

Supplementary Online Material: Inequitable gains and losses from conservation in a global biodiversity hotspot

Supplementary Table 1 | Valuations by stakeholder group (20-year pathways). Present value of each service and cost category for each stakeholder group, under the 20-year conservation and depletion pathways (and the difference between these – i.e., conservation benefits net of direct and indirect costs, in bold). Values are in 2020 US\$ millions, with a discount rate of 3% and a carbon price of \$28.55 tCO₂⁻¹.

	Global (all stakeholders)			Local-rural stakeholders			Tanzanian-other stakeholders			International stakeholders		
	Conservation	Depletion	Difference	Conservation	Depletion	Difference	Conservation	Depletion	Difference	Conservation	Depletion	Difference
Agriculture												
Maize	1,083.12	2,136.62	-1,053.50	1,083.12	2,136.62	-1,053.50	0.00	0.00	0.00	0.00	0.00	0.00
Beans	375.97	910.77	-534.80	375.97	910.77	-534.80	0.00	0.00	0.00	0.00	0.00	0.00
Crop damage												
Maize	-93.74	-78.62	-15.12	-93.74	-78.62	-15.12	0.00	0.00	0.00	0.00	0.00	0.00
Beans	-39.14	-38.24	-0.90	-39.14	-38.24	-0.90	0.00	0.00	0.00	0.00	0.00	0.00
Tourism												
Tanzanians	5.18	4.92	0.26	4.31	4.09	0.22	0.87	0.83	0.04	0.00	0.00	0.00
Internationals	7.08	6.68	0.40	5.69	5.37	0.33	1.39	1.32	0.08	0.00	0.00	0.00
NTFPs												
Charcoal	488.95	559.08	-70.13	216.86	248.70	-31.84	272.09	310.38	-38.29	0.00	0.00	0.00
Firewood	181.91	378.52	-196.61	180.59	366.35	-185.76	1.33	12.17	-10.85	0.00	0.00	0.00
Poles	21.93	26.95	-5.02	21.73	26.65	-4.92	0.21	0.30	-0.09	0.00	0.00	0.00
Thatch	2.70	2.70	0.00	2.67	2.67	0.00	0.03	0.03	0.00	0.00	0.00	0.00
Timber												
Class I	7.78	157.30	-149.53	2.41	48.76	-46.35	3.37	68.23	-64.85	1.99	40.32	-38.33
Class II	56.52	73.05	-16.53	34.25	44.27	-10.02	22.27	28.78	-6.51	0.00	0.00	0.00
Classes III-V	178.76	182.54	-3.78	152.63	155.85	-3.22	26.13	26.68	-0.55	0.00	0.00	0.00
Carbon emissions												
Above ground	0.00	-6,026.40	6,026.40	0.00	-3.38	3.38	0.00	-35.04	35.04	0.00	-5,987.98	5,987.98
Below ground	0.00	-4,050.83	4,050.83	0.00	-2.27	2.27	0.00	-23.55	23.55	0.00	-4,025.01	4,025.01
Carbon sequestration	422.47	0.00	422.47	0.24	0.00	0.24	2.46	0.00	2.46	419.77	0.00	419.77
Drinking water												
Morogoro	0.00	-0.37	0.37	0.00	0.00	0.00	0.00	-0.37	0.37	0.00	0.00	0.00
Dar es Salaam	0.00	-10.75	10.75	0.00	0.00	0.00	0.00	-10.75	10.75	0.00	0.00	0.00
Management costs	-308.63	0.00	-308.63	-1.81	0.00	-1.81	-26.44	0.00	-26.44	-280.39	0.00	-280.39
Total	2,390.86	-5,766.08	8,156.93	1,945.77	3,827.58	-1,881.82	303.71	379.01	-75.30	141.38	-9,972.67	10,114.05

Supplementary Table 2 | Valuations by stakeholder group (66-year pathway). Present value of each service and cost category for each stakeholder group, under the 66-year conservation and depletion pathways (and the difference between these – i.e., conservation benefits net of direct and indirect costs, in bold). Values are in 2020 US\$ millions, with a discount rate of 3% and a carbon price of \$28.55 tCO₂⁻¹.

	Global (all stakeholders)			Local-rural stakeholders			Tanzanian-other stakeholders			International stakeholders		
	Conservation	Depletion	Difference	Conservation	Depletion	Difference	Conservation	Depletion	Difference	Conservation	Depletion	Difference
Agriculture												
Maize	2,081.80	7,507.41	-5,425.61	2,081.80	7,507.41	-5,425.61	0.00	0.00	0.00	0.00	0.00	0.00
Beans	722.63	5,733.52	-5,010.89	722.63	5,733.52	-5,010.89	0.00	0.00	0.00	0.00	0.00	0.00
Crop damage												
Maize	-180.17	-111.55	-68.62	-180.17	-111.55	-68.62	0.00	0.00	0.00	0.00	0.00	0.00
Beans	-75.22	-61.33	-13.89	-75.22	-61.33	-13.89	0.00	0.00	0.00	0.00	0.00	0.00
Tourism												
Tanzanians	9.96	7.63	2.34	8.28	6.34	1.94	1.68	1.29	0.39	0.00	0.00	0.00
Internationals	13.62	9.93	3.68	10.94	7.97	2.97	2.68	1.97	0.71	0.00	0.00	0.00
NTFPs												
Charcoal	939.78	1,026.26	-86.48	416.81	454.55	-37.74	522.97	571.72	-48.74	0.00	0.00	0.00
Firewood	349.64	609.57	-259.93	347.09	592.58	-245.49	2.55	16.99	-14.44	0.00	0.00	0.00
Poles	42.16	46.87	-4.71	41.76	46.37	-4.61	0.40	0.50	-0.10	0.00	0.00	0.00
Thatch	5.18	5.18	0.00	5.12	5.12	0.00	0.06	0.06	0.00	0.00	0.00	0.00
Timber												
Class I	14.94	229.27	-214.33	4.63	71.07	-66.43	6.48	99.44	-92.96	3.83	58.76	-54.93
Class II	108.63	132.12	-23.50	65.83	80.07	-14.24	42.80	52.06	-9.26	0.00	0.00	0.00
Classes III-V	343.59	333.61	9.97	293.36	284.84	8.51	50.23	48.77	1.46	0.00	0.00	0.00
Carbon emissions												
Above ground	0.00	-11,730.07	11,730.07	0.00	-6.58	6.58	0.00	-68.20	68.20	0.00	-11,655.30	11,655.30
Below ground	0.00	-8,560.24	8,560.24	0.00	-4.80	4.80	0.00	-49.77	49.77	0.00	-8,505.68	8,505.68
Carbon sequestration	811.99	0.00	811.99	0.46	0.00	0.46	4.72	0.00	4.72	806.82	0.00	806.82
Drinking water												
Morogoro	0.00	-5.66	5.66	0.00	0.00	0.00	0.00	-5.66	5.66	0.00	0.00	0.00
Dar es Salaam	0.00	-99.50	99.50	0.00	0.00	0.00	0.00	-99.50	99.50	0.00	0.00	0.00
Management costs	-593.21	0.00	-593.21	-3.48	0.00	-3.48	-50.82	0.00	-50.82	-538.91	0.00	-538.91
Total	4,595.31	-4,926.99	9,522.30	3,739.83	14,605.57	-10,865.73	583.75	569.65	14.09	271.74	-20,102.21	20,373.95

1 **Supplementary Table 3 | Residual-value resource rent.** Alternative valuation approach based on resource rents (deducting costs, including agricultural labour costs, from
2 total revenues, *cf.* market price valuation in main text and figures), for the conservation and depletion pathways and the difference between these (i.e., conservation benefits
3 net of direct and indirect costs, in bold). Values are in 2020 US\$ millions, with a discount rate of 3% and a carbon price of \$28.55 tCO₂⁻¹.

	20-year pathways			66-year pathways		
	Conservation	Depletion	Difference	Conservation	Depletion	Difference
Agriculture						
Maize	728.81	1,377.13	-648.32	1,400.80	4,788.59	-3,387.79
Beans	276.20	661.44	-385.23	530.87	4,120.58	-3,589.71
Crop damage						
Maize	-93.74	-78.62	-15.12	-180.17	-111.55	-68.62
Beans	-39.14	-38.24	-0.90	-75.22	-61.33	-13.89
Tourism						
Tanzanians	0.52	0.49	0.03	1.00	0.76	0.23
Internationals	0.71	0.67	0.04	1.36	0.99	0.37
NTFPs						
Charcoal	107.60	123.77	-16.17	206.81	225.22	-18.41
Firewood	126.19	262.58	-136.39	242.55	422.87	-180.32
Poles	16.34	20.07	-3.74	31.40	34.90	-3.51
Thatch	1.32	1.32	0.00	2.54	2.54	0.00
Timber						
Class I	1.94	39.33	-37.38	3.74	57.32	-53.58
Class II	17.83	23.04	-5.22	34.26	41.68	-7.41
Classes III-V	44.69	45.63	-0.94	85.90	83.40	2.49
Carbon emissions						
Above ground	0.00	-6,026.40	6,026.40	0.00	-11,730.07	11,730.07
Below ground	0.00	-4,050.83	4,050.83	0.00	-8,560.24	8,560.24
Carbon sequestration	422.47	0.00	422.47	811.99	0.00	811.99
Drinking water						
Morogoro	0.00	-0.37	0.37	0.00	-5.66	5.66
Dar es Salaam	0.00	-10.75	10.75	0.00	-99.50	99.50
Management costs	-308.63	0.00	-308.63	-593.21	0.00	-593.21
Total	1,303.10	-7,649.74	8,952.84	2,504.61	-10,789.51	13,294.12