoods, cultures and the wellbeing of local populations, it is clear that retaining all or key components of it, is critical. Traditional approaches to conserving biodiversity, and those adopted by PNG and other developing

Images: Jessie Boylan

countries, typically draw upon Western approaches to science and planning. These approaches are often problematic when applied to different ecological, economic and cultural contexts. Indeed, despite the culture, climate, economies and the nature of the biodiversity of developing countries being substantially different to that of developed nations, Western-style 'protected areas' and 'quantitative assessment of biodiversity integrity' continue to form the basis of CBD commitments of developing nations. While the need for conservation is relatively easy to establish and conservation plans can be drawn up at will, the reality is that PNG (and other Pacific countries) simply lack the resources and the capacity to properly delineate, let alone deliver, most of their CBD goals.

Conservation planning relies on spatial biological data. The question of what species occur where is central to the whole process. The key question is whether the available ecological data are of sufficient quality and robustness to be able to plot meaningful boundaries for proposed conservation areas. Glaring omissions and the lack of comprehensive data underpinning conservation planning undermine the value of spatial modelling. This is illustrated by White et al. (2015, p.2) who stated that: ***"The lack of even the most fundamental biodiversity information hinders a proper assessment of the impacts of the various pressures exerted on sharks in the region ..."*** The fact that two species of threatened river sharks, large apex predators, have thus far gone unnoticed in the rivers of the Western Province of PNG highlights how poorly-surveyed some of the regions of PNG are and how difficult it is to create meaningful boundaries between 'conservation' and 'non-conservation' areas.

BOUNDARIES FOR CONSERVATION AND MINING

Mining and conservation, often at odds with each other, share the common process of creating spatial boundaries. These are essential for obtaining exploration and mining leases, building access roads and negotiating benefits. Our ideas of conservation are often linked to the recognition of clear boundaries; think of famous national parks

Images: Damien Baker - Kainantu

or no-take zones in marine areas. Boundaries are not a new phenomenon to PNG. Boundary making has been a key social interaction between PNG's hundreds of diverse communities for thousands of years. These boundaries are often very fluid in nature, changing frequently in both space and time. In contrast, Western boundaries are generally fixed, more exclusive and are a prerequisite to, and a guide for, how we approach both conservation and mining. These exclusive boundaries then dictate the approach of mining companies and conservation practitioners. So, by requiring sharp delineation, or by defining success by the delineation of boundaries such as those shown to project financiers, we reinforce exclusivity and distort existing social and kinship boundaries.

Given that both mining and conservation work on the principles of land–use boundaries, it is inevitable that a tension arises when boundaries don't coincide perfectly. This tension, a topic for many years in PNG, was recently examined by Halvaksz (2013). Halvaksz described traditional boundary making as 'novel' describing, amongst other factors, an open-endedness with multi-layers and meanings. He contrasts these with 'epic' boundaries that are set in stone and give primacy to the free market, for the purpose of encouraging economically 'profitable' use. Epic boundaries of this type were used to establish the Kuper Valley Conservation Project on Biangi land on the Upper Bolulo River in 1989. The project was designed to deliver conservation gains, economic opportunity and improve standard of living. Ultimately, the community return from the project was insufficient and the project declined overtime. Part of the decline was due to the promise, or at least an idealised version of it, of what mining at Hidden Valley would provide. So in time, driven by the imperative of global capital, the Western construct of conservation reserve was replaced with another based on exploitation and the epic mining boundaries replaced epic conservation boundaries.

PERPETUATING BOUNDARIES

The creation of epic boundaries is central to the conservation movement and the realisation of these boundaries on the ground is seen a measure of success. In the first instance, the creation of boundaries to define regions or hotspots where conservation resources are needed is used to argue the case for conservation. Environmental Non Government Organisations (NGOs), are quick to highlight the biodiversity value of PNG. Nine of the World Wide Fund for Nature's (WWF) Global 200 Ecoregions are in PNG, as well as six Alliance for Zero Extinction sites (Melick, et al 2012). The entire country falls within two biodiversity hotspots (New Guinea and the East Melanesian Islands), and is classified as a 'genuine' wilderness by Conservation International. The work of many NGO's is undoubtedly important and despite the methodological criticisms outlined here, drives the conservation agenda and provides critical resources for conservation.

Among the resources NGOs provide are tools or methodologies for delineating areas of principle conservation importance (see for example Faith et al. 2001; Green et al. 2009). These are often based on conservation techniques developed and promoted by individual organisations and are usually tied to funding. Environmental NGOs have been the foremost promoters of protected areas in PNG, despite the fact that their own assessments have long shown protected areas in this region to be ineffective and undermined by systematic governance and capacity issues (Melick et al 2012). Given these findings, it is hard to escape the conclusion that a major reason for the on-going promotion of protected areas by NGOs is the need to access donor funding, rather than the development of sustainable conservation approaches. Currently, all major environmental donors refer to protected area coverage as a key conservation indicator often linked to CBD goals.

OUTSIDE BOUNDARIES

In conclusion it is clear that the very boundaries required by mining companies and conservation NGOs are at odds with customary boundary making and a community's sense of place. In such cases, externally imposed objectives, even when valuable in conservation or economic terms, conflict with local customs and fluid subsistence lifestyles. Ultimately, effective and sustainable conservation will only be achieved by embracing traditional knowledge, with the innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity. Similarly, innovative mining practices able to respect and accommodate 'novel' boundaries alongside extraction could be the key to reducing poor outcomes and extractive based conflict.

Image: Jessie Boylan

Image: Damien Baker - Lake Kutubu

Image: Jessie Boylan

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