

December 2019

Seeing the Forest for the Trees: Public and Private Law Tools for Halting Deforestation

Harriette I. Resnick

Follow this and additional works at: <https://digitalcommons.pace.edu/pelr>



Part of the [Energy and Utilities Law Commons](#), [Environmental Law Commons](#), [International Law Commons](#), and the [Natural Resources Law Commons](#)

Recommended Citation

Harriette I. Resnick, *Seeing the Forest for the Trees: Public and Private Law Tools for Halting Deforestation*, 37 Pace Env'tl. L. Rev. 1 (2019)

DOI: <https://doi.org/10.58948/0738-6206.1832>

Available at: <https://digitalcommons.pace.edu/pelr/vol37/iss1/1>

This Article is brought to you for free and open access by the School of Law at DigitalCommons@Pace. It has been accepted for inclusion in Pace Environmental Law Review by an authorized administrator of DigitalCommons@Pace. For more information, please contact dheller2@law.pace.edu.

ARTICLE

Seeing the Forest for the Trees: Public and Private Law Tools for Halting Deforestation

HARRIETTE I. RESNICK*

TABLE OF CONTENTS

I.	<i>Introduction</i>	2
II.	<i>What is Deforestation and why does it matter?</i>	6
III.	<i>Palm Oil and Deforestation in Indonesia</i>	11
IV.	<i>Addressing Deforestation: The Legal Landscape</i>	20
A.	<i>Public Law Mechanisms</i>	22
B.	<i>Private Law Mechanisms</i>	31
1.	<i>Corporate Actions</i>	34
2.	<i>Certification Authorities for Palm Oil</i>	42
V.	<i>Challenges and Opportunities</i>	50
A.	<i>Resolving Inconsistency and Conflicts with Indonesian Law</i>	52
B.	<i>Transparency & Traceability</i>	56
C.	<i>Smallholder Farmers and Local Communities</i>	59
VI.	<i>Conclusion: The Future of Forests: 2020 and Beyond</i>	62

* B.A., Brandeis University; J.D., University of Pennsylvania Law School; LLM, Pace University School of Law; Co-chair of the International Chamber of Commerce Banking Commission's Working Group on Sustainable Trade Finance; served as Managing Director and Associate General Counsel at a major international bank. At the Elisabeth Haub School of Law at Pace University, I wish to thank Professor Jason Czarnezki (Gilbert and Sarah Kerlin Distinguished Professor of Environmental Law, Associate Dean of Environmental Law Programs and Strategic Initiatives) for his guidance on this Article, and express my appreciation for the Environmental Law program. To my family, thank you for your encouragement, love and cheerful endurance.

I. INTRODUCTION

The aerial images are compelling: a transformed landscape littered with fallen trees, or charred from fires set to clear the land. Terraced patterns, created by roads, surround interspersed, regularly spaced plantings. A sharp demarcation divides this bare terrain from what remains of the tropical forest, extending far into the distance. This is what “deforestation” looks like in Riau and Papua, Indonesia¹, Borneo, and other regions where oil palm plantations have supplanted huge areas of primal forests.²

There are many other instances occurring across Southeast Asia, Latin America, and Africa of tropical forest conversion resulting from the growing demand for valuable “soft” commodities such as palm oil, timber, cattle, and soybeans. The transition of land use from forest to commercial-scale agriculture has been a major cause of the widespread loss of these critical natural resources. This systemic modification of forest landscapes has had a significant adverse impact on the ecological systems and biodiversity of the regions, and has created social conflict. In addition to causing pollution locally and across national borders, destruction of forests contributes to global climate change. After trees are razed or peatlands are burned, the carbon that had been sequestered in those natural ecosystems is released into the atmosphere as greenhouse gas (“GHG”) emissions. Why have these destructive practices proven so intractable? To address this question, this Article examines the drivers and impacts of deforestation, the overlapping private and public systems of governance developed to combat it, and the challenges to their effectiveness. To understand these overlapping efforts in a specific context, this Article focuses on palm oil, one of the principal

1. Justin Gillis, *Companies Take the Baton in Climate Change Efforts*, N.Y. TIMES (Sept. 23, 2014), <https://www.nytimes.com/2014/09/24/business/energy-environment/passing-the-baton-in-climate-change-efforts.html?login=email&auth=login-email> [https://perma.cc/9XKP-MUEZ]; Diana Ruiz, *Palm Oil Commitments Broken: Global Brands Linked to Massive Deforestation*, GREENPEACE (May 3, 2018), <https://www.greenpeace.org/usa/palm-oil-commitments-broken-global-brands-linked-massive-deforestation/> [https://perma.cc/2W3T-RWNG].

2. See EDWARD BURTYNSKY ET AL., ANTHROPOCENE 63, 71–73 (2018). Borneo is divided between Indonesia and Malaysia. While these photographs do not specify which portion of Borneo is depicted, massive deforestation to clear land for palm plantations has occurred in both geographical areas.

commodities linked to forest loss, and examines its effects in Indonesia, where the causal linkage between expanded demand for palm oil, conversion of forest areas to palm plantations, and the country's GHG emissions has been particularly pronounced. This Article argues that an uncoordinated mosaic of multilateral, national, and corporate efforts has failed to prevent the adverse environmental and social results of expanding agricultural commodity production in Indonesia, as well as other tropical forest countries, largely because of conflicting economic and environmental objectives.

Private legal systems to combat deforestation have been developed with the participation of commercial parties in agricultural supply chains, to compensate for ineffective public regulation and enforcement. Palm oil supply chains encompass a diverse set of actors, ranging from growers, refiners, traders, and manufacturers of products using palm oil or other commodities as an ingredient, to retailers of those products. Environmental advocacy groups, financial institutions, and downstream buyers have reacted to the severe environmental, social, economic, and political consequences of unsustainable production practices by demanding solutions from these actors. Ratcheting up the pressure to act, these demands have been coupled with naming and shaming campaigns, investor divestment, and external scrutiny of direct or indirect responsibility for deforestation. As a result, voluntary corporate "no deforestation" commitments have become more common. In addition, private certification bodies have been established to validate the sustainability of supply chain actors' practices, in order to meet procurement standards, conditions to financing, or eligibility requirements under renewable energy regulations. While over time these private law systems have adopted stricter controls, the measures have been insufficient on their own to stop the loss of forest resources.

Concurrently, pressure to adopt moratoria for preservation of forested land and to improve enforcement of existing legal restrictions is being exerted on exporting country governments by other states. At the same time, tropical forest countries' national commitments under the United Nations member states' Paris

Agreement³ have acknowledged the need to limit GHG emissions through controlling deforestation. Although control over land use and development of natural resources is recognized under principles of international law as a sovereign right,⁴ the adverse transboundary direct and indirect impacts of forest conversion have created conflicts with neighboring and distant countries.

In the case of Indonesia, this conflict includes threats to leave the Paris Agreement, and to impose retaliatory trade restrictions⁵ in reaction to the European Union's ("EU") recently announced restrictions on biofuels ("EU Biofuel Delegated Act"). These restrictions, contained in a Commission Delegated Regulation effective March 13, 2019, implement the EU's December 2018 revised Renewable Energy Directive (known as "RED II")⁶ by imposing national limits on the amount of unsustainably produced biofuel that is eligible to count towards member states' renewable energy targets, gradually reducing this amount to zero by 2030.⁷ Under the criteria established by the EU Biofuel Delegated Act, if the production area of the biofuel crop has significantly expanded into carbon-rich areas such as forests, peatlands, or wetlands it is categorized as "High ILUC (Indirect Land Use Change) Risk

3. See U.N. Framework Convention on Climate Change, *Adoption of the Paris Agreement*, U.N. Doc. FCCC/CP/2015/L.9/Rev. (Dec. 12, 2015) [hereinafter *Paris Agreement*].

4. For example, the 1992 Rio Declaration on Environment and Development, Principle 2: recognizing a State's "sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, ¶2, U.N. Doc. A/CONF.151/26 (Vol. I), annex I (Aug. 12, 1992).

5. See Hans Nicholas Jong, *Indonesia's Threat to Exit Paris Accord Over Palm Oil Seen as Cynical Ploy*, MONGABAY (Apr. 11, 2019), <https://news.mongabay.com/2019/04/indonesias-threat-to-exit-paris-accord-over-palm-oil-seen-as-cynical-ploy/> [https://perma.cc/EKH8-5AK3]; Reuters, *Indonesia Threatens to Quit Paris Climate Deal Over Palm Oil*, THOMSON REUTERS FOUND. NEWS (Mar. 27, 2019), <http://news.trust.org/item/20190327111002-yil0f> [https://perma.cc/4KEA-AUFT].

6. European Commission Press Release MEMO/19/1656, Fact Sheet-Sustainability criteria for biofuels specified (Mar. 13, 2019), https://ec.europa.eu/commission/presscorner/detail/en/MEMO_19_1656 [https://perma.cc/AWD6-M9YZ] [hereinafter *Press Release MEMO/19/1656*].

7. Commission Regulation (EU) 2019/807 of Mar. 13, 2019, Supplementing Directive of the European Parliament and of the Council, 2019 O.J. (L 133) 1, 2.

Fuel.”⁸ Palm oil is currently the only biofuel source within the High ILUC Risk category.⁹

Despite pressure on private and public actors, and some hints of progress bolstered by technology, success in halting deforestation has been elusive given the complex set of factors influencing this sector. Without effective coordination between the public and private legal systems, the “gold rush” arising from increasing global demand for palm oil will continue to drive expansion of production and resulting land use conversion at the expense of forest landscapes.¹⁰

After defining key terms, this Article begins in Part II with a summary of the important contributions of forest resources, and the environmental and social impacts of their conversion to other land uses. Part III then examines the forces that have caused deforestation, focusing on the palm oil supply chain originating in Indonesia as a case study. This example of expanded development at the expense of tropical forests reveals drivers that have also shaped other regions’ experiences with key agricultural commodities.

Part IV outlines the public and private law principles and approaches that have emerged in response to these developments, as well as the challenges encountered that continue to frustrate meaningful progress. It also considers where the availability and exercise of leverage over the various public and private actors has influenced the evolution of this legal landscape.

Finally, Part V reviews emerging trends affecting the Indonesian palm oil sector that could potentially contribute to a better outcome. This Article concludes by exploring how greater

8. *Press Release MEMO/19/1656*, *supra* note 6 (describing High ILUC risk fuels as those produced with feed crops from high carbon stock areas such as forests, wetlands, and peatlands and the cumulative test used to identify these fuels).

9. *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Status of Production Expansion of Relevant Food and Feed Crops Worldwide*, at 19, COM (2019) 142 final (Mar. 13, 2019) (concluding that of the nine biofuel feedstocks sources, palm oil qualifies as the only high ILUC-risk feedstock because of the level of GHG emissions associated with its production area) [hereinafter *EC Biofuel Report*].

10. Suzanna Dayne, *Oil Palm Landscapes: Indonesia’s Game of Palms*, FORESTS NEWS (Feb. 28, 2019), <https://forestsnews.cifor.org/54814/oil-palm-landscapes-indonesias-game-palms?fnl=en> [https://perma.cc/H2Y3-K9FS].

synergies between public and private legal initiatives to avoid deforestation could more effectively preserve these critical resources, if such efforts are not derailed by economic and political interests. Lessons derived from this ground-level view of palm oil's expansion in Indonesia, including the need for more uniform governance approaches to controlling deforestation, can be applied more broadly to other regions and other agricultural commodities, so that vulnerable forest landscapes can be preserved for the future.

II. WHAT IS DEFORESTATION AND WHY DOES IT MATTER?

Before turning to an examination of the important environmental benefits of forest resources, and the consequences of their loss, a first step is to define the term "Deforestation." This term has been defined in various ways, such as "when forests are converted to non-forest uses, such as agriculture and road construction,"¹¹ "the direct human-induced conversion of forested land to non-forested land,"¹² and "the conversion of forest to other land use independently whether human-induced or not."¹³ Unlike "Deforestation," the related concept of "Forest Degradation" occurs, even without such conversion of land use, "when forest ecosystems lose their capacity to provide important goods and services to people and nature."¹⁴ To address concerns about a misalignment in forest-related definitions and a lack of guidance as to their application, the Accountability Framework initiative

11. International Union for Conservation of Nature, Issues Brief: Deforestation and Forest Degradation (Nov. 2017), https://www.iucn.org/sites/dev/files/deforestation-forest_degradation_issues_brief_final.pdf [https://perma.cc/8MGC-HXXJ] [hereinafter Deforestation and Forest Degradation].

12. U.N. Framework Convention on Climate Change, *Rep. of the Conf. of the Parties on its Seventh Session, Held at Marrakesh from 29 October to 10 November 2001*, U.N. Doc. FCCC/CP/2001/13/Add.1, 11/CP.7 at 58 (2001).

13. *Global Forest Resource Assessment 2020: Terms and Definitions* 6 (Food and Agriculture Organization of the United Nations, Working Paper No. 188, 2018), <http://www.fao.org/3/I8661EN/i8661en.pdf> [https://perma.cc/H2JE-8NLU].

14. Deforestation and Forest Degradation, *supra* note 11.

(“AF”),¹⁵ which has formulated best practices for establishing, implementing, monitoring, and reporting on corporate pledges for sustainable agricultural and forestry supply chains, has consolidated these concepts. AF defines “Deforestation” as the following: a “[l]oss of natural forest as a result of: i) conversion to agriculture or other non-forest land use; ii) conversion to a tree plantation; or iii) severe and sustained degradation.”¹⁶ This definition encompasses forest loss even where permitted under applicable law—for example, through the issuance of licenses or concessions for the purpose of conversion to plantations. AF’s definition also does not count new plantings, which do not fully compensate for loss of carbon storage or biodiversity habitat, as an offset against destruction of primary forests unless they have regenerated to the point where the forest ecosystem “has attained species composition, structure, and ecological function similar to prior or other contemporary natural ecosystems.”¹⁷ Given the initiative’s focus on the adequacy of private and public law responses to deforestation, this Article will utilize AF’s comprehensive definition.

Threats to forest resources have been the focus of ongoing international attention. The New York Declaration on Forests, a non-binding statement of principles that was adopted at the United Nation’s (“UN”) Climate Summit in September 2014 (“New York Declaration”)¹⁸ highlighted their significance:

15. *About the Accountability Framework Initiative*, ACCOUNTABILITY FRAMEWORK, <https://accountability-framework.org/the-initiative/> [https://perma.cc/5TGL-KAMD] [hereinafter *Accountability Framework*].

16. ACCOUNTABILITY FRAMEWORK, TERMS AND DEFINITIONS 3 (June 2019), <https://accountability-framework.org/wp-content/uploads/2019/07/Definitions.pdf> [https://perma.cc/Z5S8-L9Y6] (explaining that this definition pertains to a no-deforestation supply chain commitment which focuses on preventing the conversion of natural forests).

17. *Id.* at 5.

18. U.N. Climate Summit, *New York Declaration on Forests: Declaration and Action Agenda* (Sept. 3, 2014), https://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Forests/New%20York%20Declaration%20on%20Forests_DAA.pdf [https://perma.cc/PUZ7-2492] [hereinafter *New York Declaration on Forests*] (describing that the Declaration has been endorsed by national and subnational governments as well as companies involved at all levels of agricultural commodity supply chains, financial institutions, not-for-profit entities, and indigenous peoples’ organizations).

Forests are essential to our future. More than 1.6 billion people depend on them for food, water, fuel, medicines, traditional cultures and livelihoods. Forests also support up to 80% of terrestrial biodiversity and play a vital role in safeguarding the climate by naturally sequestering carbon. Yet, each year an average of 13 million hectares [or 32 million acres] of forest disappear, often with devastating impacts on communities and indigenous peoples. The conversion of forests for the production of commodities—such as soy, palm oil, beef and paper—accounts for roughly half of global deforestation.¹⁹

The Declaration targeted 2020 as the timeframe for eliminating deforestation caused by production of agricultural commodities, as well as 50% of deforestation from other causes, followed by total elimination globally by 2030.²⁰

Similarly, one of the objectives of the UN's Sustainable Development Goals ("SDGs") adopted by member states in 2015²¹ is stated in Target 15.2: "[b]y 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally."²² More recently, a Declaration on Forests for the Climate ("Katowice Declaration") was issued by UN member states recognizing that forests, which act as carbon sinks and reservoirs of GHGs, are essential for achieving the Paris Agreement goal of limiting global warming.²³ Citing the Intergovernmental Panel on Climate Change ("IPCC") Special Report on the impacts of additional warming of 1.5°C ("IPCC Special Report"), which identifies land use management as a

19. *Id.*

20. *Id.*

21. G.A. Res. 70/1, Transforming Our World: the 2030 Agenda for Sustainable Development (Oct. 21, 2015) (setting forth the SDGs, including Goal 15 to "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.").

22. *Id.* at 24.

23. U.N. Climate Change Conference, *The Ministerial Katowice Declaration on Forests for the Climate* (Dec. 2018), https://cop24.gov.pl/fileadmin/user_upload/Ministerial_Katowice_Declaration_on_Forests_for_Climate_OFFICIAL_ENG.pdf [<https://perma.cc/U3B4-MQB3>] (referencing the 24th Conference of the Parties under the United Nations Framework Convention on Climate Change held in Katowice, Poland from December 2–14, 2018) [hereinafter *Katowice Declaration*].

critical method for carbon sequestration,²⁴ the Katowice Declaration acknowledged:

[T]he need for reducing emissions from deforestation and forest degradation, and forest conservation, sustainable management of forests, enhancement of forest carbon stocks, as well as alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests, while addressing and respecting social and environmental safeguards and objectives.²⁵

Other international initiatives preceded these most recent calls for action, without a record of success. Pursuant to the UN Framework Convention on Climate Change (“UNFCCC”), the REDD+ program (which stands for “reducing emissions from deforestation and forest degradation, *plus* the sustainable management of forests and the conservation and enhancement of forest carbon stocks”²⁶) was established by the UNFCCC in 2011.²⁷ This voluntary program proposes five climate change mitigation actions for developing countries to take in their forest sector, including the reduction of emissions from deforestation and forest degradation, the conservation and sustainable management of forests and enhancement of their carbon stocks.²⁸ Such actions are to be taken by developing countries “in accordance with their respective capabilities and national circumstances” and to be monitored and reported by them “in the context of the provision of

24. See Intergovernmental Panel on Climate Change [IPCC], Global Warming of 1.5C, 16–17 (2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf [<https://perma.cc/WQC2-BZMJ>].

25. *Katowice Declaration*, *supra* note 23, at 2 (also emphasizing that forests provide additional important benefits including species habitat and biodiversity, as well as essential ecosystem services).

26. *What is REDD+*, FOOD & AGRIC. ORG. OF THE U.N., <http://www.fao.org/sustainable-forest-management/toolbox/modules/redd/basic-knowledge/en/> [<https://perma.cc/SBU5-WRBY>].

27. This was an outcome of the Cancun Agreements. U.N. Framework Convention Climate Change, *Rep. of the Conf. of the Parties of its Sixteenth Session, held in Cancun from 29 November to 10 December 2010*, U.N. Doc. FCCC/CP/2010/7/Add.1 (2011).

28. *Id.* at 12.

adequate and predictable support, including financial resources and technical and technological support”²⁹

Multiple environmental and social concerns, and a worsening trajectory, have led to these repeated multilateral acknowledgments of the need for action to preserve forest resources, particularly in tropical regions:

Between 2000 and 2012, commercial agriculture accounted for an estimated 71% of global tropical deforestation, while illegal agro-conversion was responsible for 24% of tropical forest loss. The links between commercial agriculture and deforestation are especially pronounced in Brazil and Indonesia, which collectively accounted for 38% of tropical deforestation in 2014. Over the same time period, an estimated 90% of forest loss in Brazil was caused by commercial agriculture, primarily by conversion for beef and soy, while in Indonesia, an estimated 80% of forest loss was due to commercial agriculture, driven primarily by oil palm and pulp plantation expansion.³⁰

A sobering 2019 progress assessment on the New York Declaration’s “Action Agenda” found that its goal to halve natural forest loss globally by 2020 will not be met.³¹ In fact, global trends are worsening; since 2014, there has been a 44% increase in the annual rate of loss of tropical primary forests compared to the baseline period of 2002-13, and annual average GHG emissions from tropical forest loss exceed pre-2014 levels by 57%.³² This loss of forest cover can have drastic consequences in the context of climate change. The IPCC Special Report emphasized that minimizing deforestation will be necessary to limit the impacts of

29. *Id.*

30. BRIAN SCHAAP ET AL., COLLABORATION TOWARD ZERO DEFORESTATION: ALIGNING CORPORATE AND NATIONAL COMMITMENTS IN BRAZIL AND INDONESIA 10–11 (2017), https://www.forest-trends.org/wp-content/uploads/2017/09/doc_5617.pdf [<https://perma.cc/B8A4-3MMG>].

31. See INGRID SCHULTE ET AL., PROTECTING AND RESTORING FORESTS: A STORY OF LARGE COMMITMENTS YET LIMITED PROGRESS 26–27 (Climate Focus ed., 2019), <https://forestdeclaration.org/images/uploads/resource/2019NYDFReport.pdf> [<https://perma.cc/GUG4-ADED>]; see also PROGRESS ON THE NEW YORK DECLARATION ON FORESTS: GOAL 1 ASSESSMENT 1 (2019), <https://forestdeclaration.org/images/uploads/resource/2019NYDFGoal1.pdf> [<https://perma.cc/F76S-2HJN>] [hereinafter PROGRESS ON THE NEW YORK DECLARATION].

32. SCHULTE ET AL., *supra* note 31, at 28–29.

global warming, and the IPCC's August, 2019 Special Report on Climate Change and Land affirmed with high confidence that reducing deforestation lowers GHG emissions.³³ While intact forests function as carbon sinks, destruction of these natural resources results in added emissions of carbon and methane, powerful GHGs. As stated in the International Union for Conservation of Nature's ("IUCN") recent study of oil palm plantations as a cause of deforestation:

Particularly large amounts [of carbon dioxide] are released when peat soils are drained during the land clearing and preparation phase, leading to decomposition or burning. Though palm oil plantations can maintain high rates of carbon uptake and their oil can potentially replace fossil fuels [as biofuel], it would take decades, to compensate for the carbon released when forests are cleared and peatlands drained.³⁴

Having described the impacts of deforestation from a global perspective, this Article will next examine palm oil production in Indonesia and its economic, environmental, and social consequences.

III. PALM OIL AND DEFORESTATION IN INDONESIA

Indonesia is one of the largest producers and exporters of palm oil, with planted areas representing approximately one-third of the world's industrial scale plantations.³⁵ In Indonesia, the bulk of palm oil growers have been located on a few islands, in Sumatra

33. Intergovernmental Panel on Climate Change [IPCC], Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems, at 24–25 (Aug. 7, 2019), https://www.ipcc.ch/site/assets/uploads/2019/08/Edited-SPM_Approved_Microsite_FINAL.pdf [<https://perma.cc/3AFJ-BQDV>]; see also *Katowice Declaration*, *supra* note 23 (noting the important role of forests as GHG sinks).

34. E. Meijaard et al., *Oil Palm and Biodiversity, A Situation Analysis by the IUCN Palm Task Force*, INT'L UNION FOR CONSERVATION OF NATURE [IUCN], at 31 (2018), <https://portals.iucn.org/library/node/47753> [<https://perma.cc/88ZT-7WMX>].

35. *Id.* at 6 (noting that Indonesia and Malaysia occupy approximately 32% of palm oil growth).

(Riau and Jambi provinces), various provinces in Kalimantan (also known as Indonesian Borneo), and more recently, Papua.³⁶ The evolution of the palm oil sector in Indonesia illustrates how a complex set of interacting factors have influenced the expansion of a key agricultural commodity at the expense of forests. These factors include an increase in demand for palm oil exports, its international market price, and national factors such as population growth, local demand, government policies and enforcement, and economic needs.³⁷

Palm oil is used in a variety of products, ranging from food to personal care, and is used for cooking as well as biofuel. It is included in approximately half of all packaged supermarket foods and it accounts for 65% of all internationally traded vegetable oil.³⁸ While the largest producing countries are Indonesia and Malaysia, palm oil production has expanded into West Africa and Central and South America. Furthermore, forty-two thousand metric tons of palm oil are exported annually to more than seventy countries.³⁹ The majority of palm oil produced is exported to India, the EU countries, China, Japan, Pakistan, and the US.⁴⁰ The European Commission has reported that in 2014 the energy sector used 60% of the palm oil imports, with 46% allocated to fuel for transport and 15% to power and heat generation.⁴¹ The EU's concern about the

36. See *id.* at 54, 62; see also C.L. Illsley, *Where Are Indonesia's Palm Oil Plantations Located?* WORLD ATLAS (Aug. 28, 2018), <https://www.worldatlas.com/articles/where-are-indonesia-s-palm-oil-plantations-located.html> [<https://perma.cc/75CY-WVJP>]; see also STATISTICS INDONESIA (BPS), *INDONESIAN PALM OIL GROWERS AND SMALLHOLDERS, PALM OIL PLANTATION AREA IN INDONESIA* (2015), <https://www.arcgis.com/apps/MapSeries/index.html?appid=92fa3e0af2c148d68f276cf3ca63b1fb> [<https://perma.cc/UB4Y-PPB9>] [hereinafter STATISTICS INDONESIA].

37. GABRIELLE KISSINGER ET AL., *DRIVERS OF DEFORESTATION AND FOREST DEGRADATION: A SYNTHESIS REPORT FOR REDD+ POLICYMAKERS 5* (Lexeme Consulting ed., 2012), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/65505/6316-drivers-deforestation-report.pdf [<https://perma.cc/WSY8-R7RF>].

38. *Facts about Palm Oil*, IUCN OIL PALM TASK FORCE, <https://www.iucn-optf.org/facts-about-palm-oil> [<https://perma.cc/Q398-D7FA>] [hereinafter *Facts about Palm Oil*].

39. *Id.*

40. Meijaard et al., *supra* note 34, at 11.

41. European Parliament Resolution of 4 April, 2017 on Palm Oil and Deforestation of Rainforests, 2018 O.J. (C 298) 2, V [hereinafter European Parliament Resolution].

significant forest loss historically associated with this commodity led it to take steps to limit the indirect land use change (and resulting GHG emissions and biodiversity destruction) caused by its demand for biofuel, as one element of a broader strategy to protect the world's forests and encourage deforestation-free supply chains.⁴²

With regard to the palm oil supply chain, the process starts with fresh fruit bunches ("FFBs") harvested from oil palm trees, a labor-intensive process.⁴³ Growers range from industrial plantations, with thousands of hectares planted, to medium-scale operations and smallholder farms of less than 25 hectares, which are typically run as family farms.⁴⁴ Some of these small and medium-size growers are independent while others sell their FFBs to larger growers, from land that they own or that may belong to the purchasing companies.⁴⁵ After harvesting, the FFBs are transported to mills that produce crude palm oil, which are often owned by and located near the large plantations.⁴⁶ The mills generate crude palm oil and kernel oil, which is then purchased by traders who sell the commodity to refineries in national and international markets.⁴⁷ The refined product may be incorporated into manufactured products, and then distributed to retailers that sell these packaged goods to consumers, or used as biofuel.⁴⁸ Palm oil coming from a variety of sources and produced under different environmental and social conditions may be processed and

42. European Commission Press Release QANDA/19/4471, Questions and Answers - Communication on Forests (July 23, 2019), https://ec.europa.eu/commission/presscorner/detail/en/QANDA_19_4471 [<https://perma.cc/F8KY-YT79>].

43. Meijaard et. al, *supra* note 34, at 8.

44. *Id.* at 12–13.

45. *Id.* at 12–14.

46. *Id.* at 8; see Pablo Pacheco et al., *The Palm Oil Global Value Chain: Implications for Economic Growth and Social and Environmental Sustainability* 15 (Ctr. for Int'l Forestry Research, Working Paper No. 220, 2017), http://www.cifor.org/publications/pdf_files/WPapers/WP220Pacheco.pdf [<https://perma.cc/ETW8-KSR2>]; see also Sarah Lake & Octavia Payne, *Companies Can Now Spot Deforestation in their Palm Oil Supply Chains Before it Happens*, GLOBAL FOREST WATCH (June 8, 2016), <https://blog.globalforestwatch.org/commodities/companies-can-now-spot-deforestation-in-their-palm-oil-supply-chains-before-it-happens> [<https://perma.cc/N4DL-HWWE>].

47. Pacheco et. al, *supra* note 46, at 13.

48. Meijaard et al., *supra* note 34, at 8, 10 (providing also a graphic depiction of the palm oil supply chain).

commingled at the same mill or refinery, or combined when shipped, thereby adding to the difficulties of tracing the origin and sustainability of practices at various levels of the palm oil supply chain.⁴⁹

Palm oil is an important element of Indonesia's economic development strategy, creating tensions with forest conservation objectives and policies:

By 2045, Indonesia aspires to produce an estimated 60 million tonnes of Crude Palm Oil (CPO) annually In Indonesia, which currently supplies 61 percent (36 million tonnes) of the world's palm oil, the rush to grow it poses grave dangers for the country's forests and peat lands, which are being cleared for plantations Indonesian oil palm plantations are already being highly scrutinized by the global market and criticized for their unsustainable agricultural practices. In response, the government has pledged to . . . make 70 percent of palm oil sustainable by 2020 . . . [through policies] including zero-deforestation and oil palm permit moratoria. Such actions, however, may have the effect of decreasing palm oil production.⁵⁰

A significant downside of this valuable commodity has been its adverse climate impact. While deforestation and forest degradation are estimated to account for 10-11% of total global GHG emissions,⁵¹ Indonesia itself has been responsible for the highest amount of GHG emissions from forest sources (with Brazil a close second).⁵² Indonesia also has been the largest emitter of

49. See *infra*, Part V.B; see Eric F. Lambin et al., *The Role of Supply-Chain Initiatives in Reducing Deforestation*, 8 NATURE CLIMATE CHANGE 109, 114 (2018); see also Pacheco et al., *supra* note 46, at 13 (noting that uptake of palm oil is highly fragmented).

50. Shofia Saleh et al., *Intensification by Smallholder Farmers is Key to Achieving Indonesia's Palm Oil Targets*, WORLD RESOURCES INSTITUTE (Apr. 17, 2018), <https://www.wri.org/blog/2018/04/intensification-smallholder-farmers-key-achieving-indonesia-s-palm-oil-targets> [<https://perma.cc/MJ29-WR8Y>].

51. Salome Begeladze, *How Do We Improve the Sustainability of Food Production Systems Without Clearing More Forests and Depleting Ecosystems?*, IUCN (Oct. 21, 2016), <https://www.iucn.org/news/forests/201610/how-do-we-improve-sustainability-food-production-systems-without-clearing-more-forests-and-depleting-ecosystems> [<https://perma.cc/A6QV-5HF9>].

52. Blanca Bernal et al., *Global Forest GHG Emissions Database and Global FLR CO2 Removals Database Findings and Discussion*, IUCN (2017), https://infoflr.org/sites/default/files/2017-10/global_emissions_and_removals_databases_summary.pdf [<https://perma.cc/2SV9-9CAF>].

GHG emissions worldwide from the Land Use, Land Use Change, and Forestry (“LULUCF”) sector, and was responsible for over half of the total emissions from this category in 2014.⁵³ Since the 1990’s, a major source of these emissions has been the widespread and deliberate burning of peatlands, at times causing emissions in the region exceeding those from industry sources in China or the United States.⁵⁴ The European Commission Biofuel Report, which sets forth the rationale for the EU Biofuel Delegated Act’s sustainability criteria, reflected that during the period 2008 through 2015, the percentage of global palm oil expansion into forest attributed to Indonesia averaged at 67% nationally, and in Indonesian Borneo, at 77%.⁵⁵ In addition, it states that palm was the only biofuel feedstock with significant expansion into peatlands.⁵⁶ Globally, palm oil caused the highest rate of carbon-rich forest destruction over this period, with Indonesia’s palm oil production responsible for the most forest loss, and Malaysia, the second largest producer, in second place.⁵⁷

In its Nationally Determined Contribution (“NDC”) document submitted under the Paris Agreement detailing planned national actions to mitigate and adapt to climate change, Indonesia acknowledged the need to reduce its substantial carbon footprint. As such, it committed to reduce GHG emissions to 26% below

53. SCHAAP ET AL., *supra* note 30, at 23–24.

54. Nicolas A. Robinson, *For Peat’s Sake: Environmental Law Among the Bogs*, in PROTECTING FOREST AND MARINE BIODIVERSITY: THE ROLE OF LAW 53, 56–57 (Ed Couzens et al., eds., Edward Elgar Publ’g, 2017); *see also* Andres Chamorro et al., *Exploring Indonesia’s Long and Complicated History of Forest Fires*, WORLD RESOURCES INSTITUTE (Feb. 16, 2017), <https://www.wri.org/blog/2017/02/exploring-indonesias-long-and-complicated-history-forest-fires> [<https://perma.cc/US2K-B4E2>] (concluding after a review of the history of Indonesia’s forest and peat fires that most have been human-induced).

55. *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on the Status of Production Expansion of Relevant Food and Feed Crops Worldwide*, annexes, at 4, COM (2019) 142 final (Mar. 13, 2019) [hereinafter *Annexes to EC Biofuel Report*].

56. *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on the Status of Production Expansion of Relevant Food and Feed Crops Worldwide*, cover note, at 10–11, COM (2019) 142 final (Mar. 15, 2019) [hereinafter *Cover Note to EC Biofuel Report*].

57. *Id.* at 8; *Annexes to EC Biofuel Report*, *supra* note 55, at 4–6.

Business as Usual (“BAU”) emissions levels⁵⁸ by the year 2020, and 29% below such levels by 2030.⁵⁹ Further reductions, to 41% below BAU by 2030, are contingent upon receipt of international support in the form of finance, technology transfer and development, and capacity building.⁶⁰ Emissions from land use change (including deforestation for agriculture as well as peatland and forest fires) account for 63% of the country’s emissions profile.⁶¹ In its May, 2019 Emissions Reduction Program Document (“ERPD”) submitted under the REDD+ Program, the Indonesian government recognized that palm oil production has been a major contributor to these emissions.⁶²

Putting these figures in perspective, out of six major tropical forest countries, the Rainforest Foundation of Norway concluded that only Indonesia’s NDC provides for deforestation to be reduced from current levels.⁶³ However, the resulting forest loss would still be significant, given the NDC emissions reduction target for the forestry sector of 217 million tons of carbon dioxide by 2030 (or as low as 64 million tonnes subject to receipt of international financial

58. REPUBLIC OF INDONESIA, FIRST NATIONALLY DETERMINED CONTRIBUTION 1–2, 7–8 (2016), https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/First%20NDC%20Indonesia_submitted%20to%20UNFCCC%20Set_November%20202016.pdf [<https://perma.cc/22EH-MP7Y>] [hereinafter INDONESIA NDC] (using projections from 2010 emission levels as the baseline for emissions reduction).

59. *Id.* at 7.

60. *Id.*

61. *Id.* at 2.

62. See Forest Carbon Partnership Facility (FCPF) Carbon Fund, *Emission Reductions Program Document for East Kalimantan Jurisdictional Emission Reductions Program, Indonesia*, at 63 (2019), https://www.forestcarbonpartnership.org/system/files/documents/ERPDIndonesia%20FINAL%20VERSION_MAY_2019.pdf [<https://perma.cc/NW5N-VV45>] (noting that Indonesia’s palm oil sector has been criticized for being a leading contributor to GHG emissions) [hereinafter *ERPDI*].

63. Rainforest Alliance Norway, *Approaching the Point of No Return-Progression towards saving the world’s last remaining tropical forests through enhanced ambition in the Nationally Determined Contributions*, at 4 (2018), https://d516is0eze552.cloudfront.net/documents/Publikasjoner/Andrerapporter/R_F_Point_of_no_return_1218_web.pdf?mtime=20181203131631 [<https://perma.cc/AF8C-N9SX>] [hereinafter *Approaching the Point of No Return*] (The six countries whose NDCs were reviewed are Brazil, Indonesia, The Democratic Republic of the Congo, Peru, Myanmar, and Colombia).

support).⁶⁴ While this would represent a reduction of at least 66% from 2010 levels, “[it] still means that 3.25 million hectares of forest, the size of Belgium, will be deforested by 2030 even when reaching the NDC target.”⁶⁵

Tropical forest conversion to oil palm plantations has also been responsible for reducing the country’s biodiversity, impairing ecological services, and causing air and water pollution due to forest clearing and peat bog fires. The principal impact on wildlife has been habitat loss after forest clearing and burning. However, once the more diverse forest landscapes are replaced with palm plantations, species diversity also suffers significantly.⁶⁶ Orangutans, gibbons, tigers, and other forest species have been particularly vulnerable.⁶⁷ Clearing for pulp and paper plantations, fire-induced deforestation, small-scale agriculture, and hunting has also played a role.⁶⁸ While globally palm oil production is affecting at least 193 threatened species,⁶⁹ the IUCN has concluded that “[o]ver the last four decades, species have slid towards extinction twice as fast in Indonesia as in any other country, at least in part as a result of forest conversion for oil palm production.”⁷⁰

Air pollution from uncontrolled peat fires and the use of fire for land clearing has extended well beyond Indonesia’s borders, causing international outcry. Rampant fires in Indonesia’s regions of palm oil and timber production have been responsible for destroying huge areas of forest and burning peatlands.⁷¹ These fires caused a health crisis by generating hazardous smog that cloaked skies as far as Singapore.⁷² Although the Southeast Asian

64. *Id.*; see INDONESIA NDC, *supra* note 58, at 9.

65. *Approaching the Point of No Return*, *supra* note 63, at 4.

66. Meijaard et al., *supra* note 34, at 19, 24.

67. *Id.* at 24.

68. *Id.* at 27.

69. *Deforestation and Forest Degradation*, *supra* note 11.

70. Meijaard et al., *supra* note 34, at 24.

71. Robinson, *supra* note 54, at 79–80; see also *ERPD*, *supra* note 62, at 52 (discussing the negative attention directed at Indonesia for the severe and large-scale fires in the region).

72. Michael Taylor, *As Fires Burn, Can Indonesia Avoid Repeat of 2015 Haze Crisis*, THOMPSON REUTERS FOUND. NEWS (Aug. 5, 2019), <http://news.trust.org/item/20190805095507-0uj91/> [https://perma.cc/HK6F-ZKP4].

Nations (“ASEAN”) signed a Transboundary Haze Agreement in 2002, Indonesia was the last to ratify it in 2014, in the aftermath of regional protest over the prior year’s raging fires.⁷³ Yet in 2015 alone, exacerbated by the effects of El Niño, an estimated 2.6 million hectares (6.4 million acres) of land burned, and was responsible for over US\$16 billion in property damage and economic loss.⁷⁴

Other drivers of deforestation are linked to local communities. Nationally, while large palm oil estates account for about half of the country’s production of this commodity, a significant 35-40% of production comes from smallholdings.⁷⁵ These farmers face multiple economic constraints which have led them to encroach on forest lands, including pressure from population increase,⁷⁶ a lack of alternative income sources, significantly lower yields than large estates, and limited access to technology and finance.⁷⁷

In addition, commercial-scale production has been associated with unfair land grabs, displacing local populations that may lack ownership rights but historically have had access to forest

73. Robinson, *supra* note 54, at 81 n.126; see *Indonesia Moves to Stop Forest Fire Pollution as Haze Grips Singapore*, GUARDIAN (Sept. 16, 2014), <https://www.theguardian.com/environment/2014/sep/16/indonesia-forest-fire-pollution-haze-singapore-palm-oil> [<https://perma.cc/6Y8N-6NP5>]; see also *Status of Ratification of Transboundary Haze Pollution Agreement*, ASS’N OF SE. ASIAN NATIONS [ASEAN] HAZE ACTION ONLINE, <http://haze.asean.org/status-of-ratification/> [<https://perma.cc/Y66T-QR3R>].

74. SCHAAP, *supra* note 30, at 25–26; Andres Chamorro et al., *supra* note 54; see Matt Osborn, et al., *Indonesia Forest Fires: How the Year’s Worst Environmental Disaster Unfolded – Interactive*, GUARDIAN (Dec. 1, 2015), <https://www.theguardian.com/environment/ng-interactive/2015/dec/01/indonesia-forest-fires-how-the-years-worst-environmental-disaster-unfolded-interactive> [<https://perma.cc/L44Z-GUP3>] (providing an interactive depiction constructed from NASA satellite images showing a disproportionate concentration of fires in areas of Sumatra and Indonesian Borneo devoted to production of palm oil and forest products).

75. See Meijaard et. al., *supra* note 34, at 13 (noting 40%); see also *ERPD*, *supra* note 62, at 63 (noting 35%).

76. *ERPD*, *supra* note 62, at 66, 72; see INDONESIA NDC, *supra* note 58, at 8; see also U.N. Dept. of Econ. and Soc. Affairs, Population Div., World Population Prospects- Data Booklet, at 17 (2019), https://population.un.org/wpp/Publications/Files/WPP2019_DataBooklet.pdf [hereinafter World Population Prospects] [<https://perma.cc/N7RM-RGNM>] (noting that Indonesia is the world’s fourth most populous country, with 271 million people in 2019, and is expected to attain almost 300 million by 2030); see also *id.* at 12 fig. 12 (illustrating population growth projections for 1990-2020 and 2020-2100).

77. *ERPD*, *supra* note 62, at 73.

resources to supplement their incomes.⁷⁸ The Indonesian government has acknowledged that past failures to provide formal land tenure rights have been an impediment to good forest management and have led to conflict with other land users.⁷⁹ In many tropical and subtropical countries, this problem has plagued indigenous peoples and local communities, who manage lands acting as sinks of nearly 300,000 million metric tons of carbon, but often lack formal legal recognition of ownership.⁸⁰

Notwithstanding this litany of environmental damage and social harm, palm oil is a valuable and productive resource that can, if properly managed, provide benefits as a result of its potential for efficient land use. As characterized by the IUCN, the debate over palm oil is not simple:

Many in the conservation community dislike oil palm cultivation because of its negative biodiversity impacts, even though this is a feature of many agricultural commodities . . . the relationship between the two [palm oil and biodiversity] is complicated. A ban on palm oil . . . could have overall negative biodiversity impacts, if . . . demand . . . was . . . satisfied by conversion of biodiverse ecosystems for cultivation of alternatives more land-hungry than oil palm, such as soy. Similarly, yield increases in palm oil could mean that the same amount of oil is produced on less land, thus benefiting biodiversity, but it could also make palm oil even more competitive compared to other crops, increasing palm oil expansion at the expense of other lower yield crops. This would demand stricter control on expansion than currently seems possible.⁸¹

As part of its ERPD submission to the World Bank under the REDD+ program in May 2019, the Indonesian government analyzed the drivers and underlying causes of deforestation and forest degradation in East Kalimantan, Indonesia's third largest

78. *Facts about Palm Oil*, *supra* note 38.

79. *ERP*D, *supra* note 62, at 73.

80. N.Y. DECLARATION ON FORESTS PROGRESS ASSESSMENT, 2018 SUMMARY OF PROGRESS ON THE NEW YORK DECLARATION ON FORESTS 1 (2018), https://forestdeclaration.org/images/uploads/resource/2018_NYDF_Goals1-10_UpdatesSummary.pdf [<https://perma.cc/84GF-KPTT>] [hereinafter 2018 SUMMARY].

81. Meijaard et al., *supra* note 34, at 83.

province, and one of the principal sites of oil palm plantations.⁸² The ERPD cites rapid expansion of the industry due to “growing demand for palm oil as cheap cooking oil especially from China and India, and increasingly as a [source of] biofuel” as drivers of forest conversion.⁸³ After expansion of large oil palm estates on Sumatra has largely exhausted available land, new development is taking place in Kalimantan and Papua.⁸⁴ In East Kalimantan, up to 51% of deforestation occurring between 2006 and 2016 was related to the development of oil palm.⁸⁵ The ERPD acknowledges that further expansion of oil palm is likely to occur at the expense of forests, whether or not conversion is permitted under a government license.⁸⁶

The next section of this Article will focus on the public and private legal developments that have evolved over time in response to the historical failure to manage palm oil’s adverse impacts.

IV. ADDRESSING DEFORESTATION: THE LEGAL LANDSCAPE

In reaction to this unsustainable path of palm oil production, and influence exerted by external forces, separate sets of governance measures have been implemented by governmental and private actors. Although they share a common stated objective—stopping deforestation—these systems have developed different approaches that have, at times, been in conflict. Examining the history of how and why these “public law” and “private law”⁸⁷ mechanisms have formed, and the barriers to their implementation, will help to identify more effective strategies going forward.

82. *ERPD*, *supra* note 62, at 63 (identifying Sumatra and, more recently, Kalimantan and Papua, as the major regions for plantation estate development); *see* STATISTICS INDONESIA, *supra* note 36 (providing details on palm oil plantation area by province for each such region, with the largest located in Sumatra’s Riau province).

83. *ERPD*, *supra* note 62, at 64.

84. *ERPD*, *supra* note 62, at 63.

85. *Id.*

86. *Id.* at 63–64.

87. *See* Michael P. Vandenberg & Ben Raker, *Private Governance and the New Private Advocacy* 45 (Vanderbilt Law Sch. Legal Studies Research Paper Series, Working Paper No. 18-50, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3235445 [<https://perma.cc/RU8M-G2F2>].

The traditional “command and control” approach to prescriptive regulation⁸⁸ has been utilized by the Indonesian government through imposition of a moratorium on the issuance of new permits for the conversion of primary natural forest and peatland to agricultural use.⁸⁹ The government also grants licenses for concessions, creating property rights to develop land for palm oil under specified conditions.⁹⁰ Concurrently, private authorities have been formed, such as the Roundtable for Sustainable Palm Oil (“RSPO”), to establish standards that palm oil growers must meet to qualify for certification as a sustainable producer.⁹¹ These standards include limits on, or prohibition of, forest clearing practices and planting on peatland areas.⁹² Separately, the Indonesian government has established its own set of certification standards under the Indonesia Sustainable Palm Oil scheme.⁹³ Other actors in the supply chain (e.g., traders, manufacturers and retailers) have committed to voluntary standards, with different degrees of specificity and transparency, in order to avoid deforestation in their own operations, as well as to impose restrictions on their suppliers through contractual provisions or procurement standards.⁹⁴

These moratoria, licensing regimes, certification standards, and commitments have each become more stringent, influenced by

88. James Salzman, *Teaching Policy Instrument Choice in Environmental Law: The Five P's*,

23 DUKE ENVTL. L. & POL'Y F. 363, 364–65 (2013) (borrowing a conceptual framework, governance mechanisms can be categorized by reference to the five “Ps” including Prescriptive Regulation, Property Rights, Penalties, Payments, and Persuasion).

89. Pacheco et al., *supra* note 46, at 30.

90. *See id.* at 14 (including a map of oil palm concessions in Indonesia, while highlighting the difficulty of obtaining reliable data on licensees and allocated land); *see also ERPD*, *supra* note 62, at 101 (outlining the licensing regime for forested land and required approvals); SCHAAP ET AL., *supra* note 30, at 26 (citing problematic conditions of the concession regime that conflict with conservation objectives).

91. *See infra* Part IV B.2.; *see also* Michael P. Vandenberg, *Private Environmental Governance*, 99 CORNELL L. REV. 129, 152 (2013) (listing the Roundtable on Sustainable Palm Oil as an example of a formed commodity roundtable for palm oil).

92. *See infra* Part IV B.2.

93. *See infra* Part IV A; *see also* Pacheco et al., *supra* note 46, at 29 (discussing the Indonesian Sustainable Palm Oil standard).

94. *See infra* Part IV B.1.

the exercise of leverage by external stakeholders including non-governmental organizations (“NGOs”), lenders, other countries, and international governance bodies. However, along the way, different objectives and motivations of these public and private actors have limited the reach of these governance mechanisms. Inconsistency and lack of coordination affecting the restrictions applied, the standards of conduct agreed to, and standards for enforcement, have impaired the effectiveness of these overlapping approaches to halting deforestation.

A. Public Law Mechanisms

Despite many attempts to create a comprehensive, legally binding international instrument, the fate of forests has been caught up in political divisions between developing and developed countries.⁹⁵ Developed countries have sought binding commitments to preserve tropical forests, recognizing their critical function as carbon sinks needed to mitigate climate change.⁹⁶ However, tropical forest nations have pushed back, asserting sovereign rights to manage their natural resources and prioritize economic development.⁹⁷ Non-binding declarations and principles have tried to fill this gap in international governance.⁹⁸ Multiple

95. PAMELA S. CHASEK ET AL., *GLOBAL ENVIRONMENTAL POLITICS* 215 (Westview Press, 7th ed. 2017).

96. See, e.g., Constance Haug & Joyeeta Gupta, *Global Forest Governance*, in CLIMATE CHANGE, FORESTS AND REDD, LESSONS FOR INSTITUTIONAL DESIGN 52, 55 (Joyeeta Gupta et al., 2013); see also, William Boyd, *Ways of Seeing Environmental Law: How Deforestation Became an Object of Climate Governance*, 37 *ECOLOGY L. Q.* 843, 865 (2010) (discussing the conflicts arising over trying to develop an international legal instrument for forests).

97. Joyeeta Gupta et al., *supra* note 96, at 55; see 16 *EARTH NEGOTIATIONS BULLETIN*, SUMMARY OF THE FOURTH SESSION OF THE UNITED NATIONS ENVIRONMENT ASSEMBLY 153 (2019), <https://enb.iisd.org/vol16/enb16153e.html> [<https://perma.cc/GU4Q-K3EP>] (noting that at the March 2019 United Nations Environmental Assembly, developing countries objected to the EU’s resolution addressing the linkage between agricultural commodity production and deforestation ‘as a direct attack on their most important commodity exports’); see also Ed Couzens et. al., *Legal Aspects of the Protection of Forest and Marine Biodiversity: Understanding the Context*, in *PROTECTING FOREST AND MARINE BIODIVERSITY: THE ROLE OF LAW* 3, 15–16 (Ed Couzens et al., eds., Edward Elgar Publ’g, 2017).

98. See e.g., G.A. Res. 62/98, Non- legally Binding Instrument on All Types of Forests (Dec. 17, 2007); Economic and Social Counc. Res. 2017/4 (Apr. 20, 2014), adopting U.N. Strategic Plan for Forests 2017–2030; U.N. Secretary-General,

international fora have attempted to tackle forest loss, including the UN Forum on Forests established in 2000 by the UN Economic and Social Council (“ECOSOC”).⁹⁹ The Forum’s 2017 session led to the General Assembly’s adoption of the Strategic Plan for Forests.¹⁰⁰ As described by ECOSOC, the “voluntary and universal” Strategic Plan “provides a global framework for actions at all levels to sustainably manage all types of forests and trees outside forests and halt deforestation and forest degradation.”¹⁰¹ It sets six Global Forest Goals and twenty-six associated targets to be achieved by 2030, including to “[r]everse the loss of forest cover worldwide through [sustainable forest management], including protection, restoration, afforestation and reforestation, and increase efforts to prevent forest degradation and contribute to the global effort of addressing climate change.”¹⁰² The Strategic Plan is intended as a “framework for forest-related contributions” to the SDGs, the Paris Agreement, and numerous multilateral environmental agreements that regulate aspects of forest ecological systems,¹⁰³ including biodiversity, wetlands, and endangered species.

In the absence of a comprehensive international legal regime, the principal public governance mechanism for the management of forest resources has been through the use of national or subnational land use regulation.¹⁰⁴ This fundamental governmental tool can be used as a license to promote economic activity or as a means to restrict its impacts. However, influential political, and commercial interests, as well as development-

Gaps in International Environmental Law and Environment-related Instruments: Towards a Global Pact for the Environment, U.N. Doc. A/73/419 (Nov. 30, 2018); G.A. Res. 70/1, Goal 15, *supra* note 21; *New York Declaration on Forests*, *supra* note 18; *Katowice Declaration*, *supra* note 23.

99. See Couzens et. al., *supra* note 97, at 15 (noting the international fora tasked with creating forestry instruments); see also CHASEK, *supra* note 95, at 219–223 (discussing the ECOSOC’s development).

100. G.A. Res. 71/285, United Nations Strategic Plan for Forests 2017–2030 (Apr. 27, 2017); U.N. Forum on Forests, *United Nations Strategic Plan for Forests*, 2017–2030 (Jan. 2017).

101. Economic and Social Council Res. 2017/4, at 2, 5 (July 7, 2017).

102. *Id.* at 6.

103. *Id.* at 2; see also Couzens et. al., *supra* note 97, at 15–16.

104. See, e.g., G.A. Res. 62/98, *supra* note 98 at 2–3 (providing that “Each State is responsible for the sustainable management of its forests and for the enforcement of its forest-related laws.”).

oriented policies, have often outweighed environmental objectives. Additionally, regulatory measures can prove ineffective due to a lack of capacity or willingness to enforce.¹⁰⁵ Indonesia's efforts to regulate its forest sector illustrate many of these elements, as well as how external forces can prove an influential counterweight.

Commencing in the 1970's, Indonesia enacted national environmental laws to address land use, spatial planning, and forest management, which included a prohibition on burning of land for clearing.¹⁰⁶ Unfortunately, the institutional capacity to enforce those laws did not keep up with the rapid expansion of pulp and palm oil plantations in the 1990's.¹⁰⁷ Moreover, corruption and collusion have influenced the granting of oil palm development permits.¹⁰⁸ Despite regulatory efforts over the subsequent decades, both legal and illegal destruction of forests and peatlands has continued.¹⁰⁹ Across Borneo alone, fire, illegal logging, and the expansion of palm oil and pulpwood plantations led to a loss of 50% of its tropical forest cover since the mid-1980s.¹¹⁰

105. *ERPD*, *supra* note 62, at 101–102 (citing issues with inadequate enforcement of land use and licensing regimes, in part due to a lack of capacity); Vandenberg, *supra* note 91, at 161 (noting the failure of public governance, one impetus for development of private law solutions, can arise from inadequate capacity to enforce); *see, e.g.*, Economic and Social Council Res. 2017/04, *supra* note 98 (citing poor coordination among different levels of government in planning and enforcement as a challenge to forest protection).

106. Robinson, *supra* note 54, at 78–79 (discussing the efforts implemented by the Indonesian government after severe forest fires); *see ERPD*, *supra* note 62, at 74.

107. Robinson, *supra* note 54, at 81.

108. *Id.* at 81; Meijaard et al., *supra* note 34, at 15, 22 (providing an example of the local government's issuance of permits to develop the Tripa peat swamp for palm oil, despite the area's protected status under Indonesian law and importance as a wildlife habitat).

109. International Finance Corporation, Global Map of Environmental and Social Risks in Agro-Commodity Production, *Indonesia Oil Palm* [<https://perma.cc/KG2M-RWX7>] [hereinafter *GMAP Indonesia Oil Palm*] (discussing illegal oil palm production in national parks and IUCN protected areas including the Sumatra's Leuser Ecosystem, which is home to several endangered species); *see also* Genevieve Bennett, *Companies Acting on Deforestation*, ECOSYSTEM MARKETPLACE (Oct. 26, 2018), <https://www.ecosystemmarketplace.com/articles/companies-acting-on-deforestation-have-a-legality-issue/> [<https://perma.cc/M9FM-H2CV>] (noting that a demand for palm oil was a contributing factor to forest destruction).

110. U.N. Environment Programme, *Deforestation in Borneo is Slowing, but Regulation Remains Key* (Feb. 18, 2019), <https://www.unenvironment.org/news->

The Indonesian government sought to enhance forest governance in 2011 by imposing a national moratorium on conversion of primary forest areas (the “Primary Forest Moratorium” or “Moratorium”).¹¹¹ This Moratorium has attempted to address the adverse environmental impacts of oil palm development by “prohibiting the allocation of new oil palm leases” in previously undeveloped forests and the vast majority of peat areas.¹¹² It was instituted in connection with the UNFCCC’s REDD+ program to reduce emissions from deforestation and forest degradation, as a step toward receipt of an anticipated \$1 billion in funding from Norway after Indonesia’s completion of the program’s “readiness phase.”¹¹³ The Primary Forest Moratorium has been extended several times,¹¹⁴ and has now been declared permanent by President Joko Widodo.¹¹⁵ The national government also established the One Map initiative, with the aim of creating a map of land use agreed upon by all ministries, as well as other regulations aimed at land use planning and the protection and restoration of peatland.¹¹⁶ Although there has been reduction in the rate of deforestation since 2016, largely due to imposition of a moratorium on peatland conversion,¹¹⁷ these measures have not proven sufficient to stop continued land conversion for palm

and-stories/story/deforestation-borneo-slowing-regulation-remains-key [https://perma.cc/2UH3-DDJX] [hereinafter Deforestation in Borneo].

111. *Id.*; see SCHAAP ET AL., *supra* note 30, at 24 (noting that Indonesia’s two-year moratorium was an attempt to support forest conservation).

112. Meijaard et al., *supra* note 34, at 50.

113. Pacheco et. al., *supra* note 46, at 30.

114. Deforestation in Borneo, *supra* note 110; see SCHAAP ET AL., *supra* note 30, at 25.

115. Reuters, *Indonesia President Makes Moratorium on Forest Clearance Permanent*, THOMSON REUTERS FOUND. NEWS (Aug. 8, 2019), <http://news.trust.org/item/20190808091653-84pgm/> [https://perma.cc/TS4Z-TU5W].

116. INDONESIA MINISTRY OF NATIONAL DEVELOPMENT PLANNING, LOW CARBON DEVELOPMENT: A PARADIGM SHIFT TOWARDS A GREEN ECONOMY IN INDONESIA 81–82 (Mar. 2019), https://www.greengrowthknowledge.org/sites/default/files/downloads/policy-database/indonesia_lowcarbon_development_full%20report.pdf [https://perma.cc/S9UE-BZBK] [hereinafter LOW CARBON DEVELOPMENT]; see *ERPD*, *supra* note 62, at 103.

117. Hans Nicholas Jong, *Indonesia Ban on Clearing New Swaths of Forest to be Made Permanent*, MONGABAY (June 10, 2019), <https://news.mongabay.com/2019/06/indonesian-ban-on-clearing-new-swaths-of-forest-to-be-made-permanent/> [https://perma.cc/H483-3UR2].

plantations, or to prevent the devastating fires in peat forests that led to international opprobrium.¹¹⁸ Multiple challenges have impaired the effectiveness of the Primary Forest Moratorium, including inadequate capacity of the national government to provide training on how to apply the ban and oversee its local administration.¹¹⁹ In addition, the door remained open to unsustainable development through exemptions for previously cleared and replanted or regrown “secondary forest,” as well as exceptions for “national development” projects which can encompass agricultural activities.¹²⁰ Significantly, the Moratorium did not cover existing concessions.¹²¹ As such, there is skepticism that merely instituting the Moratorium permanently will be sufficient to reduce deforestation given the scope of exceptions to its coverage, and questions about how permissively local officials have applied them.¹²²

Indonesia also instituted a national mandatory certification scheme in 2011, the Indonesia Sustainable Palm Oil (“ISPO”) program. The program’s objective is to “improve the sustainability and competitiveness of the Indonesian palm oil industry, whilst contributing to the Indonesian government’s commitments to reducing [GHG] emissions.”¹²³ Although ISPO certification of all producers is mandatory, different requirements apply to smallholder farmers, who may participate on a voluntary basis until 2022.¹²⁴ Yet this certification scheme, while restricting forest clearance within protected areas or areas subject to the Primary Forest Moratorium, still allows clearing outside these areas if growers receive the required permits from the Ministry of

118. See Taylor, *supra* note 72; see also Robinson, *supra* note 54, at 79, 83 (discussing Indonesia’s efforts to enact measures to combat forest fires).

119. SCHAAP ET AL., *supra* note 30, at 24.

120. *Id.* at 24; Hans Nicholas Jong, *Indonesia Forest-Clearing Ban is Made Permanent, but Labeled ‘Propaganda’*, MONGABAY (Aug. 14, 2019), <https://news.mongabay.com/2019/08/indonesia-forest-clearing-ban-is-made-permanent-but-labeled-propaganda/> [https://perma.cc/EX84-JVKR] (explaining that the exception encourages the deliberate clearing of primary forests to transform them into exempt secondary forests).

121. SCHAAP ET AL., *supra* note 30, at 24.

122. Jong, *supra* note 120.

123. *ERPD*, *supra* note 62, at 109.

124. *Id.*

Forestry.¹²⁵ Although it requires producers to comply with national and regional legal requirements, only a small minority of plantations participate, and violators haven't faced consequences.¹²⁶ In addition, while "[ISPO] criteria also require protection of riparian forests (to control erosion processes) and peatland areas (with >3 m depth), and contain[s] provisions against the conversion of areas of conservation importance . . . the criteria do not provide clear definitions and frameworks to identify these areas."¹²⁷

Implementation of public governance measures has been ineffective, hampered by lack of coordination within different ministries and levels of government, the influence of commercial interest groups, and the need to fund other programs with revenue from issuance of concession permits.¹²⁸ Notably, the Indonesian Government's 2019 REDD+ submission contains the following critical self-assessment:

Poor governance and weak law enforcement also afflict the licensing regime. Some licenses are issued without the proper administrative processes; some businesses, especially in the palm oil and mining sectors, operate without the required licenses; and many license holders do not follow regulations that are meant to ensure positive environmental and social outcomes. The spatial

125. Meijaard et al., *supra* note 34, at 50; *see also* Hans Nicholas Jong, *Indonesian Minister Blasted Over Palm Permit for Graft-Tainted Concession*, MONGABAY (Feb. 22, 2019), <https://news.mongabay.com/2019/02/indonesian-minister-blasted-over-palm-permit-for-graft-tainted-concession/> [<https://perma.cc/5A8Z-PDG9>] (discussing the continuing controversy over the issuance of permits for rainforest conversion based on grandfathered concessions by the Ministry of Forestry).

126. Environmental Investigation Agency, *Promises in Practice- The Limited Reliability of Voluntary "No Deforestation" Commitments in Papua's Palm Oil Plantations*, 11 (2019), <https://eia-international.org/wp-content/uploads/EIA-report-Promises-in-practice-spreads.pdf> [<https://perma.cc/8VDP-Z5M2>] [hereinafter EIA].

127. Meijaard et al., *supra* note 34, at 50; *see also* *Backtracking on Reform: How Indonesia's Government is Weakening its Palm Oil Standards*, EIA (Feb. 8, 2018), <https://eia-international.org/news/backtracking-reform-indonesias-government-weakening-palm-oil-standards/> [<https://perma.cc/AZJ7-NK4Z>] (discussing the continuing controversy over issuance of a permit by the Ministry of Forestry to develop a grandfathered forest concession, despite a history of illegal deforestation by the licensee and conviction of its owner for having bribed local officials) [hereinafter *EIA, Backtracking on Reform*].

128. Pacheco et al., *supra* note 46, at 30.

analysis carried out for this assessment, confirms that land use plans, including forest zone maps, often don't match the reality on the ground. For example, within the State Forest Area boundaries there are 136,793 [hectares] of oil palm plantations . . . located within the conservation forest zone The [national government] has in recent years undertaken serious efforts to improve land governance, including law enforcement. These include the establishment of the Corruption Eradication Commission . . . which has a broad mandate that includes investigating a number of land-based sectors, including the mining, forestry and estate crops sectors; the launch of the One Map policy, which seeks to create a unified map; several critical Constitutional Court decisions relating to land rights and the delineation of the State Forest Area; efforts to create local institutions . . . to oversee management of forest areas; and clarifications in the administrative arrangements for land management. It should be noted, however, that some of these efforts imply fundamental regulatory and administrative shifts which will take [a] long time to implement¹²⁹

International efforts to reduce GHG emissions and to address deforestation have influenced recent national government strategy. Indonesia's NDC recognizes that decarbonization efforts must be integrated in its development planning,¹³⁰ and that coordination is necessary among national ministries and with provincial governments.¹³¹ According to a 2017 analysis, in Sumatra alone, the site of 70% of Indonesia's plantations, "[a]ddressing deforestation, peatland degradation, and wildfires related to palm oil production. . . is . . . of critical importance to the country's NDC commitments."¹³² The Paris Agreement requirements for mandatory reporting of progress in emissions reductions against NDC targets, and the desire to avoid international criticism, should act as an incentive to tip the balance of national priorities towards forest conservation and to

129. *ERPD*, *supra* note 62, at 103.

130. INDONESIA NDC, *supra* note 58, at 8.

131. *Id.* at 6 (noting the establishment of a new Directorate General of Climate Change under the Indonesian Ministry of Environment and Forestry to act as the central liaison to the UNFCCC and oversee the implementation of emissions reductions programs).

132. SCHAAP ET AL., *supra* note 30, at 31.

dedicate resources to enforcement.¹³³ Yet, based on its previous history of ineffective implementation, it is unclear whether the approaches Indonesia has specified to attain these reductions in emissions (i.e., land use controls, spatial planning, and sustainable forest management) will be sufficient to achieve its 2020 reduction target.¹³⁴

The recent evolution of public governance measures towards increased stringency are also directly linked to Indonesia's multi-year efforts to qualify for financing under the REDD+ program. In 2016, the national government issued a new moratorium on peatland conversion.¹³⁵ In addition to freezing issuance of new licenses for oil palm plantations for three years, in September 2018, the Indonesian President ordered central government ministries and regional governments to review existing oil palm licenses.¹³⁶ These developments, together with a decline in the rate of deforestation in 2017, have only recently resulted in acknowledgement that the first payment will be made under the 2010 \$1 billion REDD+ funding agreement between Norway and Indonesia.¹³⁷ Additional conditions to funding include, establishing an agreed upon mechanism for measuring emissions reductions and continued progress on emissions reductions.¹³⁸

133. See *Paris Agreement*, *supra* note 3, at 28–29 (Art. 13.7).

134. Robinson, *supra* note 54, at 88.

135. Deforestation in Borneo, *supra* note 110.

136. Hans Nicholas Jong, *Indonesian President Signs 3-Year Freeze on New Oil Palm Licenses*, MONGABAY (Sept. 20, 2018), <https://news.mongabay.com/2018/09/indonesian-president-signs-3-year-freeze-on-new-oil-palm-licenses/> [<https://perma.cc/Z34K-7STC>].

137. Letter of Intent on Cooperation on Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation, Indon.-Nor., May 26, 2010; See Hans Nicholas Jong, *Indonesia to Get First Payment from Norway Under \$1b REDD+ Scheme*, MONGABAY (Feb. 20, 2019), https://news.mongabay.com/2019/02/indonesia-to-get-first-payment-from-norway-under-1b-redd-scheme/?utm_source=REDD%2B+Resource+-+March+2019&utm_campaign=Dec+2018-+Feb+2019+UN-REDD+newsletter&utm_medium=email [<https://perma.cc/F8DX-KUCB>].

138. Jong, *supra* note 137; see also Michael Taylor, *Norway Starts Payments to Indonesia for Cutting Forest Emissions*, REUTERS (Feb. 18, 2019), <https://uk.reuters.com/article/indonesia-climatechange-forests/norway-starts-payments-to-indonesia-for-cutting-forest-emissions-idUKL5N20D1NS> [<https://perma.cc/QB55-B65E>] (explaining that once the level of decline in Indonesia's deforestation-related carbon emissions is independently verified, Norway will pay Indonesia for 4.8 million tonnes of avoided emissions).

The reduction in Indonesia's carbon emissions in 2017, as well as reports of a continued reduction in the amount of forest loss in 2018,¹³⁹ has provided some reason for hope that the government's actions are beginning to influence a change in land use practices.¹⁴⁰ For example, a study of industrial plantations in Borneo noted that climatic conditions in 2017 were more favorable, as the absence of El Niño that year improved rainfall.¹⁴¹ A decrease in fires may also be attributable to public education campaigns and the enforcement of recently instituted restrictions.¹⁴² In addition, there is evidence that this represents a trend of slowing plantation expansion and related forest conversion since 2012.¹⁴³ External factors may also have played a role, including a decline in palm oil prices and a shift to planting in other geographical areas, both within and outside of Indonesia.¹⁴⁴ However, the return of El Niño conditions in 2019 and ineffective restoration of previously drained carbon-sequestering peatlands contributed to a significant resurgence of fires in Indonesia, with hazardous smoke conditions that exceeded 2014 levels.¹⁴⁵ Indonesia's resulting emissions were reported to be almost twice the amount released from fires in the Brazilian Amazon during the same period.¹⁴⁶

139. SCHULTE ET AL., *supra* note 31, at 29; Arief Wijaya et al., *Indonesia Is Reducing Deforestation, but Problem Areas Remain*, GLOBAL FOREST WATCH (July 24, 2019), <https://blog.globalforestwatch.org/data-and-research/indonesia-is-reducing-deforestation-but-problem-areas-remain> [https://perma.cc/N93D-5K8D].

140. SCHULTE ET AL., *supra* note 31, at 29; *see also* Wijaya et al., *supra* note 139.

141. David L.A. Gaveau et al., *Rise and Fall of Forest Loss and Industrial Plantations in Borneo (2000-2017)*, 12 CONSERVATION LETTERS 1, 5 (2018).

142. *Id.*; *see also* Frances Seymour, *Indonesia Reduces Deforestation, Norway to Pay Up*, WORLD RESOURCE INST. (Feb. 21, 2019), <https://www.wri.org/blog/2019/02/indonesia-reduces-deforestation-norway-pay> [https://perma.cc/L7S2-N68Z] (noting that Indonesia experienced a 60% drop in forest reduction in 2017 compared to 2016).

143. Gaveau et al., *supra* note 141, at 5.

144. *See id.*

145. Hans Nicholas Jong, *Haze from Forest Fires, Indonesia's National Embarrassment, are Back*, MONGABAY (Aug. 6, 2019), <https://news.mongabay.com/2019/08/haze-from-fires-indonesias-national-embarrassment-are-back/> [https://perma.cc/L2NV-KPQ9].

146. Hans Nicholas Jong, *Indonesia Fires Emitted Double the Carbon of Amazon Fires, Research Shows*, MONGABAY (Nov. 25, 2019), <https://news.mongabay.com/2019/11/indonesia-fires-amazon-carbon-emissions->

Further, qualifying for REDD+ payments alone may not prove a sufficient incentive to overcome longstanding barriers to the effectiveness of these public law measures. Indonesia's ERPDP pinpoints that challenges include the "high opportunity costs of REDD+":

In some cases, the short-term benefits associated with deforestation . . . outweigh the incentives that REDD+ payments can provide . . . REDD+ funding alone may not be able to compete with the private economic benefits of, for example, legally converting forest to oil palm plantations or mining sites. These activities provide significant financial returns, and protection of forests- including sustainable management practices such as reduced impact logging and voluntary certification- are often seen as incurring significant costs, without direct benefits. This problem is compounded by the lack of differentiation of commodity prices on the basis of sustainability.¹⁴⁷

In addition, it remains to be seen how national environmental objectives will align with the government's economic and rural development goals. The government has challenged the validity of the EU's restrictions on unsustainable biofuel as an impermissible restriction on trade.¹⁴⁸ This reaction is indicative of the importance placed on palm oil, as a major export, for realizing Indonesia's development goals.

B. Private Law Mechanisms

As this fragmented landscape of public governance measures failed to halt deforestation, private sector actors faced increasing demands to address the adverse consequences of soft commodities they produced or that were part of their supply chain. Advocacy campaigns by NGOs, conducted through social media, highlighted the destructive impact of "dirty" palm oil on forest wildlife. Specifically, Greenpeace and Rainforest Action Network targeted

peatland/_[https://perma.cc/U2X9-RKM8] (reporting that the concentration of fires in peatlands caused a spike in Indonesia's GHG emissions that could prevent achievement of its NDC reduction targets).

147. ERPDP, *supra* note 62, at 78.

148. See Jong, *supra* note 5 (reporting Indonesia's claim, denied by the EU, that the phasing out of palm oil constitutes discrimination because it favors European producers of other oil crops).

corporations such as Nestlé, Proctor & Gamble, Unilever, and Cargill as parties responsible for destruction of orangutan, elephant, and tiger habitats, displacement of local populations, and palm oil estates' contribution to climate change.¹⁴⁹ In an award-winning example that went viral, a 2010 Greenpeace UK video shows an office worker snacking on a Nestlé KitKat™ bar which then transforms into a bloody orangutan paw.¹⁵⁰ This campaign to pressure multinational players sought to leverage their influence on direct and indirect suppliers.¹⁵¹

The result of such criticism was the creation of a parallel set of governance mechanisms through both unilateral and multi-stakeholder initiatives. In effect, these mechanisms established private law systems that stepped in to achieve an objective or serve a function traditionally belonging to the government.¹⁵² Private actors such as multinational companies with a global supply chain may be able to influence behavior across geographical boundaries more easily than political entities could achieve, especially in light of the resistance to international governance over management of forests on sovereignty grounds.¹⁵³

Four types of private sector efforts have emerged, directed at preventing deforestation in commodity supply chains: (1) “collective aspirations” endorsed by different stakeholder groups, such as pledges under the New York Declaration and by the

149. Greenpeace UK, *Seen P&G's Thank You Mom? Find out the Hidden Truth*, YOUTUBE (Mar. 4, 2014), https://www.youtube.com/watch?v=8NbsVwzTb_A [https://perma.cc/6ZEX-T75U]; Greenpeace International, *Protect Paradise: An Animation about Palm Oil*, YOUTUBE (Feb. 19, 2014), <https://www.youtube.com/watch?v=0o6WHN4NDTk> [https://perma.cc/VKJ9-FCLV]; Gillis, *supra* note 1; *Palm Oil Fact Sheet*, RAINFOREST ACTION NETWORK, https://www.ran.org/palm_oil_fact_sheet/ [https://perma.cc/EYL3-AAPV].

150. Greenpeace UK, *Have a Break?*, YOUTUBE (Mar. 17, 2010), <https://www.youtube.com/watch?v=VaJjPRwExO8> [https://perma.cc/RSV2-YDVY]. The post of the video includes the following caption: “Nestlé, maker of Kit Kat, uses palm oil from companies that are trashing Indonesian rainforests, threatening the livelihoods of local people and pushing orang-utans towards extinction. We all deserve to have a break - but having one shouldn't involve taking a bite out of Indonesia's precious rainforests. We're asking Nestlé to give rainforests and orang-utans a break and stop buying palm oil from destroyed forests.” *Id.*

151. *See* Pacheco et al., *supra* note 46, at 32.

152. Vandenberg, *supra* note 91, at 147.

153. *Id.* at 138.

Consumer Goods Forum (“CGF”) (a trade association); (2) individual company commitments to limit or eliminate forest clearing in their operations or supply chains; (3) “company codes of conduct” imposing requirements on suppliers that must be met in order for their products to be purchased or that institute sourcing preferences; and (4) “sectoral standards,” developed through coordination among stakeholders, establishing agreed principles, criteria for qualification, and means of verification of sustainable practices.¹⁵⁴ These private governance initiatives have deployed some of the same tools found in regulatory systems. Standard setting organizations, such as voluntary certification authorities, use prescriptive mechanisms when they establish qualifying criteria and when they impose sanctions by withdrawing certification for failure to comply.¹⁵⁵ Similarly, buyers of commodities may establish purchasing targets for certified products, impose requirements in their purchase contracts or procurement policies that the origin of products is traceable to sustainable sources, or refuse to purchase from geographical areas or suppliers associated with deforestation.¹⁵⁶ Corporations use disclosure methods when they announce commitments to achieve sustainable sourcing, and through reporting on the degree of progress made against self-imposed deadlines or targets.¹⁵⁷

After focusing on individual and collective corporate actions and private certification standards, this Article will then explore challenges to their implementation and effectiveness, including areas of conflict with the public governance mechanisms described above.

154. Lambin et al., *supra* note 49, at 110.

155. *Id.*; see discussion *infra* Part IV.B.2.

156. See SCHAAP ET AL., *supra* note 30, at 10.

157. PHILIP ROTHROCK & LAURA WEATHERER, TARGETING ZERO DEFORESTATION- COMPANY PROGRESS ON COMMITMENTS THAT COUNT 2–3 (Stephen Donofrio and Kelley Hamrick, eds., 2019), <http://www.forest-trends.org/wp-content/uploads/2019/06/2019.06.05-Supply-Change-Targeting-Zero-Deforestation-Report-Final.pdf> [<https://perma.cc/6RC4-K2SK>]; see discussion *infra*. Part III.B.1; see also Lee Paddock, *Stemming the Deforestation Tide: The Role of Corporate No Deforestation Commitments*, 7 GEO. WASH. J. OF ENERGY & ENVTL. L. 205, 210 (2016) (listing examples of corporate commitments to deforestation).

1. Corporate Actions

The impetus for such private sector actions comes from both external and internal economic drivers. Companies seek to avoid the negative impact to their reputations from being associated with deforestation, which can lead to loss of customer loyalty, business opportunities, and funding sources.¹⁵⁸ They also face operational risk, disputes, threats to security of supply, and the potential for more stringent regulation or loss of license to operate.¹⁵⁹ More positive incentives can also influence proactive adoption of “green” standards. These can be a differentiating factor that help an organization attract and retain employees, improve public relations, and influence industry practices to avoid or shape regulation.¹⁶⁰ A virtuous cycle can result, spurring beneficial action because companies fear being perceived as an outlier when more and more of their competitors or buyers make deforestation commitments. Another powerful motivation has been the failure of other governance mechanisms:

The rapid emergence of zero-deforestation commitments encouraged by effective NGO campaigns has been a reaction to a sense of urgency among consumers about saving the remaining tropical forests. Other policies or sustainability standards (e.g. RSPO) were limited by a lack of compliance and enforcement, among other issues. Thus, the zero deforestation commitments emerged, culminating in the New York Declaration on Forests in September 2014, when a number of governments also committed to end natural forest loss by 2030.¹⁶¹

The scope of deforestation restrictions has evolved over the last decade, resulting in a variety of approaches. The concept of “zero net deforestation” allows some loss of forest cover and changed land use as long as “the net quantity, quality and carbon

158. Paddock, *supra* note 157, at 206; *see also* Lambin et al., *supra* note 49, at 109 (noting that concerns about adverse impacts spurred corporate commitments).

159. *See* Lambin et al., *supra* note 49, at 109, 113.

160. Paddock, *supra* note 157, at 206.

161. Romain Pirard et al., *Zero-Deforestation Commitments in Indonesia, Governance Challenges*, 132 CTR. FOR INT'L FORESTRY RES. 1, 3 (Nov. 2015), http://www.cifor.org/publications/pdf_files/infobrief/5871-infobrief.pdf [<https://perma.cc/XEW2-3FPP>].

density of forests is maintained.”¹⁶² The more stringent “zero deforestation” standard precludes planting that would result in forest conversion.¹⁶³ After a campaign by international NGOs targeted major oil palm traders, adoption of “No Deforestation, No Peat, No Exploitation” (“NDPE”) pledges extended the application of such undertakings beyond direct operations to those of suppliers:

[t]hese commitments focus primarily on environmental sustainability goals, including zero deforestation and zero peat conversion. Companies often explicitly commit to preserving high carbon stock (HCS) forests and high conservation value (HCV) areas, avoiding fires and burning, and adopting best management practices for existing plantations on peat. NDPE commitments also often include components related to human rights and social welfare for workers involved in various stages of the commodity supply chain.¹⁶⁴

The scale and reach of these commitments by major global entities has been significant. As of 2018, corporate endorsement of the New York Declaration’s goal to eliminate deforestation from the production of agricultural commodities by 2020 represented a 65% share of the production in international palm oil markets.¹⁶⁵ Influential actors in the palm oil supply chain have made “no deforestation” pledges and incorporated sustainability requirements into their procurement or operating policies. For example, these include plantation and mill owners in Indonesia (Wilmar and Golden Agri), refiners and commodity traders (Archer Daniels Midland Company (“ADM”) and Cargill), buyers and manufacturers (Colgate-Palmolive, Nestlé, and Unilever), and retailers (Walmart, Marks & Spencer).¹⁶⁶ While retailers and manufacturers represent the majority of these commitments, the

162. Paddock, *supra* note 157, at 208 (This approach was originally developed by World Wildlife Fund International.).

163. *Id.* at 209.

164. SCHAAP ET AL., *supra* note 30, at 28; *see also* PADDOCK, *supra* note 157, at 209 (noting that zero deforestation policies may also address social issues such as respect for indigenous land rights and the elimination of forced or slave labor).

165. 2018 SUMMARY, *supra* note 80, at 1.

166. Paddock, *supra* note 157, at 210–212.

world's largest palm oil producers have also participated.¹⁶⁷ Moreover, the CGF, an industry consortium of approximately 400 retailers and manufacturers, has been working with governments and NGOs to achieve the stated goal of reaching zero net deforestation by 2020 in palm oil, soy, beef, and paper and pulp supply chains.¹⁶⁸ In 2015, the CGF released Palm Oil Sourcing Guidelines "to assist companies in designing their own policies for sourcing palm oil more sustainably . . . [the Guidelines] were developed by CGF retailer and manufacturer members, with input from standard setting organisations, NGOs, banks and suppliers."¹⁶⁹

However, critics question how effective many deforestation commitments have been, due to a lack of measurable outcomes and a failure to apply a consistent standard. Barriers to implementation arise internally and from third-party suppliers resisting change to business-as-usual practices.¹⁷⁰ An examination of policy statements on palm oil from three of these multinational companies illustrates the common themes, variations, and challenges that have arisen. They utilize the forms of private law mechanisms outlined above, incorporate principles of forest protection from other public and private law sources, and reflect involvement of, and reaction to input from, external stakeholders.

Unilever, a United Kingdom-based consumer products and food company, is one of the largest purchasers of palm oil worldwide.¹⁷¹ It has shown leadership in the aftermath of a

167. Meijaard et al., *supra* note 34, at 48 (explaining that forty-one of the fifty palm oil companies have committed to deforestation pledges with twenty-nine of these companies also implementing zero deforestation policies).

168. *The Consumer Goods Forum and the United States Government Announce a Joint Initiative on Deforestation*, CONSUMER GOODS FORUM (June 20, 2012), https://www.theconsumergoodsforum.com/press_releases/the-consumer-goods-forum-and-the-us-government-announce-a-joint-initiative-on-deforestation/ [<https://perma.cc/C785-RB6R>].

169. *The Consumer Goods Forum Publishes Sustainable Palm Oil Sourcing Guidelines*, CONSUMER GOODS FORUM (Aug. 11, 2015), https://www.theconsumergoodsforum.com/press_releases/the-consumer-goods-forum-publishes-palm-oil-sourcing-guidelines/ [<https://perma.cc/2L6C-KHHE>].

170. See Pacheco et al., *supra* note 46, at 33.

171. *Transforming the Palm Oil Industry*, UNILEVER, <https://www.unilever.com/sustainable-living/reducing-environmental-impact/sustainable-sourcing/transforming-the-palm-oil-industry/> [<https://perma.cc/8QYJ-2GTV>].

negative media campaign, turning criticism into groundbreaking efforts to achieve sustainability in its agricultural supply chains. In 2009, Unilever was one of the first to make a public commitment that 100% of its palm oil would be from certified sources, as part of its broader pledge that by 2020, 100% of its agricultural raw materials would be sustainably produced.¹⁷² It established a Sustainable Palm Oil Sourcing Policy in 2016 that applies to its global operations, “including [its] investments in plantations and refining, and to all [its] suppliers and their entire operations, including traders and their third parties.”¹⁷³ This use of its market power to impose NDPE restrictions on all these supply chain actors can have great influence:

Given the scale of Unilever’s palm oil supply chain, [its] NDPE commitment has significant implications for the sustainability of Indonesia’s palm oil sector, and for the broader forest-related goals outlined in the country’s NDC. The [Sourcing] Policy also includes goals related to facilitating the inclusion of smallholders throughout Unilever’s palm oil supply chain, and promoting transparency in the operations of its suppliers.¹⁷⁴

Unilever reports that in 2017, 56% of its palm oil purchases were sustainably sourced palm oil certified by the RSPO or an equivalent standard independently verified by a third party, which amount increased to 67% in 2018.¹⁷⁵ Recognizing the difficulty of achieving its 100% target, Unilever has instituted several initiatives to improve transparency of its sources, while highlighting challenges arising from a complex supply chain.¹⁷⁶

172. SCHAAP ET AL., *supra* note 30, at 29.

173. UNILEVER, UNILEVER SUSTAINABLE PALM OIL SOURCING POLICY – 2016 1 (2016), https://www.unilever.com/Images/unilever-palm-oil-policy-2016_tcm244-479933_en.pdf [https://perma.cc/B33U-YJY9].

174. SCHAAP ET AL., *supra* note 30, at 29–30.

175. *Our Approach to Sustainable Palm Oil*, UNILEVER, <https://www.unilever.com/sustainable-living/reducing-environmental-impact/sustainable-sourcing/transforming-the-palm-oil-industry/our-approach-to-sustainable-palm-oil/> [https://perma.cc/9CRT-Z5D8].

176. *Improving the Visibility of our Supply Chain*, UNILEVER, <https://www.unilever.com/sustainable-living/reducing-environmental-impact/sustainable-sourcing/transforming-the-palm-oil-industry/improving-the-visibility-of-our-supply-chain/> [https://perma.cc/4KBS-TNAR] (discussing the company goal of achieving full traceability for purchased palm oil and the

Since February 2018, it has published a list of over 1,600 palm oil mills it sources from, directly or indirectly, as well as its palm oil supplier list and reports that it has traced 88% of sourced palm oil back to the mill.¹⁷⁷

ADM, a US headquartered major agricultural processor and trader, announced its NDPE commitment in 2015, pledging to “build traceable and transparent agricultural supply chains that protect forests worldwide . . . through policies focused on palm oil and soy supply chains.”¹⁷⁸ ADM has worked with Forest Trust, an NGO, to implement its NDPE sourcing policy, which prohibits: (1) deforestation of High Carbon Stock (“HCS”) forests and High Conservation Value (“HCV”) areas (2) new peatland development, and (3) exploitation of local communities or laborers.¹⁷⁹ ADM incorporates the HCS Forest Approach developed by Greenpeace,¹⁸⁰ and the Common Guidance developed by the HCV Network for the identification of HCV areas.¹⁸¹ It also prohibits use of fire to clear land for palm production, citing 2013 RSPO

challenges posed by this goal that led the company to create mapping and data programs and invest in its own refineries).

177. *Id.*

178. ARCHER DANIELS MIDLAND (ADM), OUR COMMITMENT TO NO-DEFORESTATION 1 (2015), <https://assets.adm.com/Sustainability/ADM-No-Deforestation-Policy.pdf> [<https://perma.cc/6SZQ-R4NE>] [hereinafter ADM].

179. *No Deforestation, No Planting on Peat, No Exploitation (NO DPE) Policy FAQs*, ADM, <https://www.adm.com/sustainability/sustainability-progress-tracker/faqs> [<https://perma.cc/V523-C7BY>].

180. *Id.* (prohibiting the clearing of primary forests as well as “High, Medium, Low Density and Regenerating forests,” while allowing “Young Scrub, Cleared/Open Land areas, existing plantations or other land already in agricultural production . . .” to be developed); *see also HCS Approach*, GREENPEACE INT’L, <https://www.greenpeace.org/archive-international/en/campaigns/forests/solutions/HCS-Approach/> [<https://perma.cc/9UC2-RKHV>] (explaining that this approach encompasses carbon and biodiversity conservation and only allows for areas containing low carbon to be considered for conversion into plantations, thereby protecting areas with young regenerating forests and secondary forest).

181. ADM, *supra* note 178, at 1 n.3; HCV RESOURCE NETWORK, COMMON GUIDANCE FOR THE IDENTIFICATION OF HIGH CONSERVATION VALUES 3, fig. 1 (Sept. 2017), https://hcvnetwork.org/wp-content/uploads/2018/03/HCVCommonGuide_English.pdf [<https://perma.cc/M2XG-SC8C>]; *How it Works*, HCV RESOURCE NETWORK, <https://hcvnetwork.org/how-it-works/> [<https://perma.cc/WJ3C-K3RC>] (discussing that this involves a review of geographical areas to determine if they are essential for species diversity and ecosystem stability or possess other social or cultural value critically important to the region).

Principles and Criteria Section 5.5.¹⁸² ADM's most current report on Palm Oil Supply Chain Traceability, for the period of January 2018 through December 2018, illustrates the difficulties of identifying sources back to the producer level.¹⁸³ Overall, ADM reports that it can trace 98.1% and 98.7%, respectively, of Palm Oil and Palm Kernel Oil to the Mill level, while only 16.4% and 17.0%, respectively, are traceable back to the specific plantation.¹⁸⁴ It publishes a list of palm oil mills it sources from, including approximately 1,000 mills located in Indonesia.¹⁸⁵

Nestlé, the Swiss-based food manufacturer, committed in 2010 to ending deforestation in its supply chain, and endorsed CGF's zero net deforestation by 2020 objective.¹⁸⁶ It reported that in 2018, 64% of palm oil that it purchased was responsibly sourced.¹⁸⁷ Nestlé's responsible sourcing guidelines, established in July 2018, have some elements in common with those of Unilever and ADM, but also differences. They do not permit production on, or expansion into, areas that were converted after 2015 from HCS forests, peatlands, savannahs, or wetlands; any planting in IUCN protected areas, UNESCO World Heritage Sites, or Ramsar List wetlands; or cultivation of any peatlands, unless adequately protected during farming.¹⁸⁸ Nestlé will take due diligence steps

182. ADOPTION OF PRINCIPLES AND CRITERIA FOR THE PRODUCTION OF SUSTAINABLE PALM OIL, ROUNDTABLE ON SUSTAINABLE PALM OIL 31 (Apr. 25, 2013) <https://www.rspo.org/file/revisedPandC2013.pdf> [<https://perma.cc/PZ6U-T2MW>]. As discussed below, more restrictive provisions have been incorporated into RSPO's 2018 version of Principles and Criteria.

183. See generally ADM GLOBAL- PALM OIL SUPPLY CHAIN TRACEABILITY, JANUARY 2018 - DECEMBER 2018, ARCHER DANIELS MIDLAND (2019), <https://assets.adm.com/Sustainability/2018-Reports/ADM-Global-2018-H2.pdf> [<https://perma.cc/Y2CF-ZTMT>].

184. *Id.* (noting that plantation-level information is based solely on self-reported information from suppliers, which ADM doesn't verify).

185. *Id.* (These mills are sourced indirectly through third-party refiners.)

186. NESTLÉ, NESTLÉ COMMITMENT ON DEFORESTATION AND FOREST STEWARDSHIP 3 (Feb. 2013), https://www.nestle.com/sites/default/files/assetlibrary/documents/library/documents/corporate_social_responsibility/commitment-on-deforestation-2013.pdf [<https://perma.cc/PF6S-SABG>] [hereinafter NESTLÉ COMMITMENT].

187. *Palm Oil*, NESTLÉ, <https://www.nestle.com/csv/raw-materials/palm-oil> [<https://perma.cc/UQ73-SX36>] [hereinafter *Palm Oil*].

188. NESTLÉ, NESTLÉ RESPONSIBLE SOURCING STANDARD 16 (July 2018), <https://www.nestle.com/sites/default/files/asset-library/documents/library/documents/suppliers/nestle-responsible-sourcing-standard-english.pdf> [<https://perma.cc/Y27S-4TLL>].

to verify what is occurring at the level of production.¹⁸⁹ However, despite these commitments, a 2018 Greenpeace report faults Nestlé, as well as Mars, PepsiCo, and Unilever, for continuing to source from affiliates of a palm oil producer responsible for illegal clearing of a huge swath of protected forest areas in the biodiversity-rich region of Papua.¹⁹⁰

In Papua, it appears that NDPE pledges have reduced deforestation well below 2015 peak levels, but that the rate of clearing is still the highest in Indonesia.¹⁹¹ Investigation of how NDPE policies of major trading companies have been applied to plantations in that region provide insight into their impact and many challenges. Traders have borrowed from public regulatory tools, requiring growers to declare a moratorium on clearing in their concession areas until they demonstrate compliance with HCV and HCS criteria.¹⁹² In some cases, they have suspended suppliers to minimize the deforestation risk in their supply chain.¹⁹³ In addition, disclosure mechanisms are being utilized, both through publicizing lists of their own suppliers, as well as requiring suppliers to disclose maps of their concessions.¹⁹⁴ Use of satellite monitoring to track where clearing is occurring also helps audit NDPE compliance.¹⁹⁵

Despite these efforts, murky ownership structures make it difficult to uncover the entities responsible for deforestation, and growers' failures to meet deadlines for NDPE compliance have been overlooked. In addition, insufficient progress has been made to ensure "no exploitation", including the requirement that free, prior, and informed consent is obtained before clearing land that is subject to customary land rights of local populations.¹⁹⁶ The voluntary nature of corporate NDPE commitments, coupled with weak incentives to comply, and no standardization of monitoring

189. *Palm Oil*, *supra* note 187 (committing to the mapping and identification of areas at risk of deforestation, supply chain tracking of ingredient origins, on-the-ground assessments, and monitoring of deforestation mitigation projects).

190. Ruiz, *supra* note 1.

191. *See* EIA, *supra* note 126, at 8.

192. *Id.*

193. *Id.* at 9.

194. *Id.* at 13.

195. *Id.*; *see also* the discussion of use of technology tools, *infra* Part V.B.

196. *Id.* at 10.

or reporting mechanisms, make them an ineffective substitute for regulatory measures with teeth.¹⁹⁷

Environmental NGOs have focused on these shortcomings. They track the extent of deforestation-related requirements specified in public commitments and procurement policies, as well as progress reported against those commitments, and then rate corporations critically.¹⁹⁸ The pressure to act has also come from funding sources. In 2013, the Norwegian sovereign wealth fund divested its interest in Golden Agri-Resources and Wilmar, two major producers and refiners, because of concerns about insufficient action by those companies to combat deforestation.¹⁹⁹ Resolutions filed by major investors led ConAgra Foods, and in turn its supplier Cargill, to agree to phase out purchasing from suppliers engaged in unsustainable practices.²⁰⁰

Another external stakeholder approach to rectifying shortcomings in corporate sustainability efforts is the recent AF initiative. This joint effort of environmental and social NGOs recognized the need for greater consistency in forest-related definitions and objectives and that companies needed guidance on best practices to achieve transparent and measurable results.²⁰¹ The AF “responds to requests from the private sector for NGOs to develop a clear and common set of implementation guidelines . . . [and] the need for common measures of success that can be pursued and monitored across the full range of commodity and geographic contexts where [corporate] commitments apply.”²⁰² Corporate actors would commit to a deforestation-free supply

197. *Id.* at 14–15.

198. A consortium of NGOs has created SupplyChange, a website that consolidates various third-party scores, rankings or credentials assessing adequacy of the actions corporations are taking with respect to sustainable palm oil, and cites negative media reports. *Methodology*, SUPPLYCHANGE, <http://supply-change.org/pages/methodology#commitments-defined> [<https://perma.cc/B2F7-LL72>].

199. *Investors Push Palm Oil to Act on Deforestation*, INNOVATION FORUM (Oct. 27, 2016), <https://innovation-forum.co.uk/analysis.php?s=investors-push-palm-oil-to-act-on-deforestation> [<https://perma.cc/FC56-TW35>].

200. Lucia von Reusner, *Food Giant ConAgra Agrees to Eliminate Suppliers Engaged in Deforestation for Palm Oil*, GREEN CENTURY FUNDS (Aug. 14, 2014), <https://www.greencentury.com/food-giant-conagra-agrees-to-eliminate-suppliers-engaged-in-deforestation-for-palm-oil/> [<https://perma.cc/75Z5-D6G5>].

201. *Accountability Framework*, *supra* note 15.

202. *Id.*

chain as part of a broader pledge not to convert other natural ecosystems, including peatlands, in connection with their production, trading, or purchase of commodities.²⁰³ They would also specify a target date for full achievement of commitments as well as a cut-off date for compliance.²⁰⁴ Depending on the duration, severity, or extent of supplier non-compliance, the corporate buyer would take action ranging from engagement with suppliers to improve their practices, enhanced monitoring, or suspension of purchasing if warranted.²⁰⁵ These Core Principles, together with Operational Guidance materials,²⁰⁶ are designed to assist all supply chain actors with supply chain management (risk assessment, traceability and identification, and resolution of supplier non-compliance), to encourage smallholder inclusion, and to minimize social impact through respecting rights of local communities and indigenous peoples by obtaining their free, prior, and informed consent for land acquisition and forest conversion.²⁰⁷

As outlined above, as target dates for 2020 commitments approach, individual and collective corporate actions, the first category of private sector governance discussed in this Article, have a long way to go before meeting the objective of eliminating deforestation from commodity supply chains. The next section of this Article focuses on the second category of private governance, certification standards for palm oil, and the similar challenges to effectiveness they have encountered.

2. Certification Authorities for Palm Oil

Another private sector response to the social and environmental concerns associated with agricultural commodities

203. ACCOUNTABILITY FRAMEWORK, CORE PRINCIPLES 4–5 (2019), https://accountability-framework.org/wp-content/uploads/2019/06/Accountability_Framework_Core_Principles.pdf [https://perma.cc/4RE3-5ETB] [hereinafter CORE PRINCIPLES].

204. *Id.* at 11–12, 17.

205. *See generally* ACCOUNTABILITY FRAMEWORK, OPERATIONAL GUIDANCE ON SUPPLY CHAIN MANAGEMENT (2019), https://accountability-framework.org/wp-content/uploads/2019/06/Operational_Guidance_Supply_Chain_Management.pdf [https://perma.cc/HQU6-JNCC].

206. *Id.*; CORE PRINCIPLES, *supra* note 203.

207. *See e.g.*, *Contents of the Accountability Framework*, ACCOUNTABILITY FRAMEWORK, <https://accountability-framework.org/contents-of-the-framework/> [https://perma.cc/F7NZ-HN8S].

has been the creation of voluntary certification authorities. In the case of palm oil, the RSPO was established as a not-for-profit organization in 2004 through efforts of industry participants, including Unilever and the World Wildlife Fund.²⁰⁸ The RSPO's current membership of over 4,000 entities includes stakeholders from all segments of the supply chain who have committed to produce, source, and/or use RSPO certified palm oil, as well as banks, investors and NGOs.²⁰⁹ RSPO's mission is to:

Advance the production, procurement, finance and use of sustainable palm oil products[;] [to] Develop, implement, verify, assure and periodically review credible global standards for the entire supply chain of sustainable palm oil[;] [to] Monitor and evaluate the economic, environmental and social impacts of the uptake of sustainable palm oil in the market[;] [and to] Engage and commit all stakeholders throughout the supply chain, including governments and consumers.²¹⁰

The organization reports that 19% of palm oil produced globally, over half of which is grown in Indonesia (i.e., 14.8 million tons as of July 31, 2019), is certified by RSPO.²¹¹ However, as of 2017 its membership contained only 175 oil palm growers, suggesting that the demand for certified palm oil is “limited to a niche market.”²¹²

Initially launched in 2007, these standards were revised in 2013 (“RSPO P&C 2013”) and, most recently, in 2018 (“RSPO P&C 2018”), to enhance their coverage and governance.²¹³ RSPO standards consist of Principles, Criteria, Indicators, and Guidance

208. *Who We Are*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://www.rspo.org/about#who-we-are> [https://perma.cc/U9RJ-E2CD] [hereinafter ROUNDTABLE ON SUSTAINABLE PALM OIL].

209. *About*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://www.rspo.org/about#vision-mission> [https://perma.cc/FJM7-GAAF].

210. *Vision & Missions*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://www.rspo.org/about#vision-mission> [https://perma.cc/FJM7-GAAF].

211. *Impact*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://rspo.org/impact> [https://perma.cc/3RJ8-8TWQ]; see also *About Sustainable Palm Oil*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://rspo.org/about#about-sustainable-palm-oil> [https://perma.cc/M96N-9X2T] (noting that RSPO certifies palm oil).

212. Meijaard et al., *supra* note 34, at 47.

213. *History & Milestones*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://www.rspo.org/about#history-and-milestone> [https://perma.cc/P44M-9XPZ].

to be used by oil palm producers to implement sustainable production practices, and by certification bodies for auditing of these practices. From the outset, these have required monitoring of compliance at the farm level to ensure that no deforestation had occurred since 2005 on the land producing the certified palm oil.²¹⁴ Organizations that purchase or take possession of RSPO-certified oil palm products must implement appropriate controls to prevent misidentification or commingling of certified and uncertified products.²¹⁵ Mills or other users of those products “can claim the use of (or support of) RSPO certified oil palm products when they adhere to the requirements of the RSPO Supply Chain Certification Standard and this is independently verified by an RSPO approved and accredited certification body.”²¹⁶

Corporations have incorporated RSPO certification into their supplier codes and procurement requirements. The CGF recommends incorporation of certification standards such as the RSPO to assist its members in meeting their zero deforestation pledges.²¹⁷ Global companies that have committed to source 100% RSPO certified palm oil include, among others, Unilever, Nestlé, P&G, and Walmart.²¹⁸

214. See ROUNDTABLE ON SUSTAINABLE PALM OIL, RSPO CERTIFICATION SYSTEMS 8 (June 26, 2007), https://www.rspo.org/library/lib_files/preview/827 [<https://perma.cc/7AUG-4B53>]; ROUNDTABLE ON SUSTAINABLE PALM OIL, PRINCIPLES & CRITERIA FOR THE PRODUCTION OF SUSTAINABLE PALM OIL 2018 62 (Nov. 15, 2018), <https://www.rspo.org/principles-and-criteria-review#updates> [<https://perma.cc/7TXE-AAVA>] [hereinafter 2018 PRINCIPLES AND CRITERIA]; ROUNDTABLE ON SUSTAINABLE PALM OIL, PRINCIPLES AND CRITERIA FOR THE PRODUCTION OF SUSTAINABLE PALM OIL 2013 48 (Apr. 25, 2013), <https://www.rspo.org/resources/certification/rspo-principles-criteria-certification> [<https://perma.cc/W3WR-TEK8>] [hereinafter 2013 PRINCIPLES AND CRITERIA].

215. *RSPO Certification*, ROUNDTABLE ON SUSTAINABLE PALM OIL, <https://rspo.org/certification> [<https://perma.cc/8U82-8HKU>].

216. See *Standards Map*, INT’L TRADE CTR., <http://www.standardsmap.org/identify> [<https://perma.cc/PN66-MC8Z>] (describing the supply chain certification methods used by RSPO).

217. *The Consumer Goods Forum Publishes Palm Oil Sourcing Guidelines*, CONSUMER GOODS FORUM (Aug. 11, 2015), https://www.theconsumergoodsforum.com/press_releases/the-consumer-goods-forum-publishes-palm-oil-sourcing-guidelines/ [<https://perma.cc/F9QA-5ZM5>]; see also Lambin et al., *supra* note 49, at 110–11 (describing that 85% of companies with deforestation commitments relied on certification to identify suppliers and further suggesting that certification systems can be used as a tool for preferential market access).

218. ROUNDTABLE ON SUSTAINABLE PALM OIL, *supra* note 208.

Notwithstanding this widespread recognition in the corporate sector, and to some degree because of its involvement, the RSPO Principles & Criteria (“P&C”) have been subject to criticism for not being sufficiently stringent. RSPO’s pre-2018 P&C standard limited the type of land that could be developed for oil palm, but did not require zero deforestation.²¹⁹ It prohibited plantings only in primary forest or HCV areas.²²⁰ Peatland development was not banned unless it involved “extensive planting” (>100 hectares), or as otherwise permitted under national law.²²¹ Prior to development of land that was subject to demonstrated legal, customary, or user rights, producers were required to obtain free, prior, and informed consent from local communities.²²² Use of fire to prepare land for planting was to be avoided, except where permitted under local law, regional guidelines, or other regional best practice, and was only to be used with “exceptional levels of caution” on peat.²²³

These rules left significant gaps, permitting deforestation outside of HCV areas, and not precluding development of peatlands. Economic interests pushed back against inclusion of effective environmental protections in the 2013 P&C.²²⁴ Gaps in the scope of HCV protections (including a failure to require that growers disclose HCV locations within concessions) as well as questions about the credibility of RSPO-certified auditors led to charges that RSPO certification enabled “greenwashing” of palm oil produced after recent conversion of forests or peatlands.²²⁵ Whether the certification process has actually prevented deforestation is also unclear. A comparison of RSPO-certified

219. Kimberly M. Carlson et al., *Effect of Oil Palm Sustainability Certification on Deforestation and Fire in Indonesia*, 115 PROC. OF THE NAT’L ACAD. OF SCI. OF THE U.S. 121, 121 (2018); *see also* 2013 PRINCIPLES AND CRITERIA, *supra* note 214, at 50 (discussing Section 7.3.1 of RSPO’s 2013 Criteria requiring that there be no evidence of new plantings replacing primary forest or areas otherwise designated as High Conservation Value).

220. 2013 PRINCIPLES AND CRITERIA, *supra* note 214, at 50.

221. *See id.* at 52.

222. *Id.* at 53 (detailing that this process is governed by a documentation system that permits local peoples and stakeholders to use their own representative institutions to express their views).

223. *Id.* at 31 (referencing the “Guidelines for the Implementation of the ASEAN Policy on Zero Burning 2003”).

224. Carlson et al., *supra* note 219, at 122.

225. *Id.*

plantations against uncertified areas indicates that certified areas experienced a 33% reduction in forest loss.²²⁶ However, selection bias may have operated when producers chose which of their plantations to certify, favoring the oldest ones that were already planted on land cleared of forests pre-2005.²²⁷

Equally objectionable has been RSPO's failure to enforce these standards to ensure certified companies are in compliance.²²⁸ There are reported cases of certified companies trading palm oil obtained from mills that sourced from illegal plantations.²²⁹ Certified plantations have incurred some deforestation, including in primary and peatland forests, meaning that some certified plantations may have violated RSPO standards.²³⁰ The RSPO has been criticized by Greenpeace and other NGOs, including for inadequately investigating several certified producers accused of responsibility for plantation fires.²³¹ "Unreliable audits, poor implementation and failures to resolve complaints, alongside an inability to adapt their requirements in time to meet market demands, has hindered the acceptance and uptake of certification."²³² These shortcomings were highlighted by the European Parliament in its 2017 Resolution on palm oil and deforestation of rainforests, which arose from concerns about the consequences of the EU's importation of palm oil for use as biofuel.²³³ Such concerns led the European Commission to change the standards for biofuel eligibility under RED II, which will undoubtedly reduce the EU's imports of palm oil unless certified under an approved voluntary certification scheme.²³⁴

226. *Id.* at 121.

227. *Id.* at 122, 124; Lambin et al., *supra* note 49, at 112–13.

228. Pacheco et. al., *supra* note 46, at 32.

229. Meijaard et al., *supra* note 34, at 61.

230. Carlson, *supra* note 219, at 124.

231. Helen Davidson, *Palm Oil Body Criticised over Inquiry into Members' Role in Indonesian Fires*, GUARDIAN (July 12, 2013), <https://www.theguardian.com/world/2013/jul/12/palm-oil-industry-indonesia-fires> [<https://perma.cc/7PSD-FYQZ>].

232. EIA, *supra* note 126, at 14.

233. *European Parliament Resolution* of 4 April, 2017, *supra* note 41, at ¶ 42 (highlighting criticisms of RSPO, ISPO, the Malaysian government's national palm oil certification body, and other certification schemes for failing to effectively prohibit the conversion of rainforests and peatlands).

234. *See infra* text accompanying note 255.

RSPO has tried to improve its enforcement record, to mixed reviews. For example, in April 2016, it suspended a grower, IOI Group, following a determination of non-compliance with certification requirements, including inadequate protection of peat areas and forests.²³⁵ Subsequently, Unilever, Kellogg, Nestlé, and other purchasers stopped sourcing from the suspended company.²³⁶ In addition, RSPO suspended Nestlé briefly in 2018 for failure to report its plans for increased purchase of certified palm oil.²³⁷ After RSPO investigated a complaint filed in 2016 by local and international advocacy groups, it suspended the certification of a mill and plantations affiliated with Indofoods, one of Indonesia's largest producers.²³⁸ Due to its multiple labor rights violations, Indofoods breached P&Cs, as well as local law.²³⁹ However, RSPO's November 2018 suspension lagged far behind decisions by Unilever, Nestlé, Mars, PepsiCo, and other corporations with NDPE pledges to stop doing business with this group.²⁴⁰ Further, Citigroup already exited from its banking relationship with the Indofood corporate group's palm oil business, and the Norwegian Government Pension Fund Global divested its

235. CERES, AGRICULTURAL SUPPLY CHAINS AS A DRIVER OF FINANCIAL RISKS 8 (Nov. 6, 2017), https://www.ceres.org/sites/default/files/Engage%20the%20Chain/Ceres_EngageTheChain_Risks_110417.pdf [<https://perma.cc/GX62-YMVF>].

236. *Id.* at 8.

237. Ana Ionova & Martinne Geller, *Can 'Big Brother' Technology Clean up Palm Oil's Image?*, REUTERS (Feb. 11, 2019), <https://www.reuters.com/article/us-palmoil-technology-insight/can-big-brother-technology-clean-up-palm-oils-image-idUSKCN1Q00DD> [<https://perma.cc/9MA9-B2AF>].

238. Letter from Henry Barlow, Chairperson of the RSPO Complaints Panel, RSPO (Nov. 2, 2018) [hereinafter *Letter from RSPO to PT PP London Sumatra*]. Subsequently, as a result of the suspended entity's failure to comply with the conditions in the November 2, 2018 letter, the RSPO terminated its membership together with that of its parent company. *RSPO Secretariat's Statement On Complaints Panel Decision Regarding PT Salim Ivomas Pratama Tbk*, ROUNDTABLE ON SUSTAINABLE PALM OIL (Mar. 1, 2019), <https://rspo.org/news-and-events/news/rspo-secretariats-statement-on-complaints-panel-decision-regarding-pt-salim-ivomas-pratama-tbk> [<https://perma.cc/M778-MPCY>].

239. See generally *Letter from RSPO to PT PP London Sumatra*, *supra* note 238.

240. *Palm Oil Giant Indofood Subsidiary Loses Sustainability Certification Over Labor Abuses; Suspension of RSPO Membership Looms*, RAINFOREST ACTION NETWORK (Feb. 7, 2019), <https://www.ran.org/press-releases/palm-oil-giant-indofood-subsidiary-loses-sustainability-certification-over-labor-abuses-suspension-of-rspo-membership-looms/> [<https://perma.cc/QWH2-RJFD>].

equity interest.²⁴¹ The transparency of RSPO's claims investigation process, including with respect to alleged illegal operation of plantations in Papua without a permit, has also been criticized.²⁴²

The corporations that made NDPE commitments pressured RSPO to ensure that its certification of oil palm supplies could be relied on as a means to comply with these pledges.²⁴³ Leverage on the organization and its membership exercised by external stakeholders raised the stakes.²⁴⁴ In response, RSPO amended its P&C in November 2018, to align more closely with corporate NDPE commitments and to tighten controls, with new requirements to be fully implemented by November 2019.²⁴⁵ The new standards expand restrictions on deforestation and degradation to protect HCS forest areas and mandate that both HCV and HCS areas be assessed before any new land clearing after November 15, 2018.²⁴⁶ In addition, after that date, no new plantings are permitted on peat "regardless of depth," in both existing and newly developed areas.²⁴⁷ To reinforce risk

241. *The Chain: Citigroup Cancels Loans to Indofood Agri Resources and its Subsidiaries*, CHAIN REACTION RES. (Apr. 26, 2018), <https://chainreactionresearch.com/the-chain-citigroup-cancels-loans-to-indofood-agri-resources-and-its-subsidiaries/> [<https://perma.cc/9LN6-CQTJ>] (citing reports that companies in the Indofood group had questionable rights to operate in portions of their plantation concessions, were involved in disputes with local communities and had been responsible for deforestation, including clearing of peatlands).

242. *See RSPO Finally Agrees Oil Palm Plantation's Legality Needs Investigation – but Complaints Remain Hidden with Insignificant Progress*, ENVTL. INVESTIGATION AGENCY (Apr. 25, 2018), <https://eia-international.org/news/rspo-finally-agrees-oil-palm-plantations-legality-needs-investigation-but-complaints-remain-hidden-with-insignificant-progress/> [<https://perma.cc/D9GT-ZZNZ>].

243. Carlson et al., *supra* note 219, at 125.

244. CARBON TRUST, *CASCADING COMMITMENTS: DRIVING AMBITIOUS ACTION THROUGH SUPPLY CHAIN ENGAGEMENT* 23 (2019), https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/004/072/original/CDP_Supply_Chain_Report_2019.pdf?1550490556 [<https://perma.cc/FVM8-NSAT>] (explaining that investors representing \$6.7 trillion in assets successfully pressured RSPO to raise its standards for deforestation issues).

245. *See* 2018 PRINCIPLES AND CRITERIA, *supra* note 214, at 6.

246. *Id.* at 62 (requiring that land clearing does not result in deforestation to protected HCVs or HCS forests).

247. *Id.* at 57.

management mechanisms, mills are now required to obtain assurance that unaffiliated FFB providers have complied with legal requirements, and to validate this through use of geo-location of plantations and proof of the grower's land ownership, or other land rights, and of a valid license to plant or trade.²⁴⁸ In recognition of the history of land grabbing practices affecting indigenous peoples and local communities, new grievance procedures have been established.²⁴⁹ Finally, the 2018 P&C also seeks to balance greater economic inclusion of smallholder farmers with the need to conserve HCS forests.²⁵⁰ On an exceptional basis, limited development of these areas may be approved by a No Deforestation Joint Steering Group of RSPO and High Carbon Stock Approach members.²⁵¹

Going forward, increased adoption by oil palm growers is also critical so that the certification criteria apply to more than the largest estates.²⁵² However, while desirable from a forest conservation perspective, the enhanced RSPO requirements could add to further barriers to adoption. To counteract some of these obstacles, the 2018 P&C contemplates a new streamlined certification mechanism for independent small producers utilizing a phased approach to compliance.²⁵³

In July 2019, an enhanced set of RSPO criteria known as RSPO-RED,²⁵⁴ established prior to adoption of the 2018 P&C, was accepted by the European Commission as an "approved voluntary

248. *Id.* at 19.

249. *Id.* at 34; *see also* ROUNDTABLE ON SUSTAINABLE PALM OIL, RSPO P&C 2018 FREQUENTLY ASKED QUESTION 5–6 (Oct. 2018), <https://www.rspo.org/principles-and-criteria-review#updates> [<https://perma.cc/QD3F-BST5>] (detailing available protections for whistleblowers) [hereinafter RSPO P&C FREQUENTLY ASKED QUESTIONS].

250. 2018 PRINCIPLES AND CRITERIA, *supra* note 214, at 61.

251. *Id.*

252. Meijaard et. al., *supra* note 34, at 61; *see also* Pablo Pacheco et.al, *The Private Sector: Can Zero Deforestation Commitments Save Tropical Forests?*, in TRANSFORMING REDD+: LESSONS AND NEW DIRECTIONS 161, 171 (CIFOR, A. Angelsen et al., eds., 2018) (ebook), http://www.cifor.org/publications/pdf_files/Books/BAngelsen180113.pdf [<https://perma.cc/Z2D4-294W>] (discussing the shortcomings of certification due to lack of buyer demand for zero deforestation practices).

253. RSPO P&C FREQUENTLY ASKED QUESTIONS, *supra* note 249, at 7–8.

254. *RSPO-RED Requirements for Compliance with the EU Renewable Energy Directive Requirements*, ROUNDTABLE ON SUSTAINABLE PALM OIL (Feb. 10, 2012), <https://rspo.org/certification/rspo-red> [<https://perma.cc/MNS5-9NGN>].

scheme” for sustainably produced biofuel that will be exempted from limits on High ILUC risk fuels under RED II.²⁵⁵ This designation, which expires in December 2021, was based on a determination that RSPO-RED certified biofuel demonstrates low ILUC risk and compliance with the EU’s sustainability and GHG emission savings criteria.²⁵⁶ The European Commission plans to make further changes to the process to reflect the revised RED II sustainability criteria.²⁵⁷ Given the European Parliament’s previous criticisms of the RSPO, a greater level of scrutiny against these criteria is warranted at the next review cycle. As part of that future review process, the RSPO should demonstrate that it is effectively enforcing the 2018 P&C’s strengthened standards designed to prevent destruction of HCV and HCS forests and peatlands so that its certification is a legitimate indicator of low deforestation risk.

V. CHALLENGES AND OPPORTUNITIES

As explored in Part IV above, both public and private law mechanisms designed to preserve forests have confronted multiple obstacles. Prescriptive measures have proven inadequate to change conduct by many actors in the palm oil supply chain. Governance efforts of governmental bodies, corporate actors, and certification authorities have been piecemeal and poorly enforced, whether due to conflicting priorities or lack of capacity. Their actions have largely occurred in silos. External criticism and exercise of economic leverage have triggered adoption of more stringent requirements over time in both sectors, but the ability to demonstrate effective impact remains elusive. Challenges to implementation of zero-deforestation commitments have also arisen because of “unclear land titles, a lack of financial and

255. *Voluntary Schemes*, EUROPEAN COMMISSION (July 31, 2014), <https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/voluntary-schemes> [<https://perma.cc/8L33-2X93>] [hereinafter *Voluntary Schemes*]; see *Press Release MEMO/19/1656*, *supra* note 6.

256. See Commission Decision 2019/1175 of July 9, 2019 on Recognition of the ‘Roundtable on Sustainable Palm Oil RED’ Voluntary Scheme for Demonstrating Compliance with the Sustainability Criteria under Directives 98/70/EC and 2009/28/EC of the European Parliament and of the Council, art. 1, 2019 O.J. (L 184/21) 21–23 (EU).

257. *Voluntary Schemes*, *supra* note 255.

technical resources for farmers to change their practices, a lack of traceability and monitoring systems, and costs of certification and other initiatives.”²⁵⁸

The New York Declaration established the objective of halting deforestation caused by production of agricultural commodities by 2020.²⁵⁹ Corporate pledges to achieve 100% sustainable sourcing echoed that timeline. However, due to the challenges outlined above, this target is proving out of reach. The 2019 Progress Assessment for the New York Declaration and the annual Forest 500 report for 2018, released by the environmental organization Global Canopy, both confirm this assessment.²⁶⁰ While companies involved in the palm oil supply chain have demonstrated the most progress out of the four agricultural commodities tracked, none of these entities have achieved a zero-deforestation supply chain.²⁶¹ The Forest 500 report emphasizes the need for manufacturers to exert pressure on traders, and for producers to adopt and implement comparable no deforestation policies at the plantation level.²⁶²

Achieving the objectives of the New York Declaration requires a coordinated “all hands on deck” effort in which public regulation facilitates and encourages private sector initiatives to control deforestation, and the private sector supports and helps implement public policy objectives. “Because the scale of the deforestation problem is so massive, it is important that a full

258. SCHAAP ET AL., *supra* note 30, at 10.

259. *See New York Declaration on Forests*, *supra* note 18, at §1.

260. SCHULTE ET AL., *supra* note 31, at 45 (discussing that the agricultural sector is not on track to meet the 2020 target); *see also* SARAH ROGERSON ET AL., GLOBAL CANOPY, FOREST 500 ANNUAL REPORT 2018 - THE COUNTDOWN TO 2020 3, 7 (2019), https://forest500.org/sites/default/files/related-documents/forest500_annualreport2018_0.pdf [<https://perma.cc/TB5T-9MTA>] (detailing the methodology used for assessing the 500 most influential companies and financial institutions involved in forest-risk commodity supply chains).

261. SCHULTE ET AL., *supra* note 31, at 45; ROGERSON ET AL., *supra* note 260, at 12 (providing a ranking of the 10 highest companies with Nestlé receiving the highest Forest 500 rating, followed by Unilever, Sime Darby (a Malaysian trading company), and PepsiCo); *see also* Helen Burley, *The Clock is Ticking*, GLOBAL CANOPY (July 19, 2019), <https://medium.com/global-canopy/the-clock-is-ticking-80eb644bd403> [<https://perma.cc/3NAL-EFC9>] (discussing why companies are not going to reach their 2020 commitments).

262. ROGERSON ET AL., *supra* note 260, at 15 (indicating that only 42% of the 196 companies in the palm oil supply chain have committed to not source from HCS forest areas and peatlands and only 16% are reporting on that objective).

range of tools including regulations, social pressure, and internal economics as reflected in green supply chain management arrangements are deployed to address the issue.”²⁶³ The following discussion identifies several areas in which better coordination is needed between and within such mechanisms, and highlights practices that could act as a model for concerted action to reduce deforestation risk.

A. Resolving Inconsistency and Conflicts with Indonesian Law

While the Indonesian government’s 2011 Primary Forest Moratorium may have inspired the large commodity companies to adopt their own zero deforestation policies,²⁶⁴ the government has objected to imposition of HCV and HCS forest clearing restrictions.²⁶⁵ These standards have been viewed as inconsistent with economic development and difficult for smallholders and other producers to meet.²⁶⁶ In addition, they exceed the lower bar for certification of producer sustainability set by the government in establishing the ISPO.²⁶⁷

Private sector initiatives to implement greater forest protections have contributed to these tensions with public policy and economic objectives. The Indonesian government’s strong opposition to the Indonesian Palm Oil Pledge (“IPOP”), a voluntary initiative of international palm oil companies that adopted an NPDE policy,²⁶⁸ led to IPOP’s dissolution in 2016.²⁶⁹ IPOP encountered resistance from smaller local producers as well as the government, which charged that the group’s conduct violated

263. Paddock, *supra* note 157, at 208.

264. See SCHAAP ET AL., *supra* note 30, at 25.

265. Pirard et al., *supra* note 161, at 3.

266. *Id.* at 6; see also Pacheco et al., *supra* note 46, at 33 (noting the government’s argument that zero deforestation commitments exclude small and medium scale enterprises from access to global markets).

267. Pirard et al., *supra* note 161, at 4–5; Pacheco et al., *supra* note 46, at 32.

268. Pacheco et. al., *supra* note 46, at 33; see also IF Editorial Team, *Did the Indonesian Palm Oil Pledge Fail or Succeed*, INNOVATION FORUM (July 7, 2016), <https://innovation-forum.co.uk/analysis.php?s=did-the-indonesian-palm-oil-pledge-fail-or-succeed> [<https://perma.cc/WK2U-JF3R>].

269. Pacheco et. al., *supra* note 46, at 33.

competition laws and sovereign authority.²⁷⁰ Similarly, the Palm Oil Innovation Group (“POIG”), an initiative formed in 2013 by environmental advocacy organizations and major producers, has advocated for best practice standards that continue to be more stringent than those of the RSPO,²⁷¹ and accordingly, the government’s less rigorous ISPO requirements.

International pressure to implement no deforestation requirements has also engendered resistance from the Indonesian Government due to concerns that foreign standards and regulations affecting palm oil, particularly those of the EU, intrude on the country’s national sovereignty and jurisdiction.²⁷² In addition, local industry may fear that greater transparency of supply chains would expose corruption or illegal activity common in that sector.²⁷³

Similarly, the Indonesian government’s emphasis on its sovereign rights to determine how to develop resources and manage economic growth has clearly fueled its hostile reaction to the sustainability restrictions imposed by the EU Biofuel Delegated Act and RED II.

Other challenges arise from misalignment of public and private requirements, discouraging forest conservation, and creating operating risks for producers. As discussed above, private sector certification standards or NDPE commitments often require preservation of HCV or HCS forest areas within concessions granted for plantation development.²⁷⁴ However, this conflicts with the terms on which concessions are granted, which mandate planting of all leased areas, including forested lands.²⁷⁵ “Thus, RSPO members in Indonesia may avoid acquiring high forest cover areas, or excise forests from land leases, to avoid the conflict

270. *Id.*; see also IF Editorial Team, *supra* note 268.

271. See *About POIG*, PALM OIL INNOVATION GROUP, <http://poig.org> [<https://perma.cc/4HRW-9UWC>] (describing POIG); see also *RSPO and POIG, What is POIG’s relevance pursuant to the adoption of the 2018 RSPO P&C?*, PALM OIL INNOVATION GROUP, <http://poig.org/further-resources/rspo-and-poig/> [<https://perma.cc/VV9R-TC2C>] (explaining that POIG supports the improvements in RSPO’s 2018 P&C but highlighting remaining weaknesses).

272. Pacheco et al., *supra* note 46, at 34.

273. *Id.*

274. See *supra* Part IV B.1–2.

275. See Lambin et al., *supra* note 49, at 113; see Pirard et al., *supra* note 161, at 2–3; see SCHAAP ET AL., *supra* note 30, at 26–27.

between legality and sustainability.”²⁷⁶ Rather than put licensees at risk of losing their concession if they follow best conservation practices, the government should change this licensing restriction to allow compliance with heightened standards applicable through private governance mechanisms.²⁷⁷ Concerns about smallholders can be addressed through capacity building to achieve sustainability under a separate set of standards, as discussed below. There is also a risk that a plethora of inconsistent standards imposed by public and private certification bodies, on top of individual corporate sourcing policies, sends mixed messages to growers as to priorities and imposes additional costs of compliance.²⁷⁸

International and domestic business interests have advocated for cooperation with and enforcement support from the public sector. At the time of adoption of the New York Declaration, the Indonesian Chamber of Commerce, Golden Agri-Resources, Wilmar International, and Cargill announced a joint pledge, covering all their operations and those of third party suppliers, “to ensure zero deforestation, to protect human rights and promote social development, including through the respect of indigenous peoples’ free prior informed consent.”²⁷⁹ These parties also called on the Government of Indonesia to “codify all elements of this pledge within and enforceable by Indonesian law.”²⁸⁰ According to industry views, market-based solutions, including voluntary sustainability commitments, are not enough.²⁸¹ The problem of

276. Carlson et al., *supra* note 219, at 125.

277. This has occurred at the provincial level. One example is Central Kalimantan’s regulation in 2014 which allowed palm oil companies to protect area within their concessions by acknowledging the concept of HCVs. Pacheco et al., *supra* note 46, at 35.

278. *Id.* at 32 (discussing the differences between treatment of HCV areas under RSPO and ISPO criteria). In 2016, the Indonesian Government announced efforts to strengthen ISPO requirements in response to increased market demand for sustainably produced palm oil, and against the backdrop of EU concerns about ISPO’s shortcomings, but the outcome of that effort is unclear. EIA, *Backtracking on Reform*, *supra* note 127.

279. *New York Declaration on Forests*, *supra* note 18, at § 3A.

280. *Id.* These entities also support the One Map initiatives to encourage the Indonesian Government to establish a framework to aid in implementing this pledge, such as promoting land swaps, or incentivizing forest conservation. *Id.*

281. *Reducing Deforestation in Commodity Supply Chains as Temperatures Rise*, GLOBAL ENV’T FACILITY (Oct. 5, 2018), <https://www.thegef.org/news/reducing-deforestation-commodity-supply-chains->

deforestation is wider than each company's supply chain, and requires governments to strengthen regulations. To prevent "leakage" towards a market with lower environmental standards, buyers and traders have called for governments to enact and apply robust forest policies to "ensure a blanket standard for all producers and buyers particularly as demand for agricultural commodities in India and China grows . . . [this would help] even the playing field which currently puts responsible companies at a commercial disadvantage to their business as usual counterparts."²⁸²

There have been some promising signs of government receptiveness to greater alignment with NDPE commitments. One example is the East Kalimantan project for emissions reduction ("ER") under REDD+.²⁸³ To qualify for receipt of proceeds from sale of carbon credits to be generated by the project, the Indonesian government plans to implement additional environmental and social risk mitigation measures meeting World Bank requirements.²⁸⁴ These would add an overlay of protections to existing RSPO or ISPO certification systems and local environmental laws applicable to the palm oil sector. Important components of the ER plan are implementation of HCV policies for oil palm estates, providing training to enable additional producers to qualify for RSPO certification, and assistance for smallholder farmers with the ISPO certification process.²⁸⁵

temperatures-rise [<https://perma.cc/6ZZD-ULYH>] [hereinafter *Reducing Deforestation in Commodity Supply Chains as Temperatures Rise*]; see *Businesses Call for Deeper Partnerships to Build a More Forest Positive Future*, WORLD BUSINESS COUNCIL FOR SUSTAINABLE BUS. (Aug. 30, 2019), <https://www.wbcsd.org/Overview/News-Insights/General/News/Businesses-call-for-deeper-partnership-to-build-a-more-forest-positive-future> [<https://perma.cc/7ZGC-7HW2>] (calling on industry for continued public-private sector cooperation and effective regulatory measures in the context of the 2019 fires in the Amazon).

282. *Reducing Deforestation in Commodity Supply Chains as Temperatures Rise*, *supra* note 281.

283. See *ERPD*, *supra* note 62.

284. *Id.* at 233.

285. *Id.* at 87–90, 122. The Program calls for national government coordination with government agencies at the district level and with plantation companies to commit to sustainable production which includes providing technical assistance to protect HCV forest areas. *Id.* at 87.

Another positive sign that Indonesia has linked enforcement of restrictions on forest clearing to meeting its NDC targets is contained in the March 2019 report on the Low Carbon Development Initiative (“LCDI”), commissioned by the Minister of National Development Planning.²⁸⁶ The objective of this initiative is to identify the steps that the government must take to meet, and even beat, its NDC targets for GHG emissions reductions and to incorporate them into economic development planning.²⁸⁷ The LCDI report recognizes that one key aspect of achieving a low carbon economy is a public policy framework that fosters sustainable environmental practices by the private sector.²⁸⁸ This framework requires:

[F]ull enforcement of forests, palm oil, mining and peat land moratoria, so by 2045 Indonesia will still be endowed with 41.1 million ha of primary forests, including nearly 15 million ha of peat lands. Of special interest are primary forests, such as those in Papua and Kalimantan, and key peat lands and mangrove systems that support biodiversity, enhance resilience and contribute to carbon emissions reduction targets.²⁸⁹

The report highlights that the moratorium on new palm oil development, which also provides for review of existing plantations, affords the opportunity to clarify land tenure rights and to tackle forest, agricultural, and land use reforms.²⁹⁰

B. Transparency & Traceability

In the palm oil supply chain, a single mill can source from multiple growers, and a trader typically purchases oil produced at many mills. Downstream actors such as manufacturers, retailers,

286. LOW CARBON DEVELOPMENT, *supra* note 116. This report was prepared with the participation of multiple Indonesian ministries, international development organizations and environmental NGOs. See Nicholas Stern, *Commentary: Indonesia is Showing the Way on Sustainable Growth*, NEW CLIMATE ECONOMY (Oct. 12, 2018), <https://newclimateeconomy.net/content/commentary-indonesia-showing-way-sustainable-growth> [<https://perma.cc/F4TC-LKKF>] (providing background on the LCDI).

287. LOW CARBON DEVELOPMENT, *supra* note 116, at 12.

288. *Id.* at 17.

289. *Id.*

290. *Id.* at 19.

and traders have found it difficult to have visibility into where their palm oil supplies originated, particularly if from plantation and mills they do not control, and even more so, into the conditions under which those supplies were produced.²⁹¹ The complexity of these supply chains have made it challenging to track sources back to the grower and mill levels, and despite significant efforts, “illegal” palm oil still manages to penetrate the supply chain of companies with commitments to certification and “no deforestation.”²⁹²

The use of new technology has begun to provide needed insight, helping companies with “no deforestation” commitments validate whether these have been complied with at the mill or grower level.²⁹³ This practice may supplement, or be in lieu of, an RSPO certification requirement. The downstream purchaser can detect whether suspicious forest clearing has occurred by reviewing satellite data in the area surrounding the mill. For example, Nestlé is using the “Starling” satellite system developed by Airbus to screen suppliers’ practices.²⁹⁴ It plans to post mill-specific data on its website to “put responsibility on the mill” and has announced plans to suspend doing business with offending suppliers that fail to meet its “responsibly sourced” criteria.²⁹⁵ The PALM Risk Tool developed by Global Forest Watch uses satellite data to create a public database of palm oil mills.²⁹⁶ This tool maps

291. Meijaard et al., *supra* note 34, at 65.

292. *Id.*

293. SCHULTE ET AL., *supra* note 31, at 47 (noting that some technology includes forest monitoring and supply-chain traceability tools); see PROGRESS ON THE NEW YORK DECLARATION ON FORESTS, IMPROVING GOVERNANCE TO PROTECT FORESTS, EMPOWERING PEOPLE AND COMMUNITIES, STRENGTHENING LAWS AND INSTITUTIONS: GOAL 10 ASSESSMENT 8 (2019), https://forestdeclaration.org/images/uploads/resource/2018_Goal10_FocusReport_Full.pdf [<https://perma.cc/6AHF-GSY4>] [hereinafter NEW YORK DECLARATION GOAL 10 ASSESSMENT].

294. *Palm Oil*, *supra* note 187.

295. Ionova & Geller, *supra* note 237; see *Using Resources Sustainably*, NESTLÉ, <https://www.nestle.com/csv/impact/environment> [<https://perma.cc/J9VL-RQLL>] (starting in 2019, Nestle is using Starling technology to monitor all of its palm oil supply chains globally).

296. Sarah Lake & Octavia Payne, *Companies Can Now Spot Deforestation in their Palm Oil Supply Chains Before it Happens*, GLOBAL FOREST WATCH (June 8, 2016), <https://blog.globalforestwatch.org/commodities/companies-can-now-spot-deforestation-in-their-palm-oil-supply-chains-before-it-happens> [<https://perma.cc/U9M7-K3WG>].

the mills' locations and allows monitoring of land clearing activity nearby.²⁹⁷ These, and other tracking and monitoring tools, have been developed to allow a potential buyer or financial institution to detect forest loss by specific location and supply chain, or to highlight geographical areas posing deforestation risk.²⁹⁸

Increasing transparency of plantation ownership and activity is also facilitated by publication or sharing of maps and land classifications of concession areas. As discussed above, some traders require that growers disclose their concession maps. In some cases, growers have volunteered to share this information with the Indonesian government to aid them in peatlands restoration.²⁹⁹ Rather than acting in isolation on its One Map Initiative, the government should coordinate with the private sector and validate the maps they provide. The enhanced RSPO P&C 2018 requires producers to demonstrate that their operations do not extend into areas subject to local community land rights without free, prior, and informed consent, and to develop maps showing the extent of the community's rights through such a participatory process.³⁰⁰

However, instead of encouraging these measures, the Indonesian government has taken a protectionist stance by encouraging plantation owners not to publish concession maps. In a May 6, 2019 letter sent to the country's palm oil lobby, the Coordinating Minister for the Economy advised against sharing such data, citing national security and anti-competitive concerns, and claimed that disclosure of ownership of concessions jeopardized protection of natural resources.³⁰¹ The minister

297. *Id.*

298. Mark Tercek, *2020 Deforestation Targets Lead to Positive Outcomes—Even If We're Behind Schedule*, NATURE CONSERVANCY (Jan. 17, 2019), <https://www.nature.org/en-us/about-us/who-we-are/our-people/mark-tercek/2020-deforestation-targets-lead-to-positive-outcomes/> [<https://perma.cc/2RDA-8GHX>] (describing “Global Forest Watch,” a monitoring platform for global forest loss and the “Global Canopy Program,” a commodity tracking tool).

299. SCHAAP ET AL., *supra* note 30, at 28 (noting that major palm oil and pulp/paper producers with Indonesian holdings have voluntarily pledged to share their concession maps to aid in monitoring and tracking efforts).

300. 2018 PRINCIPLES AND CRITERIA, *supra* note 214, at 35–36.

301. Hans Nicholas Jong, *Indonesia Calls on Palm Oil Industry, Obscured by Secrecy, to Remain Opaque*, MONGABAY (May 21, 2019),

expressly cited this concern “as a response to the [EU Biofuel] delegated act.”³⁰² This public sector action favoring economic and geopolitical interests threatens progress toward achieving other environmental and social policy objectives facilitated by transparency, including the President’s pledge to resolve longstanding land conflicts with concession holders in favor of local communities.³⁰³

C. Smallholder Farmers and Local Communities

Additional challenges to private and public governance mechanisms alike have come from the role of smallholder farmers in the palm oil supply chain, and the land use conflicts that have arisen from expansion of this commodity. As discussed in Part III, in Indonesia, smallholder farmers represent a significant 35-40% of production.³⁰⁴ They face economic challenges from the limited productivity of their plantings, which in turn leads to further land clearing to supplement inadequate family incomes.³⁰⁵ Tackling deforestation requires assisting small-scale farmers to derive more palm oil from less land: “[o]ne way to increase crude palm oil (CPO) output without expanding into pristine forests is to improve the way smallholders cultivate oil palm. On average, smallholder plantations yield two tons of CPO a year. But with better seedlings, they could more than double their production.”³⁰⁶

The cost of RSPO certification already puts it out of reach for smallholder farmers, creating a disadvantage that amplifies the power share of large plantation owners. The modest price premium for certified FFB makes it difficult for farmers to recoup those costs,³⁰⁷ and has resulted in minimal certification levels for this segment of growers:

<https://news.mongabay.com/2019/05/indonesia-calls-on-palm-oil-industry-obscured-by-secrecy-to-remain-opaque/> [<https://perma.cc/U5UM-B6A8>].

302. *Id.*

303. *See id.*

304. Meijaard et al., *supra* note 34, at 14, 20; *ERPD*, *supra* note 62, at 63.

305. *ERPD*, *supra* note 62, at 73 (explaining that because productivity of farming is low for those smallholders with limited finances and technology, they are motivated to expand, often replacing natural forests).

306. Dayne, *supra* note 10.

307. Thontowi A. Suhada et al., *Smallholder Farmers Are Key to Making the Palm Oil Industry Sustainable*, WORLD RESOURCES INST. (Apr. 2, 2018), <https://wri-indonesia.org/en/blog/smallholder-farmers-are-key-making-palm-oil->

As of 2017, less than 1 percent of independent smallholders' farms were certified as sustainable by the [RSPO] and [ISPO] Since independent smallholders are not linked to any particular company or mill, they do not receive training, supervision or support from companies, and only receive limited support from the government. They get limited information about good agricultural practices. This has led to lower productivity and a lower concern for sustainability.³⁰⁸

In addition, the widespread involvement of smallholders exacerbates the complexity corporations face in tracing whether clearing of HCS and HCV lands has affected their sources.

The Indonesian government has also acknowledged that its failure to establish land tenure rights for local communities, including indigenous populations, inhibits good forest management and leads to conflict.³⁰⁹ In its LCDI Report, the Indonesian government catalogues the adverse effects of past policies:

Indonesia's strategy to manage forests through concessions and through centralized management structures without local monitoring and ownership has resulted in the over-exploitation of forest assets and resource uses that neither benefit the poor, nor create economic value. Local communities' land access rights are limited, and community forestry license programs have not achieved their targets. Traditional communities, which occupy . . . (a third of total forest areas), have no formal land rights. Furthermore, the allocation of concessions for timber, pulp, and paper production and, increasingly oil palm plantations, has been opaque while the enforcement of spatial and environmental planning has been largely ineffective. As a result, the deforestation rate is rapid, and is causing the loss of livelihoods for

industry-sustainable [<https://perma.cc/5YUW-VT6M>] (estimating that upfront costs for certification for independent smallholders can range from 16–19% of farmers' mean annual incomes, with annual costs up to 12%); *see also* Lambin et al., *supra* note 49, at 111–112 (detailing challenges from insufficient price premiums).

308. Suhada et al., *supra* note 307.

309. *ERPD*, *supra* note 62, at 72, 114, 122; *see also* SCHULTE ET AL., *supra* note 31, at 80 (highlighting a history of land conflicts in Indonesia involving the agricultural sector).

local communities who depend on forest resources for a large part of their income.³¹⁰

These problems also harm other actors in the supply chain. Conflicting land claims enhance the risk of increased costs, delays, and uncertainty for producers and investors, and may cause reputational damage for actors at all levels of the related supply chain.³¹¹ Moreover, lack of clarity on who owns specific forest areas makes it difficult to appropriately allocate incentives such as REDD+ funding.³¹²

The scale of these challenges necessitates efforts by both public and private sectors. Corporate supply chain actors are pitching in and collaborating in government efforts, aware of the necessity of doing so to accomplish NDPE commitments. For example, Wilmar is assisting smallholder oil producers to increase their yields as well as to comply with its sustainability standards, and is helping independent smallholders qualify for RSPO certification as a group.³¹³ Unilever, together with the Provincial Government of Central Kalimantan and district-level bodies, is piloting a program for jurisdiction-wide certification of all palm oil produced within that major cultivation region.³¹⁴ Other participants include Wilmar and Golden Agri.³¹⁵ This public-private initiative seeks to increase the productivity of the region's smallholder palm oil producers, reduce deforestation and conflict over land rights, and ensure sustainable sourcing.³¹⁶ To help achieve these objectives, Unilever established a program to support RSPO certification of regional smallholders, starting with

310. LOW CARBON DEVELOPMENT, *supra* note 116, at 45.

311. *See, e.g.* Meijaard et al., *supra* note 34, at 15.

312. *ERPD*, *supra* note 62, at 78.

313. SCHAAP ET AL., *supra* note 30, at 8.

314. *Id.*; *see* John Watts et al., *Can Jurisdictional Certification Curb Palm Oil Deforestation in Indonesia? (Commentary)*, MONGABAY (July 10, 2019), <https://news.mongabay.com/2019/07/can-jurisdictional-certification-curb-palm-oil-deforestation-in-indonesia/> [<https://perma.cc/FVC4-GXHH>] (detailing a recent analysis of the history, progress and multiple challenges to this jurisdictional approach).

315. SCHAAP ET AL., *supra* note 30, at 33.

316. *Id.*

a targeted village.³¹⁷ According to Unilever, this program would create the world's first certified "sustainable village."³¹⁸

These cooperative efforts offer a path towards realizing the new AF initiative's vision of a coordinated approach between the private sector and governments to achieve common goals of forest conservation and respect for human rights:

Responsible supply chain initiatives must not take place in isolation, but in synergy with governments and others working to halt deforestation, improve land governance, reform public policies and incentives, and shift consumption patterns to respect the Earth's finite resources. When this multi-pronged approach is effective, supply chain initiatives help to end deforestation and conversion at landscape scales while contributing to Nationally-Determined Contributions for greenhouse gas reductions under the Paris Agreement. They support equitable rural development and the wellbeing of smallholders, workers, and communities. And they are undiluted by the leakage of negative impacts to other locations, commodity sectors, or ecosystem types.³¹⁹

Adoption of a coordinated approach would enhance the capacity of the private sector to produce palm oil that meets internationally recognized sustainability criteria and would avoid the risks associated with deforestation. For Indonesia, it would help demonstrate that its policies are guiding the country away from a historical pattern of forest destruction, minimize the economic effect of EU biofuel restrictions, and reinforce the government's capacity to achieve its emissions reductions targets.

VI. CONCLUSION: THE FUTURE OF FORESTS: 2020 AND BEYOND

There is intense focus on January 1, 2020, as the point in time to assess the future of forests and benchmark whether sufficient progress has been made against commitments. For the public sector in Indonesia, such international commitments included its NDC submitted under the Paris Agreement and implementation of conditions for receipt of REDD+ funding. The government's

317. *Id.*

318. *Id.*

319. CORE PRINCIPLES, *supra* note 203, at 1.

issuance of moratoria on new palm oil permits and conversion of peatlands implies a commitment to rigorously enforce these bans. At the same time, the private sector's pledges under the New York Declaration to end deforestation caused by production of agricultural commodities, and corporate NDPE policies or sourcing requirements that echo those objectives, will be held to account.³²⁰

Spurred on by the scrutiny of civil society, and with their guidance, commercial interests have created private governance mechanisms designed to fill gaps where public measures have fallen short. They have experimented with new approaches to standard-setting, monitoring, and technical and financial support to improve their palm oil supply chains.³²¹ Separately, and to some degree in reaction to these efforts, the government has intensified its regulation of this industry. But without strict enforcement coordinated at national and local government levels, these private initiatives will not be able to control illegal deforestation practices.³²² The Indonesian government has indeed acknowledged that if fully enforced, a permanent moratorium on conversion of primary forests and peatlands would be the most effective policy measure to achieve its targeted emission reductions, which are "significant for the country and for the world."³²³

While government bans may stop destructive conduct, they do not provide guideposts for what is an acceptable alternative. A Forest Trends study on aligning corporate and national commitments in Indonesia describes the power of synergies between public and private efforts:

Corporations require a regulatory and policy environment that supports their zero deforestation ambitions. Likewise, governments are more likely to achieve their NDC goals with the participation of key corporate actors implementing reduced deforestation and forest landscape restoration corporate policies across their operations . . . Corporations hold tremendous power to shape landscape management practices on the lands they

320. See SCHULTE ET AL., *supra* note 31, at 16.

321. Bennett, *supra* note 109 (noting that while voluntary action is important, it cannot alone resolve deforestation issues on a global scale and national and international policies will be necessary).

322. *Id.*

323. LOW CARBON DEVELOPMENT, *supra* note 116, at 78–79.

control—directly and indirectly—throughout their supply chains. If corporate commitments and actions can be properly aligned with government policies and NDC goals, the private and public sectors will be able to reinforce each other's efforts to achieve zero deforestation at subnational, national, and global scales.³²⁴

The latest generation of private sector governance mechanisms – the RSPO's 2018 P&C standards and the AF's Core Principles – should be embraced by the public sector as an approved path to sustainability. The public/private pilot efforts in Kalimantan Province to certify all producers on jurisdiction-wide basis are a promising step towards standards alignment. Sharing of satellite monitoring results, mapping, and ownership data obtained by palm oil supply chain actors would also reinforce governments' enforcement capacity.

It is clear from the IPCC's Special Report³²⁵ that land use and forest practices are a key determinant of global emissions levels. For Indonesia, which has had the largest GHG emissions from this sector, this is especially true. However, the temptation to continue on a business as usual course is powerful, at all levels. Palm oil has proven too lucrative a crop for this conflict to be resolved by voluntary initiatives alone. Continued pressure is needed from civil society, from multilateral bodies such as the UN, and from importing countries. Grants, loans, investments, and private sector governance mechanisms alike must reinforce this message through NDPE standards, monitoring compliance, and imposing consequences in the event of breach. But pressure alone is insufficient without providing resources, financial incentives, and concrete guidance to enable sustainable production. The government should reward good conduct, while penalizing producers that flout regulatory requirements. One way would be to establish a more favorable concession rate for entities that demonstrate compliance with certification requirements. Funding from the REDD+ mechanism could compensate the government in the event it loses revenue from lowering licensing fees, and could be the source of financial support to increase smallholder

324. SCHAAP ET AL., *supra* note 30, at 4, 10; *see also* Lambin et al., *supra* note 49, at 114 (suggesting that environmental policies need to complement and reinforce each other rather than create fragmentation).

325. IPCC, *supra* note 24.

productivity, as well as provide training on how to meet the new more stringent RSPO Standards.³²⁶ Private sector financing sources should similarly identify and support only those supply chain actors whose practices match these heightened standards.

2020 is the stocktaking moment. Countries have an obligation under the Paris Agreement to step up their ambition and set even higher emissions reduction targets. To meet New York Declaration goals and their own commitments, private sector actors must demonstrate that their supply chains are not responsible for destroying critical forests and the biodiversity within them, or for exploiting plantation workers or local communities. As agricultural commodity production expands in Indonesia and other countries, it is essential to ensure the successful implementation of public and private governance mechanisms such as those outlined in this Article. Even less progress has been made with respect to the other agricultural commodities that are major drivers of deforestation. However, Indonesia's LCDI and collaborative programs with the private sector can serve as models. The world's forests, and our ability to minimize the drastic impacts of climate change, depend on countries like Indonesia meeting and exceeding their NDC targets through sustainable land use that balances economic development with environmental protection. Indonesia's leadership in this area, together with the actions of responsible corporations, can, and must, inspire partnerships across the globe to preserve the forest landscape.

326. The World Resources Institute has also suggested using government export revenues as one potential source of funding to help smallholder farmers. Suhada et al., *supra* note 307; Cf. Rachmadea Aisyah, *Govt to Fully Finance ISPO Certification for Smallholders*, JAKARTA POST (July 31, 2019), <https://www.thejakartapost.com/news/2019/07/31/govt-to-fully-finance-ispo-certification-for-smallholders.html> [<https://perma.cc/C7ZT-6HW4>] (reporting that the Indonesian government plans to expand ISPO's coverage of smallholders by funding the cost of their certification to improve their production practices and thereby reduce criticism by the EU and other importing locations of palm oil's adverse impacts).