

Human Development Index

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Human Development Index (HDI)

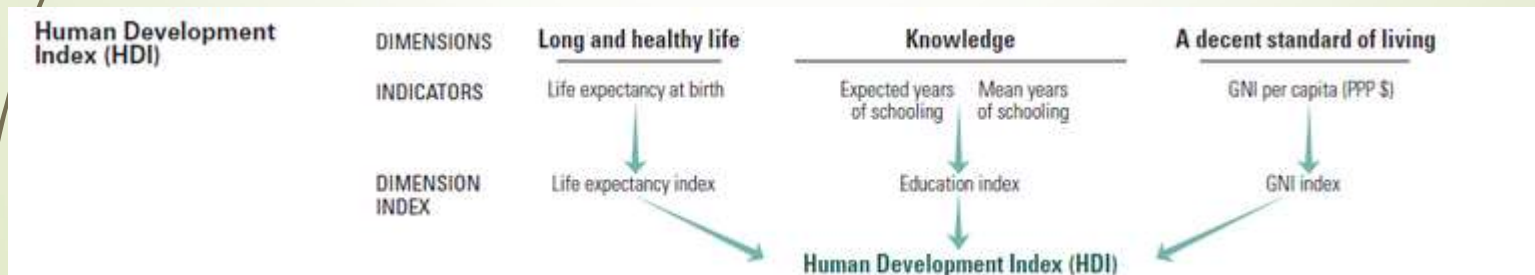
- The HDI serves as a frame of reference for both social and economic development. It is a summary measure for monitoring long-term progress in a country's average level of human development in three basic dimensions: a long and healthy life, access to knowledge and a decent standard of living. The HDI was introduced in 1990 to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not just economic growth.
- HDI was developed by Pakistani economist [Mahbub ul Haq](#) and was further used to measure a country's development by the United Nations Development Programme ([UNDP](#))'s Human Development Report Office.

HDI cont...

- ▶ The 2010 Human Development Report introduced an Inequality-adjusted Human Development Index (IHDI). While the simple HDI remains useful, it stated that "the IHDI is the actual level of human development (accounting for inequality), while the HDI can be viewed as an index of 'potential' human development (or the maximum level of HDI) that could be achieved if there were no inequality.
- ▶ The index is based on the human development approach, developed by Mahbub ul Haq, anchored in Amartya Sen's work on human capabilities, often framed in terms of whether people are able to "be" and "do" desirable things in life. Examples include – being: well fed, sheltered, healthy; doing: work, education, voting, participating in community life. The freedom of choice is central – someone choosing to be hungry (e.g. when fasting for religious reasons) is quite different from someone who is hungry because they cannot afford to buy food, or because the country is in a famine.

Origins of HDI

- The origins of the HDI are found in the annual Human Development Reports produced by the Human Development Report Office of the [United Nations Development Programme](#) (UNDP). These were devised and launched by Pakistani economist [Mahbub ul Haq](#) in 1990, and had the explicit purpose "to shift the focus of development economics from [national income](#) accounting to [people-centered policies](#)". Haq believed that a simple composite measure of human development was needed to convince the public, academics, and politicians that they can and should evaluate development not only by economic advances but also improvements in human [well-being](#).





HDI: Components

- Final components:
 1. Long and healthy life
 2. Knowledge
 3. Decent standard of living
- The first two are *ends*, the third is a *means*. It is a proxy for all other variables not reflected in the first two components.

1.) A decent standard of living

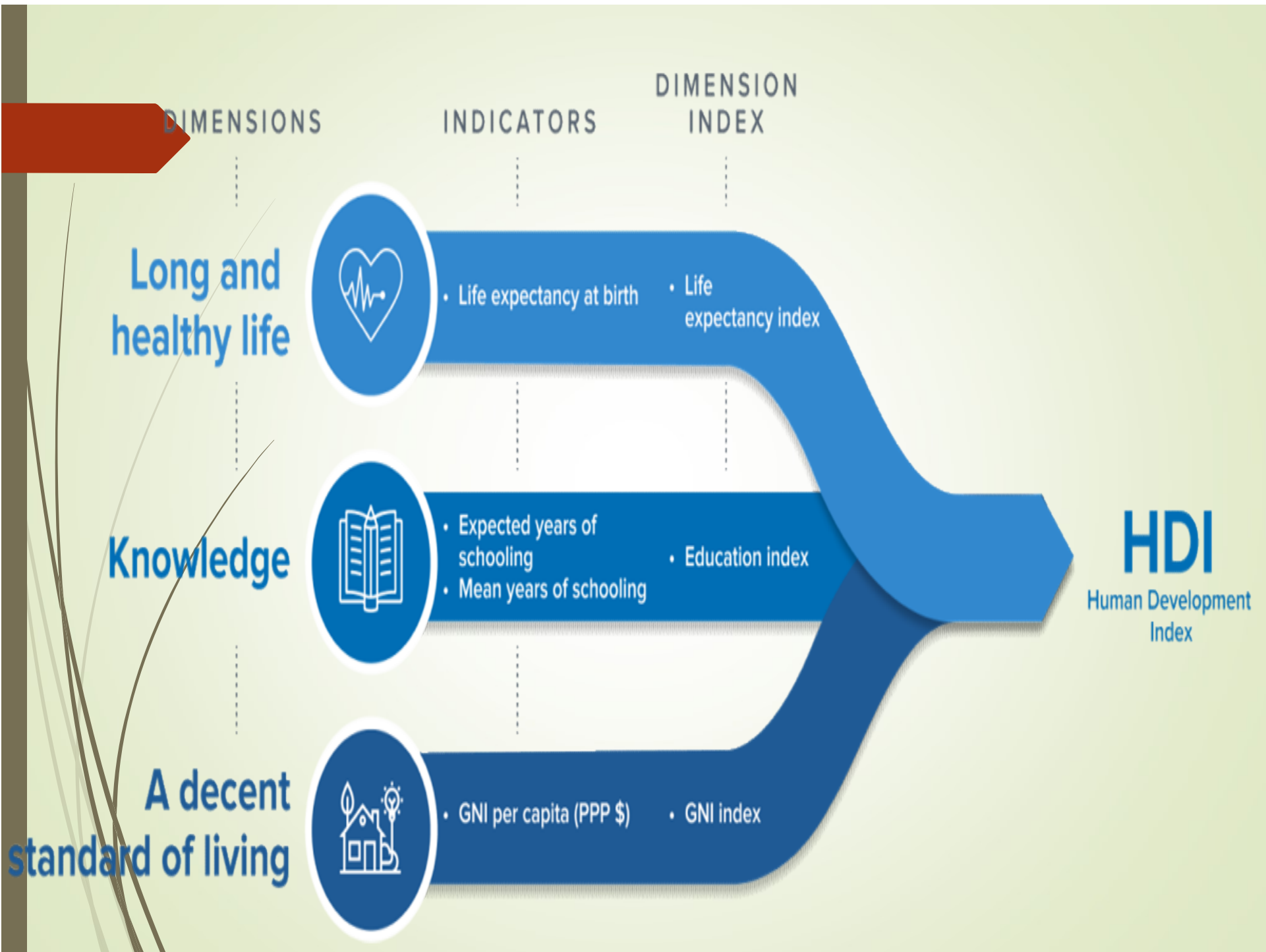


2.) A long and healthy life



3.) Access to knowledge







Old and New HDI

- It is a composite indicator that cannot reflect the whole Human Development Approach
- It has the main objective to shift the focus from the *means* of development to the *ends*
- The HDI was introduced to cover both social and economic choices.
- A composite index was constructed rather than a plethora of separate indices.

Old method (HDI before 2010)

Units of Measurement

- Each component is measured by one or more variables, which have different units of measurement.
- Standardization:
$$\frac{\text{Actual Value} - \text{Min Value}}{\text{Max Value} - \text{Min Value}}$$
- Max and min are not observed, but set on a theoretical basis. Min. mean years of schooling =0 (societies can subsist without formal education), max.=15 (projected maximum of this indicator for 2025).
- Each component has a value ≥ 0 and ≤ 1 .

Old method (HDI before 2010)

- ▶ The HDI combined three dimensions last used in its 2009 report:
- ▶ Life expectancy at birth, as an index of population health and longevity to HDI
- ▶ Knowledge and education, as measured by the adult literacy rate (with two-thirds weighting) and the combined primary, secondary, and tertiary gross enrollment ratio (with one-third weighting).
- ▶ Standard of living, as indicated by the natural logarithm of gross domestic product per capita at purchasing power parity.

Cont...

This methodology was used by the UNDP until their 2011 report. The formula defining the HDI is promulgated by the United Nations Development Programme (UNDP).^[12] In general, to transform a raw variable, say x , into a unit-free index between 0 and 1 (which allows different indices to be added together), the following formula is used:

$$x \text{ index} = \frac{x - a}{b - a}$$

where a and b are the lowest and highest values the variable can attain, respectively.

The Human Development Index (HDI) then represents the uniformly weighted sum with $\frac{1}{3}$ contributed by each of the following factor indices:

$$\text{Life Expectancy Index} = \frac{LE - 25}{85 - 25}$$

$$\text{Education Index} = \frac{2}{3} \times ALI + \frac{1}{3} \times GEI$$

$$\text{Adult Literacy Index (ALI)} = \frac{ALR - 0}{100 - 0}$$

$$\text{Gross Enrolment Index (GEI)} = \frac{CGER - 0}{100 - 0}$$

$$\text{GDP} = \frac{\log(GDPpc) - \log(100)}{\log(40000) - \log(100)}$$

$$\text{HDI} = \frac{1}{3}(\text{LEI} + \text{EI} + \text{GDP})$$

New Method (2010 HDI onwards)

Published on 4 November 2010 (and updated on 10 June 2011), the 2010 Human Development Report calculated the HDI combining three dimensions:

- A long and healthy life: Life expectancy at birth
- Education: Mean years of schooling and expected years of schooling
- A decent standard of living: GNI per capita (PPP international dollars)

In its 2010 Human Development Report, the UNDP began using a new method of calculating the HDI. The following three indices are used:

1. **Life Expectancy Index (LEI) = (LE-20)/(85-20)**

LEI is equal to 1 when life expectancy at birth is 85 years, and 0 when life expectancy at birth is 20 years.

2. **Education Index (EI) = (MYSI+EYSI)/2**

2.1 Mean Years of Schooling Index (MYSI) = MYS/15

Fifteen is the projected maximum of this indicator for 2025.

2.2 Expected Years of Schooling Index (EYSI) = EYS/18

Eighteen is equivalent to achieving a master's degree in most countries.

3. Income Index (II) = $\frac{\ln(\text{GNIpc}) - \ln(100)}{\ln(75,000) - \ln(100)}$

II is 1 when GNI per capita is \$75,000 and 0 when GNI per capita is \$100.

Finally, the HDI is the geometric mean of the previous three normalized indices:

$$\text{HDI} = \sqrt[3]{\text{LEI} \cdot \text{EI} \cdot \text{II}}$$

LE: Life expectancy at birth

MYS: Mean years of schooling (i.e. years that a person aged 25 or older has spent in formal education)

EYS: Expected years of schooling (i.e. total expected years of schooling for children under 18 years of age)






GNIpc: Gross national income at purchasing power parity per capita

The Human Development Report 2022 by the [United Nations Development Programme](#) was released on 8 September 2022 and calculates HDI values based on data collected in 2021.





The following countries ranked from 1 to 25 in the year 2021 are considered to be of "very high human development"

Rank		Nation	HDI	
2021 data (2022 report)	Change since 2015		2021 data (2022 report)	Average annual growth (2010–2021)
1		 Switzerland	0.962	0.19%
2		 Norway	0.961	0.19%
3		 Iceland	0.959	0.56%
4	(3)	 Hong Kong	0.952	0.44%
5	(3)	 Australia	0.951	0.27%
6		 Denmark	0.948	0.34%
7	(2)	 Sweden	0.947	0.36%
8	(6)	 Ireland	0.945	0.40%
9	(5)	 Germany	0.942	0.16%
10	(1)	 Netherlands	0.941	0.24%
11		 Finland	0.940	0.29%
12	(1)	 Singapore	0.939	0.29%
13	(3)	 New Zealand	0.937	0.15%
13	(2)	 Belgium	0.937	0.25%
15	(2)	 Canada	0.936	0.25%
16	(1)	 Liechtenstein	0.935	0.22%
17	(3)	 Luxembourg	0.930	0.18%
18	(3)	 United Kingdom	0.929	0.17%
19		 Japan	0.925	0.27%
19	(3)	 South Korea	0.925	0.35%
21	(3)	 United States	0.921	0.10%
22		 Israel	0.919	0.25%
23	(1)	 Slovenia	0.918	0.28%

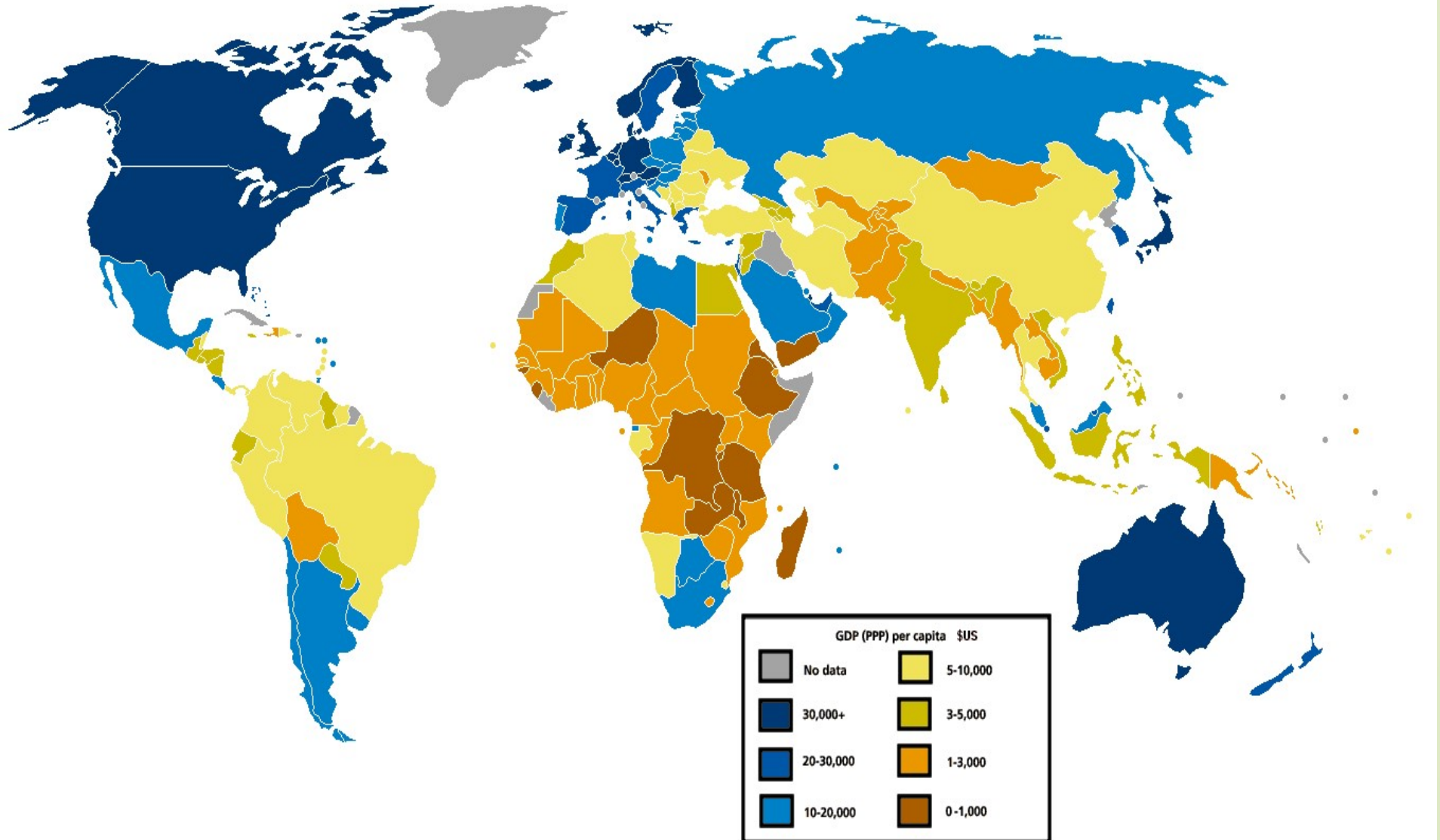
HDI 2021/22: South Asia

Rank		Country	HDI Value	Change from 2020
180		Afghanistan	0.478	-0.005
127		Bhutan	0.666	-0.002
76		Iran (Islamic Republic of)	0.774	-0.003
143		Nepal	0.602	-0.002
73		Sri Lanka	0.782	0.002

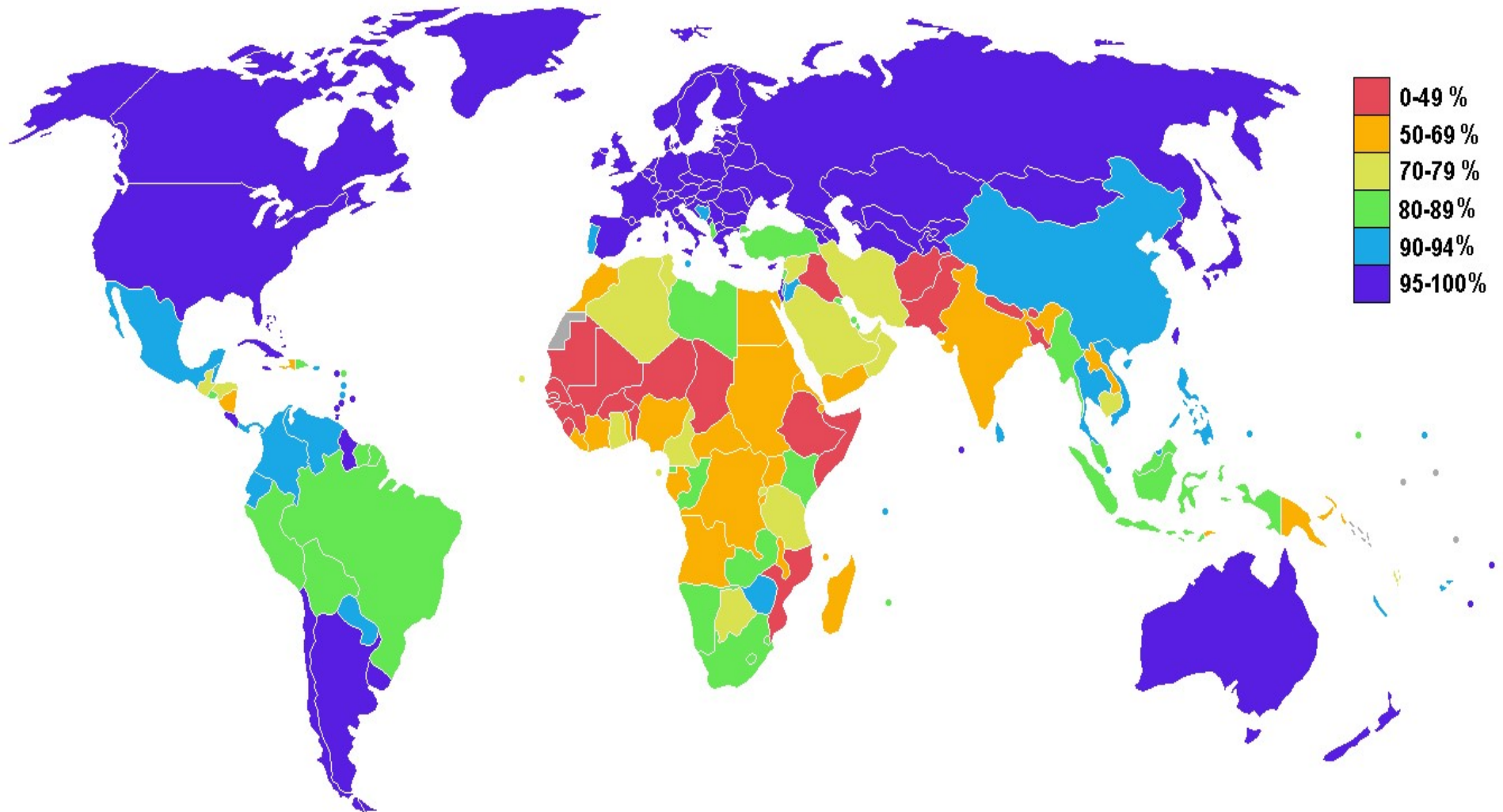
HDI 2021/22: South Asia

Rank		Country	HDI Value	Change from 2020
129		Bangladesh	0.661	0.006
132		India	0.633	-0.009
90		Maldives	0.747	0.013
161		Pakistan	0.544	0.001

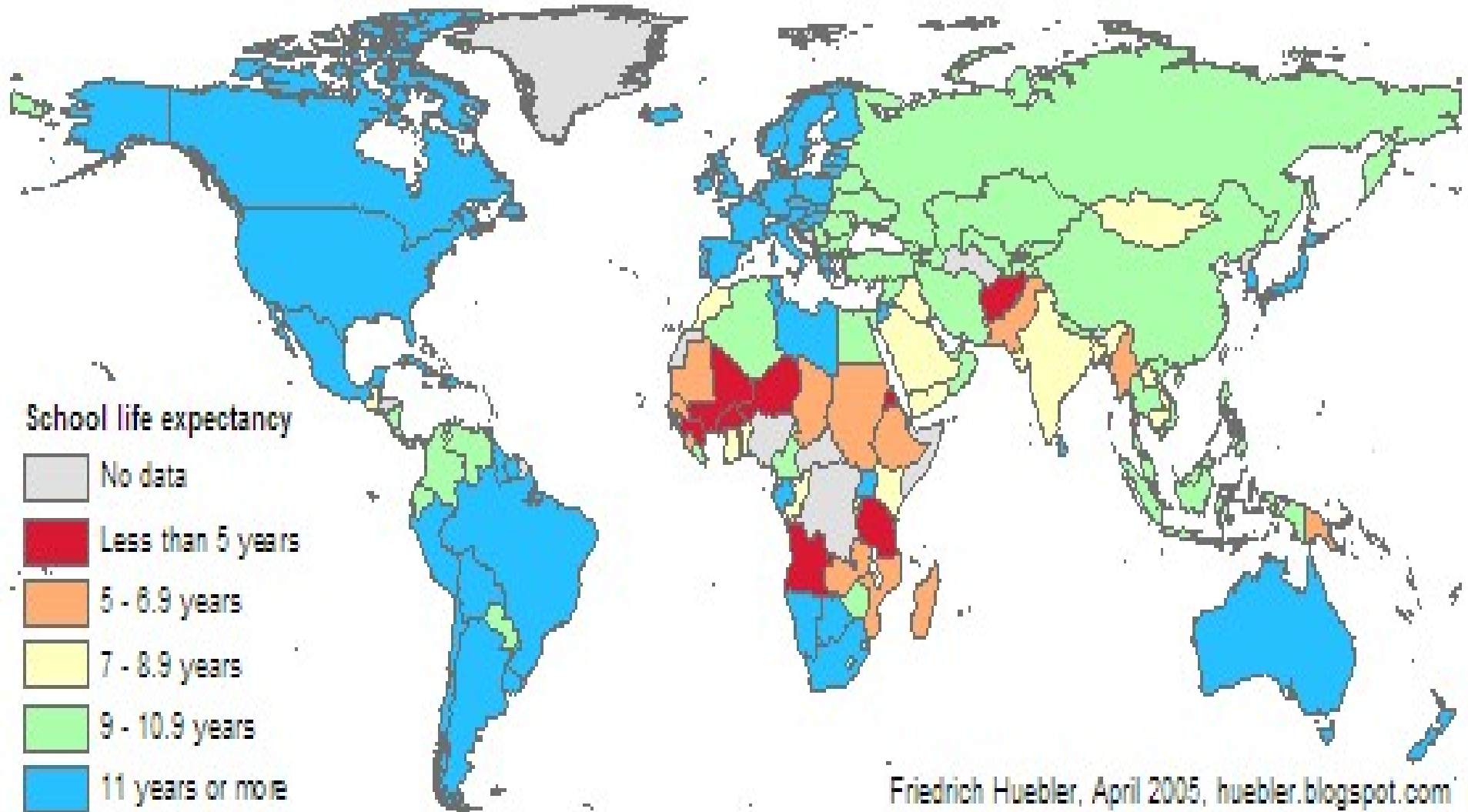
GDP per Capita



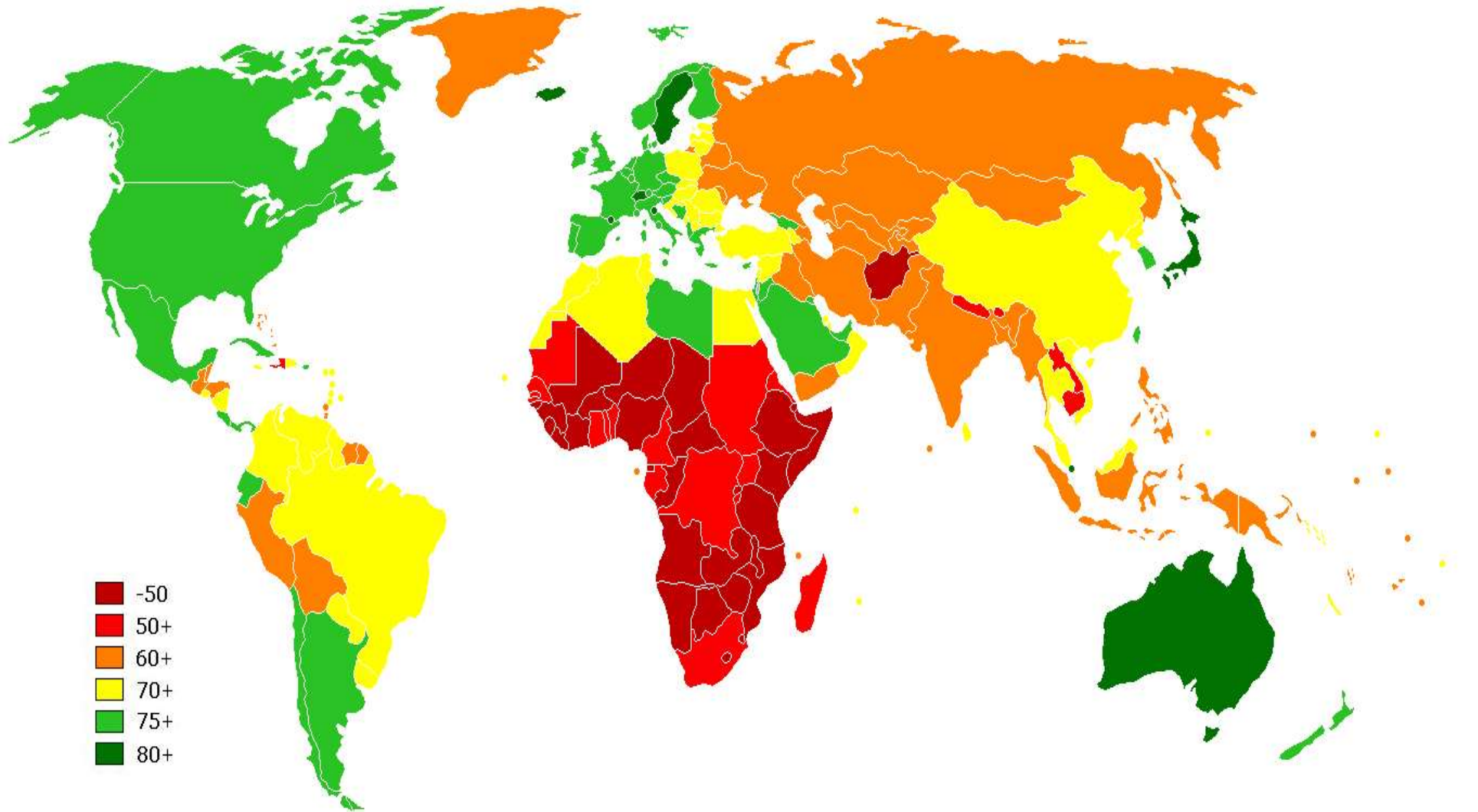
Literacy Rate



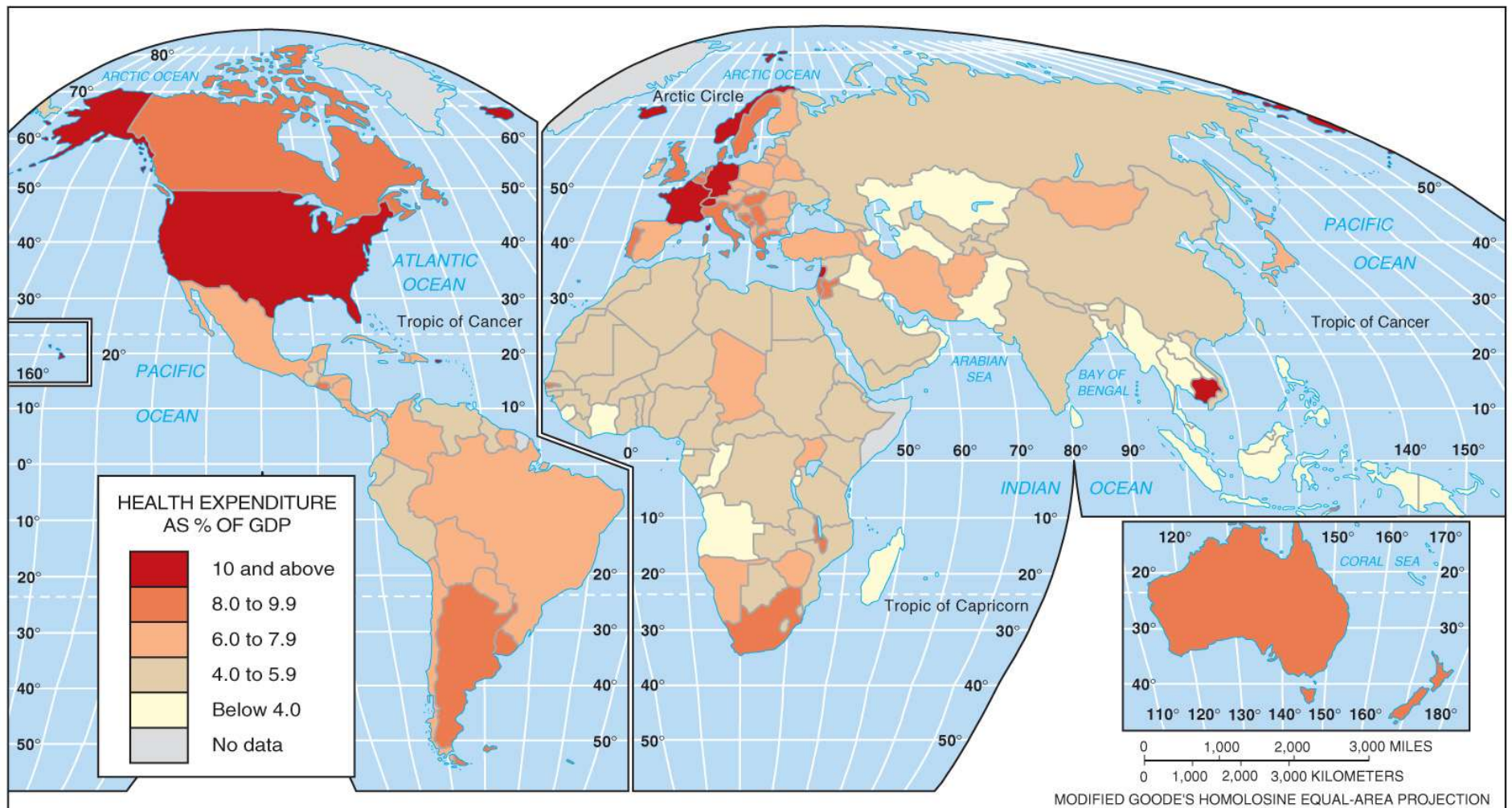
Years in School



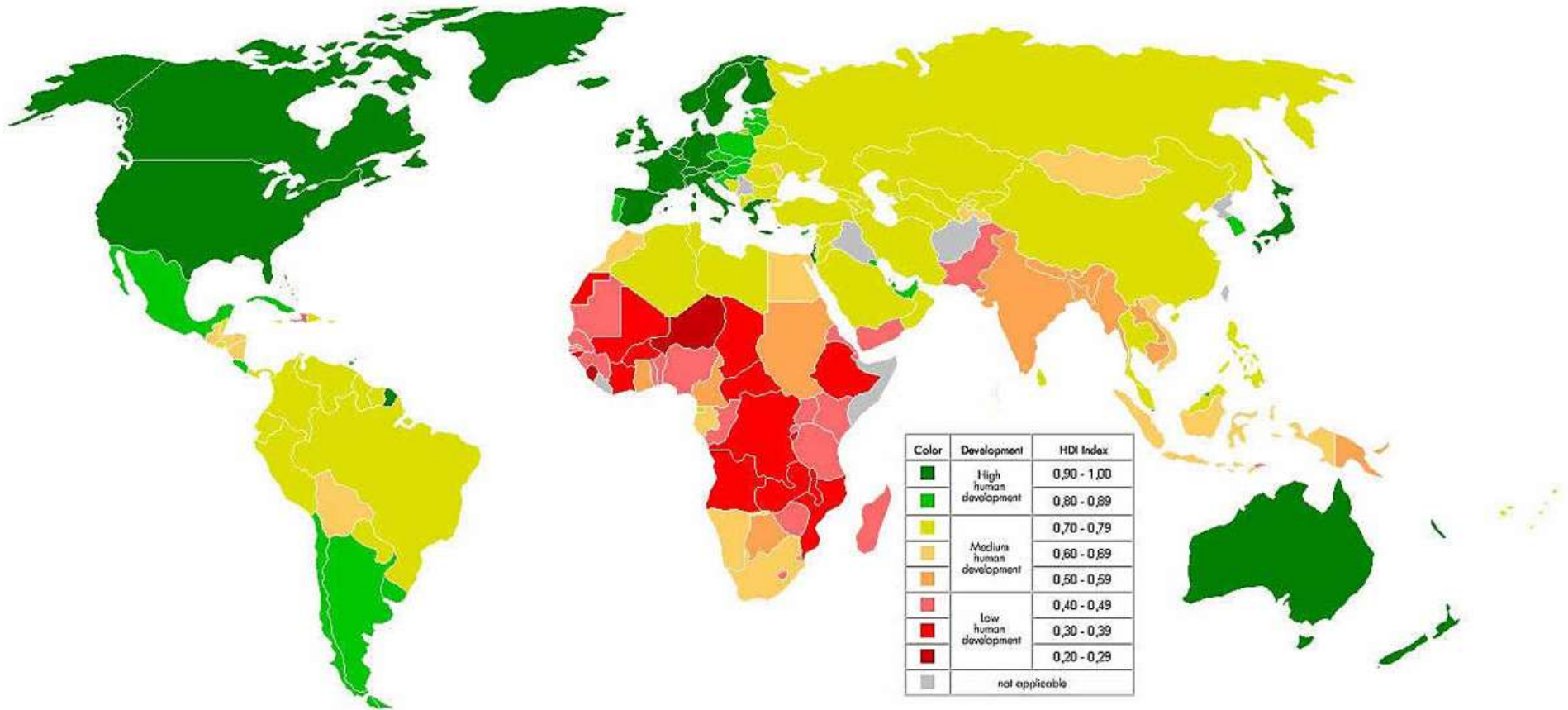
Life Expectancy



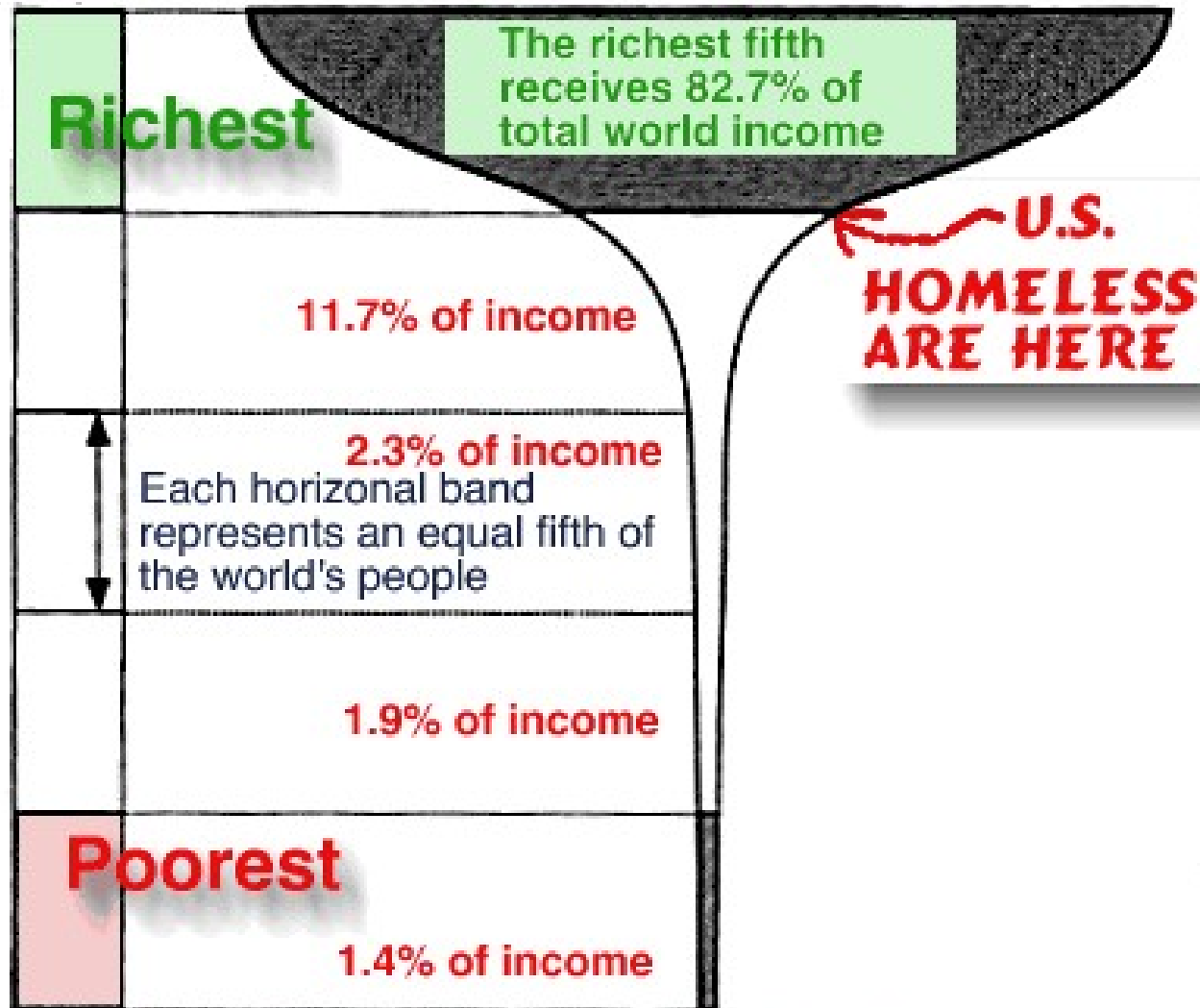
Health Expenditure as % of GDP



Human Development Index: Country Level



WORLD INCOME DISTRIBUTION



The poorest fifth receives 1.4% of total world income

Source: UNDP, *Human Development Report 1992* (New York: Oxford University Press, 1992).



Thank You.....