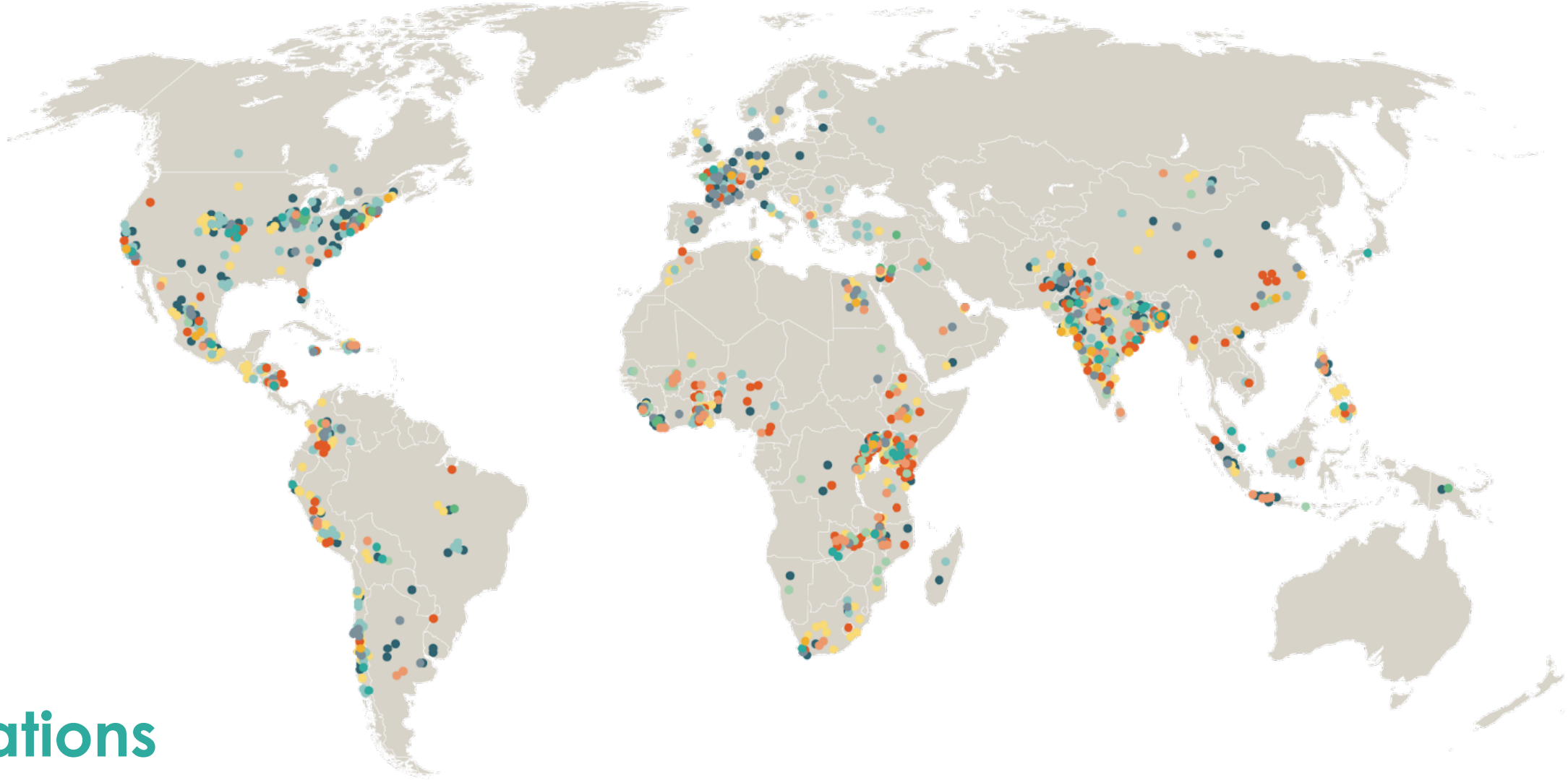
J-PAL
ABDUL LATIF JAMEEL POVERTY ACTION LAB

Massachusetts Institute of Technology

Development in the XXI century

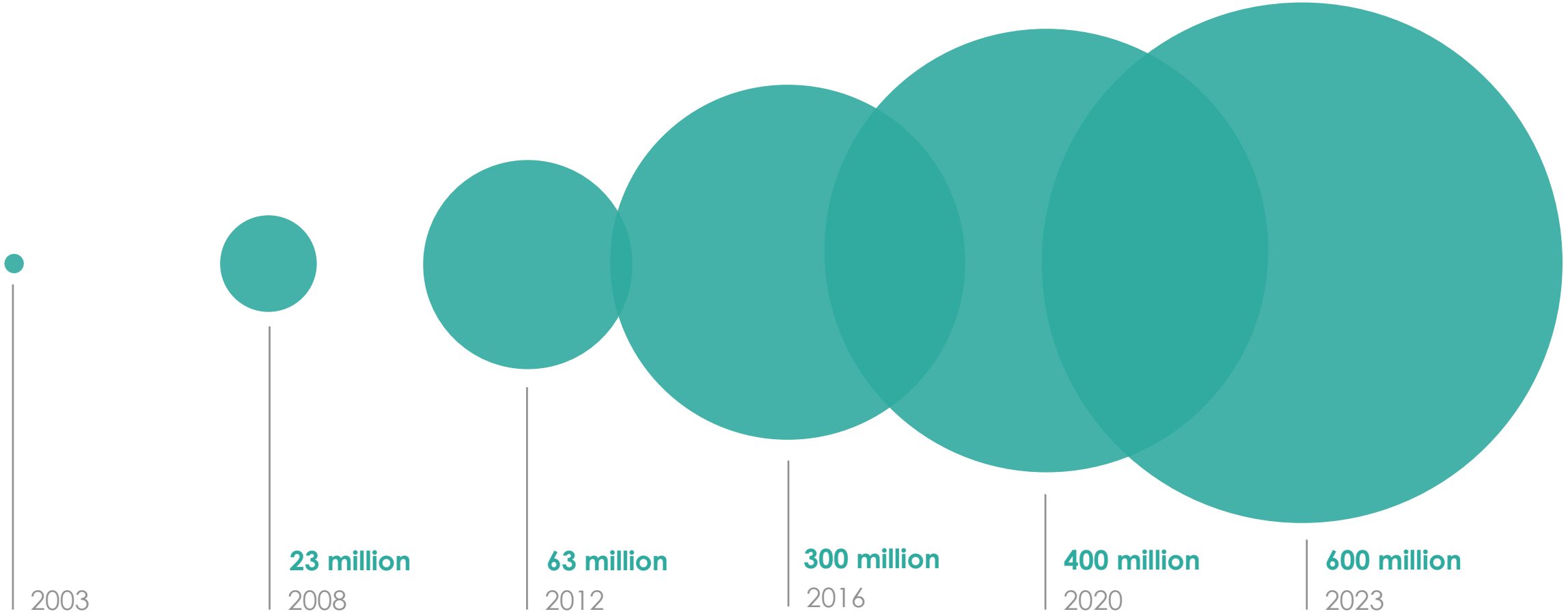
Esther Duflo

J-PAL turns 20 years this year.

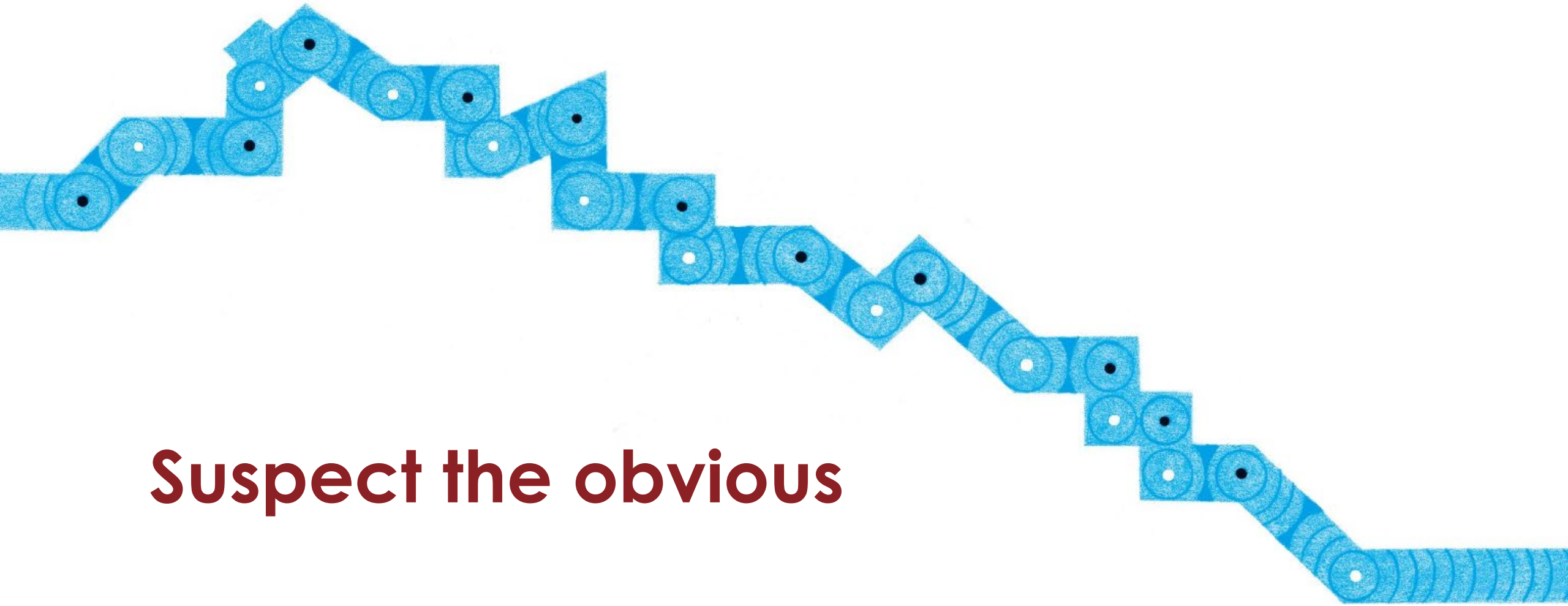


1600+
evaluations

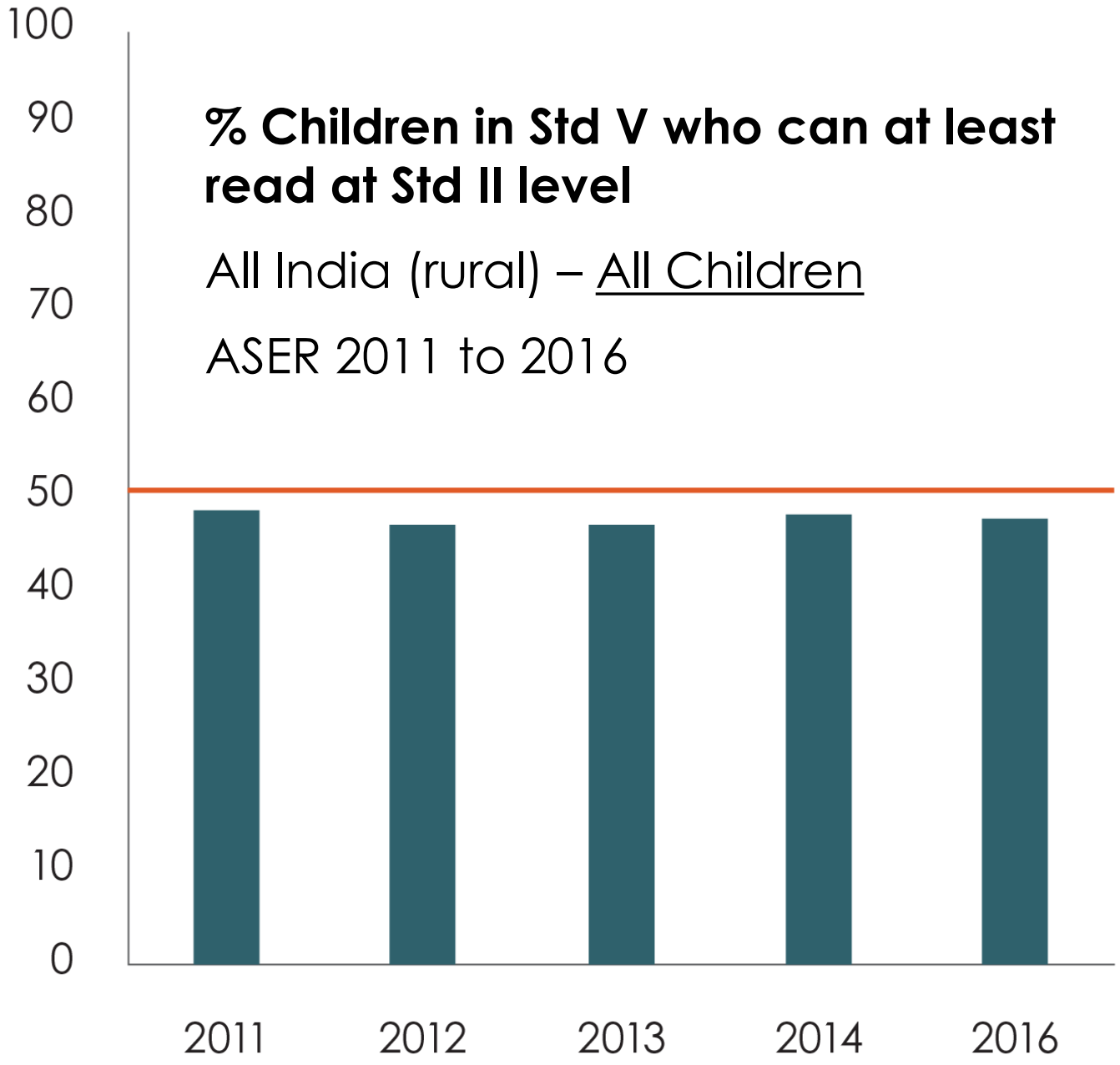
Innovation in research and partnerships with local grounding resulting in 600 million lives reached

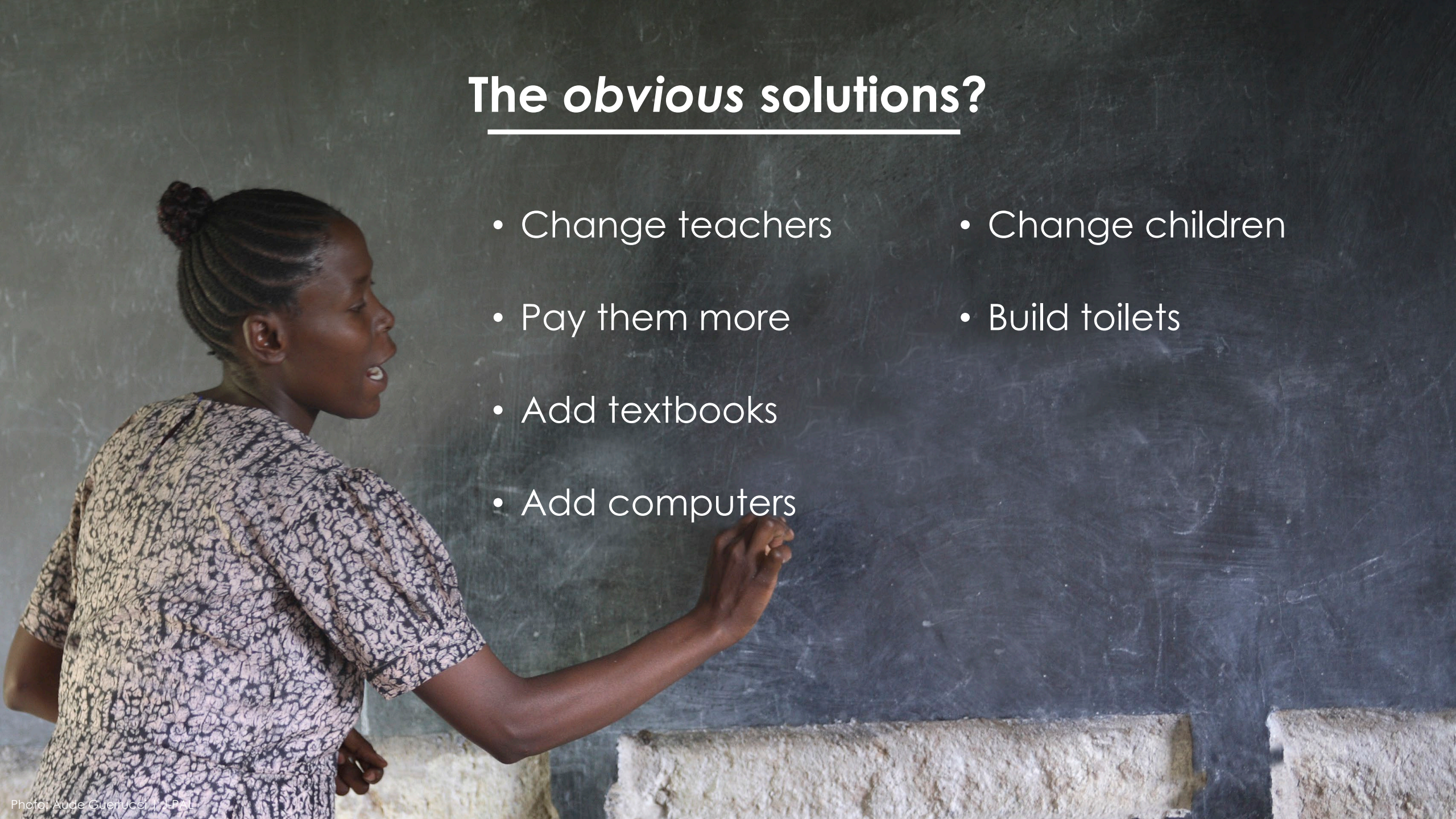


Development *economics* in the XXI century



Suspect the obvious


% Children in Std V who can at least read at Std II level
All India (rural) – All Children
ASER 2011 to 2016
100
90
80
70
60
50
40
30
20
10
0
2011
2012
2013
2014
2016


The *obvious* solutions?
• Change teachers
• Pay them more
• Add textbooks
• Add computers
• Change children
• Build toilets
Photo: Aude Guerrucci / J-PAL

Pratham
Every Child in School & Learning Well

TaRL Support Pieces

- IMPLEMENTATION TEAMS
- ASSESSMENT
- CLASSROOM METHODOLOGY
- MONITORING

In a TaRL classroom

STEP 1
ASSESSMENT
Test children on the basics using simple tools

STEP 2
GROUPING
Create homogene-ous learning level groups

STEP 3
FOUNDATIONAL SKILLS
Focus on basic skills for a period of the day or year

LEARNING OUTCOMES IMPROVE

Children are reassessed and moved through the levels as they progress.

Dr. Rukmini Banerji

Dr. Mdhav Chavan

For 15+ years of experimentation

2001-2003

"Balsakhi" program; Pratham community volunteer "pull out" remedial program in urban schools

2005-2006

Village volunteers conducted community classes for rural primary school children

2008

In-school one month gov't teacher-led summer camp with support by rural village volunteers

2008-2010

In-school gov't teacher-led learning improvement program & support by Pratham volunteers (rural)

2010-2013

Ghana trials of teacher-led vs. tutor-led in school and out of school

2012-2013

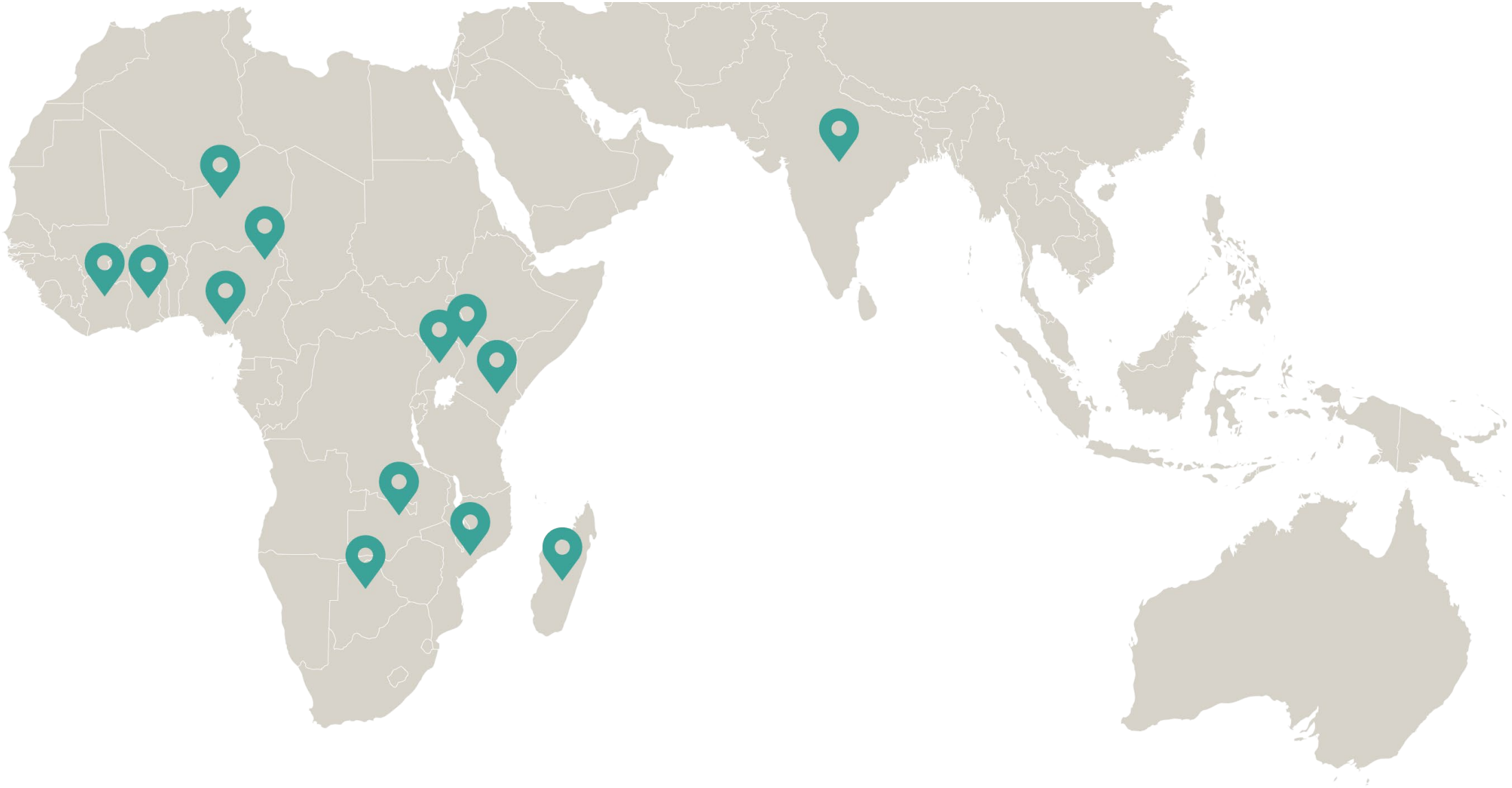
Teacher-led model; onsite mentoring by gov't academic officials

2013-2014

"Learning Camps" in gov't primary schools; led by Pratham teams supported by village volunteers

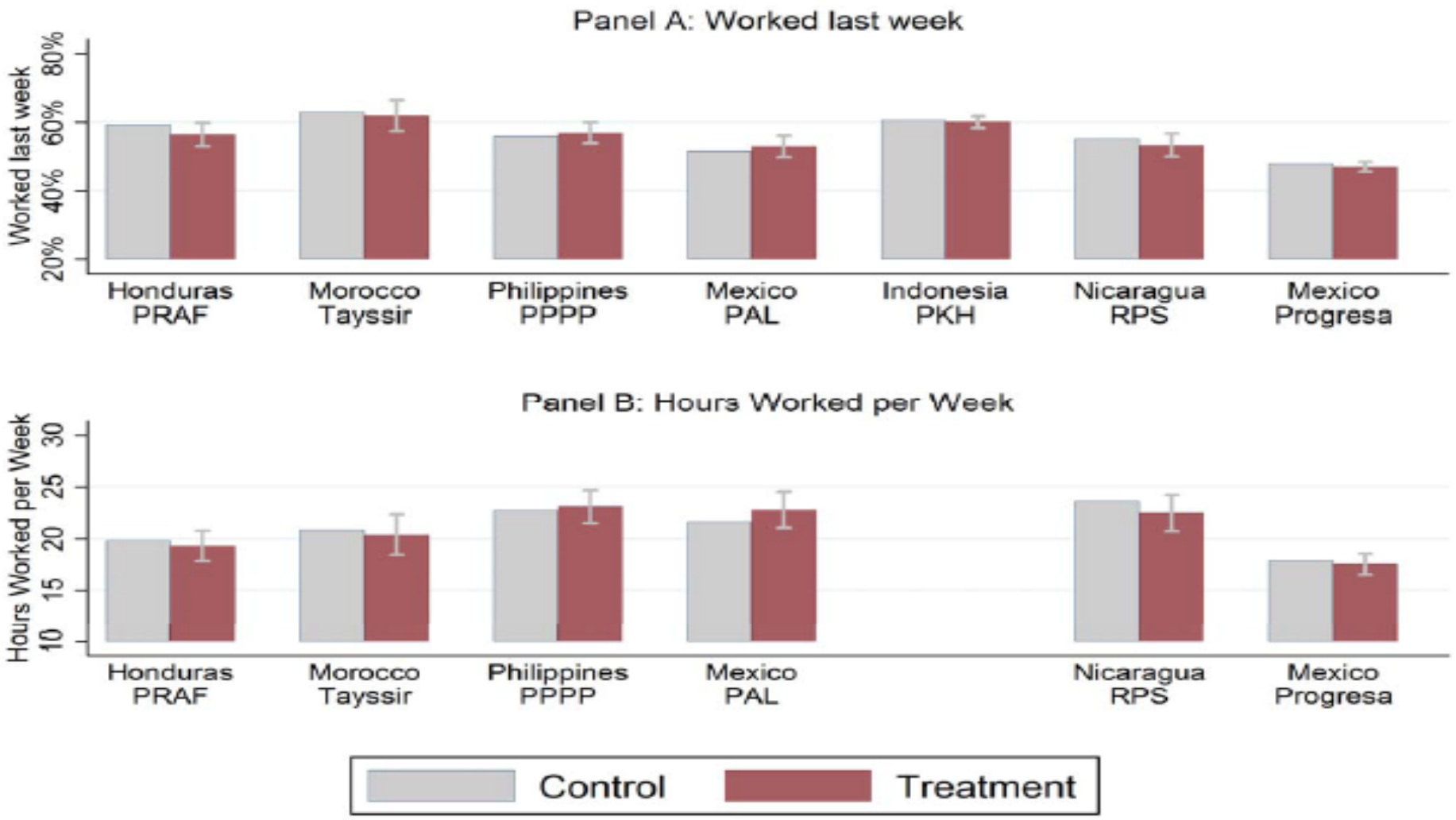
2000 — 2005 — 2010 — 2015

Teaching at the right level today

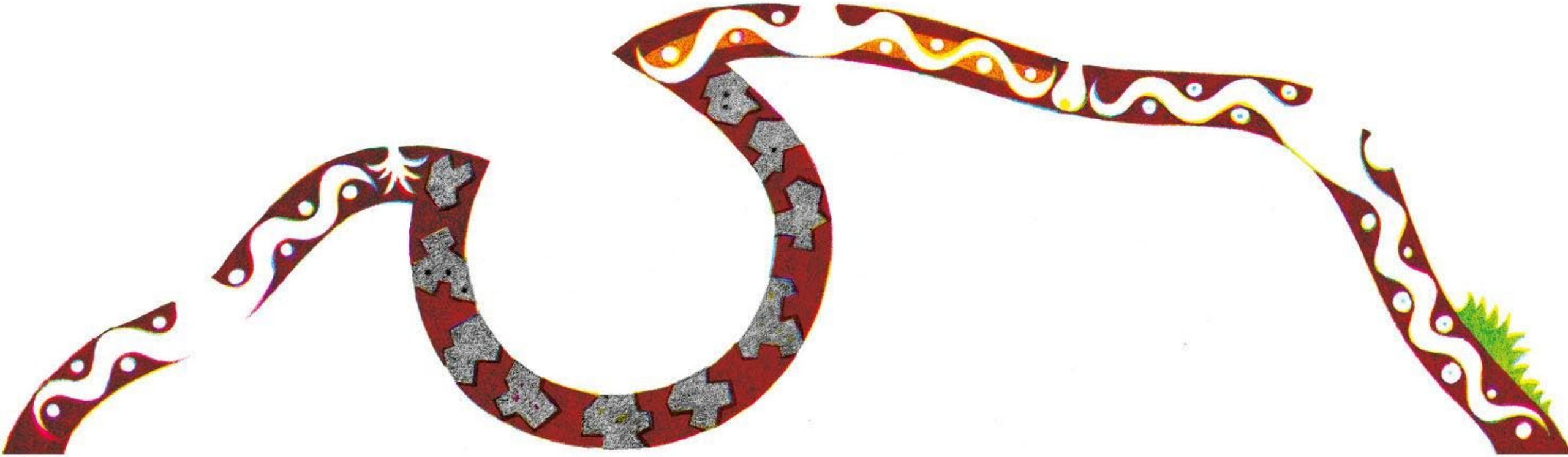


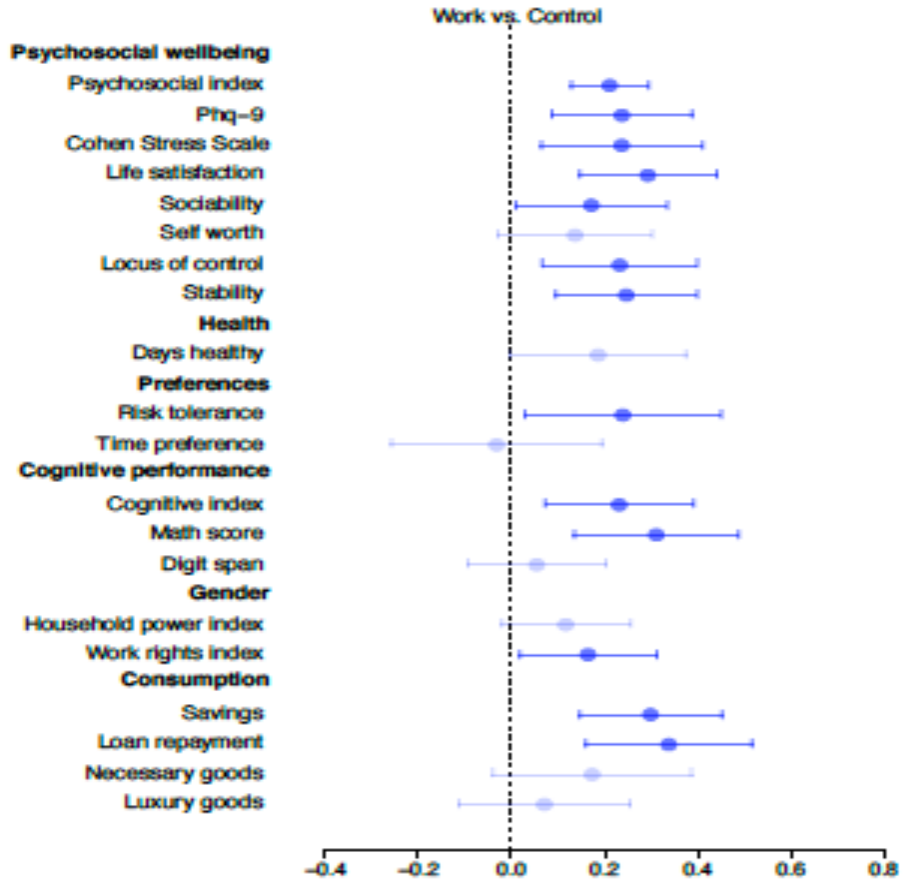
Be mindful of your theories

Income effects

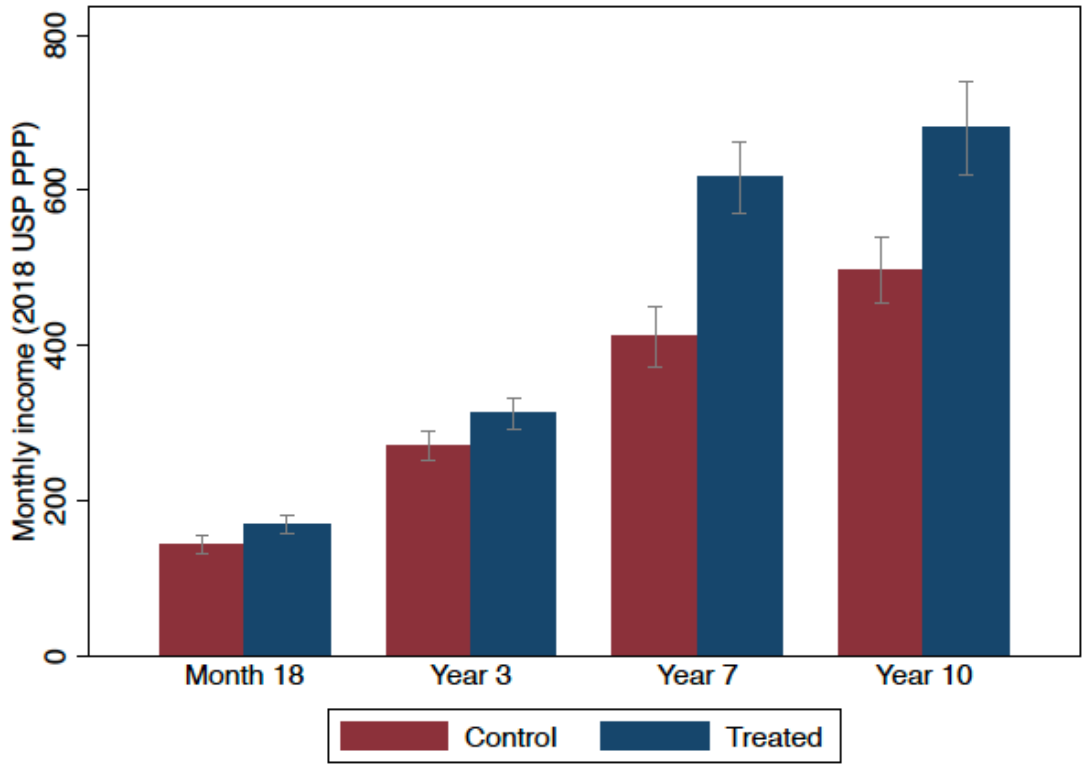


Don’t underestimate human complexity



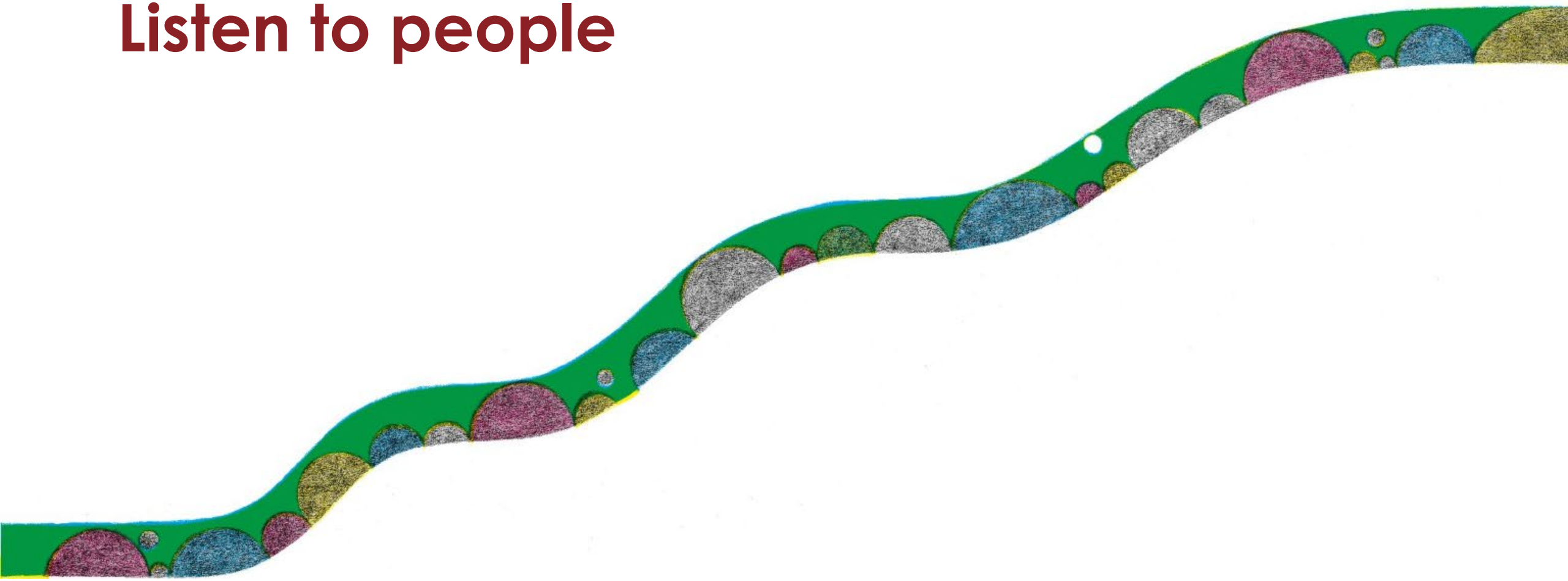

Work vs. Control
Psychosocial wellbeing
Psychosocial index
Phq−9
Cohen Stress Scale
Life satisfaction
Sociability
Self worth
Locus of control
Stability
Health
Days healthy
Preferences
Risk tolerance
Time preference
Cognitive performance
Cognitive index
Math score
Digit span
Gender
Household power index
Work rights index
Consumption
Savings
Loan repayment
Necessary goods
Luxury goods
−0.4
−0.2
0.0
0.2
0.4
0.6
0.8

Have faith in the poor

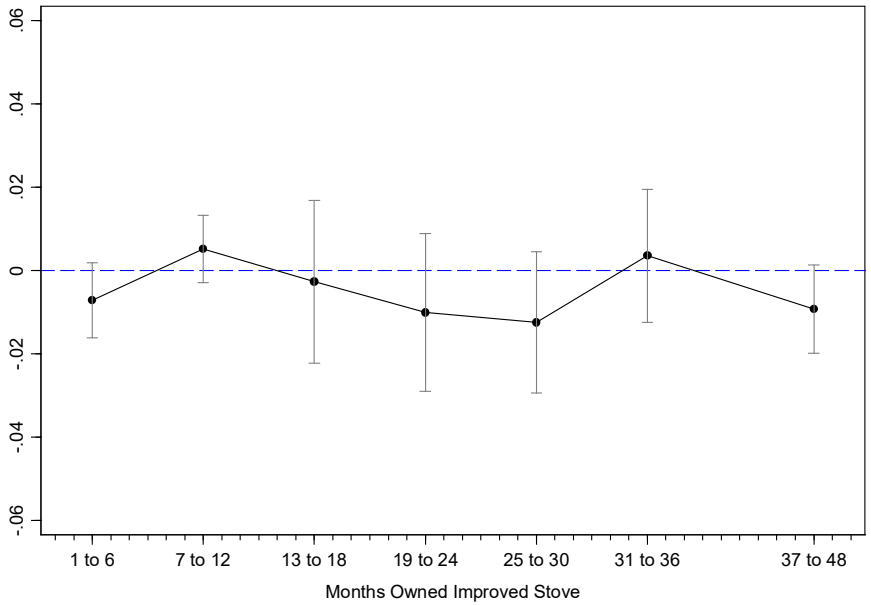


Targetting the Ultra Poor (7 countries, India)

Listen to people



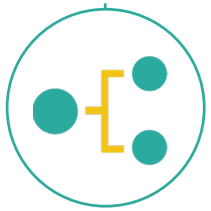
Many stoves break… 60% of the stoves are broken and not repaired within a few months



Impact on CO2 in breath vanish after a few months.

Development *policy* in the XXI century

The strawman



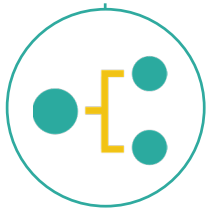
Run a small, well controlled experiment

Get the results

Prepare a shiny policy brief and peddle to policy makers

Get full scale adoption

The strawman subject to all sorts of critics



Run a small, well controlled experiment

"Gold plated experiments"–samples are too small

Get the results

Results only valid in one place, might not replicate elsewhere; might not even be internally valid (imperfect take up, spillovers on non beneficiaries)

Prepare a shiny policy brief and peddle to policy makers

May not fit with the policy makers interest at the time

Get full scale adoption

Results will be quite different if adopted at scale: equilibrium effects, Political economy effects

But really, it is not the way that policy influence works

Improving paper that run at scale: Targeted information to improve rice distribution

Photo: Hector Salazar Salame / IFPRI

Raskin Social Assistance ID Cards

- Raskin is Indonesia's US$2.2 billion rice subsidy program for poorest families

- Problem:
  - Poor receive just 30% of the intended subsidy
  - Pay 25% more for Raskin

Photo: J-PAL

Kartu Perlindungan Sosial (KPS)
Hanya Untuk Yang Miskin!

Selengkapnya mengenai KPS [...]

KARTU PERLINDUNGAN SOSIAL
(KPS)

Experimental design

The experiment varied 4 aspects of the cards

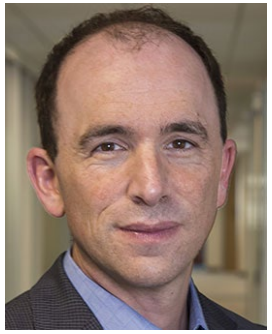
- Information on the cards
- Who gets the card
- Common knowledge through posters
- Create impression of accountability

Researchers:


Abhijit Banerjee


Rema Hanna


Jordan Kyle


Benjamin A. Olken


Sudarno Sumarto

Results

Banerjee, Hanna, Kyle, Olken, Sumarto

- Poor families get 26% increase in subsidy
- Driven by reduction in leakage
- Cost Effective: $1 for ~$8 increase in subsidy

Photo: Ben Olken | J-PAL

Scale-up

- Government rolled out “social protection” cards in 2013 to 15.5 million poor families, reaching 66 million people

- Continued partnership to improve service delivery, with planned evaluations of a new reformed social benefit scheme to be implemented through electronic vouchers

Photo: Ritwik Sarkar | J-PAL

Reforming the auditing of firms in Gujarat

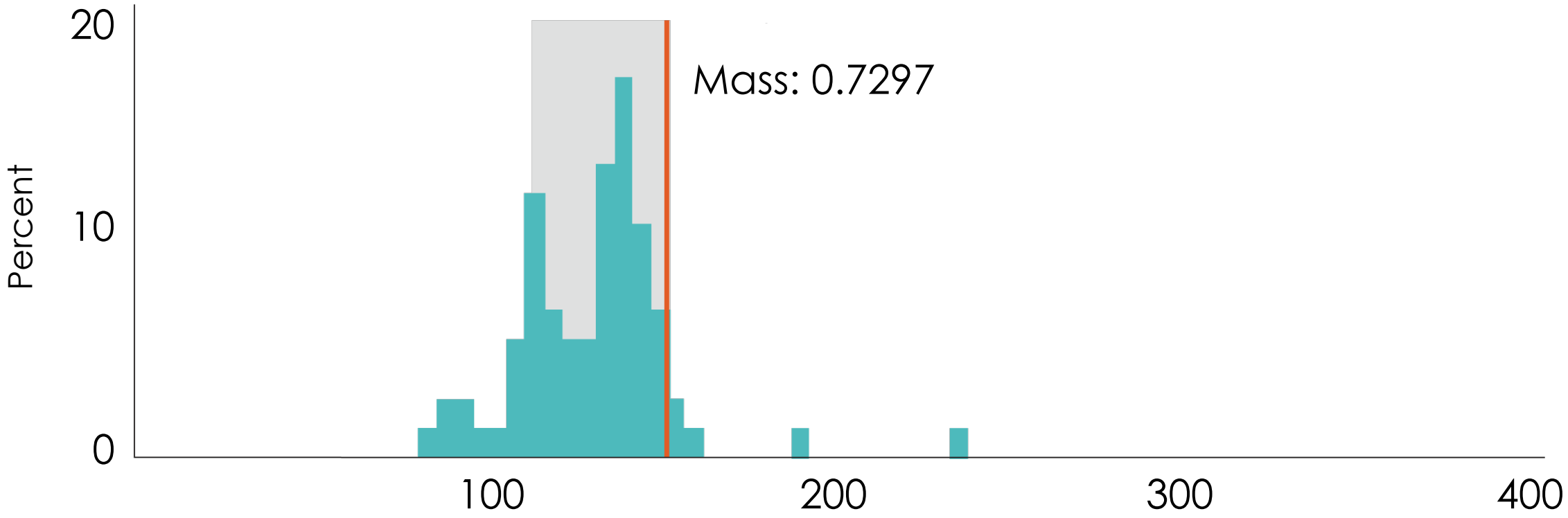
Photo: J-PAL

Third party audit

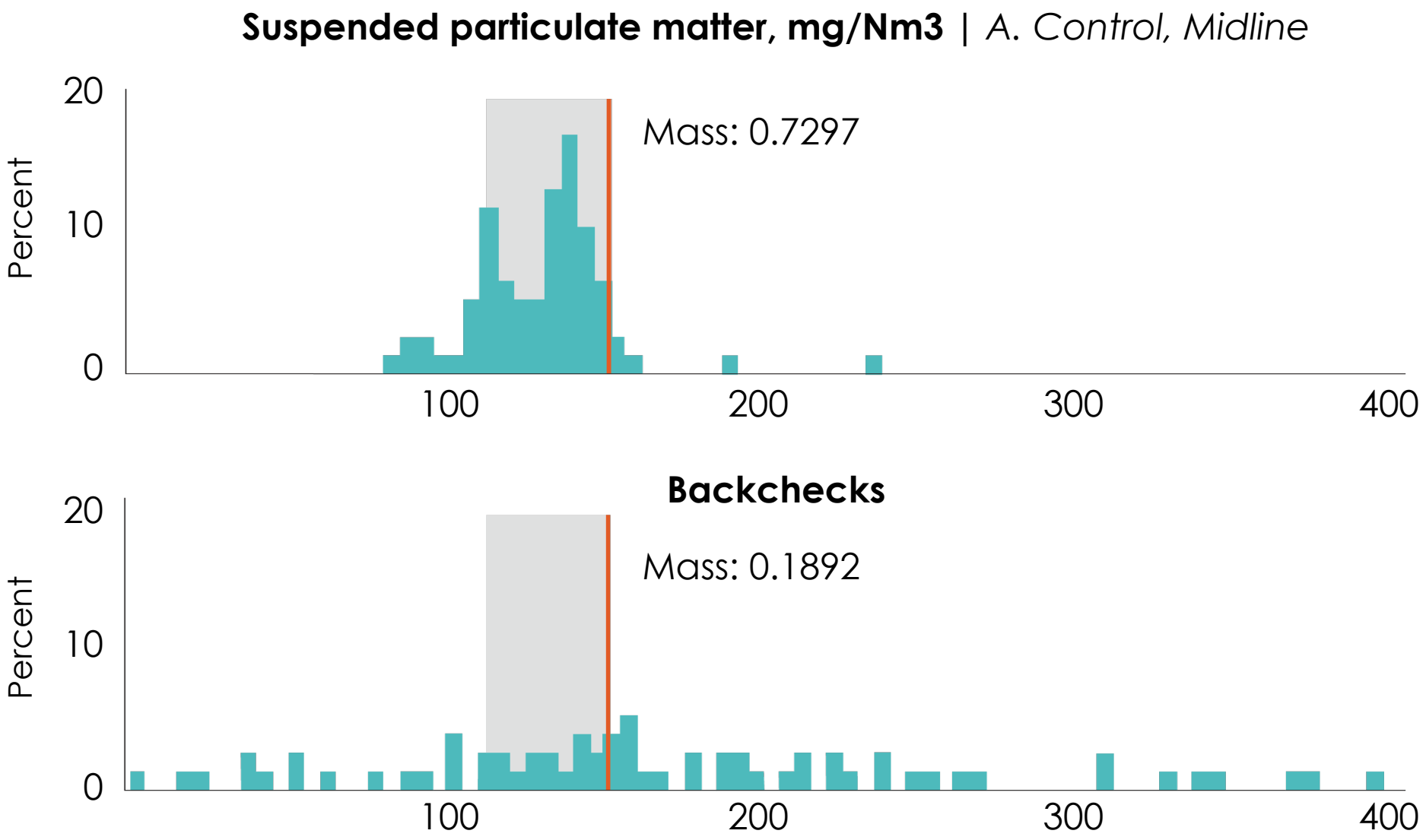
Photos: Vipin Awatramani | J-PAL

What audits say…

Suspended particulate matter, mg/Nm3 | *A. Control, Midline*



Vs reality


Suspended particulate matter, mg/Nm3 | A. Control, Midline
Percent
20
10
0
Mass: 0.7297
100
200
300
400
Backchecks
Percent
20
10
0
Mass: 0.1892
100
200
300
400

The reform we proposed

Duflo, Greenstone, Pande, Ryan

1. Random assignment of auditors and fixed payments from a central pool
2. Back check auditors for accuracy
3. Payment (or continuation with the scheme) based on accuracy
   - Ideas based on basic economics, and a solid understanding of the institutions

Researchers:

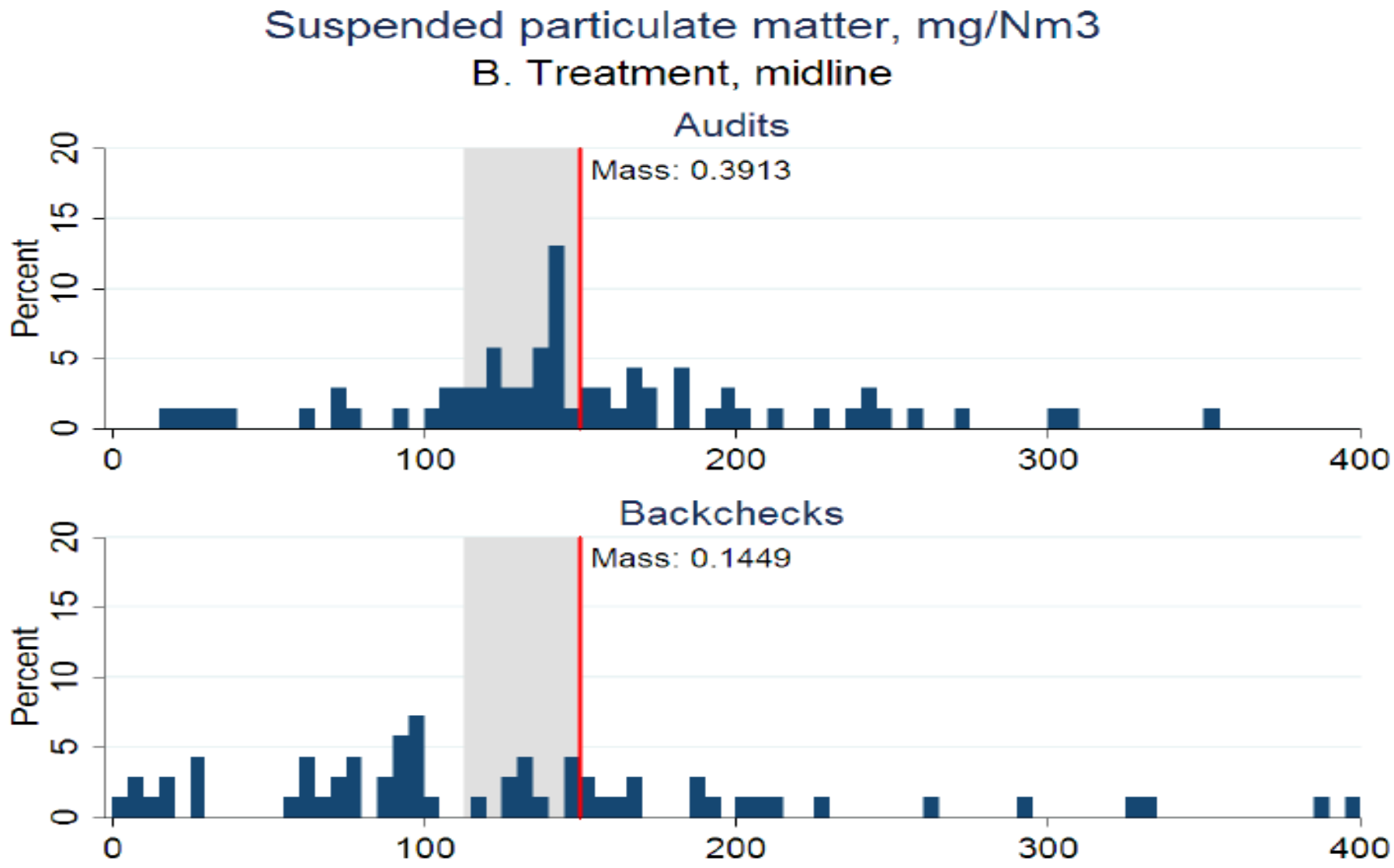
Esther Duflo

Michael Greenstone

Rohini Pande

Nicholas Ryan

Impact of the reform



Fostering a culture of learning inside Governments

- Many governments have launched either long run partnership with J-PAL or their own "learning units" (e.g. Minedulab in Peru, Tamil Nadu research partnership).

- World Bank Supports hundreds of RCT and training with various governments

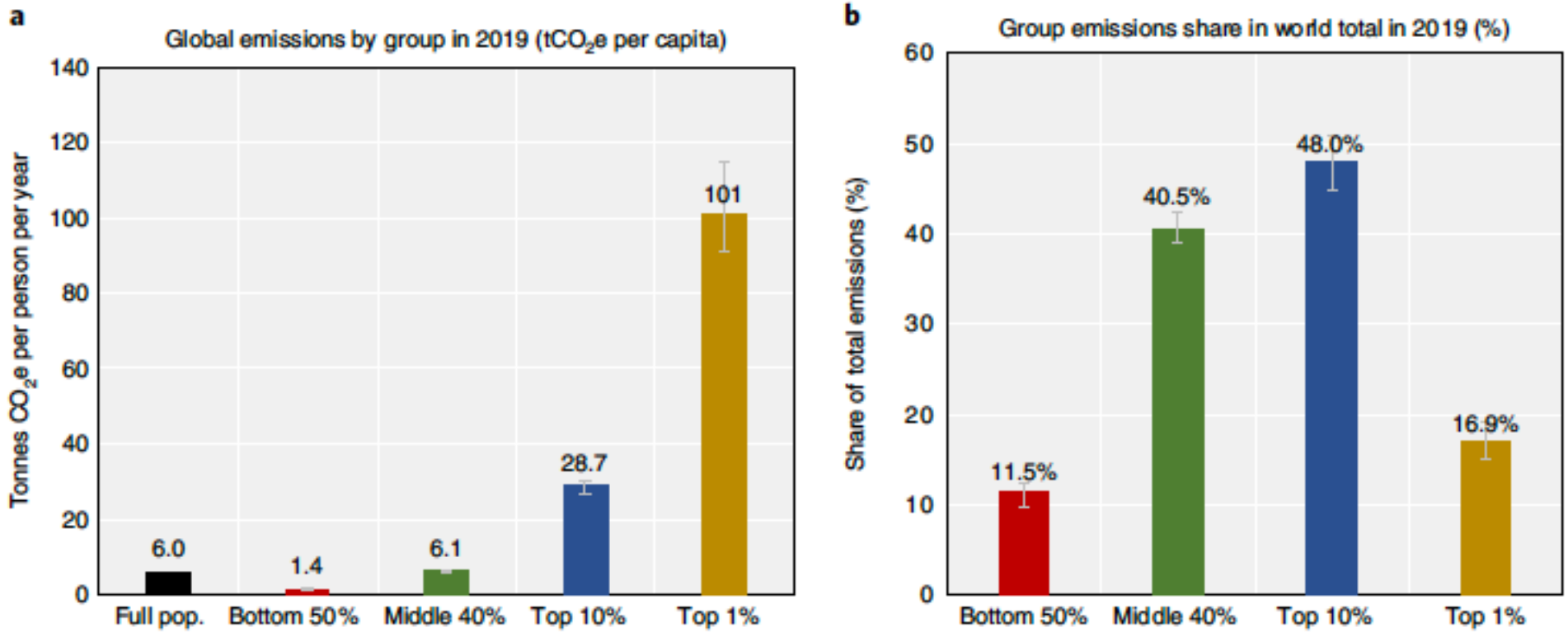
- Many of the governments we meet want us to run an RCT, rather than listen to any evidence we might bring.

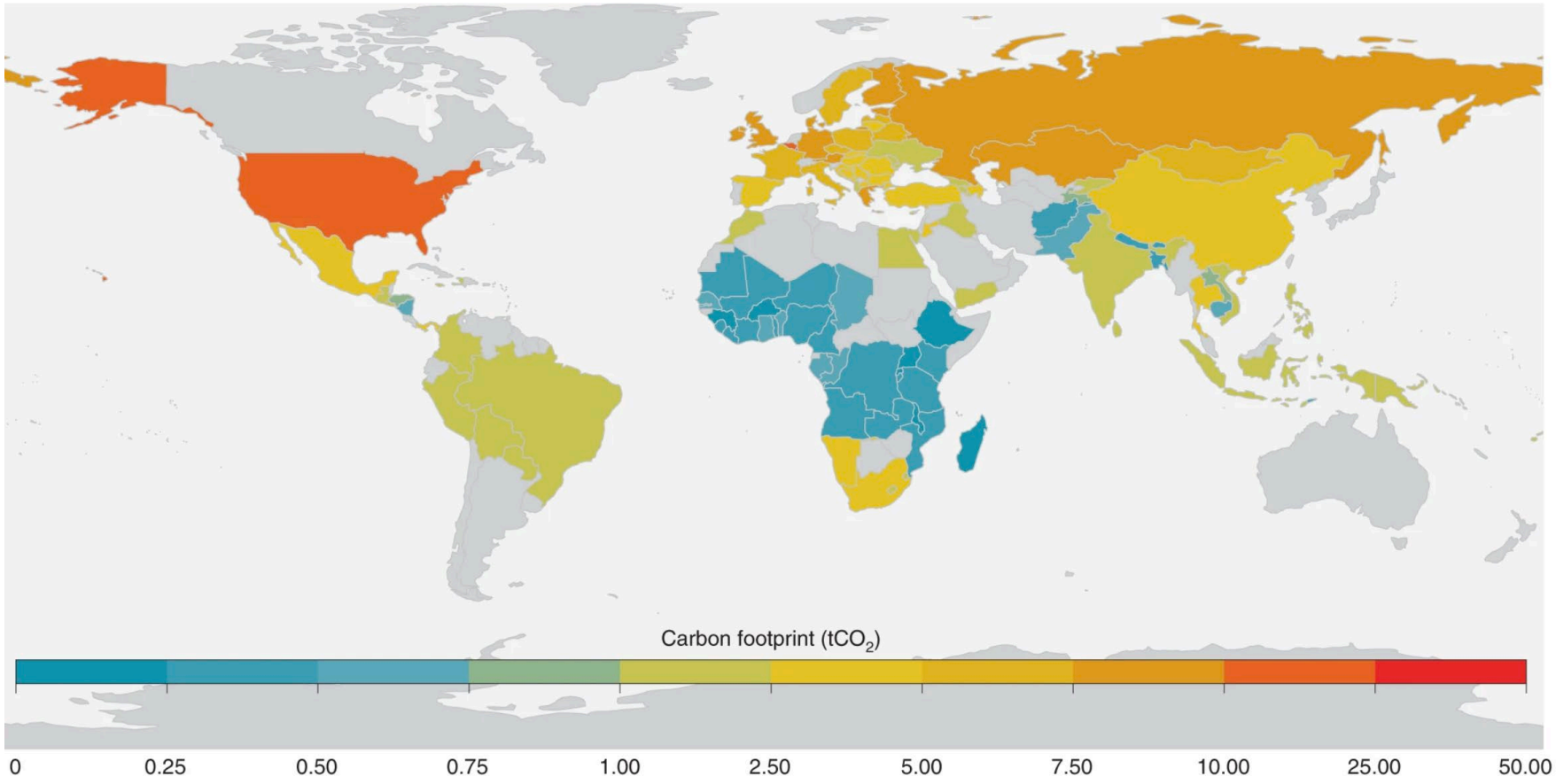
- May be one day we can make ourselves irrelevant…

Development *finance* in the XXI century

1. It is not about past responsibility only. The emissions responsible for climate change are mainly due to **the behavior** of rich country citizen

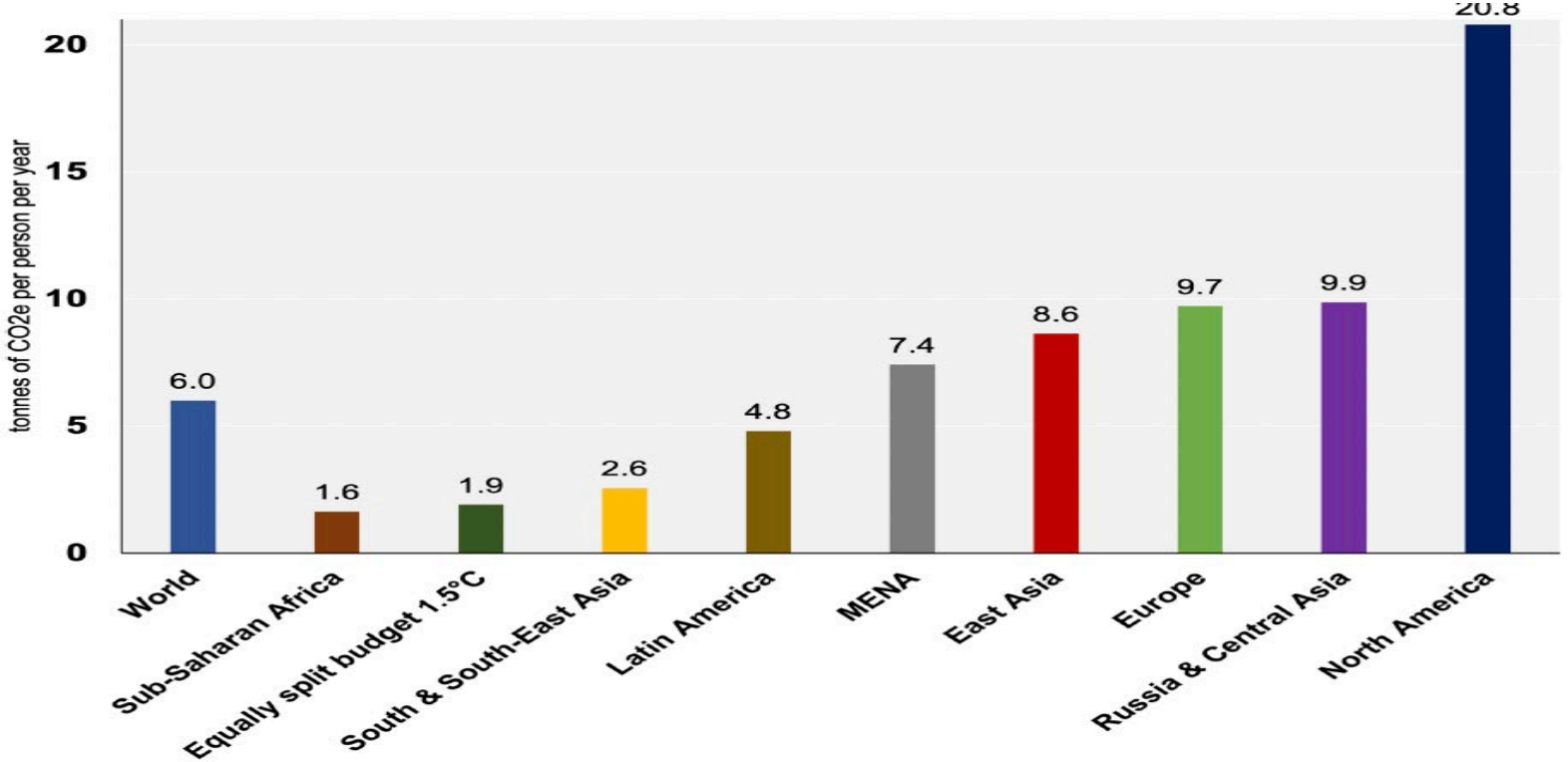
The 10-50 rule: 10% of the highest polluters worldwide are responsible for almost 50% of global emission.





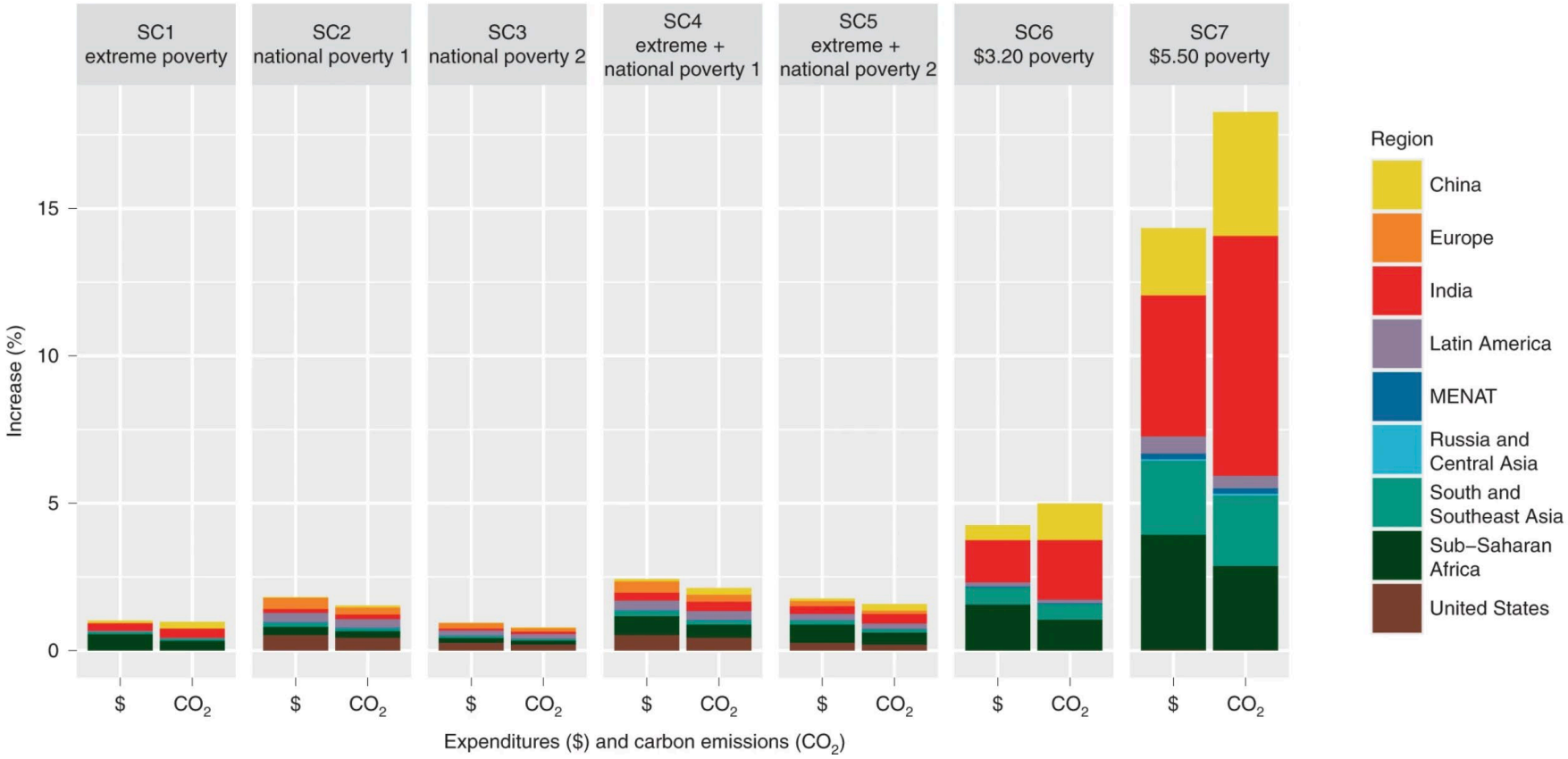
Source : Bruckner

High polluters mainly live in rich countries



Extended Data Fig. 1 | Average GHG emissions by world region in 2019. Notes: Sharing the remaining carbon budget to have 83% chances to stay below 1.5°C global temperature increase implies an estimated annual GHG per capita emissions near 1.9 tonnes per person per year between 2021 and 2050 (and zero CO_2 emissions afterwards). Emission levels present regional per capita emissions and include all emissions from domestic consumption, public and private investments as well as imports and exports of carbon embedded in goods and services traded with the rest of the world (LULUCF emissions are excluded).

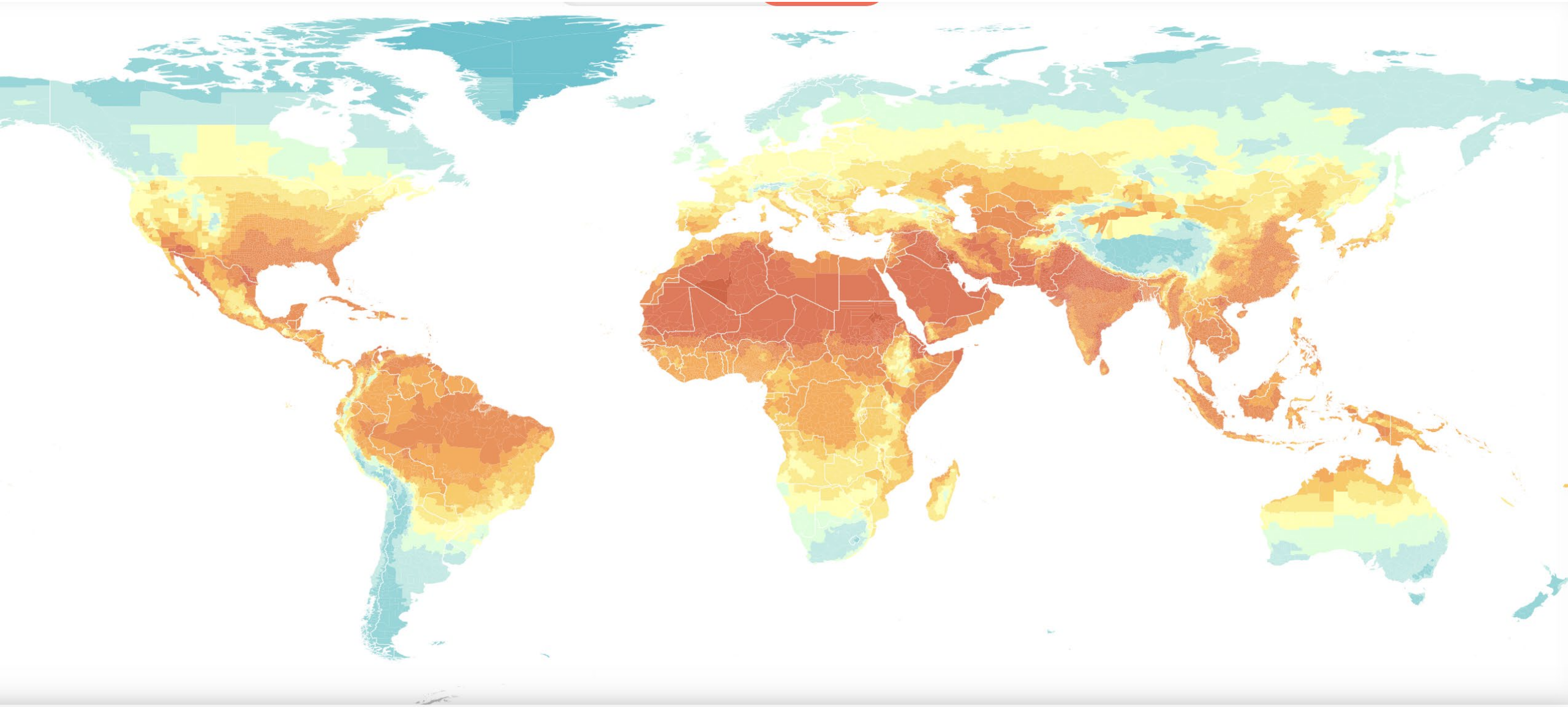
From: Impacts of poverty alleviation on national and global carbon emissions



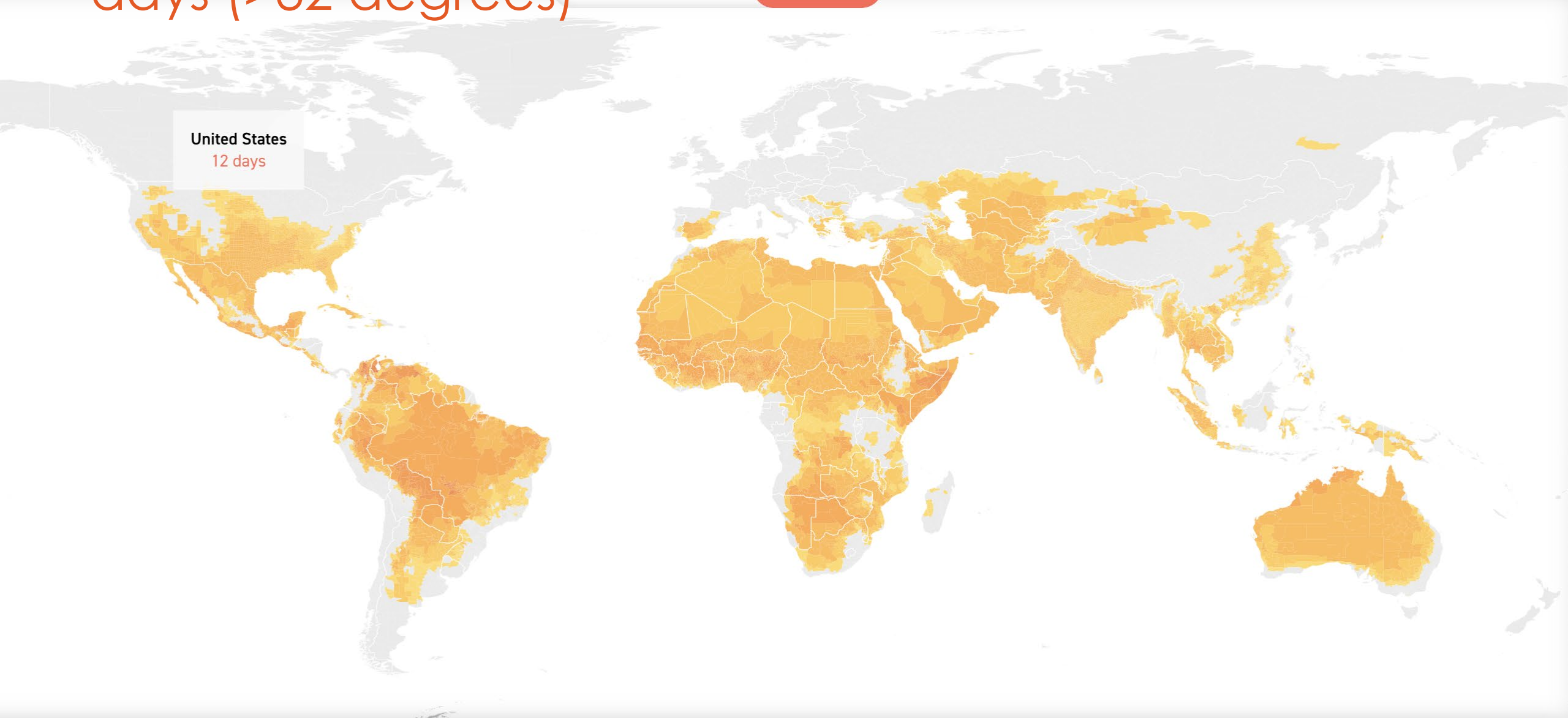
Eradicating extreme poverty would decrease emissions by 2%

2. The Costs of Climate change are going to be felt in the poorer part of the world

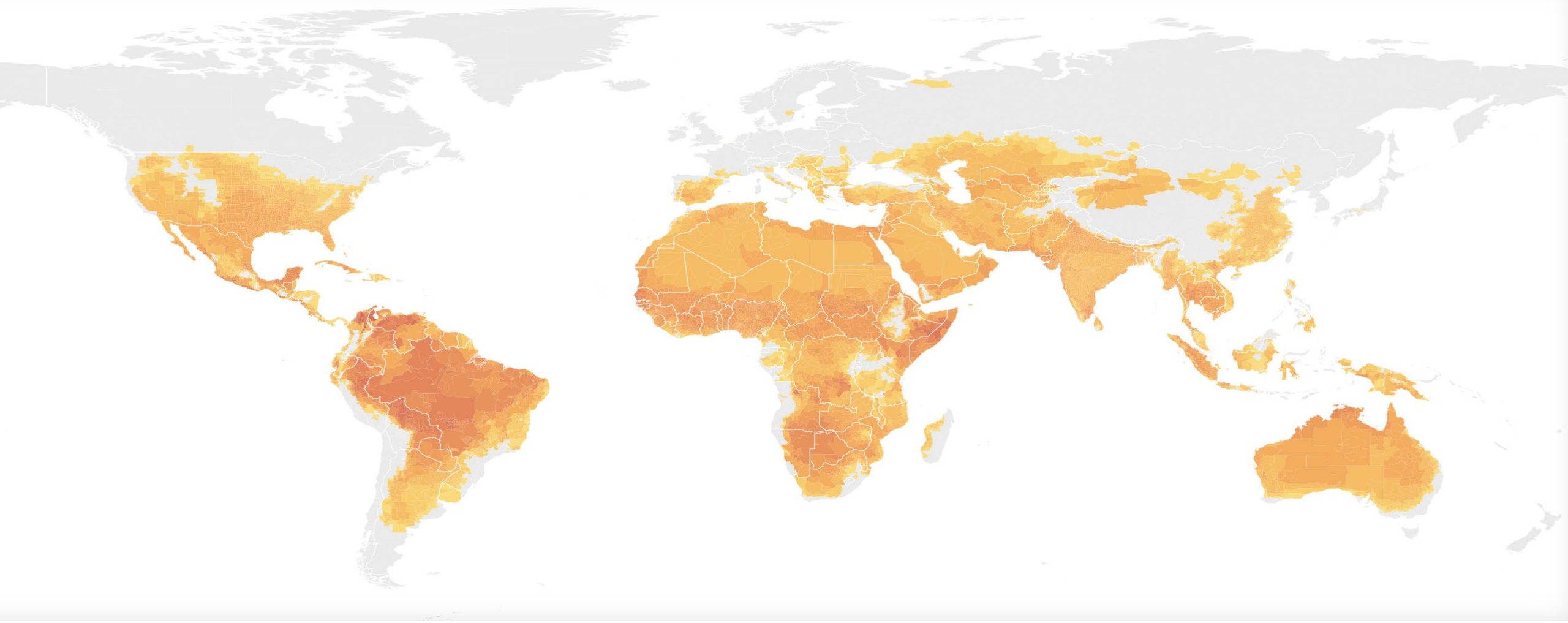
Poorer countries tend to be in warmer places



In the next 20 years they will add many more very hot days (>32 degrees)

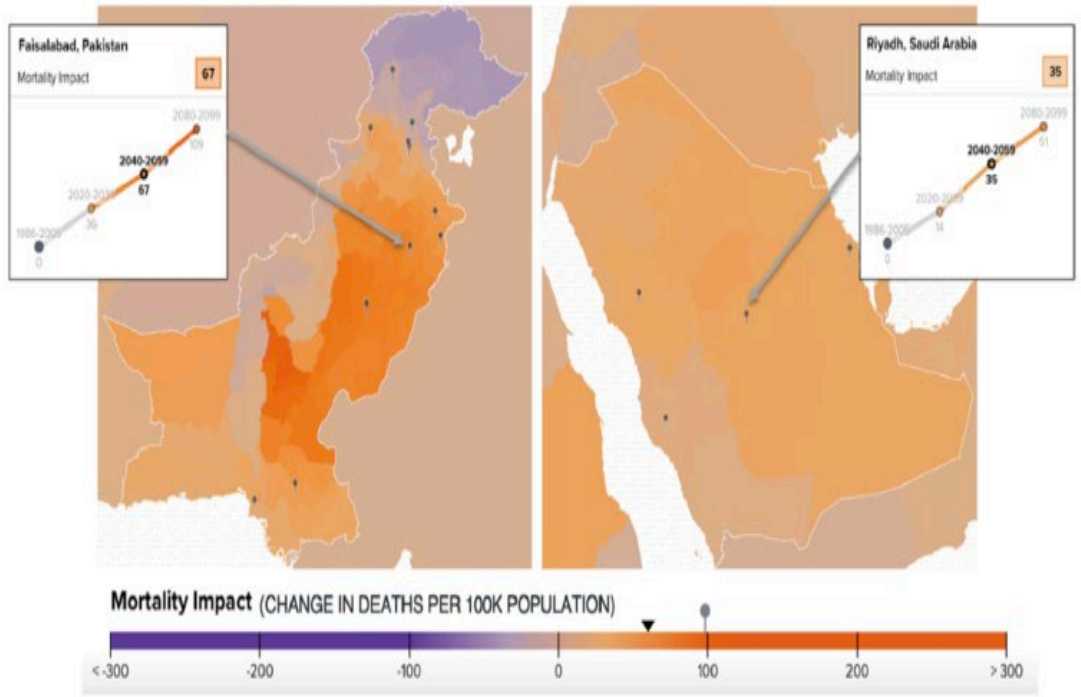


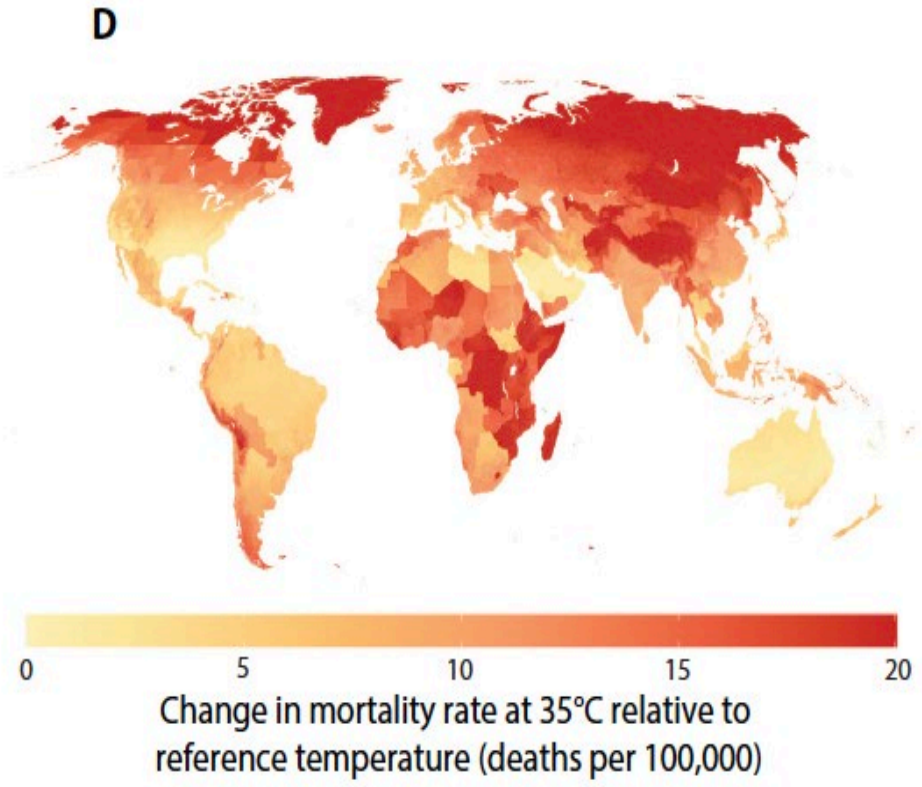
And even more so by 2050



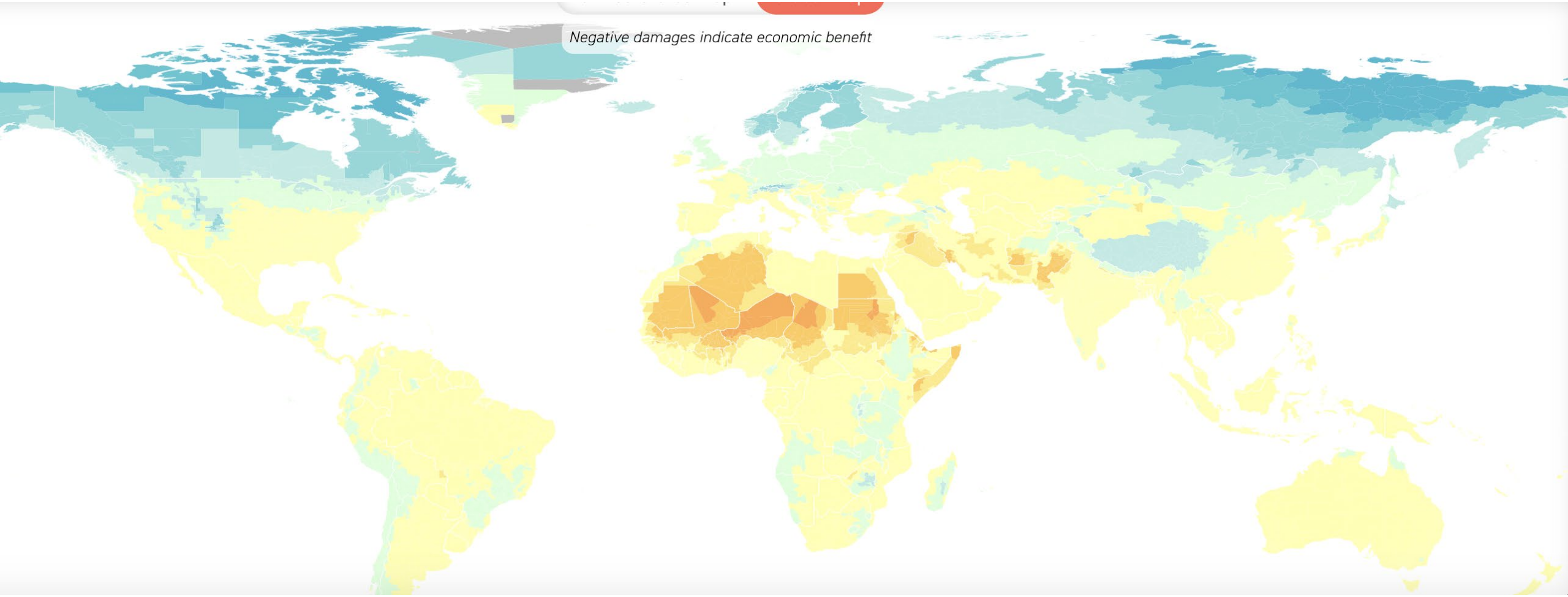
The cost of a given hot day is larger in poor countries

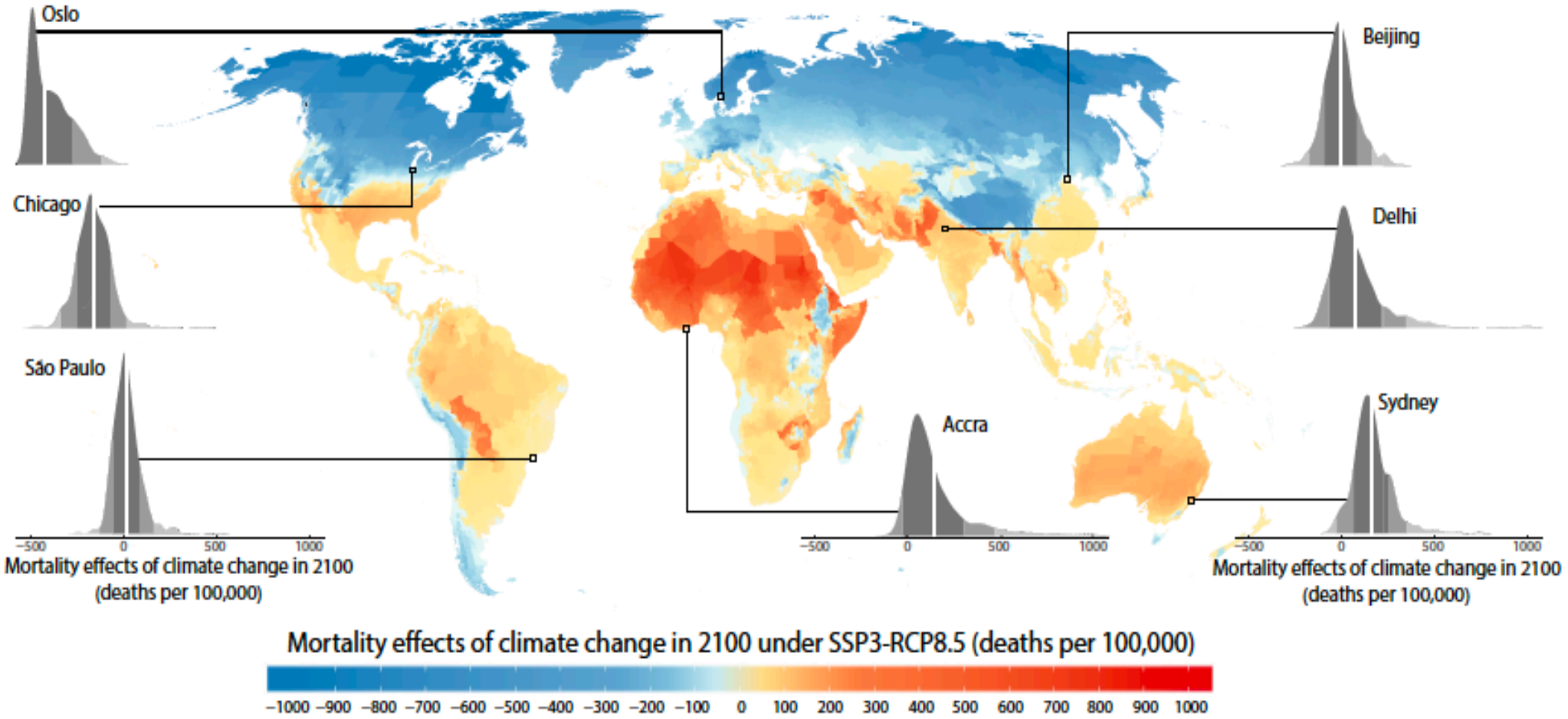
Projected Mortality Impacts to Pakistan and Saudi Arabia by Midcentury (2040-2059), Under Moderate Emissions Scenario (RCP 4.5), Mean Outcome





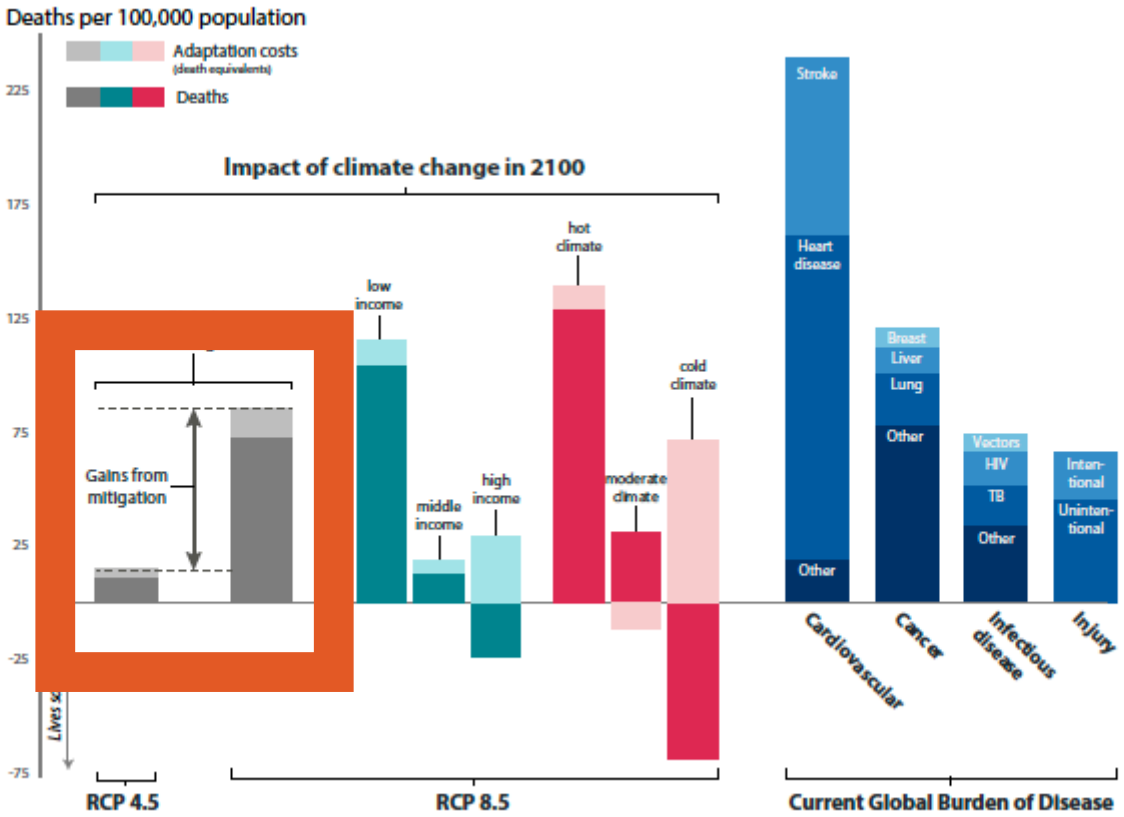
Mortality costs, next 20 years





Mortality costs by 2100

- By 2100, warmer temperatures could costs 73 lives per 100,000 under high emissions scenarios
- As much as all the infectious diseases combined
- Under moderate emissions it would fall to 11 per 100,000
- This is entirely due to countries outside the OECD



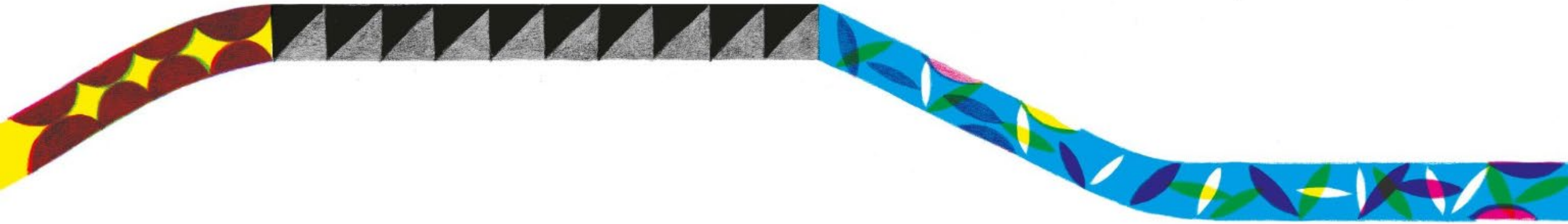
Taking the Carlton, Greenstone et al. (QJE) estimate of **$37 dollars of damage per ton from loss of life** (most or all of which will be in poor countries)

Adding up the *consumption emissions* from consumption in US and Europe, we get a total of about 14 billion tons per year, which amounts to imposing an annual mortality cost of 518 billion dollars on poor countries.

(US foreign aid is **56 milliards de dollars)**.

Step 1: how much money is needed.

- Scenarios to consider :
  - 500 billions dollars a year (CO_2 damages due to extra death)
  - 100 billions dollars a year (previous commitments).



- A number of options have been discussed
  - Fossil fuel extraction levy
  - Air passenger /ticket levy
  - IMO carbon levy (international shipping)
  - Tax on windfall fossil fuel levy
  - Other tax instruments not directly related to GHC emissions.
    - Financial transaction tax
    - Tax on stock byback.
    - International Wealth tax or income tax on richest individuals.

Step 2: how to raise it.

- In October 2021, 137 countries and jurisdictions agreed to implement a major reform of the international corporate tax system, i.e., a global minimum tax of 15% on the profits of large multinational companies.

- Two "pillars"
  - Pillar 1: Reallocation of profit tax of very large (>20 billion in turnover) and profitable (tax rate 10%) companies to jusrisdictions based on market shares or end users [only about 600 companies would be covered]
  - Pillar 2 Minimum 15% global tax on large corporation (>750 million in turnover). If a german company pays only 10% on its profits paid in Singapore, Germany collects the extra 5% on this profit

My proposal: add to the 15% minimum international income tax

Pillar 1:
16 billions extra revenues.

Pillar 2, multilateral (no carve out)
Base: 205 billions euros
Add 3%: 318 billion euros
Add 5%: 431 billions euros

Pillar 2, EU only
Base 98 billion euros
Add 5%: 184 billion

First round estimate based on the European Tax observatory Simulator

How much would this raise?

- Piketty proposal: it goes to poor countries, as compensations, as a function of how much money they have, no question asked

- Other extreme: the World Bank (or the UN, or whoever), gets it and administers it at a fund. It starts making grants or loans

Step 3: how to spend it-Governance

- Damages: Social protection & reconstruction
  - Automatic transfers to households triggered by climate events.
  - (this requires setting up the pipelines now)
  - Automatic block grants for repairs (insurance style)
- Energy Access & leapfrogging
  - Grants not loans for clean energy projects
- DIV-style financing for climate related projects (adaptation and mitigation), from innovation to scale.
  - Open proposals for stage financing of innovations
  - Independent panels to judge proposals.

Few ideas: 3 pillars

Development in the XXI century ?