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SLIDES: Multi-Dimensional Energy Poverty Index (MEPI)

Morgan Bazilian

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Multi-dimensional Energy Poverty Index (MEPI)

Morgan Bazilian

Joint Institute for Strategic Energy Analysis

2012 World Energy Justice Conference, Boulder, CO, USA

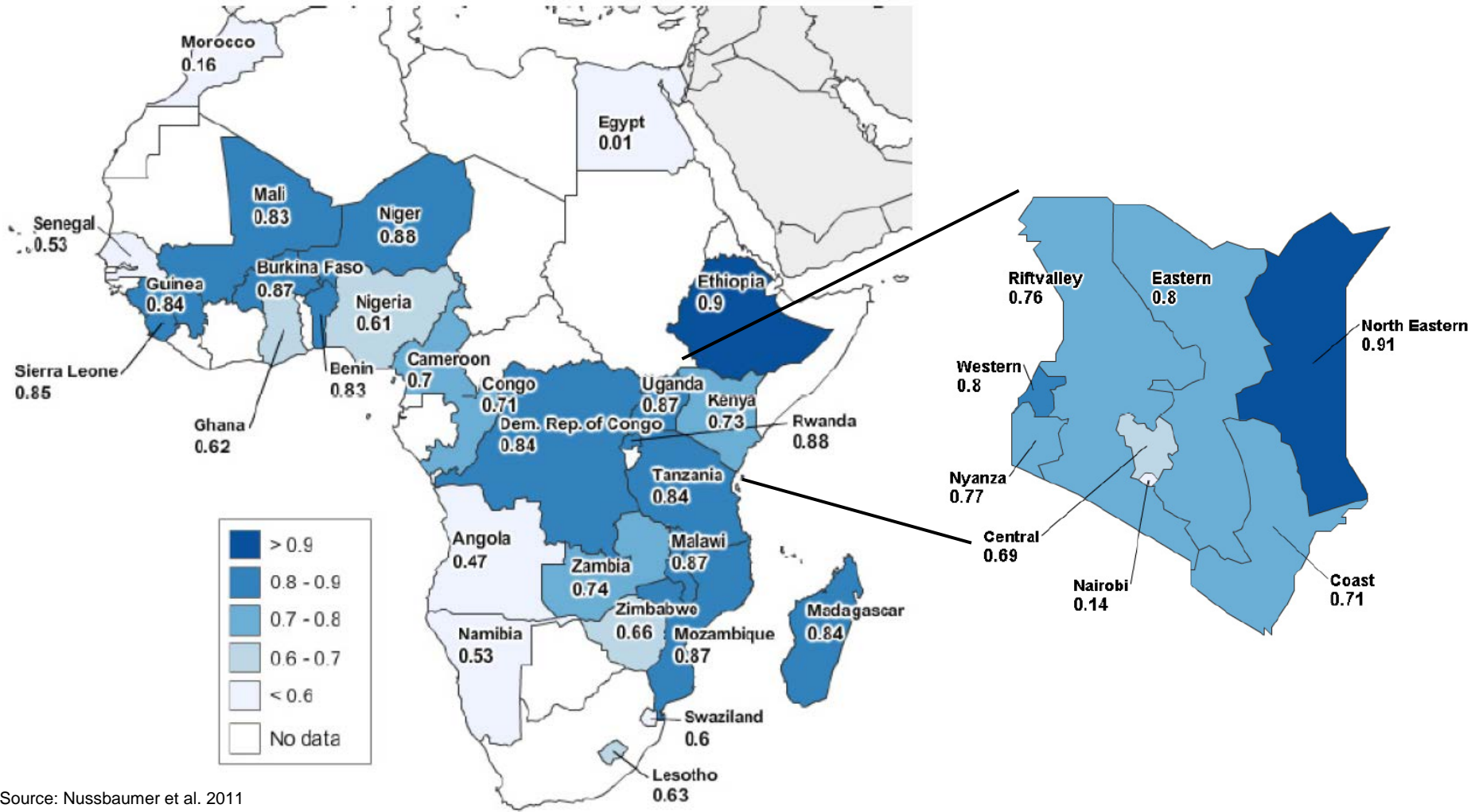
Multi-dimensional Energy Poverty Index - Concept

- Focuses on energy services
- Measures deprivation (as opposed to access)
- Captures the multi-dimensionality of energy poverty
- Quantifies incidence (how many people) *AND* intensity (how energy poor) of energy poverty
- Is based on micro-data (surveys)
- Is flexible and can be customized to specific needs
- Allows for decomposability (rural vs. urban, sub-national level, etc.)
- Represents a complement to other related indicators and indices

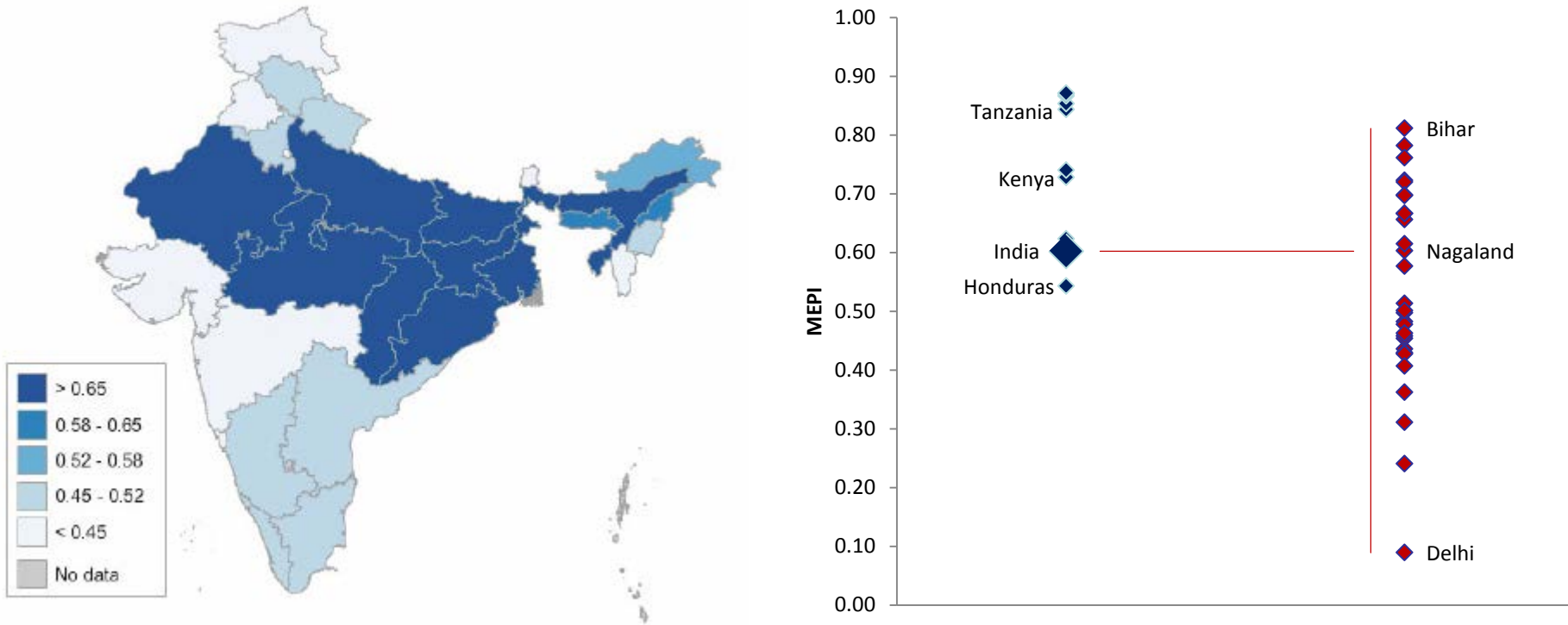
Multi-dimensional Energy Poverty Index - Structure

- Captures the set of **energy deprivations**
- Originally composed on **5 dimensions** (basic energy services) and 6 indicators
 - Cooking
 - Lighting
 - Services from household appliances (e.g., refrigerator)
 - Entertainment/education (e.g., tv)
 - Communication (e.g., mobile)
- Based on pre-defined, adjustable energy poverty thresholds
- Allows weighting of criteria
- Theoretically driven, data constrained

Multi-dimensional Energy Poverty Index - Results



Multi-dimensional Energy Poverty Index – Scale matters

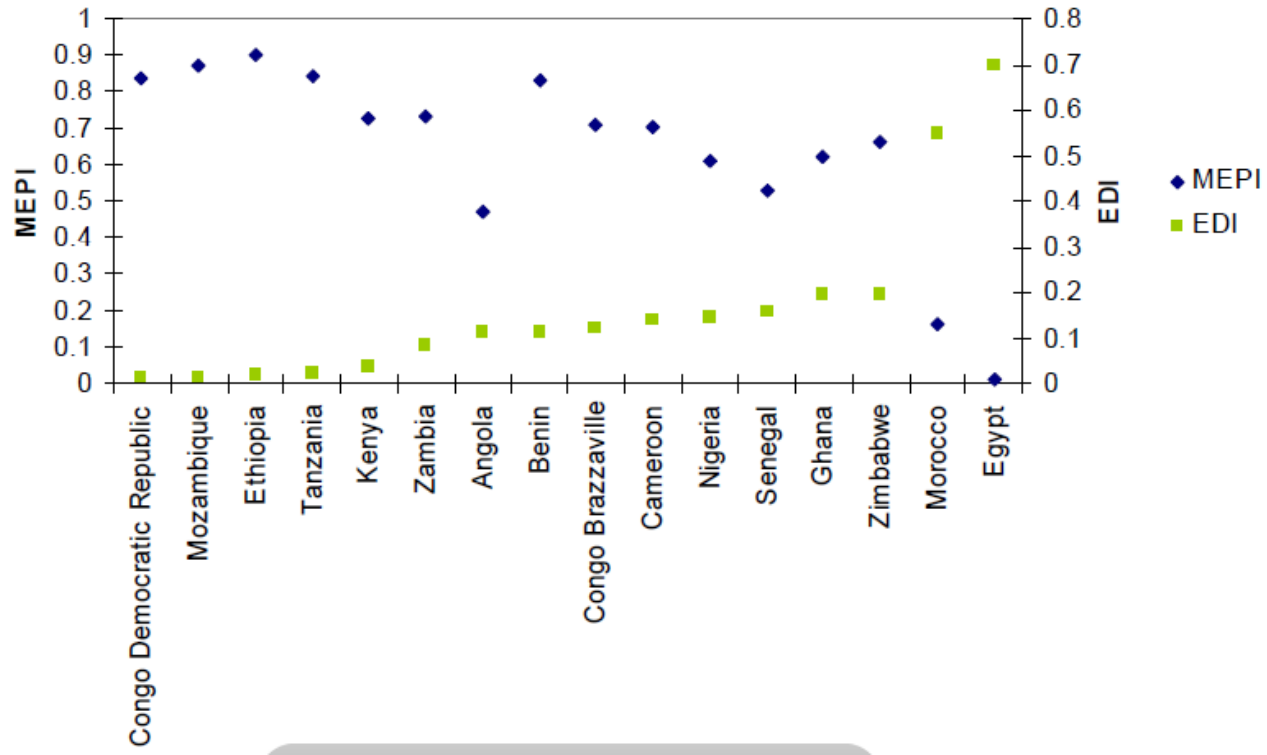


MEPI at 1st administrative level (left pane) in India compared with SE4ALL countries (right pane)

Note: provisional results

Huge disparities at sub-group level: for instance, the MEPI for Delhi is comparable to that of e.g., Morocco, whereas the most energy poor stricken state (Bihar) is comparable to situation in LDCs.

Comparing to IEA (EDI)



MEPI and EDI are complementary –
EDI measures energy system towards modern fuel; MEPI measures energy poverty

Final remarks

- Major barriers:
 - data paucity, quality/consistency;
 - lack of appropriate tools;
- National statistics mask significant, and not unimportant, discrepancies; provide ‘big picture’, but might entail limited policy insights
- Useful areas of synergy with HDI, IEA, WEF, etc.

Resources

- Nussbaumer et al. 2011. *Measuring Energy Poverty: Focusing on What Matters*. University of Oxford.
- Bazilian et al. 2010. *Measuring Energy Access: Supporting a Global Target*. The Earth Institute at Columbia University.
- IEA, UNDP & UNIDO, 2010. *Energy Poverty: How to make modern energy access universal?* Excerpt from the WEO 2010.
- Documents download and data visualization platform: <http://www.un-energy.org/measuring-energy-access>

