

# Accelerating subnational deforestation and forest degradation reduction efforts (REDD+): need for recognition of instrumental and relational value interactions

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In globally coordinated efforts to reduce emissions from deforestation and forest degradation (REDD+), perspectives on instrumental (goal-oriented, ecological-economic) and relational (harmony-oriented, social-ecological) values of nature vary between, but matter to both local and global actors and stakeholders. The (sub)-national motivation to engage in REDD+ programs evolved over time. We reviewed literature on the underlying values and moral roots in subnational REDD+ implementation in two Southeast Asian countries with different political histories: Vietnam and Indonesia. Vietnam tried to use the preexisting Payments for Forest Environmental Services program for REDD+, incentivizing community-based forest management. Indonesia asked all provinces to clarify emission-reduction plans in green growth strategies, before engaging with international REDD+ finance. Maintaining strong national control over forests was a key motivation for initial REDD+ adoption, but further development of the programs in both countries rebalances efficiency and fairness in instrumental and relational decision-making modes, encompassing various dimensions of morality beyond financial gains.

## Addresses

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## Introduction

REDD+ refers to countries' efforts, since 2008, to reduce emissions from deforestation and forest degradation, and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks. The REDD+ mechanism, with a focus on international finance, was introduced at the Conference of Parties (COP) of the United Nation Framework Convention on Climate Change in 2008 'to make standing forests more valuable than those cut down' [1,2] as a 'fast-track' solution, in parallel with the 'slow track' Nationally Appropriate Mitigation Actions (NAMA) with emphasis on the sovereignty principle of the United Nation Framework Convention on Climate Change. Tropical deforestation continued after 2008, despite a proliferation of REDD+-related commitments made by companies and governments to control it, as halting and reversing deforestation requires multiple, complementary interventions by state and nonstate actors at different scales [3•]. Where policy interventions have consequences that cannot be easily controlled in open and highly pluralized social systems, while the political context is crucial and argumentation is contested, the problems are often characterized as being 'wicked' [4].

Wicked problems of common pool resources, such as the loss and degradation of tropical forests, require integrated-but-yet-adaptive governance [5–7]. As integration of public policy instruments usually involves negotiations between different interest groups at scales from local to global, integration is not easily combined with flexibility and adaptive responses, unless the relative importance of constituent reference groups, and hence their 'power' can align [8]. While multiple levels of internalization of external consequences, beyond the initial concern of decision-makers, coexist and interact [9], relational and instrumental perspectives on resource management [7], as articulated by different stakeholders in the issues, must be reconciled as part of the process. Recent interest in the global climate change and biodiversity community in 'instrumental' (ecology-economic, goal-oriented efficiency) versus 'relational' (ecological-social, harmony-oriented fairness) values as the basis for understanding and managing the people-nature interactions from local to global scale [10], needs to be reconciled with instrumental versus relational as primary rationality aspects in making and communicating about decisions [8,11]. 'Market-based' direct financial incentives only representing the

second of five levels of internalization currently recognized [8]. A deeper analysis of the underlying morality aspects of values [12] may reveal complexity, contradictions, trade-offs, and wickedness of issues around tropical forests in relation to water, farmer-managed agroforests, and palm oil production [13–15].

In this review, we reflect on the degree to which the various axes of morality can be recognized in the discourses around the subnational implementation of REDD+, with Indonesia and Vietnam as two of the pioneers, sharing a number of contextual factors (being SE Asian emerging economies), but following different institutional pathways. Our main questions were:

1. What aspects of a motivational hierarchy (internalization of externalities) and morality axes can be recognized in the subnational REDD+ implementation history and associated debates?
2. How have ‘instrumental’ and ‘relational’ values of nature interacted with efficiency-oriented (‘instrumental’) and fairness-oriented (‘relational’) modes of decision-making at multiple scales?

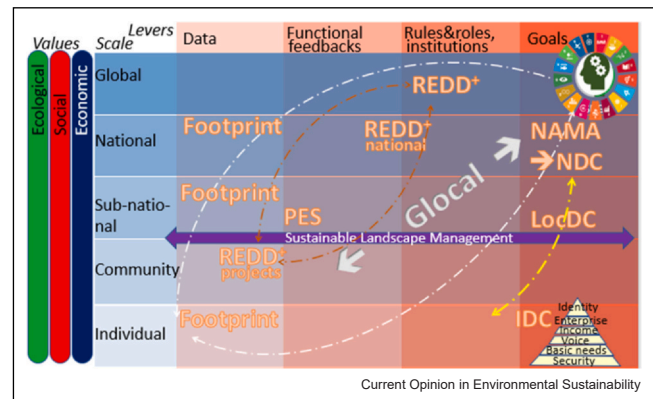
## Concepts and backgrounds

### REDD+ and transformative cross-scale governance

Transformative governance of complex biodiversity–climate–society interactions will need to build multi-functional interventions, achieve integration and innovation across scales, build coalitions of support, use equitable approaches, and target positive social tipping dynamics [16,17]. Natural resource management deals with a triple-bottom line of ecological, social and economic values, multiple scales (individual, community, subnational, national, and global), and the ‘systems leverage hierarchy’ [18] of data < functional feedbacks < institutions < goals. On the interface of these three dimensions, the plural values of nature, scales (rows in Figure 1), and the leverage hierarchy (columns in Figure 1) interact. The individual level in the lower-left cell of Figure 1 relates to global sustainable development goals (such as dealing with climate change, abolishing poverty) in the upper-right cell. Examples in Figure 1 refer to the various interacting instruments of climate policy, forest protection, and payments for ecosystem services (ES). The long-term NAMA/Nationally determined contributions (NDC) debate started with goals, the supposedly fast-track REDD+ with a financing mechanism.

There are many pathways to consider: aggregating data upward before relating them to goals, relating individual actions to individual goals, before aggregating goals upward, or any intermediate pathway, as indicated by the various arrows. Reconciling the triple-bottom-line values may be approached across each cell in the same way, or by accepting scale dependence of the trade-offs. At the

Figure 1



Three-dimensional representation of natural resource management, as dealing with the triple-bottom line (ecological, social, and economic aspects), scales from the individual to global, and system leverage levels (data, feedbacks, institutions, and goals). REDD+: reducing emissions from deforestation and (forest) degradation in developing countries; NDC, LocDC, and IDC: nationally, locally, and individually determined actions, respectively; glocal: issues/concerns simultaneously occur across scales from local to global [modified from Refs. 19,20].

global scale, differences between countries are recognized as part of the Common But Differentiated Responsibility (CBDR [21]) for the global climate and biodiversity crises. While CBDR has mostly been discussed in the interaction between nation states, it is equally relevant as a concept for the subnational scales within a country. Where the subnational implementation of international agreements is always sensitive in terms of the ‘sovereignty’ of the countries involved, in terms of underlying morality, issues may appeal to generic ‘axes’ of morality, as recognized in Ref. [10]: avoidable harm/achievable care, fairness, hierarchy, loyalty/betrayal, and pureness/sanctity. The subsequent addition of liberty/individualism [22] as a sixth axis, aligns with other ways of classifying morality axes [23].

REDD+ programs can include payment for ecosystem service (PES) arrangements, broadly defined as “voluntary transactions between service users and service providers that are conditional on agreed rules of natural resource management for generating offsite services” [24]. As a neo-liberal concept, PES strongly focuses on the first two axes of morality: harm/care and fairness/reciprocity [25,26] — in other words, it is both fair and efficient if those who enjoy ES pay people who take care of/protect ES provision in a mutually beneficial transaction. PES enjoys a continued and increasing popularity among scientists, politicians, and civil society organizations, despite concerns raised regarding the low effectiveness as policy instrument in achieving ecological goals of natural resource management, and the mixed record on social justice of the processes involved [27]. Critical

views see PES as a neoliberal way of bringing a distinctly instrumental and utilitarian relationality between humans and nature into existence [28], crowding out existing social, relational norms, and values [29].

### Common But Differentiated Responsibility

CBDR connects the first moral foundation (climate change harm should be avoided) to the distributional and procedural fairness aspects of a wider morality concept [16,18,30]. In the 15 years since REDD+ mechanisms were discussed and finally partially implemented, finance has been much more contested and slower than expected [31,32] and REDD+ became part of NAMA when it was reincarnated as NDC. Within the countries (especially the larger ones), a parallel process took place at subnational scale that interacted with the international one, in terms of the agreed social and ecological safeguards and appreciation of (or requirements for) local commitment and initiatives. While many studies have analyzed specific stages of the evolution of REDD+ in a range of countries [33–38], it is still relevant to compare the way the initial concepts apparently had to be transformed before they could be implemented, with current theories of change and institutional concepts in natural resource management, as represented in Figure 1.

### Relational value and morality

The specific meaning of the term ‘relational value’ is still in flux [39] and “there is a real danger that an ambiguous term is popular because everyone sees what they want in it, but there is no common ground for collective action or insight” [40]. The development of the concept has multiple aims and is considered to address multiple interdisciplinary problems related to sustainability, but it is unclear to what extent the framing as a values concept is appropriate to contribute to these goals. Local ecosystem governance, in which relational values may dominate, is a necessary component of any effort to face climate change and the accompanying challenges. Local governance, if suitably packaged, offers benefits not available through other governmental structures [41•] in efforts to reduce deforestation and forest degradation.

The generic ‘axes’ of morality [10] can be inverted as ‘concerns’ about (proposed) actions: not smart (harm not avoided, care not achieved), not fair (cheating), no right (hierarchy), not loyal (betrayal), and not right (purity/sanctity). These concerns can be recognized in the way policy mixes are built by combining the three basic instruments of governance: rules, incentives, and motivation [42]. Incentives, forms of PES, are always combined with rules and motivation [43,44], appealing to different levels of internalization of environmental and social externalities [6]. The basic moral concerns also form entry points for leverage in Theories of Induced Change [45], especially where the first (‘efficiency’) is contrasted with

‘fairness’ (combining the 2nd to 4th morality axes) [46]. The Individually Determined Contributions (IDC) in lifestyle choices [16] can be based on peer pressure, but also become expressions of purity/sanctity.

### Indonesia and Vietnam

Indonesia, as host of the 2008 climate change COP, has maintained an active role in international climate change discourse, with international concerns over deforestation and peatland conversion potentially affecting its export-oriented economy. Rationales of engagement since early REDD+ discussion [47•,48] include three levels of a national motivational pyramid, similar to individual Maslow pyramids [49]: A. the financial income promised, B. the clearing of obstacles for (continued) global trade in export commodities, and C. national identity and an associated share in mitigating climate change, reflecting CBDR. While much of the debate has been on country participation based on A), the much larger economic interest in B) was recognized in Ref. [40], especially in relation to palm oil exports, and substantial progress in ‘internalization’ toward C can be noted in recent policy change toward the Indonesia–Norway partnership, for example Ref. [6].

In Vietnam, the REDD+ discourse started around the time that a national program on Payments for Forest Environmental Services (PFES) was becoming operational in 2008 [50], and REDD+ implementation was designed to use the institutional path for PFES [51]. Similar to the case of Indonesia, the financial income for forest dwellers is an important motivation for PFES/REDD+ development, but finance alone is not the final concern [36•]. Both ‘market-based’ mechanisms (PES and REDD+) are expected to improve national/subnational forest governance structures [43,52,53] and further consolidate state’s power over forest resources [54–56•]. The national government uses direct financial benefits to draw upon interest from subnational stakeholders, but the ultimate goal is to portray Vietnam as the pioneer in PES and REDD+ [57,58], thus legitimizing a way to control forest resources.

### Motivational hierarchy in subnational REDD+ in Vietnam and Indonesia

#### Harm–care and social fairness

In both countries, forms of polycentric governance were developed [59•], with a partial recentralization in Indonesia where the initial decentralization had been unbalanced. Where a previous government had focused on forests and voluntary emission reduction, the government that started in 2016 emphasized the health and direct economic risks of peat fires as closer-to-home-avoided harm argument, with emission reduction as co-benefit. Later on, mangrove protection was added with a

similar argument that blends avoidable harm to local populations with global C-emission reduction as driver. Indonesia also avoided ‘harm–care’ challenge by focusing on subnational green growth planning, with emission reduction relative to earlier plans as substantiation of the NDC, with less-rigorous ‘results-based’ finance than in PES-type REDD+ projects.

Vietnam’s choice of maintaining water as the primary motivation for forest management, with protected or even enhanced C stocks as cobenefit and source of funding, avoided the moral challenge of using a globally relevant efficiency metric at the local scale, where it is hard to understand and not seen as fair. Despite its ‘economy first’ nomenclature, Vietnam’s PFES program operates as a co-investment in stewardship, where the efficiency-fairness trade-off is manageable [60], where participation in PFES was considered a reward for labor to work in forests and a means to compensate for the foregone legal claims to traditional use rights of participants [61]. Transaction costs and inefficiencies remain high despite relatively simple distribution mechanisms, and the current system provides no incentives to change forest management or improve ES provisioning, given the lack of conditionality, monitoring, and evaluation [62]. Discussions on benefit-sharing in REDD+ have largely focused on coefficients for differentiated distribution of available funds, rather than on social safeguards that promote improvement of local communities’ livelihoods [63]. The interface of REDD+ actions and climate adaptation (avoidable harm) even has more challenges in Vietnam [64]. In the subnational prioritization of actions and allocation of limited PFES funds in Vietnam and direct government funds in Indonesia, the CBDR remains hard to operationalize.

#### **Authority–subversion**

The REDD+ involvement of both countries has been focused on consolidating the central role of the national government, not allowing carbon market-based direct involvement of outside parties and local initiatives. In Indonesia, the first forest carbon finance initiative officially proposed by a community group upon land they intended to control autonomously [65] led to conflicts between state and local communities in REDD+ project areas [66]. In Vietnam, the courting of neoliberal language and scheme designs should not be misinterpreted as a weakening of central government power. In a global comparison of cultural dimensions, both Indonesia and Vietnam are characterized [67] by large power distance with weak uncertainty avoidance, characterized as a ‘family’-type reliance on relational values, as opposed to more instrumental ‘machine’ and ‘market’-style societies in Europe or more rigid pyramid structures in Japan and Latin countries.

Vietnam PFES’s success actually rides on effective forest law enforcement [68], with incentives as a way to smoothen relation between actors. PES policy design and implementation to achieve specific state objectives help building and mobilizing social relationships between state officials, donors, and technical experts [69]. In contrast, Indonesia’s social forestry program has not been explicitly designed to accommodate REDD+ or PES but been motivated by poverty reduction with a strengthened national forest authority that maintains control [70].

#### **Loyalty – to whom?**

The loyalty-betrayal dimension of [10] refers to a ‘bottom-up’, informal level of self-organization, that interacts with formal governance structures. The space for such, in countries with a strong ‘family quadrant’ [67] culture, depends on formal governance rules and implementation power. In the context of both Vietnam and Indonesia, common references to ‘loyalty’ mean “follow government’s rules and hierarchical system”, rather than truly self-organized groups. Two of the three different collective PFES models in Vietnam have provided both individual and some community benefits, but challenges remain on legitimacy, collective decision-making, and full inclusion [71•].

Surveys among nine communities in three provinces of Indonesia, showed that interests in joining programs to reduce emission from deforestation and forest degradation were diverse; the local capacity for planning and implementing systematic forest use was relatively low [72•]. Local actors’ ability to benefit from REDD+ project designs in Indonesia was found to depend on social relationships, REDD+ knowledge, and access to local markets and capital. The result was a benefit-sharing framework of uneven distribution [34,39,40].

#### **Sanctity**

While the prominence of the forest discourse in the international environmental arena can be perceived as a glorification of ‘untouched’ wilderness and, despite the inherent contradictions, of the homes to ‘pure’ indigenous people reliving paradise conditions (Phase IV in Ref. [73]), such sentiments are largely absent in both Vietnam and Indonesia, where conquering wilderness and bringing rationality to planning (Phases II and III in Ref. [73]) dominate.

#### **Ways forward**

In the motivation for engagement in REDD+ of nearly all developing countries (rather than a focus on those that emit most) and within a REDD+ country on all its subnational entities, the ‘relational value’ among humans (leading to political attention to distributional fairness) appeared to be more prominent than a purely



instrumental efficiency orientation. Relational values of nature are weakly articulated in high-level REDD+ documents, but likely more prominent at local levels. Repackaging of climate policy from the current carbon focus to become a water-focused climate resilience program (see e.g. Ref. [74]) may be more effective than a direct translation of international carbon discourse to local priorities for action. Decision-making logics for public consumption have to move from instrumental consequentiality to relational appropriateness and meaningfulness. Environmental knowledge that is usable from the perspective of decision-makers needs to rebalance the primary logic at global scale [75]. Steps toward plural valuation for equity and sustainability can help in this process [76].

When REDD+, a simple focus on finance, was seen as a fast-track mechanism and NAMA as the long-term arrangement, the need for a cross-scale and plural-value and negotiated arrangement for REDD+ was underestimated by a focus on finance. In the much slower-than-expected progress on nationally, locally, and IDCs, the wickedness and complexity of the problems became clear. This complexity needs to be recognized and addressed as part of CBDR, as ignoring it prolongs the spinning of wheels.

### Editorial disclosure statement

Given the role as Guest Editor, Meine van Noordwijk had no involvement in the peer review of the article and has no access to information regarding its peer-review. Full responsibility for the editorial process of this article was delegated to Gert Jan Hofstede.

### Data Availability

No data were used for the research described in the article.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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