

The process of developing multidimensional poverty measures

Sabina Alkire, OPHI, University of Oxford
UNECE workshop on harmonisation of poverty statistics
Geneva, 11 July 2016

Tabita, Kenya

Rabiya, India

Stephanie, Madagascar

Agathe, Madagascar

Dalma, Kenya

Ann-Sophie, Kenya

Valérie, Madagascar



Multidimensional Poverty: Index or only Dashboard?

Dashboards... suffer because of their **heterogeneity**, at least in the case of very large and eclectic ones....

Further, as **communications** instruments, one frequent criticism is that they **lack** what has made GDP a success: the **powerful attraction of a single headline figure** allowing simple comparisons of socioeconomic performance...

Stiglitz-Sen-Fitoussi 2009 p.63

Suggestion: report an MPI,
plus its indicators

- **What do Multidimensional Poverty Measures tell us?**
 - Example: Global MPI. **Question: are these statistics useful?**
- **Why measure Multidimensional Poverty?**
 - Ethics and Legitimacy: reflects experiences of poor people
 - Different from monetary poverty in level and trend
 - **Question: what need does an MPI fill for each country?**
- **How are MPIs used as policy tools?**
 - Policy Design – Targeting, Allocation, Monitoring & Evaluation
 - Policy Coordination – Multisectoral, Integrated, Synergistic
 - **Question: what policies do you need an MPI for?**
- **Next steps in UNECE**
 - Pioneer National MPIs: overview of the processes
 - Towards a Moderate MPI for the region?

Tabita, Kenya



Rabiya, India



Stephanie, Madagascar



Agathe, Madagascar



Dalima, Kenya



Ann-Sophie, Kenya



Valerie, Madagascar



Example: Global MPI

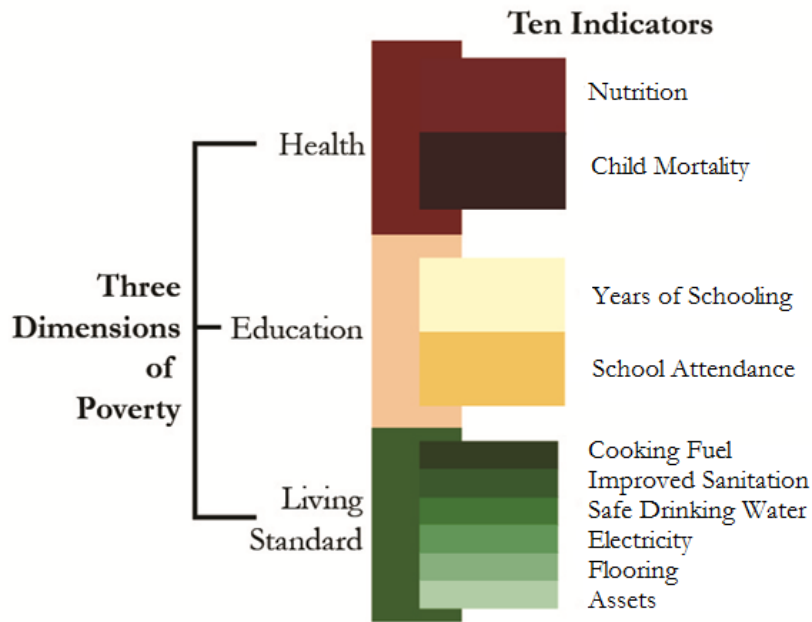
What is the Global MPI?

- The global MPI is an internationally comparable index of acute poverty for 100+ developing countries.
- The Global MPI was developed by OPHI in collaboration with UNDP's Human Development Report Office.
- It was launched in **2010** in the *Human Development Report*, and updated in 2011, 2013, 2014, 2015 & 2016.
- OPHI's **website** carries the full set of MPI indicators, including subnational data, indicators, maps, graphics.
- **Problem:** the Global MPI is not appropriate for UNECE countries. They need a moderate MPI.

Dimensions, Indicators, Weights, Cutoffs

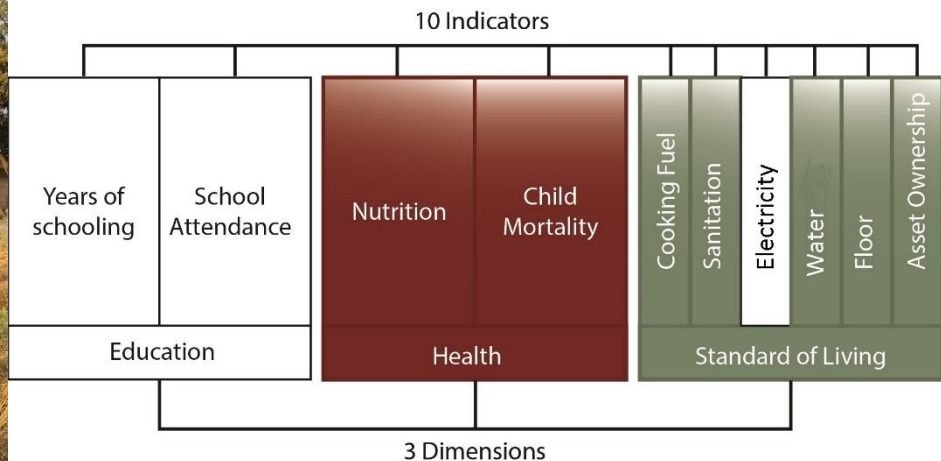
Dimension (Weight)	Indicator (Weight)	Deprivation Cut-off
Health (1/3)	Nutrition (1/6)	<i>Any adult or child in the household with nutritional information is undernourished¹</i>
	Child mortality (1/6)	<i>Any child has died in the household² in the past 5 years</i>
Education (1/3)	Years of schooling (1/6)	<i>No household member has completed five years of schooling</i>
	Child school attendance (1/6)	<i>Any school-aged child in the household is not attending school up to class 8³</i>
Standard of Living (1/3)	Access to electricity (1/18)	<i>The household has no electricity</i>
	Access to improved sanitation (1/18)	<i>The household's sanitation facility is not improved or it is shared with other households</i>
	Access to safe drinking water (1/18)	<i>The household does not have access to safe drinking water or safe water is more than 30 minutes walk round trip</i>
	Type of flooring material (1/18)	<i>The household has a dirt, sand or dung floor</i>
	Type of cooking fuel (1/18)	<i>The household cooks with dung, wood or charcoal.</i>
	Asset ownership (1/18)	<i>The household does not own more than one of: radio, TV, telephone, bike, motorbike or refrigerator, and does not own a car or truck</i>

Identification: Who is poor?



A person who is deprived in 1/3 or more of the weighted indicators is **MPI poor**.

Neheso's deprivation profile shows the indicators in which she is deprived.

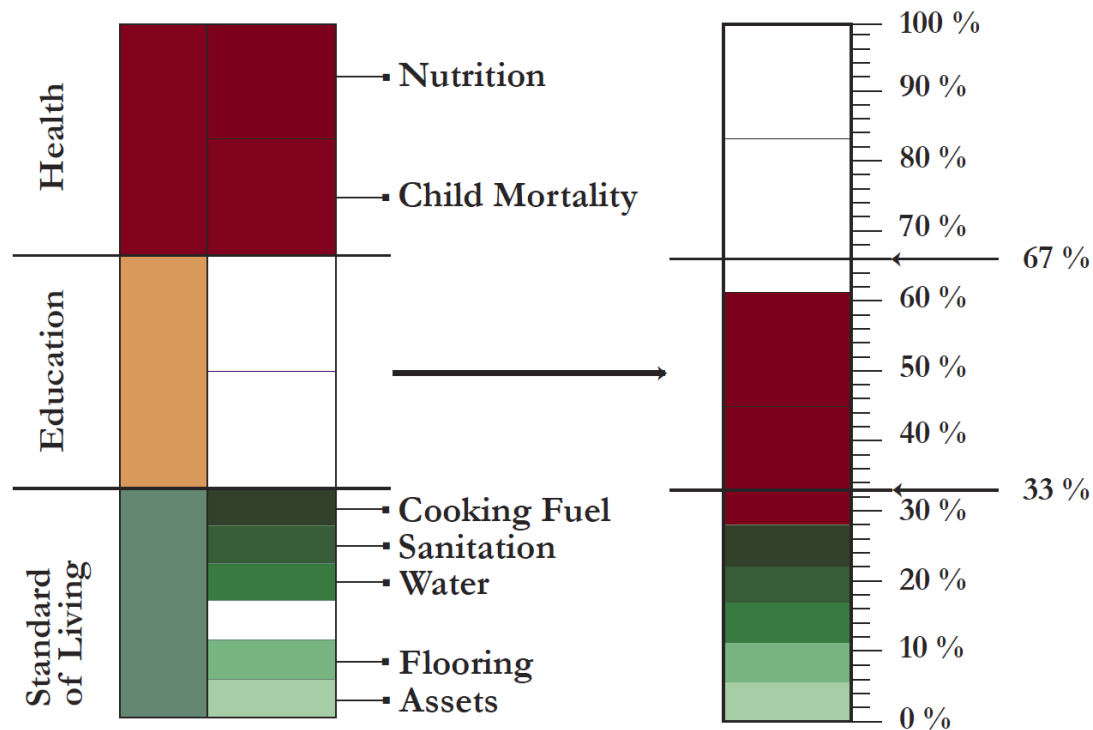


Identification: Who is poor?

Neheso is poor according to the Global MPI.

She is deprived in 61% of weighted indicators. Anyone deprived in 33.33% or more is identified as multidimensionally poor.

NEHESO IS DEPRIVED IN ...



**Poverty 33.33%
Cutoff:**

How do you calculate the MPI?

$$\text{Formula: } \text{MPI} = M_0 = H \times A$$

1) **Incidence** or the headcount ratio (H) ~ the percentage of people who are poor.

2) **Intensity of people's deprivation** (A) ~ the average share of dimensions (proportion of weighted deprivations) people suffer at the same time. It shows the *joint distribution* of their deprivations.

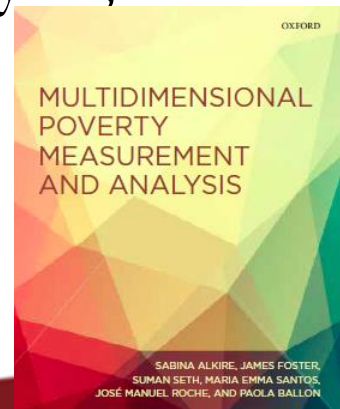
Alkire & Foster (2011)

The Underlying Methodology: Flexible

The Global MPI is one *example* of an MPI.
It uses the Alkire Foster (AF) Methodology.
The AF Methodology is general and flexible.

It can be used with different dimensions, indicators, weights, and cutoffs, according to the context.

Mexico, Bhutan, Chile, Colombia, Costa Rica, Ecuador, El Salvador, and Pakistan have official national MPI statistics. South Africa, China, Malaysia, Philippines use MPI in policy. Child poverty is measured, as is Gross National Happiness.



The MPI is fully documented (OUP 2015)

Statistical methods include:

Standard errors and confidence intervals for all statistics

Statistical inference for all comparisons

Validation for component indicators, alone and jointly

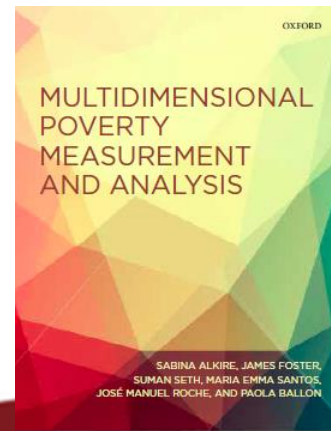
Robustness tests for cutoffs and weights

Axiomatic properties include:

Subgroup decomposability and Subgroup consistency

Dimensional breakdown, Dimensional monotonicity

Ordinality, Symmetry, Scale Invariance, Replication Invariance, Normalization, Poverty and Deprivation Focus, Weak Monotonicity, and Weak Re-arrangement.



Data: Surveys (MPI 2016)

Details in: Alkire, Jindra, Robles and Vaz (2016)

Demographic & Health Surveys (DHS - 54)

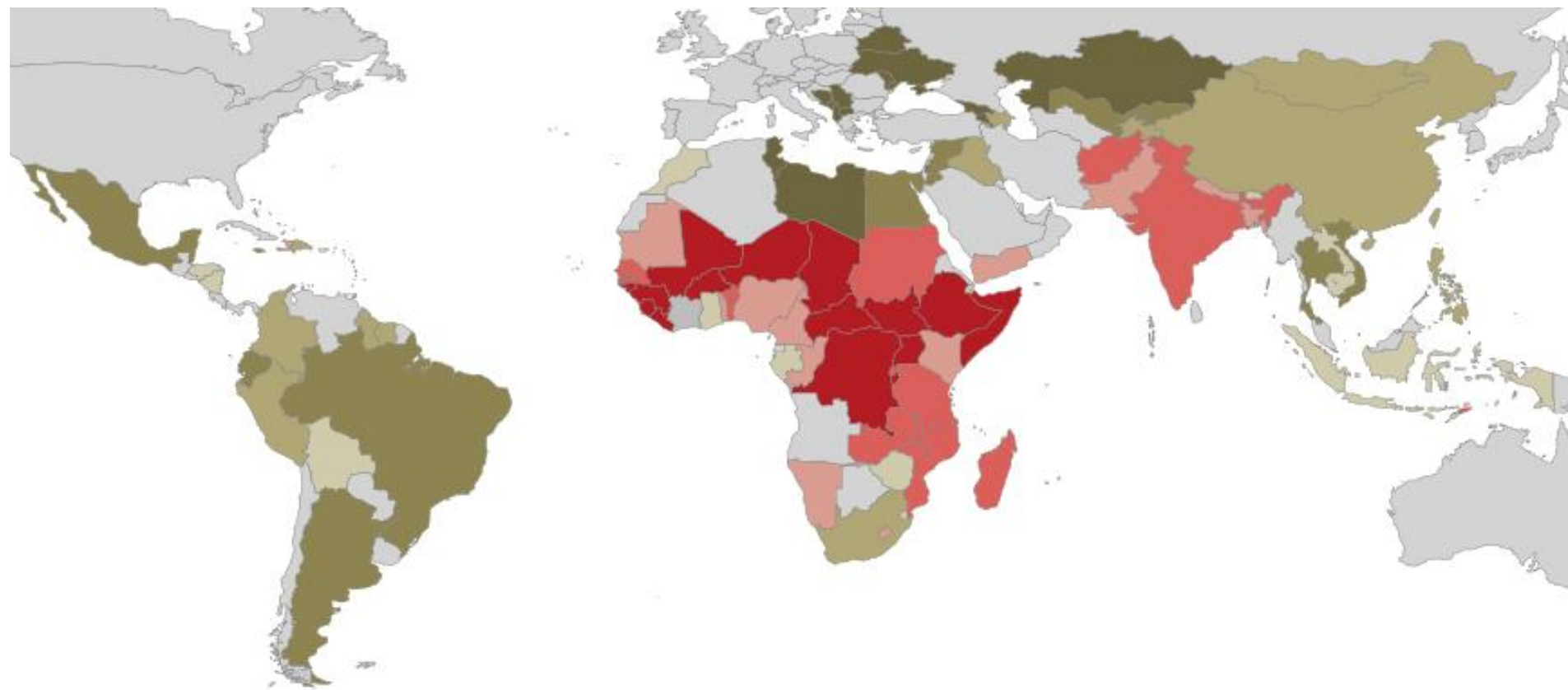
Multiple Indicator Cluster Surveys (MICS - 38)

Pan–Arab Project for Family Health (PAPFAM – 3)

Additionally we used 7 special surveys covering urban Argentina (ENNyS), Brazil (PNAD), China (CFPS), Ecuador (ECV), Jamaica (JSLC), Mexico (ENSANUT) and South Africa (NIDS).

Constraints: Data are 2005-2015. Not all have precisely the same indicators.

What does MPI show? First, national MPI H A

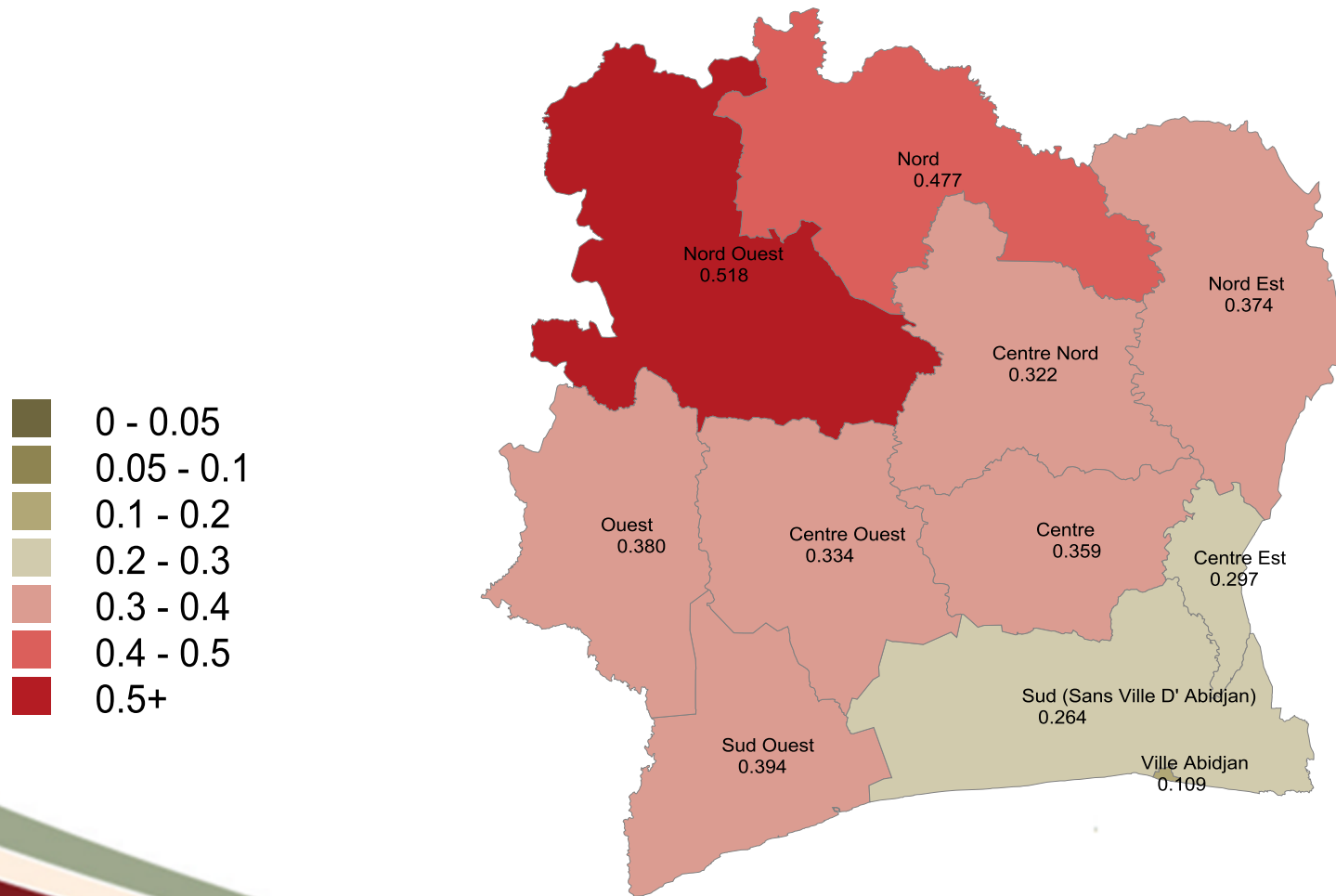


Incidence of MPI – (H)

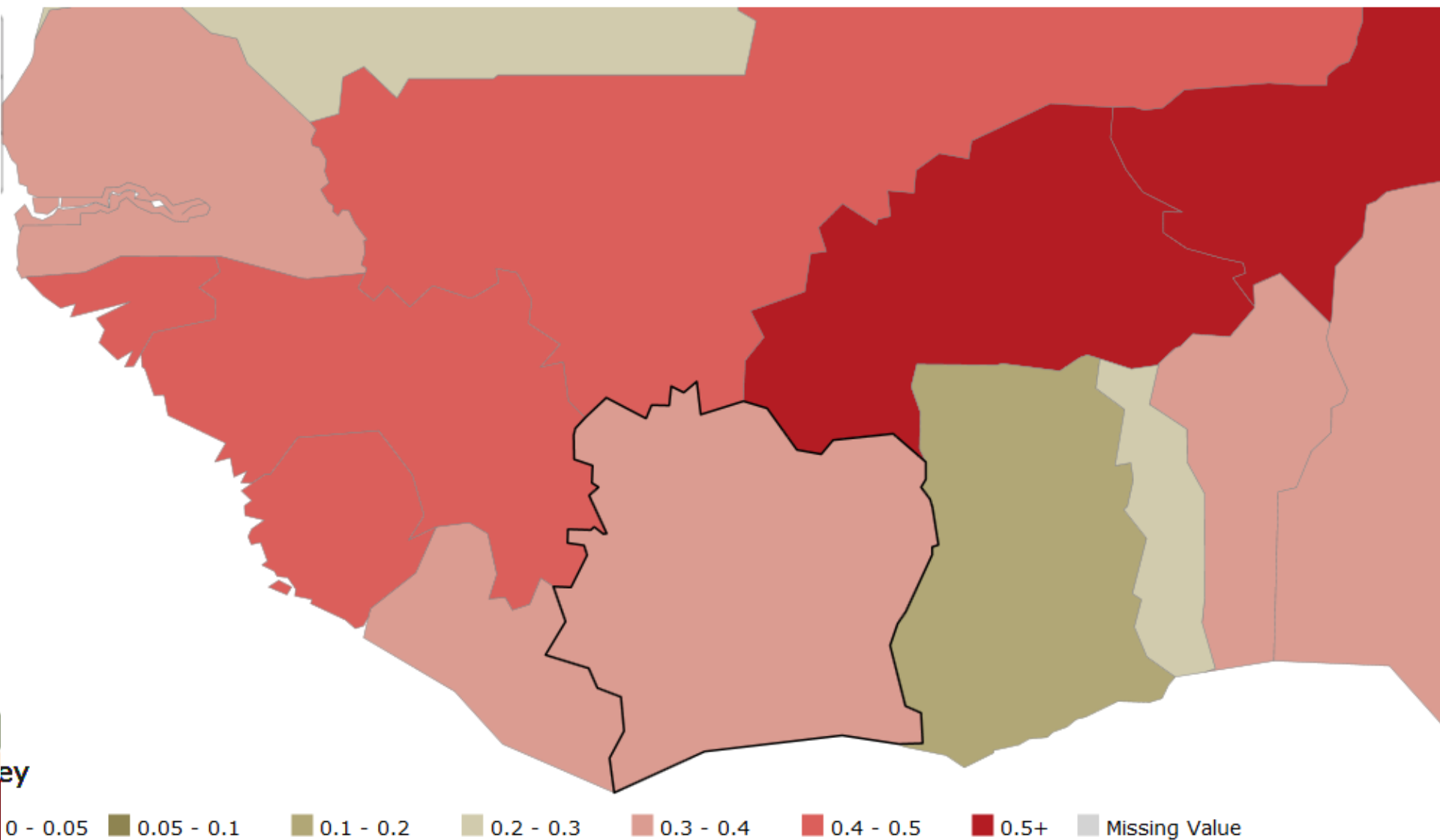
2012 Population Data

Disaggregation by region or group

Cote d'Ivoire 2011/12



Cote d'Ivoire & its nearest Neighbours



Mali 78%

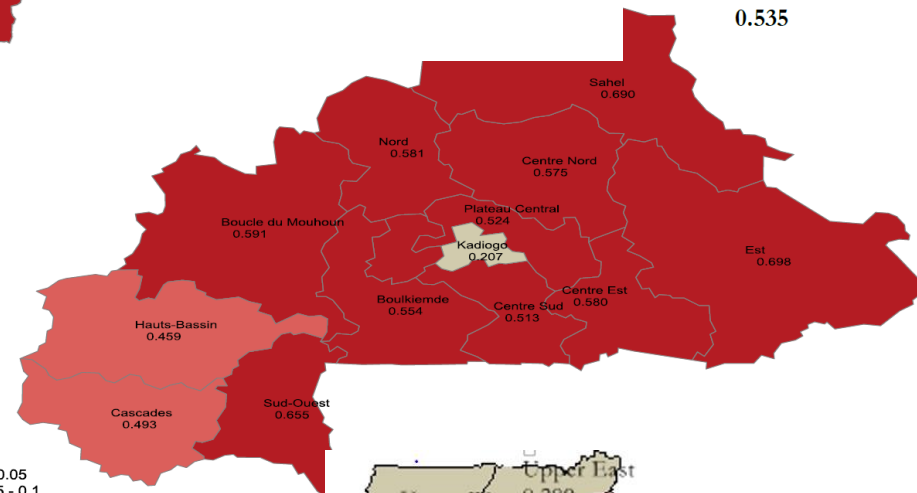
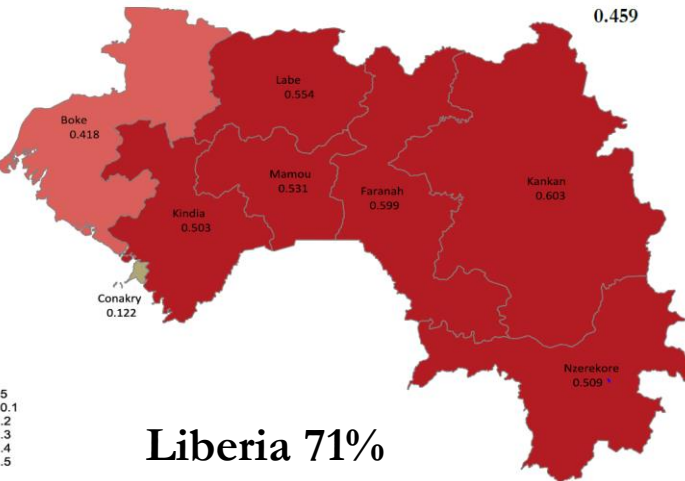
Burkina Faso 84%

Burkina Faso MPI

0.535

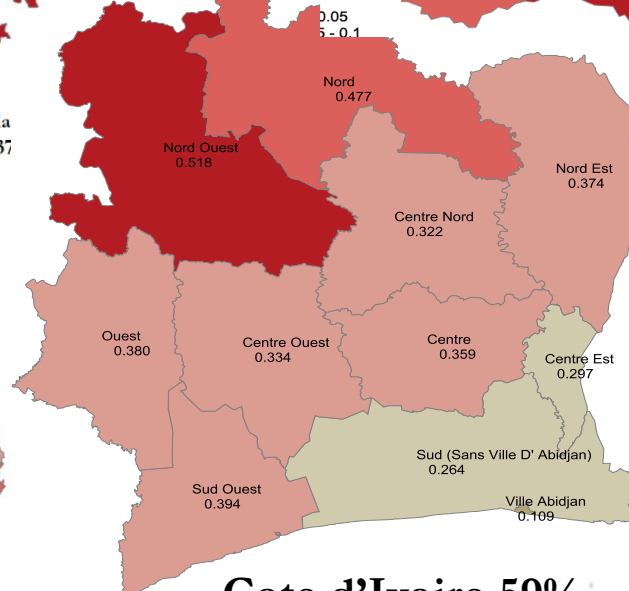
Guinea 75%

Guinea MPI
0.459

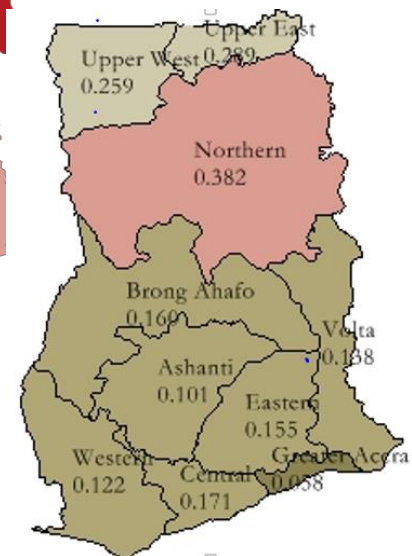


Liberia 71%

Liberia
0.37



Cote d'Ivoire 59%



Ghana 34%

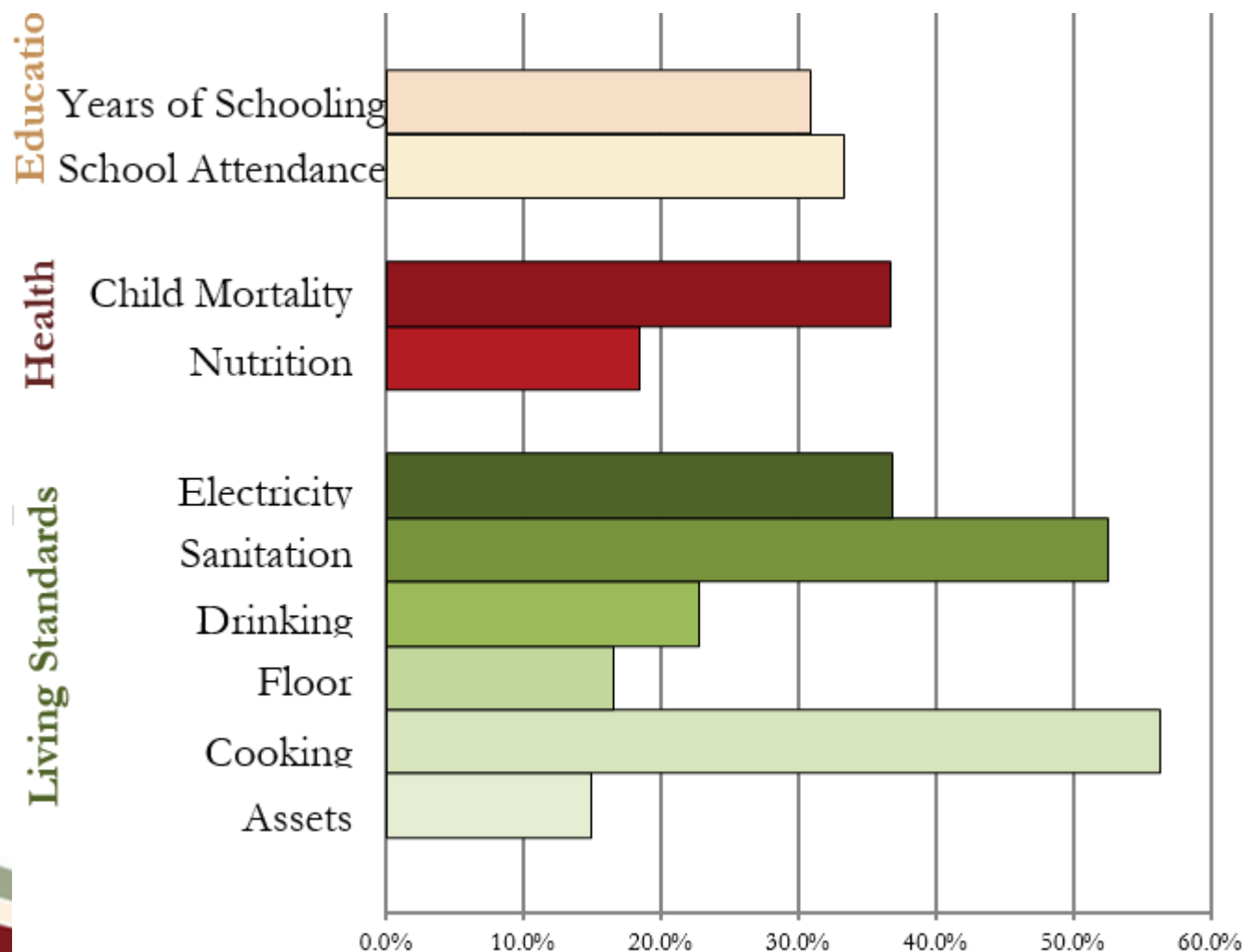
0.1
0.2
0.3
0.4
0.5



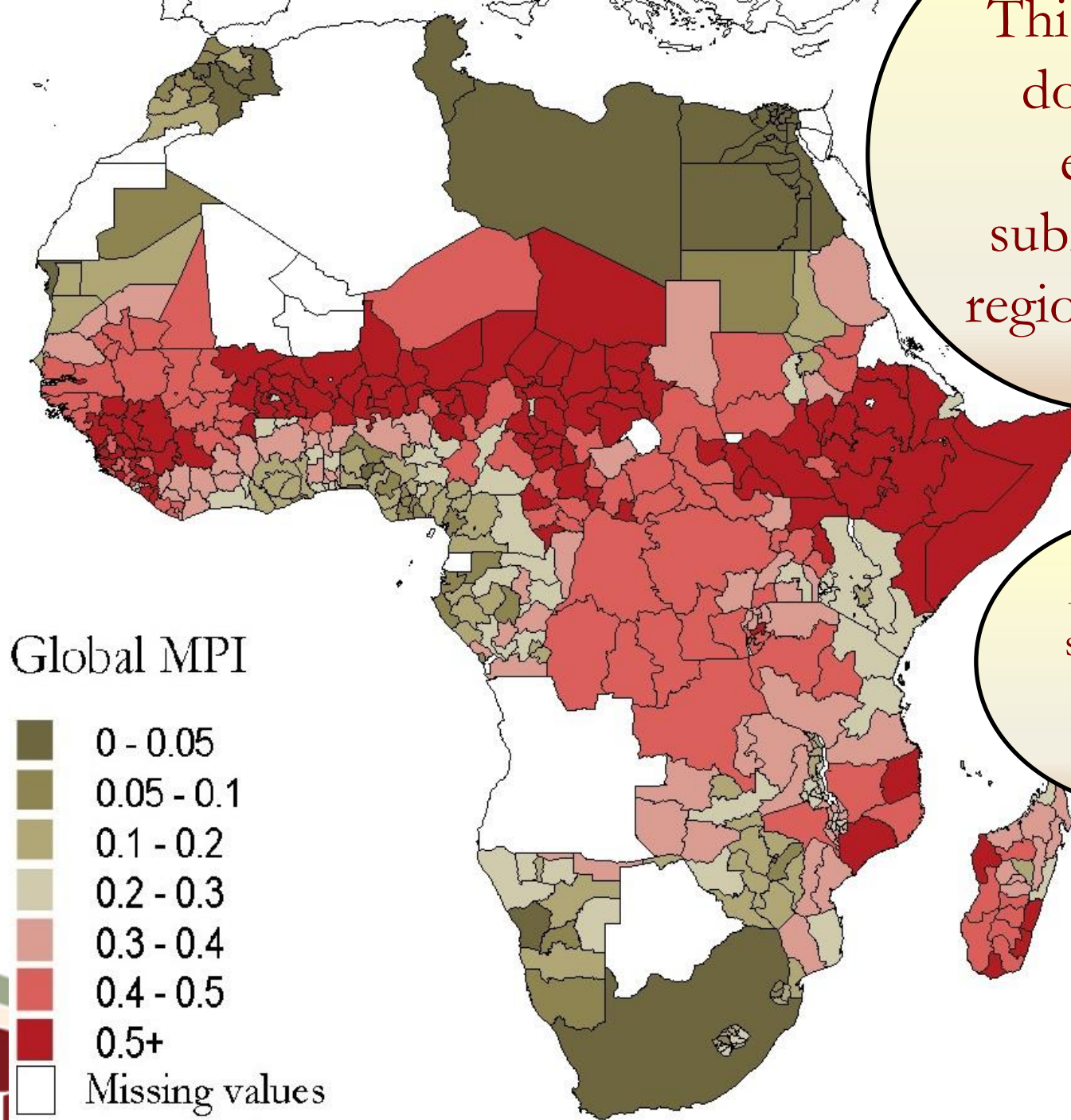
Cote d'Ivoire & its MPI Neighbours

Country	Year	MPI	H	A Intensity	\$1.90/day		\$3.10/day		National poverty line		Income category	GNI/capita ^e
Namibia	2013	0.193	42.0	46.0	22.6	2009	45.7	28.7	2009		Upper MIC	5,630
Cameroon	2011	0.248	46.0	53.8	29.3	2007	54.3	39.9	2007		Lower MIC	1,350
Togo	2013/14	0.252	50.1	50.4	54.2	2011	74.5	58.7	2011		Low income	570
Mauritania	2011	0.285	52.2	54.6	10.9	2008	32.5	42.0	2008		Lower MIC	1,270
Nigeria	2013	0.303	53.2	56.8	53.5	2009	76.5	46.0	2009		Lower MIC	2,970
Malawi	2013/14	0.265	56.0	47.4	70.9	2010	87.6	50.7	2010		Low income	250
Zambia	2013/14	0.281	56.6	49.8	64.4	2010	78.9	60.5	2010		Lower MIC	1,680
Senegal	2014	0.309	56.9	54.3	38.0	2011	66.3	46.7	2010		Lower MIC	1,050
Cote d'Ivoire	2011/12	0.310	58.7	52.8	29.0	2008	55.1	46.3	2015		Lower MIC	1,450
Gambia	2013	0.323	60.4	53.4	45.3	2003	68.0	48.4	2010		Low income	460
Benin	2011/12	0.307	62.2	49.3	53.1	2011	75.6	36.2	2011		Low income	890
Tanzania,	2010	0.332	65.6	50.7	46.6	2011	76.1	28.2	2011		Low income	920

The MPI can be broken down by indicator



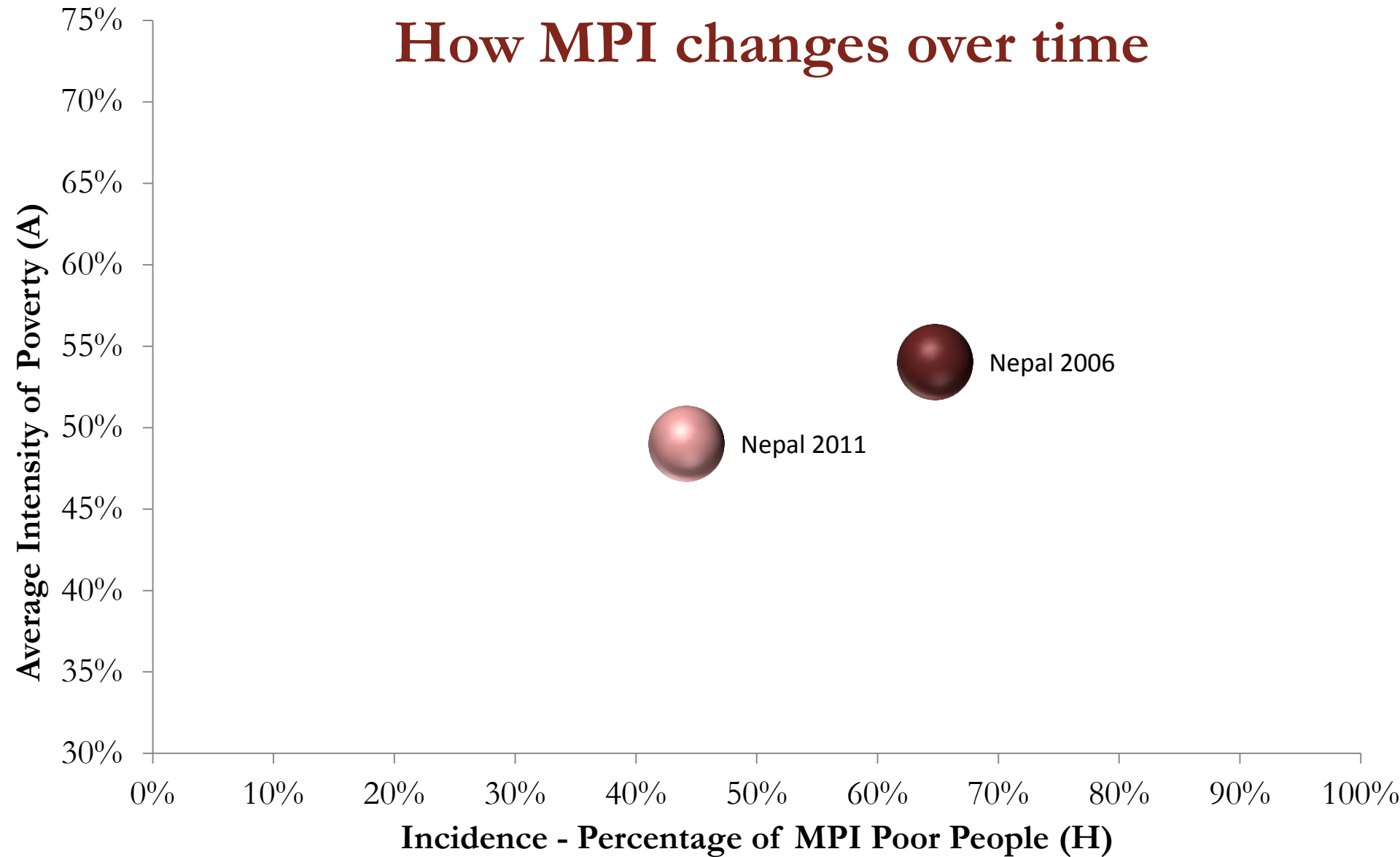
Percentage of people who are MPI poor and deprived in each indicator

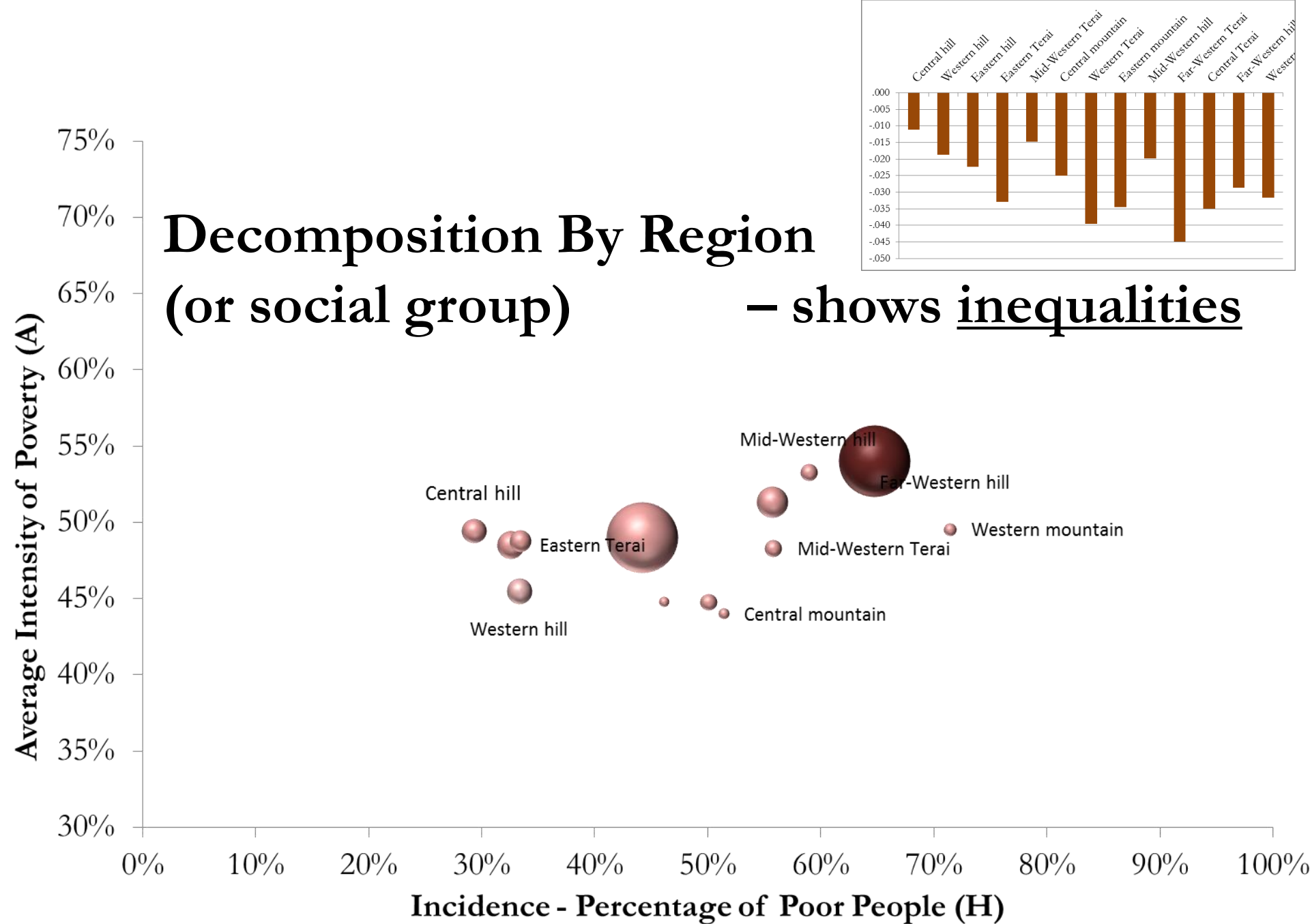


This can be
done for
every
subnational
region/group

Africa: 475
subnational
regions

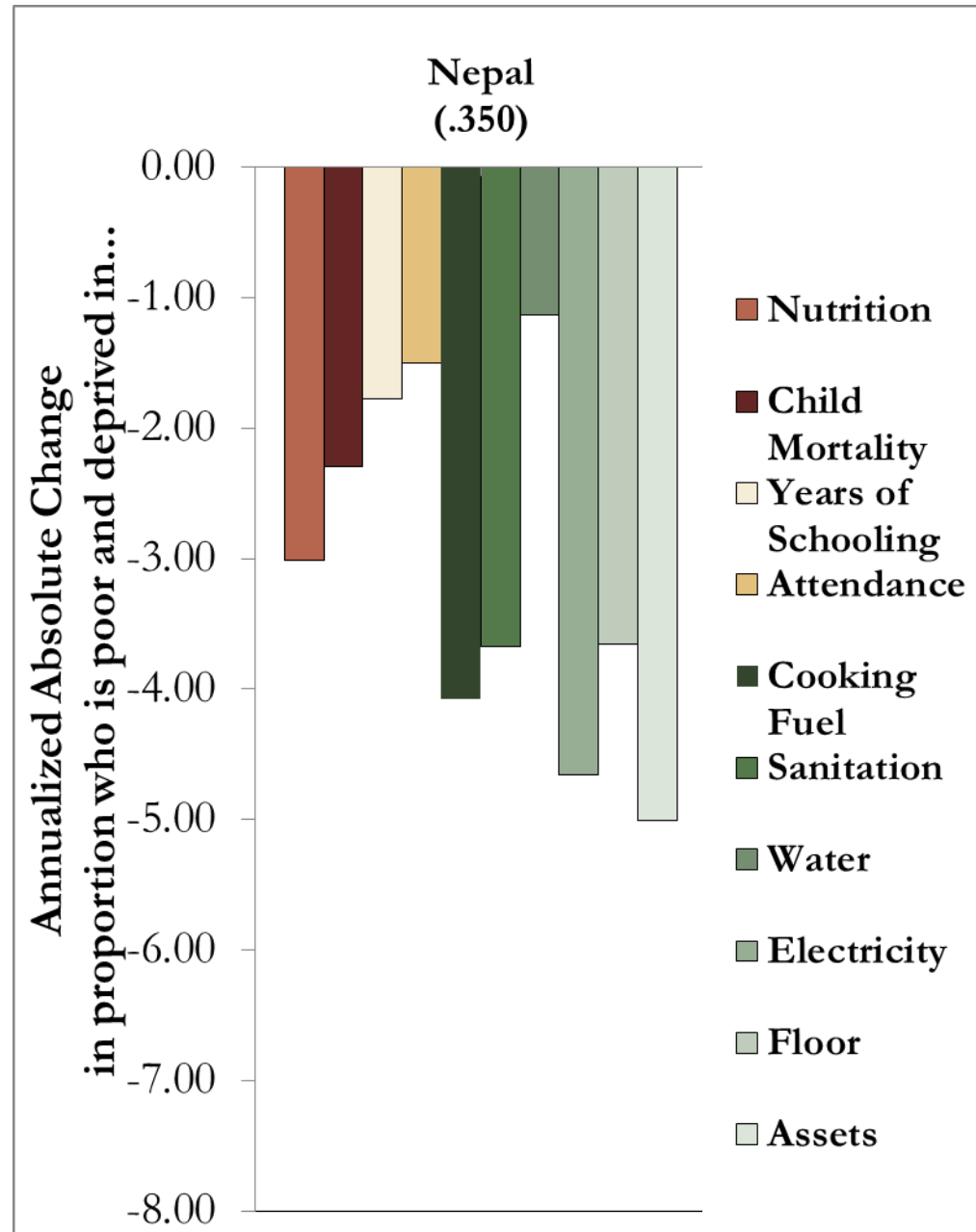
How MPI changes over time



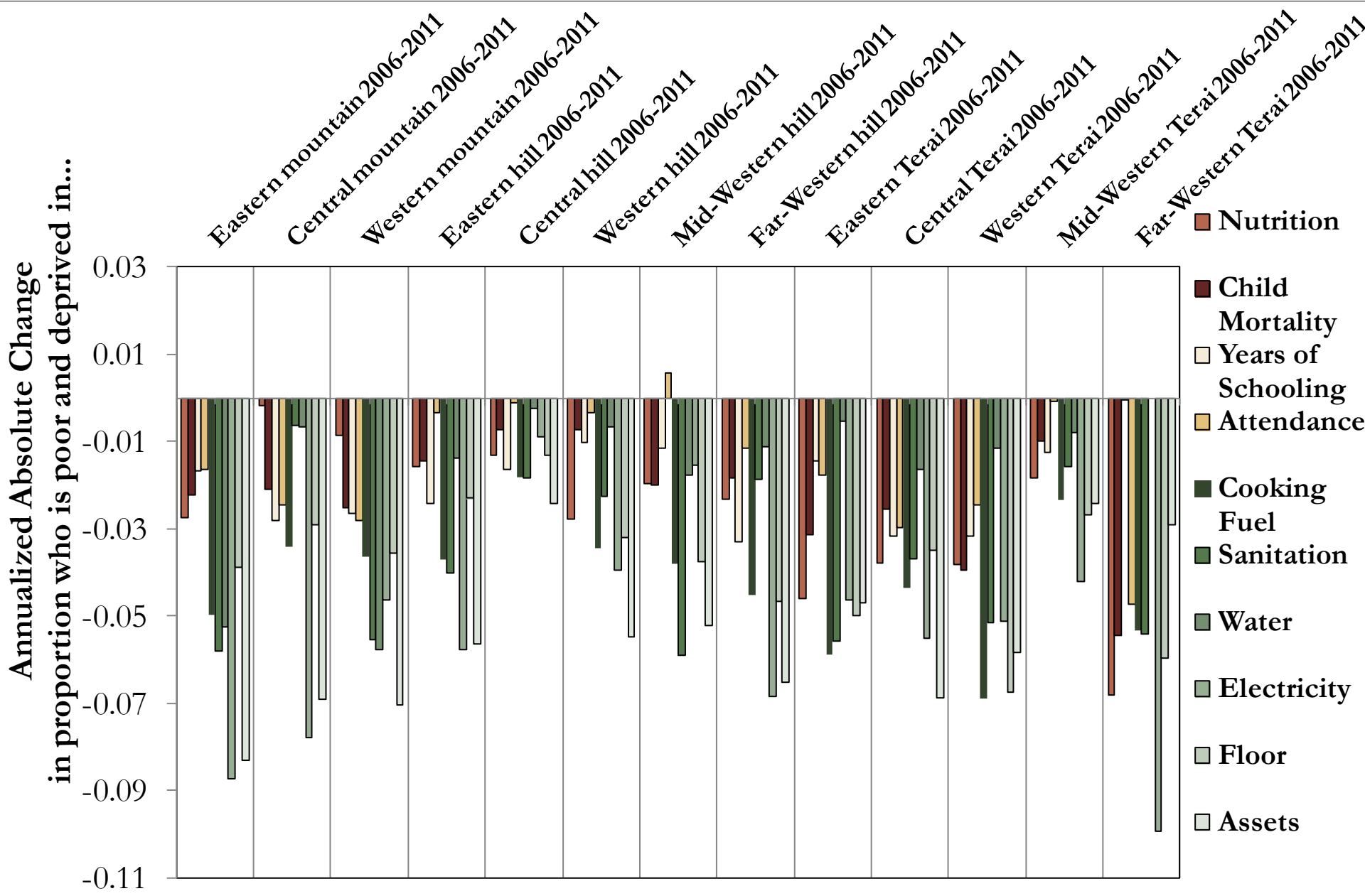


How did MPI go down?

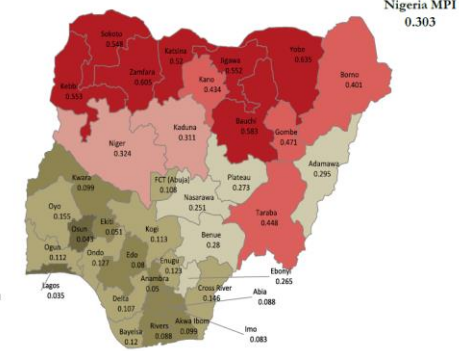
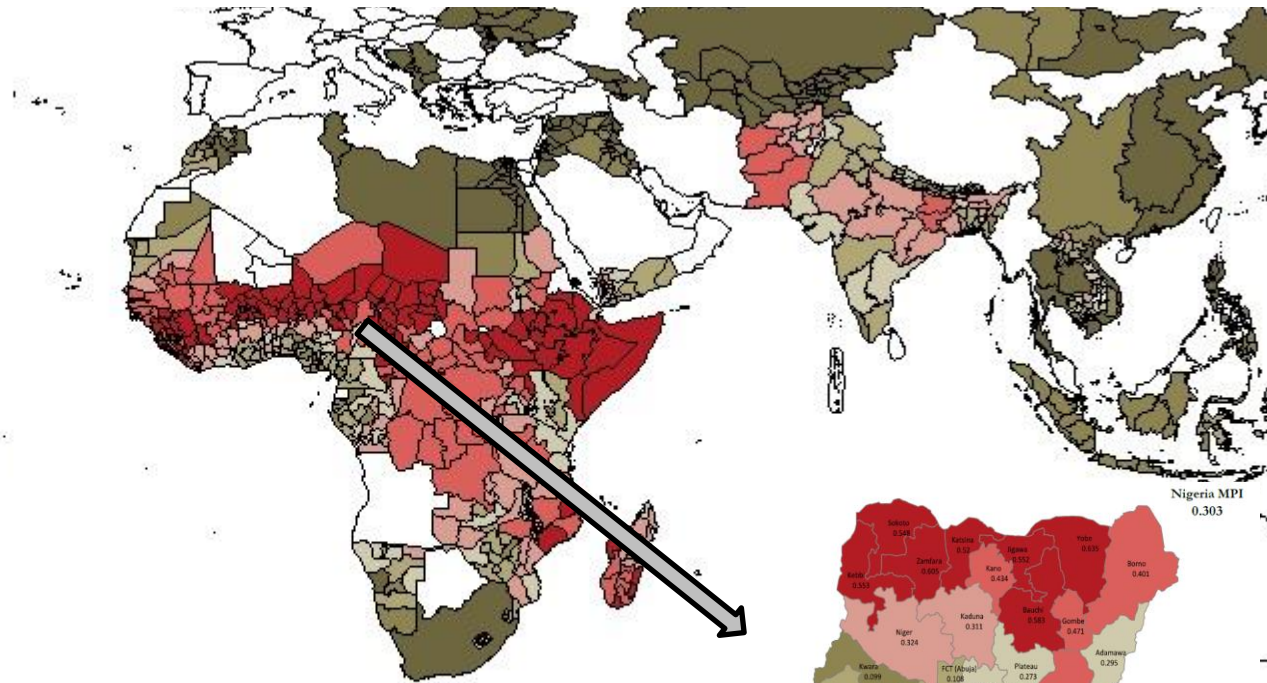
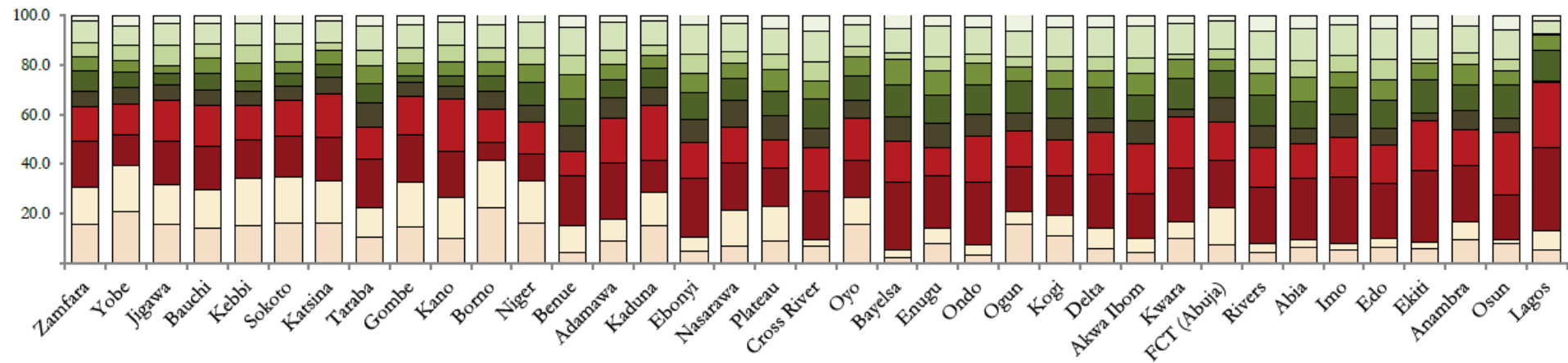
Monitor reductions in each indicator



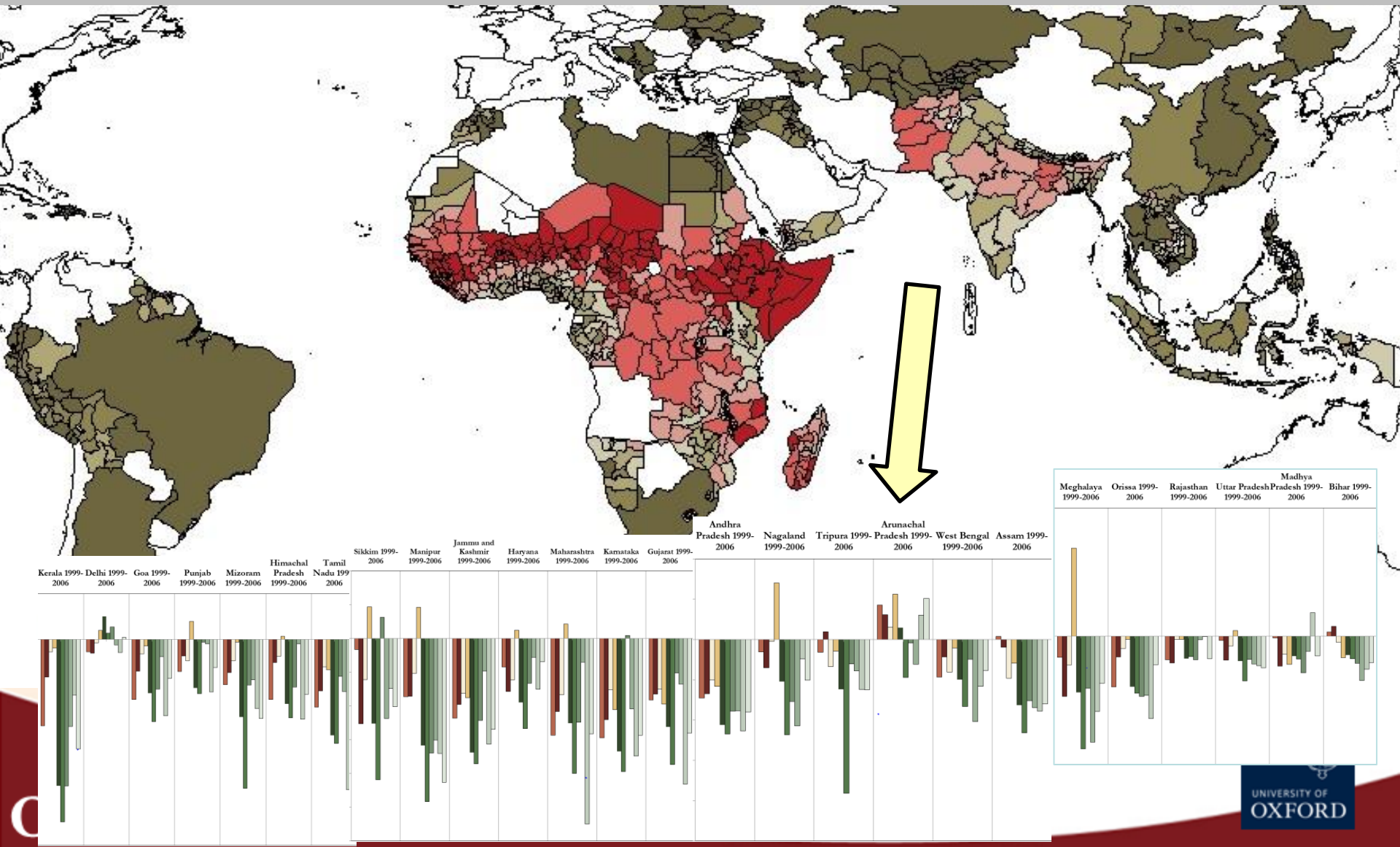
Indicator Changes by region or group: Governance



Global MPI: Headline + Disaggregated detail



+ Changes over time for each of these indicators (States of India)



Tabita, Kenya

Rabiya, India

Stephanie, Madagascar

Agathe, Madagascar

Dalima, Kenya

Ann-Sophie, Kenya

Valerie, Madagascar



Questions

1. Would some kind of comparison with appropriate indicators be useful in UNECE countries?
2. Could such information be useful at a national level?

Tabita, Kenya

Rabiya, India

Stephanie, Madagascar

Agathe, Madagascar

Dalima, Kenya

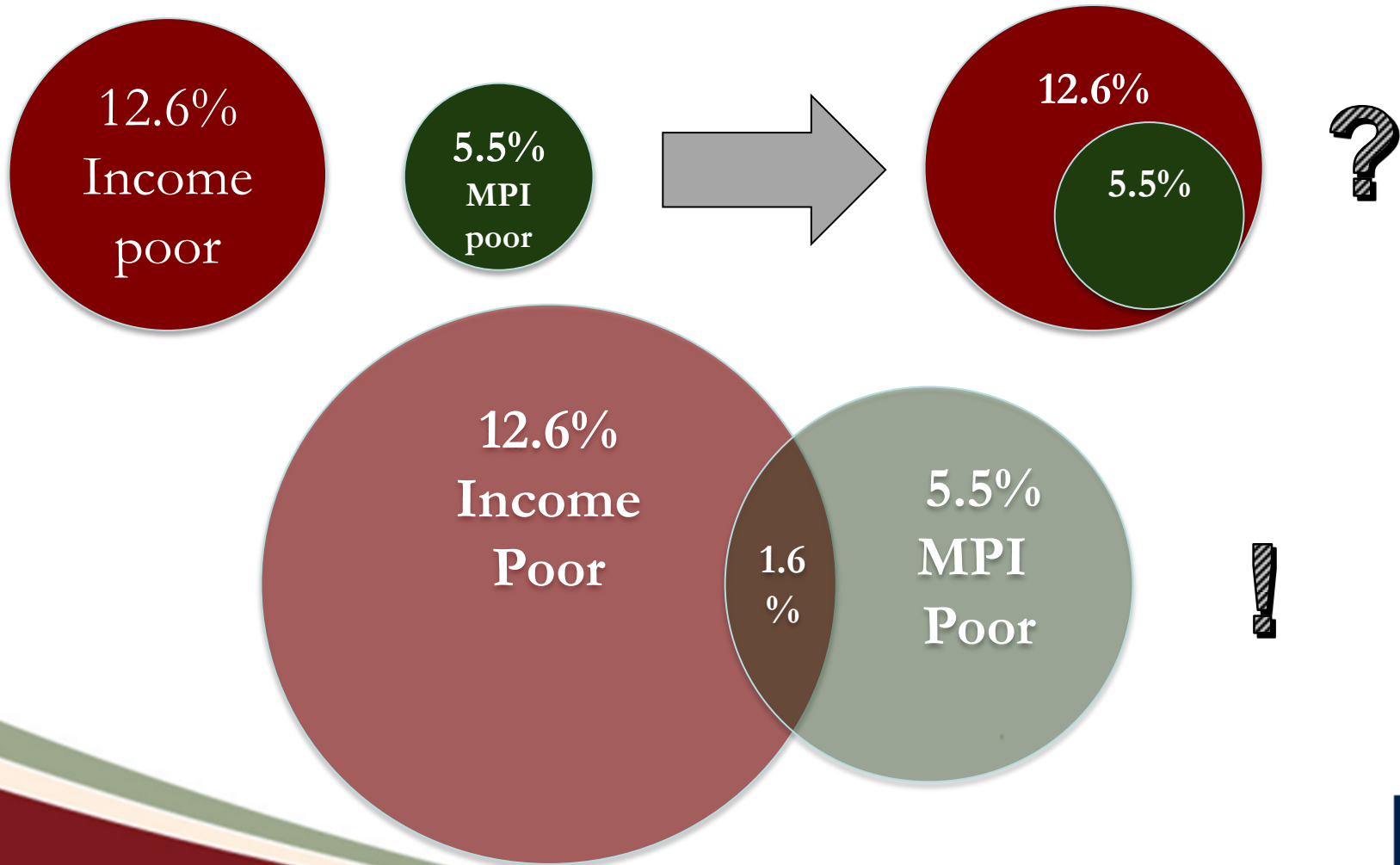
Ann-Sophie, Kenya

Valerie, Madagascar

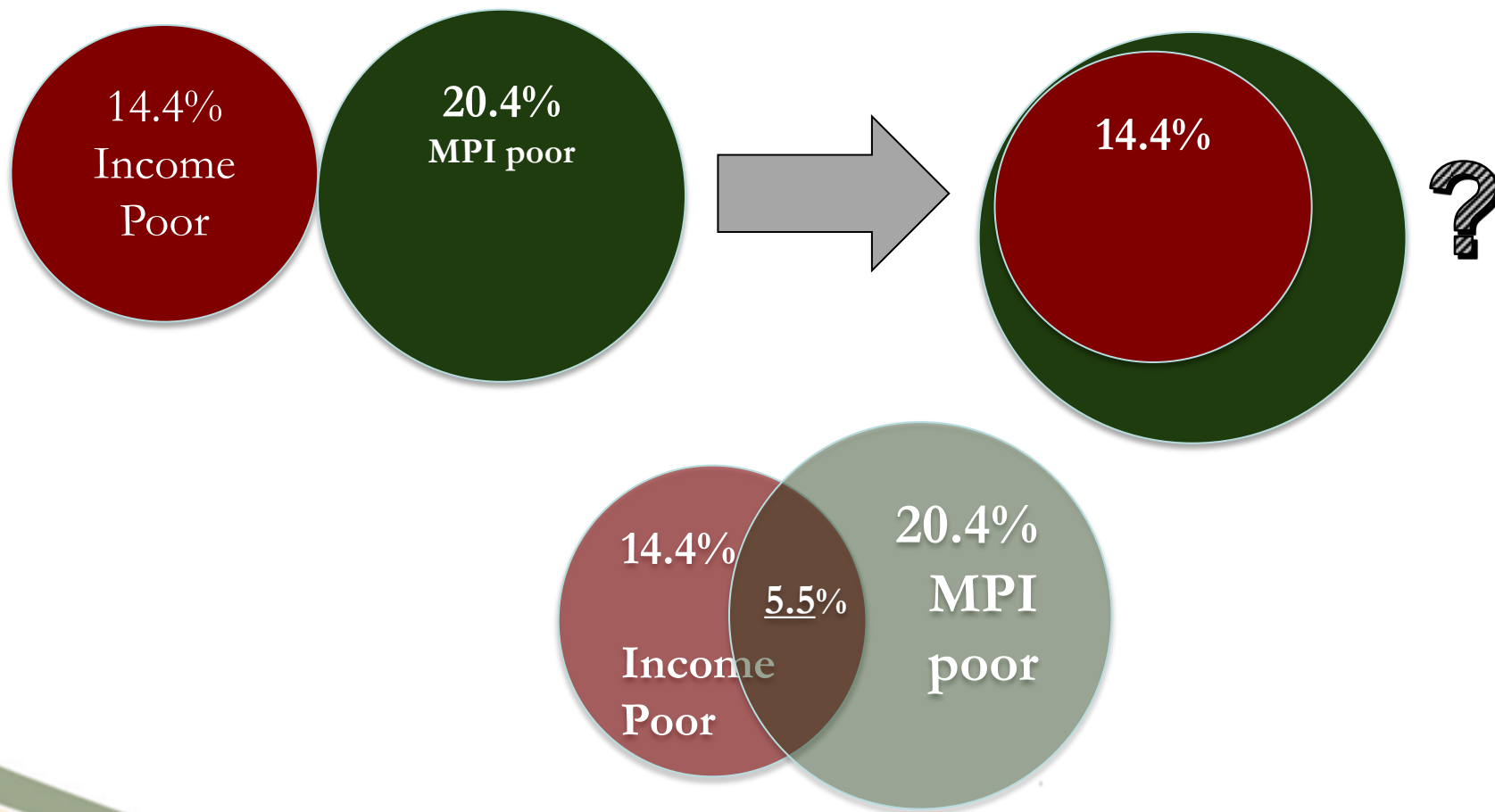
Why measure non-monetary dimensions?

- Reflect experiences of poverty
- Monetary poverty does not proxy
 - level of MPI
 - trend of MPI

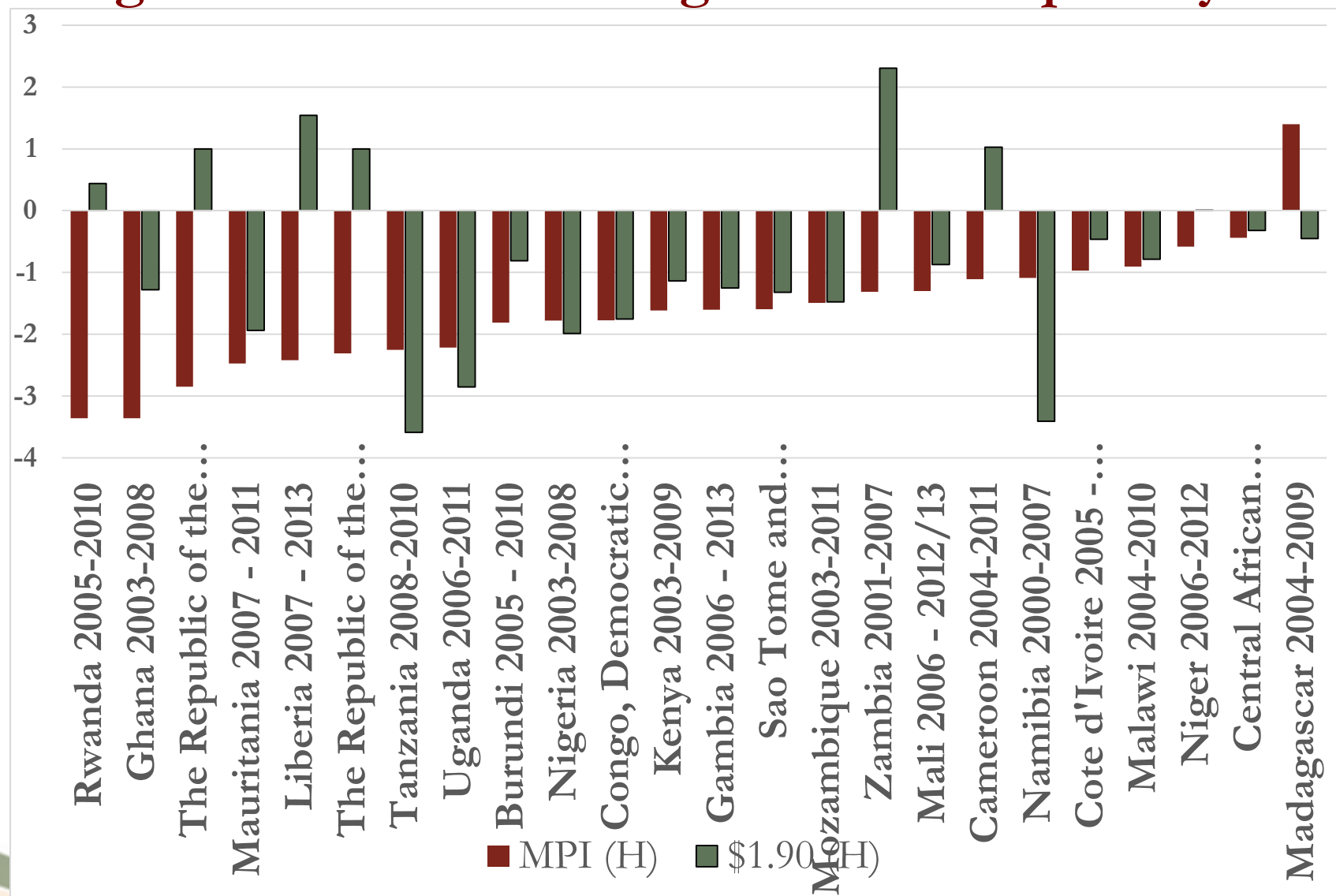
MPI in China complements Income Poverty



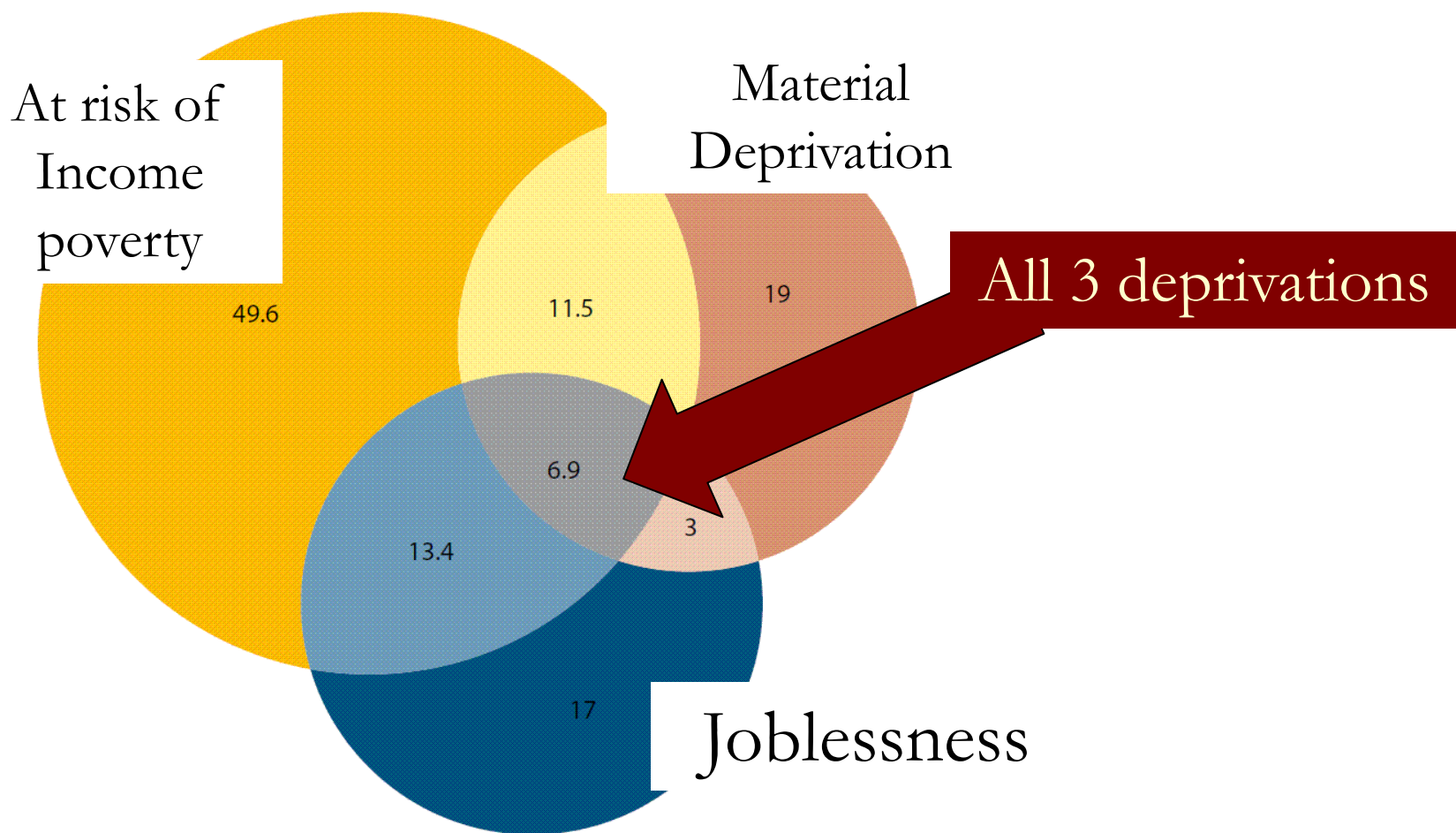
Chile's national income poverty and national MPI measures complement each other.



Changes do not match changes in income poverty alone



Europe 2020: mismatches in Europe



Atkinson, A. B., E. Marlier, F. Monatigne, and A. Reinstadler (2010) 'Income poverty and income inequality', in *Income and Living Conditions in Europe*, Atkinson and Marlier (eds), Eurostat.

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Questions

3. Would multidimensional poverty measures meet a need in your context? How or why?

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Using the MPI for Policy:

National Examples

MPIs: Two kinds ~ both useful

Global MPI:

- presently estimated by OPHI & UNDP's HDRO & some cttries
- can be **compared** across 118 developing countries (\$1.90 – 118)
- reflects **SDGs** 1-8 and 10 (SHaSA); is SDSN headline indicator.
- reported in **SDGs** by countries who do not yet have national MPI
- baseline indicator for **SDG** target 1.2 to 'reduce by half'?

National MPIs:

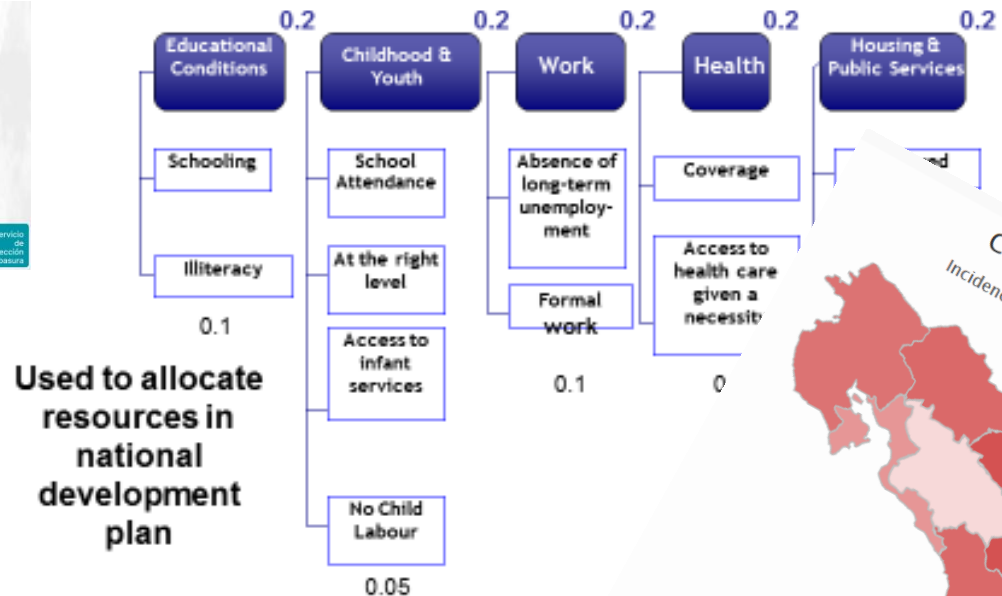
- reflect **national** contexts and priorities.
- guide **policies** like **targeting** or allocation, and monitor progress.
- complement (or incorporate) **monetary** poverty measures
- **cannot be compared** (like national income poverty measures)
- will also be reported for **SDG** Indicator 1.2.2

National MPIs: Tailor made for policy

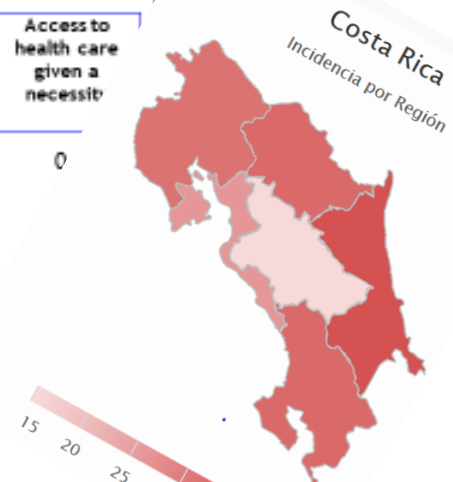
- Reflect National Priorities
- Vital for policy: target, coordinate, monitor
- Comparable over time, groups, provinces



The South African MPI
Creating a multidimensional poverty index using census data



Chile



MPI in the SDGs

The MPI (national, global, or both) is being reported for SDG 1.2.2 to track SDG target 1.2 by a number of countries including:

Bhutan

Ecuador

Honduras

Mexico

Philippines

Peru

Seychelles

Vietnam

Colombia

Using the MPI for Policy

The MPI can be broken down in different ways:

1. By Headcount ratio – to show *how many* are poor
2. By Intensity – to show *who* has greatest intensity
3. By Dimension – to show *how* people are poor
4. By Sub-group – to show how groups vary

The MPI *Plus* consistent sub-indices that unpack it
provide powerful analysis for:

Targeting

M&E

Sectoral planning

Budget Allocation

Policy coordination

Policy design

Official National MPIs & Policy Uses

- **Mexico** – The first national MPI, with dimensions based on social rights (2009).
- **Bhutan** – A MPI complementing the Gross National Happiness Index (2010).
- **Colombia** – A pioneering national MPI monitoring a development plan (2011).
- **Chile** – An MPI the reflects a cross-party set of priorities (2015).
- **Costa Rica** – An MPI used to align allocation with national goals (2015)
- **El Salvador** – An MPI based on inputs from the ‘protagonists’ of poverty (2015)
- **Ecuador** – An MPI reflecting political commitment to *Buen Vivir* (Feb 2016)
- **Pakistan** – An MPI reflecting the Vision 2025, backdated to 2004 (June 2016).

Policy examples:

- **Targeting** – China, Vietnam, Dominican Republic, Mexico, Colombia, South Africa
- **National Development Plan** – Colombia, Senegal, Malaysia, El Salvador & others
- **Policy Coordination** – Colombia, Mexico, El Salvador, Pakistan and others
- **Budget Allocation** – Costa Rica, Mexico, Bhutan, and others

"Water drips through the holes in the roof, and floods the outside. Inside the house it's the same story"

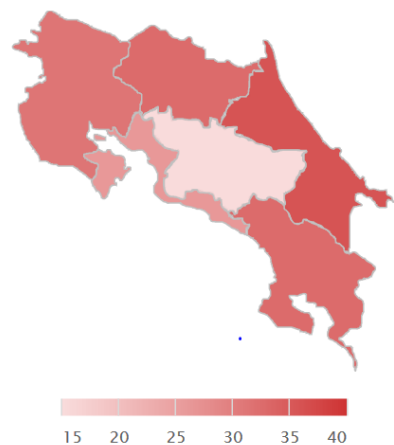
**Isidra,
from Ayutuxtepeque**



Poverty from the view of its protagonists

Participatory study used to design MPI indicators in El Salvador





Costa Rica:

Starting MPI: used to diagnose
Mismatches between objectives &
Programmes/allocations



Costa Rica

- Launched October 2015
- High social expenditure
- Low impact on social conditions
- MPI used to promote efficiency, coordination, re-allocation.

Costa Rica:

Starting MPI: used to diagnose
Mismatches between objectives &
Programmes/allocations



Does our allocation match our levels of poverty by region? (Not yet)

Región	Intensidad	Incidencia	Presupuesto Ejecutado
Central	25.86	15.17	¢205.544.667.095,39
Chorotega	29.01	31.37	¢57.097.420.823,67
Pacífico Central	26.74	26.21	¢47.887.090.732,15
Brunca	27.61	32.69	¢75.485.318.073,71
Huetar Atlántica	28.29	35.80	¢59.669.482.377,32
Huetar Norte	29.08	32.73	¢60.436.320.304,36
Nacional	27.22	21.66	¢514.225.278.725,60

Does our allocation match our levels of poverty by sector? (Not yet)

Mostrar Datos de 2014

Indicador	% Carencia	Presupuesto Ejecutado
Sin acceso a educación	22,8%	¢217,477,650,077.62
Rezago educativo	27,6%	¢0
Sin bachillerato	27,6%	¢0
Bajo capital humano	61,3%	¢8,570,200,000.00

Costa Rica:

Starting MPI: used to diagnose
Mismatches between objectives &
Programmes/allocations

Colombia's Multidimensional Poverty Index – MPI

5 dimensions, 15 indicators



Education

Low Educational Achievement
●
Illiteracy



Childhood and Youth

Out of School
●
Behind in School
●
Lacking Child Care
●
Child Labour



Work

Long-Term Unemployment
●
Informal work



Health

No Insurance
●
No Access to healthcare in case of need



Housing & Public Services

No safe water
●
Inadequate Sanitation
●
Inadequate flooring
●
Inadequate walls
●
Overcrowding

Colombia

We have new intersectoral articulations:

Poverty Roundtable

Social Inclusion and Productive Table

To follow up the control panels for each of the indicators

Design, identify and define programmes to meet the objectives

15 Members

Meet with the **President**

Review the **control panel**

Pobreza	Línea Base PND 2008	Dato 2011	Dato 2012	Analisis	Goal
MPI (Multidimensional Poverty)	34.7%	29.4%	27.0%	●	22.5%
A Educational achievement (≥15 yrs)	58.8%	54.6%	53.1%	●	52.8%
• Literacy (≥15 yrs)	14.2%	12.0%	12.1%	● ★	12.0%
B School attendance (6-16)	5.4%	4.8%	4.1%	●	3.5%
• No school lag (7-17)	33.4%	34.1%	33.3%	●	33.1%
• Access to child care services (0-5)	12.1%	10.8%	9.4%	●	10.6%
• Children not working (12-17)	5.5%	4.5%	3.7%	●	2.9%
C Long-term unemployment	9.6%	9.1%	10.0%	● ★	9.3%
• Formal employment	80.6%	80.4%	80.0%	●	74.7%
D Health insurance	24.2%	19.0%	17.9%	●	0.5%
• Access to health services	8.9%	8.2%	6.6%	●	2.4%
E Access to water source	12.9%	12.0%	12.3%	● ★	10.9%
• Adequate sewage system	14.1%	14.5%	12.1%	●	11.3%
• Adequate floors	7.5%	6.3%	5.9%	●	5.6%
• Adequate external walls	3.1%	3.2%	2.2%	●	2.1%
• No critical overcrowding	15.7%	14.2%	13.1%	●	8.4%

*** Change 2011-2012 est. significant

9 Members

Different levels of articulation, with meetings weely, fortnightly, nad monthly

Specific Goals

Focus on **double Inclusion**

Colombia

● 0%-10% avance ● 10%-25% avance ● >25% avance

Pobreza	Línea Base PND 2008	Dato 2011	Dato 2012	Análisis	Goal	
MPI (Multidimensional Poverty)	34.7%	29.4%	27.0%	●	22.5%	
A ⁽¹⁾ <ul style="list-style-type: none"> Educational achievement (≥15 yrs) Literacy (≥15 yrs) 	58.8%	54.6%	53.1%	●	52.8%	
	14.2%	12.0%	12.1%	● ★	12.0%	
B ⁽²⁾ <ul style="list-style-type: none"> School attendance (6-16) No school lag (7-17) Access to child care services (0-5) Children not working (12-17) 	5.4%	4.8%	4.1%	●	3.5%	***
	33.4%	34.1%	33.3%	●	33.1%	
	12.1%	10.8%	9.4%	●	10.6%	***
	5.5%	4.5%	3.7%	●	2.9%	***
C ⁽³⁾ <ul style="list-style-type: none"> Long-term unemployment Formal employment 	9.6%	9.1%	10.0%	● ★	9.3%	***
	80.6%	80.4%	80.0%	●	74.7%	
D ⁽⁴⁾ <ul style="list-style-type: none"> Health insurance Access to health services 	24.2%	19.0%	17.9%	●	0.5%	
	8.9%	8.2%	6.6%	●	2.4%	***
E ⁽⁵⁾ <ul style="list-style-type: none"> Access to water source Adequate sewage system Adequate floors Adequate external walls No critical overcrowding 	12.9%	12.0%	12.3%	● ★	10.9%	
	14.1%	14.5%	12.1%	●	11.3%	***
	7.5%	6.3%	5.9%	●	5.6%	
	3.1%	3.2%	2.2%	●	2.1%	***
	15.7%	14.2%	13.1%	●	8.4%	***

*** Change 2011-2012 est. significant

NDP

2012-2013 policies

- CCT to increase human capital and youth employment
- “Jóvenes en Acción”**

2010

2011

2012

2013

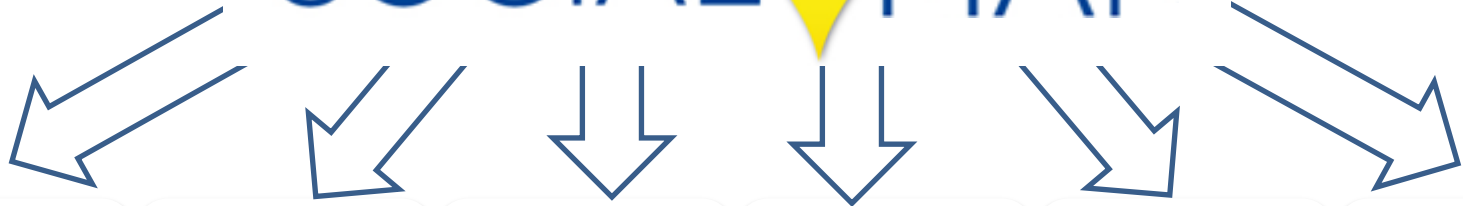
2013 Alerts:

- Social mobility
- Youth unemployment



Colombia: a more efficient market for social investment

SOCIAL MAP



**National
Government**



**Local
Authorities**



**Companies
and
Foundations**



**International
Organisms**



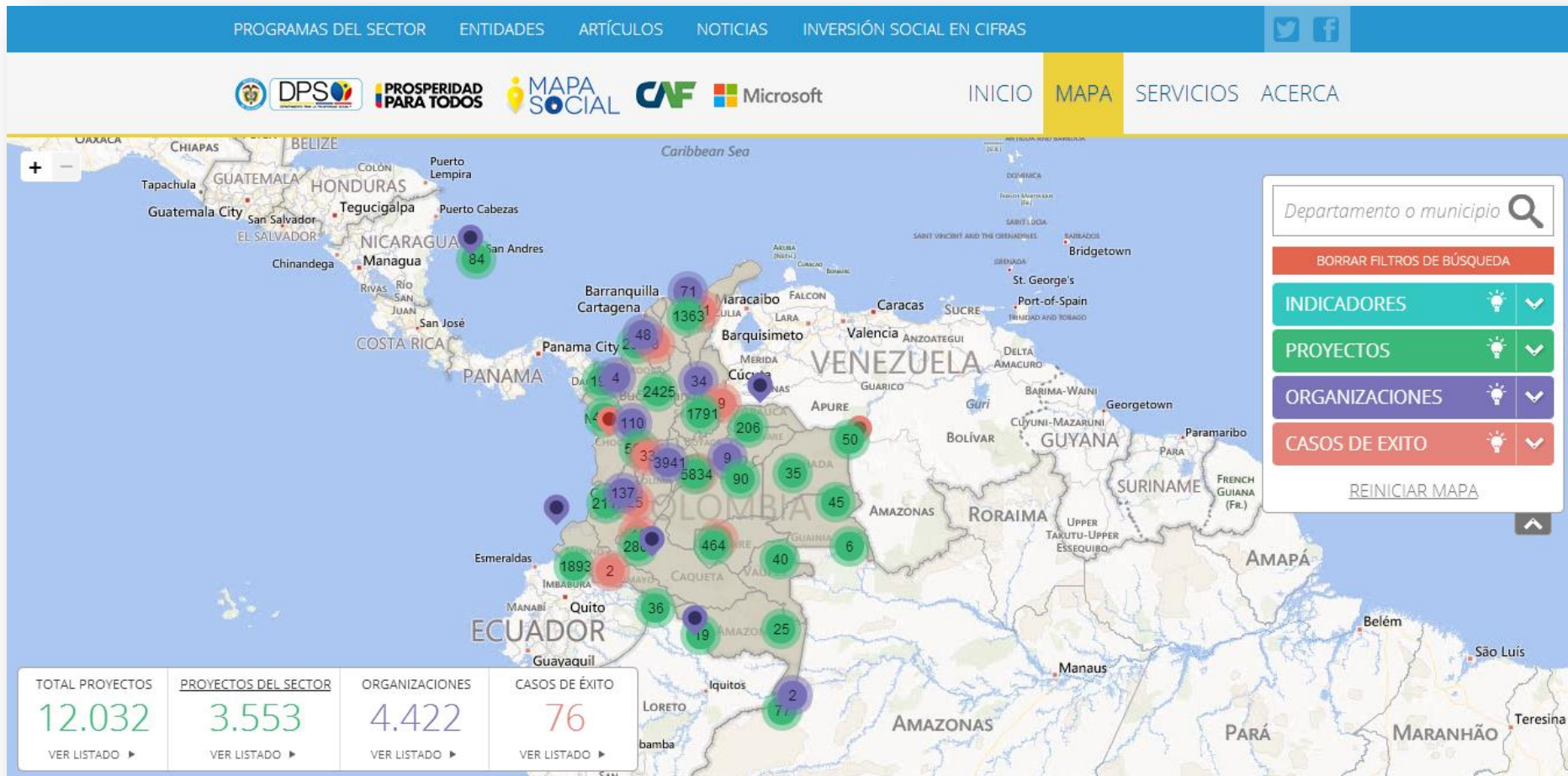
**Colleges and
Universities**



**Police and
Military
Forces**



Social Map: enables all Stakeholders to share activities



Multidimensional Poverty Peer Network

Alejandro Gaviria - Minister of Health and Social Protection

Gina Parody - Minister of Education

Luis Felipe Henao - Minister of Housing

Luis Ernesto Gómez - Vice Minister of employment

Roberto Angulo - OPHI Expert

Moderator: Jose Aguilar, Director of Horizonte Positivo





Minister of Health, Colombia

To advance on health, I need the support of my colleagues, as **what they do has a big influence on health.** The actions of the minister of environment, and housing, and drinking water programmes matter; so do the educational attainments of the populations.

We, in the ministry of health, have to find out what happened from our policies and investments. And here the MPI is a monitoring tool. We use the MPI to identify problems, and to inform citizens about the impact of our specific sectoral policies. It **makes change visible.**

MEXICO – SINCE 2009 – COORDINATES LEVELS & SECTORS

In order to built basic levels of social protection and guarantee social inclusion, Enrique Peña Nieto, President of Mexico, created the Cabinet *Mexico Incluyente*. Every Ministry at the federal level undertakes a full commitment to reduce social inclusion gaps related with the MMPI. SEDESOL coordinates the Cabinet Mexico Incluyente.

Cabinet *México Incluyente*

Education	<ul style="list-style-type: none"> • SEP • (CDI, INEA) 	Educational gap reduction
Healthcare	<ul style="list-style-type: none"> • SALUD, SEGOB 	Increase Healthcare memberships
Social Security	<ul style="list-style-type: none"> • SHCP-SALUD • (STPS-SEDESOL, IMSS, ISSSTE) 	Increase access to social security
Basic Services in Homes	<ul style="list-style-type: none"> • SEDESOL • (SEMARNAT-CONAGUA, CDI, SEDATU, CFE, SENER, SCT, CNA) 	Potable water, power, drainage
Housing, quality and spaces	<ul style="list-style-type: none"> • SEDATU • (SEDESOL, INFONAVIT) 	Floor, roof, walls, household overcrowding
Food Access	<ul style="list-style-type: none"> • SEDESOL • (SEP, SALUD, SAGARPA, DIF) 	Household food insecurity scale
Income	<ul style="list-style-type: none"> • ECONOMÍA (SEDESOL, CDI, SCT, SEMARNAT, SALUD-DIF, STPS, SEDATU, SAGARPA, SHCP, SRE) 	Income above the Basic Food Basket

**FULL COOPERATION
BETWEEN THE
FEDERAL
GOVERNMENT,
GOVERNMENTS FROM
ALL STATES AND
MUNICIPALITIES**

**NEW PARADIGM:
FROM THE
SECTORIAL GLANCE
TO A
INTERSECTORIAL
AND TRANSVERSAL
APPROACH**

Mexico **updates** its national MPI **every 2 years**, as does Chile (Colombia, Ecuador, Costa Rica, etc update every one year) to state level; every 5 years to municipality.

Data are collected by the Institute of Statistics.

Poverty measures are computed by CONEVAL – a separate autonomous institute.

The MPI is released officially **two weeks** after CONEVAL receives the micro-data.

The data are online, as are algorithms in Stata, SPSS, R etc.

The **methodology and main results** are available as a report and powerpoint

State level reports are generated, and CONEVAL visits many states to present state-level results.

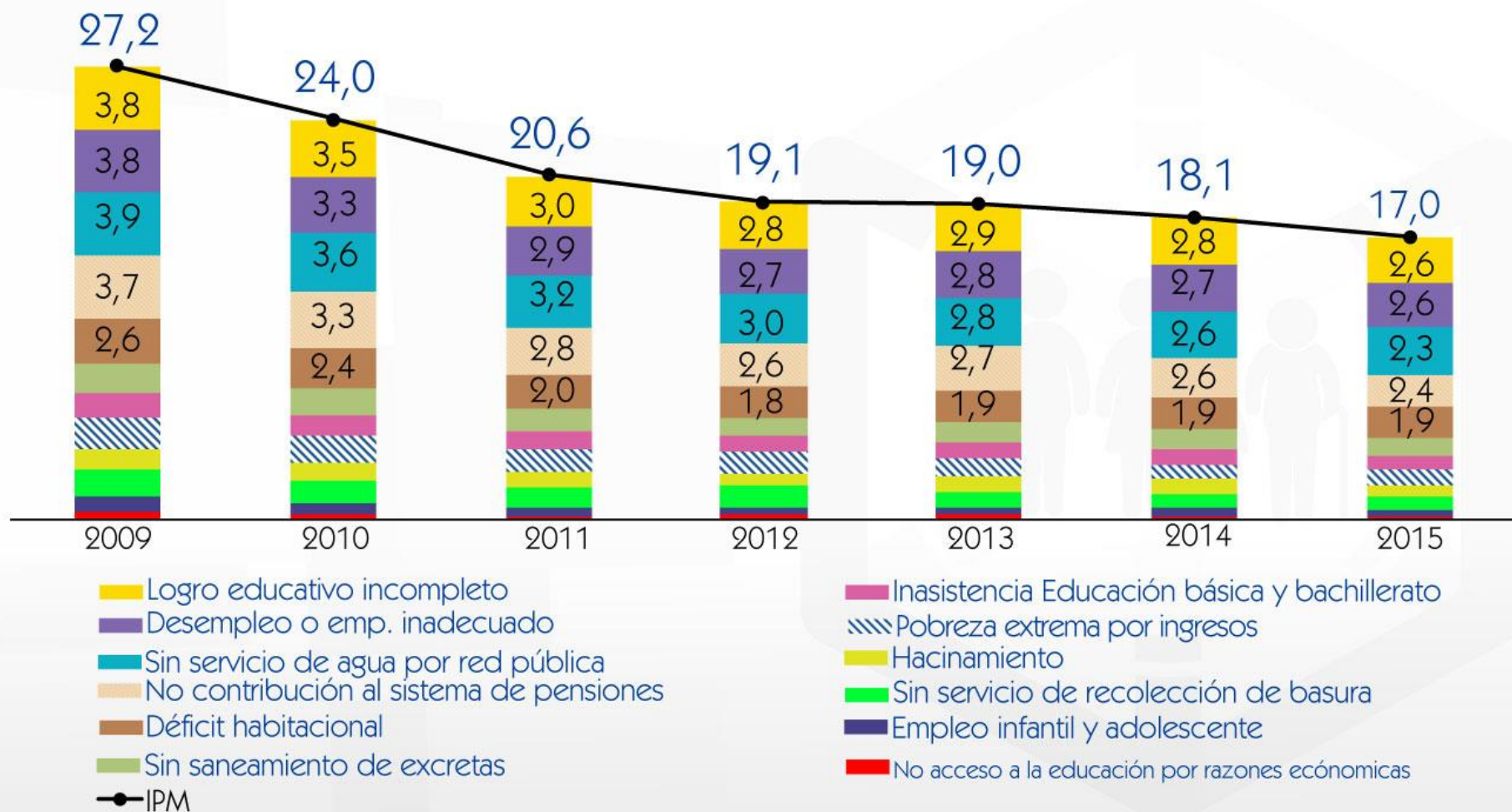
The MPI guides activities at all levels of government, and **electoral politics**.

Chile – January 2015

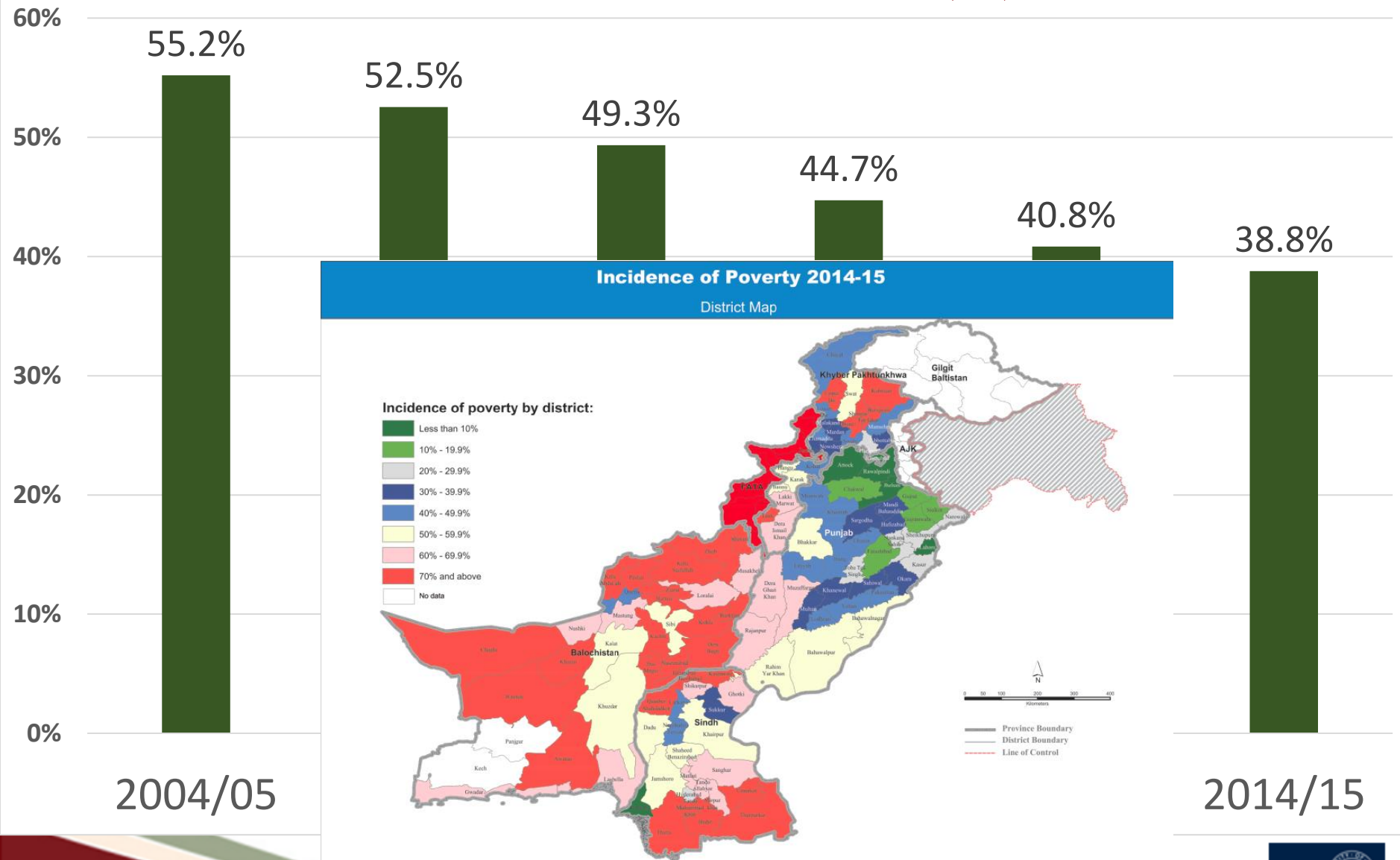


¿Por qué son pobres?

Descomposición del IPM



Pakistan's MPI Incidence (H), 2004-2015



Multidimensional Poverty Peer Network

MPPN has 40 countries, plus international agencies, in 2015



Political Voices

27 Sept 2015: Side-Event at UNGA



- **H.E. Mr. Luis Guillermo Solís Rivera**, President of **Costa Rica**
- **H.E. Mr. Tshering Tobgay**, Prime Minister of **Bhutan**
- **H.E. Mr. Juan Orlando Hernández**, President of **Honduras**
- **H.E. Mr. Kenny Anthony**, Prime Minister of **Saint Lucia**
- **H.E. Mr. Wu Hongbo**, Under-Secretary-General for Economic and Social Affairs, UN, delivering a message of the **UN Secretary General**

Plus 15 speakers from Philippines, Colombia, South Africa, Ecuador, Vietnam, Chile, Islamic Development Bank, Georgia, Panama, Arab League, Senegal, USAID, UNESCWA, Germany, and Mexico

Technical Voices

7 March 2016: Side-Event at UN Statistics Commission



Heads of Statistical Offices presented:

- Mauricio Perfetti, **Colombia**
- José Rosero, **Ecuador**
- Julio Santaella, **Mexico**
- Aboubacar Sedikh Beye, **Senegal**
- Pali Lehohla, **South Africa** (Chair)
- Hedi Saidi, **Tunisia**
- Sabina Alkire, Oxford & GW

Reflections from the floor were offered by chief statisticians in **Cuba, Egypt, Peru, Philippines, Morocco**, and by Martin Evans at **UNICEF**.

Tabita, Kenya

Rabiya, India

Stephanie, Madagascar

Agathe, Madagascar

Dalima, Kenya

Ann-Sophie, Kenya

Valerie, Madagascar



Questions

4. What policy uses of an MPI might be relevant?

Tabita, Kenya



Rabiya, India



Stephanie, Madagascar



Agathe, Madagascar



Dalima, Kenya



Ann-Sophie, Kenya

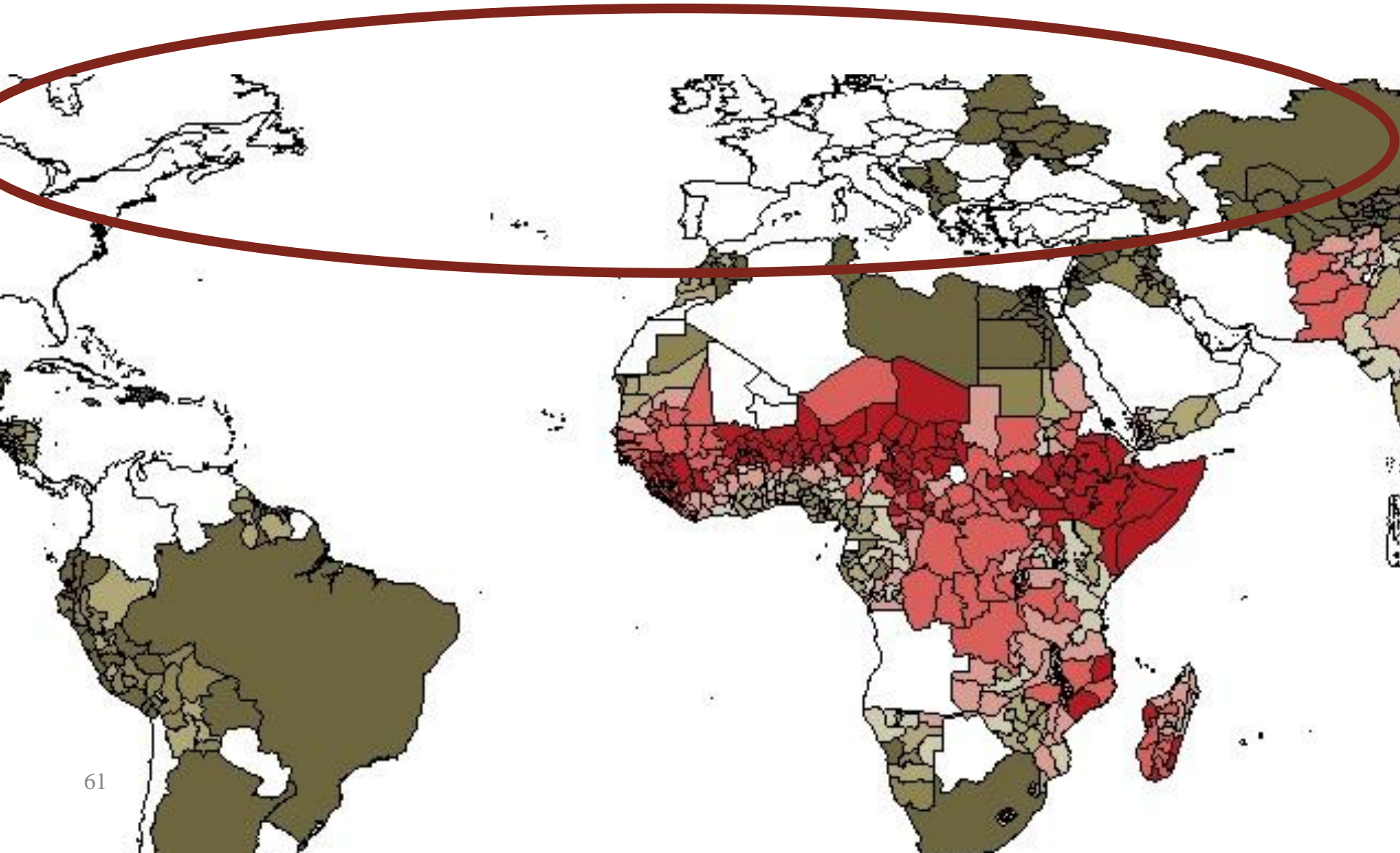


Valerie, Madagascar



MPI in UNECE

The Global MPI is missing for UNECE. Also,
UNECE would measure moderate poverty



National MPIs in UNECE countries

A number of investigations of national MPIs are under way.

Most are not as close to implementation as the national MPIs in Africa, Asia and Latin America.

Pioneers include Armenia, Mongolia, Turkey, and those presenting in the subsequent session.

Suggestion of Chapter 4:

That national MPIs in UNECE countries be developed where countries find they are useful, reflecting national priorities and datasets.

That UNECE countries identify a common subset of dimensions and indicator definitions, that are likely to be used in national MPIs, and could build a regional MPI.

The indicators could also reflect SDGs. Data and questionnaires could be shared.

Note: MPI is normally *less* data intensive than monetary poverty.

Creating a MPI

- Creation of MPI requires coordination of multiple actors to achieve 3 goals:
 - Technical rigour and correctness
 - Political ownership and policy relevant design & communications
 - Institutionalization as an official permanent statistic
- The first step is to establish the **purpose** of the measure to guide policy – includes data, periodicity, disaggregation, etc.
- **Technical team** presents technically rigorous options for a MPI to a political committee and iterate with them.
- **Policy committee** discusses how they will use the MPI, requests any improvements, and approves it.
- The MPI is **launched** by the Director of Statistics and a Senior Minister (e.g. of Planning), often with the Head of State.

Launch of IPM (February, 2016)

- Methodology and results
- International context and relevance
- Importance and use in public policy



Creating a MPI: Technical Resources

- All of the technical steps to building an MPI are documented in the 2015 OUP book (Alkire Foster Seth Santos Roche Ballon), and a forthcoming *Handbook*.
- Other resources available include:
 - Sample .do files and SPSS programmes
 - Sample country reports and powerpoints
 - Sample excel graphics files for reports and powerpoint
 - Sample websites
 - Sample press releases and communication strategies

Technical Point persons: Adriana.Conconi@qeh.ox.ac.uk ;
Bilal.Malaeb@qeh.ox.ac.uk

1. Explore potential indicators

- Objective: emphasis in components of the measure, specifically the indicators of each dimension.
 - Understand which information is being added to the index and how it will be possible to disaggregate the information on the MPI.
 - There are different ways to choose/construct indicators, even when the normative decisions are very clear.
- Steps:
 - Create universe of indicators: consider large set of available indicators (binary 0/1)
 - For each available indicator on the database, create different specifications (e.g. read, write, read&write, read or write)

27 Candidate indicators with data

Plus alternative cutoffs = 45 options

Years of schooling (>5, 10)

Years of schooling (>5, 10) - Male

Years of schooling (>5, 10) - Female

School Attendance (5-16) or (6-11)

School Attendance by gender (as above)

Educational quality

Can either read/write OR 5 years if educ

Access to health facility

Full immunization (<5), age appropriate

Sick and consulted doctor (<5)

**Prenatal care (women 15-49, birth within
3 years)**

**Institutional delivery (women 15-49, birth
3 years)**

**Health index (combining 5 indicators
above)**

Improved roof

Improved walls

Improved roof and walls

Improved roof or walls

**Overcrowding (4 or more people per
room/3)**

Electricity

Sanitation

Water

Cooking Fuel

Assets (small & large groupings)

Assets 2 (connectivity & appliances)

Landless or low land holdings

Lacking livestock

Combined Assets + Land + Livestock

1. Explore potential indicators

- Examples
 - When individual info is aggregated to create indicator at hh level
 - No member, every member, members aged a-b, x% of hh, every woman in the hh, etc.
 - Test different deprivation cut-offs
- Result: set of available indicators on the data, to be contrasted against normative decisions
 - *Product: table with different indicators and proportion of people deprived in each of them.*

Uncensored H for applicable pop

Uncensored H for national population

			2009															
			Incidencia %															
			Poblacion Relevante		Poblacion Total		Valores Perdidos		CV(%)	Poblacion Relevante		Poblacion Total		Valores Perdidos		CV(%)		
Dimensión	Componente		Individuos	Hogares	Individuos	Hogares	Individuos	Hogares		Individuos	Hogares	Individuos	Hogares	Individuos	Hogares			
Educación	Asistencia	Opción 1: 4 a 18 años + discapacitados de 6 a 26 años	6.6%	9.6%	1.5%	4.7%	0.0%	0.0%	2.8%	5.7%	7.9%	1.2%	3.6%	0.0%	0.0%	4.9		
		Opción 2: 4 a 21 años + discapacitados de 6 a 26 años	18.1%	27.1%	5.4%	16.1%	0.0%	0.0%	1.6%	9.7%	12.4%	2.0%	6.0%	0.0%	0.0%	3.9		
		Opción 3: 4 a 18 años	8.2%	12.5%	2.0%	6.4%	0.0%	0.0%	2.4%	5.2%	7.9%	1.2%	3.6%	0.0%	0.0%	5.4		
	Rezago escolar	Opción 1: 2 o más años de rezago	5.9%	7.9%	1.1%	3.5%	0.0%	0.0%	3.9%	5.0%	7.9%	1.2%	3.6%	0.0%	0.0%	5.7		
		Opción 1: 2 o más años de rezago & <=21 años	5.0%	6.8%	0.9%	2.9%	0.0%	0.0%	4.4%	5.0%	7.9%	1.2%	3.6%	0.0%	0.0%	5.6		
	Escolaridad	Opción 1: mayores a 18 años x ley de acuerdo a edad de egreso	22.1%	34.0%	14.4%	33.7%	0.0%	0.0%	1.3%	2.4%	34.2%	14.7%	33.7%	0.0%	0.0%	1.7		
		Opción 2: mayores de 18 a 60 años M y 65 años H 12 años y <60 M / <65 H según vigencia ley para su edad	40.9%	55.1%	26.6%	54.6%	0.0%	0.0%	1.1%	3.8%	54.3%	26.4%	53.6%	0.0%	0.0%	1.4		
		Opción 3: mayores a 18 años hasta los 65 años x ley de acuerdo a edad de egreso	21.0%	30.9%	11.6%	28.0%	0.0%	0.0%	1.5%	2.4%	28.3%	10.6%	25.3%	0.0%	0.0%	2.1		
	Nivel de Aprendizaje	Opción 1: 1 a 3 años	18.1%	21.8%	3.5%	9.9%	0.0%	0.0%	2.5%	1.9%	21.9%	2.9%	8.2%	21.1%	16.1%	3.6		
	Salud	Desnutricion	Niños de 0 a 6 años	3.4%	3.8%	0.3%	1.0%	3.0%	2.7%	6.4%	4.1%	0.4%	1.1%	1.0%	1.0%	7.3		
Embarazadas			6.1%	6.1%	6.1%	6.1%	1.1%	1.1%	13.5%	4.6%	0.1%	0.3%	2.4%	2.2%	23.6			
Adultos Mayores			8.9%	11.4%	3.3%	3.1%	3.4%	8.9%	10.2%	1.2%	3.8%	2.2%	2.2%	4.6				
Embarazadas o Amamantando			8.7%	11.4%	3.3%	3.1%	3.4%	8.9%	10.2%	1.2%	3.8%	2.2%	2.2%	4.6				
Agregado			6.7%	7.2%	1.2%	0.9%	3.3%	6.3%	3.3%	1.7%	5.1%	1.8%	1.3%	4.0				
Sobre peso u obesidad		Niños	11.1%	11.1%	1.1%	1.1%	2.7%	3.8%	14.1%	6.6%	1.4%	4.1%	1.0%	1.0%	4.0			
		Embarazadas	12.2%	12.2%	1.1%	1.1%	1.1%	9.5%	2.7%	0.0%	0.2%	2.4%	2.2%	12.7				
		Adultos Mayores	1.5%	1.5%	0.0%	0.0%	0.0%	7.4%	1.9%	0.3%	0.8%	2.2%	2.2%	8.6				
		Embarazadas o Amamantando	2.0%	2.0%	0.1%	0.1%	0.1%	6.2%	1.9%	0.3%	1.0%	2.3%	2.1%	7.6				
		Agregado	5.4%	7.2%	1.2%	0.9%	3.3%	6.3%	3.3%	1.7%	5.1%	1.8%	1.3%	3.5				
Malnutricion		Niños de 0 a 6 años	14.5%	16.3%	1.3%	4.3%	3.0%	2.7%	3.3%	17.7%	5.1%	1.0%	1.0%	3.5				
		Embarazadas o Amamantando	18.2%	18.2%	1.1%	1.1%	1.1%	7.4%	2.4%	2.4%	2.2%	2.2%	2.2%	15.3				
		Adultos Mayores	10.0%	12.9%	10.0%	12.9%	0.0%	0.0%	3.7%	2.2%	2.2%	2.2%	2.2%	4.1				
		Embarazadas o Amamantando + Adultos Mayores	10.5%	13.4%	10.5%	13.4%	0.1%	0.1%	3.7%	2.3%	2.1%	2.1%	2.1%	3.9				
		Opción: Agregado	12.0%	15.8%	3.0%	9.5%	1.2%	0.9%	3.7%	2.3%	2.1%	2.1%	2.1%	2.7				
Adscripción a Sistema Previsional de Salud	Opción 1: No controla por otro seguro	3.6%	7.9%	3.6%	7.9%	1.8%	0.4%	3.6%	1.8%	0.3%	0.3%	0.3%	3.5					
	Opción 2: Controlando por otro seguro de salud	3.6%	7.9%	3.6%	7.9%	1.8%	0.4%	3.6%	1.8%	0.3%	0.3%	0.3%	3.6					
Acceso a Salud 1	Acceso a salud 3 Meses														13.1			
	Acceso a salud AUGE	73.4%	73.8%	17.6%	19.0%	0.0%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	0.0%	4.4				
	Opción 1: Acceso a salud agregado														4.1			

Period 2

Indicator Definition Options

Missing Values

Coefficient of Variation

1. Explore potential indicators

- Additional considerations:
 - Understand which is the applicable population (e.g. nutritional info & vaccinations only available for children under 5)
 - Compute missing values among applicable population for each indicator (limit of 15%, for instance)
 - Attention when coding: only consider applicable population (e.g. school attendance only for school-aged children)
 - *Product: Include in the table column indicating applicable population and missing values*
 - Note: applicable population and missing values important to determine weights, so not to overestimate the incidence of a particular deprivation (e.g. vaccinations for children 0-2: applicable population is small % of total population, lower weight??)

1. Explore potential indicators

- Additional considerations:
 - Understand association/redundancy among indicators
 - Results must be consider jointly with the normative decisions, the timing in which each deprivation happens and policy priorities
 - Generally, empirical tests are used as source of information but the decision of dropping an indicators is not directly derived from them
 - *Product: table with different indicators, the deprivation rates, and indices of correlation, redundancy and association*

Redundancy across uncensored headcount ratios

percentage of people who could be deprived in both indicators who actually are.

	<i>q-jobless</i>	<i>sev. mat dep</i>	<i>education</i>	<i>noise</i>	<i>pollution</i>	<i>crime</i>	<i>housing</i>	<i>health</i>	<i>chr. illness</i>	<i>morbidity</i>	<i>u.m. needs</i>
<i>AROP</i>	0.27	0.22	0.09	0.03	0.01	0.03	0.1	0.07	0.03	0.05	0.06
<i>q-jobless</i>	1	0.18	0.06	0.04	0.02	0.05	0.07	0.11	0.09	0.1	0.05
<i>sev. mat dep</i>		1	0.07	0.06	0.05	0.06	0.18	0.12	0.05	0.07	0.14
<i>education</i>			1	-0.01	-0.01	-0.01	0.06	0.19	0.14	0.12	0.02
<i>noise</i>				1	0.41	0.25	0.12	0.03	0.04	0.03	0.05
<i>pollution</i>					1	0.25	0.1	0.03	0.05	0.03	0.05
<i>crime</i>						1	0.09	0.03	0.05	0.03	0.05
<i>housing</i>							1	0.07	0.04	0.04	0.08
<i>health</i>								1	0.42	0.55	0.11
<i>chr. illness</i>									1	0.39	0.1
<i>morbidity</i>										1	0.08
<i>u.m. needs</i>											1

Redundancy: ratio of percentage deprived in both indicators to minimum of the two total deprivation headcount ratios

2. Create trial measures

- Objective: assign pre-selected indicators to each dimension, set weights and compute several MPIs, in order to find a final MPI that works and is robust.
 - Assign indicators to dimensions
 - Political considerations: based on legislation, national plan, participatory process, etc. (e.g. water can be a health indicator or a living standard indicator)
 - Technical considerations (weights): for example, if weights are pre-set normatively

5 Trial Indices

Domain	Indicators	A	B	C	D	E
Education	Schooling	x	x	x	x	x
	Attainment	x	x	x	x	
Health	Nutrition	x	x	x	x	x
	Functioning	x	x	x	x	x
	Access to health care			x		
Housing	Housing Materials	x	x	x	x	x
	Overcrowding	x	x	x	x	
Work	Dangerous work	x	x		x	x
	Informal work	x	x	x	x	x
	Unsafe Work	x	x		x	x
	Seasonal / underemployment	x	x	x	x	x
	Unemployment	x	x	x	x	x
Environment	Waste disposal	x		x		
	Green spaces to play		x	x		
	Crime		x	x		
Services	Clean Water			x	x	
	Adequate Sanitation			x	x	x
	Clean Energy			x	x	x

3. Analyze trial measures

- Objective: compute H, A and MPI for each trial measure, rates (censored and uncensored) and contribution of each indicator.
 - When comparing measures is important to remember the purpose of the MPI
 - Disaggregate by regions, ethnic groups, gender, age groups, etc. Compare *trends* with monetary income results
 - Don't let the *level* of H, A and MPI determine the decision of which measure to use
 - *Product: table with H, A, MPI, rate, contributions for each trial measure, and break-downs. Also, associated figures.*

3. Analyze trial measures

- This first set of trial measure gives place to debate and discussion by different relevant actors (experts, political committee, etc.)
 - Next step is adjust measures based on their suggestions and feedback and recompute (sequential process)
 - Prepare non-technical document explaining measure (and each step that led to it)
 - This can be done relatively fast – in turn political process can take significant amount of time

Communication of the MPI throughout the process

- It is crucial to communicate and be transparent during the whole process of creating a MPI
 - After creating universe of indicators with deprivation rates and missing values, communication is useful to guide team in which ones to keep and which to drop
 - After creating trial measures, communication is essential to check and legitimize

Dimensions in National MPIs

Bhutan Chile Costa Rica Colombia Ecuador El Salvador Mexico Minas Gerais (Brazil) Ho Chi Minh City Pakistan

Education	x	x	x	x	x		x	x	x	x
Education and childhood						x				
Health	x	x	x	x				x		x
Health, water and nutrition					x					
Health and food security										
Access to Health Care										
Access to Food										
Standard of living	x									
Housing										
Housing & Services										
Basic home services										
Work										
Work and Social Security										
Access to Social Security										
Insurance and Social Assistance										
Childhood & Youth										
Security & Environment										
Income							x			
Information Accessibility									x	

Nearly all measures to date contain:

Education

Health

Standard of Living

Work

Are these relevant?

Tabita, Kenya

Rabiya, India

Stephanie, Madagascar

Agathe, Madagascar

Dalima, Kenya

Ann-Sophie, Kenya

Valerie, Madagascar

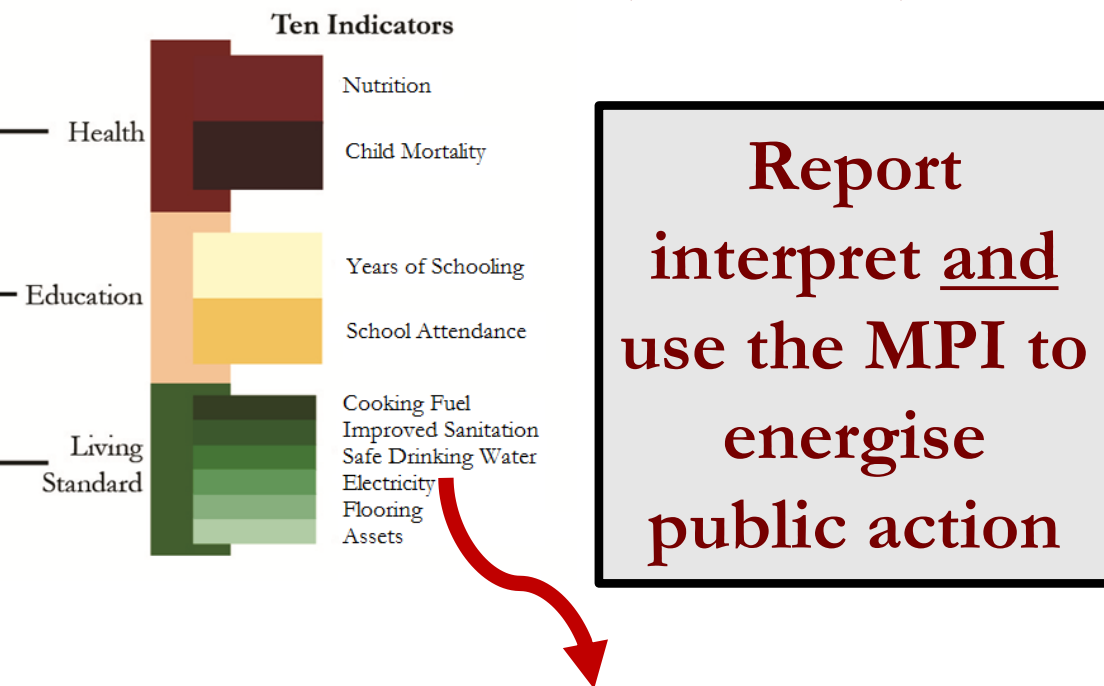


Questions

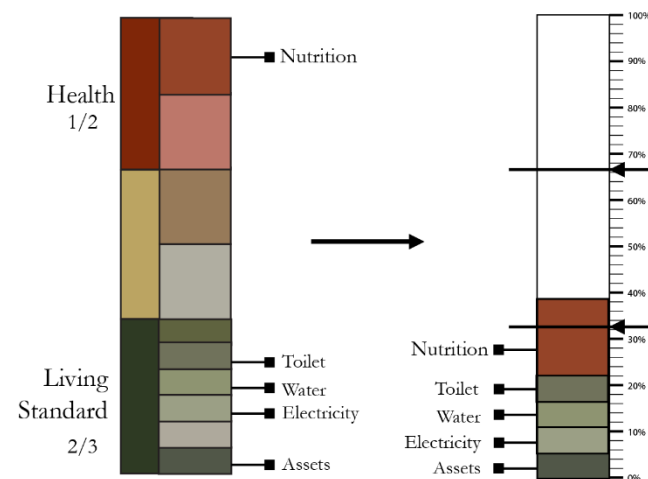
1. What dimensions and indicators would be relevant to your country?
2. What survey would you use?
3. What indicators do you have already?

Methodology for the National and Global MPIs

1. Select Indicators, Cutoffs, Values



3. Identify who is poor



Build a deprivation score for each person

