

A political ecology of jurisdictional REDD+: investigating social-environmentalism, climate change mitigation, and environmental (in)justice in the Brazilian Amazon

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Abstract

This article contributes to political ecologies of forest-based climate change mitigation strategies by assessing Brazil's first sub-national jurisdictional REDD+ program. Proponents of jurisdictional REDD+ argue that the approach brings more social and environmental benefits than small-scale REDD+ projects and addresses negative socio-economic impacts of deforestation pressures on forest-dependent communities. Our analysis tells a different story. We assess Acre's sub-national jurisdictional (SNJ) program to show that reworking the scale of REDD+ is not only key to its persistence and stabilization, but also that implementation politics often further environmental injustice. We draw qualitative field research in the state of Acre into conversation with a critical analysis of SISA and the ISA Carbono program implementation. Our findings illustrate two interwoven points vital to political ecologies of REDD+. First, the social-environmental ambitions of Acre's SNJ REDD+ program were strongly influenced by the political ecologies of popular movements and a history of state-led environmental governance initiatives. Second, Acre's SNJ REDD+ has not met several of its social-environmental goals like bolstering forest-dependent peoples' rights or equitably distributing program benefits across sectors, despite operating most extensively on the lands of forest-dependent communities. Consequently, we argue that Acre's SNJ REDD+ track record has reinforced rather than alleviated injustice against Indigenous peoples and traditional forest extractivist communities.

Keywords: jurisdictional REDD+; political ecology of climate change; environmental justice; social-environmentalism; Brazil

Resumo

Esse artigo contribui para as ecologias políticas de estratégias de base florestal para a mitigação da mudança do clima, avaliando o primeiro programa subnacional de REDD+ jurisdicional no Brasil. Os proponentes do REDD+ jurisdicional argumentam que tal abordagem traz mais benefícios socioambientais que os projetos de REDD+ de pequena escala e pode fazer frente aos impactos socio-econômicos negativos e pressões do desmatamento sobre as comunidades dependentes da floresta. Nossa análise conta uma história diferente. Nós estudamos o programa subnacional de REDD+ jurisdicional do Acre para mostrar não só que a mudança de escala é crucial para a persistência e estabilização dos mecanismos de REDD+, mas também que sua política de implementação normalmente favorece as injustiças ambientais. Nós conduzimos uma pesquisa de campo

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qualitativa no estado do Acre em diálogo com uma análise crítica da implementação do SISA e do programa ISA Carbono. Nossos resultados ilustram dois pontos entrelaçados e vitais para as ecologias políticas de REDD+. Primeiro, as ambições socioambientais do programa subnacional de REDD+ jurisdiccional do Acre foram fortemente influenciadas pelas ecologias políticas de movimentos populares e por uma história de iniciativas de governança ambiental lideradas pelo Estado. Segundo, o programa subnacional do Acre não alcançou muitos dos seus objetivos socioambientais, como promover os direitos dos povos dependentes da floresta ou distribuir de forma equitativa os benefícios do programa, apesar de operar mais extensivamente nas terras das comunidades dependentes da floresta. Consequentemente, nós argumentamos que o histórico do programa de REDD+ jurisdiccional do Acre tem reforçado em vez de atenuado injustiças contra os povos indígenas e as comunidades tradicionais de extrativismo florestal.

Palavras chave: jurisdição REDD+; ecologia política da mudança climática; justiça ambiental; social-ambientalismo; Brasil

Resumen

Este artículo contribuye a las ecologías políticas de las estrategias de mitigación del cambio climático basadas en los bosques mediante la evaluación del primer programa de REDD+ jurisdiccional subnacional en Brasil. Los defensores de REDD+ jurisdiccional sostengan que el programa trae más beneficios sociales y ambientales que los proyectos REDD+ a pequeña escala y disminuye los impactos socioeconómicos negativos de las presiones de deforestación en las comunidades que dependen de los bosques. Nuestro análisis cuenta una historia diferente. Evaluamos el programa jurisdiccional subnacional (SNJ) de Acre para mostrar que reelaborar la escala de REDD+ no solo es clave para su persistencia y estabilización, sino también para cómo las políticas de implementación a menudo profundizan la injusticia ambiental. Nuestro análisis crítico de SISA y la implementación del programa ISA Carbono se basa en resultados de la investigación de campo cualitativo en el estado de Acre. Nuestros hallazgos ilustran dos puntos entrelazados vitales para las ecologías políticas de REDD+. Primero, las ambiciones socioambientales del programa SNJ REDD+ de Acre fueron fuertemente influenciadas por las ecologías políticas de los movimientos populares y una historia de iniciativas de gobernanza ambiental lideradas por el estado. En segundo lugar, SNJ REDD+ de Acre no ha cumplido con varios de sus objetivos socioambientales, como el refuerzo de los derechos de los comunidades dependientes de los bosques o la distribución equitativa de los beneficios del programa entre sectores a pesar de operar más extensamente en las tierras de las comunidades dependientes de los bosques. En consecuencia, argumentamos que el historial de SNJ REDD+ de Acre ha reforzado en lugar de aliviar la injusticia contra los pueblos indígenas y las comunidades extractivistas forestales tradicionales.

Palabras clave: REDD+ jurisdiccional; ecología política del cambio climático; justicia ambiental; socioambientalismo; Brasil

1. Introduction

South America's Amazon Basin is a frontline in the global fight against climate change. The world's largest tropical forest ecosystem has been under threat of deforestation-based development for the expansion of extractive industries for decades, spurring international and domestic efforts to promote forest conservation models that are both sustainable and just. Several Amazonian countries and subnational states (like Acre in Brazil) have turned to the United Nations REDD+ program to address their climate change mitigation goals in exchange for foreign capital. REDD+ stands for "Reducing Emissions from Deforestation and Forest Degradation plus Conservation, Sustainable Management of Forest and Enhancement of Carbon Stocks." The program was designed via the United Nations Framework Convention on Climate Change to serve as a performance-based financial mechanism for rewarding countries in the global South for their efforts to mitigate deforestation-caused greenhouse gas (GHG) emissions. Since its inception, REDD+ has become a central climate change mitigation strategy widely evaluated by political ecologists, including in a recent special issue in the *Journal of Political Ecology* (see Volume 20, Number 1 published in 2020).

Scholars have shown that REDD+ has been applied to a range of results-based carbon-driven initiatives known as payments for ecosystem services (PES) that are often implemented in tropical forests, including NGO-led pilot projects (Bayrak and Marafa 2016; Corbera and Schroeder 2017; Stickler *et al.* 2018). Among the diverse approaches to REDD+ program designs, many analysts consider the program in the Acre state of Brazil as one of the most advanced models in the world (Duchelle *et al.* 2014). Two-decades of experience innovating policies and legislation to guide forest-based development and the first sub-national jurisdictional (SNJ) approach set Acre apart from other sites where REDD+ is used (Boyd *et al.* 2018; Duchelle *et al.* 2018; Stickler *et al.* 2018). This article contributes to political ecology scholarship on REDD+ by evaluating the implementation of the world's first SNJ REDD+ program in Brazil's Amazonian state, Acre, with attention to environmental justice for frontline communities.

Political ecologists have scrutinized how power and politics are reworked through small-scale REDD+ projects and advanced critical analyses that examine claims the program is a strictly technical science-driven approach (Gibbs *et al.* 2007; Gifford 2020). Some works underscore the deeply political processes of decision making and benefit distribution (Corbera and Schroeder 2017; Phelps *et al.* 2010), which can exacerbate existing inequalities (Anderson 2009; Bayrak and Marafa 2016). Employing diverse methods, from institutional analyses to ethnographic field research, scholars have thus shown how REDD+ can reproduce inequities, from design to implementation (Lyons and Westoby 2014; Setyowati 2020) that raise environmental justice concerns. Political ecologists' attention to justice derives from intellectual roots in Marxist critiques of political economy and broader concerns for inequality, social vulnerability, and forms of marginalization bound in environmental struggles (Forsyth 2008).

Environmental justice scholars bring an explicit focus on how environmental harms are disproportionately borne by racialized and economically marginalized populations with a longstanding emphasis on justice *vis-à-vis* civil rights but also justice as recognition and (re)distribution (Hollifield, 2015) and increasing work to foster abolition ecologies (Heynen and Ybarra 2021). In recent years environmental justice scholars have expanded from focusing on the distribution of environmental harms to greater concern for what Pellow (2018) calls a "critical environmental justice" informed by intersectional, trans-scalar analyses of injustice and environmental change, broadly construed. Despite many shared interests between political ecology and environmental justice, scholars (Hollifield 2015; Svarstad and Benjaminsen 2020) call for greater conversation between the two approaches.

We bridge political ecologies of REDD+ with environmental justice through an examination of Acre's SNJ REDD+ program. Here we also respond to Asiyanbi & Lund's (2020) contention that REDD+ persistence and stability, despite a dubious record of effectively reducing emissions through deforestation and degradation, requires further investigation. We show that the persistence and stability of SNJ REDD+ in Acre is based on discourse and a process that purport shared governance with forest-dependent peoples but in practice do little to equitably distribute benefits nor alter longer histories of marginalization that manifest as environmental injustice.

Since its inception, REDD+ has been widely studied. Issues identified in the literature are diverse, ranging from land dispossession (Cavanagh and Benjaminsen 2014; Furtado 2017), local political instability and social-economic disruptions (Asiyanbi *et al.* 2019; Corbera and Schroeder 2017) to food insecurity (Bayrak and Marafa 2016) that all too often impact Indigenous peoples and other traditional forest-dependent communities. Of particular concern is how REDD+ projects have been associated with forced evictions (Lyons and Westoby 2014; Milne *et al.* 2019) land conflicts (Dunlap and Fairhead 2014; Hunsberger 2015), contentions between and within communities (Bayrak and Marafa 2016; Osborne 2015), centralization of forest governance (Bayrak and Marafa 2016; Hunsberger 2015), and failure in providing socioeconomic benefits to locals (Osborne 2015; Schroeder and McDermott 2014). Does the scale of REDD+ projects matter to the prevalence of the negative impacts in different sites? Some practitioners and scholars suggest that the jurisdictional approach for REDD+ is potentially more effective and fairer than project-based models (Irawan *et al.* 2019; Ravikumar *et al.* 2015; Stickler *et al.* 2018). Nevertheless, the SNJ approach has not been widely evaluated in political ecologies of REDD+.

This article draws from field research in Acre to examine effects of that state's SNJ REDD+ program from 2010 to 2019. We focus on Acre for two main reasons. First, nearly 87% of the state's territory was covered by the Amazon Forest when we initiated this research.² Given the importance of the Amazon Forest to global climate change and the advancing deforestation frontier, Acre is a crucial site for forest conservation. Second, Acre is home to *socio-ambientalismo* (social-environmentalism), an important Brazilian movement that, we suggest, conditions the geographic and political specificity of SNJ REDD+ in the study area. We suggest that the specific geographies of climate change mitigation programs shape how and why such programs have different effects in different places.

Our article shows that evaluating REDD+ at different scalar resolutions matters, given that it is a global initiative implemented in specific places. By engaging the explicitly sub-national aspect of Acre's program, we not only show that reworking the scale of REDD+ is key to its persistence and stabilization (Asiyanbi and Lund 2020) but also, its implementation is central to problems of environmental injustice. Acre's social-environmental movements *and* the state's environmental governance priorities shape the implementation of this SNJ REDD+ program in important ways.

Our findings make two interwoven points. First, the social-environmental ambitions of Acre's SNJ REDD+ program were strongly influenced by popular movements and a history of state-led environmental governance initiatives, something that led many to believe the program would be beneficial. Second, and most importantly to issues of environmental justice, the Acre program has not met many of its goals like bolstering forest-dependent peoples' rights or equitably distributing program benefits across sectors, to say nothing about the efficacy of reducing carbon emissions. Consequently, we argue that Acre's SNJ REDD+ model has reproduced existing environmental injustices for Indigenous peoples and traditional communities of non-Indigenous forest extractivists, rather than alleviated those issues. As a local Indigenous leader and well-known REDD+ opponent who participated in our research reported:

If you go to the [Indigenous] villages... 90% of them do not work for [the SNJ REDD+] program... you will see an old clinic falling apart. And, during Rio+20, Acre was shown as the best place in the world for Indigenous peoples... and I was really upset in California, when California state representatives told *us* that *all* Indigenous communities, rubber tappers and riverines in Acre were consulted [about REDD+]. (Interview, Rio Branco: June 12, 2019)

The article unfolds in four parts. First, we discuss our research methods and data. Next, we review literature on REDD+ and Forest Dependent-Peoples, highlighting key contributions from, and intersections between, political ecology and environmental justice scholarship. Third, we contextualize jurisdictional REDD+ in Acre by tracing the history of Brazilian socio-environmentalism. In so doing, we show how local political dynamics shape global climate change mitigation initiatives and vice versa. What follows is a discussion of the primary research that foregrounds the perspectives of actors centrally involved in the implementation of Acre's jurisdictional REDD+ program, considering the ramifications of the program on environmental justice across sectors. The conclusion discusses how lessons learned from implementing SNJ REDD+ in Acre, Brazil underscore the necessity of foregrounding social and environmental justice in climate change mitigation programs.

2. Research methods and data

Our research design and analysis seek to understand how SNJ REDD+ affects forest-dependent peoples in Acre by drawing primarily on affected peoples' perspectives of the program and their experience with its implementation. This article is based on qualitative field research conducted in 2019 coupled with extensive policy analysis and a review of pertinent literature in political ecology and environmental justice scholarship. The first author conducted semi-structured, in-depth interviews during a research trip to Acre between May 23

² KfW Bank aus Verantwortung. REDD Early Movers (REM) Programme. Retrieved from: <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Topics/Climate/REDD/>.

to June 17, 2019, that included visits to cities of Rio Branco and Xapuri as well as the Chico Mendes Extractive Reserve (RESEX Chico Mendes) and the Chico Mendes Agro-Extractive Settlement (PAE Chico Mendes). Rio Branco is the capital of Acre and site of pertinent government agencies. Xapuri, on the other hand, is a smaller city whose rural areas host many non-Indigenous rubber tappers (*seringueiros*) and where pressures from cattle ranching, road construction and urbanization are driving alarming deforestation. Three additional interviews were conducted by Skype with actors in Rio de Janeiro (Brazil), Sacramento (USA), and New York City (USA).

Interviewees included people and organizations involved in the implementation of SNJ REDD+ in Acre, but also those that were potential beneficiaries of the program (see Table 1). Forty-three interviews were conducted in Portuguese, of which 40 were recorded. Two online interviews were conducted in English, but not recorded. A range of stakeholders from state and federal government, civil society, and private sector participated in the study under conditions of confidentiality due to the sensitive and political nature of deforestation in the study sites. We use pseudonyms to protect interviewee identities.

Here, the terms "forest extractivists" and "indigenist" are translations from Portuguese, and we maintain their usage to retain fidelity to the Brazilian context. In Brazil, the term "forest extractivists" is used to denote non-Indigenous communities living off sustainable forest-based activities, like rubber tapping and traditional forest resource use, rather than intensive forest resource exploitation. "Indigenist" refers to non-Indigenous organizations focused on Indigenous rights. Interviewees were identified and invited to participate in this study via publicly available information alongside purposive snowball sampling, in which the research participants suggested names of other potential participants.

Group	N =	Women	Men
Non-Indigenous forest extractivists	16	6	10
Indigenous leader	4	2	2
Indigenist organization	2	1	1
Independent Socio-Environmental Activist	1	0	1
Policy manager, previous state administrations only (Acre)	8	3	5
Policy manager, current state administration only (Acre)	2	0	2
Policy manager, previous and current state administrations (Acre)	5	2	3
Policy manager, federal government (Brazil)	1	0	1
California State Government (United States)	1	0	1
International NGO	2	2	0
Acre Federal University	1	0	1
TOTAL	43	14	28

Table 1. Profile of research participants interviewed for this study.

3. Commodification to implementation: environmental justice concerns in early REDD+

The United Nations Framework Convention on Climate Change (UNFCCC) negotiations involving REDD+ lagged for years, and topics like carbon offsets were especially contentious (Pokorny and Pacheco 2014). Offsets are the core of REDD+ and private sector engagement is a *de facto* condition of financial feasibility (Angelsen and McNeill 2012). In principle, carbon offsets will compensate for tons of carbon emitted by a country, company, or individual through the purchase of the same tons of carbon taken up somewhere else (Gifford 2020). Despite the COP26 deal in favor of an international carbon market, carbon offsets are still controversial. The Brazilian federal government, for example, which is now an offset supporter, disagreed for years that offsets should apply to REDD+. The Brazilian argument was that the principle of common but differentiated responsibilities should put countries in the Global North in a position of reducing their own emissions *and* financing the transition to low-carbon economy in the Global South (MMA 2016). On the other hand, environmental justice groups in California have raised concerns about using offsets under the state's cap-and-trade program (Forman *et al.* 2019). They argue that offsets perpetuate the exposure of historically marginalized populations in California to toxics while violating rights of forest-dependent peoples in tropical forests.

Political ecologists have identified the environmental limitations, negative socio-economic impacts, and environmental justice concerns caused by small-scale REDD+ projects (Asiyanbi and Lund 2020; Osborne 2018; Setyowati 2020). Given the market-based nature of REDD+ and other payments for ecosystem services (PES), scholars and frontline communities show that forest-based climate change mitigation programs create new enclosures through commodification (Bayrak and Marafa 2016; Furtado 2017; Osborne 2011). While proponents suggest that carbon accounting is merely a technical matter of factoring net gains and sequestration of emissions, Gifford (2020) shows the highly uneven, and somewhat arbitrary, means by which carbon is rendered legible through its commodification. Others argue that commodifying forest carbon stocks reduces the "social-cultural and ecological values of ecosystems" into "a single exchange value" (Bayrak and Marafa 2016: 13). This is important to environmental justice because carbon commodification favors "dominant economic forces" that often reproduce social hierarchies, marginalize, and exclude forest peoples (Chomba *et al.* 2016; Fuentes-George 2013: 146).

Amidst the current climate crisis, NGOs, development organizations, and governments increasingly call Indigenous and non-Indigenous peoples whose livelihoods are based on a close relationship with the world's tropical forests "forest stewards." This discursive framing intersects with recognition that tropical forests are crucial for capturing atmospheric carbon dioxide and that "forest steward's" livelihoods often promote conservation outcomes (Bastin *et al.* 2019; Ekblad and Bastviken 2019; Ferreira *et al.* 2018; Haeger and Schwendenmann 2016). Consequently, many backers of climate change mitigation instruments like REDD+ suggest that ascribing economic value to ecosystem services can generate income for forest-dependent peoples and incentivize traditional conservation practices in lieu of behaviors that degrade the forest (Bayrak and Marafa 2016; Luttrell *et al.* 2013). However, local implementation of REDD+ projects often produce unexpected results (McAfee 2016; McCarthy 2015).

Intra- and inter-community conflicts are also widely documented consequences of how REDD+ programs ascribe different values to forests. Conflicts often arise due to unequal benefits provoked by limited capital from payments or technical barriers to engage in REDD+ (Osborne 2018; Setowati 2020). Unequal benefit distribution can exacerbate internal inequities within communities due to resource capture or inadequate consultation (Bayrak and Marafa 2016; Furtado 2017; Osborne 2015). Navigating REDD+ requires a degree of technical complexity and knowledge of the terms, procedures, and mechanisms that define contractual obligations for communities which often requires working through a third-party NGO or an intermediary government (Aguilar-Stoen *et al.* 2016; Pokorny and Pacheco 2014). Reliance on intermediaries often leads to a loss of community-based forest governance due to the introduction of more powerful actors like third-party

certification officials or NGO representatives who may co-manage projects (Bayarak *et al.* 2016; Hunsberger 2015; Osborne 2015; Schroeder and McDermott 2014; Svarstad and Benjaminsen 2017). Furthermore, REDD+ projects have spurred new land conflicts when *de facto* community that held and managed lands where no title exists are brought under new, more restrictive uses according to project requisites (Dunlap and Fairhead 2014; Furtado 2017; Hunsberger 2015; Osborne 2013).

Re-valuing forests through carbon commodification converts previously "unproductive" lands to valuable resources. Furtado (2017) notes that revaluing forests has resulted in increased criminalization of traditional forest-based peoples when their activities, like shifting cultivation or small-scale agriculture, lead to deforestation or degradation. Additionality also poses a major challenge for forest-based communities involved in REDD+. Additionality criteria require that payment systems demonstrate the relationship between conserved forest and projected carbon loss that would occur without the REDD+ project. When compared to major drivers of deforestation like expanding large-scale agriculture or cattle production, Indigenous communities generally have minimal impacts on deforestation and forest degradation. Therefore, showing this additionality is challenging. Herein lies the contradiction of relying on "forest stewards" to drive conservation practices at the heart of offset programs. From the perspective of REDD+ program managers, many forest-based communities are considered "low performers" and thus excluded from many of the socio-economic benefits REDD+ programs often promise (Stickler *et al.* 2018). In other words, because existing land use patterns in many Indigenous communities register a minimum environmental impact, REDD+ projects on Indigenous lands are expected to be insignificant for stopping additional emissions.

Widely documented negative impacts of REDD+ projects, like those surveyed above, have pushed governments and implementing organizations to devise more just approaches. Of note, a multi-stakeholder process including national and subnational governments from the Global South generated new REDD+ Social and Environmental Standards (REDD+SES), basic guidelines that aim to address many of the social and environmental problems associated with REDD+ projects. REDD+SES was designed to support "government-led REDD+ programs"³ based on voluntary adherence and protecting the rights of frontline communities. The Cancun Agreements crafted during the 2010 UNFCCC Conference of the Parties (COP 16) recognized the necessity of monitoring social and environmental safeguards. Yet safeguards were only included as an Annex and with weak language (Osborne *et al.* 2014).

4. Socio-environmentalism: the roots of Acre's SNJ REDD+ program

Brazilian socio-environmentalism emerged in the 1980s (Santilli 2005). The movement integrated "environmental conservation" and the rights of local peoples with the claims of environmentalists, local populations and social movements (Vadjunec *et al.* 2012). The origin of socio-environmentalism is unclear; nevertheless, the literature commonly uses it to refer to the mobilizing principle of Acre's rubber tapper movement and the Forest Peoples' Alliance. The Forest Peoples' Alliance was an inter-ethnic association between Indigenous communities and non-Indigenous rubber tapper groups that defended forest-based livelihoods by adopting a perspective that sought to defend environmental conservation with a focus on social justice (Pimenta 2015; Santilli 2005), thus departing from previous conservationist approaches.

Current understandings of socio-environmentalism cannot be dissociated from emblematic rubber tapper leader Chico Mendes, murdered by an Acre rancher in 1988. Under Mendes's leadership, the rubber tappers – a non-Indigenous group that descends from impoverished *mestizo* settlers from Northeast Brazil – confronted cattle ranchers who arrived in Acre supported by the Brazilian military regime. The rubber tappers' livelihood, which was based on "mixed subsistence farming and sale of rubber and Brazil nuts" (Keck 1995: 412), made

³ REDD+ Social & Environmental Standards. About the Initiative. What is the Social and Environmental Standards Initiative? Retrieved from: https://www.redd-standards.org/index.php?option=com_content&view=article&id=67&Itemid=148

the dispute for lands into a clash between two opposite land uses. While ranchers needed to clear the forest to meet their economic goals, rubber tappers needed forest conservation to meet theirs.

Mendes not only created a social movement of rubber tappers, but also made a significant network of allies and partners. Beside local Indigenous communities, the rubber tapper movement had the support of other national social movements, international environmental organizations, and foreign universities. Mendes also helped found the National Rubber Tapper Council (CNS) and proposed in 1985 the creation of *extractive reserves*—a type of a protected area designated for sustainable use practices that drew inspiration from Indigenous land-use models. Mendes' assassination caused an international outcry and launched Acre's socio-environmental struggles into the forefront of public debate in Brazil. Being pressured both domestically and internationally, the federal government responded to the rubber tappers' claims by creating Acre's first two extractive reserves (Allegratti 2008; Allegratti and Schmink 2009).

Following the creation of the extractive reserves in the 1990s, the Acre socio-environmental movement began working to occupy formal political offices through the democratic process (Stone-Jovicich *et al.* 2007). Rubber tappers and Indigenous peoples supported the election of forest engineer Jorge Viana as the state governor in 1998, opening the way to a 12-year period known as the "Forest Government." The Forest Government operated on the vision of a forest-based economic future for Acre that could support marginalized sectors through extraction of non-timber forest products, and advanced the concept of "*florestania*," or forest citizenship, with the motto "to live in the forest, on the forest, and with the forest." *Florestania* sought to rescue and valorize Acre's history of rubber tapping through an alternative forest-based development model and collective state-wide cultural identity, linked to the conservation and sustainable use of the forest (Gomes *et al.* 2012; Schmink *et al.* 2014). Some suggest that *florestania* was the flagship of Amazonian socio-environmentalism (Vadjunec *et al.* 2012: 75). In this political context, Acre officials formulated the state's pioneering SNJ REDD+ program.

5. Unpacking how Acre's SNJ REDD+ works: from the SISA Act to implementation politics

Acre launched the Environmental Service Incentives System (SISA) in 2010, the last year of the Forest Government. Unanimously approved by the Acre State Assembly, SISA was created through a participatory approach that included local actors from civil society organizations in addition to Indigenous and rubber tapper association leaders (Gomes *et al.* 2012; Stickler *et al.* 2018). SISA is a legal framework that allows and sets guidelines to regulate payments for ecosystem services, encompassing seven programs (see Figure 1), including ISA Carbono — the "Environmental Service Incentives Program – Carbon" that is Acre's SNJ REDD+ program. The SISA Act was formulated and approved in a political context that united the social-environmental roots of the Forest Government with international interests in developing market-based "solutions" to global climate change. Carbon emissions trading was one proposed approach. Given financial constraints on local markets, the Forest Government and its allies welcomed the possibility of raising funds by selling carbon credits.

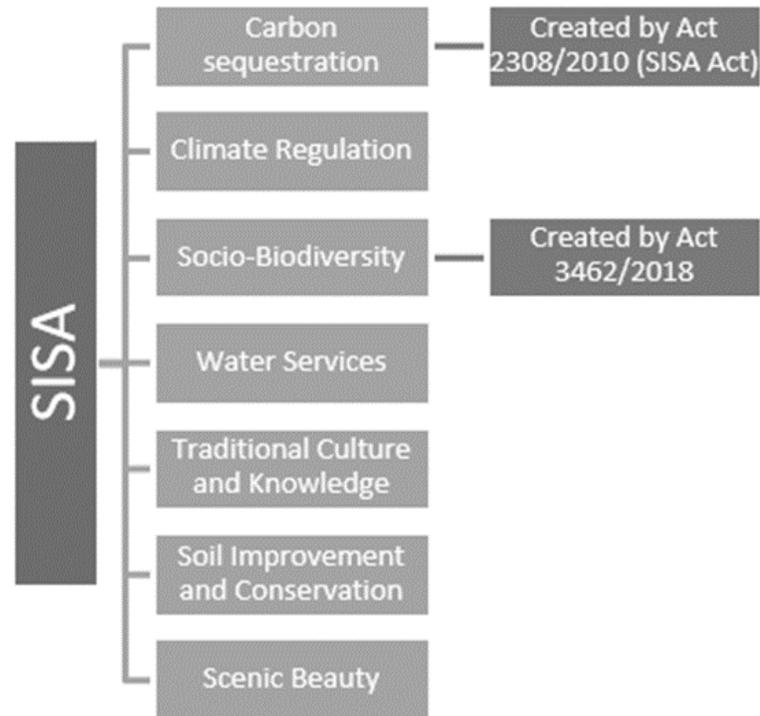


Figure 1. SISA and its seven programs (Santos Rocha da Silva, 2020, p. 78).

However, SISA is much more than a program to trade carbon credits. It was designed to work as a multi-program tool to finance and induce forest-based development. According to Oswald, a policy manager involved in the formulation of SISA, the incentives for environmental services implied "additional money" to encourage someone "to keep on doing what he is doing, and doing even better," while "remuneration in that case is not an end, but means to an end" (Interview, Rio Branco: May 28, 2019). Several other interviewees reported that the goal of creating a jurisdictional REDD+ program in Acre was to ensure socio-economic rights for Indigenous peoples, forest extractivists, riverine communities and smallholder farmers. Rubens, a policy manager who worked for the previous and current state governments in Acre, suggested that SISA "came to guarantee some social, economic rights" for local forest-dependent communities (Interview, Rio Branco: May 27, 2019). Cecilia, another civil servant who had worked with SISA beginning with previous governments, mentioned that the jurisdictional program observed "safeguards" and the rights involving "land regularization, territorial issues, traditions, culture, and strengthening of production chains" (Interview, Rio Branco: May 27, 2019). Taken together, these interviewees show that the market-driven language employed in the SISA Act obscures the assumed intentions that SISA, jurisdictional REDD+ and socio-environmentalism will align. The Act mentioned as a principle "respect for the rights and knowledges of Indigenous peoples, traditional populations and extractivists, as well as human rights." Those rights, however, were not specified. Tellingly, the SISA Act states only "respect" for rights instead of promotion or assurance.

SISA does little to ensure forest-dependent peoples' rights beyond what the Brazilian 1988 Federal Constitution had already done. In fact, the mechanism created by the SISA Act contradicted at least one constitutional Indigenous right. The Brazilian Constitution states that Indigenous peoples are accorded the right to benefit from all the riches found in the soil, rivers, and lakes of Indigenous lands (1988 Federal Constitution, art. 231, paragraph 2). Since the carbon uptake is done by trees and carbon stocks are in the forest and its soil, Indigenous peoples affected by REDD+ schemes should therefore be the only ones to benefit from the carbon

credits generated on their lands. The same could apply to other "environmental services" regulated by SISA. However, the SISA Act guaranteed the State of Acre rights over trading carbon credits generated on Indigenous lands, which were not technically under the Acre state jurisdiction. Like federal protected areas, such as all the extractive reserves in Acre, Indigenous lands officially belong to the Union (i.e., Federation), although they cover almost 15 percent of Acre's territory.⁴ Furthermore, the SISA Act did not specify potential beneficiaries. Instead, the Act states that SISA beneficiaries must primarily be providers of environmental services, or those who promote legitimate and adequate "actions for the preservation, conservation, recuperation and sustainable use of natural resources" in convergence with Acre state legislation (Act 2308/2010, art. 4). The provider must also be a participant in the "programs, subprograms, action plans and special projects" linked to SISA (Act 2308/2010, art. 4). The issue of participation also raises other concerns about how this program has been enacted to date.

SISA has a participatory governance model by design, but the inclusiveness of that governance is questionable. Unfortunately, the purported broad participation in the creation of SISA did not produce mechanisms that assure an effective and permanent participation of all the relevant stakeholders. The SISA Act included the principles of transparency and social participation to create a State Commission for Validation and Monitoring (CEVA) with half the members legally mandated from civil society (Act 2308/2010, art. 12). The Commission's goal was to promote "social control," by analyzing reports, approving proposals of new rules from the government, and recommending improvements in SISA. The Acre state government, however, was effectively the only body responsible for managing all the SISA programs, leaving other actors outside the realm of effective influence over program practice. Thus, despite socio-environmental ambitions, SISA, the umbrella system that covered Acre's jurisdictional REDD+ program, did not center the rights of forest-dependent people. Instead, the main achievement of the SISA Act was to create a local market for environmental services, establish basic rules for that market, and provide legal certainty for the stakeholders. In the SISA Act, forest-dependent peoples have no specific functions within the governance of the program, despite their incomparable contributions to the "environmental services" provided in Acre. That gap between original intentions and the materialization of SISA by the law permitted the reproduction of historical injustices against forest-dependent communities during the implementation process.

The implementation of SISA in Acre has had unexpected results. In 2019, a full nine years after its creation, Acre's flagship SNJ REDD+ program had not raised any funding from the carbon markets. Instead, all program operations had been financed by foreign public donors, like the governments of Germany and the United Kingdom, through the international program REDD Early Movers – REM. REM is an initiative of the German government that was designed to support pioneering jurisdictional REDD+ programs as a bridge in their preparation for the carbon market and is also working in the Brazilian state of Mato Grosso, as well as Ecuador and Colombia. REM allowed Acre to put the jurisdictional REDD+ program in operation after 2012. Payments were made as "grants" on the condition of reducing historical rates of deforestation, though they did not imply any offset of carbon emissions from the donor countries. The absence of offsets, the public nature of donors and the indirect payments to Indigenous peoples as incentives made local discussions about the market-based nature of REDD+ less relevant in Acre, but not inexistent, as the next sections show.

Implementation politics

Having evaluated REDD+ in the broader literature and discussed the creation of SISA, the following section turns to the implementation politics of SNJ REDD+ in Acre. We draw from recent field research to highlight how differently situated stakeholders involved in the SNJ REDD+ program discuss its effects to date. Our approach aims to foreground the stakeholder's perspectives and brings them into conversation with one another to call attention to how power and politics are reworked through struggles over the meaning and valuation of forests in Acre. Research participants were asked about their opinions on the successes and challenges of the SNJ REDD+ program. The questions did not specifically prompt interviewees to frame their responses with perspectives of social, economic, or environmental justice. None of them employed the term

⁴ SEMAPI – Secretaria de Estado do Meio Ambiente e das Políticas Indígenas (*Department of the Environment and Indigenous Policies*), Retrieved from: <http://semapi.acre.gov.br/terras-indigenas>.

"environmental justice," but many forest-dependent participants, especially Indigenous people, used terms such as "fair" and "unfair" when speaking about issues related to the Acre REDD+ program. Among all interviews, three themes emerged that resonate with the findings of our literature review: 1) conflicting value systems; 2) intra- and inter-community conflicts; and 3) failure in providing socio-economic benefits to local people. In the pages that follow, we present emblematic interview excerpts that capture these dynamics, intending to preserve the meaning and perspectives of each research participant.

Conflicting value systems

The commodification of forest products has been common in Acre's economy since the rubber cycle (1870-1945), permeating policies to support forest extractivism, even before REDD+. Commodification of forest products, such as Brazil nut and natural rubber, was also the main economic pillar of the Forest Government (Gomes *et al.* 2012; Vadjunec *et al.* 2012), which also normalized the trend of commodifying forest services for international markets. Yet carbon markets commodify forests in distinct ways. They produced a new commodity out of thin air at the expense of the intangible (i.e., extra-economic) value of forests to many forest-dependent peoples that cannot be monetized. Commodifying carbon stocks can therefore subvert the local institutions, values, beliefs, and livelihoods of the very "forest stewards" that REDD+ programs aim to reward for their conservation practices (Bayrak and Marafa 2016; Furtado 2017).

Considering the new commodity relations driven by carbon markets, we thought that more people would take issue with how REDD+ challenges traditional forest relations. Juraci was the only Indigenous interviewee who commented on the relationship between commodifying nature and efforts to conserve forest through SNJ REDD+. "The relation with our territory is sacred, not business," he said. "This is something I respect because we still have many elders amongst us, our people, who see things this way: our territory as sacred." Juraci then explained how his community viewed their social-environmental relations beyond that of commodification. "We truly speak of protecting the territory, the environment, culture, spirituality. That is a different thing... the university, the government, the church... do not have the understanding that we have about the territory as sacred." Here, he shifted topics to spirituality. "And also because of the prophecies that exist among our people. Many [Indigenous] people think they are history, myth, outdated, already overcome. But we are trying to work on that among our people [with] internal projects to strengthen our spirituality" (Interview, Rio Branco: June 12, 2019).

Juraci's words suggest a persisting conflict of values systems between settlers and Indigenous peoples in Acre, regardless of a history marked by the presence of the Alliance of Forest Peoples and the Forest Government. Social environmentalism encouraged economic reflections that recognized the vital role of both the rainforest and forest peoples in Acre's identity (Schmink *et al.* 2014). That role, however, was mainly perceived as economic. Based on our research, the institutions founded and dominated by settlers still failed in fully appreciating the cultural and spiritual values of the forest for Indigenous communities. Profit-driven models of development and prosperity are still the main goals of government and settler society in Acre, despite increased ecological concerns. Although other Indigenous leaders did not mention commodification of nature as an issue in REDD+, none of them mentioned those "settler" goals as their own. One interviewee, a female Indigenous leader, made this point clear when she said money had different meaning within Indigenous lands and in the "Whites' world" (Interview, Rio Branco: May 28, 2019). Although SNJ REDD+ funds have helped some Indigenous communities to pursue some of their collective goals, we question how carbon markets can support Indigenous collectives and their self-identified goals in the long term.

Intra- and inter-community conflicts

The need for money to implement their collective projects drew many Indigenous communities across Acre to participate in SNJ REDD+. However, Indigenous leaders we interviewed reported non-violent intra- and/or inter-community conflicts resulted from how SNJ REDD+ has been implemented to date. "Whoever works for that service from the government [SNJ REDD+], his community has the benefit, and he also receives financial support, so he defends it," one leader reported. "But the one who doesn't know about the mechanism, he ends up misunderstanding and sometimes criticizing those people who are working for the government.

Sometimes that person wants to implement that, those actions in the community. But the community doesn't want it, and that generates a conflict. That's a huge impact. It socially disorganizes the community. The conflicts among leaders really provoke that community disorganization." (Interview, Rio Branco: June 12, 2019). The state government grants funds at its discretion, determining which associations should benefit and with what amount of financial support. Representatives from communities that did not benefit from the program accused the government of privileging Indigenous communities according to political party affiliation. On the other hand, leaders who decided not to join SNJ REDD+ suffered internal pressures from community members who wanted to participate in the program despite the leader's decision not to, thus exacerbating intra-community tensions.

Implementation politics and conflict also spill out of communities and into more public spheres through protest and activist movements. A group of a few local activists protest REDD+ and "green capitalism." Local civil society organizations, such as the Missionary Council for Indigenous Peoples (CIMI) and the Federation of Huni Kuin People of Acre also voiced concerns about insufficient transparency regarding SNJ REDD+ and the potential effects on state policies, the territories and society. The local No-REDD group was articulated with other international No-REDD movements and organizations, such as the World Rainforest Movement and Friends of the Earth (Carta do Acre, 2011). Iracema, an Indigenous leader who supports the SNJ REDD+ program viewed the situation in a different light:

Recently [the No-REDD movement in Acre] wrote a letter asking for the suspension of funding. So, those people are manipulated, by some non-Indigenous people...by the No-REDD people. Because the No-REDD ones are not only Indigenous people or CIMI from Acre. They are very well organized, so there is that group that says: that money is from carbon trading, that money will take you out of your lands, that money within some more days will prohibit the Indians from hunting, or they are not hunting anymore, not fishing... So, they create a lot of stories! (Interview, Rio Branco: May 28, 2019)

Juraci and Iracema's differing perspectives illustrate how outside actors might be seen as agents of political de-stabilization by local stakeholders. For those in opposition, REDD+ (even under its jurisdictional framed-as-aid modality) is an alien idea, imposed by powerful actors to meet the political economic interests of both the state and international markets. According to this view, SNJ REDD+ does not reflect or align with Acre's socio-environmental tradition (also known locally as the Chico Mendes' legacy) and many Indigenous belief systems. On the other hand, there is an undoubtedly more powerful group of people and organizations that participated in the development of the SNJ REDD+ program and received financial incentives from its implementation. For that group, SNJ REDD+ is the pragmatic path to realize socio-environmentalism; a unique opportunity to raise funds for socio-environmental policies and increase the income of forest-dependent peoples. This understanding classifies the opposition to SNJ REDD+ as an alien idea to meet political economic interests of outside organizations supported by a local group of activists presumably stuck with naïve and outdated political agendas. To oppose to REDD+, according to the program's proponents, is to corroborate with the pressure of those who defend business-as-usual deforestation-based development.

Little to no perceived benefits

Many research participants reported little to no perceived benefits from the SNJ REDD+ program though thought that there should be such benefits. Clarice, a teacher from a family of non-Indigenous extractivists who studied in Rio Branco but moved back to an extractivist settlement with her husband, reported that the jurisdictional REDD+ provided insufficient economic benefits. "I saw my brother last year, so happy to tap the rubber tree. And after all, he got so little money, like, it was not worth working so hard, you know?" (Interview, PAE Chico Mendes: June 8, 2019). Clarice referred to the rubber subsidy, which was created by law in 1999, during the Forest Government. Since 2014, the subsidy had been paid by REM, and it is the main benefit rubber tappers receive from Acre's SNJ REDD+ program. Yet many Indigenous leaders who are not rubber tappers reported that the program provided insufficient benefits. Moacyr observed, "I guess that funds from KfW

[German Development Bank] could've benefited Indigenous communities more than they did. Because the true, genuine, preservationists are the Indigenous peoples" (Interview, Rio Branco: May 30, 2019). This perspective resonates with the notion of Indigenous peoples as forest stewards, yet also suggests that adequate monetary compensation is justly deserved for their forest management practices given the positive role they play in local conservation strategies. Plinio, a representative of an indigenist organization, drew attention to the fact that selective benefits of the jurisdictional program, beyond exacerbating conflicts between Indigenous communities and individuals, would certainly lead to the migration of many Indigenous people to more profitable but less sustainable livelihoods, such as illegal logging and gaming (Interview, Rio Branco: June 17, 2019). Such a scenario could favor the occurrence of leakage.

The limited economic benefit has material impacts on Indigenous wellbeing. Moacyr discussed this regarding his village. "People face difficulties there. We are building a traditional school, we need funding." Experiences like those reported by Moacyr are not unique, unfortunately. Jandira, another Indigenous leader, made this abundantly clear by highlighting the disparity in funding that goes to technical advisors versus communities. "Millions! It's a lot of money. And [if] we go to the village.... Of course, I'm not saying that there was no benefit. There was. But it was so little. We see that the money goes to the [non-Indigenous] technicians. It doesn't go [to the villages]. And it could go!" (Interview, Rio Branco: May 31, 2019). Inequities in income distribution resonate with the ways that dependency on third party NGOs or other organizations to oversee the technical implementation of SNJ REDD+ in communities actually exacerbate economic inequality, rather than rectify it. Raquel, a former policy manager who worked in the implementation of the jurisdictional program in the previous state administration, commented that Indigenous peoples had "high expectations" about the benefits of jurisdictional REDD+ (Interview, Rio Branco: June 13, 2019). She thought those expectations led to frustration, due to what she considered as low understanding about the purpose of jurisdictional REDD+. Interestingly, Raquel would not say who raised or encouraged such expectations. Here, Mateus, an independent socio-environmental activist, suggested that those expectations were raised and encouraged by the state government itself to gain the support from Indigenous groups (Interview, Rio Branco: May 25, 2019).

The prevalence of insufficient socio-economic benefits in the jurisdictional REDD+ program in Acre is driven by two main factors. The first is fundamentally connected to limited resources and limitless needs. Jandira mentioned that the program had millions of Euros, but €27.84 million (approximately US\$ 30.15 million) is not enough for a state like Acre to fund conservation, stop deforestation drivers, and improve the lives of forest-dependent people. In relation to the scale of the challenges that exist, this funding is highly inadequate to address such issues. A policy manager, who worked for the Acre state government through different administrations, said, for example, that large programs on sustainable development that Acre had with the World Bank and the IDB were much more impactful and relevant than jurisdictional REDD+ had been because they had more funding and ability to generate impact (Interview, Rio Branco: May 27, 2019). Funding limitations have been exacerbated by interruption of payments since 2018 due to the failure of Acre in meeting the deforestation reduction goal for the years 2017/2018 and 2018/2019. The issue was not localized, considering that the 2017-2019 period also showed increasing deforestation in the Brazilian Amazon as whole⁵, or was perceived by local stakeholders as a threat to SNJ REDD+ persistence and stability. However, the performance-based scheme penalized Acre, which was in a vulnerable position because of limited funds to reverse that deforestation trend and high dependence on the Brazilian federal government to address that issue.

The second main cause of insufficient socio-economic benefits particularly affected Indigenous peoples. Under REM, Germany invested in Acre €25 million, approximately US\$ 27.8 million, in Phase 1 (2012-2017).⁶ Phase 2 (2017-2022), whose funding was shared by Germany and the UK, had a larger fund (approximately US\$ 31 million) distributed among four subprograms: 1) Indigenous Territories; 2) Sustainable Family Farming Territories; 3) Sustainable Diversified Livestock Territories; and 4) Strengthening of SISA and REDD+ instruments. Jandira thought that there was "a lot of money" for the Indigenous Subprogram. What she did not

⁵ Terra Brasilis | PRODES (Desmatamento). Retrieved from: http://terrabrasilis.dpi.inpe.br/app/dashboard/deforestation/biomes/legal_amazon/increments

⁶ KfW Bank aus Verantwortung. REDD Early Movers (REM) Programme. Retrieved from: <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Topics/Climate/REDD>

know was that the Indigenous subprogram received the smallest share of funding from REM (See Figure 2): 12 percent of the program total budget. Glauber, who was involved in the implementation of REM, explained that the lower costs of conservation in highly forested areas under lower threat, like Indigenous territories, were the main reason for the lowest allocations among the four subprograms (Interview, Rio Branco: May 29, 2019).

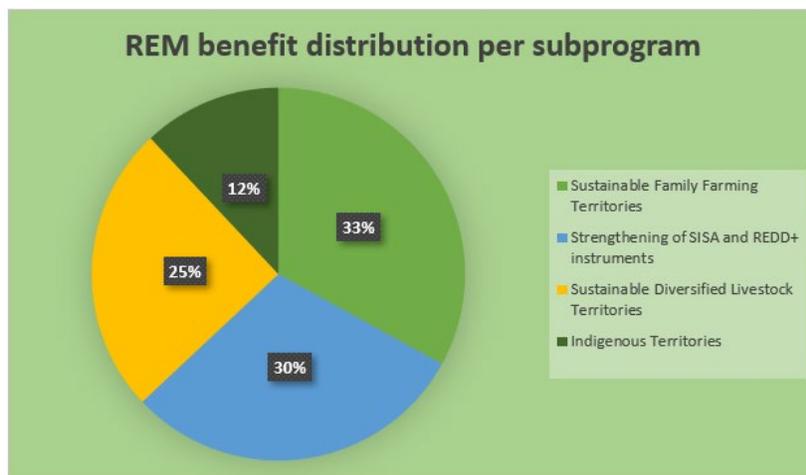


Figure 2. REM Benefit distribution per subprogram (Santos Rocha da Silva 2020: 88)

Indigenous territories did have the highest average forest cover in Acre, 98 percent, but 12 percent of total funding was inversely proportional to the large amounts of carbon stock in Indigenous lands that were capitalized by jurisdictional REDD+. Indigenous communities were thus penalized as "low performers." Even so, among the Indigenous leaders interviewed, only Moacyr and Jandira expressed concerns about benefit distribution, and their main complaints regarded the fact that most of the funds of the Indigenous subprogram went to a "non-indigenous" (indigenist) organization rather than an Indigenous organization. They were referring to an "unfair" distribution inside the Indigenous Territories subprogram, not among subprograms, even though other subprograms, such as SISA Strengthening, and Sustainable Livestock, received 30 percent and 25 percent respectively of the total funding.

Non-Indigenous forest extractivists belonged to the same subprogram of the smallholder farmers, who primarily live in agrarian reform settlements. According to Cecilia, the explanation for this coupling, which did not exist in REM Phase 1, was that implementation demonstrated several overlaps between initiatives addressed to each group (Interview, Rio Branco: May 27, 2019). Indeed, all extractivists who participated in our research referred to themselves as rural workers instead of or alongside extractivists and rubber tappers. Together, extractivists and smallholder farmers had the greatest share of funding from REM in Phase 2, but there was no available data to determine how much was targeted to each group. Agrarian reform settlements had the highest deforestation in Acre, with an average of 58% of forest cover. Extractive reserves, however, presented high average rates of forest cover (97%), almost like Indigenous lands (98%).⁷ So, that disparity of funding between Indigenous peoples and rubber tappers also raised questions about Glauber's conservationist argument.

Despite a preference in terms of funding, non-Indigenous extractivists did not experience significant changes in their livelihoods due to SNJ REDD+ because the main benefit was the rubber subsidy, which existed before the jurisdictional program. SNJ REDD+ financed a few interventions designed to diversify the productive options of the residents of the extractive reserves, such as the *Florestas Plantadas*⁸ program and the

⁷ KfW Bank aus Verantwortung. REDD Early Movers (REM) Programme. Retrieved from: <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Topics/Climate/REDD>

⁸ Which means "planted forests" in Portuguese.

construction of fish tanks. Reports and official data about the performance of those initiatives were unavailable or nonexistent, but interviewees reported no use of the tanks or fruit trees for commercial purposes.

6. Beyond "safeguards"

Moving beyond safeguards, some hope that the jurisdictional model itself can protect forest-dependent people's rights because of increased local governance (Boyd *et al.* 2018; Stickler *et al.* 2018). In theory, state officials could align REDD+ with public policies to create spaces of dialogue that facilitate inclusive governance and conflict management, to increase benefits for forest-dependent peoples (Ravikumar *et al.* 2015; Stickler *et al.* 2018). Yet based on trends in REDD+ projects and our own findings, we are skeptical that the state can ensure climate and environmental justice. The disadvantage of Indigenous territories in benefit distribution within the SNJ REDD+ in Acre revealed that a formally participatory governance under the state leadership did not assure fair socio-economic benefits for forest-dependent communities under jurisdictional REDD+ programs.

Acre was internationally acclaimed by the participation of forest-dependent peoples in the local SNJ REDD+ program. However, most Indigenous leaders interviewed reported that they should be really heard when decisions were made and that Indigenous communities should receive more benefits and receive those benefits directly, without the mediation of NGOs (Interviews, Rio Branco: May 29, 2019; May 30, 2019). Moacyr argued that the government did not feel obliged to do what was decided in SISA's spaces of governance.⁹ He said that jurisdictional REDD+ should invest in the self-determination of the Indigenous peoples:

We are in the 21st century. The Indigenous peoples... know how to communicate, some even speak other peoples' languages. We are organized in our organizations. So, no more paternalism... Financers should bet on the Indigenous peoples, on our self-determination (Interview, Rio Branco: May 30, 2019).

Regarding non-Indigenous extractive communities, participation was also far from full, effective, and meaningful, as suggested by the safeguards. CEVA included in 2019 the National Council of the Extractivist Populations (which CNS currently stands for), but rubber tappers showed the lowest level of knowledge and understanding of SNJ REDD+ during interviews. If they did not know about the program logistics, dynamics, governance, or benefit distribution, it was harder to have a clear understanding of how the program affected their lives, livelihoods, and interests. The low knowledge about jurisdictional REDD+ among rubber tappers – including some of their leaders – raised questions about the broad support for Acre's SNJ REDD+ they demonstrated during interviews. That was a very impressive finding, considering the history of activism of the rubber tappers in both the construction of the socio-environmental paradigm in Brazil and their political victories since the 1990s.

The limited awareness of SNJ REDD+ benefits and threats among forest-dependent communities was exacerbated by insufficient reporting and ineffective communication. For two non-Indigenous interviewees, communication was ineffective because of the financial costs involved. Ruth, a representative of a local indigenist organization reported: "To take the information to the populations in indigenous lands is hard, expensive, and you don't find anyone who can do it in accessible and appropriate language" (Interview, Rio Branco: May 28, 2019). Appropriate language, in this regard, meant not only the use of Indigenous languages, but the de-codification of technical terms from the REDD+ lexicon, which prevented leaders to clearly understand the content of the meetings they participated and translate that content to community leaders and villagers. The costs and logistical challenges to physically access communities was another issue, according to Raquel (Interview, Rio Branco: June 13, 2019).

⁹ After 2013, SISA had two additional spaces of dialogue with gender-based and Indigenous organizations. Those "thematic chambers" became permanent in 2018 to advice CEVA, but had no decision authority.

The experience of Acre with SNJ REDD+ reveal some of the challenges involved in implementing safeguards in jurisdictional approaches. Some contradictions already identified in REDD+ small-scale projects persist, even though the key issue of additionality is transferred to the jurisdiction's shoulders and reframed as a reduction in historical deforestation rates. For a government with a limited budget to pursue a wide range of development goals, the Acre state government juggled demands and pressures from an increasing urban population, forest-dependent communities, agribusiness groups, small-holder farmers, and foreign donors. Issues regarding transparency, respect for the rights and knowledge of Indigenous peoples, and enhancement of environmental and social benefits show that injustices also persist in jurisdictional approaches to REDD+. In the specific case of Indigenous peoples, the rights that were not ensured were those guaranteed by the Brazilian Constitution, ILO Indigenous and Tribal Peoples Convention 169 (1989), and the UN Declaration on the Rights of Indigenous Peoples (2007), and stated by the Cancun Safeguards, the REDD+SES and the Letter of Principles, submitted by the Indigenous Thematic Chamber to the SISA Commission for Validation and Monitoring in 2013. The most basic of those rights was those of effective participation and free, prior, and informed consent.

7. Concluding thoughts

Acre's SNJ REDD+ program could provide a model for more just climate change mitigation policy informed by the state's relationship with socio-environmentalism. But our research shows that SISA has done little to change existing inequities, and in many regards allowed them to persist by failing to effectively reward those who have historically used the forest in more sustainable ways. The politics of implementing SNJ REDD+ in Acre thus show that environmental injustices can co-exist with formal participatory governance spaces for jurisdictional REDD+, and occur despite socio-environmental ambitions. Therefore, reworking the scale from small, local projects to a state-wide SNJ program may contribute to the stabilization and persistence of REDD+ in Acre because the participatory governance structure effectively deflects contestation by changing how forest-dependent peoples are involved in program implementation and benefit distribution.

We suggest the most critical issues involving jurisdictional REDD+ in Acre were political rather than technical. Acre has a fraught history, often with tense differences between the interests and perspectives from settlers and Indigenous peoples, urban populations and rural communities, local elites and marginalized groups. Such tensions are evident in the implementation politics and varied perspectives of frontline communities and other actors involved in SISA and ISA Carbono. Without doubt the impressive political victories of socio-environmentalism favored the inclusion of socio-environmental justice concerns in policymaking. Yet, current state interests often favor economic growth over conservation and justice. This leads us to contend that challenges evident in existing literature on political ecologies of smaller-scale REDD+ programs are evident in Acre's state-led initiative.

Moreover, the gap of knowledge about the benefits coming from jurisdictional REDD+ fostered alienation rather than effective participation of forest-dependent communities in the decision-making process. Although the costs of promoting an effective level of inclusive governance are unacceptably high to be borne by subnational (and national) governments in the Global South or donors from the Global North, leadership of forest-dependent peoples, particularly Indigenous communities, is necessary to promote equity, feasibility, and effectiveness in natural climate solutions. More engagement of Indigenous peoples and other traditional forest-dependent communities, in this regard, could jeopardize the persistence and stability of REDD+ as a market-based or state-centered instrument toward approaches more aligned to their perspectives, values and interests.

SNJ REDD+ entailed injustices against forest-dependent communities in Acre. Pro-conservation management of Indigenous territories was inversely rewarded, and the monetary value attributed to the forest carbon stocks found in Indigenous lands was appropriated and managed by the state government. The outcomes in non-Indigenous extractivist communities were more challenging to ascertain because data was not available to assess how much they benefited in comparison with smallholder farmers. Nevertheless, the argument that extractive reserves – like Indigenous lands – were under federal jurisdiction also apply against the appropriation of carbon credits in those areas by the Acre state government. The example of Acre illustrates the lack of consensus in both literature and legislation about who should hold carbon credits (Loft *et al* 2015).

In Acre, SNJ REDD+ also involved inequities as an instrument of transition to a low-carbon economy. Rubber tappers, which were already included in the state policies to promote forest-based and community-based development before jurisdictional REDD+, did not report significant improvements in their living conditions. In fact, transferring SNJ REDD+ funds to finance the rubber subsidy primarily benefited the Acre state government, which has had the legal responsibility for paying that incentive to rubber tappers since 1999. Indigenous communities living in Indigenous lands were excluded from market-driven initiatives and did not receive enough funds to implement their territorial management plans either.

The formally participatory governance that underpinned SNJ REDD+ in Acre may be used to legitimize those inequities as the path chosen by forest-dependent communities. This article, however, presents how limited, insufficient, and controversial that participation actually was. These findings suggest there are barriers for broad, full, meaningful, and effective participation, jeopardizing the capacity of the state to respond to the demands presented by forest-dependent peoples.

The complexity and technical nature of the forest carbon topic restricted discussions about possible paths for jurisdictional REDD+ in Acre to a small group of people in the government, academia, and civil society. This elitism was particularly problematic due to the increasing influence of agribusiness interests in political circles, questioning the socio-economic benefits of the existing socio-environmental policies. As a result, the important contribution of the traditional livelihoods of forest-dependent communities and their needs were not valued in comparison with the contribution and needs of the state and other actors. Instead of promoting autonomy or empowerment for forest-dependent populations, jurisdictional REDD+ had thus far reiterated historical colonial relations based on dependence, exploitation, and marginalization. Increasing the value of standing forests to ensure their protection, beyond merely creating a new outlet for capital in the name of climate change mitigation, will require viable community-led models that support local economies, political organizations, and environments while never losing site of climate justice.

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