

Chapter 2: The Advance of People

Topics:

- HDI and Hybrid HDI
- Trends in HDI
- Trends in Health and Educational Outcomes
- Trends in Per-Capita Income
- New HDI

Original HDI

Original HDI = $\frac{1}{3}(\text{Life Expectancy}) + \frac{1}{3}(\text{Education}) + \frac{1}{3}(\text{Per-Capita Income})$

- Education included adult literacy rate and school enrollments.
- Original HDI used arithmetic mean to calculate HDI.
- Till 2009, UNDP classified different countries on the basis HDI values of as follows:

Low HD Countries < 0.5 $.5 < \text{Medium HD Countries} < .8$

$.8 < \text{High HD Countries} < .9$ Very High HD Countries $> .9$

Hybrid HDI

- Hybrid HDI uses geometric mean rather than arithmetic mean in calculating HDI.

$$\text{Hybrid HDI} = (\text{Life Expectancy} * \text{Education} * \text{Per-Capita Income})^{1/3}$$

➡ Three components of HDI are no longer perfect substitutes.

- Countries are no longer classified on the basis of the absolute value of their HDI score. Rather relative ranking is used.

Low HD Countries = Countries in 4th Quartile (Bottom 25% Countries)

Medium HD Countries = Countries in 3rd Quartile

High HD Countries = Countries in 2nd Quartile

Very High HD Countries = Countries in 1st Quartile (Top 25% Countries)

Trend in Hybrid HDI

	Hybrid HDI		
	Value	% change	
	2010	1970 – 2010	1990– 2010

Regional groups

Developing countries	0.64	57	23
Arab States	0.66	65	20
East Asia and the Pacific	0.71	96	35
Europe and Central Asia	0.75	13	4
Latin America and the Caribbean	0.77	32	12
South Asia	0.57	72	31
Sub-Saharan Africa	0.43	53	21
Developed countries	0.89	18	7
OECD	0.89	18	7
Non-OECD	0.86	24	9

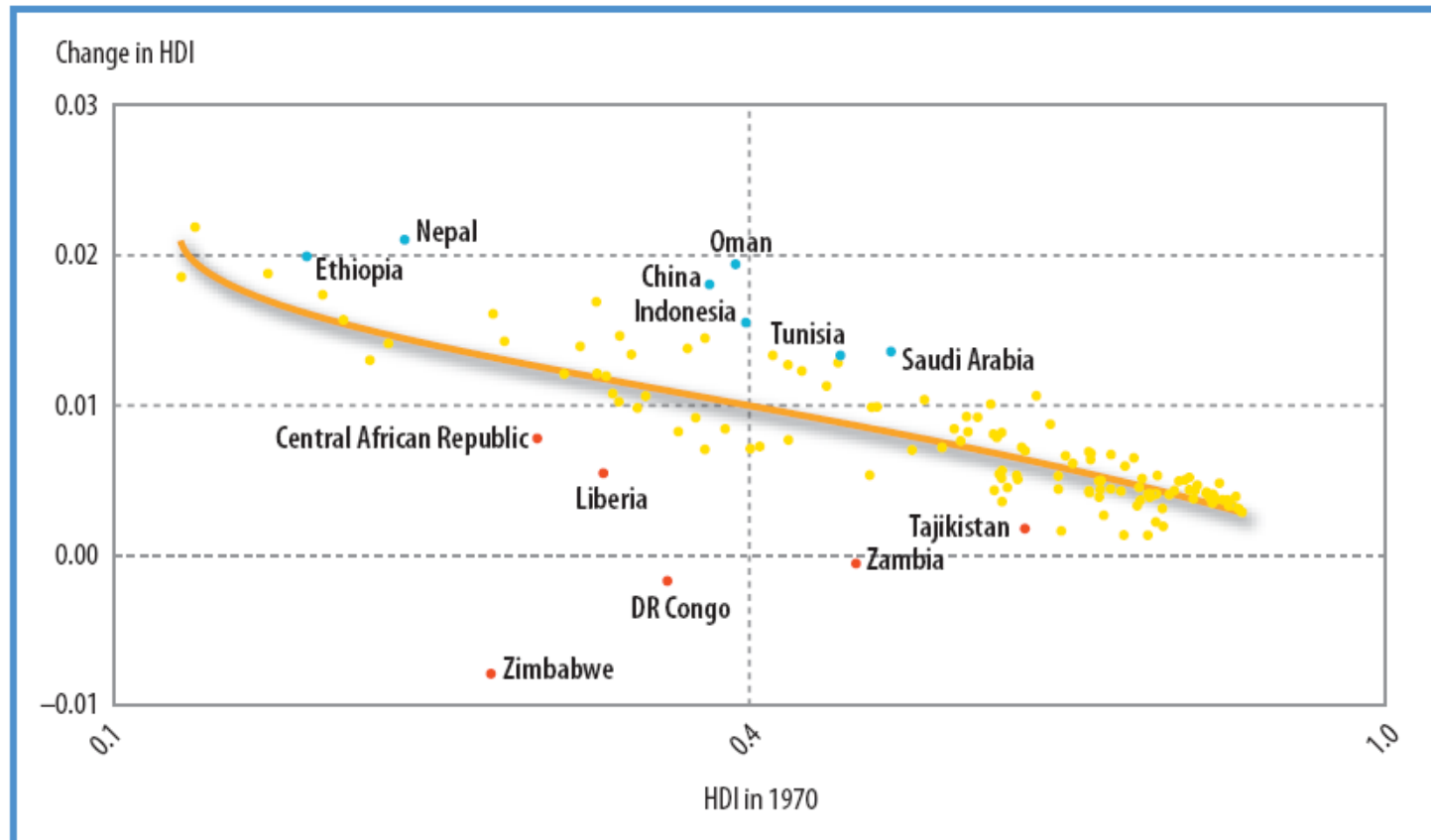
Top Movers in HDI

Top movers in HDI, nonincome HDI and GDP,
1970–2010

Rank	Improvements in		
	HDI	Nonincome HDI	Income
1	Oman	Oman	China
2	China	Nepal	Botswana
3	Nepal	Saudi Arabia	South Korea
4	Indonesia	Libya	Hong Kong, China
5	Saudi Arabia	Algeria	Malaysia
6	Lao PDR	Tunisia	Indonesia
7	Tunisia	Iran	Malta
8	South Korea	Ethiopia	Viet Nam
9	Algeria	South Korea	Mauritius
10	Morocco	Indonesia	India

Convergence

Top and bottom movers as measured by deviation from fit, 1970–2010



Note: HDI values in 1970 are in logarithmic scale

Trends in Health

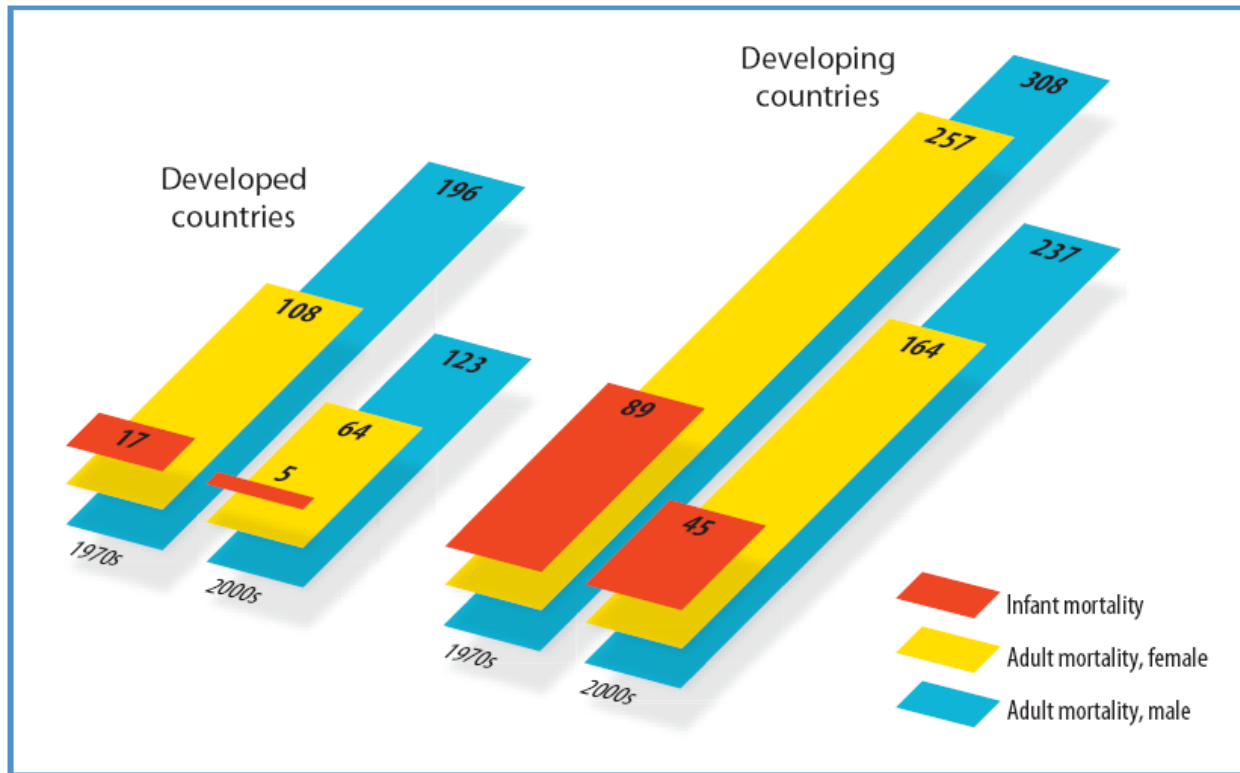
	Life expectancy		
	Value	% change	
	2010	1970 – 2010	1990– 2010

Regional groups

Developing countries	68	21	8
Arab States	70	37	10
East Asia and the Pacific	73	23	9
Europe and Central Asia	69	3	2
Latin America and the Caribbean	74	24	9
South Asia	65	33	12
Sub-Saharan Africa	52	19	7
Developed countries	80	13	6
OECD	80	13	6
Non-OECD	80	14	7

Key Health Indicators

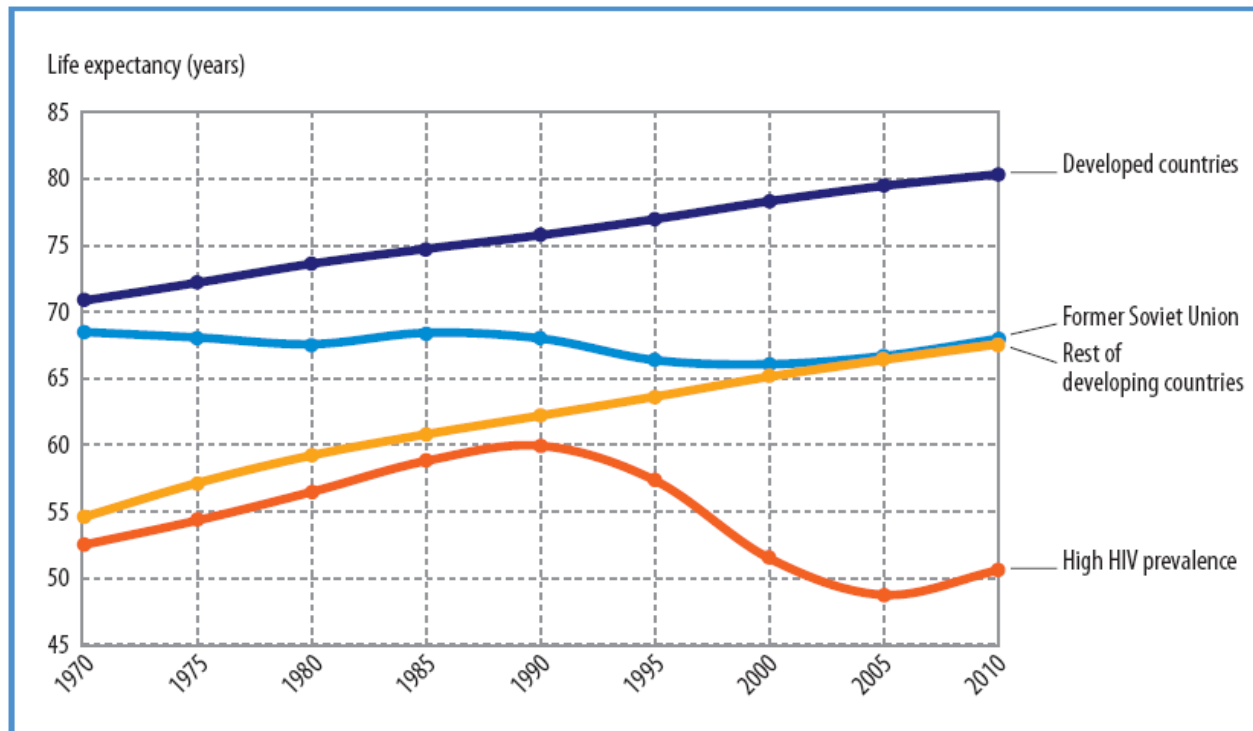
Selected health indicators, 1970s and 2000s



Note: Infant mortality is the number of deaths per 1,000 live births; adult mortality is the number of deaths per 1,000 adults.

Life Expectancy in Former Soviet Union Countries and Countries Severely Affected by HIV

Trends in life expectancy around the world, 1970–2010



Note: A country is considered to have a high HIV prevalence if the rate exceeds 15 percent, which is the case for seven countries in our sample (Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia and Zimbabwe).

Source: HDRO calculations using data from the HDRO database.

Trends in Education

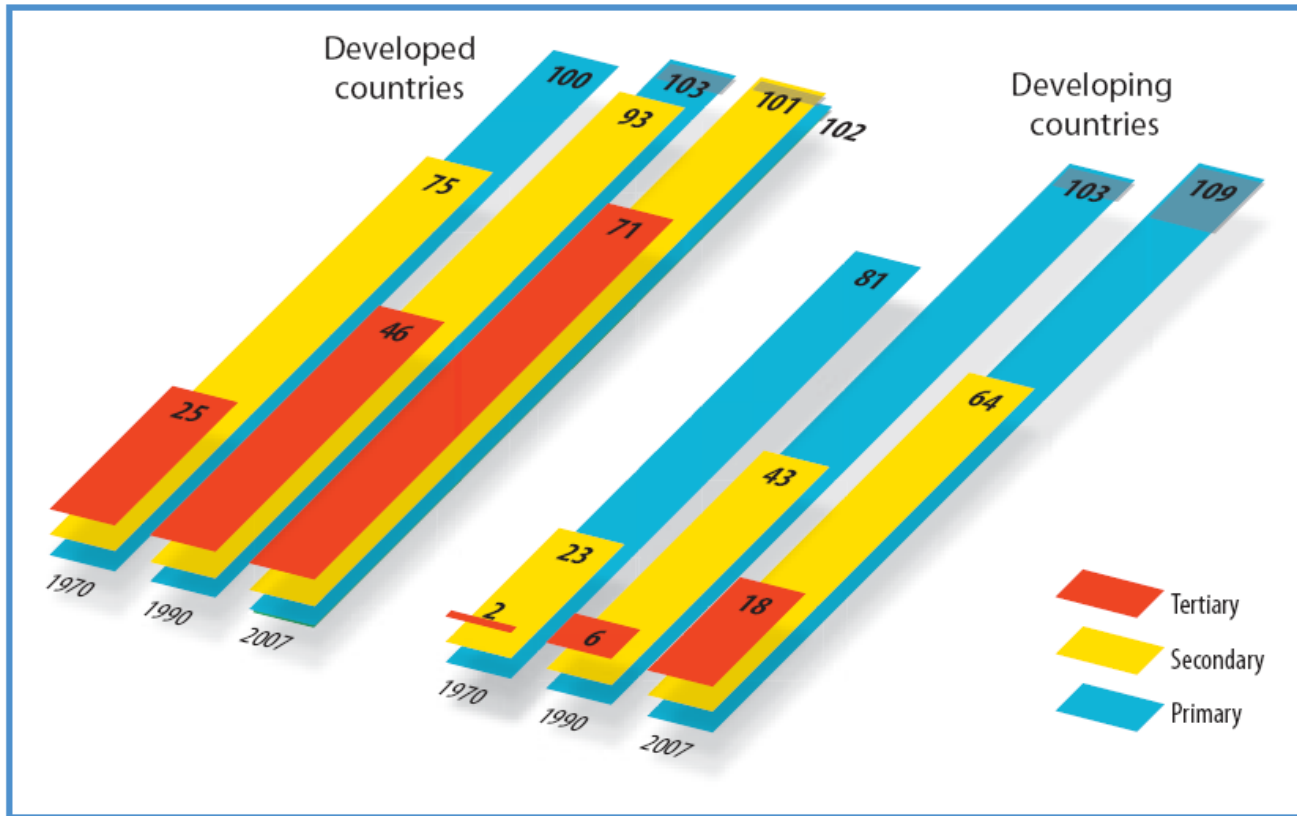
	Literacy			Gross enrolment		
	Value	% change		Value	% change	
	2010	1970 – 2010	1990– 2010	2010	1970 – 2010	1990– 2010

Regional groups

Developing countries	81	61	21	66	28	24
Arab States	74	149	41	64	89	22
East Asia and the Pacific	94	76	18	69	7	31
Europe and Central Asia	97	7	2	82	17	7
Latin America and the Caribbean	92	27	10	83	59	16
South Asia	66	113	46	59	64	29
Sub-Saharan Africa	65	183	43	54	109	42
Developed countries	99	2	1	92	33	14
OECD	99	2	1	93	33	14
Non-OECD	96	13	6	79	29	10

Enrollment Rates

Gross enrolment ratios by level of schooling, 1970–2007



Source: HDRO calculations using data from World Bank (2010g).

Educational Attainment

Mean years of schooling (years)	Expected years of schooling (years)
2010	2010 ^b

Developed

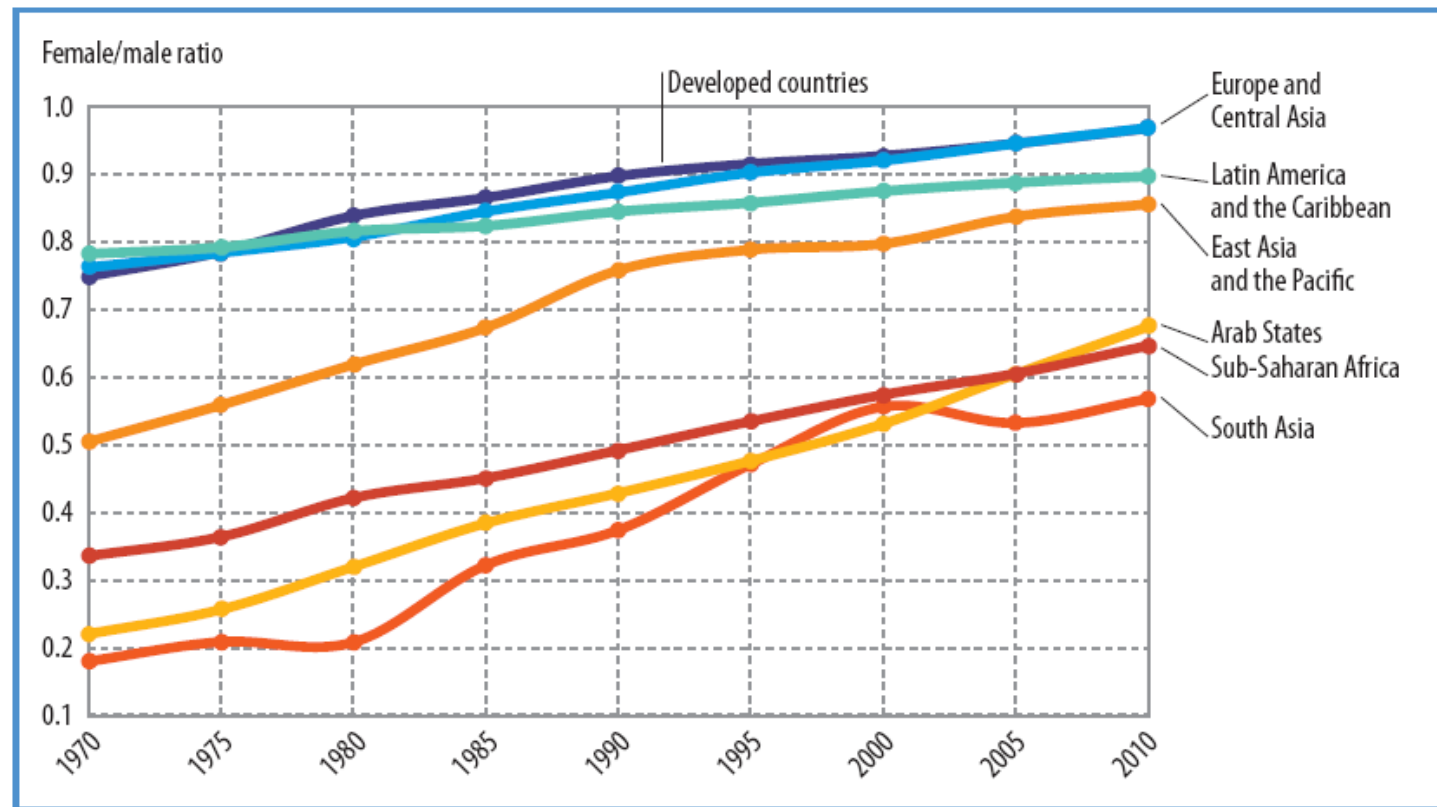
OECD	11.4	15.9
Non-OECD	10.0	13.9

Developing

Arab States	5.7	10.8
East Asia and the Pacific	7.2	11.5
Europe and Central Asia	9.2	13.6
Latin America and the Caribbean	7.9	13.7
South Asia	4.6	10.0
Sub-Saharan Africa	4.5	9.0

Gender Differences in Education

Ratio of female to male mean years of schooling by region, 1970–2010



Source: Barro and Lee 2010.

Quality of Education

- Quality of education in many developing countries is quite poor due to variety of reasons:
 1. Lack of infrastructure
 2. Absenteeism
 3. Lack of complementary inputs
 4. Poor quality of teacher

Trends in Per-Capita Income

	Income		
	Value	% change	
	2010	1970 – 2010	1990– 2010

Regional groups

Developing countries	5,873	184	89
Arab States	8,603	66	44
East Asia and the Pacific	6,504	1,183	352
Europe and Central Asia	11,866	120	20
Latin America and the Caribbean	11,092	88	42
South Asia	3,398	162	119
Sub-Saharan Africa	1,466	20	28
Developed countries	37,185	126	38
OECD	37,105	125	38
Non-OECD	40,043	263	58

New HDI

- New HDI is calculated as Hybrid HDI . But the indicators of education used are different.

$$\text{New HDI} = (\text{Life Expectancy} * \text{Education} * \text{Per-Capita Income})^{1/3}$$

Education Indicators Used in Hybrid HDI

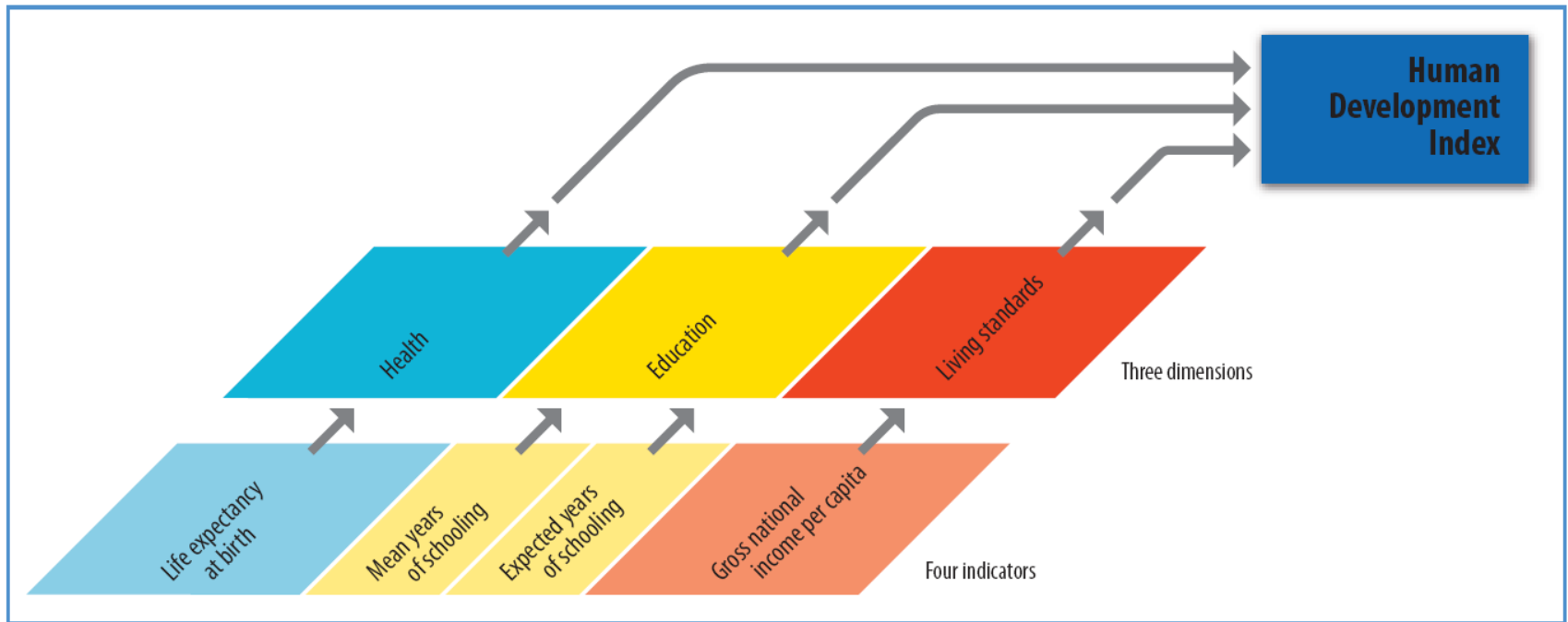
1. Adult Literacy
2. School Enrollment

Education Indicators Used in New HDI

1. Mean Years of Schooling
2. Expected Years of Schooling

New HDI

The HDI—three dimensions and four indicators



Note: The indicators presented in this figure follow the new methodology, as defined in box 1.2.

Trends in New HDI

	Human Development Index (HDI)						
	Value						
	1980	1990	1995	2000	2005	2009	2010
Developed							
OECD	0.754	0.798	0.827	0.852	0.868	0.876	0.879
Non-OECD	0.701	0.761	0.779	0.799	0.829	0.840	0.844
Developing							
Arab States	0.396	0.470	0.505	0.525	0.562	0.583	0.588
East Asia and the Pacific	0.383	0.466	0.519	0.559	0.600	0.636	0.643
Europe and Central Asia	0.503	0.660	0.628	0.648	0.679	0.698	0.702
Latin America and the Caribbean	0.573	0.614	0.640	0.660	0.681	0.699	0.704
South Asia	0.315	0.387	0.415	0.440	0.481	0.510	0.516
Sub-Saharan Africa	0.293	0.354	0.358	0.315	0.366	0.384	0.389