

# GROUNDSWELL

PREPARING FOR INTERNAL CLIMATE MIGRATION



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Jonas Bergmann, Viviane Clement, Kayly Ober, Jacob Schewe,  
Susana Adamo, Brent McCusker, Silke Heuser, and Amelia Midgley

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## Preparing for Internal Climate Migration

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*Lead Environmental Specialist*



*6<sup>th</sup> EMN Educational Seminar on Migration*  
*Falkensteiner Hotel Bratislava, Slovakia*  
*August 22-24, 2018*

[https://youtu.be/d6ijhQn\\_ww4](https://youtu.be/d6ijhQn_ww4)

# OUTLINE OF PRESENTATION

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



# MIGRANT CRISES IN EUROPE



**Migration crisis: the new routes to Europe** / Migrants only cross



## Call for tougher controls on migrants in Germany

AN influential cellor Angela tion government stiffer control influx of Rom garian migr expected to tra after restricti ers expires.

The centre- Social Union w to limit their ac erous provision welfare state.

They are re suspension fr social service three months s expel people c

## Seeking Refuge: Migration Crisis



Here's where Syrians have gone

## Europe's refugee crisis is making headlines, but Latin America's is just as alarming



re not talking about

Image: REUTERS/Gael Gonzale

# 2010 Floods in Pakistan

- *20 million affected*
- *1 million people displaced*



# 2017 GLOBAL REPORT ON DISPLACEMENT



*31 million new displacements worldwide from conflict, violence and disasters in 2016 (IDMC)*

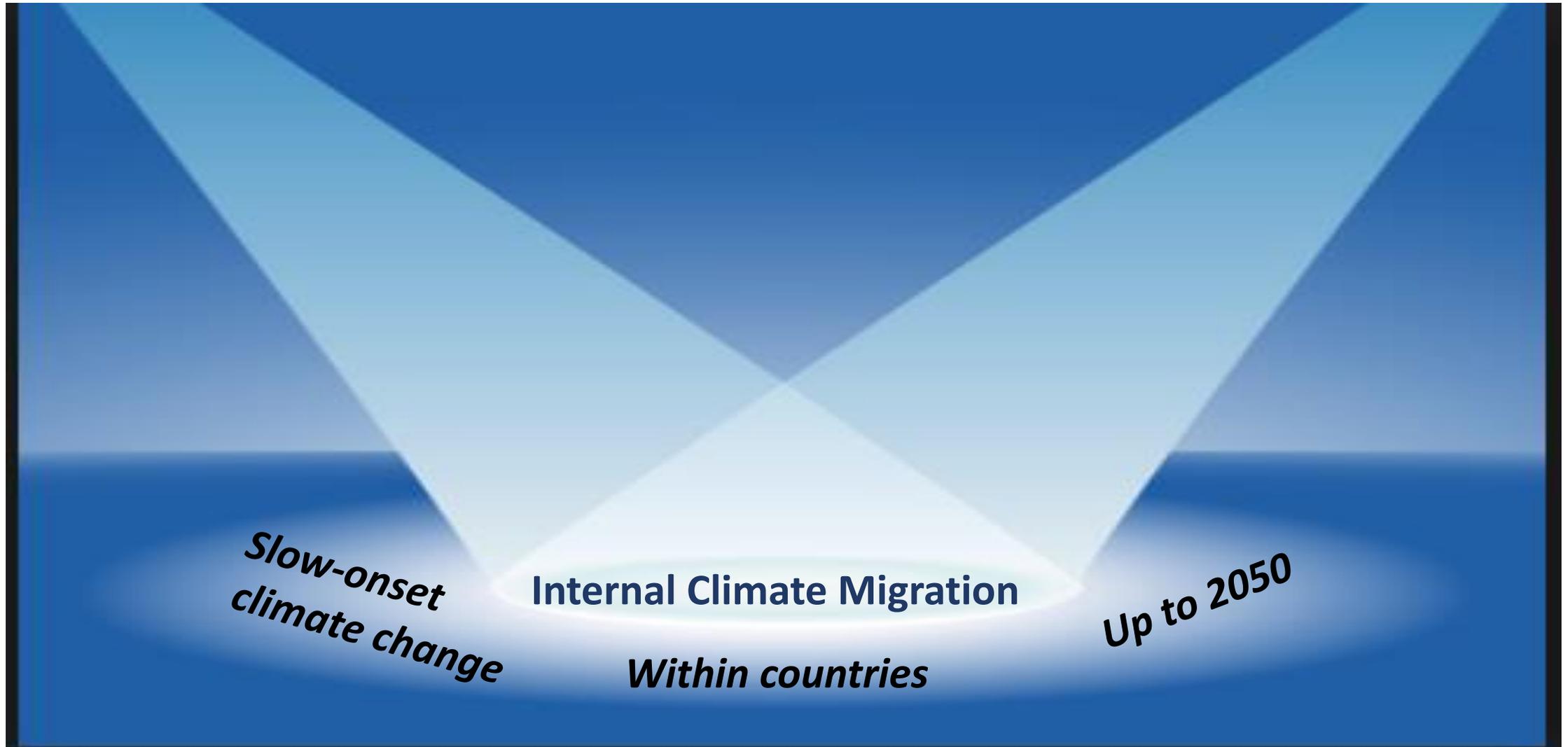
# FACES OF MIGRATION



## Multiple drivers:

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

# SPOTLIGHT ON CLIMATE-MIGRATION-DEVELOPMENT NEXUS



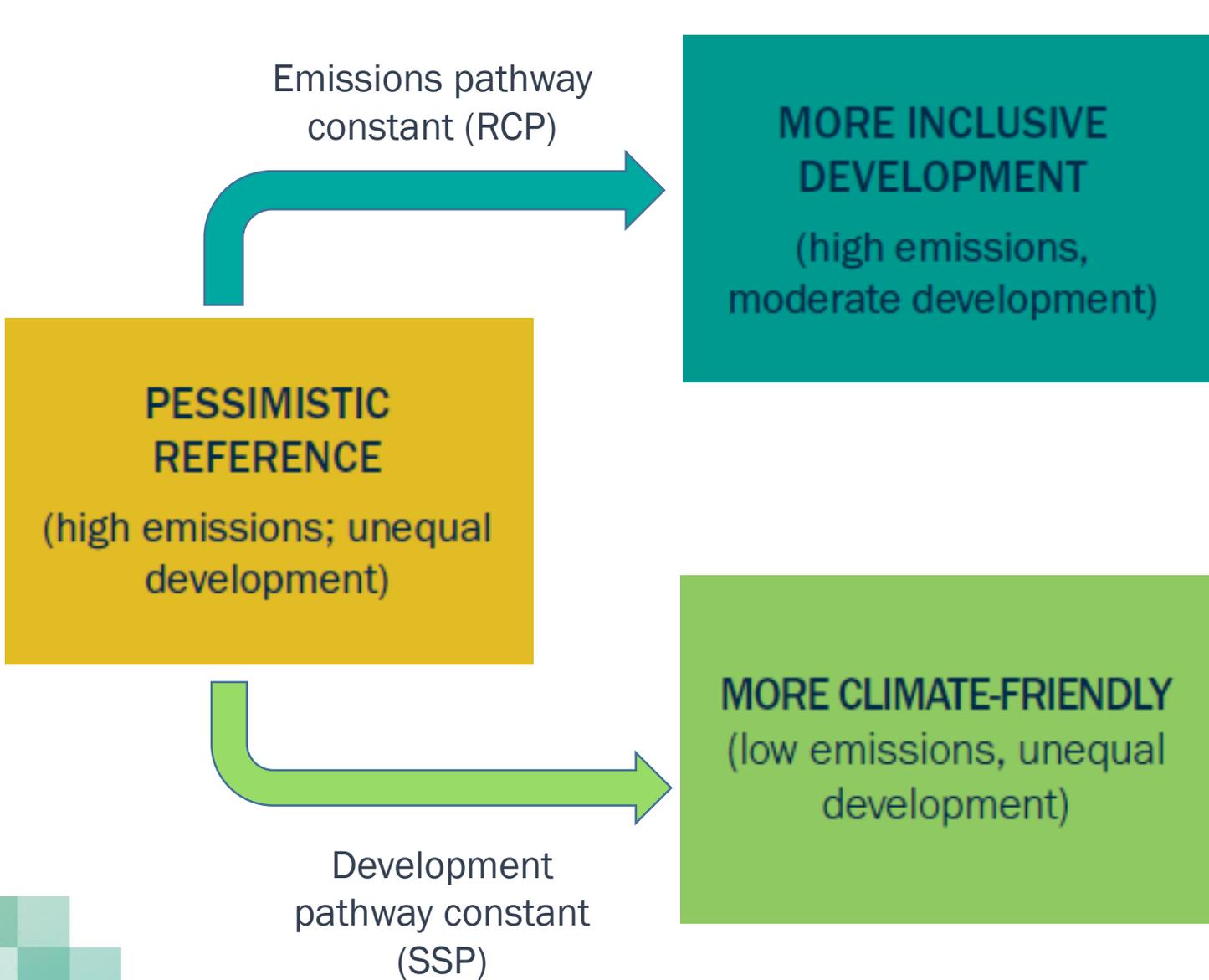
# OBJECTIVE OF THE REPORT

- 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



Composite of climate, demographic & climate impact models run for each scenario for 14 km grid cell



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

Results at regional scale aggregated from country level results;  
Deep dives for 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**

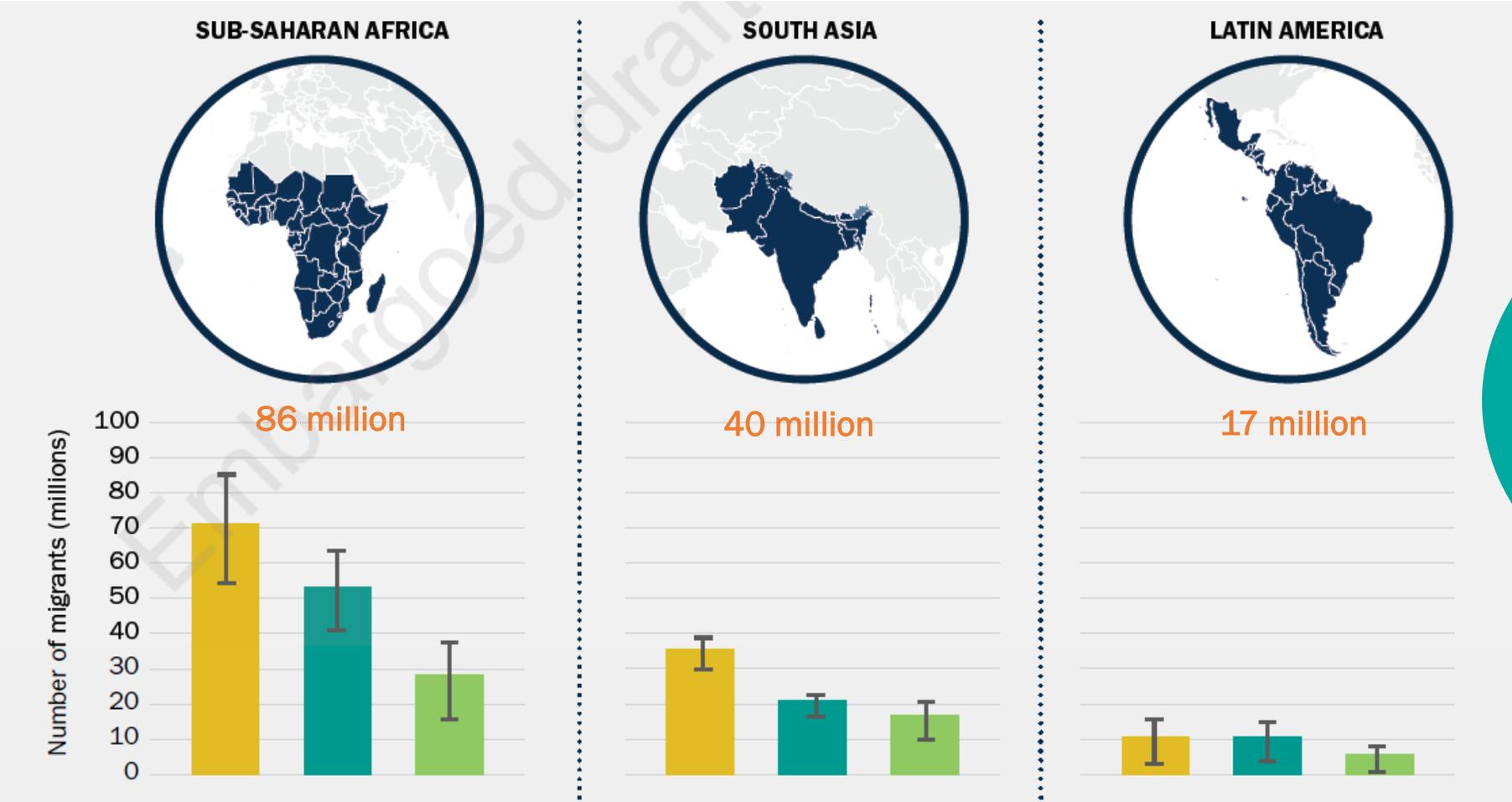


143 million is the combined population of Germany and South Africa

Climate migrants could be reduced by more than 80% under a more climate friendly scenario

# RESULTS – SCALE OF CLIMATE MIGRATION BY REGION

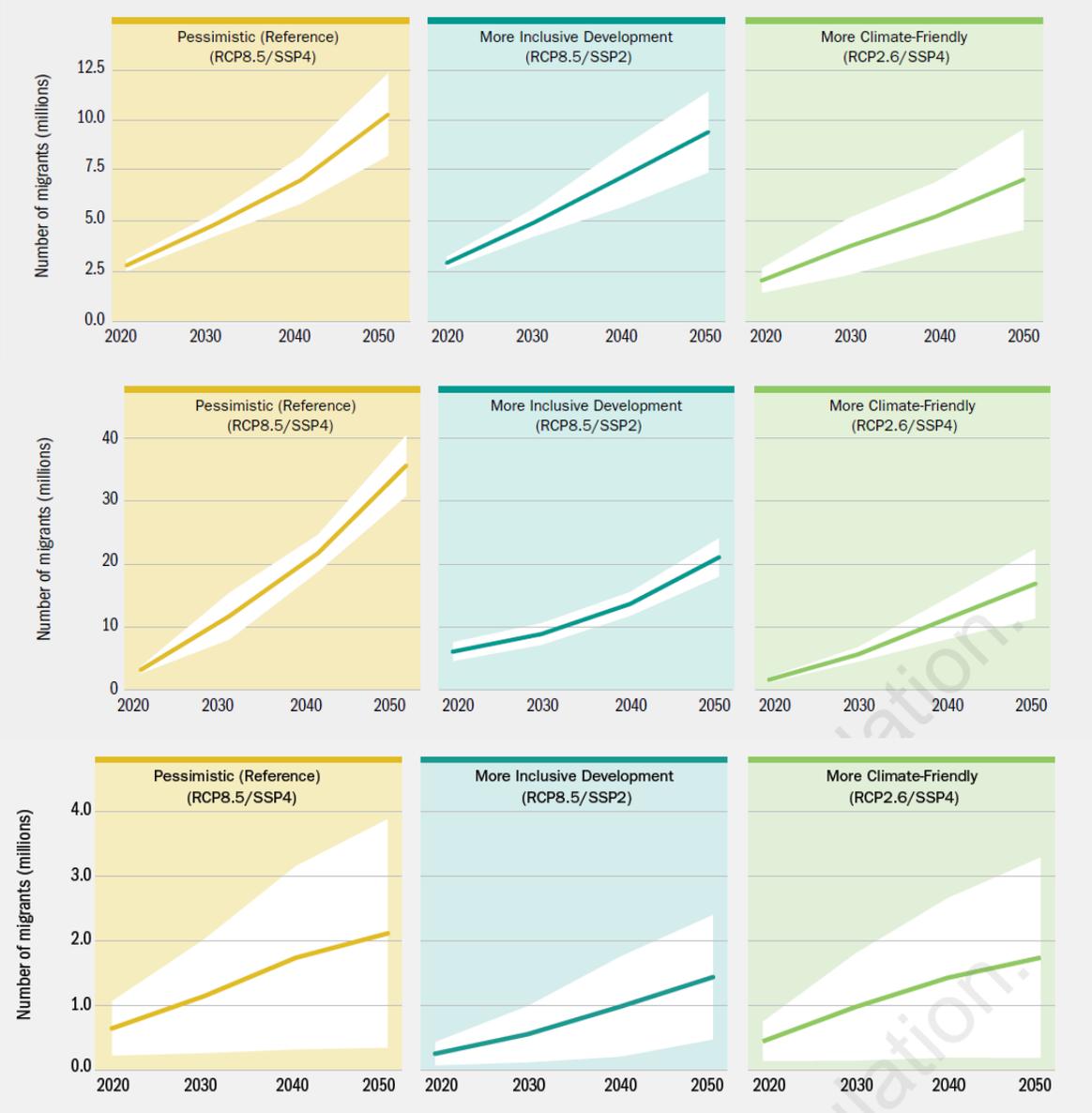
- Climate migrants by 2050: highest in Sub-Saharan Africa followed by South Asia and Latin America



Concrete climate and development action can help reduce distress migration

Note: The whiskers on the bars in the charts represent the 95th percentile confidence intervals.

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



**East Africa (3X)**

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

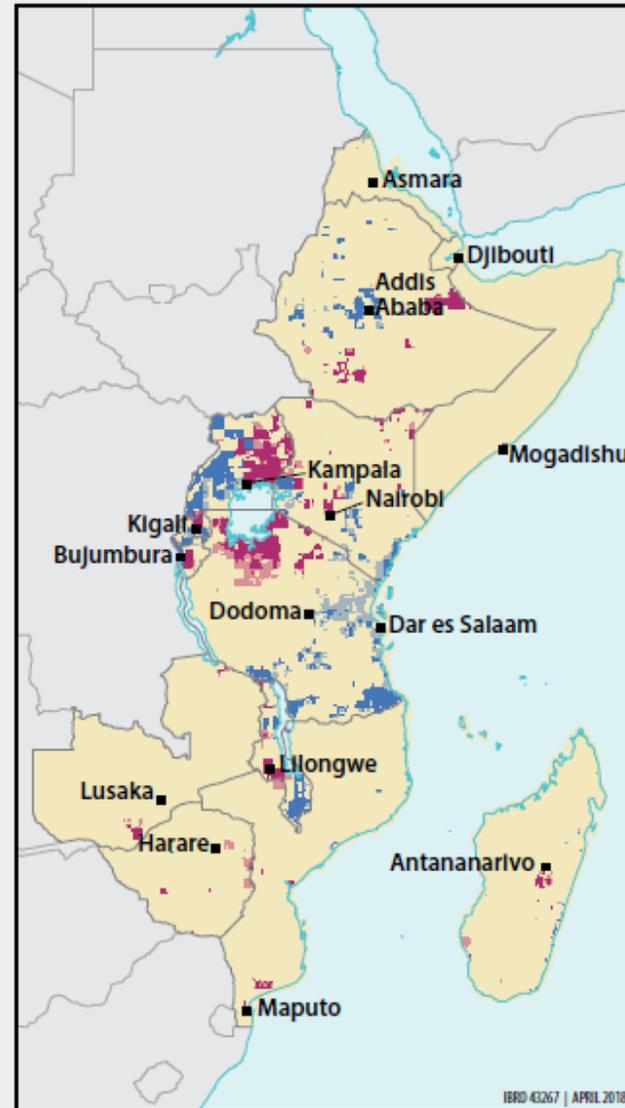
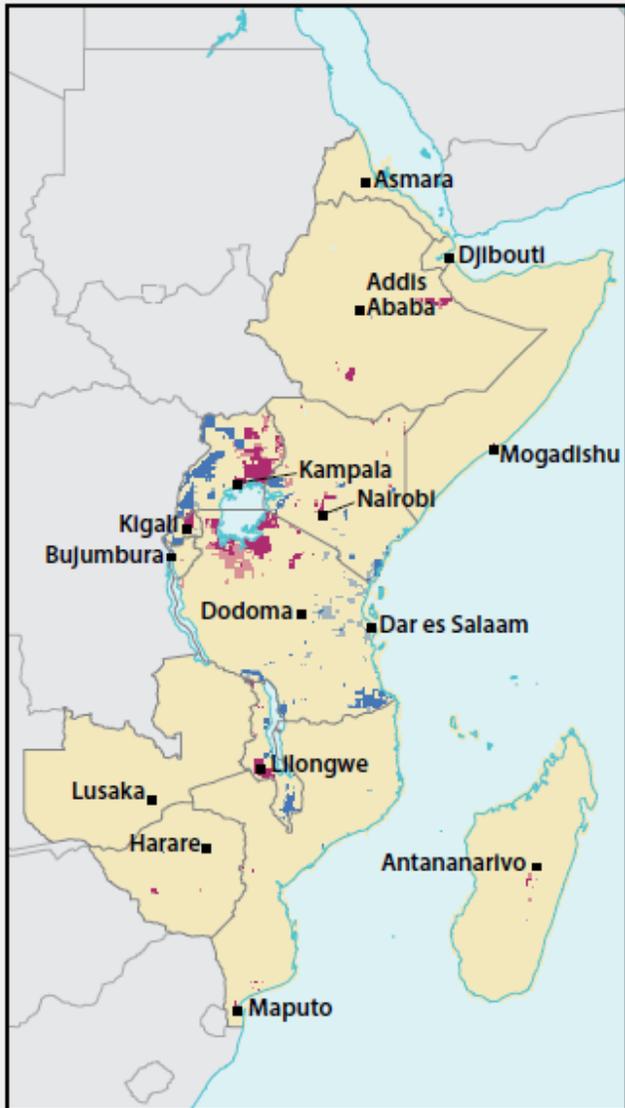
**South Asia (6X)**

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**

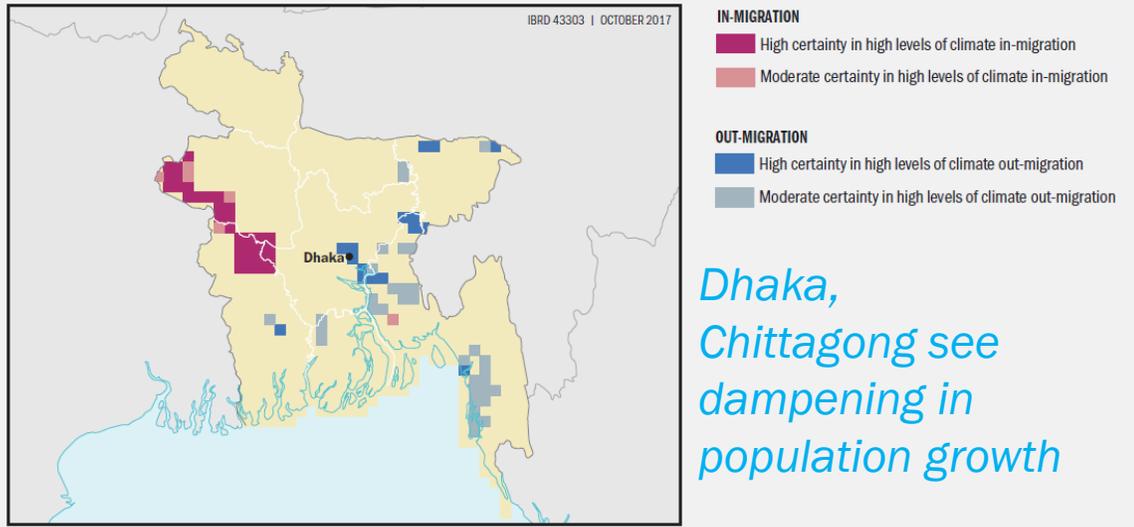
- High certainty in high levels of climate out-migration
- Moderate certainty in high levels of climate out-migration

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

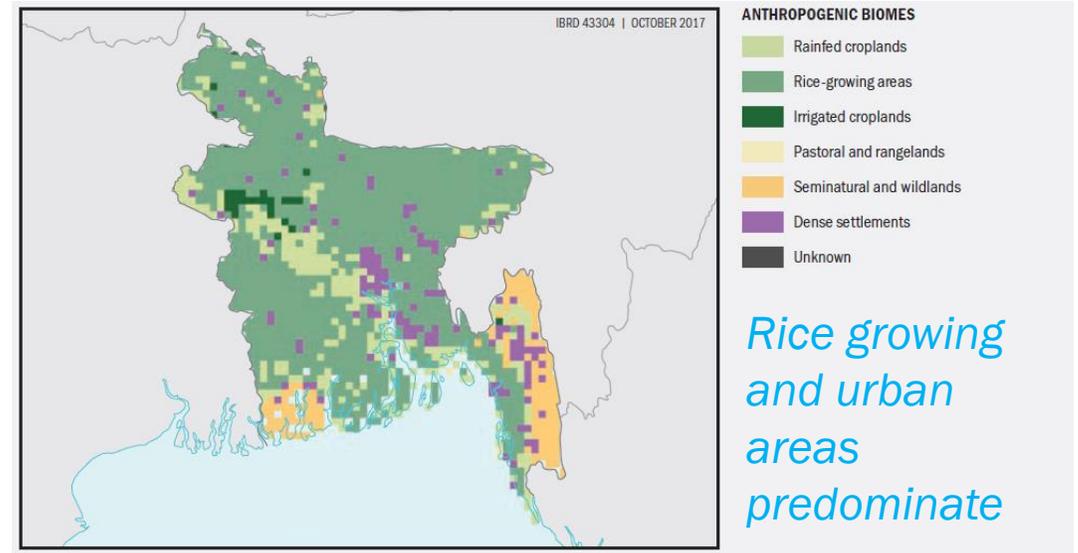
# BANGLADESH SNAPSHOT – KEY RESULTS

BGD: High climate vulnerability drives patterns

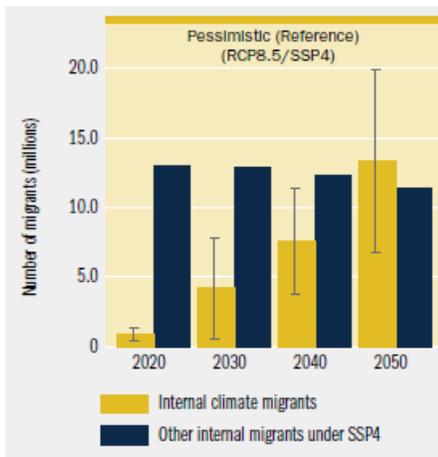
## Climate in- and climate out-migration hotspots



## Livelihood zones



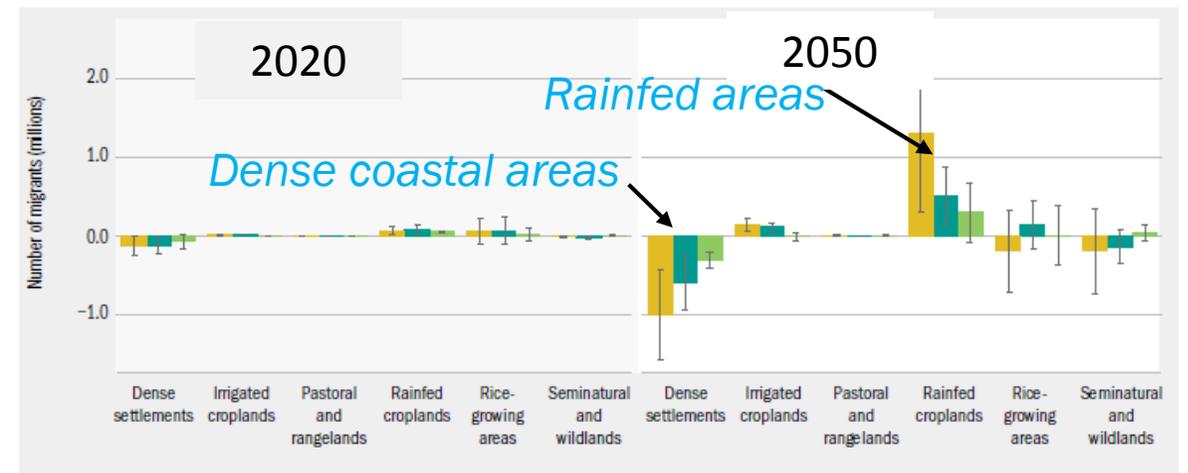
## Climate migrants vs Other migrants



*- Total climate migrants as high as 20 million*

*- Climate migrants outpace other migrants by 2050*

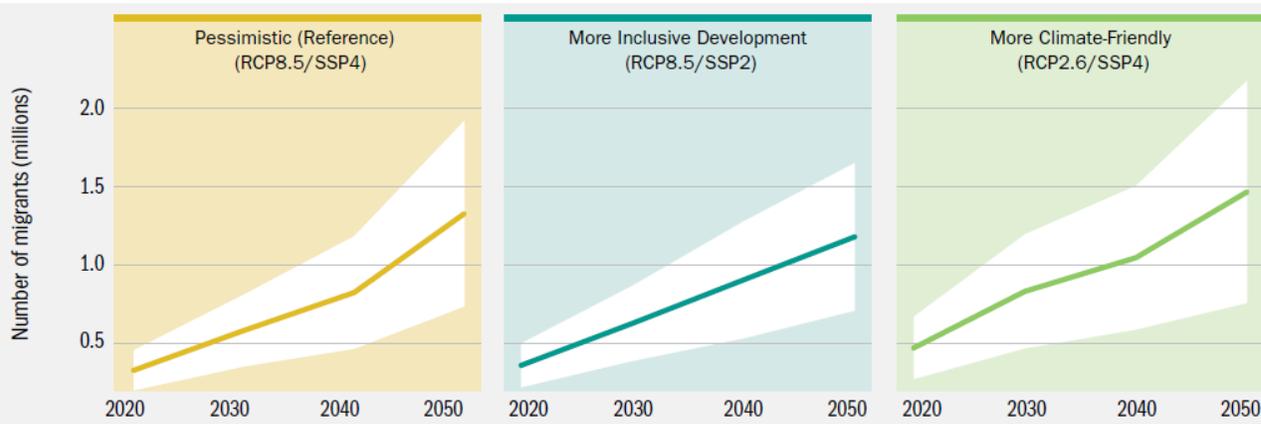
## Net climate in/out-migration from livelihood zones



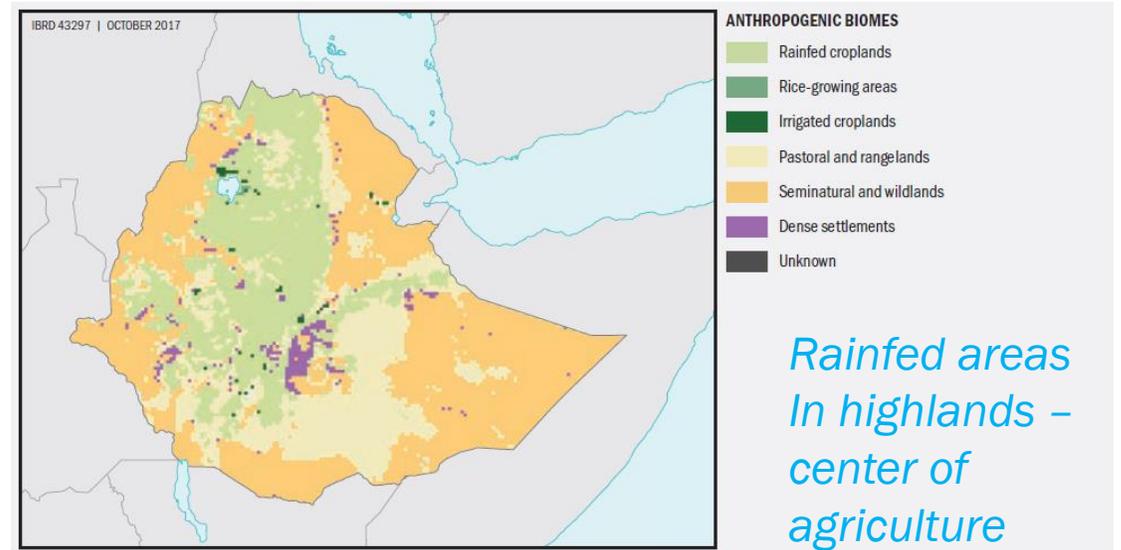
# ETHIOPIA SNAPSHOT – KEY RESULTS

ETH: Uncertainty in climate models drives results

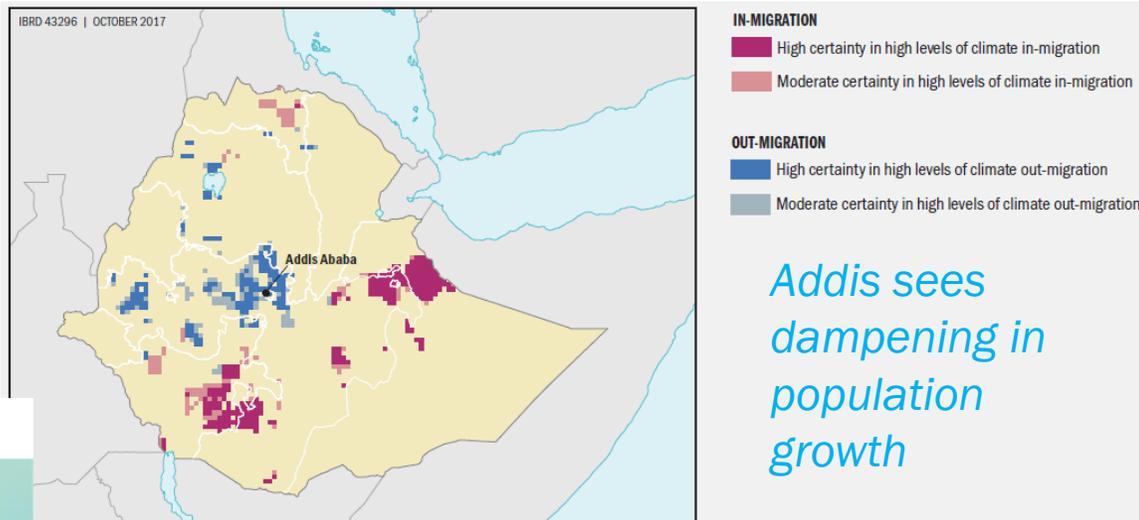
## Projected number of internal climate migrants



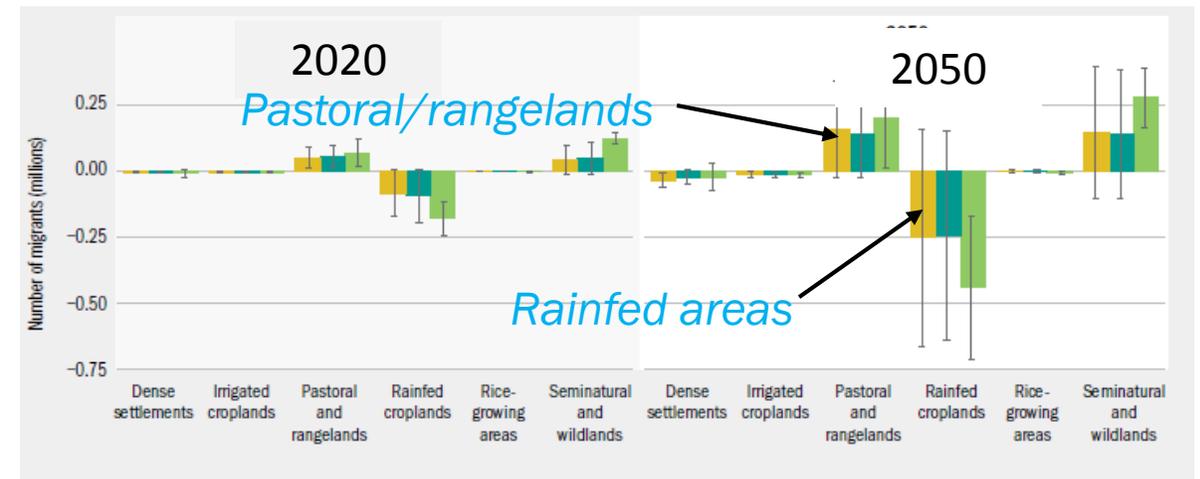
## Livelihood Zones



## Climate in- and climate out-migration hotspots



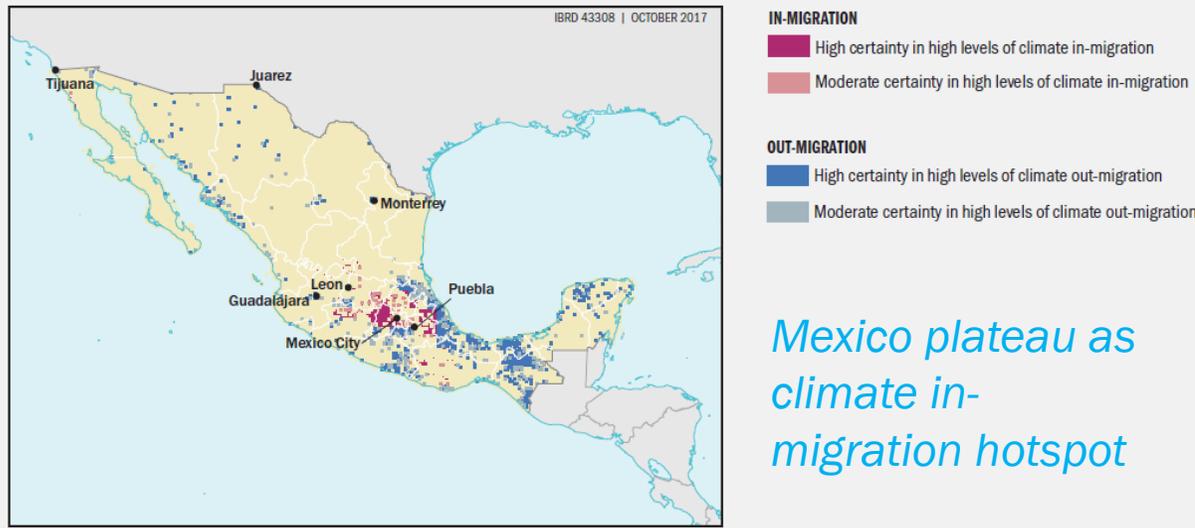
## Net climate in/out-migration from livelihood zones



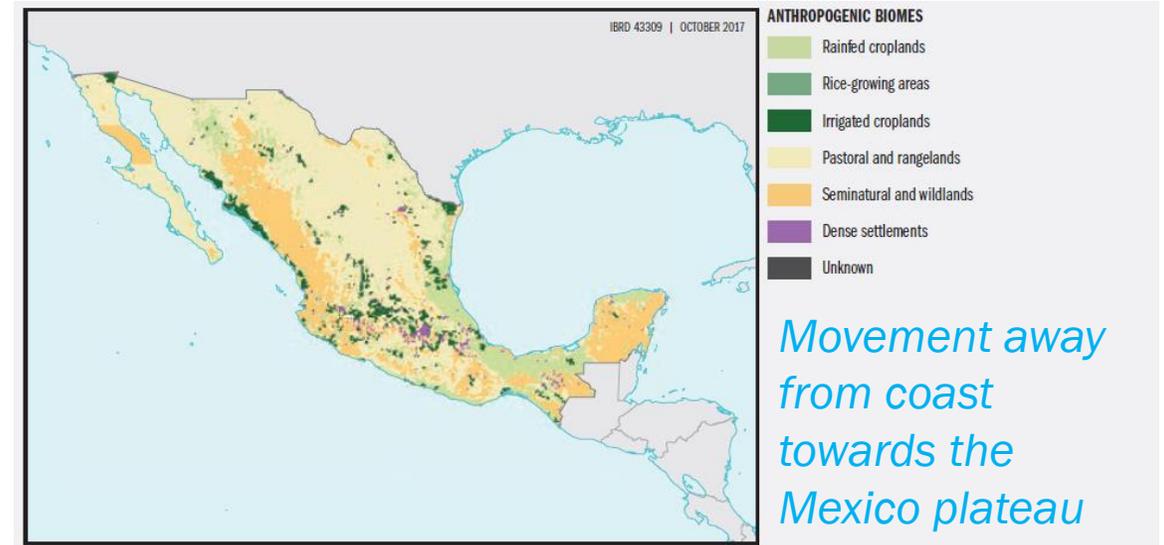
# MEXICO SNAPSHOT – KEY RESULTS

MEX: Climate impacts intensify post 2050

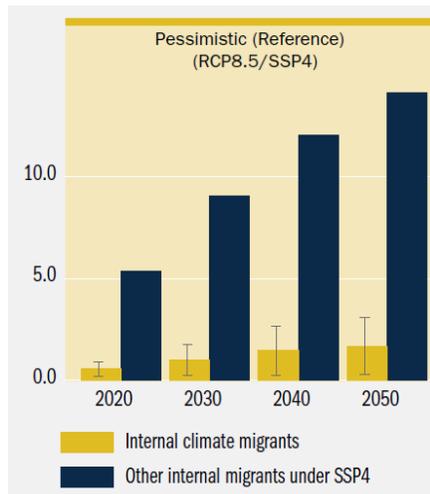
## Climate in- and climate out-migration hotspots



## Livelihood zones

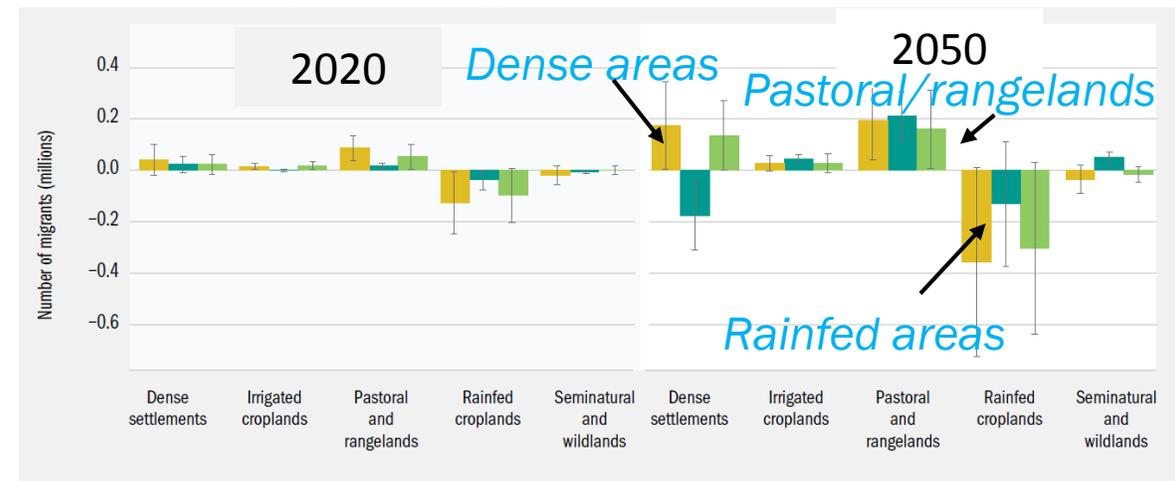


## Climate migrants vs Other migrants



*- Climate migrants c. 15% of other migrants*

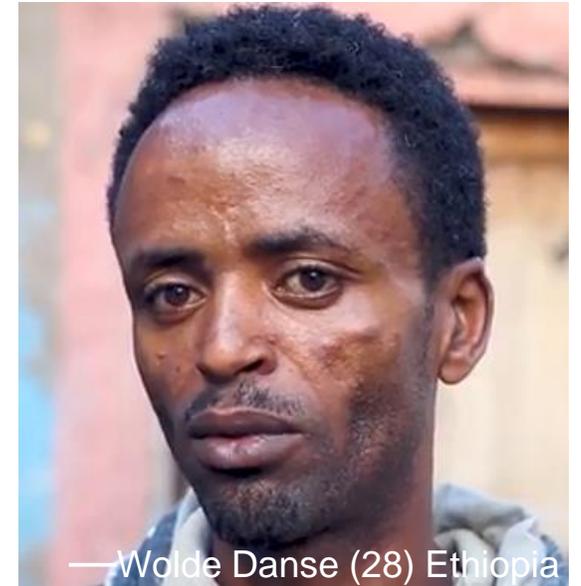
## Net climate in/out-migration from livelihood zones



# 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...*

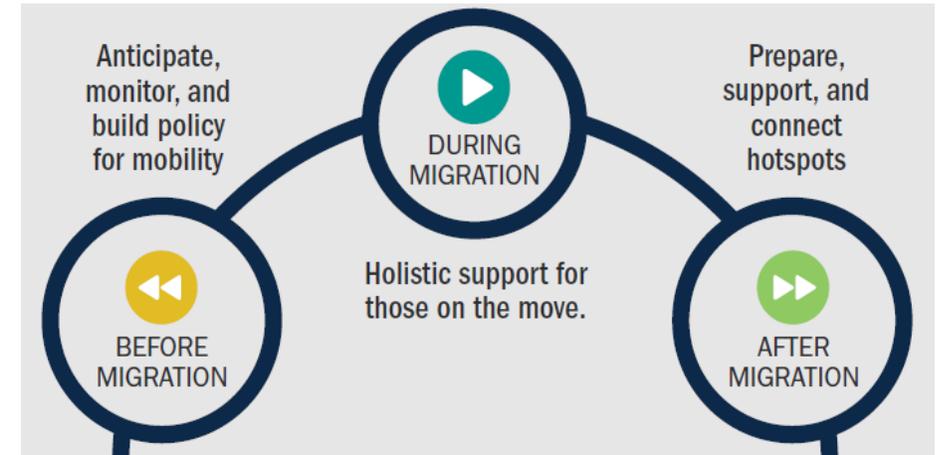
*IF we pursue concerted action now:*

- 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

- Can we have durable solutions without addressing potent migration drivers - like climate?
- Do we need to move from ex-post to ex-ante strategies?
- Should we take a longer range view of the issues?
- How can these scenario-based global, regional, country projections be used?



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# Thank you

For more information contact:  
Kanta Kumari Rigaud (kkumari@worldbank.org)

Useful links:

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

[https://youtu.be/d6ijhQn\\_ww4](https://youtu.be/d6ijhQn_ww4)

