

Finance and biodiversity conservation: insights from rhinoceros conservation and the first wildlife conservation bond

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Abstract The Rhino Bond is the first financial instrument dedicated to protecting a species. The Bond allows investors to invest in the conservation of the black rhinoceros *Diceros bicornis*, with the amount of money returned by the investment depending on whether rhinoceros numbers increase (and by how much). In this paper we focus on how the Bond was brought into being. We draw on an analysis of organizational reports along with data collected from interviews with key informants to investigate the roles of the various stakeholders in the Bond, how species and sites were selected, the motivations and experiences of the stakeholders and the involvement of stakeholders in decision-making. We found that although conservation actors are attracted by the potential for new funding, they have experienced challenges navigating complex financial instruments. The needs of financial actors often dictated decision-making, with implications for the species and sites chosen for the Bond. As profits are tied to an increase in population size of a specific species (which needs to be monitored), the instrument has favoured large and easily counted species and populations. Only some sites were able to meet the stringent conditions of financial instruments, including metrics on financial sustainability. We argue that the dominance of financial principles and motives means that not all species or sites will be viable candidates for investment and that conservation finance should not be seen as a panacea.

Keywords Black rhinoceros, conservation finance, *Diceros bicornis*, impact investing, incentives, innovative finance, outcome-based instruments, Rhino Bond

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Introduction

In March 2022, the World Bank launched the Rhino Bond, the first wildlife conservation bond in the world and the first financial instrument dedicated to protecting a species.

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Over 80% of the global rhinoceros population of c. 29,000 occurs in protected areas in Africa (Emslie et al., 2016). The main threats to rhinoceros populations are habitat loss and hunting for their horns (Amin et al., 2006). The Rhino Bond allows investors to invest in the conservation of the black rhinoceros *Diceros bicornis*, with the amount of money returned by the investment depending on whether rhinoceros numbers increase, and by how much. The 'innovative pay-for-results impact investment' model of the Bond (Roe et al., 2020, p. 23) offers a new source of funds for conservation and is the latest development in an increasingly close relationship between finance, business and biodiversity conservation.

Currently, most conservation finance comes from governments and international donors (Pascal et al., 2018; Meyers et al., 2020). However, the funds available are insufficient to meet conservation needs (Balmford & Whitten, 2003; Bos et al., 2015; Cumming et al., 2021). The challenge is particularly acute in tropical low-income countries, where governments often struggle to allocate sufficient financing to conservation because of a lack of financial resources and the additional challenge of tackling poverty (Balmford & Whitten, 2003). It is estimated that protected areas in Africa receive only 10–20% of the funding needed to manage them (IUCN, 2020). There have also been calls for conservation to be more effective and efficient with the funding it already receives (Rands et al., 2010). Critics have argued for improved performance management and measurement, as well as a stronger evidence base to guide policy decisions (Bruner et al., 2004; Sutherland et al., 2004; Meyers et al., 2020).

The combination of funding shortfalls, the frequent failures of traditional conservation approaches and the lack of evidence guiding conservation action has led to calls for alternative ways to fund biodiversity conservation (Bruner et al., 2004; Bos et al., 2015; Withers & Zoltani, 2020). In this context, the last decade has seen a growing emphasis on the potential for the financial sector to provide funds for conservation (Bos et al., 2015; Pascal et al., 2018). Biodiversity conservation has undergone increasing financialization (Sullivan, 2012; Scales, 2015), defined as 'the increasing importance of financial motives, financial actors, financial markets, and financial institutions' (Epstein, 2005, p. 3).

Impact investing is one of the most rapidly growing sectors of conservation finance, as investors look for products that demonstrate environmental benefits and a competitive

rate of return on financial investments (Huwlyer et al., 2016; Roe et al., 2020). Impact investments are defined as ‘investments made into companies, organizations and funds with the intention to generate a measurable, beneficial social or environmental impact alongside a financial return’ (GIIN, 2017, p. 58). The 2008 global financial crisis and subsequent criticism of the financial sector led some investors to make investments with a broader social purpose (Bugg-Levine & Goldstein, 2009; Watts & Scales, 2020). Impact investing has also been welcomed by the UN, who consider it an opportunity to help achieve the Sustainable Development Goals (Sales et al., 2015). Although conservation represents only 2% of the current impact investment market, the potential market is estimated to be USD 200–400 billion (Huwlyer et al., 2016; Deutz et al., 2020; Roe et al., 2020).

While demand for investment products that deliver positive social and environmental impacts has grown, the availability of impact investment products in conservation has not kept up with demand. A key challenge is the difficulty of finding viable projects that match the requirements of both investors and conservation organizations (Huwlyer et al., 2016; Lee, 2017; Withers & Zoltani, 2020). To date, impact investments have tended to be ‘small, complex, and high-risk’ (Lee, 2017, p. 11).

Although there is growing demand for conservation-related investment products, concerns have been raised about the implications of bringing finance into biodiversity conservation (e.g. Sullivan, 2012; Kay, 2018). These are part of a broader critique of the increasingly close relationship between global conservation policy and global capitalism under what has been labelled neoliberal conservation (Brockington & Duffy, 2010; Igoe et al., 2010). This relationship has manifested itself in diverse ways, from projects that attempt to reduce or offset the environmental impacts of extractive industries (Seagle, 2012), to the expansion of ecotourism (Duffy, 2006, 2008; Ojeda, 2012) and the proliferation of payments for ecosystem services schemes (Fletcher & Büscher, 2017).

Much of the critical literature has drawn on ideas from political economy to question the power imbalances that result from the increasingly close relationship between capitalism and conservation (for reviews of this literature and syntheses of its main concepts and arguments, see Büscher et al., 2012; Scales, 2015; Holmes & Cavanagh, 2016). Critics argue that policies and practices will inevitably be dominated by the interests of investors and firms, whereas any costs (e.g. loss of access to natural resources) will be experienced by local communities (Fairhead et al., 2012; Scales, 2015; Holmes & Cavanagh, 2016). Although the research we present here does not draw or build on this literature, it shares its empirical focus on the way in which policy and practice are being transformed through growing ties between finance and conservation.

Here we describe the Rhino Bond and the process by which it was brought into being. We focus on four questions: (1) Who are the stakeholders and what role do they play in the Bond? (2) How were species and sites selected? (3) What were the motivations of the stakeholders for becoming involved and what have their experiences been? (4) How have decisions been made and what has been the influence of the stakeholders? We conclude by considering the broader implications of our findings and making recommendations for future policy and practice. We argue that although impact investing has the potential to bring new sources of funding and a results-focused approach to conservation, there are important issues that need to be considered. The interests and needs of financial actors mean that conservation bonds are easier to create around certain species. Furthermore, because of financial considerations (e.g. perceptions around risk to returns on investment) some sites and countries are more likely to attract investment than others. This has implications for which species, habitats and countries are likely to attract funding and to benefit from novel financial tools.

Methods

The initial focus of the research was a review of all of the publicly available organizational reports on the Rhino Bond (e.g. GEF, 2014, 2019; Credit Suisse et al., 2021; World Bank, 2021b). Author CM complemented this review with semi-structured interviews with key informants from the stakeholders involved in the Rhino Bond to explore elements of its design in greater depth. We identified and purposively selected interviewees by drawing on the information available in the public documents. We used snowball sampling to identify further key informants. Interviewees were from intergovernmental organizations, NGOs, private-sector firms, protected area management and government departments. All 15 interviewees were involved in either the Rhino Impact Investment project (which prepared the ground for the Bond) or the creation of the Rhino Bond. Further details on respondents are not provided to protect their anonymity.

Author CM contacted interviewees by email and informed them of the aims of the research. Interviewees consented to participate and were free to withdraw at any point, including after the research was completed. The information from these interviews is reported anonymously. Author CM conducted the interviews remotely via video call during January–October 2021, with each interview lasting c. 60 min. Interview questions (Supplementary Table 1) focused on two main themes: stakeholder motivations and the design of the Bond (with a focus on financing, metrics, species protection, decision-making and stakeholder engagement). We piloted the interview guide prior to the interviews, to refine questions.

Results

Rhino Bond: key stakeholders and their roles

Initial discussions on the possibility of rhinoceros impact investment began in 2013. The Global Environment Facility (GEF)-funded Rhino Impact Investment was approved in 2015 to demonstrate a ‘scalable outcomes-based financing mechanism that directs additional private and public sector funds to improve priority rhino populations’ (GEF, 2019, p. 4). The Rhino Impact Investment concentrated on five protected areas (three in Kenya and two in South Africa), whereas the Rhino Bond itself is linked to conservation performance only in the protected areas in South Africa. The Rhino Bond was launched in 2022. Fig. 1 provides a timeline of key events in the establishment of the Rhino Bond.

The Rhino Bond distinguishes between the principal (the money invested by investors) and yearly interest payments (called ‘coupon payments’). Investors buy the Rhino Bond, forgoing fixed yearly coupon payments, which are invested into the management of protected areas and rhinoceros conservation activities. If rhinoceros populations achieve a growth rate of at least 4% over 5 years (when the Bond matures), the World Bank will repay the principal to investors, whereas the GEF, as the outcome payer, will pay a success payment higher than the foregone coupon payments. However, if expected rhinoceros population levels do not reach an increase of 4%, the success payment is reduced in line with the actual percentage change. Rhinoceros numbers are independently calculated by a private sector calculation agent and verified by the Zoological Society of London.

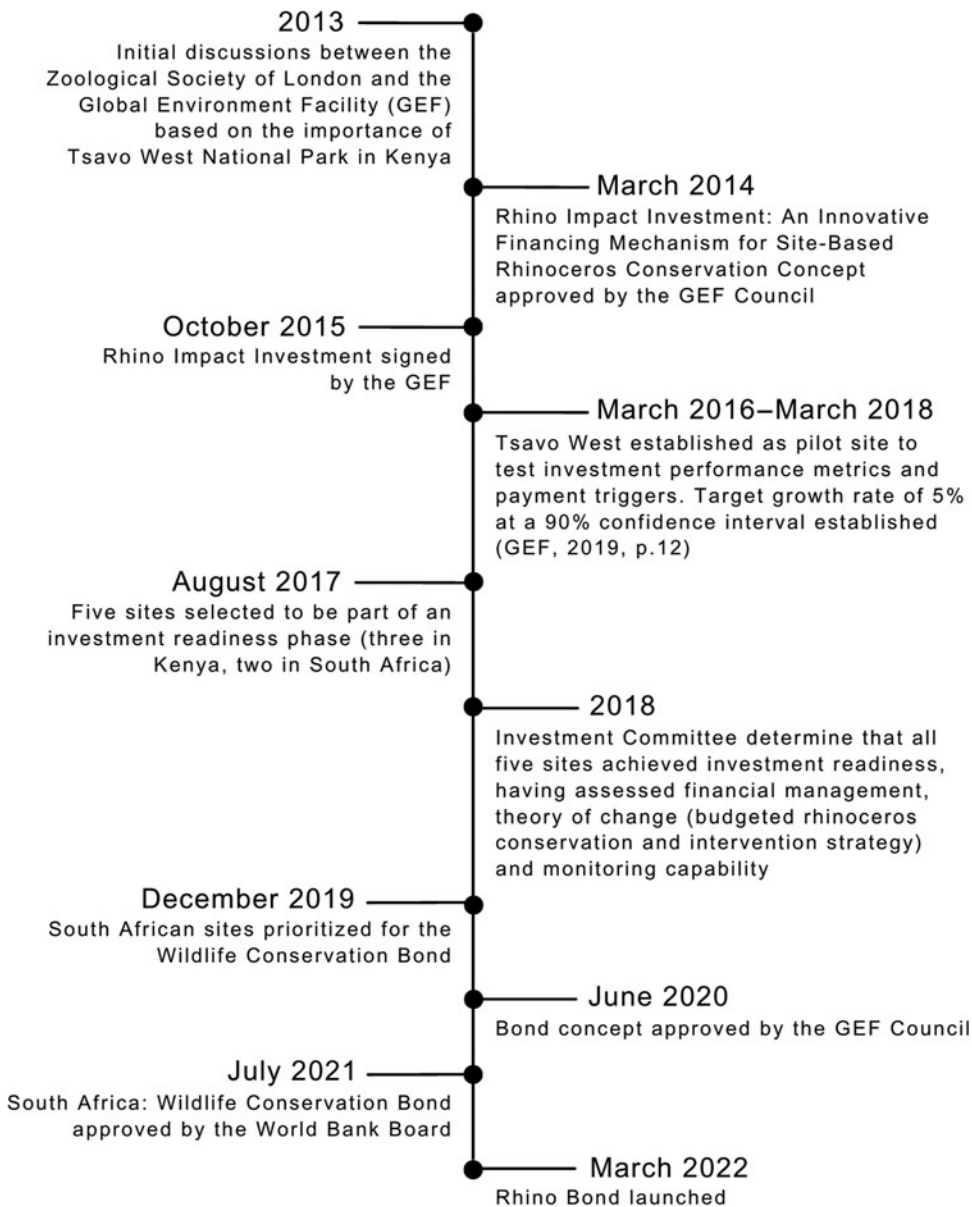


FIG. 1 Timeline of key events in the establishment of the Rhino Bond.

The management and monitoring element of the Bond is relatively straightforward, involving what one protected area manager described as ‘run-of-the-mill conservation work’ (Interviewee 14, protected area). It draws on national conservation plans, using the same techniques used in most African black rhinoceros reserves (Interviewee 8, private sector). These aim to maximize biological growth by managing habitat and rhinoceros population density whilst minimizing mortality (e.g. because of poaching; Balfour et al., 2019). Standard monitoring involves capturing rhinoceroses before they reach 3 years old and notching an ear in a unique pattern, which enables future monitors to identify the animal through aerial or ground surveillance and confirm that it is still alive (Interviewee 8, private sector).

The ability to accurately verify rhinoceros numbers and attribute any increase to activities directly funded by the Rhino Bond is critical because it determines the success payments. There is therefore a strong focus on ensuring that evidence is available to demonstrate that the money going to the protected area is being spent according to an agreed theory of change and that any increase in rhinoceros numbers occurs because of the investment made (rather than other funding sources). This makes the verifier role paramount, acting as ‘an honesty broker’ (Interviewee 9, private sector). A methodology is used that audits a part of the population, which is extrapolated to the whole population using a statistical model to estimate the abundance of rhinoceroses. The model makes an estimation based on populations at the baseline (year 0) and at year 5, whilst making assumptions accounting for uncertainty in detection rates and the probability of rhinoceroses being alive based on sightings over the 5 years (Interviewee 11, private sector).

Although the Bond is modelled on financial instruments familiar to investors, there are some important differences. Financial investments carry a risk that investors will lose money. Investors normally gauge investments by looking at the risk/return ratio. Investments with a high risk of failure need to offer investors high potential returns to justify the risk. On the opposite end of the spectrum, low-risk investments offer lower returns. Rhinoceros conservation is considered a high-risk investment, as disease or poaching could decimate an entire population and put at risk the principal, and relatively low reproductive rates put a biological cap on population growth (and therefore an upper limit on coupon payments). Normally, investors would demand high interest rates in return for exposure to these risks. However, this would take money out of conservation activities and would thus undermine the desired positive environmental impact of the investments. To address this issue, rhinoceros conservation is linked to a Triple-A-rated investment-grade bond issued by the World Bank, which guarantees that although investors could receive less (or even no) success payments, their principal will not

be lost. The World Bank and GEF thus play a key role in de-risking the investment to make the Bond more attractive to investors.

As well as the World Bank and GEF, the Rhino Bond involves a broad range of stakeholders, from those traditionally involved in rhinoceros conservation projects (e.g. protected area managers, scientists, governments, NGOs) to those newer to conservation, such as financial services companies and auditors. One report noted that ‘bridging the gap between financial markets and species conservation demands an entirely new set of intermediaries’ (UNDP, 2020, p. 61). Impact investment also means that the role of traditional conservation stakeholders changes, with the World Bank changing from donor to guarantor. Table 1 provides an overview of the key organizations involved in the Rhino Bond and their roles.

With regards to engagement with local communities, the Rhino Bond builds on both World Bank and national policies and practices. For example, a stakeholder engagement plan outlines community engagement to be undertaken throughout the project. The Bond also includes job creation at both conservation sites in South Africa as a key indicator. One interviewee noted this was because of the involvement of the World Bank, which focuses primarily on poverty alleviation and promoting prosperity rather than conserving rhinoceroses: ‘[they are] very adamant about the social investment in the project and there is responsibility with the local community that we have to fulfil’ (Interviewee 12, protected area). Another interviewee remarked that ‘[the Bond] must translate into improvements in people’s livelihoods. In some ways, it’s just incorporating principles of best practice in conservation’ (Interviewee 4, intergovernmental organization). A World Bank (2021a) document includes an increase in the number of direct beneficiaries as an expected outcome of the project, including through job creation at both conservation sites in South Africa. The document notes (p. 18) that ‘sites will work with the target communities to engage them in project activities through the established Parks Forum. Community engagement will include benefits to staff currently employed ... SANParks [South Africa National Parks] will also employ temporary staff that works on an ad hoc basis and for maintenance functions ... and appoint staff to work as rangers, monitors, gate guards, joint operations center staff and a project manager.’

Although the protected areas containing rhinoceroses have ongoing community engagement initiatives, and communities around protected areas were consulted during the development of the Rhino Impact Investment, they were not explicitly included in shaping the goals or the metrics. One interviewee working in a protected area explained their reservations about community involvement in decision-making on rhinoceros protection and security: ‘community members at internal meetings of a Critically Endangered

TABLE 1 Stakeholders involved in the design of the Rhino Bond.

Organization	Description	Role in the Rhino Impact Investment	Role in the Rhino Bond
Intergovernmental organizations			
Global Environment Facility	Multilateral trust fund providing funds to low-income countries to invest in nature	Co-funder	Outcome payer
United Nations Development Programme	The UN development agency	Developed GEF project	None
World Bank	Provides loans, credit & grants to low-income countries	None	Issues & implements Bond
NGO			
Zoological Society of London	International conservation charity	Implementing agency	Verifies rhinoceros numbers
Scientific group			
African Rhino Specialist Group	Network of volunteer experts providing scientific advice to reduce biodiversity loss	Technical guidance & endorsement	None
Private sector			
Conservation Alpha	Company providing auditing, consulting & conservation science	Performance manager: developed theory of change & monitoring tool	Calculates rhinoceros numbers
PricewaterhouseCoopers	Multinational company focusing on audit & assurance, consulting & tax	Auditor	None
Credit Suisse	Multinational financial services company & investment bank	Lead financial coordinator (joined late 2019)	Sole structure & joint underwriter with Citibank
Conservation Capital	Consulting company developing new business & finance mechanisms for conservation	Finance manager: design of financing mechanism & fundraising	None
Protected area managers			
Addo Elephant National Park, Great Fish River Nature Reserve, Lewa-Borana Conservancy, Ol Pejeta Conservancy, Tsavo West National Park	Manage protected areas	Developed the theories of change	Implementers (South African sites only)
Government agencies/departments			
Kenya Wildlife Service	State corporation with a mandate to manage wildlife	Approved the investment metrics	None
South African National Parks, Eastern Cape Parks and Tourism Agency	Governmental organization responsible for maintaining protected areas	Endorsed site selection	Implementers

animal ... that is a no-no. Any poacher is either coming from that community or needs to traverse that community to enter the rhino area' (Interviewee 13, protected area).

Species and site selection for the Wildlife Conservation Bond

In the early discussion of a wildlife conservation bond, the initial intention was to design a product for a larger habitat or ecosystem. However, the idea was postponed because 'financial payments for more ambitious outcomes would be more complicated in terms of monitoring and evaluation' (Interviewee 2, intergovernmental organization). The choice of rhinoceroses for the first wildlife conservation bond was almost universally agreed by interviewees to have been a

good one, largely because of the ease of monitoring the species. One interviewee commented that rhinoceroses 'are big, they're easy to track' (Interviewee 2, intergovernmental organization), whereas another stated that it was 'a fantastic species to choose because they're quite easily measurable. We could design verifiable metric systems for them' (Interviewee 8, private sector). One interviewee remarked that rhinoceroses suited the needs of investors because 'you can tell your investors this is when you're going to get paid out because the population has increased by this much', and 'there are not a lot of species we can do that with' (Interviewee 4, intergovernmental organization). As well as noting the importance of size and measurability, interviewees also commented on the fact that some species are more likely to attract investment than others: 'for some

obscure chameleon living in the depths of the Congo rain-forest, it would have been far more difficult to find significant money' (Interviewee 14, protected area).

Some interviewees suggested that focusing on rhinoceroses not only made the Bond more straightforward to design and implement, but it also had the potential to deliver broader conservation benefits because of rhinoceroses acting as umbrella species: 'if you can conserve rhinos in a landscape, then basically everything else is fine underneath' (Interviewee 15, protected area). However, although most interviewees thought that focusing on rhinoceroses was a good idea, others highlighted possible tensions with the conservation of other species: 'if you don't remove that pride of lions that are specialized in killing rhinos, you start to miss your rhino targets, which compromises the investment' (Interviewee 14, protected area).

When it came to selecting countries and specific rhinoceros populations in the early stages of preparation for the Bond, sites needed to have Key 1 populations, meaning those classified by the IUCN African Rhino Specialist Group as being of significance for Africa. From an investment perspective, sites needed to fulfil certain biological requirements, having a minimum number of rhinoceroses. As one interviewee described it: 'you have over 140 sites with rhinos, but 18 of those sites have 90% of the rhinos. The economics tells you, what are we doing, putting money into those other sites? This is a waste' (Interviewee 5, NGO). A report (Credit Suisse et al., 2021) noted that although the Rhino Impact Investment initially aimed to include Indonesian Javan *Rhinoceros sondaicus* and Sumatran *Dicerorhinus sumatrensis* rhinoceroses, which are categorized as Critically Endangered on the IUCN Red List (Ellis & Talukdar, 2020a, b), their populations are small, fragmented and difficult to count, and hence they are not suitable for the kind of measurement required for the Bond.

As well as having sufficient rhinoceroses, sites also needed to fulfil criteria relating to effective management, so that stakeholders had confidence that the Rhino Bond could deliver results. It was important that sites were managed effectively, which included metrics such as financial sustainability, leadership and procurement (UNDP, 2020). One interviewee described it as 'this private equity approach of saying, find us the best assets in terms of biodiversity value and find us the best managers' (Interviewee 3, inter-governmental organization).

Only the South African sites were included in the Bond. An interviewee noted that the Kenyan sites have been slower to achieve investment readiness and highlighted the challenges of financial reporting requirements: 'they are very unfamiliar with this kind of financial instrument' (Interviewee 14, protected area). The Kenya Wildlife Service has also struggled to meet some of the necessary criteria, such as 'credible mechanisms to demonstrate the achievement of results' (Interviewee 14, protected area).

The World Bank (2021b, p. 13) noted that the three sites in Kenya are 'currently finalising their investment readiness status, which would enable fast scaling of the Wildlife Conservation Bond'. The delay has been frustrating to some conservationists involved in the early stages of the project, who had intended to focus on Tsavo West National Park in Kenya, which, according to one interviewee, is 'certainly in terms of potential for recovery, the most important black rhino population on the continent' (Interviewee 8, private sector). It also created tension because 'not everyone appreciated that we have to pick the best sites for investors, not for our organization ... the product is the priority' (Interviewee 5, NGO). This shows that it was not solely conservation importance that dictated site selection and that the designers of the Bond paid close attention to conditions beyond the sites themselves, such as the capacities and willingness of the governments involved to deal with new financial instruments. As governments often lead rhinoceros conservation, one interviewee commented that there is a need for 'effective, switched-on people' in government, with buy-in being necessary at all levels (Interviewee 7, NGO). However, some interviewees noted that not all governments would be able to support the development of a Rhino Bond. One interviewee noted that 'in my experience, Asian governments work slowly; there's not the same sense of urgency that you see in some African rhino range states' (Interviewee 7, NGO).

The lack of capacity to deal with complex new mechanisms was also noted in relation to other institutions. An evaluation stated that sites in Asia were not included as pilot sites in part because of the lack of active engagement from the Asian Rhino Specialists Group (UNDP, 2020). One interviewee commented that countries differ in their risk profiles: 'I think that the risk profile is always going to favour countries like South Africa and Kenya' (Interviewee 10, private sector). This is because of private investor perceptions regarding maximizing returns at minimum risk, with South Africa and Kenya already being large and established impact investment markets. The risk that only successful sites will attract funding whereas 'less successful reserves slip into obscurity and continue to lose rhinoceros' was highlighted by the GEF (2014, p. 14) and Credit Suisse et al. (2021). To mitigate this risk, the GEF noted that the Bond (or alternatives) could pay a higher return to encourage investment in riskier regions. However, given the challenges in the design and development of the Rhino Bond, this is unlikely to be implemented at this stage.

Stakeholder motivations for involvement in the Rhino Bond

All interviewees broadly supported the concept of bringing financial markets into conservation. Some referred to

finance as the last hope for conservation given the urgency of obtaining large-scale funding: ‘we’re pinning a lot of hope on the Rhino Bond. I believe it might be the only way in this very self-centred world to save the day. There are not enough people out there that value nature’ (Interviewee 13, protected area). Protected area managers often talked in emotive terms of the intrinsic value of nature: ‘the biggest drive is our passion for rhino conservation and to ensure that the rhinos are there for our grandchildren to see one day . . . in the wild open spaces’ (Interviewee 12, protected area).

At the same time, protected area managers were attracted by the large sums of money that would enable them to build financially resilient reserves: ‘when people come carrying fistfuls of dollars, you want to try and get as many of those dollars as possible’ (Interviewee 14, protected area). They see the Bond, particularly after the impact of Covid-19 on tourism revenue, as an opportunity to build ‘financial resilience, which is critical to [our] survival’ (Interviewee 15, protected area). They also see it as giving them greater independence from the current conservation funding model, as currently ‘what happens is often driven by NGOs and donors . . . and you can end up in a situation where you can have someone sitting in an office in Cambridge who is making decisions on what happens on the ground in the heart of Africa’ (Interviewee 15, protected area).

Although the possibility of finding new sources of funding was a strong motivation, there were other reasons for becoming involved. Intergovernmental organizations see the Bond as a test case, with the potential to be scaled to other species and landscapes given the increasing interest in the market for so-called green finance. They described it as a ‘really valuable experiment’ (Interviewee 1, intergovernmental organization) and ‘a proof-of-concept investment’ (Interviewee 2, intergovernmental organization). This meant that the process has value beyond increasing rhinoceros numbers: ‘it’s going to provide an enormous amount of information that can be used for further structured investments’ (Interviewee 2, intergovernmental organization). The same organizations were also motivated by the reputational gains of being involved in such an innovative scheme: ‘I want it to be successful from a pure conservation biology perspective . . . and we also want to be associated with the success and be seen as willing to invest in new approaches’ (Interviewee 2, intergovernmental organization).

Interviewees from the private sector were interested in being involved from the perspective of generating future income for their companies: ‘we are at the forefront of an innovative financing proposition and it’s the first in the market. It is like investing in a possible future business line’ (Interviewee 10, private sector). They noted the increasing demand from investors and asked, ‘how can we get into that market?’ (Interviewee 11, private sector). As the Bond had only recently launched, there were no investors at the time this research was

carried out, but interviewees thought investors would be motivated by the protection of the principal and their wish to improve the environmental credentials of their portfolios. Some interviewees thought the Bond would appeal to high-net-worth individuals with a ‘social conscience’ wanting to invest in something ‘cool’ (Interviewee 4, intergovernmental organization; Interviewee 15, protected area).

Conservationist experiences of the Rhino Bond

The main theme that emerged in discussions with conservation practitioners about the design of the Bond was the issue of financial complexity. The involvement of financial companies and the target audience of commercial investors brought complexities in terms of new terminology and design of a conservation product to meet financial expectations. Interviewees with a financial background working in intergovernmental organizations, conservation organizations and the private sector used technical terms with ease. These included terms such as ‘net present value’ (a method to calculate whether an investment will be profitable), ‘liquidity’ (assets that are easily converted into money) and ‘maturity’ (the date at which the principal on a bond is repaid). In contrast, almost all of the protected area managers expressed frustration at the complexity of the language: ‘I got a bit lost in the technical jargon. I pretend I know and understand it, but I must be honest, I don’t understand it at all’ (Interviewee 13, protected area). They also implied that there is a hierarchy based on the ability to grasp these concepts: ‘I’m not a financier, I’m not an accountant . . . I’m just a field conservationist’ (Interviewee 13, protected area). This was also seen within intergovernmental organizations when interviewees referred to their financial colleagues: ‘I don’t know that stuff. I am just a conservationist’ (Interviewee 4, intergovernmental organization).

The complexity of the Rhino Bond results from designing a financial product around existing conservation practices and hinges on risk management and effective attribution. As one interviewee described: ‘[the Bond] went into the mechanics of the financing, it wasn’t so much about the biology of the rhinos anymore, it was about how do we structure it as a financial instrument’ (Interviewee 2, intergovernmental organization). In terms of risk management, the Bond design transfers some of the risk of financing rhinoceros conservation to private investors, as they do not receive the success payment at the end of the 5 years if rhinoceros numbers do not meet the target. One interviewee noted that the structure of the product also presents risks to the World Bank, as it acts as the guarantor of the principal. Neither the World Bank nor the investor is responsible for delivering rhinoceros population growth, which ‘makes all kinds of complications . . . it gets to be outside the comfort zone of most people’ (Interviewee 4, intergovernmental organization). Another interviewee noted

that ‘investors do not usually have this kind of guarantee, so the World Bank is in a precarious position as it is accepting liability’ (Interviewee 10, private sector).

The complexity in language and design of the Rhino Bond meant that not all stakeholders fully understood the Bond, and some were not able to communicate about it effectively. Almost all protected area managers highlighted the challenges of communicating this complexity: ‘if I’m honest, there was quite a long period of time where, quite frankly, even now, I wasn’t entirely sure how I would explain [the Rhino Bond] and get someone to understand what it was’ (Interviewee 15, protected area). Another described struggling to communicate the concept of the Bond to his board: ‘they couldn’t understand the mechanism behind it – how the investment would be made and how it would be underwritten. On the face of it, it sounds very neat. But when you start digging into the modalities of making it work, it’s quite complicated’ (Interviewee 14, protected area). In contrast, intergovernmental organizations had their own finance experts, which enabled them to be more effective at communicating such complexity: ‘what was key was to have someone who could understand finance and financial structuring on the donor side’ (Interviewee 3, intergovernmental organization) and to bridge the gap between ‘conservation and finance worlds’ (UNDP, 2020, p. 43).

Decision-making and the dominance of financial motives

Although the Rhino Impact Investment has involved a range of stakeholders, financial motives determined decisions on several key points, and decision-making related to the financial design of the Rhino Bond was restricted to financial experts. As one interviewee put it: ‘first and foremost, when you issue a bond, it needs to make sense in financial terms’ (Interviewee 3, intergovernmental organization). Financial needs and motives determined the length of the Bond, which had originally been envisaged as 10 years, to provide more predictable financing to conservation. However, ‘the feedback from the market was to test with a 5-year bond first’ (Interviewee 8, private sector).

Ensuring the Bond makes sense in financial terms also meant thinking about what would be attractive to investors. For example, although an expert from Save the Rhino International sat on an investment committee, one interviewee (Interviewee 7, NGO) remarked that Credit Suisse did not think that the support of Save the Rhino International for managed trophy hunting would be palatable to European investors and insisted that it be reviewed. The same interviewee noted that ‘knowing a little information—particularly about controversial issues, such as trophy hunting—can be dangerous, in that new players can be overconfident about their expertise in a given area and make ill-informed decisions’ (Interviewee 7, NGO). The

expert from Save the Rhino International resigned from the committee as a result.

The need to reassure investors and meet their needs and expectations was a recurring theme in the interviews. One interviewee, remarking on the importance of audit and verification to investors, stated: ‘You must have a known entity. If that’s what [finance] people say, we have to listen to that’ (Interviewee 4, intergovernmental organization). Another interviewee commented that ‘they want to build confidence with investors ... they want to go with the big names’ (Interviewee 11, private sector).

In the designing of the Bond, decision-making was limited to the World Bank, GEF and Credit Suisse, with one interviewee commenting that ‘it’s just that in the cooking, there are very few people because ... it follows rules of market confidentiality’ (Interviewee 3, intergovernmental organization). Sometimes there was tension inside organizations, as barriers were created between different departments to avoid information about the design of the financial product being shared: ‘we had to create a Chinese wall with our actual conservation implementation team’ (Interviewee 5, NGO). This meant that a barrier was created to prevent the exchange of information and to ensure that the conservation teams were not able to influence site selection, maintaining the focus on the sites that were best for investment.

Discussion

Given the global shortfall in conservation funding, the financial sector is appealing as a potential source of funds. The Rhino Bond is the first wildlife conservation bond, but it is probable that impact investment in conservation will grow rapidly over the next decade (Huwylar et al., 2016; Deutz et al., 2020; Withers & Zoltani, 2020). It is therefore important to consider the initial experiences of the Bond and their broader implications. There are three key points. Firstly, the complexity of financial instruments means that although conservation actors are attracted by the potential for new funding streams, they have found navigating financial instruments challenging. Wildlife conservation bonds rely heavily on the technical expertise of financial actors, and such bonds must be tailored to those who can buy them. This can result in an imbalance in the influence levels of different stakeholders, with financial actors making many key decisions. It is also important to note that the Rhino Bond, despite creating new sources of funding, is largely built on the current model of rhinoceros conservation and has not fundamentally changed practices that have been criticized for their lack of engagement with local communities (Duffy et al., 2015; Annecke & Masubelele, 2016). The push from the World Bank towards job creation for local communities and wider stakeholder engagement could be considered an improvement to the model, but it does not alter the imbalance of power that

has historically underpinned biodiversity conservation in low-income countries (Adams & Hutton, 2007; Sandbrook, 2017).

Secondly, the motivations and needs of financial actors have important implications for the types of species that are likely to attract investment, as the need to measure performance favours large and easily counted species. Our research also suggests that investors, much like the broader public (Feldhamer et al., 2002), are drawn to charismatic megafauna. There is therefore a risk that some sites and some species will receive disproportionate financing and a danger of a narrowing of the vision of conservation. Although conservation has a long history of focusing efforts on certain species, especially charismatic megafauna and those seen to act as flagship species (Bowen-Jones & Entwistle, 2002), the outcomes-based approach of finance (with profits tied to the growth in numbers of a specific species) could lead to actions that limit other species (e.g. lion populations that threaten rhinoceroses).

Thirdly, the needs of financial actors also have implications for the sites and countries that are likely to attract investment. Only some sites in some countries will be able to adapt to the numerous and stringent requirements of financial actors and mechanisms. These sites are likely to be successful already, both biologically and financially, benefiting from governments or conservation organizations that have the capacity to support the process of financialization.

Overall, the dominance of financial principles and motives in financialized conservation means that not all species or protected areas will be viable candidates for investment. Those that are suitable may not necessarily be the most critical from a conservation perspective but best fit the requirements of financial instruments and investors. Highly uneven geographies of investment have already been noted in relation to impact investment in agricultural development, with money flowing to a small number of countries deemed suitable (Watts & Scales, 2020). The growing financialization of conservation thus has implications for what sorts of species, habitats and places might attract conservation finance (and which might not). Although the financial sector is likely to become an increasingly important part of the conservation funding landscape, conservation finance should not be seen as a panacea.

With this in mind, we make the following recommendations: (1) institutions and organizations working on biodiversity conservation must be clear-sighted about the sites and species that cannot be the basis of viable financial instruments and consider how best to fund and support these, (2) for species and sites that are able to attract conservation finance, projects should consider potential power imbalances both between financial actors and conservation organizations and between biodiversity conservation and local communities, and (3) conservation organizations engaging in conservation finance will need to adapt to

new ways of working and new relationships by building (or recruiting) the necessary financial expertise and accommodating a stronger focus on monitoring and evaluation.

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