



## **M4: Opportunities and challenges for transferability methods in the field of climate-migration studies**

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### **Summary of themes covered in workshop**

- Policy relevance of transferability methods in the context of climate change and migration
- Introduction to agent based modelling: Example from MigSoKo
- Introduction to meta-analysis: Example from MigSoKo
- Barriers to relocation as a disaster preparedness mechanism in Pakistan
- Climate change induced and environmentally stressed migration in Dhaka

Discussion: “What are the particular strengths and weaknesses of each approach (ABM, meta-analysis, survey, participatory approaches) with respect to transferability?”

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### **Most controversial question that came up in this workshop?**

- How to define climate migrants?
- How to scale up results from surveys and participatory approaches?
- How to avoid publication bias in meta-analysis?
- How to ensure model stability?
- How to perform model validation?
- How to limit number of studies for meta-analysis?
  - E.g. well defined quality criteria or thresholds

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## **Results of the discussion**

Strengths and weaknesses of each method with respect to transferability

### **ABM**

#### **Strengths**

- flexible regarding data input
- explore scenarios
- Communication tool
- Generic/adjustable model rules
- Versatility
- Spatial heterogeneity
- Long-term dynamics
- Individual decisions and regional patterns
- Virtual labs
- Interactions (patterns)
- Explicit processes

#### **Weaknesses**

- Lack of data availability
- Model stability & intangible feedbacks, missing data/relevant processes:
  - Validation (e.g. could be tackled by pattern oriented modelling)
- Data requirements
- Simplifications
- Lack of trust
- Formalization is difficult
- Model validation & parameterization difficulties

### **Meta-analysis**

#### **Strengths**

- Abstraction through coding as strength à necessary
- things which are unobservable within individual cases, e.g. unobservable patterns and differences between cases
- Data requirements
- Support assessment like IPCC

- Identify patterns from case studies
- Scalability/generalizability
- Cover large regions
- Synthesis of large number of case studies
- Surprising connections (but no surprising findings?)

### **Weaknesses**

- Coding bias: How to do objective coding as need for abstractions? At what point stop
  - Involve several people
- Potential publication bias (as e.g. limited to English, no findings from grey literature etc., only new results (?))
  - Avoid by using working paper (but dependent on disciplines)
- Less flexible regarding data input (?)
- Effort
- Validation/reliability
- Information loss
- Need many references
- Time consuming
- Dependent on available data

### **Survey**

#### **Strengths**

- Unexpected results to be shared, new insights
- Combination with ABM possible
- Engagement with stakeholders
- Policy implication

#### **Weaknesses**

- Accessibility of e.g. households, communities
- Lack of trust leading to biased answers: respondents not trusting and fear to say the truth
- Resource intensive: time consuming, budget limitations, etc.
- difficult to transfer
- Data requirements
- Being careful while analyzing and coming to conclusions e.g. who is a climate migrant?

## **Participatory approaches**

### **Strengths**

- Validation
- Engagement of stakeholders
- Unexpected results to be shared, new insights
- Direct benefit for the community
- Useful experiences to be shared
- Direct benefit for community

### **Weaknesses**

- Lack of trust leading to biased answers: respondents not trusting and fear to say the truth
  - Data requirements
  - How to scale up? Ex ante or ex post?
  - Thin conceptual line e.g. choice to stay or inability to move (valid for all methods in this context)
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### **Research gaps identified**

- Methodological gaps from the different transferability approaches discussed in the workshop:
    - Development of methods/approaches/strategies to upscale insights from local empirical studies
    - Deal with publication biases in literature meta-analyses
    - Validation of social-ecological ABMs
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### **Next steps**

- Apply different methods (meta-analysis, ABMs) to derive insights on the climate-migration context for large geographic areas and to study the transferability of climate-migration
  - Identify how insights from the different approaches can feed into the other approaches
  - Start discussion within the research community on how to upscale local empirical findings
  - Identify needs of international policy makers on what is needed from transferability approaches
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**Other**

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**3-5 keywords that characterize the session**

Transferability, methods, migration, scientific exchange, interactive, up-scaling