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Deforestation in Indonesia – why the Roundtable on Sustainable Palm Oil needs to redefine its certification

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The “No Deforestation Joint Steering Group” can address the issues and recommendations investigated in this paper at the 17th Annual Roundtable Meeting on Sustainable Palm Oil in November 2019, and thus initiate a significant reduction of deforestation in Indonesia.

Deforestation in Indonesia – why the Roundtable on Sustainable Palm Oil needs to redefine its certification



Image 1: Deforested area in Indonesia © Kemal Jufri



Image 2: Oil palm plantation in East Asia © asnidamarwani/Fotolia

Executive Summary

Deforestation is a threat to our ecosystems; especially in Indonesia, the country with the highest deforestation rate worldwide. Indonesia's palm oil industry is expanding, and accounts for half of its forest loss since 2000. The conversion of tropical forests to oil palm monocultures has severe environmental consequences. It results in habitat loss and species endangerment, and therefore reduces biodiversity. Additionally, deforestation releases large amounts of carbon stored in vegetation into the atmosphere. The Roundtable on Sustainable Palm Oil (RSPO) aims to minimize these negative impacts through certifying producers that fulfil certain environmental and social criteria. For instance, it declares to give special protection to High Conservation Value (HCV) forests. However, the effects certification has on deforestation rates is disputable. Indeed, about 40% of the area located in RSPO concessions still suffered from forest loss between 2001 and 2016. And certified producers tend to be those who hold plantations with little remaining forest and who were already close to comply the RSPO standard. Hence, the RSPO should revise its criteria and make their implementation effective, using a monitoring and incentivising system. Furthermore, small-scale producers should be more integrated into certification, and the RSPO can orient towards the similar, but more holistic approach of the Palm Oil Innovation Group.

Foundational Science: Discussion and Analysis

Deforestation is a global environmental issue that can be classified in the planetary boundary "Land-System change", as defined by Rockström et al (2009). The conversion of natural lands for human purposes threatens the boundary that ought to be a safe operating space for humanity (2009). The extent to which forests are being cut down yet constitutes a "massive disruption" (Sachs, 2015) to our ecosystems.

Deforestation in Indonesia...

Especially in Indonesia, the country with the highest deforestation rate worldwide, the problem has reached an alarming state (Petrenko et al, 2016). From 2000 to 2012, 15.79 Mha of forest cover were cleared, with primary forests being particularly affected (Margono et al, 2014). As shown in figure 1, most primary forest loss was reported for the islands Sumatra and Kalimantan – this is also where 96% of Indonesian palm oil production occurs (Petrenko et al, 2016). A coincidence? Certainly not. Half of Indonesia’s forest loss since the beginning of the millennium has been attributed to oil palm expansion (Petrenko et al, 2016). Moreover, a study conducted by Cazzolla Gatti et al (2018) unequivocally shows a spatial overlap between areas with high tree cover loss and those with palm oil concessions.

... is a massive driver for biodiversity loss

The high rate of deforestation poses a serious threat to Indonesia’s ecosystems, as it is “directly tied” (Petrenko et al, 2016) to biodiversity loss. Indonesia is one of the world’s biodiversity hotspots, as its forests contain 10% of the world’s plants as well as 17% of the world’s bird species (Margono et al, 2014), and are home to species that are endemic to the region. However, this unique biodiversity is at risk, as deforestation reduces population density and species richness. For instance, Sumatran tiger (*Panthera tigris sumatrae*) populations have declined by 70% from the 1980s (Petrenko et al, 2016), and now, the species is categorized as “critically endangered” (IUCN, 2019).



Image 3:
A Sumatran
tiger in its
natural
habitat.
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It is not the deforestation alone that results in habitat loss and species endangerment, but the subsequent cultivation of oil palm monocultures in particular. That is because these plantations are significantly less complex than natural forests, and support fewer than 50% of vertebrate species as primary forests (Poor et al, 2019). The consequences are the hyper-abundance of few generalist species, and the extinction of highly specialized species, unbalancing the whole ecosystem (Petrenko et al, 2016).

... and greenhouse gas emissions.

As if all this was not enough, both deforestation as such and the palm oil industry have severe effects that exceed Indonesia, namely the emission of greenhouse gases. Tropical forests are found to be large carbon stocks, to which any interference can have serious consequences for atmospheric carbon levels (Petrenko et al, 2016). Indonesia ranks the world's fourth largest emitter of greenhouse gases (Dunne, 2019), with 85% of these emissions stemming from land use activities, including deforestation and forest degradation (the REDD desk, 2013). Looking at the island Kalimantan, cumulative carbon emissions from land conversion to oil palm plantations totalled 0.32 Gt from 2000 to 2010 (Carlson et al, 2013). The amount of carbon that is released through the removal of vegetation, depends on the type of soil that is being replaced. Peat swamps are especially carbon-rich, as they aggregate stocks of 180 Mg of carbon per hectare (Petrenko et al, 2016). Draining these waterlogged soils, and thus, releasing the stored carbon, is necessary for the cultivation of oil palms. An estimated one-third of all Indonesian plantations needs to process the soil this way (European Parliamentary Research Service Blog, 2018).

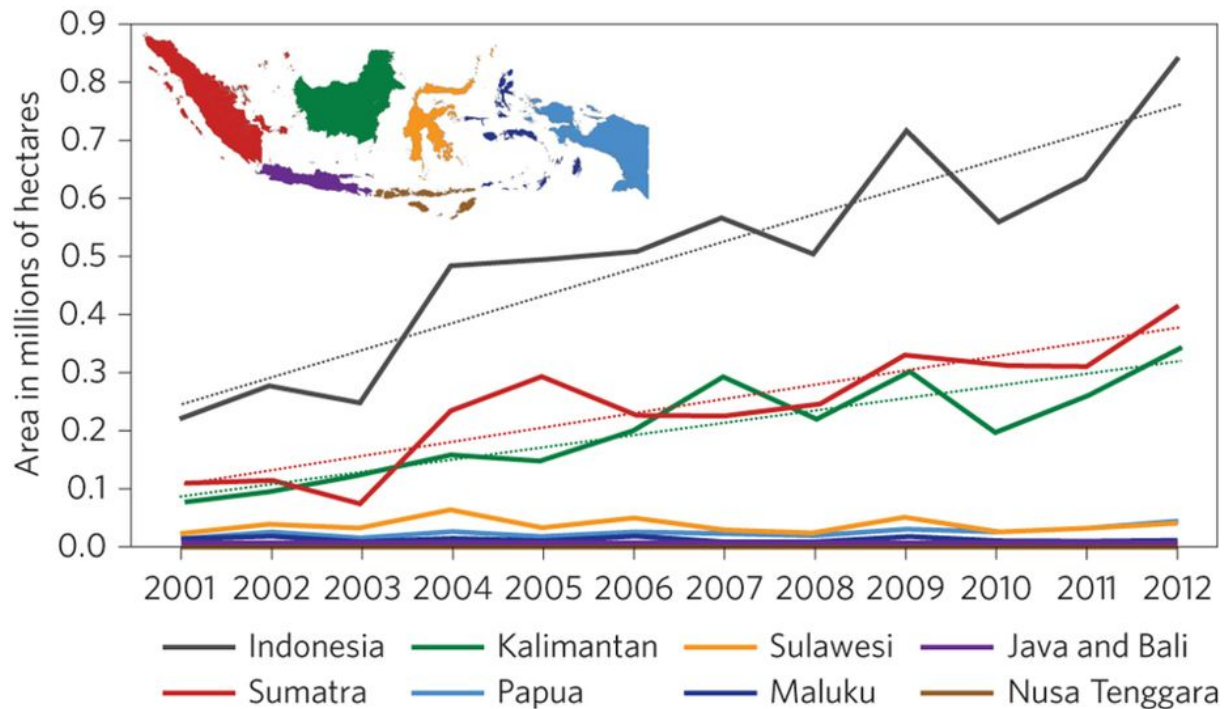


Figure 1: Annual primary forest cover loss, 2000-2012 (Margono et al, 2014)

Assessment of Existing Governance

Sustainable palm oil...

As a response to the harmful consequences of palm oil production, the awareness of the global market for sustainability issues has increased, which led to the emergence of numerous non-state sustainable palm oil initiatives (Pramudya et al, 2018). The most internationally recognized, large scale initiative among them is the Roundtable on Sustainable Palm Oil (RSPO), a multi-stakeholder organisation established by WWF in 2004. The RSPO encompasses more than 4000 members from 92 countries that are part of the palm oil industry's value chain, including oil palm growers, processors and traders, as well as investors and NGOs (Roundtable on Sustainable Palm Oil, 2019; Pramudya et al, 2018). As a certification scheme for sustainable palm oil, the RSPO's goal is to minimize the negative effects of palm oil cultivation through the development and implementation of credible production standards (Higgins & Richards, 2019). In order to be certified as a sustainable producer, companies need to fulfil a set of social and environmental criteria (Pramudya et al, 2018; Carlson et al, 2017). For instance, the palm oil sector should contribute to reducing

poverty and create sustainable livelihoods through meeting at least legal minimum wage standards, respecting local peoples' land rights and including smallholders in the value chain (Roundtable on Sustainable Palm Oil, 2018). Furthermore, the RSPO's list of criteria stipulates plans to reduce pollution and emissions, and prohibits the establishment of new plantings on peat. Additionally, the RSPO declares that "land clearing does not cause deforestation or damage {...} High Conservation Values (HCVs) or High Carbon Stock (HCS) forest" (Roundtable on Sustainable Palm Oil, 2018:62). High Conservation Value forests are defined as areas containing "significant concentrations of biodiversity values" and "rare, threatened or endangered ecosystems" (Jennings et al, 2003), which is clearly the case for Indonesian natural forests, as discussed above.

... a success

Indonesia has a tremendous importance for the RSPO, as it accounts for 51% of its certified palm oil (Roundtable on Sustainable Palm Oil, 2019) and for 44% of the RSPO-certified area (Carlson et al, 2017). A study conducted by Carlson et al (2017) found 68 RSPO-members with plantation holdings in Indonesia, from which only 34 members hold certified plantations. This poor contingent is due to the RSPO not requiring full certification of all members, but allowing them to provide time-bound plans for their certification process. Only officially certified plantations are obligated to fulfil the RSPO's criteria (Carlson et al, 2017).

The question remains whether, or to which extent, these certifications are an effective measure for the protection of forests in Indonesia. Generally, certification is found to have significantly reduced deforestation as the clearing of primary forests has decreased by 36% since 2000 (Carlson et al, 2017). Moreover, Austin et al (2017) report that only one-third of oil palm plantations in Kalimantan replaced forests after 2000, compared to more than half of the plantations doing so prior to 1990.



Image 4: Roundtable on Sustainable Palm Oil Logo © Ciranda

... or an illusion?

However, the validity of this success is questionable: certified producers tend to be those who hold older plantations with little remaining forest and who were already close to comply the RSPO standard (Cazzolla Gatti et al, 2018). Carlson et al (2017) refer to this phenomenon as “selection bias” – by 2015, only less than 1% of forests remaining within Indonesian oil palm plantations was held by certified areas. Furthermore, it can be criticised that, in practice, the RSPO prioritises the protection of primary and HCV forests (Cazzolla Gatti et al, 2018). Secondary forests yet must not be left unprotected, as they are regenerating from previous clearing (Austin et al, 2017). Even though the RSPO declares that non-primary forests matter for environmental conservation and can even be included in HCV forests (Roundtable on Sustainable Palm Oil, 2010), the protection of secondary forests is not explicitly mentioned in the RSPO’s Principles and Criteria. This is concerning as most of the forest loss due to palm oil expansion occurred in secondary, rather than primary, forests (figure 2). Most crucially, certified production of palm oil still leads to severe deforestation: RSPO members in Indonesia accounted for 20,000 hectares of deforestation of carbon-rich peatland (Greenpeace International, 2013), and about 40% of the area located in RSPO concessions suffered from forest loss between 2001 and 2016 (Cazzolla Gatti et al, 2018).

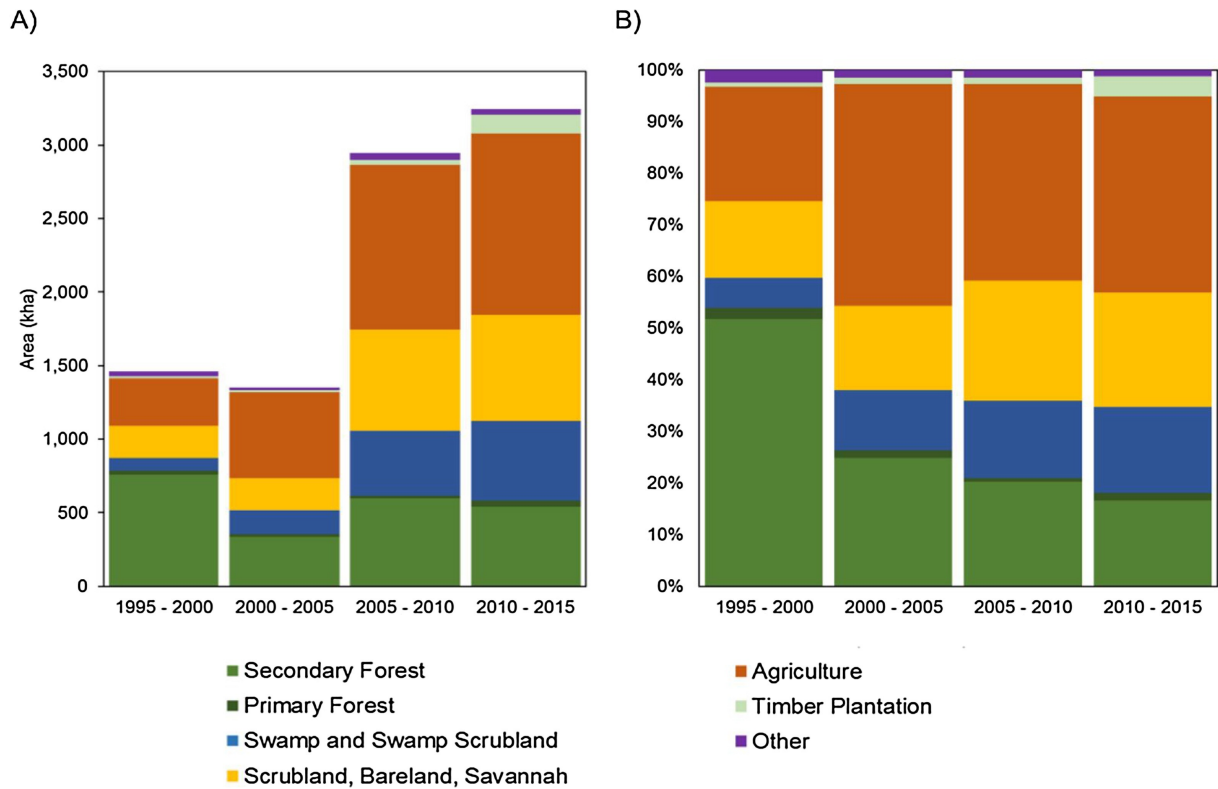


Figure 2: A) Area and B) Proportion of each land cover category converted to oil palm plantations in each time period, across Sumatra, Kalimantan, and Papua (Austin et al, 2017)

Governance Recommendations

Without any doubt, the RSPO has to make significant changes in their policies in order to make a real sustainable impact. The weaknesses of the RSPO can be tackled through the implementation of the following three broad steps:



Figure 3: Three steps towards a truly impactful RSPO

1) Revision of the criteria

The RSPO certification still tolerates ongoing clearance of “any forest not identified as primary or HCV” (Greenpeace International, 2013). So, the certification criteria need to be specified for the protection of all kinds of tropical forests, including secondary and tertiary forests as well as degraded lands. Moreover, the RSPO merely provides voluntary guidelines (Carlson et al, 2017) related to some criteria, without setting clear limits on greenhouse gas emissions from forest conversion (Greenpeace International, 2013). The RSPO has to rephrase their criteria into unambiguous and binding measures, in order to strictly inspect their implementation and make them effective.

2) Monitoring and incentivising system

The pure existence of suitable criteria is not enough to ensure a sustainable production, as exemplified by the RSPO’s incapacity to adequately protect peatlands. The commitment to stop palm oil driven deforestation has clearly not become reality, so the RSPO needs to develop a system to closely monitor the practices of certified producers. It should also establish incentivising measures, such as financial support as a reward for those producers who not only fulfil, but exceed the RSPO’s minimum standards in terms of forest protection.

3) Broad RSPO membership across Indonesia

In order to acquire new members, the RSPO should reach out to small-scale producers, which account for not negligible 35% of palm oil production in Indonesia (Petrenko et al, 2016). However, smallholdings might be dissuaded by the bureaucratic efforts needed (Higgins & Richards, 2019), so the RSPO should reduce the administrative burden and costs associated with the certification process. Additionally, the RSPO should encourage holders of plantations with a lot of remaining forest to become certified members, and thus make them commit to forest protection standards. For both new and old members, the RSPO should set fixed time limits to become certified producers, and to certify all of their plantations. This will also accelerate the application of the criteria.

An example for a more sustainable certification: The Palm Oil Innovation Group (POIG)

POIG is an initiative that seeks to adopt responsible palm oil production practices based on RSPO standards (Palm Oil Innovation Group, 2019), but goes “above and beyond” them (Pirard et al, 2015:3). For instance, it aims to particularly conserve HCS and secondary forests as well as peatlands (Greenpeace International, 2013). For this purpose, POIG uses indicators for the implementation of a no-deforestation methodology called “High Carbon Stock Approach”, including third party verification (Pirard et al, 2015). In this regard, POIG can function as an example for the RSPO.

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