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RESEARCH ARTICLE

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The governmentality of tropical forests and sustainable food systems, and possibilities for post-2020 sustainability governance

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ABSTRACT

Continued conversion of tropical forests to agriculture risks jeopardising planetary integrity. The UN Sustainable Development Goal (SDG) targets to halt deforestation by 2020, alongside other global measures for zero deforestation, were not achieved. Applying a governmentality lens, we aim to better understand global governance mechanisms for tropical forests and sustainable food systems, and identify opportunities to improve them post 2020. We rely on data from global measures, institutions, and interviews with public and private actors working on tropical forest and food policy to undertake a discourse analysis of the (i) SDGs and other global measures on forests and food systems, (ii) contexts of the institutions studied, and (iii) implementation of global measures relating to forests and sustainable food systems. Our analysis reveals six discursive themes: (1) Policy framing of tropical forests – a token effort (2) Deceptive interlinkages, (3) Participation of the usual suspects, (4) Insufficient stakeholder representation, (5) Cleaning up supply chains and, (6) A green recovery. The themes show how the promotion and reproduction of neoliberal values of tropical forests consistently inhibit conservation, negatively impacting on planetary integrity. We identify opportunities to shift towards a new governmentality for informing international efforts on tackling tropical deforestation post-2020.

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Introduction

Despite growing attention from the international community, tropical deforestation continues at alarming rates, with 12 million hectares of tropical forest cover loss recorded in 2018 (WRI, 2019). Deforestation is driven by a growing demand for commodities such as timber, soybean, oil palm and cattle meat (Seymour & Harris, 2019), and the expansion of extractive industries and infrastructure development (Sonter et al., 2017). Pendrill et al. (2019) attribute 62% (5.5 Mha yr^{-1}) of forest loss between 2005 and 2013 to expanding commercial cropland, pastures, and tree plantations. Moreover, in large transition economies, diets are shifting to higher levels of meat and dairy consumption, posing important sustainability challenges and putting more pressure on forests for the expansion of grazing and feed production areas (e.g. soy) (Stoll-Kleemann & O'Riordan, 2015). Such unsustainable production and consumption are hostile to indigenous and local communities reliant directly on tropical forests and local biodiversity for food, medicine and livelihood (Sunderlin et al., 2015).

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In this article, we adopt a governmentality lens to analyse the governance mechanisms of tropical forests and sustainable food systems (Foucault, 1977-78). Governmentality concerns the regulation of society and pays careful attention to power relations that affect the scope and enactment of sustainability policies and practices, in the context of a neoliberal political economy. We use the lens of governmentality in a novel way to provide a critical analysis of interactions within, between and beyond the Sustainable Development Goals (SDGs) and other global goals, programmes, declarations and commitments (SDGs and other global measures) on tropical forests and sustainable food systems. We reveal uunderlying discursive power struggles in interactions between diverse actors, allowing us to identify opportunities to challenge current mechanisms of governance.

Our research questions are: (1) What are the global governance mechanisms for tropical forests and sustainable food systems and to what extent do they support planetary integrity?, and (2) What are possible opportunities to improve the governance of tropical forests and sustainable food systems?

To address these questions through the lens of governmentality, we undertake a discourse analysis of (i) the SDGs and other measures on tropical forests and sustainable food systems, (ii) the context of the institutions studied, and (iii) the implementation of targets, goals, programmes, declarations and commitments relating to tropical forests and sustainable food through interviews with public and private actors working on food and tropical forest policy. Since targets to reduce deforestation by 2020 were unmet, a shift towards a new governmentality of tropical forests and sustainable food is needed to achieve targets set for 2030 and to reduce the risk of exceeding the planetary boundary of land system change.

The SDGs and other global goals, programmes, declarations and commitments on forests and sustainable food systems.

In 2015, the UN adopted Agenda 2030 and the 17 SDGs: a normative plan of action to ensure a future supporting people, planet, prosperity, peace and partnership (UN General Assembly, 2015). The SDGs present an example of a new trend in environmental governance, of setting broad non-binding policy goals to steer public and private actors into desired trajectories (Biermann et al., 2017; Vijge et al., 2020). More specifically, target 15.2 of the SDGs states that by 2020, it is necessary to:

> Promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

Target 15.2 raises ambition for forests and consolidates the related goals and other measures for forests included in the UN Framework Convention on Climate Change (UNFCCC), UN Convention on Biological Diversity (CBD), and UN Forum on Forests (UNFoF). At the same time, public, private and hybrid forms of governance such as zero deforestation supply chain initiatives and landscape and jurisdictional approaches are evolving, bringing together diverse actors and alliances (e.g. the 2014 New York Declaration of Forests – NYDF) (Figure 1). However, in 2020, none of these targets and goals were met. Indeed, the average annual humid tropical primary forest loss increased by 44% between 2014 and 2019 (NYDF Assessment Partners, 2019).

The Covid-19 pandemic raises new questions about forests and highlights the impacts of unsustainable food systems, resulting in forest loss and creating conditions for the emergence and spread of zoonotic viruses. More than 50% of zoonotic diseases in humans are linked to agricultural drivers, and proportions are likely to increase with agricultural expansion and intensification (Rohr et al., 2019). Covid-19 has also impacted forests: Deforestation rates climbed in March 2020 in Indonesia, Democratic Republic of Congo, and Brazil, with reduced patrolling by authorities during lockdowns (WWF Germany, 2020). During the first month of Covid-19 related confinement measures, 9583 km^2 of deforestation alerts were detected through Global Land Analysis & Discovery (GLAD) across the global tropics (double the number of alerts in the same period in 2019), threatening tropical forest ecosystems and their resident communities (Brancalion et al., 2020). 2020 represented a critical juncture in shaping future planetary pathways. Responses of the international community and global frameworks will either prioritise business as usual, or can take the opportunity to build back better.

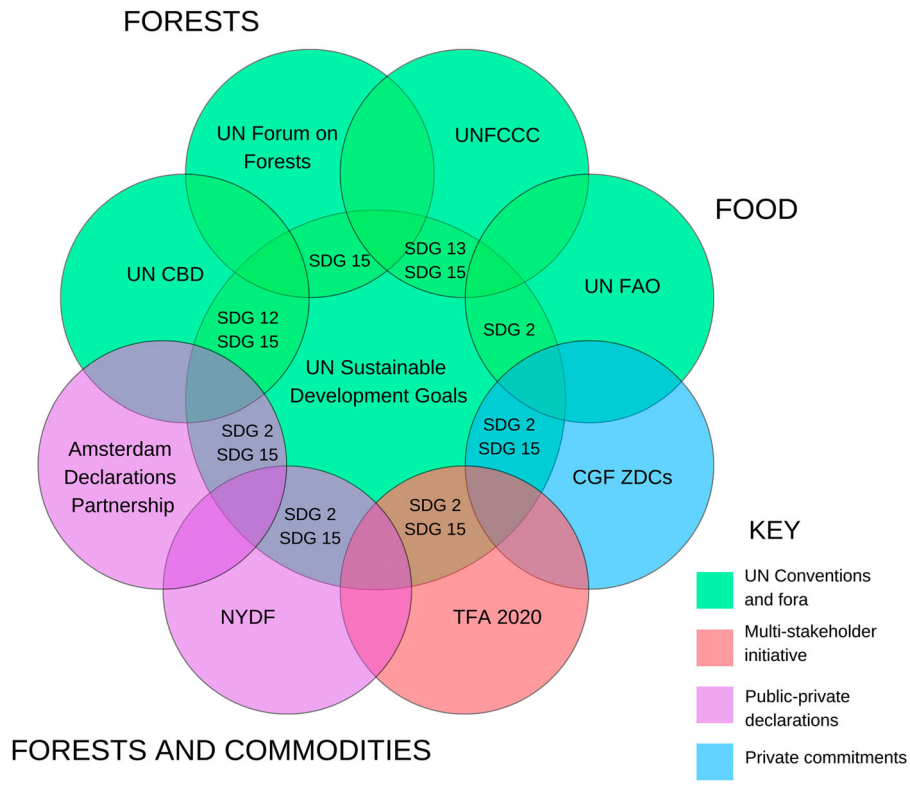

Figure 1. International frameworks and policies analysed.

Governmentality

Foucault's concept of governmentality concerns:

> an ensemble formed by institutions, procedures, analyses and reflections, calculations, and tactics that allow the exercise of this very specific, albeit very complex, power that has the population as its target, political economy as its major form of knowledge, and apparatuses of security as its essential technical instrument. (Foucault, 1978, p. 108)

Foucault considered governmentality not in the traditional sense that we think of as government by the state exercising power, but in how power comes from everywhere and shapes conduct, including from the bottom up, through a network of institutions, practices, procedures and techniques, ranging from governing the self to governing others: the conduct of conduct (Lemke, 2001). This article is concerned with the applicability of Foucault's theories to the governance of tropical forests and sustainable food systems. 'Rather than asking ourselves what the sovereign looks like from on high, we should be trying to discover how multiple bodies, forces, energies, matters, desires, thoughts and so on are gradually, progressively, actually and materially constituted as subjects' (Foucault, 2002, p. 28). Governmentality is pertinent to governance of tropical forests and sustainable food systems, whose regulation involves the state as well as a diverse range of actors. Institutions are understood in terms of the ideas or concepts that give them their character, arising through the interaction of micro-practices, and are contingent and in flux (Bevir, 1999). This raises important questions as to the dynamics of governance (i.e. who governs) and the power relations at work.

The discursive turn in policy analysis has drawn upon Foucauldian thinking in problematising 'what conventional policy analysts take for granted: the linguistic, identity, and knowledge base of policy making' (Feindt & Oels, 2005, p. 164). Foucault's ideas have been applied to analyses of natural resource and environmental policy, focusing on micro-politics (Hajer & Versteeg, 2005; Oels, 2005). Governmentality has been

used to analyse forest policy in developing countries, including how colonial states constructed forests and forestry in a way that legitimised the exploitation of resources, neglecting the demands of local people (Winkel, 2012). Processes of eco-governmentality, where the art of government shifts away from traditional forms of state power to the government of eco-zones and responsibilises local populations in a neoliberal process, redefining local practices by global norms (Goldman, 2001). Ambrose-Oji et al. (2002) examine a biopower governmentality, that supports capital accumulation whilst symbolically tending to the needs of ecology and exploited populations for legitimacy. This was first introduced by the colonial power in Cameroon, and later taken up by a bio-political administration, (including post-colonial national and supra-state economic and legislative agencies) to control and exploit forests as reflected in today's policies. Colonial policies remain implicit in national policies and institutional structures around land and tropical forest use, tenure systems and concession models (Galudra & Sirait, 2009; Ongolo et al., 2018; Peluso & Vandergeest, 2001).

Agrawal's (2005) seminal work on environmentality fuses concepts of the environment and governmentality to show how environmental subjects are shaped by technologies of power and government, through the reshaping of forest institutions, practices and subjectivities by colonial and independent Indian states; processes which were resisted by forest-dependent communities who later became participants in forest management practices (Agrawal, 2005). Research has examined how global discourses regarding sustainable forest management and environmental degradation are used to legitimize state intervention in tropical forest policy and management or to prevent local forest inhabitants from successfully becoming empowered (Asher & Ojeda, 2009; Brosius, 1999).

Critiques of Foucault see the lack of an emancipatory element as problematic (Hajer, 1995). Yet, if social practices and rules forming discourses are better understood, possibilities can be identified to redress power and shift towards a new governmentality for tropical forests and sustainable food systems that preserves forests.

Our analysis examines the products of power relations of governmentality, including laws, policies, and the roles of diverse actors in the governance of tropical forests and sustainable food systems. This is well-linked with Foucauldian analyses showing how traditional forms of authority are replaced by new disciplinary apparatuses (based on expertise and techniques), enabling government at a distance (Djama et al., 2011; Miller & Rose, 1990). This perspective is particularly useful when considering the governance of food systems connected across distances and helps to consider regulation that is undertaken by a multiplicity of authorities and agencies (Dean, 1999, p. 11). Current governance mechanisms create lock-ins that potentially obscure complexities in tropical forest and food governance, local realities and the heterogeneity in approaches for more sustainable tropical forest and food governance (Delabre et al., 2020). Understanding how problematic forms of governance are (re-)produced by authoritative agents in forest and food policy is crucial to study the emergence, possibilities and limitations of sustainability policies (Coffey & Marston, 2013; Ehgartner, 2020). A governmentality approach allows us to examine the power relations which produce global frameworks for tropical forest and sustainable food system governance; and the role of actors in shaping, reproducing and potentially challenging current modes of governance; thus revealing risks and opportunities for post-2020 sustainability governance.

Method

In this paper, we undertook a discourse analysis of our global and local data to understand the governance of tropical forests and sustainable food systems. This method uncovers the products of the power relations of governmentality, and can help answer why things are as they stand. As a consequence, this method serves as a diagnostic tool to better understand potential solutions. The method was divided into the following stages:

(1) We identified key global governance institutions and policy frameworks for tropical forests and sustainable food systems. The criteria for selection were explicit inclusion of measures for tropical forests and/or sustainable food systems and adoption by at least 9 state and/or private actors (table i, appendix). The analysis of the language used in these measures uncovers how the problem (i.e. deforestation) is constructed and reveals mentalities as bodies of knowledge and expertise (Dean, 1999).

(2) We identified documents from the associated institutions of the global governance frameworks from step 1, including official websites, online documents, forums, and tweets. Selection criteria included reference to tropical forests/food/sustainability and targets/goals/indicators/deadlines. Identifying these sources enabled us to explore the contexts of the related institutions and the range of actors, thus uncovering the participatory dynamics, how institutions define the problem, and who is responsible for the solution (Hajer & Versteeg, 2005).
(3) We supplemented this analysis by undertaking semi-structured 1-hour interviews online between May and August 2020, with 11 public and private actors selected through purposive sampling through their work at the intersection of tropical forests and sustainable food systems (table ii, appendix). The interviewees' knowledge of implementation of SDGs and other global measures informed our analysis of how governmentality manifests at local levels. Interviews were conducted in English, audio recorded, transcribed, and ethically approved by The University of Sussex Social Sciences & Arts Cross-Schools Research Ethics Committee.
(4) We held a workshop to agree a protocol for the linguistic analysis of the data.
(5) The analysis of data from the document analysis and interviews were undertaken separately using the same codes to code data thematically by open coding. This enabled us to explore the range of ideological positions taken by actors, how different actors were represented, and how the themes were connected and linked to the socio-political context. We paid careful attention to: (i) the policy language used to frame links between forests and sustainable food systems in the SDGs and other global measures; (ii) meanings which excluded alternative meanings, and to digressive and rhetorical statements; and (iii) historical, cultural and institutional context.
(6) We held a second workshop to review the codes and discuss emergent findings. The lead authors synthesised and analysed the findings, identified key themes and opportunities to challenge the current governmentality of tropical forests and sustainable food systems.

These stages were accompanied by an ongoing literature review and discussion.

Results

Key actors participating in setting SDGs and other global measures are summarised in Table 1.

Our analysis, identified six themes (Table 2), which reveal that the governance of tropical forests and sustainable food systems are shaped by neoliberal discourses that support an economy based on endless capital accumulation (Hickel, 2020), and remain unimpeded even at the critical juncture of 2020.

Policy framing of forests – a token effort

Although the SDGs acknowledge the need for "transformative" change, and explicitly seek to address transnational production-consumption connections driving land use change, current trends indicate that SDG 15.2 on forests and sustainable forest management has not been met in 2020. The forest goals appear to be strong on paper but are up against insurmountable tensions with other interests, even within the SDG framework itself, for example, in SDG 6 the need for economic growth as measured by GDP (Menton et al., 2020), and SDG 2 on zero hunger which promotes intensified agriculture based on the land-sparing hypothesis (McNeill, 2019). The discourse of 'measurementality' (Turnhout, 2014) in the SDG indicators and metrics depoliticises and simplifies forests as anthropocentric resources that can be quantified and reported against, often as carbon units, dismissing their intrinsic worth, and in turn upholding neoliberal environmental practices. The promise of 'decoupling', reconciling environmental protection and economic growth, remains elusive in practice (Hickel, 2020). Given these discourses at work, it is evident that the SDGs play an inadequate steering role for protecting tropical forests and their multiple values, therefore undermining efforts to enhance planetary integrity, and remaining a token effort.

Table 1. Actors participating in setting goals, programmes, declarations and commitments.

Global goals, programmes, declarations and commitments	Actors participating in setting goals, programmes, declarations and commitments
SDGs	Member States, indigenous peoples, civil society, private sector, national parliaments Regional and sub-regional commissions and organisations. Global-level General Assembly, Economic and Social Council, Intergovernmental organisations (e.g. African Union, European Union, OECD), International Financial Institutions (e.g. World Bank, World Trade Organisation); Multilateral Environmental Agreement Bodies (e.g. CBD, UNFF, UNFCCC); UN programmes, agencies and funds (e.g. FAO, UNICEF, WHO); UN Regional Economic and Social Commissions; UN Secretariat (e.g. UN-DESA).
UN Framework Convention on Climate Change (UNFCCC)	197 countries have ratified the UNFCCC. Partner organisations: West African Development Bank (BOAD); East African Development Bank (EADB); Institute for Global Environmental Strategies (IGES); Windward Islands Research & Education Foundation (WINDREF); World Green Economy Organisation (WGEO); Development Bank of Latin America (CAF). 192 Parties have ratified the Kyoto Protocol, 189 Parties have ratified the Paris Agreement.
UN Convention on Biological Diversity (CBD)	UNCCD, UNFCCC, United Nations and other intergovernmental organisations (e. g. UNDP, UNEP-WCMC, FAO), non-governmental organisations and civil society (e.g. WWF, Flora and Fauna International), Indigenous organisations, scientific and technical research and assessment bodies (e.g. Millennium Ecosystem Assessment, UNEP Global Assessment Outlook), biodiversity-related conventions (e.g. CITES); industries and the private sector. 196 Parties have ratified the Convention on Biological Diversity, 172 Parties have ratified the Cartagena Protocol, and 124 Parties have ratified the Nagoya Protocol.
UN Forum on Forests	Major groups listed as children and youth, business and industry, indigenous peoples, farmers, NGOs, local authorities, women, workers and trade unions, scientific and technological community.
Food and Agriculture Organisation (FAO)	Governments, academia and research institutions, cooperatives and producer organisations, civil society, resource mobilisation partners (e.g. Africa Solidarity Trust Fund, Green Climate Fund, the Bill and Melinda Gates Foundation), South-South cooperation, parliamentary alliances, private sector (businesses, enterprises and companies that cover various sectors from production to consumption, such as food, fisheries, agriculture and forestry systems, and providing various services such as insurance, financing, marketing and trade).
NYDF	Private sector (e.g. Barclays, Cargill, Kellogg's, L'Oreal, Nestle, Tesco PLC, Asian Agri, McDonalds), relevant countries and jurisdictions (e.g. Amazonas, Amapa and Acres in Brazil; Aceh in Indonesia; Cross River State in Nigeria, Huanuco, Loreto, San Martin, Ucayali, Amazonas and Madre de Dios in Peru), local communities and indigenous peoples groups (e.g. Asia Indigenous Women's Network, Dignité Pygmée), non-governmental organisations (e.g. Sierra Club, Yves Rocher Foundation-Institut de France). National government endorsers: Burkina Faso, Belgium, Republic of Korea, Mongolia, United Kingdom, United States of America. NYDF Assessment Partners (e.g. Environmental Defense Fund, Imaflora, International Union for Conservation of Nature, CDP, Center for International Forestry Research, Rainforest Alliance, Rights and Resources Initiative, The Nature Conservancy, World Resources Institute, WWF).
TFA2020	Public sector (e.g. Government of Colombia, Government of Indonesia, Mato Grosso State, Government of the Netherlands, Government of the United Kingdom), private sector (e.g. Asia Pulp and Paper, Asian Agri, Cargill, Carrefour, HSBC, Kellogg's, Mars, McDonald's, PepsiCo, Walmart), international organisations (e.g. Global Environmental Facility, United Nations Development Programme, United Nations Environment Programme, World Bank), civil society (e.g. Ceres, Code REDD, Conservation International, Global Green Growth Institute, World Cocoa Foundation, World Resources Institute, WWF).
Consumer Goods Forum	Private sector (e.g. Amazon, Asia Pulp and Paper, Cargill, Ferrero, Kellogg's, L'Oreal, Nestle, PepsiCo), knowledge partners (e.g. McKinsey & Company, Deloitte), sponsorship partners (e.g. The Coca-Cola Company, Barilla, Godiva, L'Oreal, Mars), local associations (e.g. European Retail Round Table, Australia Food and Grocery Council, Food Industry Asia, Food & Consumer Products of Canada).
Amsterdam Declarations Partnership	Signatory countries: France (Ministry of Environment and the Ministry of Foreign Affairs), Germany (Federal Ministry of Food and Agriculture and the Federal Ministry for Economic Cooperation and Development), Denmark (Ministry of Environment and Food), Italy (Ministry for the Environment, Land and Sea), Norway (Norwegian Government's International Climate and Forest Initiative [NICFI] of the Ministry of Climate and Environment), The Netherlands (Ministry of Foreign Affairs and the Ministry of Agriculture, Nature and Food Quality), the United Kingdom (Department for International Development [DFID]).

Table 2. Themes and neoliberal discourses.

Themes	Neoliberal discourses	Examples
1. Policy framing of forests – a token effort	Decoupling; reducing economic risk; carbon framing; anthropocentric; triple wins	Forest preservation addressed in SDGs as one element of a 'triple win', essential for improving livelihoods, playing a critical role in the economy (reducing risks), decreasing vulnerabilities and carbon capture, yet no mention of potential trade-offs between the policies, or mechanisms for balancing potentially competing interests. Anthropocentric values of forests dominate: dependence on forest resources, economic value, forests as ecosystem service, natural capital.
2. Deceptive interlinkages	Triple wins; policy alignment	The SDGs intersect with NYDF's commitments and the Paris Agreement, and complement the Aichi Targets and the Bonn Challenge, but conflictive fragmentation in policy detail and practice.
3. The usual suspects	Corporate sustainability leadership: promoting visions that small-scale agriculture and small suppliers are unsustainable/inefficient	The Consumer Goods Forum, TFA2020 and the NYDF all include companies such Cargill, Kellogg's, Asia Pulp and Paper, Nestlé, Mars, L'Oréal, and McDonald's.
4. Insufficient stakeholder representation	(Perfunctory) participation; participation as a panacea	The SDG Resolution includes a list of vulnerable people, including African countries, children, indigenous peoples and refugees. No further details are provided as to why and how these people are vulnerable, or a definition of these diverse groups.
5. Cleaning up supply chains	Sustainable intensification; tropical developing countries as unsustainable others; Global North leading the way.	The TFA2020, the Consumer Goods Forum and the Amsterdam Declaration address similar agricultural commodity supply chains (those linked to deforestation). Ethnocentric, Global North-dominated focus on developing and tropical countries as the problem.
6. A green recovery	Decoupling; economic resilience; a future problem/ responsibility/ 'youth will save us'; overpopulation; 'nature is healing'	The SDG forums refer mostly to UNEP's response to Covid-19 with Goal 15, covering four areas: Managing waste created by Covid-19 at a national level; Providing 'transformational change' for humanity and the natural environment; Working on economic recovery and providing economic recovery packages, which will help build resilience; Ensuring the modernisation of environmental governance on a global level (UN Sustainable Development Goals, 2020b), thereby reinforcing neoliberal framings of forests.

Deceptive 'interlinkages'

At the level of goals, there are some links between policies, with alignment between different frameworks' targets for halting tropical deforestation by 2020. The SDGs intersect with NYDF's commitments, the Paris Agreement, and complement the CBD Aichi Targets and the Bonn Challenge. These interlinkages suggest points of connection between policy frameworks in terms of the goals set. Yet, we see them as deceptive. For example, the framing of 'sustainable production' in SDG target 2.4 focuses on 'increas[ing] productivity and production' and 'help[ing] maintain ecosystems'. However, the indicator SDG 2.4.1 refers to 'Proportion of agricultural area under productive and sustainable agriculture', which does not include forest conservation. Consequently, the SDGs fail to make clear links between food production-driven deforestation. Additionally, the NYDF clearly frames sustainable agricultural production as 'eliminating deforestation from the production of agricultural commodities,' but does not consider sustainable food systems more broadly (table iii).

The SDGs and other global measures do little to dent state sovereignty, and political discourses prioritise climate over biodiversity. Where linkages between climate and biodiversity exist there is little recognition that what is good for carbon storage is not necessarily good for forests and biodiversity. Forests are mentioned in Article 5.1 and 5.2 of the Paris Agreement for climate mitigation, and the CBD recognises forests as crucial carbon sinks affected by climate change whereas SDG 13 on climate action is silent on forests (table iii, appendix). Interviewee 8 (Conservation NGO, Peru) observes:

> In Peru, biodiversity is very low on the agenda. We have built a vision for Peru in 2050 and in that vision, they mention that forest is something related to climate change, but not necessarily to biodiversity. Biodiversity is related to protection, and that's not very sexy for the policy makers and the people working in development.

The usual suspects

Our analysis reveals that private actors play a powerful role in the different initiatives, and multinationals, in powerful positions, shape the discourse. Certain stakeholders, including businesses and NGOs (Table 1), are frequently involved and support the notion that decoupling economic growth (through expansion and intensification of agriculture) and tropical forest protection is possible (table iii, appendix). This is evident through green growth, jobs in sustainable forest management, and through the emphasis on the private sector as a 'leader in transforming food and agriculture governance in recent decades', and 'an essential ally in tackling hunger' (FAO, 2020). Forests are considered as ecosystem services that can be financialised through tourism and carbon sinks (UN Forum on Forests), supporting neoliberal valuations of tropical forests as a resource.

Weak political will and lack of capacity means that government actors may struggle to orchestrate action from global to local levels of governance and do not prioritise commitments for tropical forests and sustainable food. Interviewee 7 (Research Institute Policy advisor, Peru) stated: … *the public sector … often [does not] have the capacity to lead some processes and that generates costs, [it] generates [a] lack of transparency, [and it] generates governance problems.*

Insufficient stakeholder representation

There is a generalisation of actors, stakeholders, people, and groups involved in the initiatives. They are usually listed as; developing countries, tropical forest countries, local communities, and vulnerable people, with no further information, definitions or consideration given. The FAO is an exception and provides substantial information about the actors involved, why they are involved, and why they are significant (table iii, appendix).

There is frequent mention of inclusion of indigenous peoples, but the language associated with the approaches taken by the SDGs and other global measures towards indigenous peoples appeared to be rather tokenistic. Indeed, reference to indigenous peoples were generalised, participation nominal, and indigenous peoples had a limited role in influencing policy content.

Women also appear to be excluded from tropical forests and sustainable food discourses despite the prominent role of women in food supply chains and considering that gender inequality can be exacerbated by land conversion for food production, especially for women dependent on tropical forests and their resources for their livelihoods. Most of the groups and stakeholders listed in the frameworks analysed did not mention women as being key actors (table iii, appendix). This is a significant omission given the CBD has a Women's Caucus, and recognises the significance of women's roles and presence in conservation and biodiversity efforts, confirming the need for women's participation in policy and implementation.

Cleaning up supply chains

The agricultural commodities of focus for removing tropical deforestation from their production were palm oil, leather, beef, paper and pulp, soy, rubber and cocoa (table i, appendix).

This forest-risk commodity focus raises questions regarding which actors dominate the governmentality of tropical forests by setting agendas to address deforestation, and who is (made) responsible for implementation. Our findings reveal almost no focus on high economic and large transition consumer countries for transformative change towards tropical forests and food systems, beyond the Amsterdam Declaration which aims to eliminate tropical deforestation from supply chains in EU countries and demands that consumer countries shift their demand and consumption habits to achieve more sustainable practices. However, it also 'responsibilises' production countries by providing financial support to tropical countries to protect biodiversity and conserve tropical forests (table iii).

A green recovery

Our analysis shows that the SDGs and other global measures connect Covid-19 and the fraught relationship between human need and nature's limits (table iii, appendix). Despite reports of increased tropical deforestation during lockdowns associated with the Covid-19 pandemic, and concerns that short-term economic recovery plans will affect environmental standards and climate resilience (e.g. CBD), interviewees, and online resources (box i data sources for analysis, appendix) were also forward-looking in considering the opportunities raised by the pandemic in galvanising political support for addressing tropical deforestation and moving towards more sustainable food systems. Interviewee 10 (Retailer, Netherlands) commented that Covid-19 meant that: *consumers have more time on their hands to think … and are asking questions such as 'so why do we actually have to have commodities coming from so far?', 'Are there alternative ways to feed our animals [to reduce deforestation]?'*

The theme of a green recovery, with limited explanation or consensus of what this means for different actors with diverse agendas, could be perceived as a rhetorical device emphasising the compatibility of continued economic growth decoupled from environmental damage. Yet decoupling is elusive in practice (Hickel & Kallis, 2020). The frameworks and policies considered the problem of overpopulation and discussions on food systems were often preceded with statements that frameworks must deal with increasing food demand due to a rising global population (FAO, 2020, UN Sustainable Development Goals, 2020a; table iii, appendix). However, there was little to no mention of the unequal distribution of wealth and resources, food waste and mass consumption, with alarmist narratives framing the problem as one of population growth and the need for control related to environmental degradation, with land and climate issues dominating (Hendrixson et al., 2020). In several frameworks and initiatives (SDG, UNFCCC, CBD, UN Forum on Forests), there was a strong focus on the role of youth, especially in relation to post-2020 governance, and green recovery plans.

Discussion

The six themes identified, and associated neoliberal discourses, are products of the power relations of governmentality which prohibit tropical forest preservation and promote business as usual. The SDGs, and other measures for tropical forests and sustainable food systems, prioritise economic growth and zero hunger above conservation, as apparent in the neoliberal framing of tropical forests in policies which fail to effectively challenge broader structural causes of deforestation. While previous scholarship, reviewed in this study, identifies limitations in forest governance processes, our analysis builds upon these discussions by exposing the manifestation of power relations in governance processes – specifically of tropical forests and food systems – which, in turn, generates key challenges.

Despite the diverse range of international policy frameworks that seek to address deforestation, global regimes on forests are highly fragmented. Such conflictive fragmentation on a concrete subject matter may limit the efficacy of policies and practices designed to orchestrate action in society towards more sustainable forest and food governance (Fernández-Blanco et al., 2019). A key challenge is strengthening links between tropical forests and food production and consumption, which are currently very weak, despite evidence of deforestation being attributed to large-scale agricultural development for food provision (Curtis et al., 2018). Commitments which do connect food systems and tropical forests, largely focus on the most prevalent and demanded agricultural commodities which pose important risks for tropical forests due to the large-scale models they demand, with even small-scale farmers incorporating plantation logics into their practices (Wolford, 2020). Silos are entrenched in parallel sectoral approaches to forest and landscape restoration (Carmenta & Vira, 2018). There is a lack of integration between fragmented policies in environmental governance (Visseren-Hamakers, 2015), strongly apparent in tropical forest and sustainable food governance, including in reporting and reviewing goals.

Overall, the emphasis is on cleaning up supply chains for key commodities, without any commitment to reducing consumption in higher economic countries, which reproduces exploitative colonial relations and

'responsibilises' producing countries for tropical deforestation. Despite driving tropical deforestation, representatives of higher economic countries and their networks of capital can position themselves as good global citizens by setting global goals and offering financial support to producing countries for biodiversity protection, without changing consumption as normal.

Businesses play a prominent and key role in the governance of tropical forests and sustainable food systems, being frequently involved in the initiatives. Powerful companies appear to be taking measures to capture value from environmental commitments, leading to a sustainability-driven supplier squeeze, which is a frequent feature in neoliberal sustainability management (Ponte, 2019). Further, they promote sustainable intensification and productivity whilst 'responsibilising' small-scale producers as unsustainable or inefficient. This aligns with disciplinary notions of protected areas whereby people are considered a threat to nature, with people being governed with the aim of maximising benefits for nature (Carpenter, 2020). The frequent involvement of agricultural business actors in the SDGs may result in dominant interests being addressed and served, at the expense of alternative perspectives that may be more sustainable (Spann, 2017).

Poor representation of heterogeneous groups, a product of power relations, precludes effective policy responses. Power dynamics in participatory spaces can create new forms of exclusion according to who is setting the agenda (frequently actors representing the interests of higher economic countries) and what they perceive as legitimate interests (Smallwood, 2019). Spaces for participation are power-laden, with those controlling the boundaries of these spaces being in positions of giving power to the less powerful. Therefore, inviting certain groups to represent the interests of all indigenous peoples in formal policy discussions is inherently problematic and disconnected from a wider project of empowerment. Although involving indigenous peoples in sustainability policy and implementation can be considered a normative goal, the lack of consideration regarding their diversity, backgrounds, culture and sub-groups remains problematic and hinders progress that could be made towards sustainability and environmental protection. Further attention is also needed to heterogeneity and power imbalances in ensuring women's participation, including recognising the limits of current efforts, which can be exclusionary in themselves and seeking more appropriate forms of participation (de Vos & Delabre, 2018).

There is a strong focus on the role of youth in several frameworks and initiatives, especially in relation to post-2020 governance, and green recovery plans. This creates intense pressure for the next generation to create a better world than their predecessors did and 'responsibilises' young people and future generations in a form of eco-governmentality (Goldman, 2001), thus delegating the burden of responsibilities through the making of conservation, or sustainability subjects (Carpenter, 2020). An uncritical focus on youth delays action, constituting a spatiotemporal fix whereby the future is mortgaged through promises of being able to fix capitalism (Carton, 2019).

Tropical deforestation is a complex political economic problem, supported by corruption, lack of transparency, violence and dispossession, and reduced to issues that can be solved through financial means (Delabre et al., 2020). While appearing to be innovative anddecentralised, public-private governance approaches are applied in contexts in which strong colonial mindsets of extraction persist. For example, in Côte d'Ivoire, postcolonial land development policies and political interests impede the sustainability of tropical forest ecosystems (Ongolo et al., 2018).

Although due diligence legislation for forest risk commodities is being developed in the EU and the US and is in place in the UK, such legislation could be problematic if implementation, and its effects, are given insufficient attention. Global views (or views of higher economic countries) of legality may not always fit with local perceptions of legality, and are seen as part of colonial legacy and imposed upon them (Myers et al., 2020), exacerbating and reproducing feelings of injustice.

Given the complexities of governance of tropical forests and sustainable food systems, we suggest future research and practice focus on the possibilities for challenging current discourses and approaches in tropical forests and food systems to redress power. We identify the following key areas where possibilities lie to shift to more sustainable planetary pathways: recognising tropical forests as complex social-ecological systems with multiple values beyond solely economic value; more binding targets, compliance and accountability; and joining up governance at multiple levels.

Alternatives to economic growth models: degrowth

A degrowth model – a planned downscaling of resource and energy use to bring the economy into balance with the living world ensuring safety, justice and equity (Hickel, 2020) – would support the appreciation of tropical forests as complex social-ecological systems. Recognising that nature and people are interconnected, values assigned to tropical forests could be liberated from current neoliberal framings that are constrained by the growth imperative.

Although it may be considered that shifting to a degrowth model would be disruptive for industries and small-scale farmers reliant on cash crops, degrowth is a shift to a different kind of economy that does not rely on growth (Hickel, 2020). Small-scale farmers could therefore potentially be more resilient to risks such as unfair and unstable market fluctuations, climate risks, pests, and input costs. This would be an important departure from the constant accumulation of capital, from which they currently benefit marginally, or are even harmed (Selwyn, 2013). Gerber (2020) puts forward a preliminary research agenda for 'agrarian degrowth' to lead to more equitable social metabolisms. The Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) provides an example whereby the multiple valuations of nature are recognised, acknowledging the intrinsic value of forests and that people relate to and use tropical forests in diverse ways. This could be an important step towards challenging the hegemonic discourse of neoliberal framings of tropical forests (Pascual et al., 2017).

Stronger compliance and accountability mechanisms that take into account justice and equity concerns

Developing new goals and targets presents an important opportunity to hold businesses and governments to account for tropical deforestation and moving towards sustainable food systems, paying careful attention to redressing power. This could be achieved through a combination of progressive regulations, designed to truly account for both the present day and historical role of the higher economic countries (and the many ways in which these interests manifest at national and local levels) and multi-national corporations in deforestation, including holding states to account (Büscher & Fletcher, 2020).

Achieving progressive ambitions requires truly representative decision making (Smallwood, 2019). The CBD has taken steps towards more inclusive decision making, encouraging non-state and sub-national actors to make voluntary commitments towards the CBD objectives (Pattberg et al., 2019). Yet, the dynamics of participation are complex and would require radical shifts in entrenched decision-making procedures to enable groups such as women, youth, and indigenous peoples and local communities, to participate meaningfully by seeking alternative, more appropriate spaces for participation.

Clear, measurable, ambitious yet achievable targets facilitate implementation by state and non-state actors and enable assessment of progress, by states and other actors such as NGOs and business, through transparent reporting mechanisms expediting compliance (Smallwood, 2019). Just systems of accountability that recognise the role colonial relations and trade and investment relations in driving tropical deforestation (Galaz et al., 2018) are also key to facilitate compliance. Approaches such as 'naming but not shaming' could increase transparency and identify states in need of support and assistance in reaching targets. The development of peer review mechanisms, such as in the case of the CBD, would also adopt a facilitative approach to achieving implementation and compliance (Delabre et al., 2021; Smallwood, 2019). Another opportunity to redress power imbalances is for civil society to have stronger requirements for companies, such as adopting circular models, before forming partnerships (Büscher & Fletcher, 2020).

Joining up governance

Concrete linkages need to be made between the SDGs and other measures for tropical forest and sustainable food systems with conservation practitioners, government, researchers, local peoples and other actors promoting the link between the SDGs and tropical forests in the actual implementation of global goals. Recent conceptualizations of integrated landscape-scale governance arrangements hold some promise supporting initiatives that look beyond a single food commodity focus. Landscape approaches emphasise engagement between multiple stakeholders, aim to disentangle the complexity of landscapes, facilitate consideration of

different courses of action, and reconcile societal and environmental objectives (Reed et al., 2020). Attention to power asymmetries may also ensure more sustainable and equitable landscape approaches, including how social and geographical aspects as well as power structures mould human beings (Colfer et al., 2018).

Conclusion

Forest-related SDGs and other global measures were unmet by 2020, and we are at a critical juncture where business as usual will ultimately jeopardise planetary integrity. Our paper shows how global governance mechanisms for tropical forests and sustainable food systems are underpinned by neoliberal valuations of forests and power relations that preclude more sustainable futures. The analysis reveals important concerns including whose interests and knowledge are deemed legitimate in these frameworks, and the use of a green recovery as a rhetorical device, a task often delegated to youth and future generations, masking difficult decisions and trade-offs that will come in post-2020 governance of tropical forests and sustainable food systems. Although alignment between different frameworks and policies supports the notion of creating synergies, the dominance of the usual suspects (be they NGOs or businesses), may create a homogenisation of norms, and exclude alternative, more transformative approaches. Current governance mechanisms of tropical forests and sustainable food systems preclude conservation, ensuring food demands are met. To redress power relations and move towards a new governmentality of tropical forests and sustainable food systems we suggest that: alternatives to the pursuit of economic growth must be followed, forests (and nature) be recognised as complex and inseparable from humanity, in combination with more binding targets and just and equitable means of accountability, joining up governance for tropical forests and sustainable food systems, and focusing on more equitable governance.

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