

Biodiversity offsets and credits: Key aspects that make them problematic for protecting biodiversity

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Biodiversity offsets and credits are market-based approaches that are currently promoted by various intergovernmental institutions. They are identified in the Kunming-Montreal Global Biodiversity Framework as one of a number of “innovative schemes” that should be stimulated to increase financial resources for biodiversity. Biodiversity offsets allow private actors to compensate for their actions that cause biodiversity loss, by paying for biodiversity conservation. Although the definition of biodiversity credits is still in progress, in principle, it is expected that they would enable investments in conservation and not be used for offsetting purposes, although it remains unclear how this would be enforced.

However, a series of aspects need to be considered before adopting these mechanisms as strategies to increase financial resources for biodiversity. This briefing paper outlines the most problematic aspects related to biodiversity offsets and credits, which question their effectiveness in protecting biodiversity and the communities who safeguard and depend directly on nature. These have been organized in three main dimensions: operational aspects, aspects related to the rationale that underpins offsets, and aspects related to the rights of Indigenous Peoples.

A. Operational aspects

1. The methodology applied to calculate biodiversity offsets rests on the assumption that “what is not measured, is not compensated” (Moreno-Mateos et al., 2015; Robertson, 2004). This is particularly concerning considering the trend towards simplified assessments around the world (Robertson, 2006). Given that biodiversity is not fungible and that biodiversity losses and gains are difficult to measure, and that each country applies different methodologies for this, compensation may not happen at the expected rates and distribution.

Third World Network (TWN) is an independent non-profit international research and advocacy organisation involved in bringing about a greater articulation of the needs, aspirations and rights of the peoples in the South and in promoting just, equitable and ecological development.

Published by Third World Network Berhad (198701004592 (163262-P))

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2. Several – if not the majority of – offsets requested by states or voluntary financial agreements do not subscribe to the mitigation hierarchy,¹ with firms eschewing the avoidance and mitigation phases and going directly into compensation. The problem lies in the mitigation hierarchy: having offsets as the final step tends to disincentivize earlier stages of avoidance and mitigation (Robertson, 2000; Apostolopoulou and Adams, 2017; Gutierrez et al., 2021), because it is cheaper and faster for firms to pay for compensation rather than to avoid or mitigate biodiversity loss.
3. The evidence points at a failure to achieve “no net loss” of biodiversity, with two-thirds of biodiversity offsets falling short of achieving this target (zu Ermgassen et al., 2019). The challenges encountered include a scarcity of credits, ineffective monitoring, a lack of transparency, and the considerable expenses involved in developing and implementing methodologies to assess “ecological equivalences” (Kujala et al., 2022).
4. Biodiversity offsets may lead to more degradation at compensation sites (Maron et al., 2015). Because offsets can inject money into conservation initiatives, there is an economic incentive for those who offer conservation actions to show a significant change in biodiversity. Consequently, the baselines produced to prove compensation measures may tend to overstate positive conservation outcomes by exacerbating biodiversity loss prior to the projected conservation measure. This is a problem that may increase under the “shifting baseline syndrome”, which tends to overrepresent current states of biodiversity, instead of the state of a healthy ecosystem (Papworth et al., 2009).
5. Civil society and environmental movements have not been positively receptive to biodiversity offsets. The lack of legitimacy among local government institutions and closed selection of participants in the design and validation of these programmes can lead to social contestation and operational challenges (Ferreira and Ferreira, 2019; Maestre-Andrés et al., 2020).
6. Biodiversity offsets are being paired with the concept of credits (e.g., in Target 19(d) of the Kunming-Montreal Global Biodiversity Framework). However, very little is known about how these credits work and what the main difference is between them and offsets.

B. Aspects related to the rationale underpinning biodiversity offsets

1. The assumption that life and ecosystems are replaceable through a process of ecosystem rebuilding underpins biodiversity offsets. The notion of rebuilding an ecosystem assumes that ecosystems can be isolated from their spatial, evolutionary, historical, and social contexts (Moreno-Mateos et al., 2015). However, long-term research in wetland programmes in the US shows **low success rates of plant cover and functionality** in restored and recreated ecosystems (Moreno-Mateos et al., 2015).
2. The “ecological equivalence” that biodiversity offsets and credits attempt to achieve under complex, technical and standardized methodologies overlooks the full range of values (use and non-use) associated with biodiversity (Griffiths et al., 2019).
3. The injection of capital into conservation through offsets can become an **obstacle to transformative change** as it obscures important discussions on alternatives to the current ecological crisis (Apostolopoulou and Adams, 2017). Furthermore, these types of market-based mechanisms have been characterized by a lack of involvement and discouragement of pro-environmental behaviours at the local level, including people’s willingness to engage in collective action and promote equity (Cinner et al., 2021).
4. **In some countries, there is not enough land** that can be dedicated to compensation measures under the projected development rates (Sonter et al., 2020). For instance, the amount of land for protection and restoration in the region of East Kalimantan, in Indonesia, does not counterbalance future biodiversity losses (Sonter et al., 2020). Estimated development in this area (only for two sectors: mining and oil palm expansion) will need to clear 6,311 km² of forest, requiring 12,622 km² of restoration (under an offset multiplier of two).

1 The mitigation hierarchy is the series of steps that firms must undertake before implementing offsets. According to the IUCN (2016), there are three steps: 1) avoidance of the impact, 2) mitigation of all the impacts that cannot be avoided, and only after achieving the first two steps, 3) offsetting of the impacts. The policy brief on biodiversity offsets published by the IUCN (2016) establishes that “Offsets must only occur after all previous steps in the mitigation hierarchy have been considered and no alternatives are available.” It also offers a series of indications regarding the application of the mitigation hierarchy.

C. Aspects related to the rights of Indigenous Peoples

1. Given the trajectory of market-based instruments to protect biodiversity (Tupala et al., 2022), the promotion of offsets and credits is concerning. First, because it brushes away alternative valuations of nature (see Griffiths et al., 2019) to enforce one type of valuation, the economic one. And second, because it leaves aside Indigenous knowledges and practices to protect nature.
2. The notion underpinning biodiversity offsets accepts and promotes a quantitative approach that decides which territories should be conserved and which ones should be destroyed, ranking human and non-human lives to distribute “losses and benefits”, and increasing inequality and poverty (Griffiths et al., 2019). Market-based approaches have contributed to the weakening of Indigenous and local knowledge systems, turning this into a problem that Indigenous scholar Yolanda Lopez-Maldonado (2022) frames as “an existential threat to humanity”.
3. Biodiversity market-based mechanisms have been linked to continued dispossession and violations of the rights of Indigenous Peoples, as the Bribri Indigenous leader Levi Sucre Romero argues (2022), and the case of the Cordillera Azul National Park illustrates (see Forest Peoples Programme, 2023).
4. Weaknesses in the implementation of free, prior and informed consent (FPIC) at domestic levels also pose a threat to Indigenous Peoples in the context of biodiversity offsets and credits. Moreover, this threat increases in the absence of recognition of tenure rights, which is often the case in many countries and most protected areas (UNEP-WCMC et al., 2018).

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