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Supplement of

Mitigation of agriculture emissions in the tropics: comparing forest land-sparing options at the national level

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Table S1: REDD+ engagement index created for this study

Indicator		Score
Participation in international REDD+ initiatives	UN-REDD (United Nations Collaborative initiative on Reducing Emissions from Deforestation and forest Degradation (REDD) in developing countries) – countries receiving support	1
	UN REDD – partner countries	0.5
	FCPF (Forest Carbon Partnership Facility) - a participant (signing a partnership agreement, but yet to submit any documents)	0.33
	FCPF (Forest Carbon Partnership Facility) - submission of the RPIN (Readiness Plan Idea Note)	0.66
	FCPF (Forest Carbon Partnership Facility) - R-PP (Readiness Preparation Proposal) finalization	1
	CIF-FIP (Forest Investment Plan (FIP) within the Climate Investment Funds (CIF))	1
	GEF (The Global Environment Facility)	1
	Governors' Climate and Forests Task Force.	1
Number of projects	0	0
	1-5	0.25
	6-10	0.5
	11-25	0.75
	>25	1
Funding acquisition	0	0
	<6 M USD	0.25
	<11 M USD	0.5
	<100 M USD	0.75
	>100 M USD	1

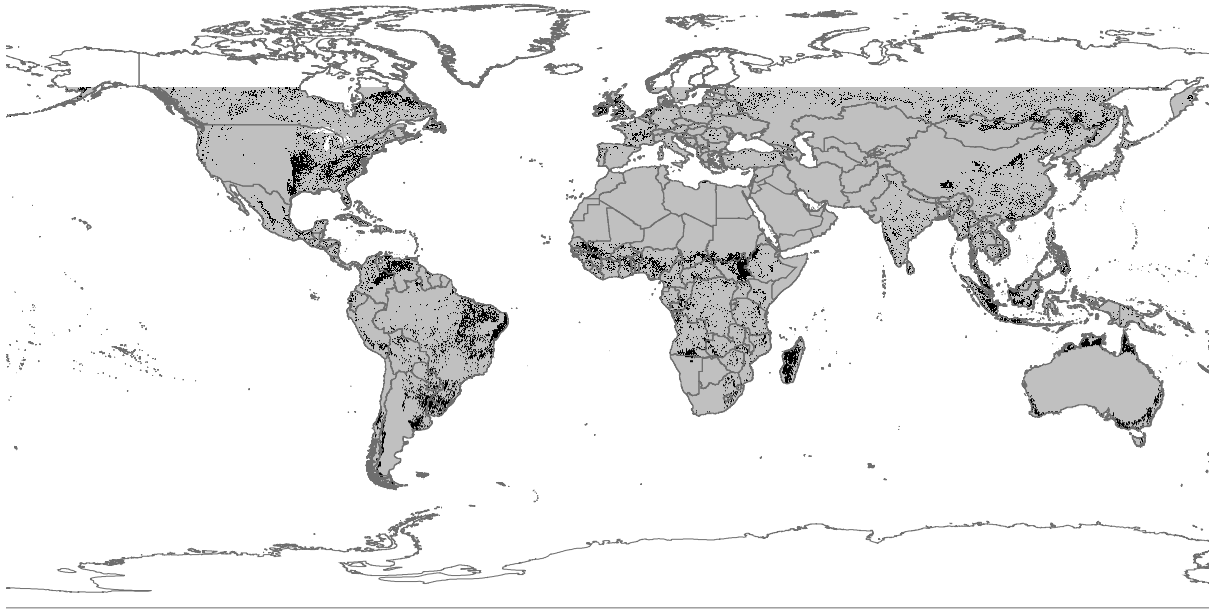


Figure S1. Available land (black) suitable for agricultural production between 60°N and 60°S calculated for this study.

Table S2. Data appendix.

Country	Available land	Yield gap	Emissions gap (on agricultural land)	Forest loss due to agriculture (km ² y ⁻¹)	Source for forest loss calculations	REDD engagement
Angola	Medium	High	Low	254.09	FAO RSS (2000-2005) forest loss	0.14
United Arab Emirates	Low	No data	High	0.00	Hansen (2000-2012) forest loss	0.00
Argentina	High	Low	Low	3123.34	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.39
Antigua and Barbuda	Low	No data	High	No Data	No data	0.00
Burundi	Low	High	Medium	11.07	Hansen (2000-2012) forest loss	0.14
Benin	High	High	Medium	188.33	FAO RSS (2000-2005) forest loss	0.21
Burkina Faso	High	Medium	Medium	50.34	FAO RSS (2000-2005) forest loss	0.54
Bangladesh	High	Low	High	29.48	Hansen (2000-2012) forest loss	0.14
Bahamas	Medium	No data	Medium	4.32	Hansen (2000-2012) forest loss	0.00
Belize	Low	No data	Medium	97.79	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.18
Bolivia, Plurinational State of	Medium	Medium	Low	3649.01	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.63
Brazil	Medium	Medium	Medium	29470.29	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.54
Brunei Darussalam	Low	No data	High	23.05	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.00
Bhutan	Low	High	Medium	4.13	Hansen (2000-2012) forest loss	0.36
Botswana	Low	No data	Low	985.68	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.14
Central African Republic	Medium	High	Medium	720.89	FAO RSS (2000-2005) forest loss	0.43
Chile	Medium	Low	Medium	37.18	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.50
China	Medium	Low	Medium	6887.30	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.25
Côte d'Ivoire	High	High	Low	1321.29	FAO RSS (2000-2005) forest loss	0.46
Cameroon	Medium	High	Medium	3308.10	FAO FRA (2000-2010) net & FAO RSS (2000-	0.54

					2005) forest loss	
Congo, the Democratic Republic of the	Low	High	Low	2138.78	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.68
Congo	Medium	No data	Low	237.57	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.43
Colombia	Medium	Medium	Medium	795.99	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.64
Comoros	High	No data	Medium	0.55	Hansen (2000-2012) forest loss	0.00
Cape Verde	Low	No data	High	0.07	Hansen (2000-2012) forest loss	0.00
Costa Rica	Medium	Low	Medium	135.33	Hansen (2000-2012) forest loss	0.32
Cuba	High	Low	Medium	114.45	Hansen (2000-2012) forest loss	0.14
Djibouti	Low	No data	Low	0.00	Hansen (2000-2012) forest loss	0.00
Dominica	Low	No data	Medium	No Data	No data	0.00
Dominican Republic	Medium	Low	High	126.96	Hansen (2000-2012) forest loss	0.29
Algeria	Low	Low	Low	76.84	FAO RSS (2000-2005) forest loss	0.00
Ecuador	Medium	High	High	1231.85	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.43
Egypt	Low	Low	High	1.05	Hansen (2000-2012) forest loss	0.00
Eritrea	Low	No data	Low	0.00	Hansen (2000-2012) forest loss	0.00
Ethiopia	High	High	High	1892.59	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.36
Fiji	Low	No data	High	10.05	Hansen (2000-2012) forest loss	0.32
Micronesia, Federated States of	Low	No data	High	No Data	No data	0.00
Gabon	Low	No data	Low	108.36	FAO RSS (2000-2005) forest loss	0.46
Ghana	High	High	Low	877.04	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.64
Guinea	High	Medium	Low	543.84	FAO RSS (2000-2005) forest loss	0.00
Gambia	Medium	Low	High	0.77	Hansen (2000-2012) forest loss	0.00
Guinea-Bissau	Medium	Medium	Medium	119.35	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.14

Equatorial Guinea	Medium	No data	Low	44.73	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.25
Guatemala	Medium	High	Medium	551.90	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.46
Guyana	Low	Low	Medium	65.06	FAO RSS (2000-2005) forest loss	0.32
Honduras	Medium	High	Medium	477.53	FAO RSS (2000-2005) forest loss	0.25
Haiti	High	High	High	18.18	Hansen (2000-2012) forest loss	0.14
Indonesia	High	Medium	High	3490.95	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.96
India	Medium	Medium	High	885.89	FAO RSS (2000-2005) forest loss	0.25
Jamaica	Medium	No data	Medium	4.61	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.00
Kenya	High	High	Medium	750.36	FAO RSS (2000-2005) forest loss	0.57
Cambodia	Medium	Medium	High	892.78	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.54
Kiribati	Low	No data	Low	No Data	No data	0.00
Lao People's Democratic Republic	Medium	Medium	High	462.13	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.64
Liberia	Medium	High	Low	240.00	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.36
Libya	High	Low	Low	0.07	Hansen (2000-2012) forest loss	0.00
Saint Lucia	Medium	No data	High	No Data	No data	0.00
Sri Lanka	High	Medium	High	144.30	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.29
Madagascar	High	High	Low	673.03	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.43
Mexico	Medium	High	Medium	5780.33	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.71
Mali	High	High	Low	124.22	FAO RSS (2000-2005) forest loss	0.00
Myanmar	Medium	Medium	High	3347.05	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.07
Mozambique	Medium	High	Low	1285.02	FAO RSS (2000-2005) forest loss	0.39
Mauritania	High	No	Low	0.00	Hansen (2000-2012)	0.00

		data			forest loss	
Mauritius	High	No data	Medium	1.48	Hansen (2000-2012) forest loss	0.14
Malawi	Low	High	Low	102.38	FAO RSS (2000-2005) forest loss	0.29
Malaysia	High	Medium	High	925.89	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.25
Namibia	Medium	No data	Low	154.76	FAO RSS (2000-2005) forest loss	0.14
Niger	High	Medium	Low	0.00	Hansen (2000-2012) forest loss	0.00
Nigeria	High	High	Low	739.41	FAO RSS (2000-2005) forest loss	0.54
Nicaragua	High	High	Medium	700.00	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.36
Nepal	Low	High	High	208.24	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.43
Oman	Low	No data	Low	0.00	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.00
Pakistan	Low	Medium	High	5.14	Hansen (2000-2012) forest loss	0.36
Panama	Medium	High	Medium	59.00	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.54
Peru	Low	High	Medium	3652.49	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.86
Philippines	High	High	High	287.38	FAO RSS (2000-2005) forest loss	0.36
Palau	Medium	No data	Low	No Data	No data	0.00
Papua New Guinea	Medium	No data	High	2174.46	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.50
Paraguay	Medium	High	Medium	1796.45	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.52
Rwanda	Low	High	Medium	10.85	Hansen (2000-2012) forest loss	0.04
Saudi Arabia	Low	Medium	Low	0.00	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.00
Sudan	Low	No data	No data	0.58	Hansen (2000-2012) forest loss	0.21
Senegal	High	Medium	Medium	265.57	FAO RSS (2000-2005) forest loss	0.21
Singapore	High	No data	High	No Data	No data	0.14
Solomon Islands	Low	No data	Medium	33.96	Hansen (2000-2012) forest loss	0.14

Sierra Leone	High	High	Low	95.80	FAO RSS (2000-2005) forest loss	0.14
El Salvador	High	High	High	32.09	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.29
Somalia	Low	No data	Low	2.19	Hansen (2000-2012) forest loss	0.00
South Sudan	High	No data	No data	81.17	FAO RSS (2000-2005) forest loss	0.07
Sao Tome and Principe	Medium	No data	Low	No Data	No data	0.00
Suriname	Low	Medium	High	8.31	FAO RSS (2000-2005) forest loss	0.36
Seychelles	Low	No data	High	No Data	No data	0.14
Chad	High	High	Low	246.91	FAO RSS (2000-2005) forest loss	0.00
Togo	High	High	Low	180.10	FAO RSS (2000-2005) forest loss	0.14
Thailand	High	High	High	28.30	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.32
Tonga	Low	No data	High	No Data	No data	0.00
Trinidad and Tobago	Low	No data	High	8.14	FAO FRA (2000-2010) net & Hansen (2000-2012) forest loss	0.04
Tanzania, United Republic of	Medium	High	Medium	4145.80	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.50
Uganda	High	High	Medium	676.22	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.39
Uruguay	High	Medium	Medium	57.03	FAO FRA (2000-2010) net & FAO RSS (2000-2005) forest loss	0.18
Saint Vincent and the Grenadines	Low	No data	High	No Data	No data	0.00
Venezuela, Bolivarian Republic of	High	High	Medium	2416.33	FAO RSS (2000-2005) forest loss	0.18
Viet Nam	Medium	High	High	1303.22	FAO RSS (2000-2005) forest loss	0.50
Vanuatu	Low	No data	High	1.67	Hansen (2000-2012) forest loss	0.32
Samoa	Low	No data	High	No Data	No data	0.25
South Africa	High	High	Low	588.59	FAO RSS (2000-2005) forest loss	0.00
Zambia	Low	High	Low	2987.68	FAO RSS (2000-2005) forest loss	0.32
Zimbabwe	Medium	High	Low	2547.88	FAO FRA (2000-2010) net & FAO RSS (2000-	0.07

					2005) forest loss	
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