



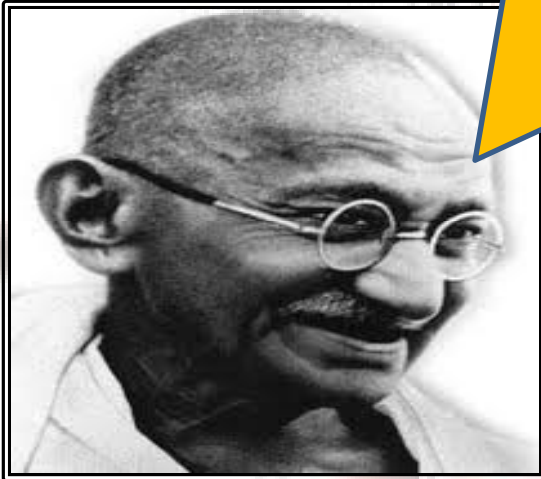
Human Development Index (HDI)

**State Institute of Health & Family Welfare,
Jaipur**





The difference between what we do and what we are capable of doing would suffice to solve most of the world's problems.





The Concept of Human Development

"The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives."



Mahbub ul Haq -- Founder of the Human Development Report

Understanding Indexes



What is an index?

- An index is a composite of indicators that produces a single calculation which can then be ranked.



The Human Development Index (HDI)

...is the best known composite index of social and economic well-being...

The Human Development Index (HDI)



- Is used to know whether the country is a developed, a developing or an underdeveloped economy.
- Measure to understand and judge the impact of the economic policies of a country on the quality of the life of its people.
- Based on HDI, the countries of the world are broadly divided into high, medium and low human development.



Why HDI?

- Human development is both an outcome and a process of enlarging people's choices to lead lives they value;
- Economic growth is only a means, though an important one, for human development.



Significance of HDI

- HDI is an index used to rank countries by level of "human development", which usually also implies whether a country is developed, developing, or underdeveloped
- Broadened prism for viewing human progress and the complex relationship between income and well-being.



Significance of HDI

- Governments often look at the HDI as an instrument for assessing their performance against that of neighboring countries.
- A snapshot of average national performance in human development.
- Useful entry point into the rich information contained in the subsequent indicator tables on different aspects of human development.



Origin of HDI

- First developed in 1990 by a Pakistani economist **Mahbub-ul-Haq** and India born American Nobel laureate **Amartya Sen**.

Dimensions of HDI



Dimensions & Indicators

Longevity



- Life expectancy at birth
- index of population health and longevity

Knowledge and Education



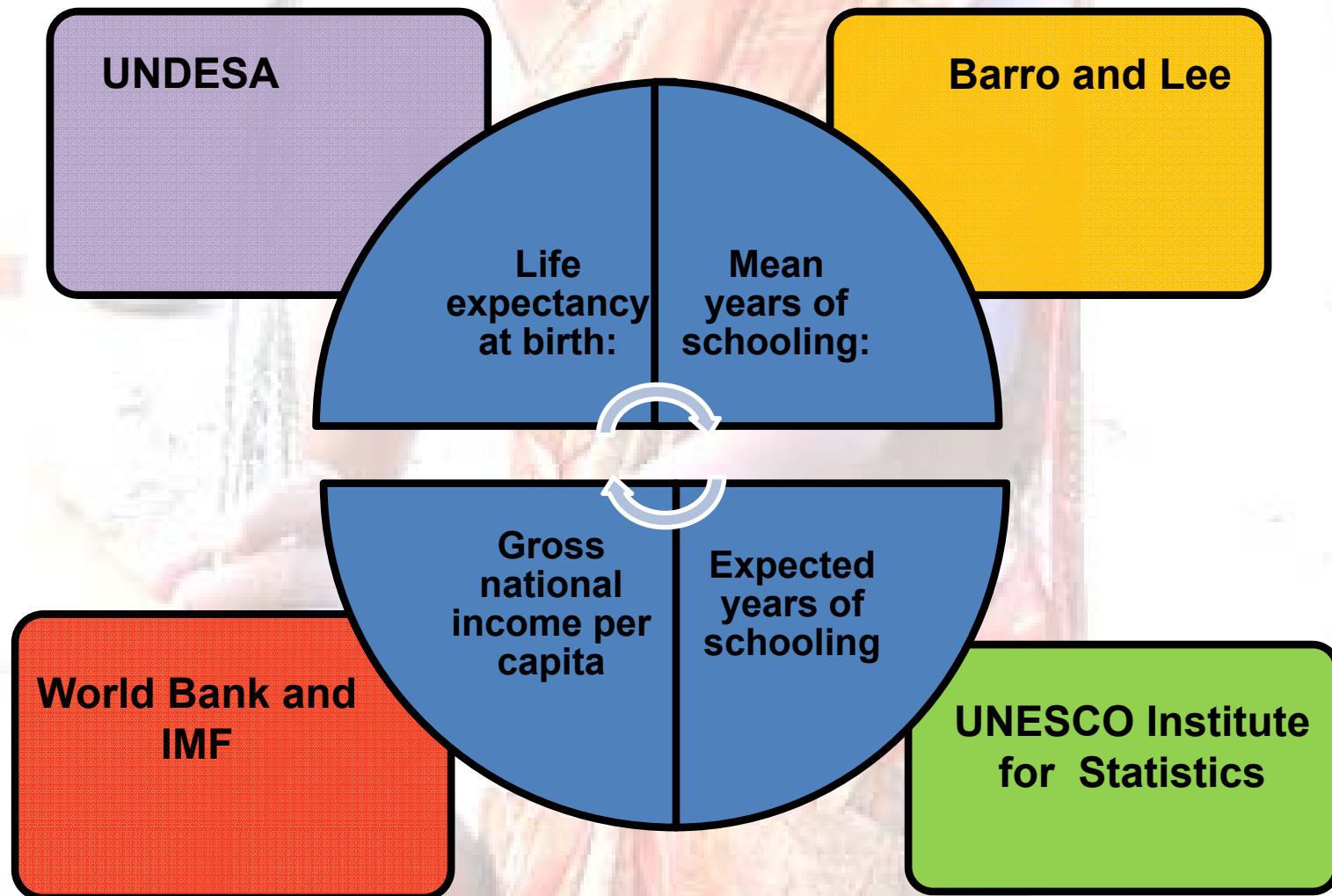
- Mean years of schooling
- Expected years of schooling

Standard of Living



- Natural logarithm of gross domestic product (GDP) per capita at purchasing power parity (PPP) in US \$*

Data Sources for HDI





Categories of HDI

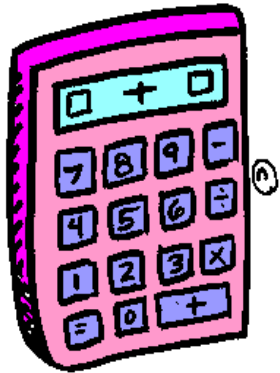
Each year, countries are ranked according to these measures. The 2011 Human Development Index is divided into four quartiles

Very High Human Development Index- 0.900-1

High Human Development Index – HDI 0.699-0.899

**Medium Human Development Index – HDI 0.522 to
0.698**

Low Human Development Index – HDI below 0.521



Calculation of HDI

To construct the index, fixed minimum and maximum values have been established for each of these indicators:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

$$\text{HDI}^* = 3 \sqrt{\text{life. education. Income}}$$



Life expectancy Index (LES)

$$\text{LES} = \frac{\text{Actual Value} - \text{minimum Value}}{\text{maximum value} - \text{minimum value}}$$

Education Index (EI)=

Mean Years of Schooling Index (MYSI)

$$\text{MYSI} = \frac{\text{Actual Value} - \text{minimum Value}}{\text{maximum value} - \text{minimum value}}$$

Expected Years of Schooling Index (EYSI)

$$\text{EYSI} = \frac{\text{Actual Value} - \text{minimum Value}}{\text{maximum value} - \text{minimum value}}$$

$$\text{Education Index} = \frac{\text{MYSI} \times \text{EYSI}}{\text{Max value} - \text{mini value}}$$

Income Index

$$Y = \frac{\ln(\text{PPP measure of GDP per capita}) - \ln(100)}{\ln(\text{maximum value}) - \ln(\text{minimum value})}$$

$$\text{HDI}^* = \sqrt[3]{\text{LES} \times \text{EI} \times \text{II}}$$



Goalposts for HDI

- For each indicator a minimum and maximum goalposts must be defined
- Each indicator must be normalized to a value between 0 and 1, based on a country's relative position

Dimension	Observed maximum	Minimum
Life expectancy	83.4	20.0
Mean years of schooling	13.1	0
Expected years of schooling	18.0	0
Education index	0.978	0
Per capita income (PPP* \$)	107,721	100

PPP (Purchasing Power Parity)

Source: Human development report , 2011



Example: India, 2011

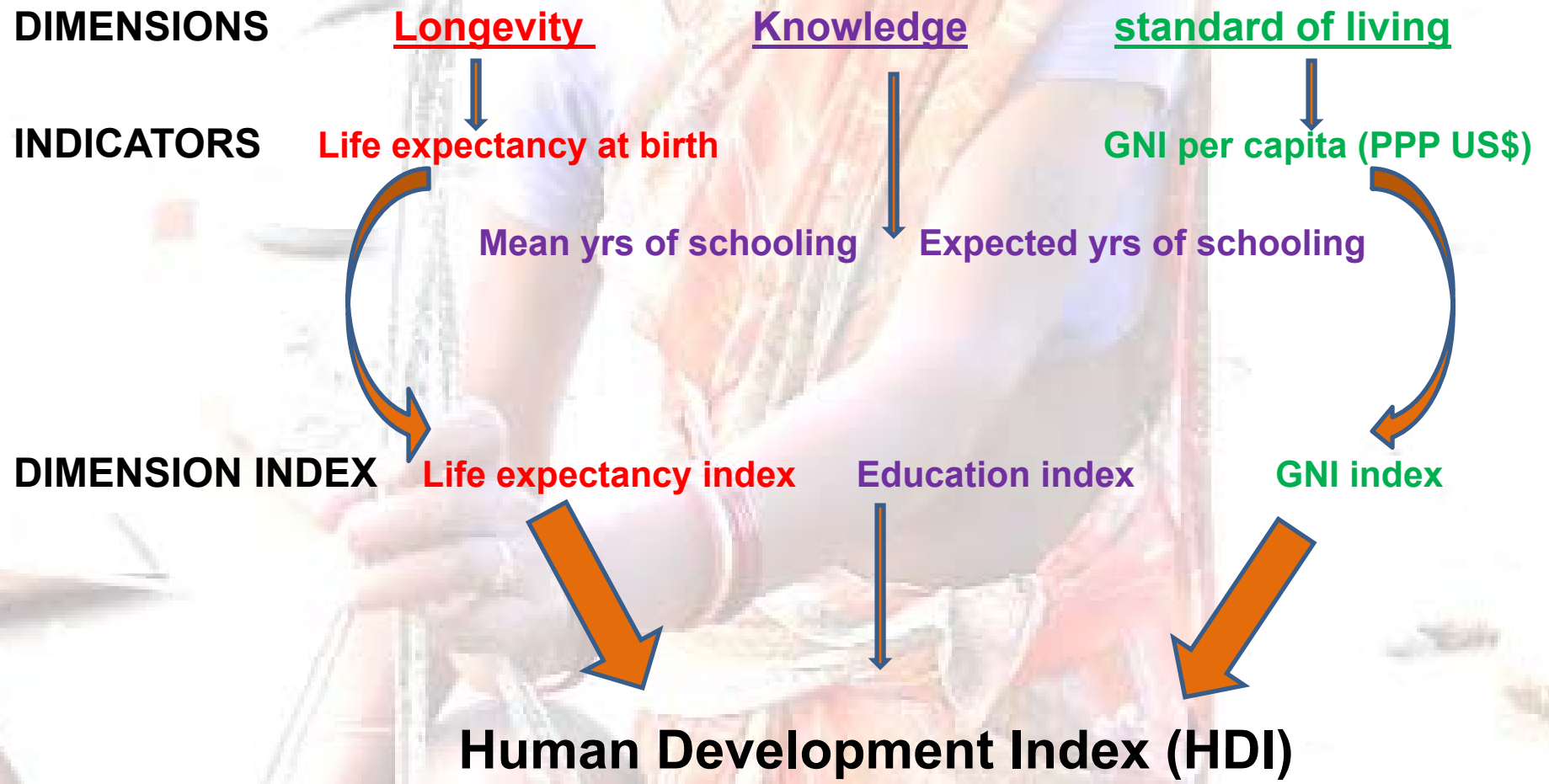
Indicator	Value
Life expectancy	63.5
Mean years of schooling	4.10
Expected years of schooling	9.62
Per capita income (PPP \$)	3337.33



- Life Expectancy is 63.5
Life Expectancy index = $63.5 - 20 / 83.4 - 20 = 0.686$
- Mean years of Schooling is 4.10
 $4.10 - 0 / 13.1 - 0 = 0.312$
Expected years of Schooling is 9.62
 $9.62 - 0 / 18 - 0 = 0.533$
- **Education index** = $(0.312) \times (0.533) / 0.978 - 0 = 0.417$
- **Income Index** = $\ln(3337.33) - \ln(100) / \log(107,721) - \log(100) = 0.501$
- Therefore **HDI** for India = $\sqrt[3]{0.686 \times 0.417 \times 0.501} = \mathbf{0.523}$



Calculating Human Development Indices





Individual Development Vs Human Development

- If two people in a relatively unequal society have an HDI of 0.5 and 0.25, respectively, and both increase their level of development by 0.25, they will affect general development in the same magnitude.
- In a more equal society, however, an increase in the HDI of the poorer person should count more.



Highlights of HDR 2010



- India's rank is **119th** (poor social infrastructure, mainly in areas of education and healthcare).
- Covered **169** countries and territories,
- **China** (89th spot) and **Sri Lanka** (91).
- India came in the **10th position** as far as improvement in the income index was concerned but lagged behind neighbouring countries like Bangladesh and Pakistan in education and healthcare.
- **Norway** topped the HDI, with a score of 0.938, in a scale of zero to one. A score of one indicates a perfect level in the index.
- The Nordic country is followed by Australia at the second place (0.937) and New Zealand with a score of 0.907 ranked third.
- The world's largest economy US is fourth with a score of 0.902.



- During the last 40 years, life expectancy at birth in India has improved by 16 years, but less than the 23 years in Bangladesh.
- Average life expectancy at birth in India is currently 64 years, as against 67 years in Pakistan and Bangladesh.



Three new indices:

- Inequality adjustment HDI
- Gender inequality index
- Multi-dimensional poverty index.
- Other factors that determined the HDI ranking include empowerment, inequality, education, health, demographic trends, civic and community well being.



Top-Ranked Countries:

- Canada and Norway has been ranked the highest eight times each, followed by Japan which has been ranked highest three times. Iceland has been ranked highest twice.



Where does **INDIA** Stand?

India is witnessing phenomenal economic growth, but for the overall development of the country, efforts also should be made to improve the human development index,”



Montek Singh Ahluwalia.
Deputy chairman of the planning
commission



India: A Few Facts

- 7th largest country by area and 2nd by population.
- 12th largest economy at market exchange rate and 4th largest by PPP
- 28 States and 7 Union Territories

HDI-Statistics and Rankings



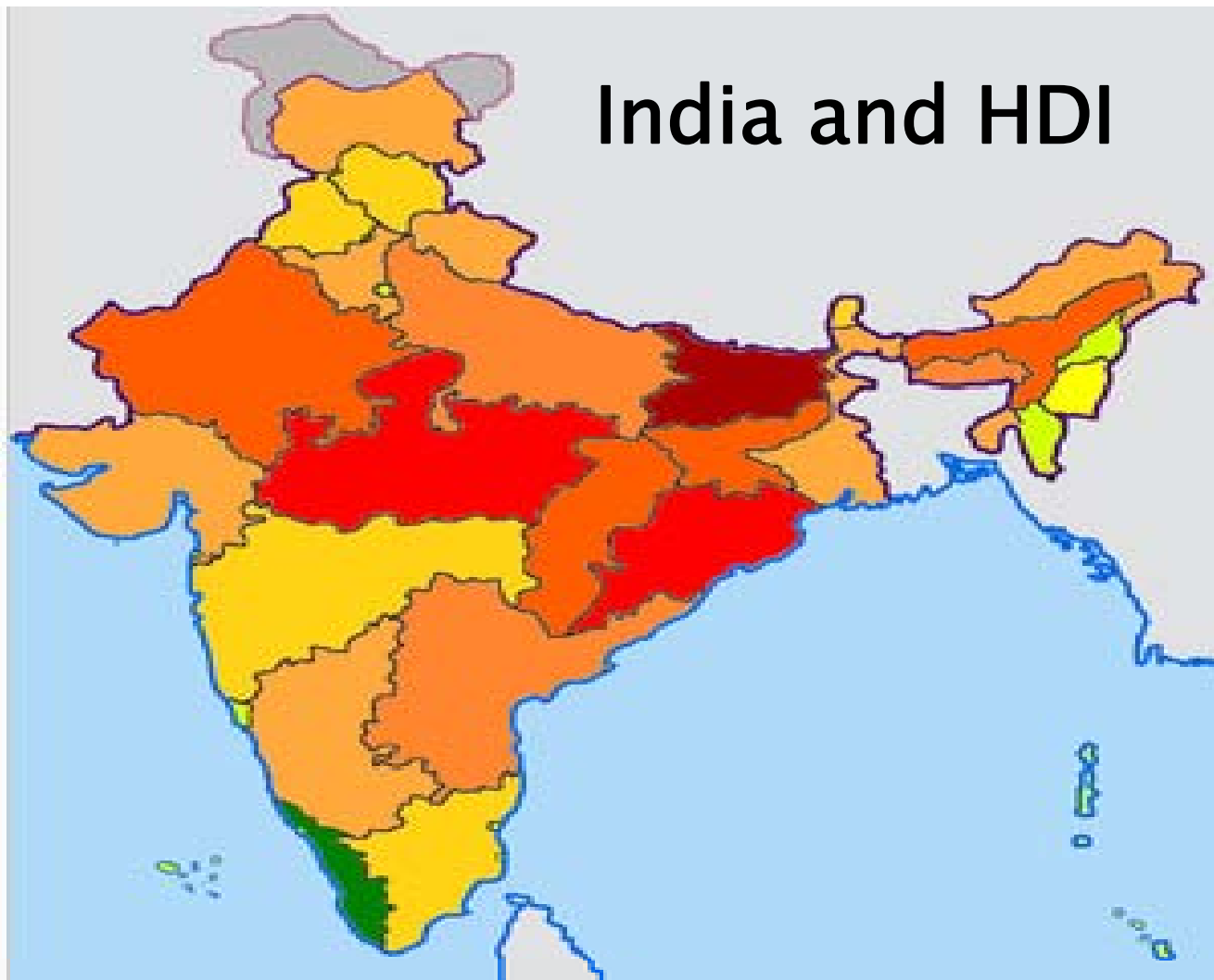
World map indicating the Human Development Index by Quartiles (based on 2010 data, published on November 4, 2010)^[1]

- Very High
- High
- Medium
- Low
- data unavailable

<http://geocurrents.info/economic-geography/the-human-development-index-in-africa-and-across-the-world>

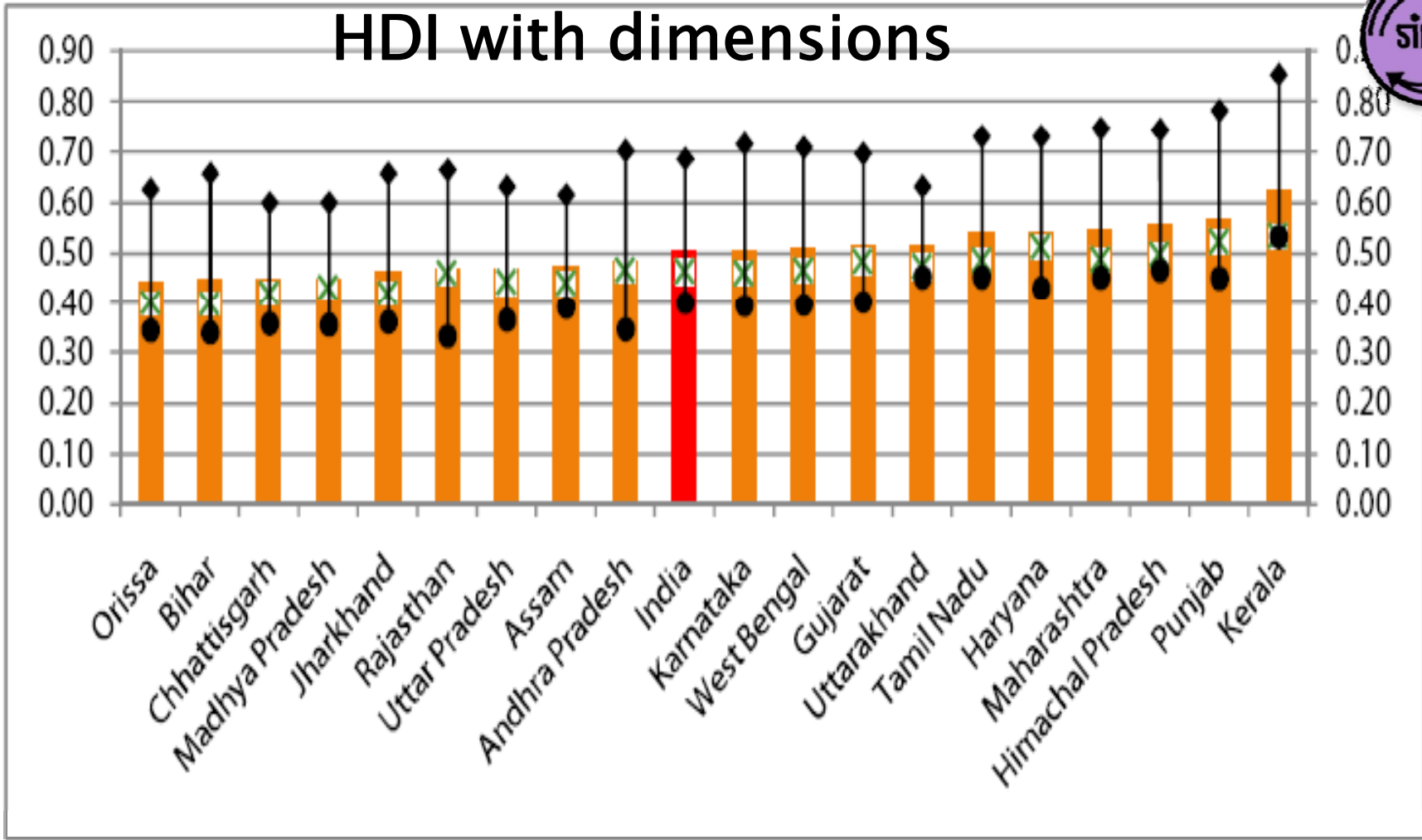


India and HDI



Map showing the HDI of India by states and union territories.

0.900–0.949	0.700–0.749	0.500–0.549
0.850–0.899	0.650–0.699	0.450–0.499
0.800–0.849	0.600–0.649	0.400–0.449
0.750–0.799	0.550–0.599	Lack of information



* **Vertical bars (orange color for states and red for India) indicate the HDI; dark black circles (inside the bars) indicate the education dimension index; cross within white squares, the income dimension index; and dark black diamonds (outside the bars), the health dimension index; and the states are arranged in ascending order of their HDIs.**



India and HDI

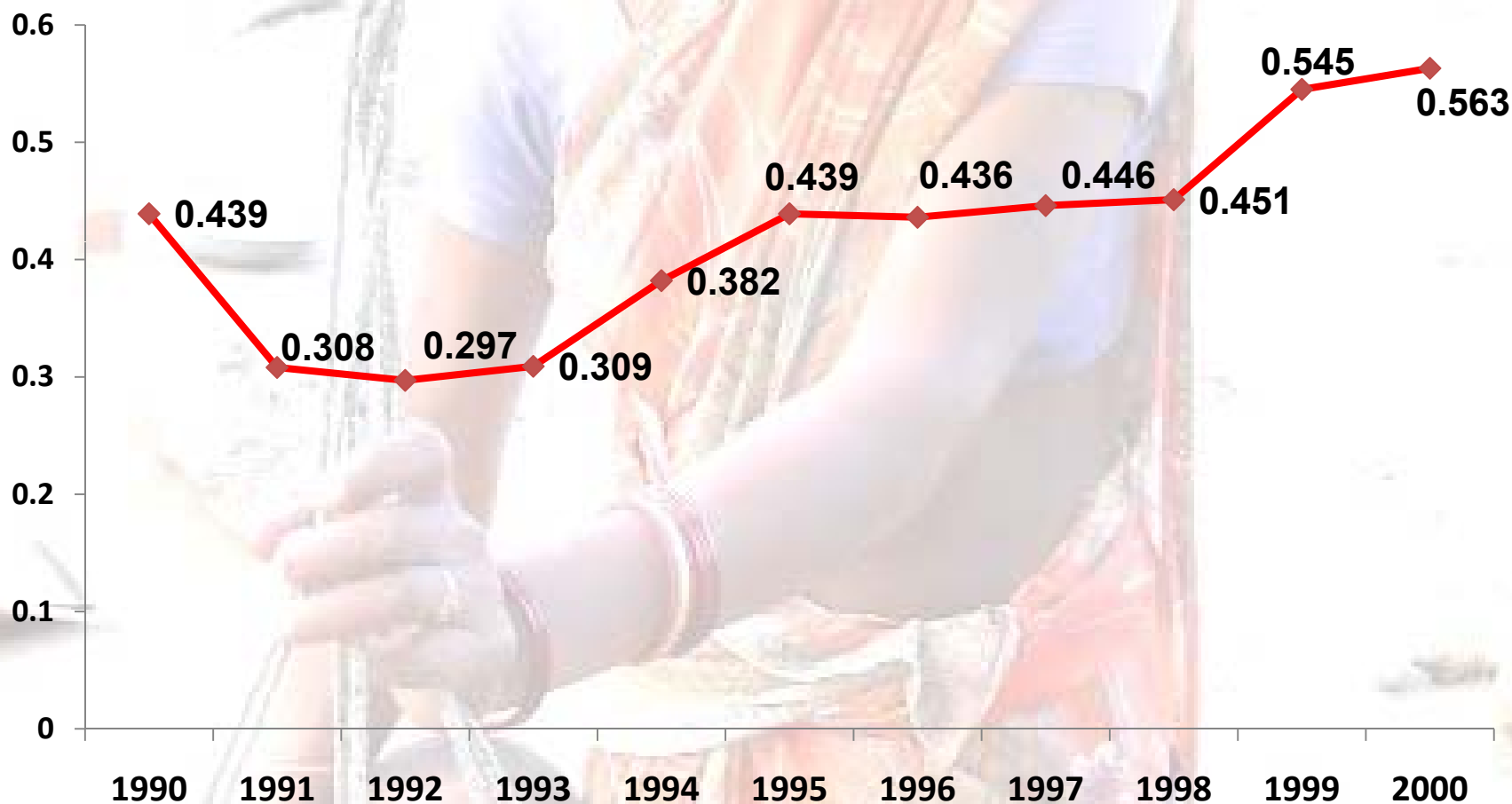
India ranks 119 on HDI and there has been a steady progress over the past 20 years. India's HDI is above the average for countries in South Asia.

Year	Human Development Index	Human Poverty Index	HDI World Rank
1990	0.301	NA	134
2000	0.577	34.6	128
2010	0.519	0.296	119
2011	0.547	0.283	134

Source: UNDP HDR



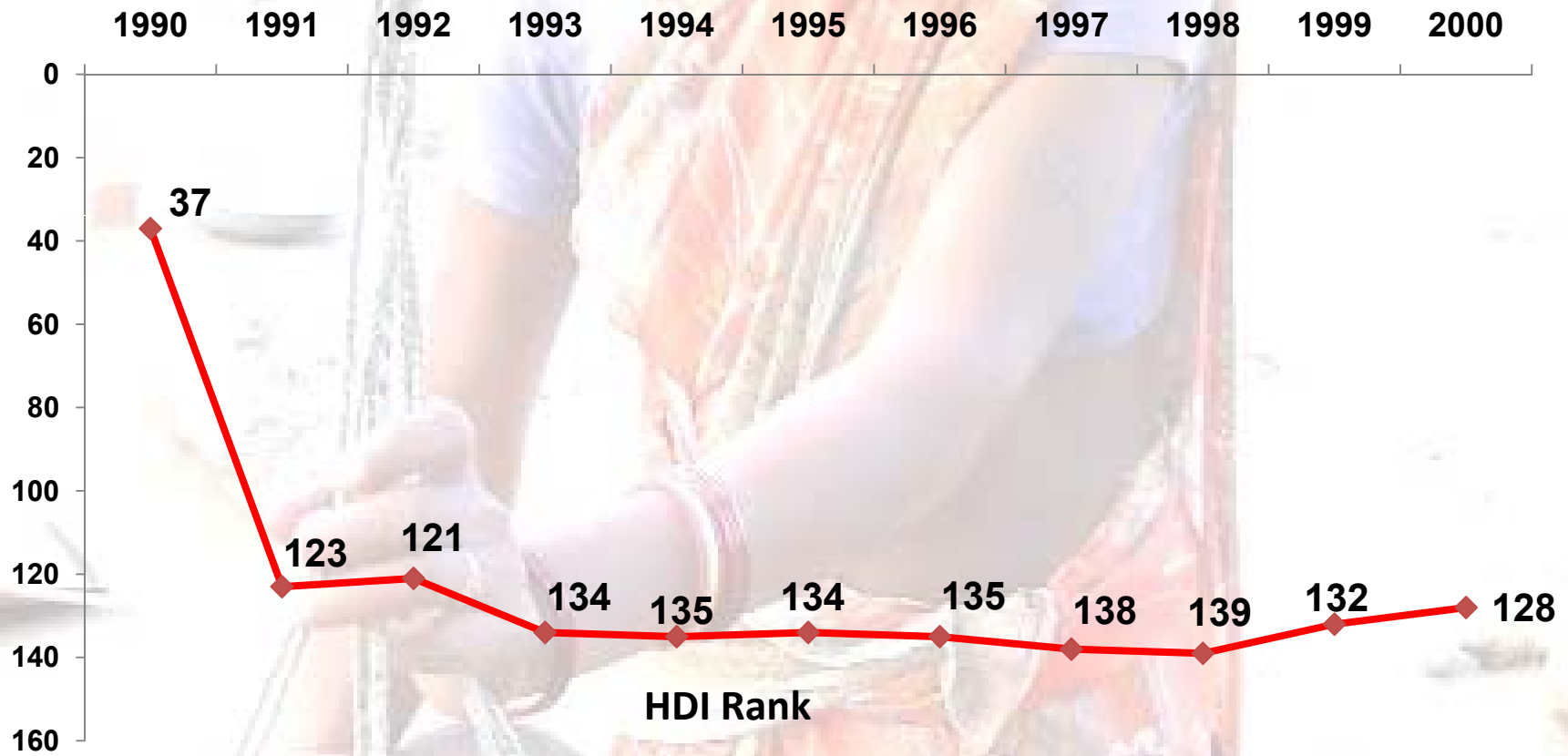
Human Development Index



Source: UNDP HDR (1980-2011)



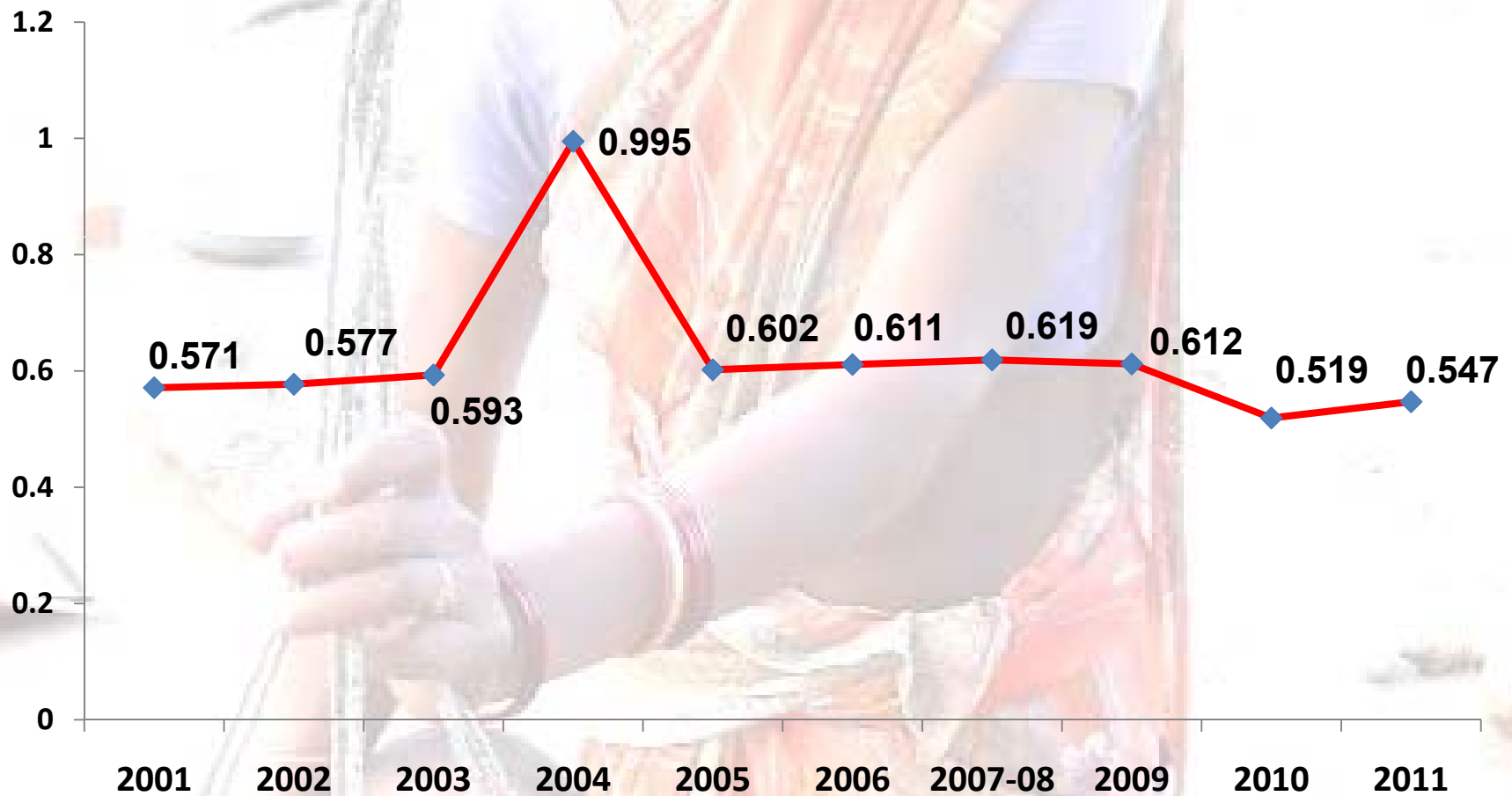
HDI Rank



Source: UNDP HDR (1980-2011)

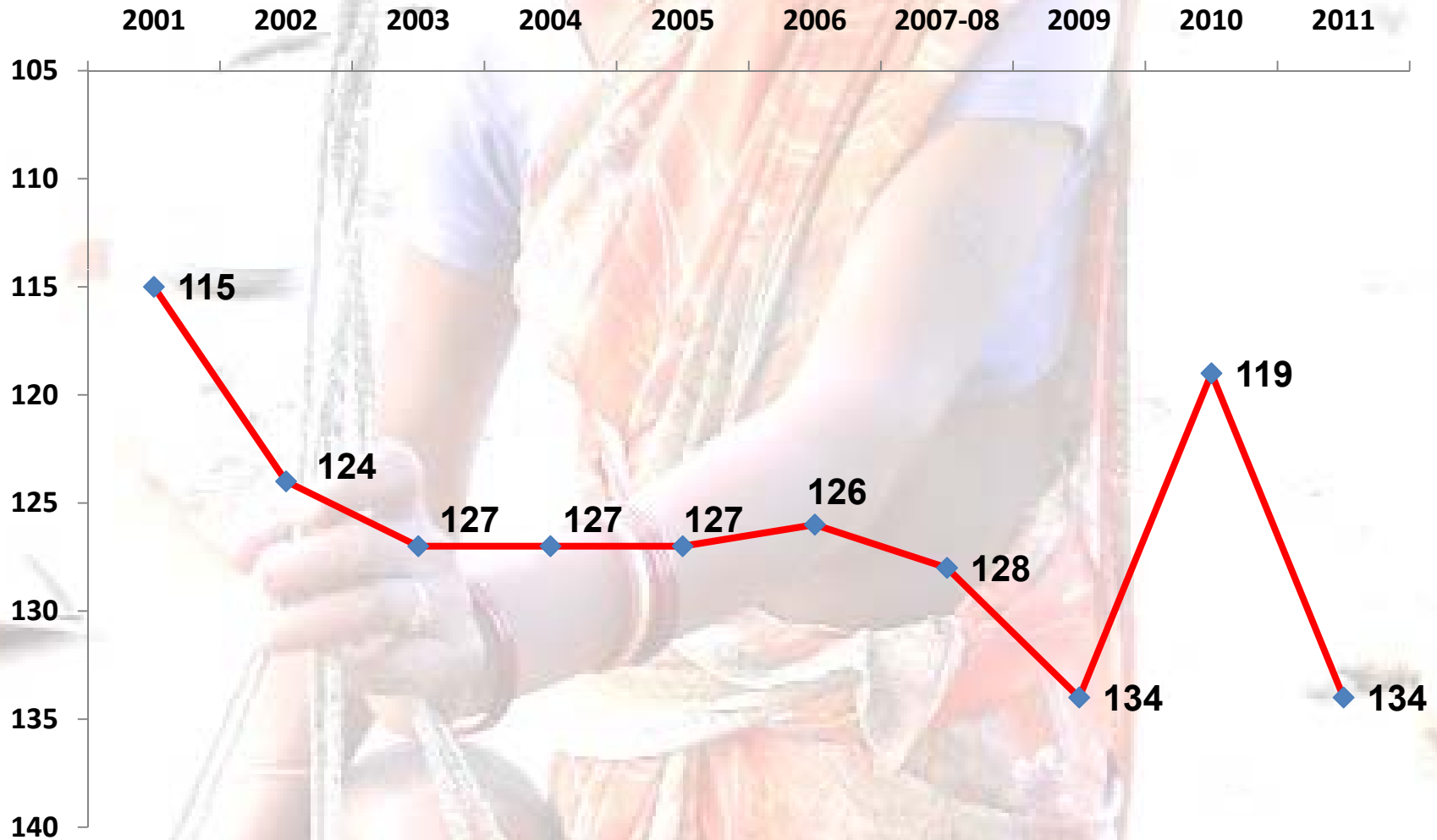


Human Development Index



Source: UNDP HDR (1980-2011)

HDI Rank



Source: UNDP HDR (1980-2011)



HDI and Rajasthan



- A Human Development Research & Coordination unit was established in 2004 at Directorate of Economics and Statistics.
- First Human Development Report of Rajasthan was released in the year 2002.
- The focus of this report is 'Inclusive Growth'.
- This report has latest indices on Human Development related to education, health and livelihood aspects in the State.



HDI-Rajasthan

Indicators	2001	2005	2007-08	2011
HDI	0.424	0.637	0.434	0.468
HDI Rank (out of 23)	9	21	17	14
Education index	-	-	0.755 (2007)	0.333
Health index	-	-	0.735 (2007)	0.665
Income index	-	-	0.640 (2007)	0.462

Source: Directorate of Economics & Statistics, Rajasthan & India HDR 2011, IAMR and Planning Commission

Criticism Against HDI



- HDI is not a comprehensive measure of human development, — Its focus on the three basic dimensions.
- The index is composed of long-term human development outcomes.
- It is an average measure and thus masks a series of disparities and inequalities within countries.
- It cannot provide a complete picture of human development in any situation.



Criticism Against HDI

- Does not focus on ecological considerations while ranking the countries.
- Not formed with a global perspective in mind and instead examines each country independently.
- Measures those aspects of development which have been already studied worldwide and the HDI is only a duplication of the works already carried out previously.



Success of HDI

- Focus on the most basic dimension w/ universal value (the more comprehensive, the weaker) attracted attentions!
- Though still contested by some of its validity, widely accepted – powerful advocate
- Generate healthy competition and create political will for change;
- Identify priority indicators for further development and weakness in existing data (Philippines official statistics)
- Spur the construction of other indices



■ Is HDI Enough to Measure a Country's Level of Development?

“Not at all” ! –says UNDP



- “The concept of human development is much broader than what can be captured in the HDI, or any other composite indices...”
- “The HDI and the other composite indices can only offer a broad proxy on some of the key the issues of human development...”
- “A fuller picture of a country's level of human development requires analysis of other human development indicators and information.”

Limitations of HDI:



- Not a comprehensive measure of human development. It only focuses on three dimensions of capabilities.
- It not designed to assess progress in human development over a short term period because two of its component indicators—adult literacy and life expectancy at birth—are not responsive to short-term policy changes.
- It does not account for variations in human development within the country.
- Countries with the same HDI may be very different in how human development is distributed, either from region to region, or from social group to social group.
- Hampered by lack of relevant data; comparability and reliability of data (existing measures capture analytical concept?)

Going Beyond National Averages



- **In South Africa, HDI is 0.531** for Northern Province compared to 0.712 for Gauteng
- **In India, HDI for 'untouchables' (0.239)** is almost half that for Brahmins (0.439)
- **In the United States, HDI for White Americans: 0.870;**
- African Americans: 0.805; Hispanic Americans: 0.756

Powerful tool esp. when combining disaggregated HDI and trend analyses



Thank You

For more details log on to
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