The process of developing multidimensional poverty measures

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UNECE workshop on harmonisation of poverty statistics
Geneva, 11 July 2016
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?
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.
- 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

<table>
<thead>
<tr>
<th>Dimension (Weight)</th>
<th>Indicator (Weight)</th>
<th>Deprivation Cut-off</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health (1/3)</td>
<td>Nutrition (1/6)</td>
<td>Any adult or child in the household with nutritional information is undernourished(^1)</td>
</tr>
<tr>
<td></td>
<td>Child mortality (1/6)</td>
<td>Any child has died in the household(^2) in the past 5 years</td>
</tr>
<tr>
<td>Education (1/3)</td>
<td>Years of schooling (1/6)</td>
<td>No household member has completed five years of schooling</td>
</tr>
<tr>
<td></td>
<td>Child school attendance (1/6)</td>
<td>Any school-aged child in the household is not attending school up to class 8(^3)</td>
</tr>
<tr>
<td>Standard of Living (1/3)</td>
<td>Access to electricity (1/18)</td>
<td>The household has no electricity</td>
</tr>
<tr>
<td></td>
<td>Access to improved sanitation (1/18)</td>
<td>The household’s sanitation facility is not improved or it is shared with other households</td>
</tr>
<tr>
<td></td>
<td>Access to safe drinking water (1/18)</td>
<td>The household does not have access to safe drinking water or safe water is more than 30 minutes walk round trip</td>
</tr>
<tr>
<td></td>
<td>Type of flooring material (1/18)</td>
<td>The household has a dirt, sand or dung floor</td>
</tr>
<tr>
<td></td>
<td>Type of cooking fuel (1/18)</td>
<td>The household cooks with dung, wood or charcoal.</td>
</tr>
<tr>
<td></td>
<td>Asset ownership (1/18)</td>
<td>The household does not own more than one of: radio, TV, telephone, bike, motorbike or refrigerator, and does not own a car or truck</td>
</tr>
</tbody>
</table>

\(^1\) An adult is considered undernourished if his/her BMI is below 18.5 m/kg

\(^2\) A child is considered undernourished if his/her body weight, adjusted for age, is more than two standard deviations below the median of the reference population. Precisely, a z-score is calculated for each child and the child is identified as deprived in nutrition if and only if his/her z-score is less than −2. If a household has no woman or child whose nutritional status has been measured, we treat the household to be non-deprived in this indicator. To guarantee strict comparability of the nutritional indicators for children across surveys, the z-score has been estimated following the algorithm provided by the WHO Child Growth Standards. This algorithm uses a reference population constructed by the WHO Multicentre Growth Reference Study (MGRS).

\(^3\) If no woman in a household has been asked this information, we treat the household to be non-deprived in this indicator. If a household has no school-aged children, we treat the household as non-deprived in this indicator. The data source used to determine the age children start schooling is: United Nations Educational, Scientific and Cultural Organization, Institute for Statistics database, Table 1. Education systems [UIS, http://stats.uis.unesco.org/unesco/TableViewer/tableView.aspx?ReportId=163 accessed 20-12-2011].
Identification: Who is poor?

A person who is deprived in $\frac{1}{3}$ 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.

Poverty 33.33% Cutoff:
How do you calculate the MPI?

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

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

2) **Intensity of people’s deprivation** ($A$) $\sim$ 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
<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>MPI</th>
<th>H</th>
<th>A Intensity</th>
<th>$1.90/day</th>
<th>$3.10/day</th>
<th>National poverty line</th>
<th>Income category</th>
<th>GNI/capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Namibia</td>
<td>2013</td>
<td>0.193</td>
<td>42.0</td>
<td>46.0</td>
<td>22.6</td>
<td>2009</td>
<td>45.7</td>
<td>Upper MIC</td>
<td>5,630</td>
</tr>
<tr>
<td>Cameroon</td>
<td>2011</td>
<td>0.248</td>
<td>46.0</td>
<td>53.8</td>
<td>29.3</td>
<td>2007</td>
<td>54.3</td>
<td>Lower MIC</td>
<td>1,350</td>
</tr>
<tr>
<td>Togo</td>
<td>2013/14</td>
<td>0.252</td>
<td>50.1</td>
<td>50.4</td>
<td>54.2</td>
<td>2011</td>
<td>74.5</td>
<td>Low income</td>
<td>570</td>
</tr>
<tr>
<td>Mauritania</td>
<td>2011</td>
<td>0.285</td>
<td>52.2</td>
<td>54.6</td>
<td>10.9</td>
<td>2008</td>
<td>32.5</td>
<td>Lower MIC</td>
<td>1,270</td>
</tr>
<tr>
<td>Nigeria</td>
<td>2013</td>
<td>0.303</td>
<td>53.2</td>
<td>56.8</td>
<td>53.5</td>
<td>2009</td>
<td>76.5</td>
<td>Lower MIC</td>
<td>2,970</td>
</tr>
<tr>
<td>Malawi</td>
<td>2013/14</td>
<td>0.265</td>
<td>56.0</td>
<td>47.4</td>
<td>70.9</td>
<td>2010</td>
<td>87.6</td>
<td>Low income</td>
<td>250</td>
</tr>
<tr>
<td>Zambia</td>
<td>2013/14</td>
<td>0.281</td>
<td>56.6</td>
<td>49.8</td>
<td>64.4</td>
<td>2010</td>
<td>78.9</td>
<td>Lower MIC</td>
<td>1,680</td>
</tr>
<tr>
<td>Senegal</td>
<td>2014</td>
<td>0.309</td>
<td>56.9</td>
<td>54.3</td>
<td>38.0</td>
<td>2011</td>
<td>66.3</td>
<td>Lower MIC</td>
<td>1,050</td>
</tr>
<tr>
<td>Cote d’Ivoire</td>
<td>2011/12</td>
<td>0.310</td>
<td>58.7</td>
<td>52.8</td>
<td>29.0</td>
<td>2008</td>
<td>55.1</td>
<td>Lower MIC</td>
<td>1,450</td>
</tr>
<tr>
<td>Gambia</td>
<td>2013</td>
<td>0.323</td>
<td>60.4</td>
<td>53.4</td>
<td>45.3</td>
<td>2003</td>
<td>68.0</td>
<td>Low income</td>
<td>460</td>
</tr>
<tr>
<td>Benin</td>
<td>2011/12</td>
<td>0.307</td>
<td>62.2</td>
<td>49.3</td>
<td>53.1</td>
<td>2011</td>
<td>75.6</td>
<td>Low income</td>
<td>890</td>
</tr>
<tr>
<td>Tanzania</td>
<td>2010</td>
<td>0.332</td>
<td>65.6</td>
<td>50.7</td>
<td>46.6</td>
<td>2011</td>
<td>76.1</td>
<td>Low income</td>
<td>920</td>
</tr>
</tbody>
</table>
The MPI can be broken down by indicator:

- **Education**
  - Years of Schooling
  - School Attendance

- **Health**
  - Child Mortality
  - Nutrition

- **Living Standards**
  - Electricity
  - Sanitation
  - Drinking
  - Floor
  - Cooking
  - Assets

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

Average Intensity of Poverty (A) vs Incidence - Percentage of MPI Poor People (H)

Nepal 2006
Nepal 2011
Decomposition By Region (or social group) – shows inequalities.
How did MPI go down?

Monitor reductions in each indicator
Indicator Changes by region or group: Governance

Annualized Absolute Change in proportion who is poor and deprived in...
Global MPI: Headline + Disaggregated detail
+ Changes over time for each of these indicators (States of India)
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?
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

12.6% Income poor

5.5% MPI poor

12.6% MPI poor
Chile’s national income poverty and national MPI measures complement each other.

14.4% Income Poor

20.4% MPI poor

14.4% Income Poor

20.4% MPI poor

5.5%
Changes do not match changes in income poverty alone
Questions

3. Would multidimensional poverty measures meet a need in your context? How or why?
Using the MPI for Policy:

National Examples
MPIs: Two kinds ~ both useful

Global MPI:
- presently estimated by OPHI & UNDP’s HDRO & some ctries
- 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
# 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:

<table>
<thead>
<tr>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutan</td>
</tr>
<tr>
<td>Ecuador</td>
</tr>
<tr>
<td>Honduras</td>
</tr>
<tr>
<td>Mexico</td>
</tr>
<tr>
<td>Philippines</td>
</tr>
<tr>
<td>Peru</td>
</tr>
<tr>
<td>Seychelles</td>
</tr>
<tr>
<td>Vietnam</td>
</tr>
<tr>
<td>Colombia</td>
</tr>
</tbody>
</table>
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
- Budget Allocation
- M&E
- Policy coordination
- Sectoral planning
- 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
Poverty from the view of its protagonists

Participatory study used to design MPI indicators in El Salvador

“Water drips through the holes in the roof, and floods the outside. Inside the house it’s the same story.”
Isidra, from Ayutuxtepeque

"One is worried about losing the thing one has" → "You don’t go out because you need to take care of the house" → Restrictions due to insecurity

"The day I went out, I got robbed" → Crime

"If I had been educated..." → "We won’t continue our studies" → Lack of school attendance

"This year we won’t go to school, we won’t be able until next year" → Educational underachievement

"It is hard to find someone to take care of the kids" → Inadequate child care services
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)

<table>
<thead>
<tr>
<th>Región</th>
<th>Intensidad</th>
<th>Incidencia</th>
<th>Presupuesto Ejecutado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>25.86</td>
<td><strong>15.17</strong></td>
<td>$205,544,667.095,39</td>
</tr>
<tr>
<td>Chorotega</td>
<td>29.01</td>
<td>31.37</td>
<td>$57,097,420.823,67</td>
</tr>
<tr>
<td>Pacífico Central</td>
<td>26.74</td>
<td>26.21</td>
<td>$47,887,090.732,15</td>
</tr>
<tr>
<td>Brunca</td>
<td>27.61</td>
<td><strong>32.69</strong></td>
<td>$75,485,318.073,71</td>
</tr>
<tr>
<td>Huetar Atlántica</td>
<td>28.29</td>
<td>35.80</td>
<td>$59,669,482.377,32</td>
</tr>
<tr>
<td>Huetar Norte</td>
<td>29.08</td>
<td><strong>32.73</strong></td>
<td>$60,436,320.304,36</td>
</tr>
<tr>
<td>Nacional</td>
<td>27.22</td>
<td>21.66</td>
<td>$514,225,278.725,60</td>
</tr>
</tbody>
</table>
Does our allocation match our levels of poverty by sector? (Not yet)

<table>
<thead>
<tr>
<th>Indicador</th>
<th>% Carencia</th>
<th>Presupuesto Ejecutado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sin acceso a educación</td>
<td>22,8%</td>
<td>€217,477,650,077.62</td>
</tr>
<tr>
<td>Rezago educativo</td>
<td>27,6%</td>
<td>€0</td>
</tr>
<tr>
<td>Sin bachillerato</td>
<td>27,6%</td>
<td>€0</td>
</tr>
<tr>
<td>Bajo capital humano</td>
<td>61,3%</td>
<td>€8,570,200,000.00</td>
</tr>
</tbody>
</table>

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

To follow up the control panels for each of the indicators

15 Members

Meet with the President

Review the control panel

Social Inclusion and Productive Table

Design, identify and define programmes to meet the objectives

9 Members

Different levels of articulation, with meetings weekly, fortnightly, and monthly

Specific Goals

Focus on double Inclusion

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Linea Base</th>
<th>Date 2011</th>
<th>Date 2012</th>
<th>Analysis</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inequality (HDI)</td>
<td>0.6%</td>
<td>12.0%</td>
<td>12.3%</td>
<td>★</td>
<td>12.0%</td>
</tr>
<tr>
<td>School attendance (6-14)</td>
<td>5.4%</td>
<td>8.4%</td>
<td>4.1%</td>
<td>★</td>
<td>3.3%</td>
</tr>
<tr>
<td>Access to child care services (0-5)</td>
<td>52.1%</td>
<td>10.8%</td>
<td>5.4%</td>
<td>★</td>
<td>19.6%</td>
</tr>
<tr>
<td>Children ill-serving (1-19)</td>
<td>5.5%</td>
<td>6.1%</td>
<td>3.7%</td>
<td>★</td>
<td>2.9%</td>
</tr>
<tr>
<td>Long-term unemployment</td>
<td>6.0%</td>
<td>5.1%</td>
<td>3.0%</td>
<td>★</td>
<td>3.2%</td>
</tr>
<tr>
<td>Formal employment</td>
<td>60.0%</td>
<td>80.0%</td>
<td>98.0%</td>
<td>★</td>
<td>97.4%</td>
</tr>
<tr>
<td>Health insurance</td>
<td>24.0%</td>
<td>19.0%</td>
<td>17.0%</td>
<td>★</td>
<td>16.3%</td>
</tr>
<tr>
<td>Access to health services</td>
<td>6.8%</td>
<td>8.2%</td>
<td>6.9%</td>
<td>★</td>
<td>0.8%</td>
</tr>
<tr>
<td>Access to drinking water</td>
<td>32.9%</td>
<td>32.9%</td>
<td>33.8%</td>
<td>★</td>
<td>18.9%</td>
</tr>
<tr>
<td>Access to sewage system</td>
<td>58.1%</td>
<td>15.5%</td>
<td>17.3%</td>
<td>★</td>
<td>11.3%</td>
</tr>
<tr>
<td>Access to pelvis</td>
<td>7.0%</td>
<td>6.3%</td>
<td>5.3%</td>
<td>★</td>
<td>5.3%</td>
</tr>
<tr>
<td>Adequate external</td>
<td>3.3%</td>
<td>3.2%</td>
<td>2.9%</td>
<td>★</td>
<td>2.1%</td>
</tr>
<tr>
<td>No child undernourished</td>
<td>35.7%</td>
<td>14.2%</td>
<td>15.3%</td>
<td>★</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

*** Change 2011-2012 est. significant
<table>
<thead>
<tr>
<th>Pobreza</th>
<th>Línea Base PND 2008</th>
<th>Dato 2011</th>
<th>Dato 2012</th>
<th>Análisis</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPI (Multidimensional Poverty)</td>
<td>34.7%</td>
<td>29.4%</td>
<td>27.0%</td>
<td>⬤</td>
<td>22.5%</td>
</tr>
<tr>
<td>A</td>
<td>Educational achievement (≥15 yrs)</td>
<td>58.8%</td>
<td>54.6%</td>
<td>53.1%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Literacy (≥15 yrs)</td>
<td>14.2%</td>
<td>12.0%</td>
<td>12.1%</td>
<td>⬤</td>
</tr>
<tr>
<td>B</td>
<td>School attendance (6-16)</td>
<td>5.4%</td>
<td>4.8%</td>
<td>4.1%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>No school lag (7-17)</td>
<td>33.4%</td>
<td>34.1%</td>
<td>33.3%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Access to child care services (0-5)</td>
<td>12.1%</td>
<td>10.8%</td>
<td>9.4%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Children not working (12-17)</td>
<td>5.5%</td>
<td>4.5%</td>
<td>3.7%</td>
<td>⬤</td>
</tr>
<tr>
<td>C</td>
<td>Long-term unemployment</td>
<td>9.6%</td>
<td>9.1%</td>
<td>10.0%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Formal employment</td>
<td>80.6%</td>
<td>80.4%</td>
<td>80.0%</td>
<td>⬤</td>
</tr>
<tr>
<td>D</td>
<td>Health insurance</td>
<td>24.2%</td>
<td>19.0%</td>
<td>17.9%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Access to health services</td>
<td>8.9%</td>
<td>8.2%</td>
<td>6.6%</td>
<td>⬤</td>
</tr>
<tr>
<td>E</td>
<td>Access to water source</td>
<td>12.9%</td>
<td>12.0%</td>
<td>12.3%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Adequate sewage system</td>
<td>14.1%</td>
<td>14.5%</td>
<td>12.1%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Adequate floors</td>
<td>7.5%</td>
<td>6.3%</td>
<td>5.9%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>Adequate external walls</td>
<td>3.1%</td>
<td>3.2%</td>
<td>2.2%</td>
<td>⬤</td>
</tr>
<tr>
<td></td>
<td>No critical overcrowding</td>
<td>15.7%</td>
<td>14.2%</td>
<td>13.1%</td>
<td>⬤</td>
</tr>
</tbody>
</table>

*** Change 2011-2012 est. significant
2012-2013 policies
• CCT to increase human capital and youth employment
  “Jóvenes en Acción”

2013 Alerts:
- Social mobility
- Youth unemployment
Colombia: a more efficient market for social investment

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.
In order to build 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.

<table>
<thead>
<tr>
<th>Cabinet México Incluyente</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>• SEP</td>
</tr>
<tr>
<td>• (CDI, INEA)</td>
</tr>
<tr>
<td><strong>Healthcare</strong></td>
</tr>
<tr>
<td>• SALUD, SEGOB</td>
</tr>
<tr>
<td><strong>Social Security</strong></td>
</tr>
<tr>
<td>• SHCP-SALUD</td>
</tr>
<tr>
<td>• (STPS-SEDESOL, IMSS, ISSSTE)</td>
</tr>
<tr>
<td>• SEDESOL</td>
</tr>
<tr>
<td>• (SEMARNAT-CONAGUA, CDI, SEDATU, CFE, SENER, SCT, CNA)</td>
</tr>
<tr>
<td><strong>Basic Services in Homes</strong></td>
</tr>
<tr>
<td>• SEDATU</td>
</tr>
<tr>
<td>• (SEDESOL, INFONAVIT)</td>
</tr>
<tr>
<td><strong>Housing, quality and spaces</strong></td>
</tr>
<tr>
<td>• SEDESOL</td>
</tr>
<tr>
<td>• (SEP, SALUD, SAGARPA, DIF)</td>
</tr>
<tr>
<td><strong>Food Access</strong></td>
</tr>
<tr>
<td>• SEDESOL</td>
</tr>
<tr>
<td>• (SEDESOL, CDI, SCT, SEMARNAT, SALUD-DIF, STPS, SEDATU, SAGARPA, SHCP, SRE)</td>
</tr>
<tr>
<td><strong>Income</strong></td>
</tr>
</tbody>
</table>

**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

**Educación**
- Asistencia
- Rezago Escolar
- Escolaridad

**Salud**
- Malnutrición en Niños (0 a 6 años)
- Adscripción a Sistema de Salud
- Atención

**Trabajo y Seguridad Social**
- Ocupación
- Seguridad Social
- Jubilaciones

**Vivienda**
- Hacinamiento
- Estado de la Vivienda
- Servicios Básicos
Ecuador – February 2016

¿Por qué son pobres?

Descomposición del IPM

- Logro educativo incompleto
- Desempleo o emp. inadecuado
- Sin servicio de agua por red pública
- No contribución al sistema de pensiones
- Déficit habitacional
- Sin saneamiento de excreta

Índice De Pobreza Multidimensional

2009: 27.2
2010: 24.0
2011: 20.6
2012: 19.1
2013: 19.0
2014: 18.1
2015: 17.0
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
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.
Questions

4. What policy uses of an MPI might be relevant?
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.
<table>
<thead>
<tr>
<th>Dimensión</th>
<th>Componente</th>
<th>Opción 1: 4 a 18 años + discapacitados de 6 a 26 años</th>
<th>Opción 2: 4 a 21 años + discapacitados de 6 a 26 años</th>
<th>Opción 3: 4 a 18 años</th>
<th>Opción 1: mayores a 18 años x ley de acuerdo a edad de retiro</th>
<th>Opción 2: mayores a 18 años y 65 años</th>
<th>Opción 2: H 12 años</th>
<th>Opción 1: mayores a 18 años hasta los 65 años x ley de acuerdo a edad de retiro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asistencia</td>
<td>Opción 1: 4 a 18 años + discapacitados de 6 a 26 años</td>
<td>6.6%</td>
<td>9.6%</td>
<td>1.5%</td>
<td>4.7%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Rezago escolar</td>
<td>Opción 1: 2 o más años de rezago</td>
<td>5.9%</td>
<td>7.9%</td>
<td>1.1%</td>
<td>3.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Escolaridad</td>
<td>Opción 1: mayores a 18 años x ley de acuerdo a edad de retiro</td>
<td>22.1%</td>
<td>34.0%</td>
<td>14.4%</td>
<td>33.7%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Nivel de Aprendizaje</td>
<td>Opción 1: mayores a 18 años x ley de acuerdo a edad de retiro</td>
<td>21.0%</td>
<td>30.9%</td>
<td>11.6%</td>
<td>28.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Desnutrición</td>
<td>Niños de 0 a 6 años</td>
<td>3.4%</td>
<td>3.8%</td>
<td>0.3%</td>
<td>1.0%</td>
<td>3.0%</td>
<td>2.7%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Sobre peso u obesidad</td>
<td>Niños de 0 a 6 años</td>
<td>11.1%</td>
<td>12.2%</td>
<td>3.2%</td>
<td>1.5%</td>
<td>2.6%</td>
<td>3.2%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Salud</td>
<td>Niños de 0 a 6 años</td>
<td>14.5%</td>
<td>16.3%</td>
<td>1.3%</td>
<td>4.3%</td>
<td>3.0%</td>
<td>2.7%</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Indicator Definition Options**

- Uncensored H for applicable pop
- Uncensored H for national population
- Period 2

**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.

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

**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

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicators</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td>Schooling</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Attainment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Health</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nutrition</strong></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td><strong>Functioning</strong></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Access to health care</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>Housing Materials</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Overcrowding</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Work</strong></td>
<td>Dangerous work</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Informal work</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Unsafe Work</td>
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<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Seasonal / underemployment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Unemployment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>Waste disposal</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
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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

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## Dimensions in National MPIs

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Nearly all measures to date contain:

- Education
- Health
- Standard of Living
- Work

Are these relevant?
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

2. Build a deprivation score for each person

3. Identify who is poor

Report interpret and use the MPI to energise public action

University of Oxford