

GROUNDSWELL

Preparing for Internal Climate Migration

Technical Working Group & Planning Meeting; for the Conference on Climate-Induced Displacement
at the Yale University MacMillan Center
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OUTLINE OF PRESENTATION

1. Motivation
2. Approach
3. Key Results
4. Call to Action



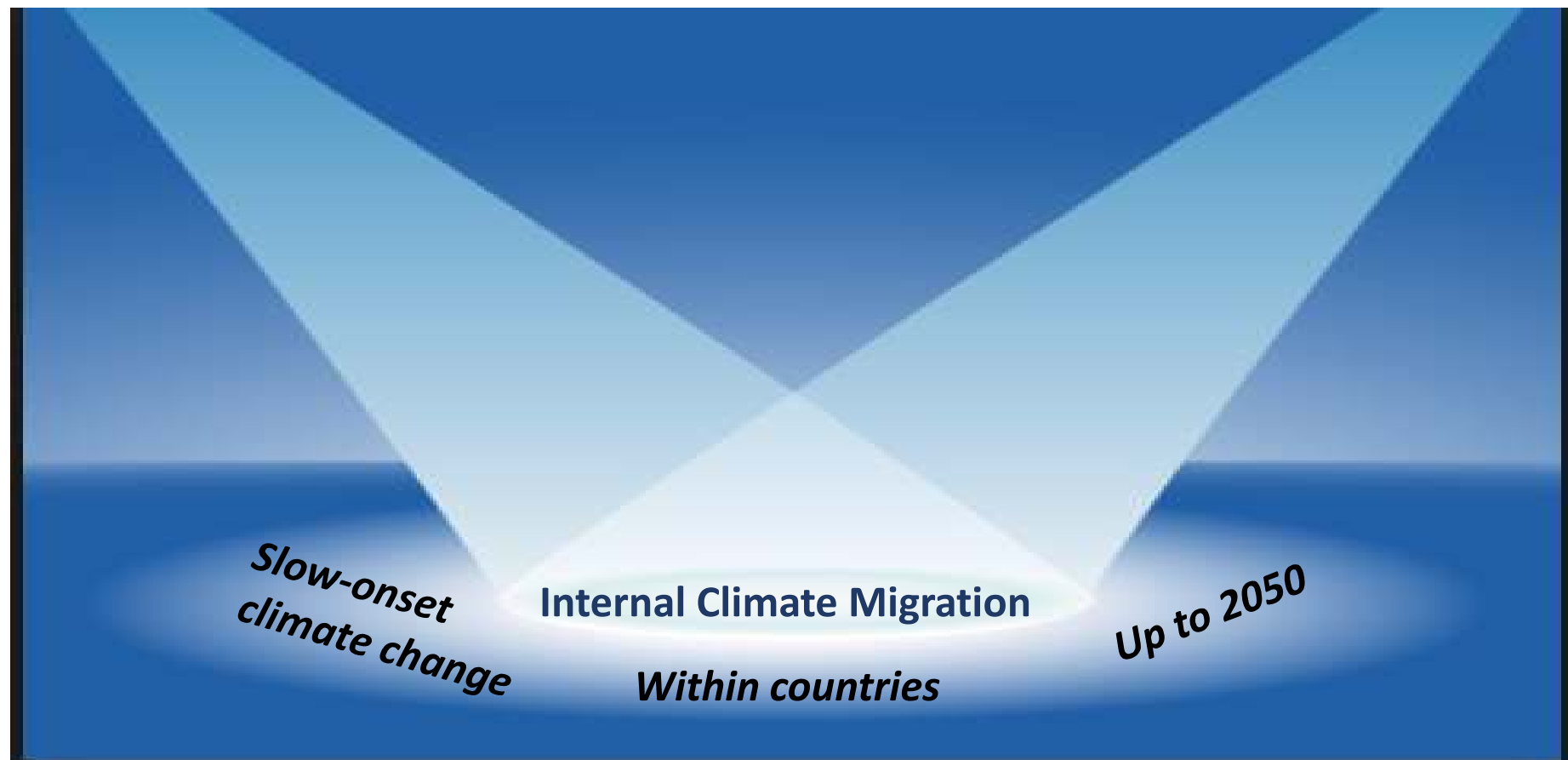
FACES OF MIGRATION



Multiple drivers:

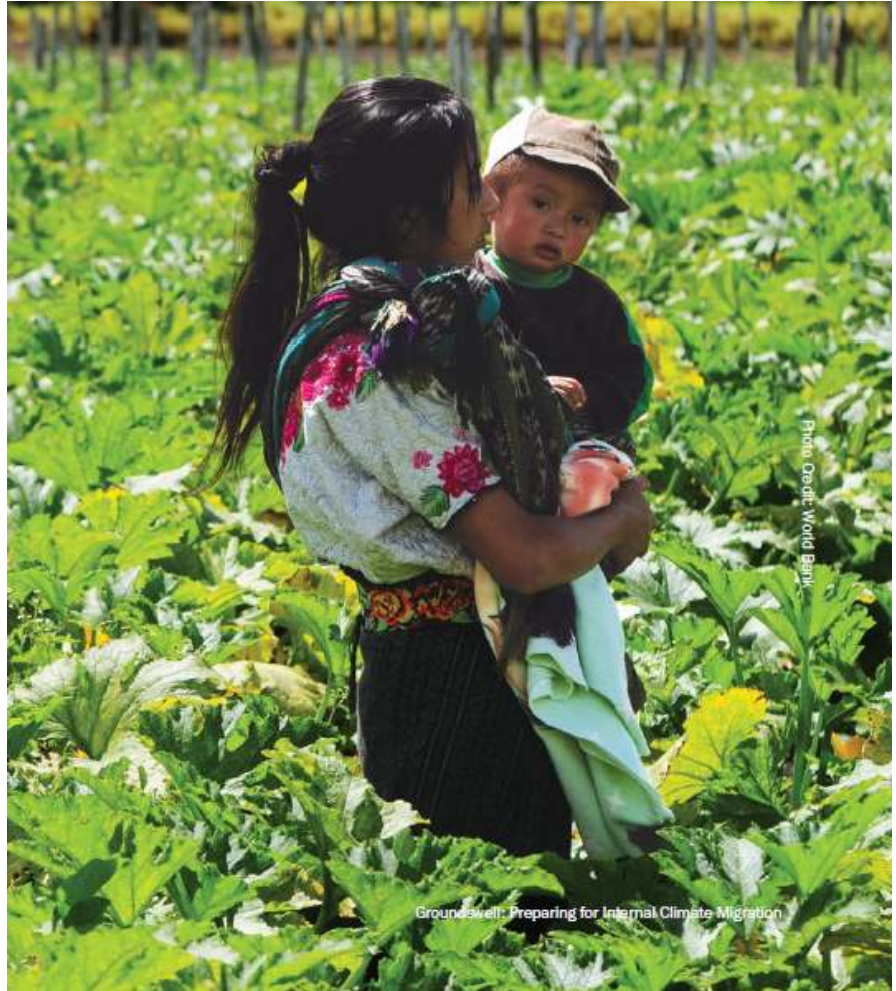
- economic
- social
- political
- environmental
- **CLIMATE**

SPOTLIGHT ON CLIMATE-MIGRATION-DEVELOPMENT NEXUS



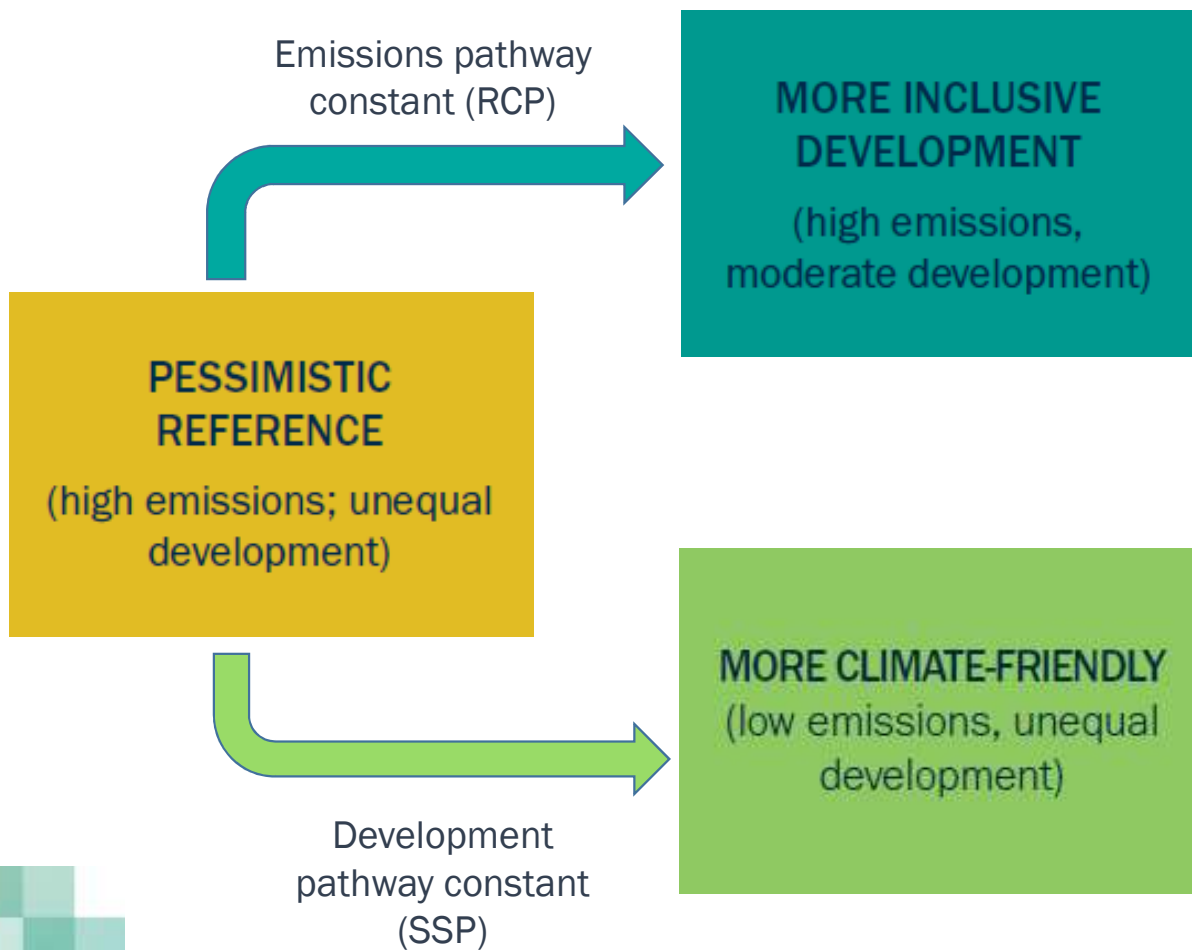
OBJECTIVE OF THE REPORT

- Help policymakers better plan and prepare for the likely movement of people within countries as a consequence of climate change
- Help understand areas of greatest climate vulnerability which are likely to propel people and communities to move within their countries and possible hotspots of climate in-and out migration



Groundswell: Preparing for Internal Climate Migration

PROJECTING CLIMATE MIGRATION 2020-50



Gravity model applied to composite climate impacts-development demographic models for 14 km grid cell



Estimates of **climate migrants** derived by comparing grid-cell level population for “climate impact” scenarios with that of the “no climate impact” scenario.

Results at regional scale based on country results; plus three country examples

RESULTS – SCALE OF CLIMATE MIGRATION BY 2050

- By 2050 over 143 million people in three regions could be climate migrants under the pessimistic reference scenario

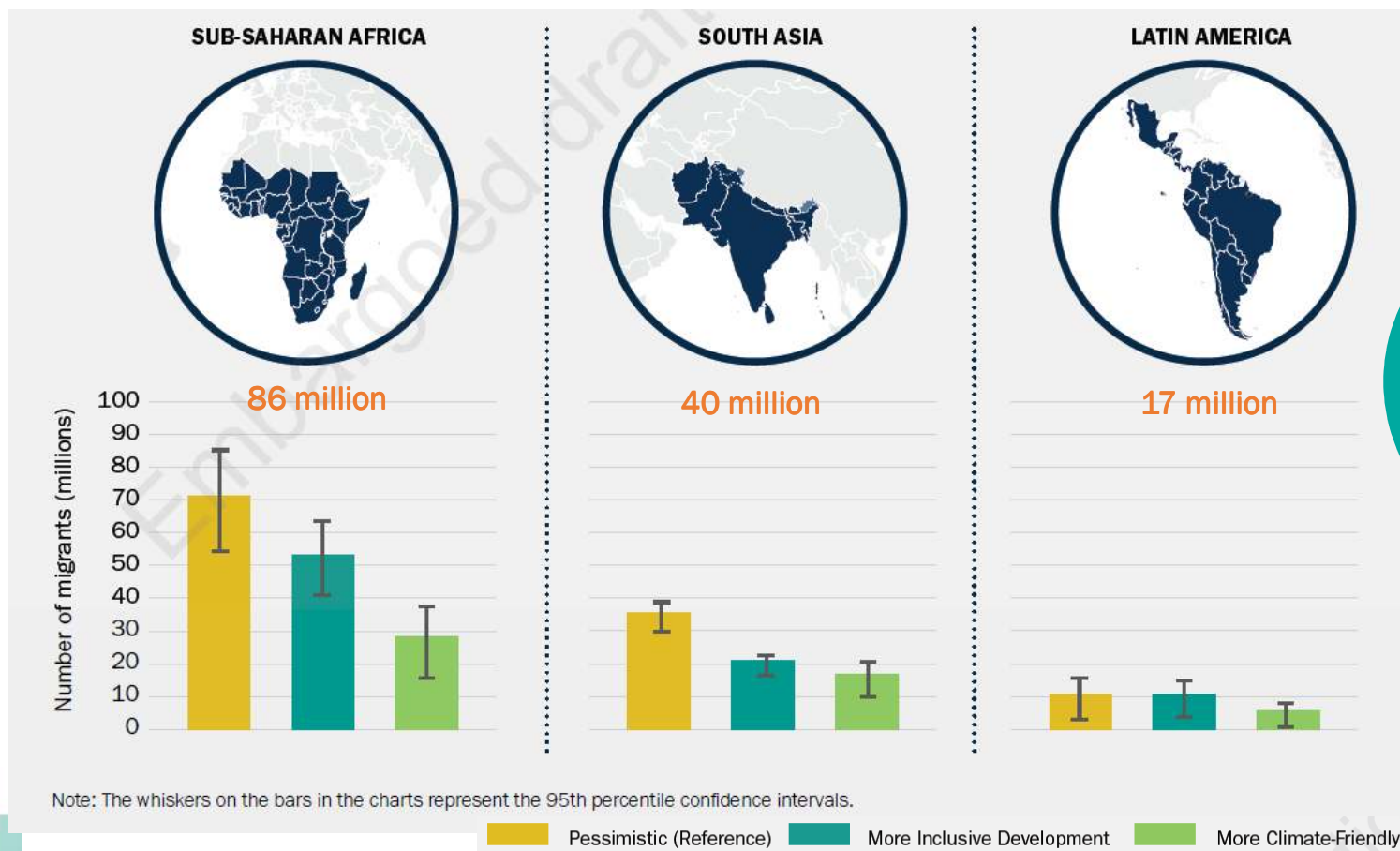


143 million is the combined population of Germany and South Africa

- This could be reduced by more than 80% under a more climate friendly scenario

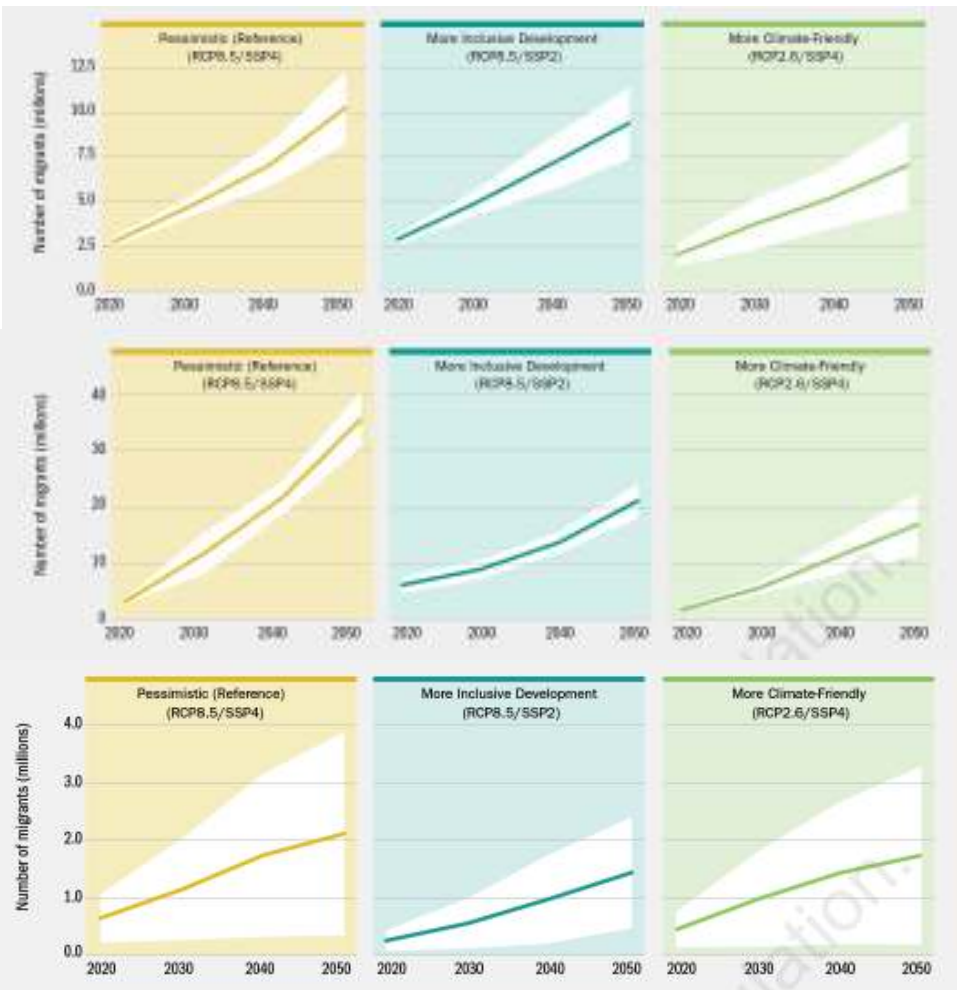
RESULTS – SCALE OF CLIMATE MIGRATION BY REGION

- Climate migrants by 2050: highest in Sub-Saharan Africa followed by South Asia and Latin America



Concrete climate and development action can help reduce distress migration

RESULTS – **TRAJECTORY** OF CLIMATE MIGRATION (2020-50)



**East Africa
(3X)**

- Number of climate migrants ramp up by 2050
- Window of opportunity for early action

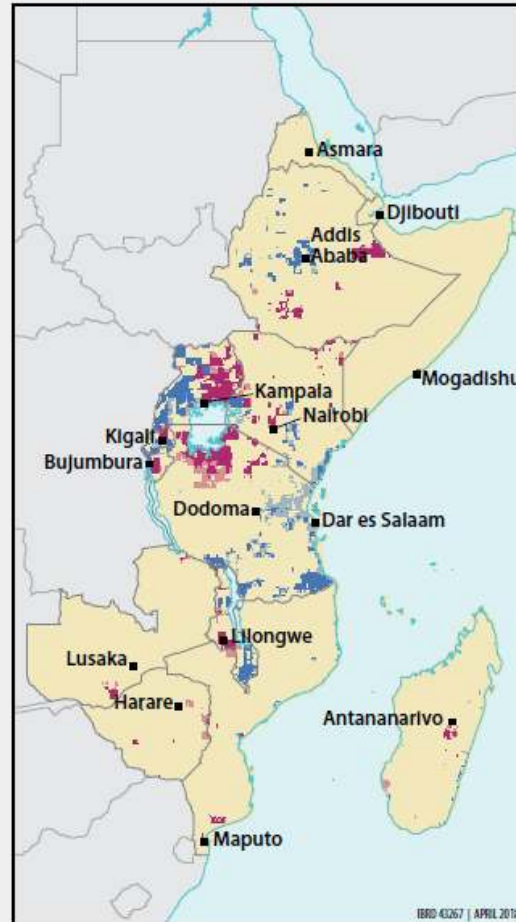
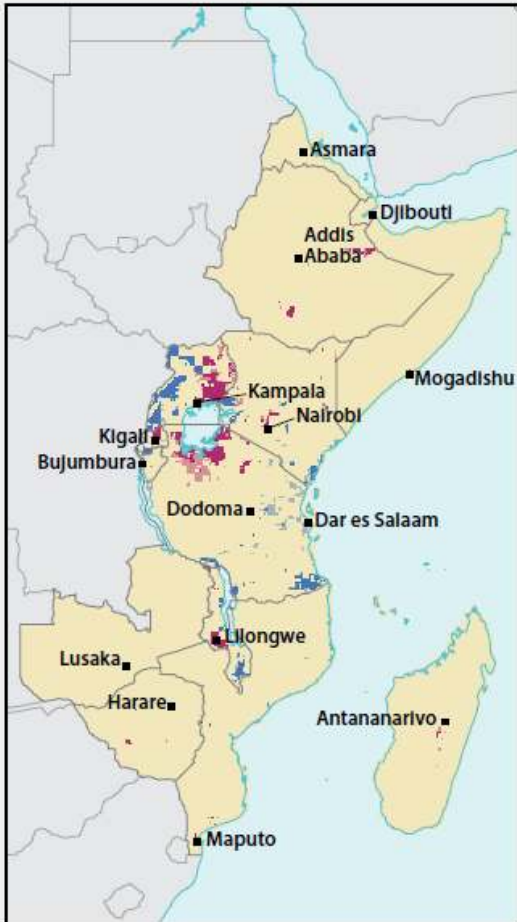
**South Asia
(6X)**

Post 2050: more extensive climate impacts => increase in climate migration

**Mexico & Central America
(2X)**

a. 2030

b. 2050



RESULTS – EAST AFRICA SPATIAL EMERGENCE OF CLIMATE MIGRATION HOTSPOTS

- Spread and intensity of climate in- and out-migration hotspots increases by 2050
- Hotspots reflect ecosystem and livelihood vulnerabilities
- Number of hotspots along boundaries

Implications for spatial development across landscapes & time scales

IN-MIGRATION

- High certainty in high levels of climate in-migration
- Moderate certainty in high levels of climate in-migration

OUT-MIGRATION

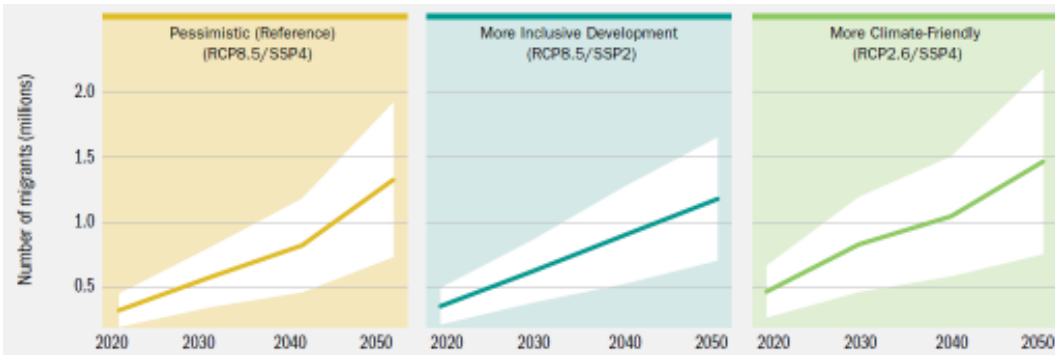
- High certainty in high levels of climate out-migration
- Moderate certainty in high levels of climate out-migration

Note: High certainty reflects agreement across all three scenarios modeled, and moderate certainty reflects agreement across two scenarios.

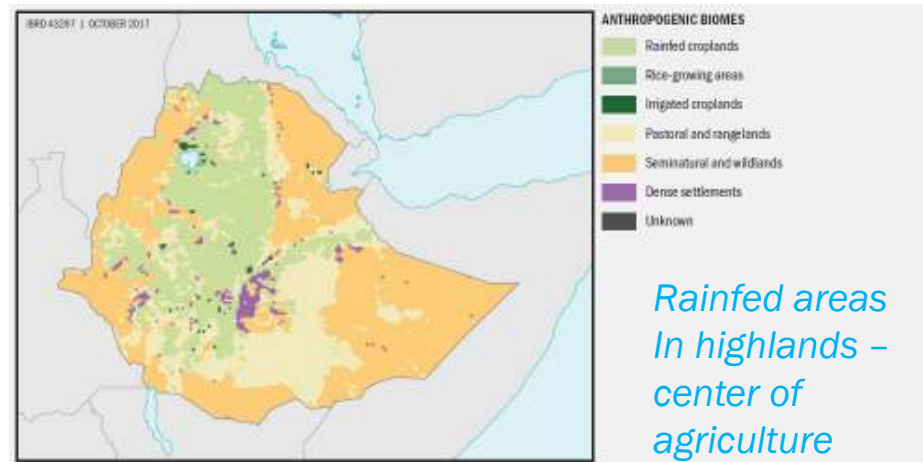
ETHIOPIA SNAPSHOT – KEY RESULTS

ETH: Uncertainty in climate models drives results

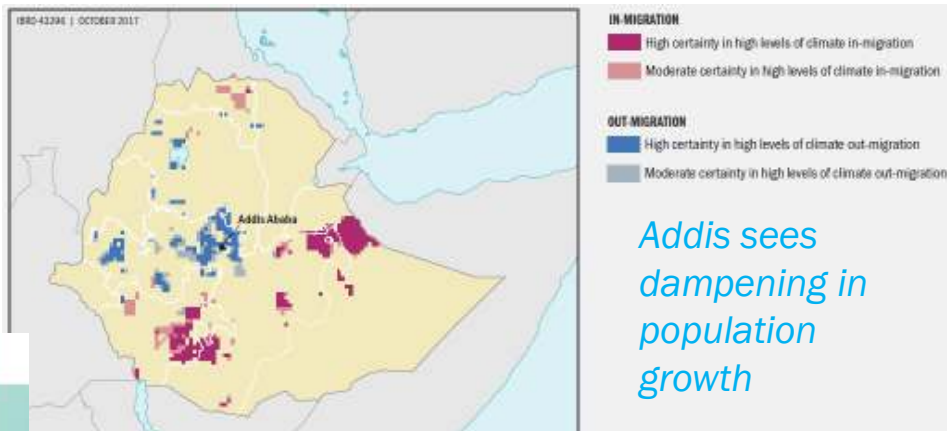
Projected number of internal climate migrants



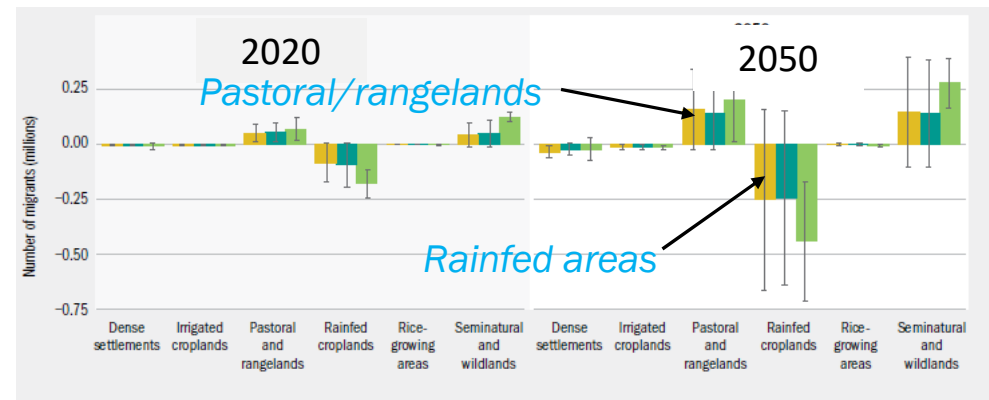
Livelihood Zones



Climate in- and climate out-migration hotspots



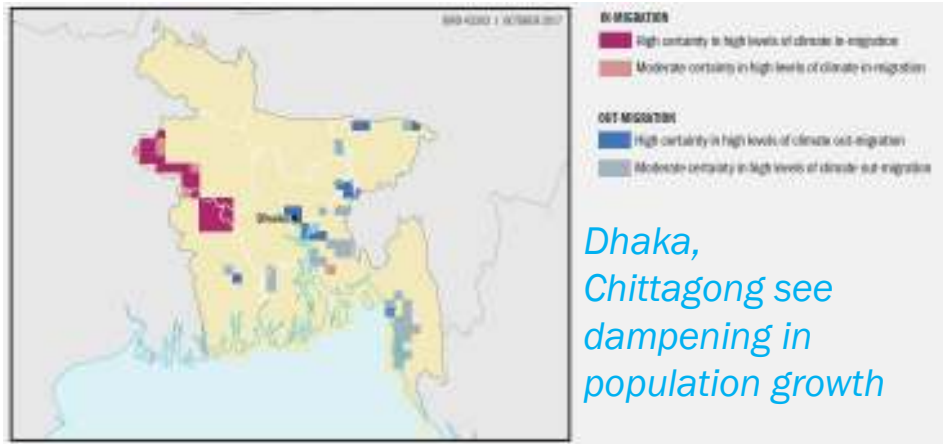
Net climate in/out-migration from livelihood zones



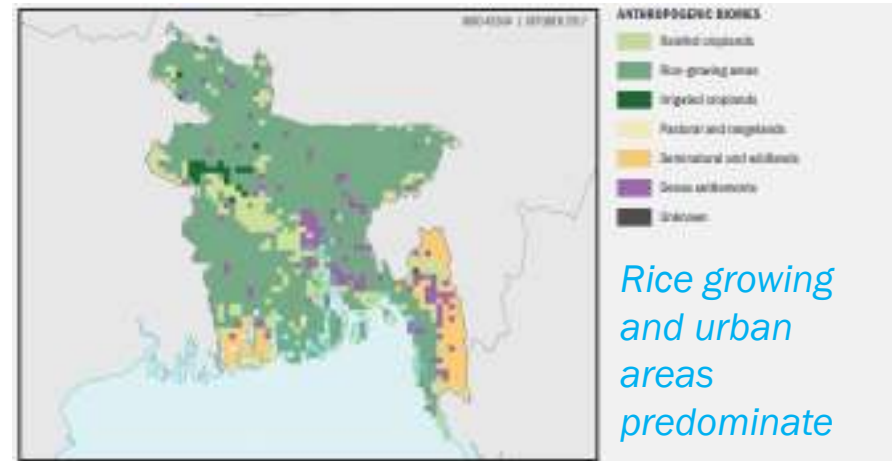
BANGLADESH SNAPSHOT – KEY RESULTS

BGD: High climate vulnerability drives patterns

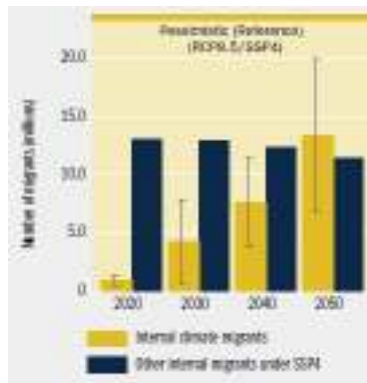
Climate in- and climate out-migration hotspots



Livelihood zones



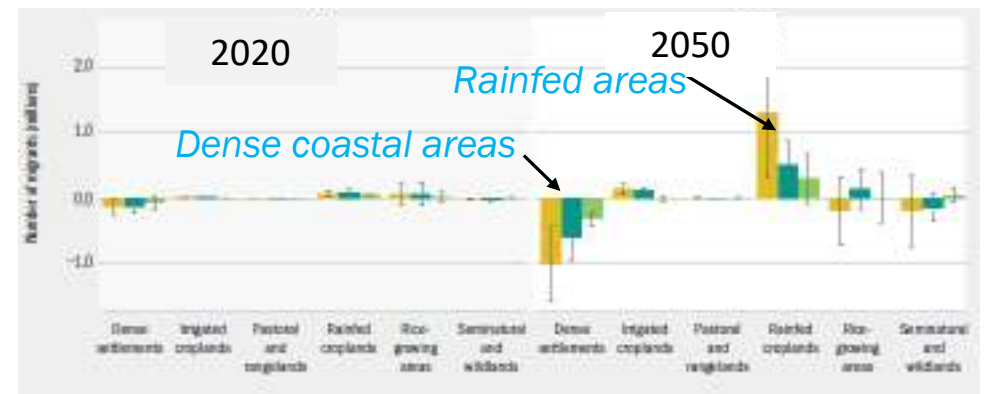
Climate migrants vs Other migrants



- Total climate migrants as high as 20 million

- Climate migrants outpace other migrants by 2050

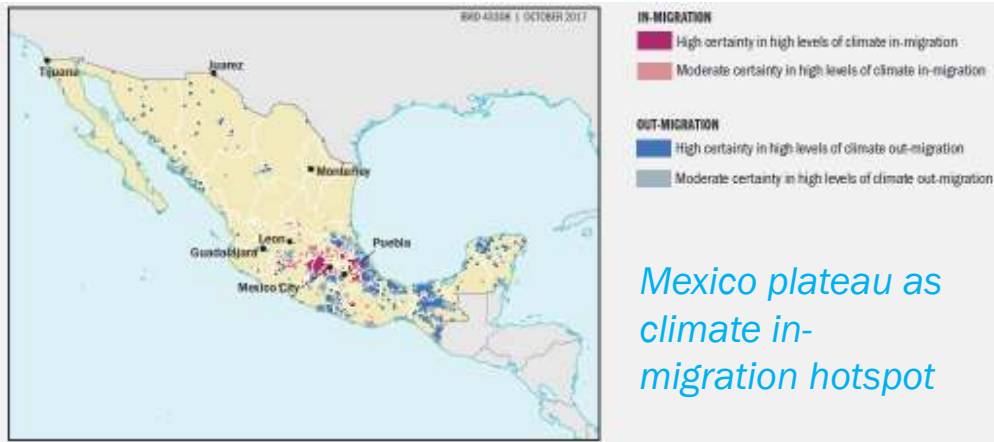
Net climate in/out-migration from livelihood zones



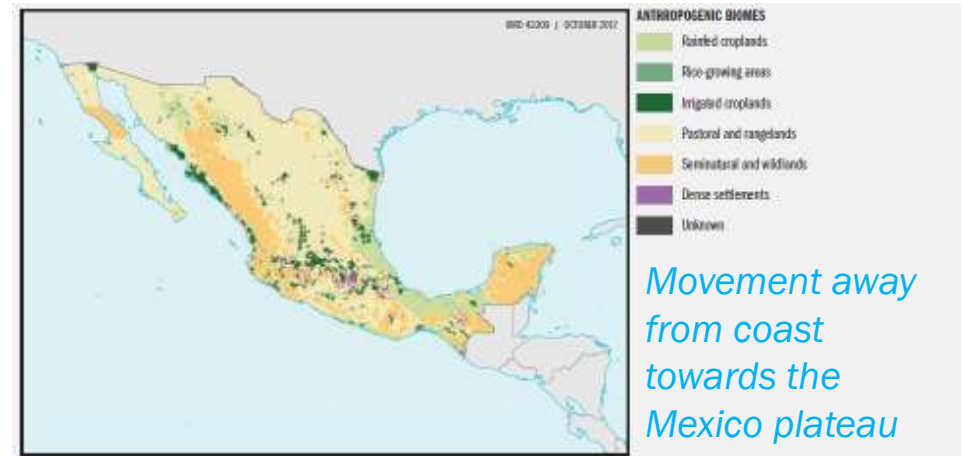
MEXICO SNAPSHOT – KEY RESULTS

MEX: Climate impacts intensify post 2050

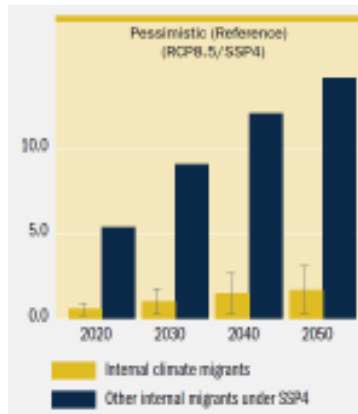
Climate in- and climate out-migration hotspots



Livelihood zones

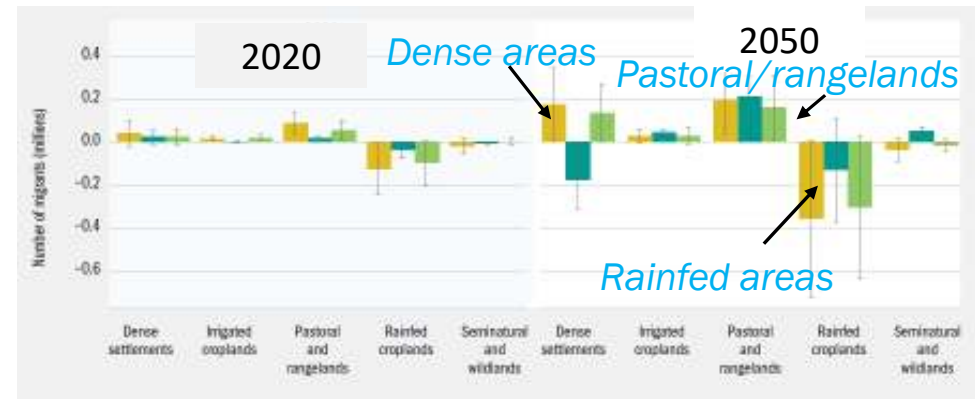


Climate migrants vs Other migrants



- Climate migrants c. 15% of other migrants

Net climate in/out-migration from livelihood zones



TOUGH TAKEAWAY MESSAGES

- Climate migration is the human face of climate change – 143 million faces!
- Poorest and vulnerable areas will be hardest hit
- We are locked into a certain level of internal climate migration – even with Paris Agreement
- These are conservative estimates – focusing on select slow onset factors and only three regions

⇒ *Challenges the delivery of development targets..... and extent to which movement can be positive for migrants and their families*



—Wolde Danse (28) Ethiopia



Monoara Khatun (23) Bangladesh

BUT THE WINDOW OF OPPORTUNITY STILL OPEN

Internal climate migration may be a reality BUT it does not have to become a crisis...

IF we pursue concerted action now:

1. **Cut greenhouse gases now** to reduce climate pressure on people's livelihoods and the associated scale of climate migration (*up to 80% reduction*)
2. **Embed climate migration into resilient development planning** for all phases of migration and **across time**
 - Before migration – through adapt in place
 - Enabling mobility – for those who need to move
 - After migration – both sending & receiving areas addressed
3. **Invest now to improve understanding** of internal climate migration



DISCUSSION

1. Analysis

- How can these scenario-based global, regional, country projections be used?
- What are the opportunities to incorporate additional impacts (health, biomes), including rapid onsets, conflict?

2. Policy dialogue

- National/global policy
- Inform prospective planning
- Incorporate economic consequences

3. Operational utility

- Hotspots – the spatial and temporal dimensions

4. Other



GROUNDWELL

PREPARING FOR INTERNAL CLIMATE MIGRATION



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Thank you

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Useful links:

<https://openknowledge.worldbank.org/handle/10986/29461>

https://youtu.be/d6ijhQn_ww4

