WHERE the RAIN FALLS

Where the Rain Falls:

Climate Change, Food and Livelihood Security, and Migration

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SUPPORTED BY: AXA redefining / standards MACARTHUR

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Project Objectives & Scope

SCOPE: Research - Advocacy - Practice

OBJECTIVES

1. To understand how rainfall variability, food security and migration interact today

2. To understand how these factors might interact in coming decades as the impact of climate change begins to be felt more strongly

Focus group discussion, India
Source: Afifi, 2011

3. To work with communities to identify ways to manage rainfall variability, food and livelihood insecurity, and migration.

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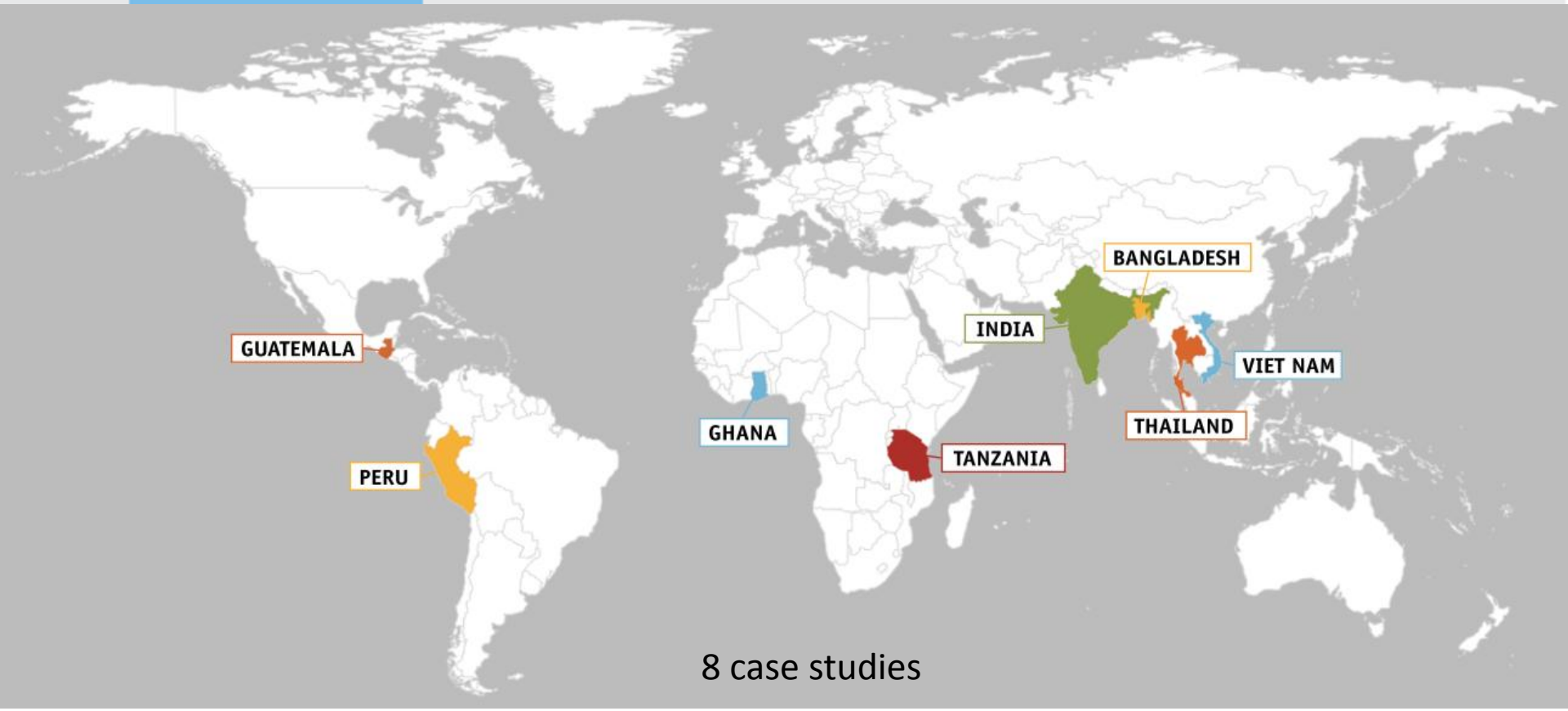
Geographic Diversity: 8 Countries



8 case studies

Source: CARE France

Macro-level Context

	Low poverty and food insecurity	Medium-high poverty and food insecurity
More advanced stage of economic and demographic transition	Peru Thailand	Vietnam India Bangladesh
Less advanced stage of economic and demographic transition		Ghana Guatemala Tanzania

Research Sites: Diverse agro-ecological and meteorological conditions

Research site	Approximate average annual rainfall (mm)	Geography
Northern Bangladesh (Kurigram District)	1,700	Riverine lowland
Vietnam Mekong Delta (Dong Thap Province)	1,500	Delta lowland
Central India (Janjgir District, Chhattisgarh)	1,229	Irrigated lowland
Guatemala Western Highlands (Cabricán Municipality)	1,150	Highland
Northern Ghana (Nadowli District, Upper West Region)	1,036	Savannah woodland
Northern Thailand (Lamphun Province)	1,017	Upland and riverine
Peru Central Andes (Huancayo Province)	800	Highland
Northern Tanzania (Same District, Kilimanjaro Region)	560	Upland and riverine lowland

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Case Study Report Headlines

Research site	Findings
Northern Thailand (Lamphun Province)	Diverse livelihoods and access to assets and services make **migration a matter of choice** in Lamphun Province
Peru Central Andes (Huancayo Province)	**Livelihood options and migration strategies** in Huancayo Province vary by **elevation** and proximity to urban centres
Vietnam Mekong Delta (Dong Thap Province)	Landless, low-skilled poor of Hung Thanh Commune have **few options, despite a rising economic tide**
Central India (Janjgir District, Chhattisgarh)	Poor households in Janjgir-Champa still must **rely on seasonal migration for food security**, despite irrigation, industrialization and safety net
Northern Bangladesh (Kurigram District)	**Migration is a key coping strategy for poor households** in Kurigram, but one with **high social costs**
Guatemala Western Highlands (Cabricán Municipality)	High dependence on rain-fed agriculture in Nadowli District contributes to **continued reliance on seasonal migration as a coping strategy**
Northern Ghana (Nadowli District, Upper West Region)	**Little livelihood diversification and limited migration opportunities** leave people of Cabricán with few good options
Northern Tanzania (Same District, Kilimanjaro Region)	**Migration is a common coping strategy** for smallholder farmers and livestock keepers **struggling for food security** in Same district

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4 household profiles: Reveal the circumstances under which households use migration to manage changes in rainfall variability and food insecurity

Migration improves HH resilience

- **Economy**: poor
- **Adaptation options**: access to livelihoods options &assets (social, economic, political),
- **Education**: Children have 3-5 years more education than parents
- **Migrant**: early 20s, single; temporal migration
- **Remittances**: education, livelihood diversification, health

Migration used to survive, but not flourish

- **Economy**: land scarce
- **Adaptation options**: less access to assets & institutions for support
- **Education**: Children have same education level as parents
- **Migrant**: HH Head, mid 40s, migration in hunger season
- **Remittances**: Success in obtaining food or money to buy food

Migration erosive coping strategy

- **Economy**: landless
- **Adaptation options**: few adaptation options in situ, inability to diversify
- **Education**: All HH members have low or no education / skill levels
- **Migrant**: HH Head, mid 40s, migration in hunger season
- **Remittances**: Partial success in obtaining food or money to buy food

Migration not an option: trapped populations

- **Economy**: chronically food insecure, landless, Female -headed HH
- **Adaptation options**: insufficient assets to adapt locally or through migration
- **Education**:
- **Migrant**: not feasible
- **Remittances**: none. Abandoned / trapped populations

Resilience to climatic stressors **Vulnerability to climatic stressors**

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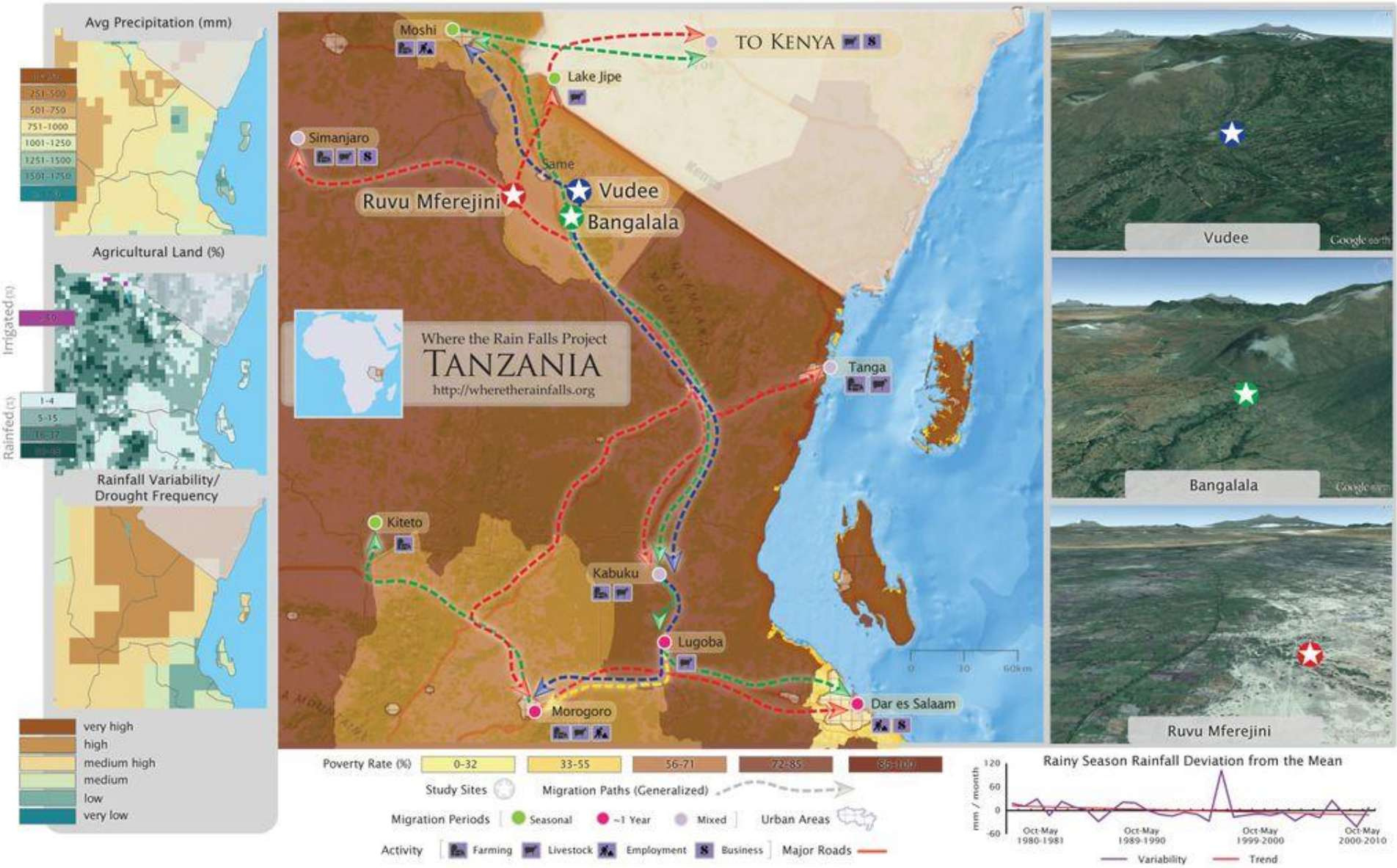
Tanzania: Migration is a common coping strategy for smallholder farmers and livestock keepers struggling for food security in Same district



Key Findings: Tanzania

- **Rainfall variability & food security**
  - **Rainfall variability translates directly into impacts on food security**;
  - **Drought** identified as the **major hazard to household** livelihoods;
  - **Rainfall affects** food production of more than **80% of households 'a lot';**
  - Strong linkages between **unpredictable and changing weather patterns and the decision to migrate**;
- **Factors affecting migration**
  - Top three factors affecting household migration decisions are: (1) increased drought frequency; (2) longer drought periods; and (3) water shortage;
- **Migration patterns**:
  - While the majority of migrants are male and young, women now represent one-third of the total;
  - Out-migration from Same District is a mix of rural-rural and rural-urban migration.

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Key Findings: Agent Based Modeling in Tanzania

- **Agent-based modelling** work to address the question of "under what circumstances migration might become a significant driver of future migration", with an initial application to the Tanzania research site;

- **Both "content" &"vulnerable" households use migration, but in markedly different ways that either enhance resilience or reinforce a downward spiral** of vulnerability to climatic and other stressors.

- **Migration from vulnerable households** is quite sensitive to changes in rainfall patterns.
  - Overall, the **number of migrants** modelled as leaving vulnerable households increases significantly over the baseline with rainfall variabilility
  - **Migrants** modelled leaving vulnerable households is **greatest under extreme drying conditions**.
  - Migration from vulnerable households is lowest for extreme wetting
  - By contrast, **"aspirational" migration** from contented households shows much **less sensitivity to changing assumptions about future rainfall patterns**. Both wetting scenarios produce small increases in contented migration, while both drying scenarios show modest decreases

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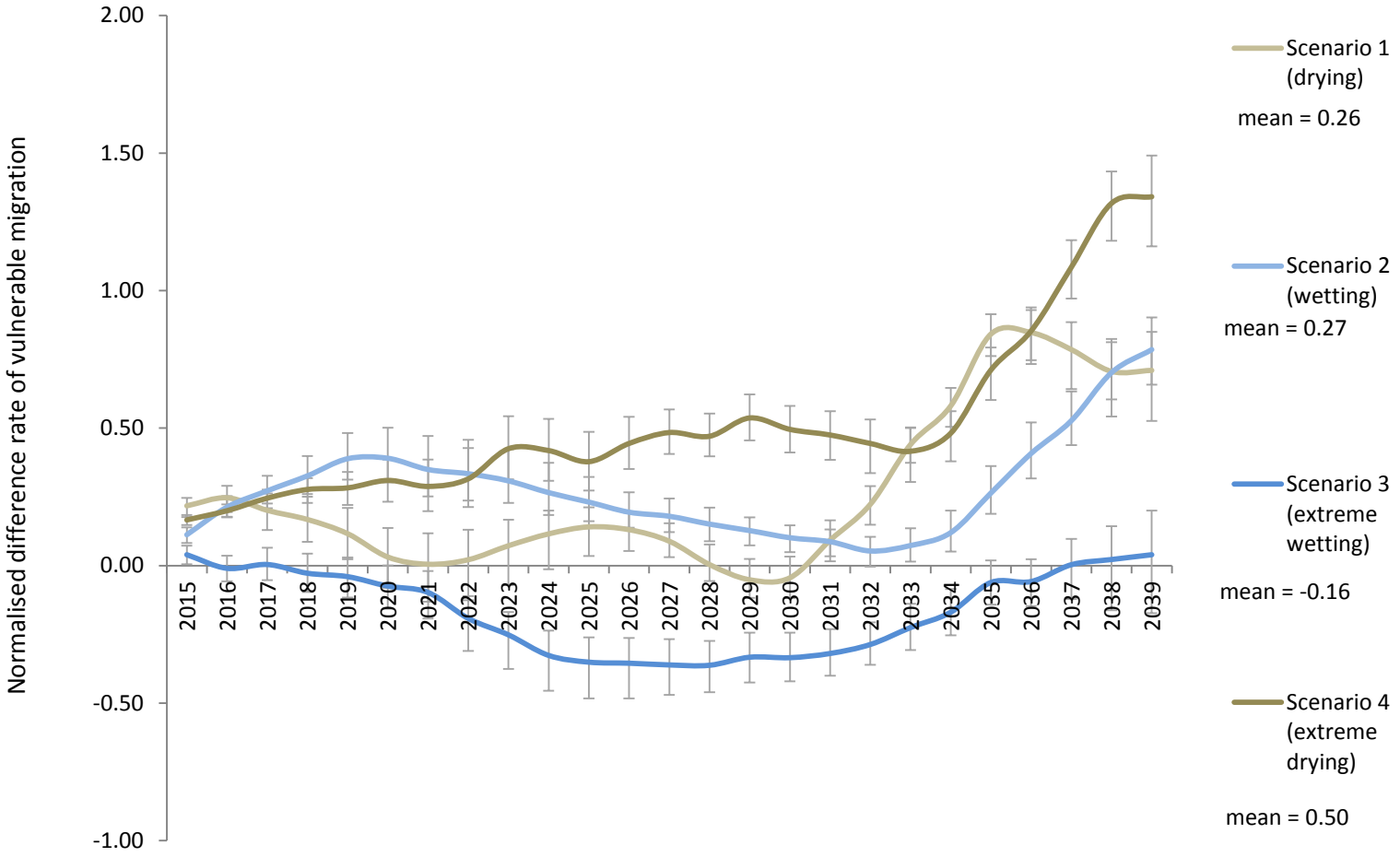
Potential future relationships among rainfall variability, food security and migration



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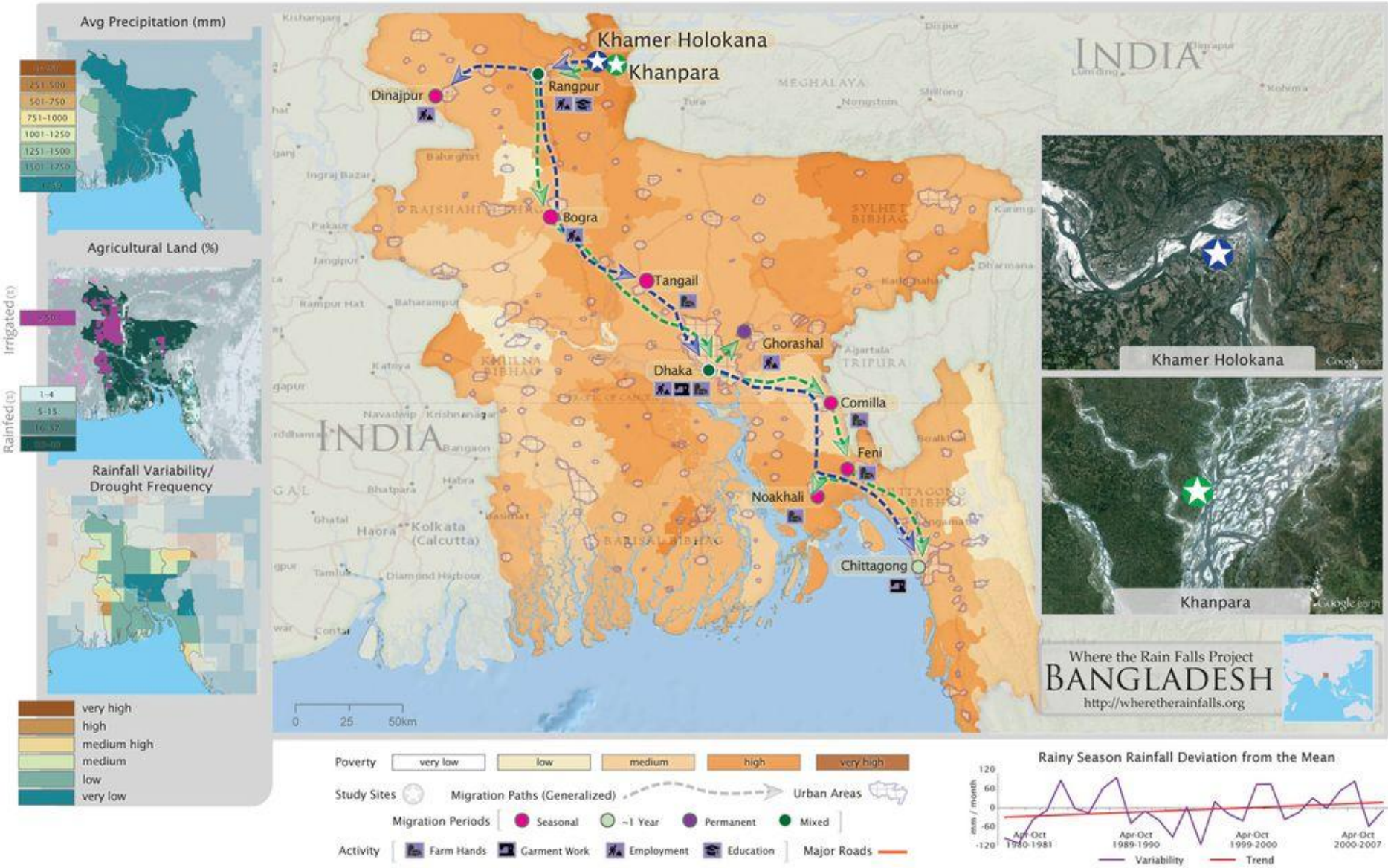
Bangladesh: Migration is a key coping strategy for poor households in Kurigram, but one with high social costs



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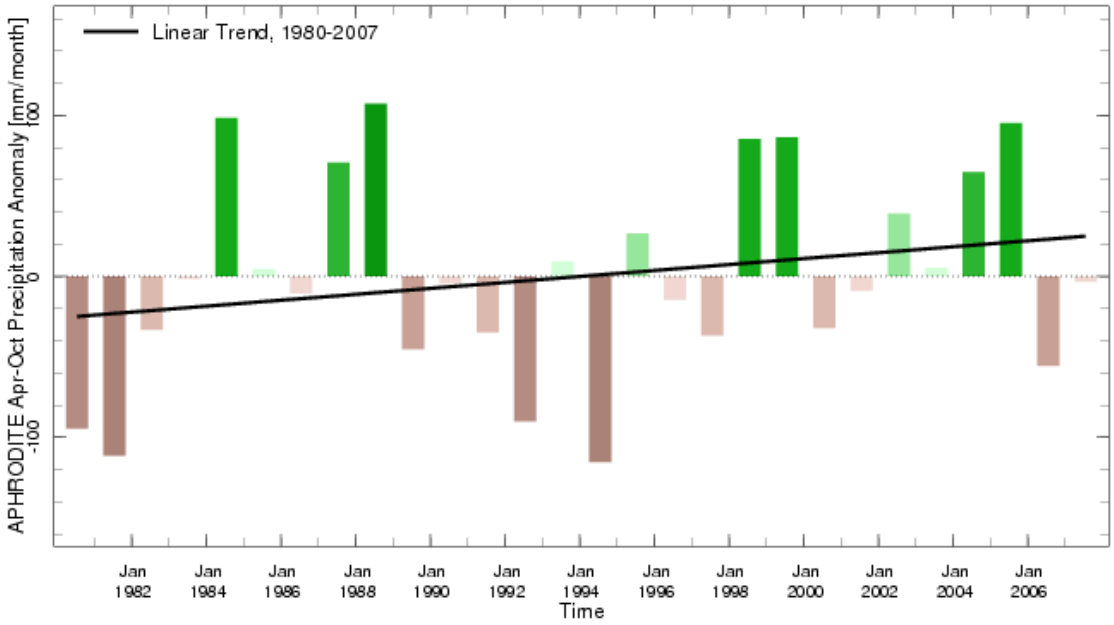
Bangladesh cont'd.

A significant proportion of population are still facing poverty, having limited land ownership and access to productive resources, and are struggling to eke out a living. They face seasonal food insecurity.

Productive activities of these people are directly linked with climate parameters such as rainfall. Rainfall trends have been showing significant anomalies compared to observed averages in the study areas.

Rainfall induced hazards (i.e., drought/ aridity, untimely flood, erosion, etc.) have been bothering people by adversely affecting their production.



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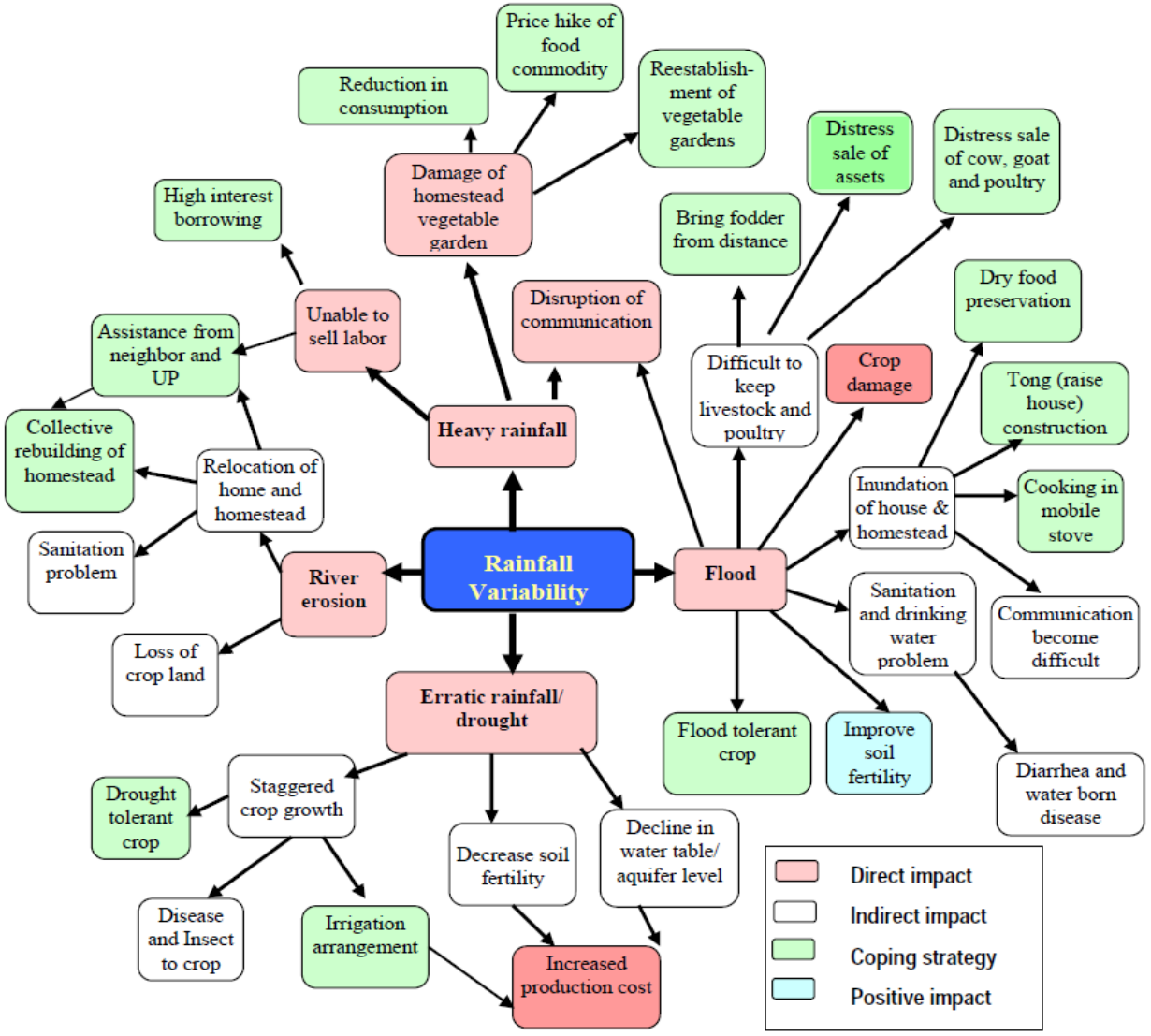
Bangladesh cont'd.



Climate change is increasing hardship to about 89% of people's livelihoods and aggravating food insecurity.

Migration has been seen as a coping to avoid household food insecurity. Migration trends have been on the rise.

Since migrants rely mostly on their basic skills, it cannot be seen as a sustainable coping measure in future.

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Reflections for UNFCCC Parties

Mitigation: Commit to an equitable approach to reduce greenhouse gas emissions in line with what science says is necessary to avoid dangerous global warming.

Finance: Increase commitments and agree on innovative sources to ensure delivery of adequate, sustainable, predictable, new and additional adaptation finance that promotes transparency, participatory approaches, and accountability.

Adaptation Committee: Facilitate global and regional coordination to enable developing countries to access support and undertake national adaptation planning.

Loss and Damage: Assess and address loss and damage through the UN Framework Convention and the loss and damage work programme and mechanism in ways that meet the needs of the most vulnerable people.

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Reflections for National Level Policymakers & Practitioners

Global Food and Nutrition Security & Sustainable Development Policymakers:

- **Reinforce the call** to tackle the climate crisis and integrate climate change and gender considerations into global food and nutrition security efforts.
- Craft **goals for the post-Millennium Development Goal period** that support the right of all people to sustainable development.

Developed & Developing Country National & Local Governments, NGOs, multilateral institutions and UN agencies

- Support, promote, and implement **comprehensive, participatory national and local plans** in order to anticipate and plan for potential food and livelihood security issues and human mobility related to climatic stressors.
- **Address trans-boundary challenges** and opportunities related to adaptation and human mobility.
- **Support and promote resilient livelihoods and food security**.
- Strengthen and **expand disaster risk reduction** and links with long-term development.
- **Integrate gender** considerations .
- **Prioritize and engage vulnerable populations**.

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Thank you for your attention. We would now like to open the floor for questions and comments.

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