

TABLE 1: Changes in population, affluence and technology for various indicators: A small sample from [Goklany \(2009\), Table 2](#).

Indicator	Area	Period	Population ¹ [P]	Affluence ¹ [A = GDP/P]	GDP ¹ [P x A]	Impact ¹ [I]	Technology factor = impact intensity ¹ [T = I/(P x A)]	Technological change (or change in impact intensity) over the period ²	
								Cumulative ΔT (in %) over period ²	ΔT , in %/year ²
Habitat lost to cropland	U.S.	1910-2006	3.22	6.24	20.08	1.00	0.050	-95.0	-3.1
cropland	World	1950-2005	2.56	3.32	8.49	1.34	0.157	-84.3	-3.3
Water withdrawal	U.S.	1950-2000	1.86	2.97	5.52	2.26	0.403	-59.7	-1.8
Water consumption	World	1900-1995	3.16	6.27	19.8	6.27	1.98	98.5	0.07
Deaths from GI diseases ¹	U.S.	1900-1970	2.68			0.004	0.002	-99.8	-8.6
PM-10, indoor emissions per occupied residence.	U.S.	1940- 2002	2.17	4.07	8.83	0.05	0.006	-99.4	-8.0
SO ₂ emissions (national)	U.S.	1900- 2003	3.80	7.08	26.93	1.60	0.059	-94.1	-2.7
Deaths due to climate-related disasters ¹	World	1900/09- 1997/2006	3.67			0.20	0.053	-94.7	-4.6
CO ₂ emissions	U.S.	1900-2004	3.84	7.28	27.91	9.12	0.327	-67.3	-1.1
CO ₂ emissions	China	Since economic liberalization,	1.34	5.06	6.76	3.31	0.49	-51.1	-1.3

¹ Values in this column express the magnitude of this factor relative to its magnitude at the start of the period, e.g., in the first row below, the US population in 2006 was 3.22 times its 1910 level. ² The **negative sign** in these columns denote technological change has reduced impact intensity, that is, improved matters.

³ Death associated with these indicators are expected to increase with population but not with affluence (except through its effect on technology, which is captured in the T-factor). Therefore, the values of A and P x A are not relevant in these cases, and ΔT = percent reduction in death rates over this period.