

Title: Ending slavery by decarbonisation? Exploring the nexus of modern slavery, deforestation, and climate change action via REDD+.

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Ending slavery by decarbonisation? Exploring the nexus of modern slavery, deforestation, and climate change action via REDD+.

Abstract: Activities involving the deforestation are high-risk for modern slavery, and is an issue which has global consequences for forest environments and communities. Despite this, little work is being done to eradicate modern slavery from these sectors. Antislavery interventions have often been separate from the work of development providers despite sharing many congruent objectives. Here we outline one sector that could see the integration of antislavery and development interventions to support both at-risk environments and highly vulnerable communities. It is proposed that antislavery interventions are incorporated into the national strategies of the “Reducing Emissions from Deforestation and Forest Degradation” (REDD+) programme which targets vulnerable communities to prevent deforestation and forest degradation. It is within these communities that vulnerability factors to modern slavery persist and lead to the degradation of the forest. It is posited that the incorporation of antislavery interventions with REDD+ would improve efficiencies, target more vulnerable populations, protect the environment and support the Sustainable Development Goals (SDGs). By combining these efforts we can combat the effects of the modern slavery-environmental degradation nexus within an ecosystem that has been shown to be vital in the fight against anthropogenic climate change. With the renewal of REDD+ due, now is the time to integrate these measures.

Keywords: Forest Degradation, Antislavery Interventions, Tree Loss, Modern Slavery-Environmental Degradation Nexus, Climate Change Mitigation and Adaptation

1. Introduction

The co-emergence of modern slavery, deforestation and its associated industries (e.g. charcoal production, timber and logging, agriculture, cattle ranching, mining and quarrying etc.) [1,2,3] suggests that strategies attempting to reduce emissions must address the global nexus of climate change, environmental degradation, and modern slavery to achieve desired targets. Modern slavery, an umbrella term, encompasses a number of human rights violations and abuses including institutions and practices similar to slavery, slavery, forced labour, servitude, and human trafficking. The Bellagio-Harvard Guidelines [4] include possession tantamount to ownership, where control is exhibited over a person through violence or threat. Forestry crime activities undermine progress toward key environmental targets by sustaining illegal extraction and/or production of natural resources and increasing risk of enslavement [5,6]. Whilst it must be acknowledged that the presence of modern slavery does not always lead to/mean deforestation or land clearing is illegal; in many cases it allows these illegal activities to persist via a proximate relationship whereby forest removal increases the livelihood precariousness of those

reliant on the trees; these people can then be forced into environmentally destructive activities by criminals who exploit them (i.e. forced criminal exploitation) [3], or displaced from the land. Illegal forest clearing causes negative social-ecological impacts by removing resources such as fuel, food, and shelter etc. from the environment often in order to establish associated competing industries [1,2] for the economic gain of those who did not rely on the intact forest. These drivers often open the forest up to additional degradation [7]. The removal of trees reduces the capacity to mitigate against the effects of climate change. Consequently, the unmanaged and unregulated removal of tree cover can have numerous consequences which affect people and nature.

Deforestation and degradation of trees is estimated to contribute 12% (6-17%) of anthropogenic CO₂ emissions [8,9]. Evidence suggests modern slavery causes direct damage to forest environments [2,3]. However, trees have been postulated as a natural resource that can assist in limiting, and/or reversing, current climatic trends, in response to the Intergovernmental Panel on Climate Change's (IPCC) [10] recommended limit of 1.5°C global warming. Reforestation and afforestation have been proposed as a key mitigation method – particularly in the tropics [11,12]. The continued presence of modern slavery and forest exploitation could negate these plans. Existing overlap between development projects and antislavery programmes should seek to reduce the risks noted in this relationship, to fulfil holistic sustainable development initiatives.

The “Reducing Emissions from Deforestation and Forest Degradation” (REDD+) programme is the United Nations Development Programme's (UNDP) flagship sustainable development initiative focusing on the protection of forest biomes, encouraging natural carbon capture within developing countries. The current term (2016-2020) is due to end 31 December 2020 and donor funding is up for committee renewal [13]. REDD+ provides an opportunity to integrate and mainstream antislavery initiatives to support progress toward key social-ecological targets; thus protecting forests, people, and limiting the overall effects of climate change.

2. Tree Loss

The success of forests and people in achieving sustainability is indivisible. Some of the world's most vulnerable populations are forest-dependent, and acute and long-term threats associated with tree loss (e.g. deforestation and climate change respectively), directly exacerbate other vulnerabilities – pushing people into desperation that leads to risk-taking associated with modern slavery. Thus it is imperative to understand the environmental and social implications of modern slavery on forests. Particularly as they are vital for global decarbonisation.

2.1 Climate Change and Tree Loss

Forests have been touted as a key natural resource that should be protected and restored to limit the harmful effects of climate change [14]. This is because they sequester carbon through the removal of atmospheric CO₂, forests are a key IPCC climate change mitigation strategy [15]. Tropical forest restoration has been promoted [11,12] and supported by global climate agreements (e.g. Paris Climate Accord) and the implementation of negative emissions technologies (NETs) [16]. Afforestation, for example, is being widely implemented [17]. However, trees are complex, their ecological interactions are not only positive. In some cases trees are a source of carbon [18], directly resulting from anthropogenic actions in tropical forest environments [19] and the effects of a changing climate e.g. droughts and higher temperatures [20]. Degradation of the trees caused by human removal and burning, increases CO₂ emissions from forest biomes. An additional cause of anthropogenic complexity could be the presence of modern slavery to support these sectors and their associated impacts upon tree loss.

2.2 Modern Slavery and Tree Loss

Illegal logging and deforestation have been linked to modern slavery [2,3]. Bales [1] noted several countries where slave-based logging has been documented or observed: Bangladesh, Ghana, India and Myanmar; alongside the combined presence of slavery and illegal logging in Bolivia, Cameroon, Colombia, Democratic Republic of the Congo (DRC), Equatorial Guinea, Gabon, Liberia, and Peru. Tree loss associated with modern slavery often occurs in sectors that require vast areas of land for the production and/or extraction of resources. Brown *et al.* [2] and Jackson *et al.* [3] note several areas where modern slavery can be linked to forest removal; including tree loss in the Brazilian Amazon for cattle ranching, illegal oil palm plantations in Indonesia, and mining and quarrying across the DRC. Investigations by Amnesty International [21] and Verité [5] corroborated those findings: human exploitation resulted in tree loss. Furthermore, modern slavery activities linked to deforestation and degradation do not only occur in tropical rainforests; mangroves have been affected by the presence of fish-processing camps, repeatedly linked to modern slavery abuses, such as in Bangladesh's Sundarbans [1], [22,23]. Within Russia's boreal forests modern slavery has been identified as a driver of illegal logging [5], [24], and may be supported by the presence of organized criminal syndicates profiting from environmental crime [25]; utilising complex non-transparent supply chains to move products. This is estimated to generate USD\$52-157 billion per year for global criminal enterprises [26]. An estimated 96% of illegal harvested wood in Russia is transported to China where it is combined with legally obtained goods [5], tainting the supply and limiting the traceability of the materials' origins. These forests are vital for climate change mitigation and carbon sequestration; though neither modern slavery nor climate change are being fully addressed [27,28]. High levels of deforestation within the boreal ecosystem

[29] have been linked to the increased emission of CO₂ [30] and Hewson *et al.* [31] predict this damage is likely to continue unless action is taken against deforestation activities.

Exploitation within the forestry sector can include: the forcible removal of legal documents (such as passports, particularly from migrant workers and those who have been trafficked, serving as a form of control leaving these individuals vulnerable to exploitation with no means of escape [4]) – or in the case of indigenous forest communities their land; being forced to work in remote locations; and threat of violence. These factors make workers reliant on the perpetrators, thus providing their labour to avoid persecution or pay debts. As the forest is degraded, the vulnerabilities which made them targets for criminal groups (such as conflict, inequality, lack of governance and oversight etc.) increase, making other communities vulnerable too. Furthermore, climate change has been linked to the nexus [2,32], creating conditions which force migration and increase the risk of exploitation [33]. Collectively there is a cyclical relationship: modern slavery, can lead to forest degradation, thus causing effects upon climate change (limiting carbon sequestration and increasing CO₂ emissions), which in turn, increases risk of enslavement, leading to further vulnerability. Subsequently antislavery actors must engage with initiatives to support the mitigation of climate change and protection of forests in order to support ‘at-risk’ populations.

3. Modern Slavery Vulnerabilities

Vulnerability to modern slavery on a national level is classified by Walk Free [24] into five categories (addressing 23 risk factors); in which they include environmental performance indicators [24,34]. Categories include: governance issues, lack of basic needs, inequality, disenfranchised groups, and the effects of conflict. From an individualistic perspective, poverty, education, and employment opportunities, climate change and environmental degradation, are seen as critical ‘push’ factors into modern slavery [1,35]. Some of these vulnerabilities are reflected in the aims, and issues, associated with REDD+, particularly governance, inequality, and basic needs.

The presence of transnational organized crime syndicates cause issues for the protection of forests. Across the Amazon, Central Africa and Southeast Asia an estimated 50-90% of all forestry activity is undertaken by criminal enterprises [5]. These groups operationalise trafficking routes and exploit loopholes in environmental and conservation law. Such loopholes have, for example, lead to illegal access to, and cross-border smuggling of, Russian wood products to China [5,25,36]. Peru has also been identified as a nation which has a high prevalence of illegal logging related deforestation (approximately 80%), which is directly linked to drug trafficking and money laundering [5]. The narcotics trade and deforestation have been linked across Central America [37] where money has been

laundered through goods made from logging, and these cleared areas are then utilised by the cartels for the further production of illegal crops. The presence and control exhibited by criminal actors in deforestation and drug cultivation increases the risk of enslavement for communities in these areas. The vulnerabilities associated with forest crime are being tackled by the United Nations Office on Drugs and Crime (UNODC) where the forestry sector – and in particular timber products – have been identified as ‘high risk’. Advice has been provided to limit the flow of illegally logged timber and provide assistance to those identifying the products [38].

The UNODC works transnationally, reviewing legal frameworks, building law enforcement and justice capacity, monitoring and evaluating programmes, and addressing supply chains and livelihoods [39]. Despite UNODC interventions, evidence of exploitation by criminal actors directly affects indigenous communities who reside in, and rely on, the forest. Reports from Myanmar suggest people are working under conditions of forced labour; the coercion and subsequent exploitation of indigenous peoples in the Amazon – also associated with forced migration – have been noted [5]. Indigenous groups are at risk of enslavement, particularly in remote locations. Moreover, forest stewards from indigenous populations are at risk from violence and murder should they not partake in environmental destruction with more than 1500 people murdered for defending ecosystems or access to land from 2002-2017 [40]. Brazil had the highest death total, and the largest number of deaths associated with the logging sector [40]; across the Amazon, loggers have been identified as the perpetrators of violence against campaigners [41,42].

Multiple sectors engage people in the degradation of forests [3] many of whom are migrants; however, vulnerable local groups can also be exploited. For example, in Indonesia and Malaysia both internal and international migrants have spoken of labour abuses in the oil palm sector, including the withholding of documents, restricting movements, and wage deductions, whilst operating without the appropriate permits [2,3,20,43]. Moreover, exploited children have been identified in the cocoa sectors of Ghana and Côte d’Ivoire [5]; women have also been found to be vulnerable to extreme forms of labour exploitation in the Ghanaian cocoa sector [44,45] suggesting both an age, and gendered, dynamic to vulnerability. Finally, those who rely on forests for economic and environmental subsistence have also been identified as vulnerable to exploitation.

These communities face shared vulnerabilities from a social, economic, and environmental perspective. They often work in low-paid jobs, or live subsistence lifestyles which expose them to irregular working conditions. The remoteness of these communities means forced labour is often hidden and un-accounted for [46]. This variability in work and geographic location, allows large-scale companies and organized criminal groups to take advantage

of their low-social and economic standing within wider society; exploiting those people and the land on which they rely. This has been documented by the International Labour Organization (ILO) [47] in the Peruvian Amazon, where debt bondage is employed as a practice to support illegal logging. Displacement is also a risk for those who do not want to engage in criminal activities, and can lead to increased vulnerabilities [33]; the issue of displacement and forced removal is also be associated with climate change – as documented in other sectors where drought has caused agricultural workers to migrate to cities for work, where they can find themselves indebted [48]. Climate-induced migration increases vulnerability to enslavement [2,32], often directly impacting the poorest and least protected in society. Forest communities fall into this category and must be supported to prevent exposure to modern slavery practices.

One specific case are Bangladesh's mangroves, which are vital for the economic and environmental subsistence of people who use the forest for food, fuel, shelter and livelihood support. People can be caught in exploitative practices when working to improve their living and economic conditions; instead being forced to exploit the ecosystem on which they rely, by engaging in illegal land-based fish-processing enterprises [1,22]. The Sundarbans represent one of the world's largest carbon sinks, directly providing climate mitigation. However, sea-level rise could lead to mass displacement and risk which O'Connell [32] notes could be an important link between modern slavery and the nexus [2]. For those communities close to the Sundarbans, migration and increased vulnerability to enslavement are likely.

The environmental implications of modern slavery within forestry activities have wide reaching consequences for vulnerable populations, with displacement, climate change and criminal enterprises all increasing exploitation risk. As a result of this co-occurrence, policies to protect forest ecosystems should consider the impact of the nexus [2]. Some vulnerabilities to modern slavery identified in forests overlap with issues REDD+ seeks to provide assistance for. A combined response should be tailored; protecting forests, people and the success of sustainable development programmes.

4. Perspectives on REDD+

For the last decade the REDD+ programme (a form of social NET [16]) has evolved from a market focused emissions reduction mechanism with an emphasis on forest degradation (previously known as RED and REDD [49]) to one that encompasses 'conservation, sustainable management and enhancement of forest carbon stocks' [50]. Thus addressing the social aspects of deforestation and forest degradation within climate mitigation; increasing the co-benefits REDD+ may achieve. As Lederer [51] notes "REDD+ is not just about keeping carbon in the forest, it is about how the world's forests are governed".

REDD+ is disseminated by two providers (UN-REDD and World Bank: [52]), and promotes sustainable conservation [53], by targeting developing countries [54]. Within the UN-REDD led programmes, there is increasing emphasis on the connection to human rights [55,56,57] – which includes modern slavery. Ultimately, the programme functions as a form of ‘results-based aid’ [58,59]. Current funding is due to end 31 December 2020 with the UN committee who oversee the scheme having the option of project renewal [13]. It is with this pertinent deadline – and the clear overlap of vulnerabilities to modern slavery and targets for REDD+ programmes – that the incorporation of antislavery tools into this initiative should be undertaken.

REDD+ is partnered with 65 countries (Thailand joined most recently in 2018 [60]), and according to Duchelle *et al.* [61] more than 350 projects have been operationalised in national strategies by the end of 2018. A number of projects focus on afforestation/reforestation, whilst others address emissions [62]. All schemes undergo three implementation phases: readiness, development of policies, and the introduction of performance payments [63].

People have acknowledged the benefits of the programme; for example, Luttrell *et al.* [64] identified four categories: direct and indirect monetary benefits, and direct and indirect non-monetary benefits [9]. Lawlor *et al.* [53] and Walcott *et al.* [65] found specific examples of these benefits, including enhanced land claims by local groups; employment generation and agricultural sector development, increased monetary contributions (livelihood benefits and aiding infrastructure development), and cultural preservation; whilst developing sustainable forest management via afforestation/reforestation, thus protecting biodiversity, the terrestrial and aquatic environments, and enhancing climate change mitigation.

However, a number of critical concerns surround REDD+, including: land tenure issues and concerns for indigenous people’s rights [49,54]. Indigenous peoples have previously been subjected to pressure from ‘carbon cowboys’ (groups who target indigenous owned land and forests with the aim of exploiting communities and profiting from the carbon contained there [66]). This has led to restricted access to the forests on which these communities rely; increasing the likelihood of those vulnerabilities – noted earlier – occurring. Across Latin America, Aguilar-Støen [67] note that indigenous communities have conflicting opinions regarding the pros and cons of REDD+; but the presence of ‘carbon cowboys’ in Colombia, Bolivia, Brazil, and Peru have been regarded as a risk of REDD+ engagement. Bayrak and Marafa [66] report, REDD+ provided access to these actors which led to exploitation of these communities and directly contradicted the purpose of the scheme. Others warn abuses of the REDD+ carbon market could inflate payments [68] without protecting the forest, or forest communities. Whilst these practices have been

curbed, they create – and share – similar conditions of vulnerabilities which expose people to enslavement, and their past presence may lead to those communities which REDD+ targets, becoming reluctant to participate.

Additional issues surround conflict with forest-dependent rural communities [63], restriction of forest access [61,66] leading to forests becoming 'stranded resources' [69], leakage, permanence of carbon sequestration and additionality [49,66,70]. Socioeconomic inequality between, and among, communities has also been reported as a negative consequence of REDD+ [71]. Others suggest the architecture of REDD+ is 'fragmented', 'patchy' and 'uncoordinated' [67,72,73], launching projects without clear funding in place. Furthermore, this is hindered by competing ideas [74,75] which may undermine the social and financial success of REDD+ schemes, and their conservation aims. Many of these issues are contained in the governance and financing structure.

Financing is skewed toward rewarding large-scale actors for reducing CO₂ emissions as a result of forest degradation, despite some of those actors being dominant drivers of damage [64]. There is an unfair distribution of funds rewarding the reduction of illegal behaviour – increasing inequality and undermining the foundations of REDD+ [64,76,77]. This top-down approach to finance could result in higher estimated implementation costs, compared to locally oriented approaches [9]. An unintended consequence of the funding structure has been 'aidification', causing issues for donors and the successful operation of projects [78]. This financial vulnerability can be linked to the short-timeframes of REDD+ schemes and the demand to compete for resources within the development space. Some of these issues could be addressed by combining efforts, tackling interconnected vulnerabilities within the same project.

The issue of governance is explored by Dawson *et al.* [79] who determined REDD+ can be simplistic in its implementation citing 'tick-box' and 'prescriptive' approaches to issues of equity within the scheme. An additional concern is that of the re-centralisation of forest governance [78,79]; associated with the structure of REDD+. To avoid governance critiques of a top-down financing approach (such as conflicting national and community level design, implementation and project management [80]), programmes are often characterised by a 'bottom-up pledge-and-review' architecture [72] which may not be efficient for development. Furthermore, issues surrounding governance are impacted by the capacity of developing nations to successfully monitor the co-benefits of REDD+ [75]. As Kim *et al.* [81] note, monitoring gaps within REDD+ results are linked to the current state of governance and centralized funding in the programmes; which ultimately limit the success of operationalised schemes.

In order to prevent REDD+ for becoming ‘just another development project’ [49] – or as other critics have suggested a ‘conservation fad’ [82,83] – the advancement of local multi-sector bottom-up action is necessary to establish foundational coordination, mobilize funding and political will, and encourage collaboration. Achieving this would provide a template for more complex development issues. Efficiencies would increase and financial costs would reduce [9], whilst improving governance by including local communities, indigenous peoples, and vulnerable groups in decision-making. Moreover, some critiques surrounding REDD+ could be lessened by integrating antislavery tools into the agenda as both forest degradation and deforestation share vulnerabilities with modern slavery [3].

5. Integrating Antislavery Initiatives and REDD+

Many antislavery initiatives and REDD+ programmes share congruent objectives (Table 1), and a common mandate – their ultimate goals, limiting tree loss and degradation, and modern slavery (target 8.7), are both contained in the UN Sustainable Development Goals (SDGs). Multiple SDGs refer to the protection and management of forests (e.g. the restoration of forests by 2020: SDG 6), with SDG 15 “Life on Land” holistically capturing the protection of trees [84]. In addition, SDGs addressing forest environments are increasingly connected to REDD+ [85]. The shared mandate and aims between REDD+ and antislavery actors often target similar communities; utilising these overlapping connections will be important for encouraging multi-sectoral action, enabling comprehensive monitoring and enforcement. As Table 1 notes, there are four congruent objectives within both communities, addressing issues of: climate change, environmental protections, poverty and livelihoods security. REDD+ acknowledges that the forest is both heavily impacted by and can be used as a resource to alleviate many of these concerns; yet people reliant on those regions often remain vulnerable to exploitation.

Table 1: Congruent objectives between REDD+ and Antislavery Initiatives

REDD+	Antislavery Initiatives
Decreasing emissions	Mitigating the impacts of climate change <ul style="list-style-type: none"> Limiting environmentally-induced forced migration
Environmental protections <ul style="list-style-type: none"> Carbon credits: preventing deforestation Agricultural interventions: improving sustainability and protecting forests 	<ul style="list-style-type: none"> Preventing illegal activities that rely on forced labour and other forms of modern slavery Provide support, education and training to children and women who are often the primary groups at risk of exploitation within agriculture (e.g. cocoa)
Poverty relief	Poverty risk

Improving livelihoods

Sustainable livelihoods reduce enslavement risks associated with forced-migration

Combined: environmental, social and economic protections noted above

'Freedom dividend' – preventing slavery from continuing to be economic, social, and environmental drain on communities and wider society

The link between forced migration and climate change leading to the increasing risk of enslavement [2,32,33,48], is a co-occurrence which the primary goal of REDD+ (to reduce deforestation and forest degradation, whilst increasing carbon sequestration) can support the mitigation of. These can be directly linked to the efforts to improve environmental protections – REDD+ attempts to achieve this through carbon credits and assistance in the agricultural sector. For example, in Ghana, their national REDD+ emissions strategy is focused around the cocoa industry [86]. Ghana's 'Cocoa-Forest REDD+' strategy is focused on the forest-boundary edges where agriculture, and other degrading industries such as illegal mining and logging, are found. The framework is proposed to reduce emissions made from farming – thus mitigating climate change, and working to improve livelihood and income opportunities for those who rely on the forests [86]. Inadvertently, this works in tandem with the core objectives of antislavery initiatives. The sub-national strategy on cocoa farming is working to address illegal logging activities linked to modern slavery [1,2,3]. Finally, the existence of these illegal enterprises not only drains ecosystems, but also the economy. By limiting emissions, environmental gains can be achieved and as communities are supported, economic improvements are made. This in turn provides the double benefit of the 'freedom dividend' which Bales [1] notes as a key argument for the eradication of modern slavery; one in which society can benefit from the economic, social, cultural and environmental improvements achieved by supporting interconnected SDGs. An ideal integration point is the implementation of local community-led and -based projects which engage those who are most at risk in the protection of forests, but also provide awareness training and skills education to break the cycle of environmental degradation and social exploitation. Integration is also required within national strategies, whereby antislavery work is mainstreamed, with schemes recognising labour and human rights; for example, inclusion as standard has improved working conditions (thus reducing exploitation) in the Malaysian oil palm sector [43]. As such there is an opportunity to replicate these initiatives within large-scale sustainability programmes such as REDD+.

It is vital modern slavery awareness and antislavery initiatives are at the forefront of development and environmental protection projects such as REDD+. This is necessary in

the development space due to shared connections (Table 1) – and can be achieved in the formal environmental protection space with more local, informal programmes; REDD+ could, and should, be one such intersection. Lawlor *et al.* [53] note the majority of REDD+ projects focus on small-scale drivers of degradation; modern slavery is often linked to small-scale industries, and can be associated with drivers of tree loss such as agriculture, mining and quarrying [2,3,5] – there is therefore overlap between the REDD+ projects and modern slavery presence.

Mainstreaming can be achieved in locations where there is a direct global benefit to reducing emissions. For example, in the Brazilian Amazon, illegal logging activities rely on indigenous and low-income forest communities who have been marginalised by the government. Modern slavery and deforestation in the Amazon go hand-in hand – fuelling timber and cattle production [1,2,3]. Furthermore, these issues have been documented by Brazil’s Pastoral Land Commission [87] who identified several initiatives to tackle exploitation including: strengthening the presence of antislavery organisations and groups that work in forest protection; creating community groups to increase the awareness of modern slavery and social protections; improving access to state services; protecting formerly-enslaved families, and those who have been threatened for not engaging in exploitation; finally, generating sustainable livelihoods [88]. These ideas are linked to the congruent objectives (Table 1); yet mitigating the wider impacts of climate change is not addressed. Combining antislavery initiatives with REDD+ projects would be beneficial as a key vulnerability of enslavement would be understood and mitigated against. In a space with finite financial resources, collaboration and integration may be key to successfully achieving those shared objectives (and maximising their success) between the two fields.

Connecting these conceptual vulnerabilities in practice is vital as the scale and scope of the REDD+ programme demonstrates. Environmental destruction and associated crimes are often more recognizable than hidden modern slavery abuses – because of this, representatives from environmental agencies are often frontline responders to cases. However, their lack of jurisdiction and training places the burden of reporting on survivors (i.e. self-disclosures). REDD+ programmes could include awareness training for providers of REDD+ engagement to identify those communities at risk/or being exploited in situations contributing to the slavery-environment nexus [2,3]. Thus lifting the burden placed on survivors, and removing the stigma or persecution associated with their period of forced environmental criminal activity. Moreover, the educational component of REDD+ [61] can target those communities identified as ‘at risk’ during this process to provide additional information surrounding the risk of opaque job offers. Similar schemes are becoming common in the fisheries sector, and could be translated into a terrestrial setting.

Integrating REDD+ with antislavery initiatives should increase efficiencies and improve practices within development and human rights communities; building connections and avoiding repetition in programme efforts [57]. This is particularly important in areas where labour and environmental regulations are weak – here modern slavery and illegal natural resource extraction thrive. Additionally, cross-sectoral policies should limit conflicting priorities between policy enforcement mechanisms which may create conflict, divert, or split limited resources; resulting in missed opportunities, inconsequential penalties, or a diffusion of responsibility that criminalizes workers and modern slavery victims engaged in illegal environmental activities. Some of the critiques around the financing of REDD+ could be counteracted by tying achievement and funding to clearly defined social issues known to hinder environmental conservation [2] other than poverty relief and improving livelihoods (Table 1). By strengthening labour regulations and environmental protections, the risk of exploitation and degradation in forest ecosystems reduces. Coupled and/or simultaneous and synergistic policies – which address forests, modern slavery and climate change – have the potential to improve efficiency gains by eliminating a multi-stage process where a policy is enacted, and then a second, reactive, policy is needed to address the consequence of the first. Moreover, REDD+ governance concerns can be addressed through this integration. Combining efforts via collective action would support communities and assist REDD+ in identifying the underlying drivers of forest degradation and deforestation. An example of collective action has been implemented by Guam, Marshall Islands, Micronesia, and Palau, where sea patrol officers are trained in combatting environmental protections and human trafficking in tandem [89].

Besides improving REDD+, this integration could also improve antislavery responses. Critiques of the modern antislavery movement suggest that responses have been divided into three, siloed, camps: human rights approaches, labour standards approaches, and criminal justice approaches. Instead, a sustainable development approach has been posited as a more holistic approach to unify these now commonly discrete tracks [90]. However, to date, there has been little application of this framework. Integrating REDD+ and antislavery initiatives could provide a template for such scalable, multilateral action.

6. Conclusion

Societal and environmental issues cannot be regarded as separate issues [91], demonstrated by the slavery-environment nexus [2]. To tackle climate change and encourage decarbonisation, a holistic approach is needed which recognises these social and environmental connections [92]. As Savaresi [56] notes, adding a human rights dimension to REDD+ activities may complicate the dissemination of the programmes, yet not including these protections may undermine the overall success of the projects. Modern slavery is an issue that contributes to the degradation of environmental ecosystems,

including forests. In order to gain the social and environmental co-benefits of REDD+, antislavery initiatives must be mainstreamed within development programmes. The upcoming renewal option of REDD+, alongside the mandate of the SDGs, provides the opportunity to bring antislavery efforts to the forefront of the development community's activities, limit environmental damage associated with modern slavery (via social and environmental crime), and support efforts to mitigate climate change.

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