
Supplementary information

Explaining the diverse values assigned to environmental benefits across countries

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Table S1. National statistics (sorted by GNI per capita)

Country	GNI per capita	Income Group	Region	Life expectancy	Forest area (%)	Gini index	Gender gap	Population	GDP
Australia	66,030	High	East Asia & Pacific	82	16.2	36	26	2.3.E+07	1.1E+12
United States	53,940	High	North America	79	33.8	41	26	3.2.E+08	1.7E+13
Canada	52,800	High	North America	82	38.2	34	26	3.5.E+07	1.6E+12
Japan	48,280	High	East Asia & Pacific	83	68.5	32	35	1.3.E+08	5.0E+12
Germany	47,410	High	Europe & Central Asia	80	32.7	31	24	8.1.E+07	3.6E+12
France	43,780	High	Europe & Central Asia	82	30.6	33	29	6.6.E+07	2.6E+12
United Kingdom	42,250	High	Europe & Central Asia	81	12.9	33	26	6.4.E+07	2.5E+12
Italy	35,370	High	Europe & Central Asia	83	31.2	35	31	6.0.E+07	2.2E+12
Korea, Rep.	25,760	High	East Asia & Pacific	81	63.6	32	36	5.0.E+07	1.6E+12
Saudi Arabia	25,440	High	Middle East & North Africa	74	0.5	46	41	3.0.E+07	1.5E+12
Russian Federation	15,210	Upper middle	Europe & Central Asia	71	49.8	41	30	1.4.E+08	3.8E+12
Argentina	12,870	Upper middle	Latin America & Caribbean	76	10.1	41	28	4.2.E+07	8.6E+11
Brazil	12,810	Upper middle	Latin America & Caribbean	75	59.3	53	31	2.0.E+08	3.2E+12
Turkey	12,510	Upper middle	Europe & Central Asia	75	15.0	40	39	7.6.E+07	1.7E+12
Mexico	10,270	Upper middle	Latin America & Caribbean	77	34.1	45	31	1.2.E+08	2.1E+12
South Africa	7,340	Upper middle	Sub-Saharan Africa	60	7.6	63	25	5.4.E+07	6.9E+11
China	6,770	Upper middle	East Asia & Pacific	76	21.9	40	31	1.4.E+09	1.7E+13
Indonesia	3,730	Lower middle	East Asia & Pacific	69	51.0	40	34	2.5.E+08	2.5E+12
India	1,520	Lower middle	South Asia	68	23.7	36	34	1.3.E+09	6.7E+12

Note. All statistics from World Bank Open Data source except Gender gap from the Global Gender Gap Report 2013.

Table S2. Survey information and study site statistics

Country	Local survey site	Survey method	N of respondents	Survey period		GRP (% of GDP)	PPP conversion factor	Population in the largest city (% of urban population)
Australia	Sydney	Internet	484	Sept. 9/ 2013	Sept. 13/ 2013	21.0	1.5	22.2
United States	New York	Internet	483	Sept. 9/ 2013	Sept. 13/ 2013	8.4	1.0	7.2
Canada	Toronto	Internet	543	Sept. 13/ 2013	Sept. 24/ 2013	17.8	1.3	20.1
Japan	Tokyo	Internet	591	Sept. 2/ 2013	Sept. 6/ 2013	32.6	106.6	31.9
Germany	Berlin	Internet	509	Sept. 9/ 2013	Sept. 13/ 2013	4.3	0.8	5.6
France	Paris	Internet	508	Sept. 13/ 2013	Sept. 24/ 2013	27.4	0.9	20.3
United Kingdom	London	Internet	515	Sept. 9/ 2013	Sept. 13/ 2013	33.0	0.8	16.0
Italy	Rome	Internet	513	Sept. 13/ 2013	Sept. 24/ 2013	7.5	0.8	9.7
Korea, Rep.	Seoul	Face-to-Face	184	Aug. 21/ 2013	Aug. 29/ 2013	51.4	976.3	23.9
Saudi Arabia	Riyadh	Face-to-Face	200	Aug. 4/ 2013	Sept. 2/ 2013	10.6	1.8	23.3
Russian Federation	Moscow	Face-to-Face	177	Aug. 30/ 2013	Sept. 9/ 2013	14.7	21.5	11.1
Argentina	Buenos Aires	Face-to-Face	195	Aug. 7/ 2013	Aug. 28/ 2013	36.8	2.8	37.7
Brazil	São Paulo	Face-to-Face	182	Aug. 12/ 2013	Aug. 29/ 2013	13.3	1.8	11.9
Turkey	Istanbul	Face-to-Face	191	Aug. 19/ 2013	Aug. 29/ 2013	20.6	1.3	24.8
Mexico	Mexico City	Face-to-Face	167	Aug. 6/ 2013	Aug. 16/ 2013	19.5	9.2	22.3
South Africa	Johannesburg	Face-to-Face	179	Aug. 5/ 2013	Aug. 26/ 2013	12.1	5.5	13.7
China	Shanghai	Face-to-Face	199	Aug. 31/ 2013	Sept. 1/ 2013	3.5	3.8	3.1
Indonesia	Jakarta	Face-to-Face	176	Aug. 19/ 2013	Aug. 31/ 2013	12.7	4384.4	7.6
India	Mumbai	Face-to-Face	187	Mar./2014	Mar./2014	2.2	17.5	5.9

Note. GRP (Gross Regional Product) from The Brookings Institution, 2014 GLOBAL METRO MONITOR

Table S3. Descriptive statistics on income and education

Country	Income level		Educational attainment					
	Median (annual income)	Gap from GNI*	Respondent		National**		Gap from national statistics	
			Lower secondary	Upper secondary	Lower secondary	Upper secondary	Lower secondary	Upper secondary
Australia	52,696	-0.2	99.2	88.3	91.8	73.6	7.4	14.7
United States	62,500	0.2	99.4	97.5	95.3	88.3	4.2	9.2
Canada	49,882	-0.1	99.5	96.8	-	82.7	-	14.1
Japan	51,599	0.1	99.4	98.4	-	80.3	-	18.1
Germany	48,375	0.0	99.1	62.8	96.8	83.0	2.3	-20.2
France	46,453	0.1	99.2	88.3	82.6	68.5	16.6	19.8
United Kingdom	44,143	0.0	99.5	91.3	99.9	74.7	-0.4	16.5
Italy	24,403	-0.3	100.0	88.1	77.6	48.6	22.4	39.5
Korea, Rep.	58,382	1.3	100.0	97.0	85.7	76.4	14.3	20.6
Saudi Arabia	81,718	2.2	100.0	100.0	66.5	48.9	33.5	51.1
Russian Federation	41,852	1.8	100.0	100.0	93.8	85.0	6.2	15.0
Argentina	26,008	1.0	65.5	19.0	-	-	-	-
Brazil	15,059	0.2	100.0	71.0	56.3	42.6	43.7	28.4
Turkey	23,124	0.8	79.5	65.5	55.0	35.2	24.5	30.3
Mexico	9,803	0.0	79.0	39.5	57.5	31.8	21.5	7.7
South Africa	26,316	2.6	99.5	80.5	76.6	64.2	22.9	16.3
China	22,616	2.3	100.0	86.0	65.3	22.3	34.7	63.7
Indonesia	7,527	1.0	92.0	38.0	47.3	31.1	44.7	6.9
India	7,130	3.7	85.5	66.0	37.6	26.9	47.9	39.1

* Gap from GNI = (Median income – GNI) / GNI

** World Bank Open Data, around 2014. Lower (Upper) secondary: Educational attainment, at least completed lower (upper) secondary, population 25+, total (%) (cumulative).

(-) means no data available.

Table S4. Respondents' descriptive statistics and weighting factors

Country	Life satisfaction		Self-rated health		Household size		WF1 (point)				WF2 (USD)			
	mean	S.D.	mean	S.D.	mean	S.D.	HH	SA	BD	NPP	HH (DALY)	SA (USA/TAX)	BD (EINES)	NPP (100mil.ton)
Australia	6.4	2.2	6.3	2.3	3.0	1.5	0.26	0.15	0.36	0.24	6,009	0.58	6.3.E+09	2.4.E+09
United States	6.4	2.5	7.0	2.2	2.9	1.5	0.34	0.18	0.26	0.22	10,178	0.96	5.9.E+09	2.8.E+09
Canada	6.5	2.2	7.0	2.1	2.8	1.4	0.32	0.19	0.27	0.22	6,660	0.67	4.3.E+09	2.0.E+09
Japan	6.1	2.2	6.2	2.1	2.8	1.3	0.21	0.19	0.32	0.29	3,444	0.54	4.1.E+09	2.1.E+09
Germany	6.3	2.3	6.4	2.5	2.3	1.2	0.18	0.16	0.37	0.29	5,004	0.79	7.9.E+09	3.6.E+09
France	6.3	1.9	6.7	2.1	2.8	1.4	0.29	0.15	0.30	0.25	8,720	0.80	7.0.E+09	3.3.E+09
United Kingdom	6.4	2.1	6.9	2.3	2.7	1.5	0.30	0.16	0.30	0.24	7,385	0.68	5.7.E+09	2.6.E+09
Italy	6.0	2.1	6.9	2.0	3.0	1.3	0.34	0.13	0.30	0.23	15,476	1.00	1.1.E+10	4.6.E+09
Korea, Rep.	6.9	1.4	7.0	1.5	3.7	0.9	0.32	0.19	0.24	0.25	7,164	0.75	4.1.E+09	2.5.E+09
Saudi Arabia	7.4	1.9	6.9	1.6	6.1	1.9	0.45	0.23	0.16	0.16	22,403	2.03	6.2.E+09	3.5.E+09
Russian Federation	7.1	1.7	7.1	1.6	3.0	1.0	0.30	0.22	0.28	0.20	7,348	0.95	5.4.E+09	2.1.E+09
Argentina	8.2	2.0	8.4	2.0	3.9	1.8	0.49	0.26	0.12	0.13	54,014	4.95	1.1.E+10	6.5.E+09
Brazil	8.2	1.4	8.0	1.7	3.5	1.6	0.46	0.17	0.19	0.18	11,170	0.74	3.6.E+09	1.9.E+09
Turkey	5.9	2.7	6.6	2.4	3.4	1.6	0.32	0.23	0.26	0.18	31,693	3.92	2.0.E+10	7.9.E+09
Mexico	8.6	1.6	7.9	1.6	4.3	2.1	0.33	0.25	0.21	0.20	N.A.	N.A.	N.A.	N.A.
South Africa	7.8	1.7	8.1	1.6	3.9	1.6	0.48	0.19	0.17	0.16	22,064	1.54	6.2.E+09	3.2.E+09
China	6.4	1.8	6.6	1.8	3.1	0.9	0.31	0.25	0.25	0.19	20,699	2.93	1.3.E+10	5.7.E+09
Indonesia	7.2	1.7	8.0	1.7	5.0	2.6	0.44	0.22	0.12	0.22	19,515	1.75	4.0.E+09	4.4.E+09
India	7.0	1.4	7.0	1.3	4.7	1.7	0.38	0.27	0.18	0.17	21,929	2.74	8.2.E+09	4.4.E+09

Note. HH=Human health; SA=Social assets; BD=Biodiversity; NPP=Net Primary Production

Table S5. The segmentation for all countries using latent class model

All respondents in 19 countries								
	Class A1		Class A2		Class A3		Class A4	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Utility function								
Human Health	-0.172	0.010 ***	-1.200	0.068 ***	-0.883	0.081 ***	-0.132	0.024 ***
Social Asset	-0.015	0.001 ***	-0.020	0.002 ***	-0.059	0.007 ***	-0.001	0.002
Biodiversity	-0.021	0.000 ***	-0.009	0.001 ***	-0.030	0.004 ***	-0.005	0.001 ***
Net Primary Production	-0.009	0.000 ***	-0.005	0.000 ***	-0.020	0.003 ***	-0.001	0.000 ***
Environmental Tax	-0.004	0.000 ***	-0.002	0.000 ***	0.000	0.001	-0.015	0.001 ***
Membership function								
GDP per capita (PPP, 1,000 USD)			-0.013	0.006 **	-0.033	0.009 ***	0.029	0.007 ***
Life expectancy			-0.045	0.019 **	-0.040	0.022 *	-0.046	0.026 *
Forest area (%)			-0.017	0.002 ***	-0.024	0.004 ***	0.004	0.003
Gini index			0.035	0.011 ***	-0.004	0.013	0.035	0.015 **
Population rate in the largest city (%)			0.029	0.006 ***	0.001	0.009	0.031	0.007 ***
Domestic income class (1-5)			0.034	0.039	-0.009	0.054	-0.052	0.047
Subjective well-being (0-10)			0.054	0.021 ***	0.075	0.031 **	-0.058	0.024 **
Household size (average=3)			0.115	0.028 ***	0.132	0.034 ***	0.019	0.037
Age			0.005	0.004	0.001	0.005	0.002	0.004
Gender*Inequality			0.669	0.282 **	-0.040	0.379	-0.987	0.355 ***
Constant			1.381	1.678	3.755	1.868 **	-1.031	2.328
Class share (%) of the sample	0.481		0.217		0.222		0.079	
WF1								
Human health	0.13		0.61		0.26		0.42	
Social assets	0.17		0.16		0.27		0.00	
Biodiversity	0.40		0.12		0.22		0.38	
Primary production	0.29		0.11		0.25		0.20	
WF2								
Human health (DALY)	3,803		52,079		-		806	
Social assets (US dollars)	0.88		2.32		-		0.02	
Biodiversity (EINES)	9.0.E+09		7.9.E+09		-		5.7.E+08	
Primary production (100 million tons)	3.7.E+09		4.2.E+09		-		1.7.E+08	

Note. Note. ***, **, * indicate significance at 1%, 5%, 10%, respectively. PPP= purchasing power parity; USD=US dollars; DALY=disability-adjusted life year; EINES=expected increase in number of extinct species.

Table S6. The segmentation for middle-income countries

Respondents in middle/lower income contries								
	Class M1		Class M2		Class M3		Class M4	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Utility function								
Human Health	-1.527	0.220 ***	-0.201	0.021 ***	-1.066	0.055 ***	-0.144	0.066 **
Social Asset	-0.125	0.018 ***	-0.016	0.001 ***	-0.026	0.002 ***	-0.003	0.004
Biodiversity	-0.068	0.010 ***	-0.014	0.001 ***	-0.008	0.001 ***	-0.005	0.003 **
Net Primary Production	-0.039	0.006 ***	-0.006	0.000 ***	-0.007	0.001 ***	-0.001	0.001
Environmental Tax	-0.003	0.001 **	-0.001	0.000 ***	0.000	0.000	-0.017	0.002 ***
Membership function								
GDP per capita (PPP, 1,000 USD)			0.215	0.000 ***	0.075	0.074	0.381	0.104 ***
Life expectancy			-0.036	0.050	-0.162	0.057 ***	-0.042	0.095
Forest area (%)			0.036	0.010 ***	0.062	0.012 ***	0.054	0.022 **
Gini index			0.021	0.029	-0.023	0.030	0.130	0.056 **
Population rate in the largest city (%)			-0.039	0.018 **	0.090	0.022 ***	-0.013	0.044
Domestic income class (1-5)			0.166	0.093 *	0.120	0.101	0.066	0.141
Subjective well-being (0-10)			-0.126	0.059 **	-0.035	0.063	-0.320	0.081 ***
Household size (average=3)			-0.046	0.062	-0.036	0.060	0.029	0.092
Age			-0.007	0.009	0.008	0.009	0.006	0.013
Gender*Inequality			-0.328	0.642	0.762	0.678	-0.767	0.997
Constant			-0.972	4.092	8.575	4.466 *	-12.150	8.990
Class share (%) of the sample	0.195		0.383		0.376		0.046	
WF1								
Human health	0.22		0.19		0.54		0.53	
Social assets	0.29		0.24		0.21		0.00	
Biodiversity	0.25		0.32		0.10		0.47	
Primary production	0.25		0.26		0.15		0.00	
WF2								
Human health (DALY)	56,257		12,622		-		798	
Social assets (US dollars)	12.60		2.78		-		-	
Biodiversity (EINES)	4.8.E+10		1.7.E+10		-		5.4.E+08	
Primary production (100 million tons)	2.7.E+10		7.7.E+09		-		-	

Note. ***, **, * indicate significance at 1%, 5%, 10%, respectively. PPP= purchasing power parity; USD=US dollars; DALY=disability-adjusted life year; EINES=expected increase in number of extinct species.

Table S7. The segmentation for high-income countries

All respondents in high income countries						
	Class H1		Class H2		Class H3	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Utility function						
Human Health	-0.126	0.024 ***	-1.167	0.039 ***	-0.200	0.010 ***
Social Asset	-0.001	0.001	-0.028	0.001 ***	-0.017	0.001 ***
Biodiversity	-0.005	0.001 ***	-0.013	0.001 ***	-0.023	0.000 ***
Net Primary Production	-0.002	0.000 ***	-0.008	0.000 ***	-0.010	0.000 ***
Environmental Tax	-0.014	0.001 ***	-0.002	0.000 ***	-0.004	0.000 ***
Membership function						
GDP per capita (PPP, 1,000 USD)			-0.101	0.016 ***	0.009	0.016
Life expectancy			-0.086	0.073	0.150	0.075 **
Forest area (%)			-0.002	0.004	0.000	0.004
Gini index			0.172	0.033 ***	-0.025	0.030
Population rate in the largest city (%)			-0.024	0.012 **	-0.042	0.011 ***
Domestic income class (1-5)			0.070	0.055	0.027	0.049
Subjective well-being (0-10)			0.105	0.029 ***	0.051	0.025 **
Household size (average=3)			0.006	0.045	0.004	0.040
Age			0.002	0.005	0.003	0.005
Gender*Inequality			1.185	0.420 ***	1.003	0.378 ***
Constant			6.256	6.488	-8.805	6.507
Class share (%) of the sample	0.099		0.305		0.596	
WF1						
Human health	0.38		0.52		0.14	
Social assets	0.05		0.19		0.18	
Biodiversity	0.36		0.14		0.39	
Primary production	0.20		0.15		0.29	
WF2						
Human health (DALY)	859		48,807		4,254	
Social assets (US dollars)	0.02		3.17		0.99	
Biodiversity (EINES)	6.4.E+08		1.0.E+10		9.3.E+09	
Primary production (100 million tons)	2.0.E+08		6.2.E+09		4.0.E+09	

Note. ***, ** indicate significance at 1%, 5%, respectively. PPP= purchasing power parity; USD=US dollars; DALY=disability-adjusted life year; EINES=expected increase in number of extinct species.

Table S8. The Subjective wellbeing and respondents' characteristics

Variables	Life satisfaction				Life satisfaction (Standardized)	
Happiness	0.842 (0.0076)	***				
Self-rated health (SRH)			0.499 (0.0109)	***	0.499 (0.0109)	***
Income class (1-5)			0.264 (0.0205)	***	0.264 (0.0205)	***
Household size			0.033 (0.0151)	**	0.033 (0.0151)	**
Age			-0.039 (0.0138)	***	-0.039 (0.0138)	***
Age^2			0.001 (0.0002)	***	0.001 (0.0002)	***
Country dummy			abbrev.		abbrev.	
Constant	0.879 (0.0545)	***	2.502 (0.2814)	***	-0.433 (0.2696)	
R-squared (adjusted)	0.663		0.355		0.288	

Note. Standard errors are in parentheses. ***p<0.01 and **p<0.05. There are 6,183 observations. For the two types of SWB, a one-point increase in happiness is associated with a 0.84-point increase in life satisfaction. In addition, a one-point increase in the SRH condition is associated with a 0.5-point increase in life satisfaction. Regarding the relative income class within each survey site, a higher (lower) income class is associated with a higher (lower) point for life satisfaction compared with the average class. The correlation between household size (age) is slightly positive (negative).

Figure S1. The explanation of the current damage level of each environmental good

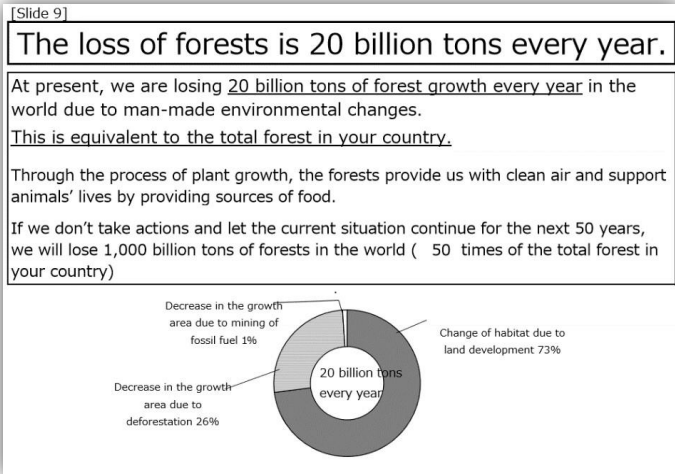
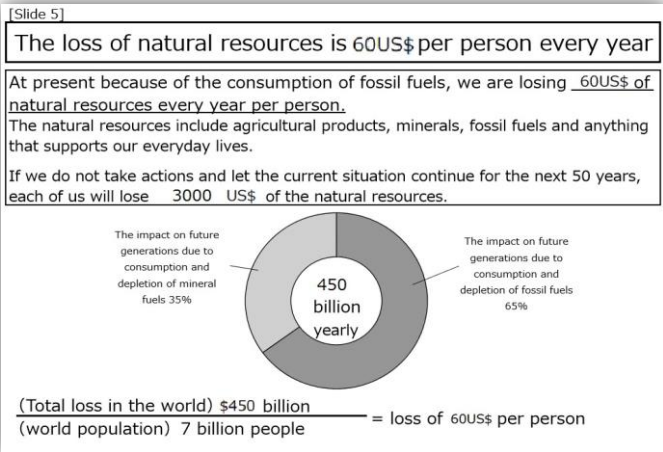
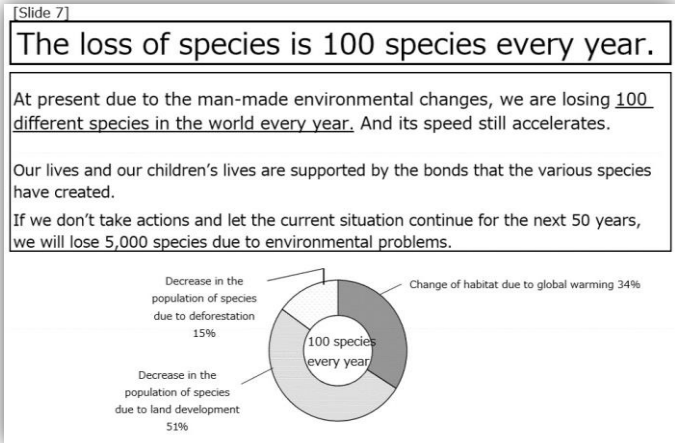
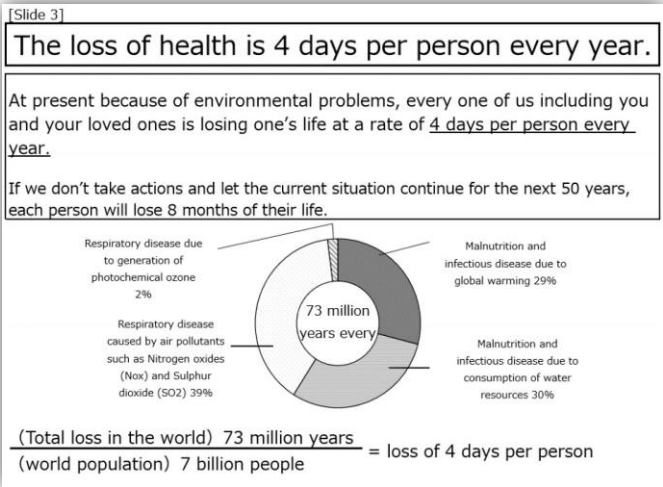


Figure S2. An example of choice experiment

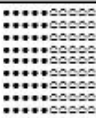
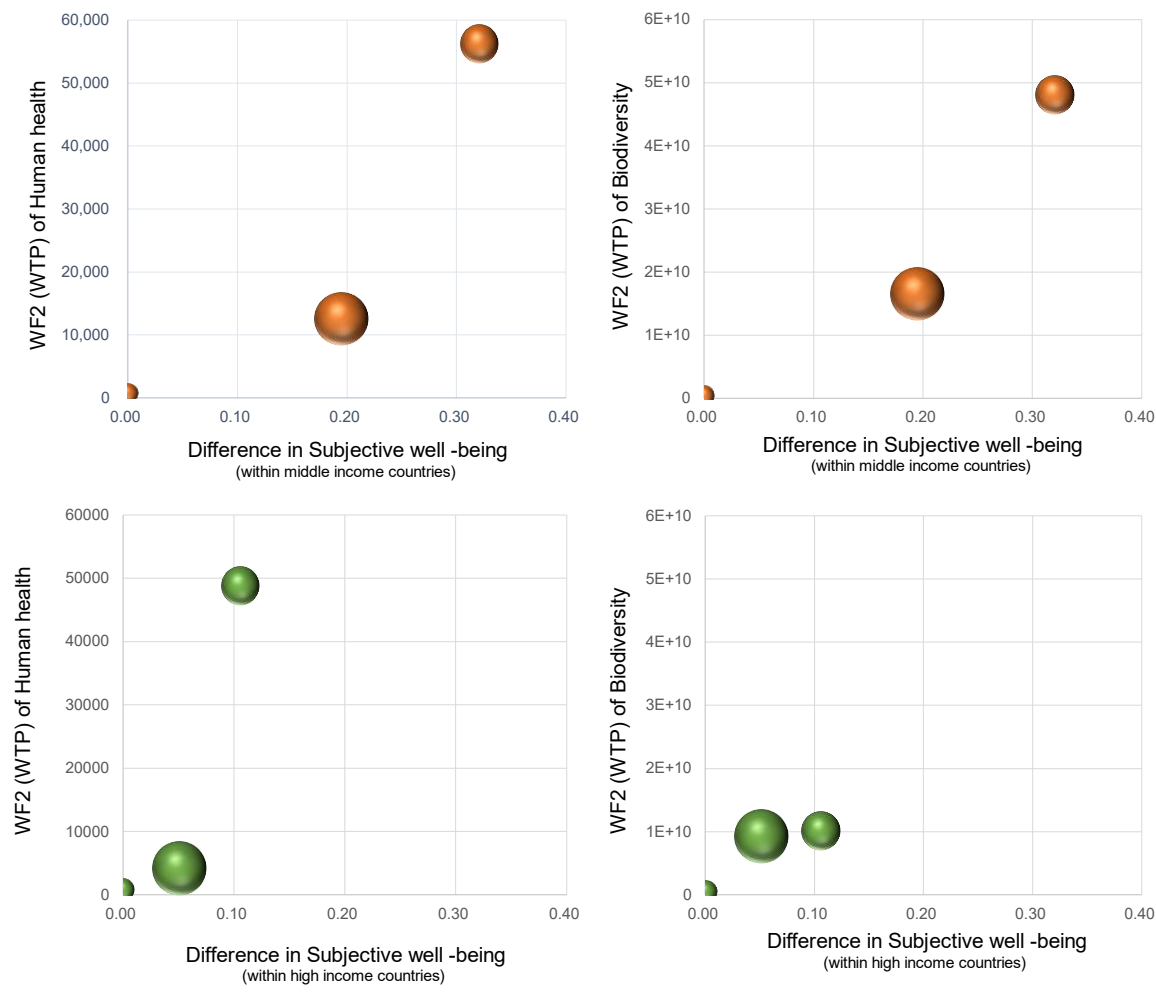
		Plan A	Plan B	No action (Plan C)
L O S S	Loss of health per person	 Lose 4 days a year	 No loss of life	 Lose 4 days a year
	Loss of natural resources per person	 Lose 15US\$ a year	 No loss of resources	 Lose 60US\$ a year
	Loss of species	 100 species extinct a year	 50 species extinct a year	 100 species extinct a year
	Loss of forests	 10 billion tons a year	 20 billion tons a year	 20 billion tons a year
T A X	Addnl. TAX (yearly per household)	Additional 100US\$ yearly	Additional 200US\$ yearly	No additional expenditure

Figure S3. Subjective well-being and monetary social weightings



Note. Red bubbles for middle-income countries, green bubbles for high-income countries. The more materialistic people are, the lower their life satisfaction.