November 14, 2018

California Air Resources Board
1001 I Street
Sacramento, CA 95814

Joint comment letter from 110 social and conservation scientists on California's proposed Tropical Forest Standard (TFS)

Dear CARB Board and staff,

We are geographers and other social and conservation scientists writing to express our concern that the California Air Resources Board's (CARB's) proposed credit-based Tropical Forest Standard (TFS) poses serious risks of harm to forest-communities and to the integrity of California's climate policy. We have performed field-based or technical research on REDD+ pilot programs, carbon offsets, Payments for Ecosystem Services (PES), and forest conservation. We commend California's progress toward reducing its greenhouse-gas (GHG) emissions and CARB's recognition of the damages from tropical deforestation to earth's climate and biodiversity. However, we are concerned that CARB has failed to take account of the extensive literature documenting the environmental ineffectiveness and negative social impacts of tropical forest offsetting and its implications for carbon-trading linkages with jurisdictions in developing countries.

Our own research has convinced us of the risks that the TFS would pose to forest-dwelling people. The TFS approach also contributes to the adverse environmental justice effects that offsets are having in California. Moreover, it is impossible to ensure that avoidance of GHG emissions at tropical forest offsetting sites is "*real, additional, quantifiable, permanent, verifiable and enforceable*" as required by California law for any carbon trading mechanism. Adopting the TFS is unlikely to slow tropical deforestation for reasons we list below, among others.

Case studies of REDD+ and PES around the world by ourselves and others document how these programs have very often constrained the access of forest-dependent communities to land and forest resources, curtailed livelihoods with minimal compensation, undermined common-property forms of forest governance, and replaced indigenous conservation values and practices with expectations of payment. While some forest-dwelling groups have received short-term material benefits from REDD+ projects, such projects have provided "greenwashing" cover for destructive mining and expansion of export-agriculture plantations, and in some cases entailed violent repression or dispossession of entire communities.

REDD+ and other PES projects are implemented in forests where people live, often spaces with long histories of contestation, exploitation, and dispossession resulting from immense inequalities between forest communities, local elites, and extractive industries. In this context, work against deforestation in these regions risks causing harm and requires deep understanding of the local context that comes from presence on the ground and trust-based relationships built over time. This cannot be accomplished with a program that

measures rates of deforestation at arms length, while depending on the competence and integrity of public officials in distant places.

Social and environmental safeguards have been established with the intention of ensuring that such projects do not cause harm. However, core safeguards under the UN-REDD Programme lack specificity and legal authority and are framed in some of the weakest language in international law. Further, mandated social and environmental safeguards often fail to avoid harm due to the inherent subjectivity and conflicts of interest of project managers and consultants hired to determine whether safeguard requirements have been met. It is easy to check "consultation," and "prior and informed consent" boxes by holding a publicly announced meeting without effectively informing communities of the full consequences for them of the proposed project or incorporating community decisions into project plans. Extremely poor-quality consultation is commonplace and the record of REDD+ is replete with conflicts, scandals, and self-dealing by officials and local elites.

Some have argued that this large set of case studies on REDD+ pilot projects is irrelevant to jurisdictional REDD, but the types of interventions discussed in this literature, such as establishment of conservation areas, regulations restricting land use, and payments to farmers and forest-dwellers for changing their practices, are precisely the types of activities that would be included in jurisdictional REDD programs. Therefore, the harms described in the above-mentioned studies of REDD projects and programs are entirely germane to the proposed TFS.

An international forest sector offset program risks weakening California's climate targets with credits whose benefits are not verifiable, risk reversal, and do not meet the other requirements of California law.

First, it is important to remember that offsets using forest-carbon credits would not *reduce* emissions, but would simply legalize a portion of the continued emissions by the capped sectors in exchange for *hoped-for* avoidance of emissions from deforestation and forest degradation. Offsets, in this way, perpetuate environmental injustice. The use of offsets in California has allowed continued and even increased emissions of the toxic co-pollutants released alongside GHGs, particularly from refineries and other large facilities that are the main users of CARB-approved offsets and that are located disproportionately in low-income neighborhoods.

Further, *leakage* from conservation jurisdictions is inevitable and impractical to detect or fully quantify. Leakage occurs when reduced availability of an asset (such as cleared land) or production of a commodity (such as beef, timber or minerals) in one place creates an incentive for increased production elsewhere, in a different community, jurisdiction, or country. Confirming that production remains at least constant does not mean that leakage is not shifting deforestation to neighboring or even distant jurisdictions and countries. Monitoring and accounting for or avoiding leakage involves accounting for many interrelated effects that are highly uncertain, including the already increasing production of beef and animal feed, increased lifecycle emissions from beef and crop intensification, and price effects on commodity production and consumption and on land use. The recommendation that TFS credit-generating programs should welcome "production of crops and livestock at a business-as-usual rate or accelerated rate" as an indication that leakage has not occurred encourages the single most environmentally destructive form of agriculture, confined beef production, and the nearly-as-unsustainable cultivation of maize and soy animal feeds. It is prohibitively difficult to trace and quantify the carbon footprints of the increased feed and other inputs used in intensification of beef and crop production. Moreover, significant

research in Amazonia has shown that soy and other agricultural intensification can lead to increased deforestation when agricultural entrepreneurs invest profits from increased per-hectare yields in expanding their production area. Given the intractability of leakage prevention and accounting, California cannot ensure that offsets-financed conservation programs are resulting in net environmental gain.

Furthermore, the difficulty of confirming *additionality* poses a substantial risk. Past experience assessing additionality from international projects is very poor. The large majority of offset projects under international climate agreements are non-additional. Similarly, studies of REDD+ and PES projects, the types of projects that could be included in a nested approach, have shown that landholders seeking offset credits can contend falsely that they plan to cut forests in order to receive payments to not do so. Estimating the effects of a jurisdictional REDD program on emissions is even more difficult than for projects. It is nearly impossible to quantify the land-use change in a sub-national jurisdiction that results from payments by California offset users. For example, in Brazil, past reductions and recent increases have been affected by national government policy changes, soy and beef moratoriums catalyzed by international NGOs, changes in global commodity prices, and European government programs providing incentives to reduce deforestation but not based on carbon trading. It is not possible to disentangle the effects of California's offset program from the range of other factors affecting land use change in a single jurisdiction.

In addition, *permanence* cannot be guaranteed, not even the less-than-permanent promise of 100 years of sequestration required under current California policy. A reduction in industrial emissions is effectively a reduction in absolute permanent emissions, but any benefit from sequestering carbon in forests can easily be reversed by fire, political shifts leading to policy reversals such as those happening in Brazil, commodity price increases in export agriculture, or expansion of extractive industries. The climate effects of putatively identical amounts of fossil-fuel carbon and carbon sequestered in trees or soils are not equivalent. If fossil fuels remain below ground they will never add to global warming, but carbon stored in vegetation risks contributing to atmospheric GHGs, and is especially likely to do so where the major drivers of deforestation are not effectively addressed. In Amazonia these threats include large-scale soy and palm oil production, cattle ranching, logging, hydroelectric dams, mining, oil drilling, and roads. Such lucrative activities have higher opportunity costs with which carbon-credit and offset markets, given low and volatile prices, cannot compete.

Finally, CARB's proposed TFS, meant to be a model for linkage to California's cap-and-trade system as well as for linkages among other systems and jurisdictions, fails to meet California requirements which restrict linkage to programs of *equivalent stringency and enforceability*. The purpose of a linkage is for two jurisdictions that have taken on targets of similar stringency to work together to meet those targets at lower cost for both parties, on a path towards deep long-term reductions. California has a binding cap but the linked jurisdiction is not required to have one. California's cap-and-trade program covers its industrial sectors, whereas the proposed TFS is in the forest sector with risk of much greater reversals than can be compensated for by buffer stocks or quantitative estimates of uncertainty as a basis for an "uncertainty deduction". While California has adopted laws committing to long-term emissions reductions, cooperating jurisdictions would have to demonstrate structural commitments to reform their forest, agricultural, and mineral sectors in ways that the TFS does not require and that would depend upon comprehensive policy change at and beyond the national level.

We reiterate here our understanding of the unacceptably high risk that California's proposed TFS poses to the integrity of California's global warming efforts and to forest communities. Now that California policy has begun to make progress toward reducing GHG emissions from the state, strengthening and enforcing the successful parts of that policy is the most important thing CARB can do to contribute to the health of tropical forests and address the pressing dangers detailed in the new IPCC report.

Most sincerely,

Dr. Kathleen McAfee, Professor, International Relations, San Francisco State University, San Francisco, CA, kmcafee@sfsu.edu*

Dr. Barbara Haya, Research Fellow, Center for Environmental Public Policy, University of California, Berkeley, bhaya@berkeley.edu*

Dr. Tracey Osborne, Associate Professor, School of Geography and Development, University of Arizona, tosborne@email.arizona.edu*

Dr. Janis B. Alcorn, Adjunct Professor, Natural Resources Institute, University of Manitoba; Director, Country & Regional Programs, Rights and Resources Initiative, Washington DC; former Deputy Director of the USAID Project: Forest Carbon, Markets, and Communities.

Dr. Miguel Alexiades, Senior Lecturer, School of Anthropology and Conservation, University of Kent, Canterbury, Kent, United Kingdom

Dr. Elina Andersson, Researcher, Lund University Centre for Sustainability Studies, Sweden

Dr. Robert Andolina, Associate Professor and Director, International Studies, Seattle University, Seattle, WA

Dr. Adeniyi Asiyanbi, Researcher, Department of Politics, University of Sheffield, UK

Dr. Andrea Babon, Senior Research Fellow, Institute for Human Security, La Trobe University, Melbourne, Australia

Dr. Ian Baird, Associate Professor, Geography, University of Wisconsin-Madison

Dr. Teo Ballvé, Assistant Professor, Department of Geography, Colgate University, Hamilton, NY

Dr. Thomas Bassett, Professor Emeritus, Department of Geography & GIS, University of Illinois at Urbana-Champaign, IL

Dr. Grete Benjaminsen, Researcher, Norwegian University of Life Sciences, Norway

Dr. Tor A. Benjaminsen, Professor, Department of International Environment and Development Studies, Norwegian University of Life Sciences, Norway

Dr. Betsy Beymer-Farris, Director of the Environmental and Sustainability Studies Program, Geography, University of Kentucky, Lexington, Kentucky

Dr. Patrick Bigger, Lecturer, Lancaster Environment Center, Lancaster University, UK

Dr. Patrick Bond, Distinguished Professor of Political Economy, School of Governance, University of the Witwatersrand, Johannesburg, South Africa

Dr. Libby Blanchard, Affiliated Post-Doctoral Research Scholar, Conservation Research Institute, Geography, University of Cambridge, UK

Jessica Breitfeller, PhD Student, Anthropology, University of Maryland, College Park, MD

Andrea Brock, Lecturer, International Relations, University of Sussex, Brighton, UK

Dr. Janette Bulkan, Assistant Professor, Forest Resources Management, Faculty of Forestry, University of British Columbia, Vancouver, Canada

Dr. Wil Burns, Co-Director, Institute for Carbon Removal Law & Policy, American University, Washington, DC

Dr. Wim Carton, Assistant Professor, Center for Sustainability Studies, Lund University, Sweden

Dr. Jennifer J. Casolo, Researcher and Advisor, Vice Presidency of Research and Advocacy, Universidad Rafael Landívar, Guatemala

Dr. M. Jahi Chappell, Senior Research Fellow, Centre for Agroecology, Water and Resilience, Coventry University, United Kingdom

Dr. Esteve Corbera, Professor, Institute of Environmental Science and Technology, Universitat Autònoma de Barcelona, Spain

Dr. Joel E. Correia, Assistant Professor, Latin American Studies, University of Florida, Gainesville, Florida

Dr. Luisa Cortesi, Postdoc, Anthropology, Science and Technologies, Cornell University, Ithaca, NY

Dr. Hanne Cottyn, Postdoctoral Fellow, Department of History, Ghent University, Belgium

Dr. Neil M. Dawson, Senior Research Associate, School of International Development, University of East Anglia, Norwich, UK

Dr. Julia Dehm, Lecturer, School of Law, La Trobe University, Australia

Dr. Jessica Dempsey, Associate Professor, Geography, University of British Columbia, Vancouver, Canada

Audrey Denvir, PhD Student, Geography and the Environment, University of Texas at Austin

Dr. Wolfram Dressler, Professor, Geography, University of Melbourne, Australia

Professor Rosaleen Duffy, Professor, Politics, University of Sheffield, UK

Dr. Michael B. Dwyer, Associated Senior Research Scientist, Center for Development and Environment, University of Bern, Switzerland

Professor James Fairhead, Professor of Anthropology, University of Sussex, Falmer, Brighton

Dr. Mary Finley-Brook, Associate Professor, Department of Geography and the Environment, University of Richmond, Richmond, VA

Dr. Shirley J. Fiske, Research Professor, Department of Anthropology, University of Maryland, College Park, Maryland

Dr. Forrest Fleischman, Assistant Professor, Forest Resources, University of Minnesota, Twin Cities, St. Paul, MN

Dr. Robert Fletcher, Associate Professor, Sociology of Development and Change Group, Wageningen University, The Netherlands

Dr. Timothy Forsyth, Professor, Department of International Development, London School of Economics and Political Science, London

Dr. Fabrina Furtado, Professor, Development of Agriculture and Society, Federal Rural University of Rio de Janeiro (UFRRJ), Brazil

Dr. Eva Garroutte, Research Associate Professor, Department of Sociology, Boston College, Chestnut Hill, MA

Dr. Josh Gellers, Associate Professor, Political Science and Public Administration, University of North Florida, Jacksonville, FL

Dr. Lauren Gifford, Researcher, Center for Science and Technology Policy Research, University of Colorado, Boulder

Dr. Paul G. Harris, Chair Professor of Global and Environmental Studies, Education University of Hong Kong

Dr. Julianne A. Hazlewood, Lecturer, Environmental Studies and Rachel Carson College, University of California, Santa Cruz

Dr. Jonas Hein, Post-doctoral Researcher, Institute of Geography, Kiel University, Germany

Dr. Abby Hickcox, Instructor, Arts & Sciences Honors Program, University of Colorado, Boulder

Dr. Usman Isyaku, Lecturer, Geography and Environmental Management, Ahmadu Bello University Zaria, Nigeria

Dr. Wendy Jepson, Professor, Geography, Texas A&M University, College Station, Texas

Dr. Audrey J. Joslin, Assistant Professor, Department of Geography, Kansas State University, Manhattan, KS

Mira Käkönen, Doctoral Candidate, Development Studies, University of Helsinki, Finland

Dr. Prakash Kashwan, Associate Professor, Political Science, University of Connecticut, Storrs, Connecticut

Dr. Lisa C. Kelley, Assistant Professor, Geography & Environment, University of Hawai'i-Mãnoa, Honolulu, HI

Dr. Vijay Kolinjivadi, Post-doctoral Fellow, Institut des Sciences de la Fôret tempérée (ISFORT), University of Québec, Montréal, Canada

Dr. Richard Lane, Postdoctoral Researcher, Copernicus Institute for Sustainable Development, Utrecht University, The Netherlands

Dr. David Lansing, Associate Professor, Geography and Environmental Systems, University of Maryland Baltimore County, Baltimore, MD

Sophie Rose Lewis, PhD candidate, Department of Forest Resources Management, University of British Columbia, Vancouver, Canada

Dr. Tania Li, Professor, Anthropology, University of Toronto, Canada

Dr. Diana Liverman, Regents Professor, School of Geography and Development, University of Arizona, Tucson

Will Lock, Doctoral Researcher, International Development, University of Sussex, UK

Dr. Jens Lund, Professor, Department of Food and Resource Economics, University of Copenhagen, Frederiksberg, Denmark

Mathew Bukhi Mabele, PhD candidate, Geography, University of Zürich, Switzerland

Raquel Sofia Rodrigues Rosa Machaqueiro, PhD candidate, Anthropology, George Washington University, Washington, DC

Dr. Sango Mahanty, Associate Professor, Resources, Environment & Development, Crawford School of Public Policy, Australian National University, Canberra, Australia

Dr. Sarah Milne, Lecturer, Crawford School of Public Policy, Australian National University, Canberra, Australia

Dr. Tad Mutersbaugh, Professor, Geography, University of Kentucky, Lexington, Kentucky

Dr. Benjamin Neimark, Senior Lecturer, Lancaster Environment Centre, Lancaster University, Lancaster, UK

Dr. Adrian Nel, Senior Lecturer, Geography, University of Kwazulu-Natal, South Africa

Professor Peter Newell, Professor, International Relations, University of Sussex, UK

Dr. Gustavo de L. T. Oliveira, Assistant Professor, Department of Global and International Studies, University of California, Irvine, CA

Dr. Jonathan Otto, Lecturer, Arts Studies in Research and Writing, University of British Columbia, Vancouver, Canada

Dr. Stephanie Paladino, Researcher/Consultant, MeroLek Research, Athens, Georgia

Dr. Maya Pasgaard, Postdoc, Geography, University of Copenhagen, Denmark

Dr. Rebecca Pearse, Lecturer, Department of Political Economy, University of Sydney, Australia

Dr. Nancy Peluso, Henry J. Vaux Distinguished Professor of Forest Policy, Department of Environmental, Science, Policy, and Management, University of California, Berkeley

Dr. Eric Perramond, Professor, Environmental Studies & Southwest Studies, Colorado College, Colorado Springs

Dr. Manuela Picq, Visiting Associate Professor, Political Science, Amherst College, Amherst, MA and Professor of International Relations at Universidad San Francisco de Quito (USFQ), Ecuador

Dr. Jacques Pollini, Research Associate, The Institutional Canopy of Conservation (I-CAN): Governance & Environmentality, Department of Anthropology, McGill University, Montréal, Quebec, Canada

Professor Scott Prudham, Professor, Geography and Planning, School of the Environment, University of Toronto, Canada

Dr. O. Sarobidy Rakotonarivo, Postdoctoral Researcher, Biological and Environmental Sciences, University of Stirling, UK

Dr. Jesse Ribot, Professor, School of International Service, American University, Washington, DC

Dr. Cecilia Salinas, Head of Studies, International Studies and Interpreting, Oslo Metropolitan University, Norway

Dr. J. P. Sapinski, Assistant Professor, Environmental Studies, Université de Moncton, New Brunswick, Canada

Dr. Heike Schroeder, Associate Professor, School of International Development, University of East Anglia, Norwich, UK

Dr. Abidah Setyowati, Research Fellow, School of Regulation and Global Governance, Australian National University

Will Shattuck, PhD candidate, Geography, University of Wisconsin-Madison, Madison, WI

Dr. Evan Shenkin, Lecturer, International Studies, University of Oregon, Eugene, OR

Dr. Claudia Puerta Silva, Professor, Departamento de Antropología, Facultad de ciencias sociales y humanas, Universidad de Antioquia, Medellín, Colombia

Dr. Neera Singh, Associate Professor, Geography & Planning, University of Toronto, Canada

Dr. Doreen Stabinsky, Professor, Global Environmental Politics, College of the Atlantic, Bar Harbor, Maine

Dr. Kira Sullivan-Wiley, Post-doctoral Associate, Pardee Center, Boston University, Boston, MA

Dr. Hanne Svarstad, Professor, Development Studies - LUI-IST, Oslo Metropolitan University, Norway

Dr. Timothy Trench, Professor, Postgraduate Program in Regional Rural Development, Centros Regionales, Universidad Autónoma Chapingo, San Cristóbal de Las Casas, Mexico

Dr. Sara Peña Valderrama, Honorary Research Fellow, Anthropology, Durham University, San Sebastian, Spain and Durham, United Kingdom

Dr. Peter Vandergeest, Professor, Geography, York University, Toronto, Ontario, Canada

Dr. John Vandermeer, Asa Grey Distinguished University Professor of Ecology and Evolutionary Biology, Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI

Dr. Gert Themba Van Hecken, Assistant Professor, Institute of Development Policy, University of Antwerp, Belgium

Dr. Stefano Varese, Professor in Native American Studies, Director of Indigenous Research Center of the Americas, University of California, Davis

Dr. Joel Wainwright, Professor, Geography, Ohio State University, Columbus OH

Dr. Johannes Waldmüller, Professor, Political Science and International Relations, Universidad de Las Américas, Quito, Ecuador

Dr. Michael J. Watts, Emeritus Professor, Geography and Development Studies, University of California, Berkeley

Dr. Meredith Welch-Devine, Director of Interdisciplinary and Innovative Initiatives, Graduate School, University of Georgia, Athens, Georgia

Dr. Benjamin G. Wisner Jr, Professor, Institute for Risk and Disaster Reduction, University College London, GB

Lauren Withey, PhD Candidate, Department of Environmental Science, Policy, and Management, University of California, Berkeley

Dr. Hannah Wittman, Professor, Institute for Resources, Environment and Sustainability, University of British Columbia, Vancouver, BC, Canada

Dr. Antang Yamo, Enseignant-Chercheur, Anthropologie, Université de Yaoundé 1, Yaoundé, Cameroun

Dr. Laura Zanotti, Associate Professor, Department of Anthropology, Purdue University, West Lafayette, IN

* - corresponding signers

References:

Case studies and case study compilations describing impacts on forest communities of REDD+, PES, and similar projects focused on forest conservation

Airey S & Krause T (2017) "Georgetown ain't got a tree. We got the trees"—Amerindian Power & Participation in Guyana's Low Carbon Development Strategy *8*(3), 51.

Asiyanbi A (2016) A political ecology of REDD+: Property rights, militarised protectionism, and carbonised exclusion in Cross River *Geoforum, 77*:146-156

Asiyanbi A (2015) Mind the gap: global truths, local complexities in emergent green initiatives. In *The International Handbook of Political Ecology,* ed. R. L. Bryant. EE Elgar.

Benjaminsen G (2014) Between Resistance and Consent: Project–Village Relationships When Introducing REDD+ in Zanzibar. *Forum for Development Studies,* 41, 377-398.

Benjaminsen G and Kaarhus R (2018) Commodification of forest carbon: REDD+ and socially embedded forest practices in Zanzibar. *Geoforum 93*, 48-56

Beymer-Farris BA, & Bassett TJ (2012) The REDD menace: Resurgent protectionism in Tanzania's mangrove forests. *Global Environmental Change, 22*(2), 332-341

Bulkan J (2016) Hegemony in Guyana: REDD-Plus and State control over Indigenous Peoples and resources. In C. Campbell & M. Niblett (Eds.), *The Caribbean: aesthetics, world-ecology, politics* (pp. 118–142). Liverpool: Liverpool University Press.

Bulkan J (2016) The limitations of international auditing: the case of the Norway-Guyana REDD+ agreement. In S. Paladino & S. J. Fiske (Eds.), *The carbon fix: forest carbon, social justice and environmental governance.* (pp. 91–106). London: Routledge.

Bulkan J (2014) REDD letter days: entrenching political racialization and State patronage through the Norway-Guyana REDD-plus agreement. *Social and Economic Studies*, *63*(3,4), 249–279.

Chomba S, Kariuki J, Lund JF & Sinclair F (2016) Roots of inequity: How the implementation of REDD+ reinforces past injustices. *Land Use Policy,* 50, 202-213.

Corbera E and Brown K (2010) Offsetting benefits? Analyzing access to forest carbon. *Environment and Planning A* 42(7): 1739–1761.

Corbera E, Estrada M, May P, Navarro G, Pacheco P, 2011. Rights to land, forests and carbon in REDD+: insights from Mexico, Brazil and Costa Rica. Forests *2*(1), 301–342.

Corson C (2011) Territorialization, enclosure and neoliberalism: non-state influence in struggles over Madagascar's forests. *The Journal of Peasant Studies,* 38(4), 703-726.

Dehm, J (2017) Authorizing Appropriation?: Law in Contested Forested Spaces. *The European Journal of International Law 28*(4) 1379-1396

Dwyer M, Ingalls M, and Baird I (2016) The security exception: Development and militarization in Laos's protected areas. *Geoforum 69*: 207–217.

Ece M, Murombedzi J, Ribot J (2017) Disempowering Democracy: Local Representation in Community and Carbon Forestry in Africa. *Conservation and Society* 15(4): 357-370.

Faustino C & Furtado F (2014) The Green Economy, Forest Peoples and Territories: Rights Violations in the State of Acre. Fact-finding and advocacy mission preliminary report. https://wrm.org.uy/other-relevant-information/the-green-economy-forest-peoples-and-territories-rights-violations-in-the-state-of-acre/

Hein J (2018) Political Ecology of Redd+ in Indonesia: Agrarian Conflicts and Forest Carbon, Routledge.

Hein J, Faust H, Kunz Y and Mardiana R (2018) The Transnationalisation of Competing State Projects: Carbon Offsetting and Development in Sumatra's Coastal Peat Swamps. Antipode, 50: 953-975. doi:10.1111/anti.12381

Hein J & Kunz Y (2018) Adapting in a carbon pool? Politicising climate change at Sumatra's oil palm frontier. In: Kleep, S. & L.C. Rodríguez (Ed.): Critical Approach to Climate Change Adaptation: Discourses, Policies and Practices. Routledge, Abingdon, UK and New York.

Howson P & Kindon S (2015) Analysing access to the local REDD+ benefits of Sungai Lamandau, Central Kalimantan, Indonesia. *Asia Pacific Viewpoint,* 56, 96-110.

Ingalls ML & Dwyer MB (2016) Missing the forest for the trees? Navigating the trade-offs between mitigation and adaptation under REDD. *Climatic Change,* 136(2), 353-366.

Isyaku U (2017) Beyond Policy Design: REDD+ Implementation and Institutional Complexities of Environmental Governance in Cross River State, Nigeria. (Doctoral dissertation) Department of Geography, University of Leicester, UK.

Kashwan P and Holahan R (2014) Nested Governance for Effective Redd+: Institutional and Political Arguments. *International Journal of the Commons 8*: 554–75

Khadka M, Karki S, Karky BS, Kotru R & Darjee KB (2014) Gender Equality Challenges to the REDD Initiative in Nepal. *Mountain Research and Development, 34*(3), 197-207

Lansing, D.M., 2011. Realizing carbon's value: discourse and calculation in the production of carbon forestry offsets in Costa Rica. Antipode 43 (3), 731–753.

Larson A et al. (2018) Gender lessons for climate initiatives: A comparative study of REDD+ impacts on subjective wellbeing. *World Development* 108 (2018) 86–102.

> "Outcomes regarding wellbeing change suggest that perceived wellbeing decreased in REDD+ villages both for villagers as a whole and for women, relative to control villages, but the decrease was much worse for women – a decrease that is significantly associated with living in a REDD+ village."

Lansing DM (2014) Unequal access to payments for ecosystem services: The case of Costa Rica. Development and Change 45(6): 1310–1331.

Lund JF, Sungusia E, Mabele MB & Scheba A (2017) Promising Change, Delivering Continuity: REDD+ as Conservation Fad. *World Development,* 89, 124-139.

Lyons K and Westoby P (2014) Carbon colonialism and the new land grab: plantation forestry in Uganda and its livelihood impacts. J. Rural Stud. 36, 13–21.

McAfee K and Shapiro EN (2010) Payments for ecosystem services in Mexico: nature, Neoliberalism, social movements, and the state. Annals of the Association of American Geographers 100(3): 579–599.

Milne S et al. (2018) Learning From 'Actually Existing' REDD+: A Synthesis of Ethnographic Findings. *Conservation and Society*, on line ahead of print DOI: 10.4103/cs.cs_18_13.

Milne S and Adams B (2012) Market masquerades: Uncovering the politics of community-level payments for environmental services in Cambodia. *Development and Change 43*(1): 133–158.

Milne S (2012) Grounding forest carbon: Property relations and avoided deforestation in Cambodia. *Human Ecology*, *40*(5), pp.693-706.

Myers R et al. (2018) Messiness of forest governance: How technical approaches suppress politics in REDD+ and conservation projects. *Global Environmental Change* 50, 314–324.

Nuesiri E (2017) Feigning Democracy: Performing Representation in the UN-REDD Funded Nigeria-REDD Programme. *Conservation and Society, 15*(4), 384-399, including:

Nuesiri E (ed.) (2018) *Global Forest Governance and Climate Change Interrogating Representation, Participation, and Decentralization*. Palgrave Studies in Natural Resource Management.

> Chapters:
> Nuesiri EO, Godfather Politics and Exclusionary Local Representation in REDD+: A Case Study of the Design of the UN-REDD-Supervised Nigeria-REDD Proposal

Samndong, RA. The Illusion of Participation: Tokenism in REDD+ Pilot Projects in the Democratic Republic of Congo

Lord, EJ. Displacement, Power and REDD+: A Forest History of Carbonized Exclusion

Neba GA (et al.) Examining the Supply and Demand of Effective Participation and Representation

Murthy IK (et al.) Experience of Participatory Forest Management in India: Lessons for Governance and Institutional Arrangements Under REDD

Špirić J. Evolution of the Mexico's REDD+ Readiness Process Through the Lens of Legitimacy

Burga CM. When REDD+ Fails to Support Democratic Representation: Legitimizing Non-Democratic Practices in the Amazon

Osborne T (2015) Tradeoffs in carbon commodification: A political ecology of common property forest governance. *Geoforum 67*: 64–77.

Osborne T (2013) Fixing carbon, losing ground: Payments for environmental services and land (in)security in Mexico. *Human Geography 6*(1): 119–133.

Osborne T (2011) Carbon forestry and Agrarian change: Access and land control in a Mexican rainforest. *Journal of Peasant Studies 38*(4): 859–883.

Pasgaard M (2015) Lost in translation? How project actors shape REDD plus policy and outcomes in Cambodia. *Asia Pacific Viewpoint* 56(1), 11-127

Pasgaard M & Chea L (2013). Double inequity? The social dimensions of deforestation and forest protection in local communities in Northern Cambodia. *ASEAS - Austrian Journal of South-East Asian Studies* 6(2), 330-355.

Samndong RA and Kjosavik DJ (2017) Gendered forests: exploring gender dimensions in forest governance and REDD+ in Équateur Province, Democratic Republic of Congo (DRC). *Ecology and Society* 22(4):34.

Schroeder H (2010) Agency in international climate negotiations: The case of Indigenous peoples and avoided deforestation. *International Environmental Agreements: Politics, Law and Economics 10*(4): 317–332.

Scheba A & Scheba S (2017) REDD+ as 'inclusive' neoliberal conservation: the case of Lindi, Tanzania. *Journal of Eastern African Studies,* 11, 526-548.

Scheba A (2018) Market-Based Conservation for Better Livelihoods? The Promises and Fallacies of REDD+ in Tanzania. *Land 7*(4), 119.

Svarstad H & Benjaminsen TA (2017) Nothing succeeds like success narratives: a case of conservation and development in the time of REDD. *Journal of Eastern African Studies,* 11, 482-505.

Thompson MC, Baruah M and Carr ER (2011) Seeing REDD. as a project of environmental

governance. Environmental Science & Policy 14(2): 100–110. "…an emerging crisis of governance within REDD+ that will compromise future project and policy goals, and thus the well-being of many stakeholders."

Trench T, Larson AM, Libert Amico A and Ravikumar A. 2018. *Analyzing multilevel governance in Mexico: Lessons for REDD+ from a study of land-use change and benefit sharing in Chiapas and Yucatán.* Working Paper 236. Bogor, Indonesia: CIFOR.

> "A truly broad vision for REDD+ – as expressed in the national strategy – will depend on changes in the political sphere, but this process can be slow. There is formal progress around REDD+, with ambitious commitments to tackle deforestation and forest degradation, legal frameworks are being gradually harmonized and different sectors are sitting at the same table more frequently. But the government's economic program and structural reforms to the energy sector point to an agenda that prioritizes extractive activities over environmental concerns and is thus not ultimately compatible with REDD+ goals."

Unruh, JD, 2008. Carbon sequestration in Africa: the land tenure problem. Glob. Environ. Change 18 (4), 700–707.

White A (2011) Cash alone will not slow forest carbon emissions: To succeed, the REDD initiative needs a dose of 'GREEN' to restore degraded forests and help boost economic development. *Nature 471*(7338): 267–268.

Wittman, HK, Caron, C, 2009. Carbon offsets and inequality: social costs and co-benefits in Guatemala and Sri Lanka. *Soc. Nat. Resour.* 22, 710–726.

Safeguard standards

Dehm, J (2016) Indigenous peoples and REDD+ safeguards: rights as resistance or as disciplinary inclusion in the green economy? Journal of Human Rights and the Environment. 7:170-217

Ece M, Murombedzi J, Ribot J (2017) Disempowering Democracy: Local Representation in Community and Carbon Forestry in Africa. *Conservation and Society* 15(4): 357-370.

Kashwan P (2015) "Forest Policy, Institutions, and Redd+ in India, Tanzania, and Mexico." Global Environmental Politics 15: 95-117.

Krause T, Collen W and Nicholas KA (2013) Evaluating safeguards in a conservation incentive program: participation, consent, and benefit sharing in indigenous communities of the Ecuadorian Amazon. *Ecology and Society* 18(4): 1

Lawlor K, Weinthal E and Olander L (2010) Institutions and policies to protect rural livelihoods in REDD+ regimes. *Global Environmental Politics*, 10(4), pp.1-11.

Mbeche, R. Institutional Choice and Substantive Representation of Local People in Carbon Forestry in Uganda in Nuesiri E (ed.) (2018) Global Forest Governance and Climate Change Interrogating Representation, Participation, and Decentralization. Palgrave Studies in Natural Resource Management.

McDermott CL, Coad L, Helfgott A and Schroeder H (2012) Operationalizing social safeguards in REDD+: actors, interests and ideas. *Environmental Science & Policy*, *21*, pp.63-72.

McElwee P (2016) Doing REDD+ Work in Vietnam: Will the New Carbon Focus Bring Equity to Forest Management? In *The Carbon Fix,* eds. S. Paladino & S. Fiske. Routledge/LCP.

Rights and Resources Initiative (2014) *Status of Forest Carbon Rights and Implications for Communities, the Carbon Trade, and REDD+ Investment*s https://rightsandresources.org/wp-content/uploads/ForestCarbon_Brief-for-web-16Mar14.pdf

Poudyal M, Jones JPG, Rakotonarivo OS, Hockley N, Gibbons JM, Mandimbiniaina R, Rasoamanana A, et al. (2018) "Who bears the cost of forest conservation?" *PeerJ* **6**: e5106

Poudyal M, Ramamonjisoa BS, Hockley N, Rakotonarivo OS, Gibbons JM, Mandimbiniaina R, Rasoamanana A, et al. (2016) "Can REDD+ social safeguards reach the 'right' people? Lessons from Madagascar." *Global Environmental Change* **37**: 31-42

Visseren-Hamakers IJ, McDermott C, Vijge MJ and Cashore B (2012) Trade-offs, co-benefits and safeguards: current debates on the breadth of REDD+. *Current Opinion in Environmental Sustainability*, *4*(6), pp.646-653.

California Environmental Justice Concerns

Cushing L, Blaustein-Rejto D, Wander M, Pastor M, Sadd J, Zhu A, & Morello-Frosch R (2018) Carbon trading, co-pollutants, and environmental equity: Evidence from California's cap-and-trade program (2011–2015). *PLOS Medicine, 15*(7), e1002604.

Perkins T and Soto-Karlin A, (2018) Situating Global Policies within Local Realities. *Sustainability: Approaches to Environmental Justice and Social Power*, p.102.

Leakage

Elgert L (2016) 'More soy on fewer farms' in Paraguay: challenging neoliberal agriculture's claims to sustainability, *The Journal of Peasant Studies*, 43:2, 537-561

Oliveira G and Hecht S (2016) Sacred groves, sacrifice zones, and soy production: globalization, intensification and neonature in South America. *The Journal of Peasant Studies* 43:2; 251-185.

Henders, S., & Ostwald, M. (2014). Accounting methods for international land-related leakage and distant deforestation drivers. *Ecological Economics, 99*, 21-28

Ingalls, M. L., Meyfroidt, P., To, P. X., Kenney-Lazar, M., & Epprecht, M. (2018). The transboundary displacement of deforestation under REDD+: Problematic intersections between the trade of forest-risk commodities and land grabbing in the Mekong region. *Global Environmental Change, 50*, 255-267.

Additionality

Cames, M., Harthan, R. O., Füssler, J., Lazarus, M., Lee, C. M., Erickson, P., & Spalding-Fecher, R. (2016). How additional is the Clean Development Mechanism? Berlin: Oeko Institut.

Haya, B. (2009). Measuring emissions against an alternative future: fundamental flaws in the structure of the Kyoto Protocol's Clean Development Mechanism (Report No. ERG09-001). Berkeley: Energy and Resources Group.

Newell P (2014) The politics and political economy of the Clean Development Mechanism in Argentina. *Environmental Politics,* 23(2)

Wittman, H., Powell, L.J., Corbera, E., 2015. Financing the agrarian transition? The Clean Development Mechanism and agricultural change in Latin America. *Environ. Plan. A* 47, 2031–2046.

Permanence & Uncertainty

Achard F et al. (2014) Determination of tropical deforestation rates and related carbon losses from 1990 to 2010. *Global Change Biology* 20, 2540–2554,

Barlow, J., Parry, L., Gardner, T.A., Ferreira, J., Aragão, L.E., Carmenta, R., Berenguer, E., Vieira, I.C., Souza, C. and Cochrane, M.A., 2012. The critical importance of considering fire in REDD+ programs. *Biological Conservation*, 154, pp.1-8.

Johanne Pelletier et al 2011 Diagnosing the uncertainty and detectability of emission reductions for REDD + under current capabilities: an example for Panama Environmental Resources. Letters 6:2

Richards et al. (2016) Are Brazil's Deforesters Avoiding Detection? Conservation Letters, July/August 2017, 10(4), 470–476