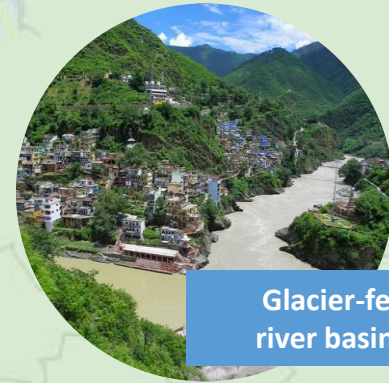


Hot Spot Approach to Adaptation and Resilience



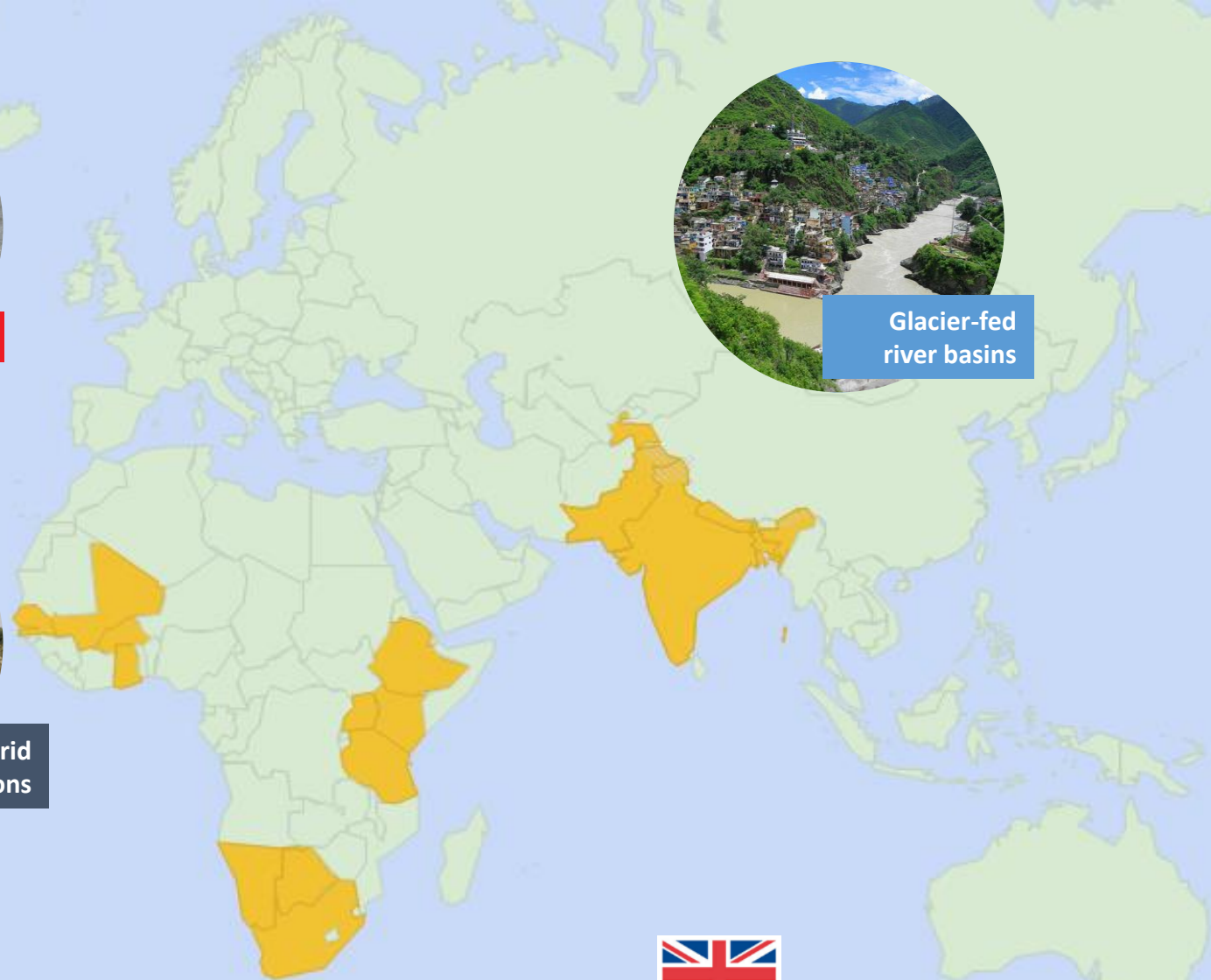
Deltas



Glacier-fed river basins

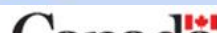


Semi-arid regions



IDRC

CRDI



DEltas, vulnerability, and Climate

Change: Migration and Adaptation-DECCMA

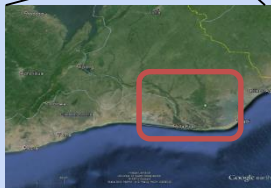
UNIVERSITY OF
Southampton

Aims: To better understand in deltas:

1. Migration processes, including the role of climate change
2. Adaptation choices, with a focus on migration.



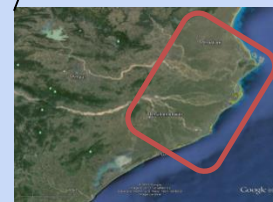
UNIVERSITY OF GHANA



Volta Delta



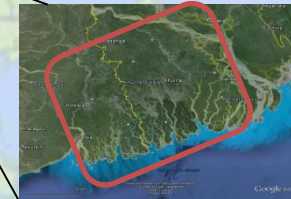
Jadavpur
University



Mahanadi Delta



BUET



Ganges Brahmaputra
Meghna Delta

D E C C M A



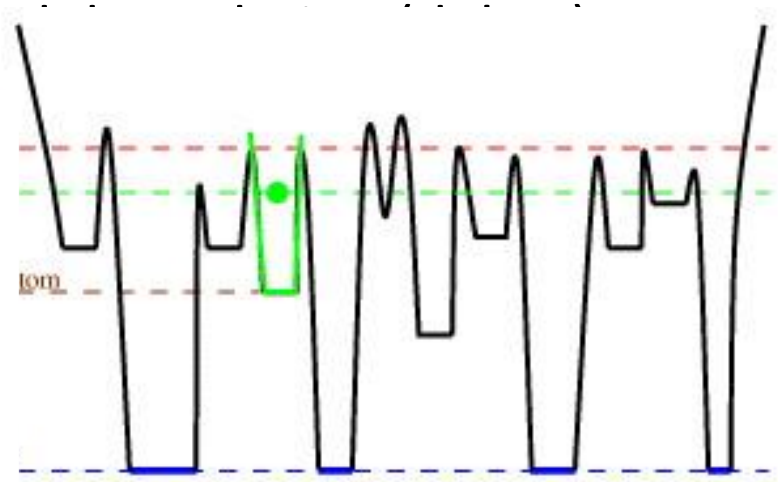
- Interdisciplinary approach for data reliability
- Cross border collaborating teams
- Possibility to work at scale
- Responsive to the requests of users
- Aim to understand migration in a complex system of drivers: need to understand the complexity of the system to act meaningfully on few key parts of it.

Key messages:

1. Migration (not from wars) is still (correctly) perceived mainly as labour migration, and its patterns are influenced primarily by **perceived income differentials, but which *in turn* are changing in hot-spots due to climate change**: Getting the systemic picture is essential.
2. The **gender participation in migration is changing**: more women are migrating and the family size threshold triggering migration is getting lower in climate hot-spots. This is posing problems for agricultural productivity and food security (no more farming youth, etc.)
3. Migration is a complex phenomenon and **many types are interconnected and influence each other.**

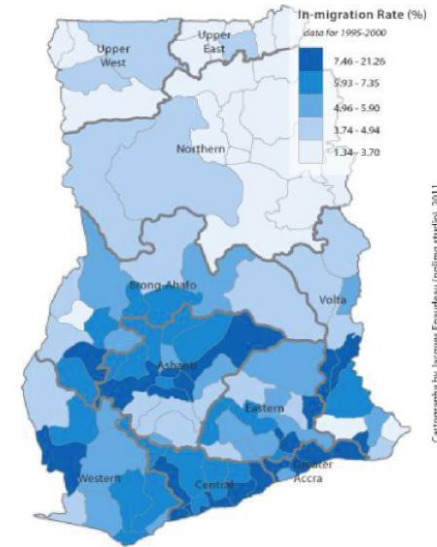
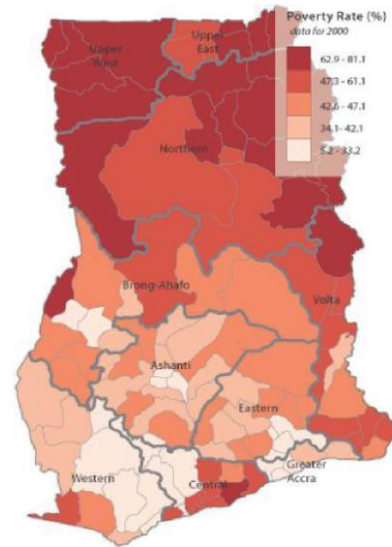
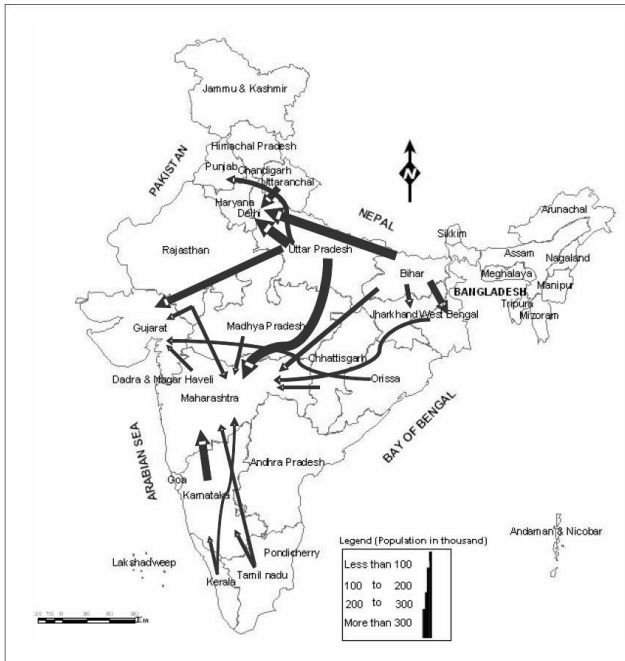
- **Distress migration** locks communities in vulnerability vicious cycles and it is a sign of adaptation failures.
- **However proactive migration may be a necessary and effective response to risk**
- when it allows increased number and type of possibilities
- in particular in case of major risks:
 - Major sea level rise and l
 - Prolonged droughts (Sa
 - Extreme events (deltas, and southern Africa)

The “options’ landscape” (metaphor):



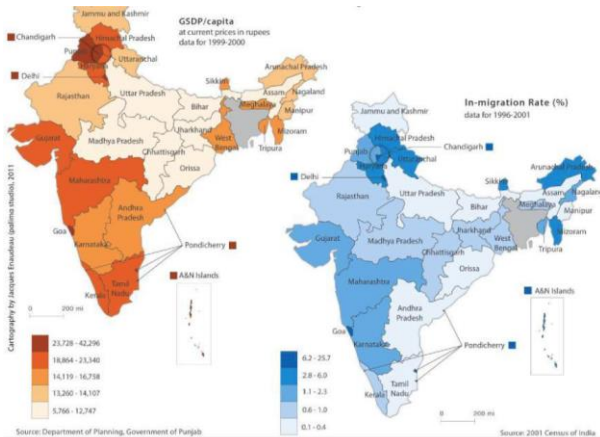
What we need to know better

The geography of migration is known at a national level, but not at the hot-spot level. So the climate signature (clearer at the hot spot level) is not well understood yet.



At the **local scale**, knowledge on the mechanisms driving climate induced migration is mounting, but it is still limited or anecdotal:

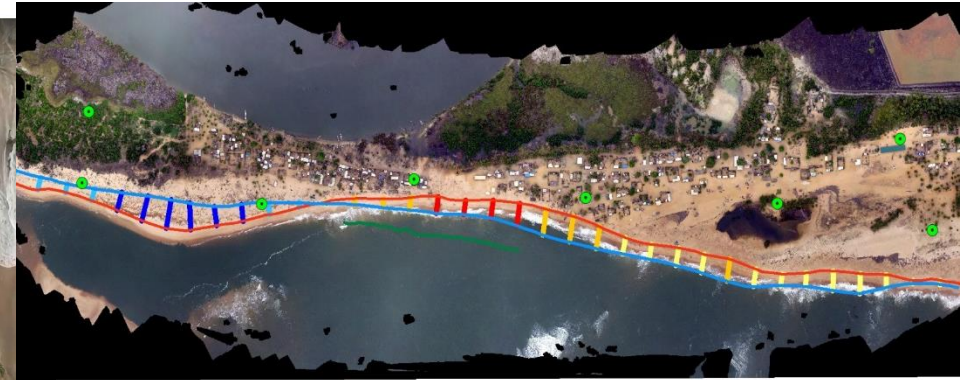
- Limited collection of primary data
- Surveys not focused on eliciting climate drivers
- Pilot studies not taking into account gender
- Media-oriented: “Years of Living Dangerously”: <http://yearsoflivingdangerously.com/>



Better visualizing and measuring Local Impacts

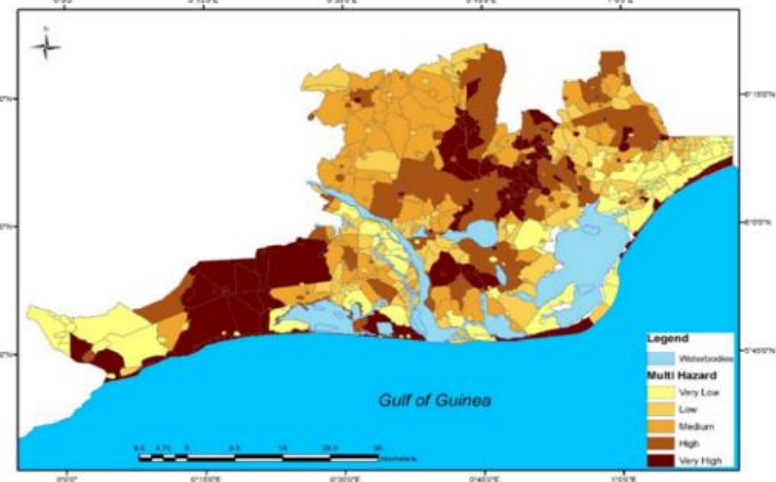
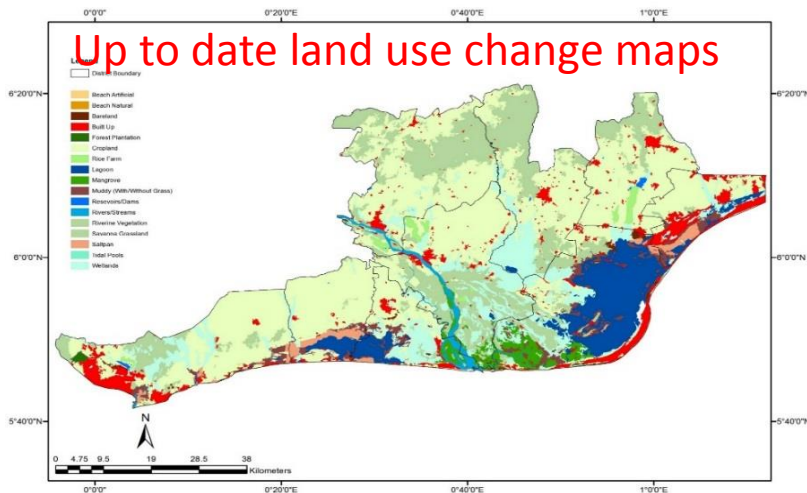
Drones capturing real time storm surges and extreme events, with resulting abandonment of communities.

Aerial precision monitoring of soil erosion processes



Up to date vulnerability maps

Up to date land use change maps



The role of environmental change: mostly related to sinking of deltas, SLR, salinization, flooding, extreme events

- 1. Growing gender shift migratory fluxes** across Bangladesh, India and Ghana, with implications on:
 - Gender roles and family planning practices
 - Health and Education needs in receiving area
 - Social protection needs in receiving areas
 - Job Market
 - **New trapped populations: not in sending, but in receiving areas**
- 2. Lowering critical household size** as migration threshold
- 3. Lowering economic and employment weight of agricultural sector in vulnerable rural** areas has been increasing food insecurity

4. New vulnerability in areas left empty by migrants, and re-populated by other people

Example: Indian Sundarbans

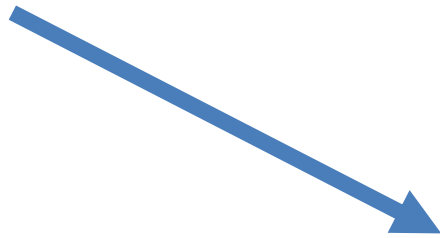
Return migration in vulnerable areas of high vulnerability:

- 1) Merging between receiving and sending areas
- 2) Increased vulnerability in some receiving areas, in movements are not well-planned

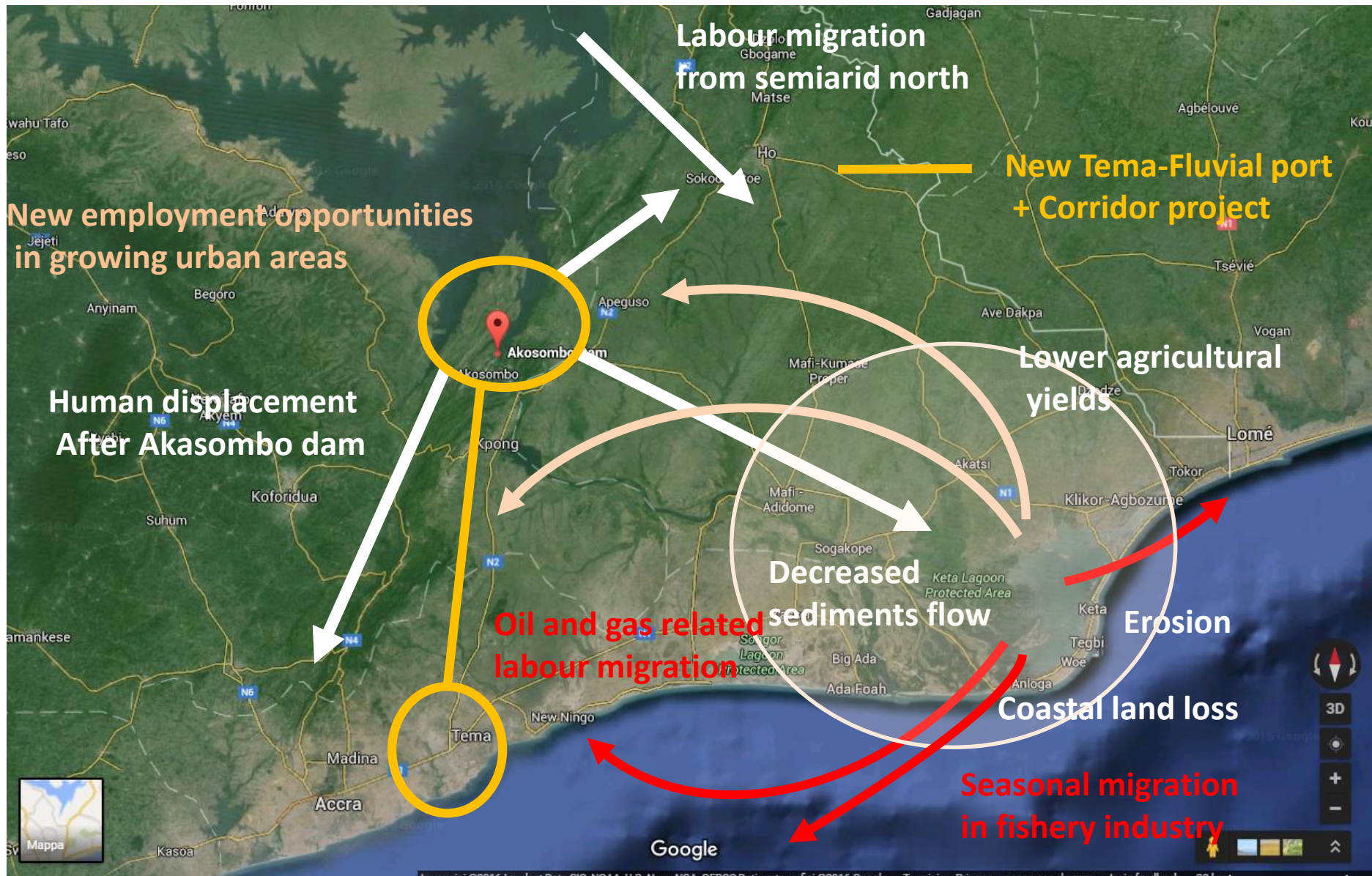


5. New climate-dependent infrastructure influences internal migration via both planned displacements and changes in vulnerability

Example: Lower Volta Basin



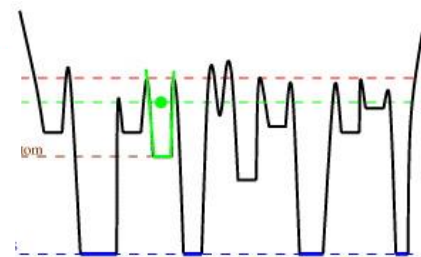
Try to understand the dynamic and systemic picture



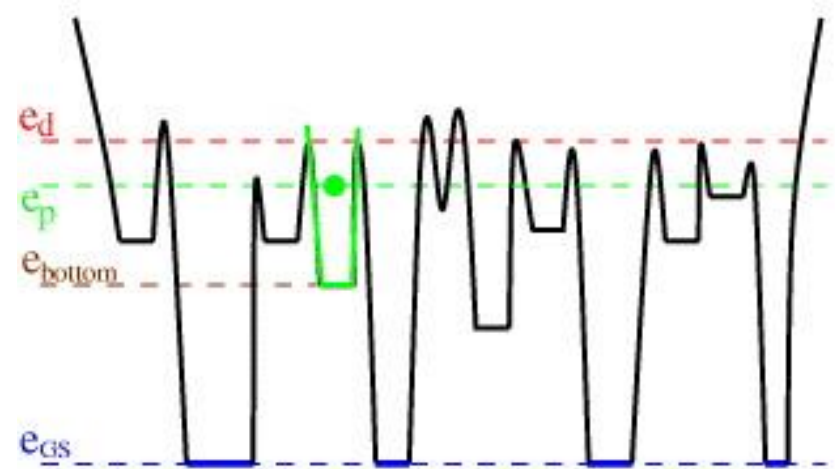
- people are autonomously using livelihood migration as one of the adaptation tools;
- both internal displacement and internal livelihood rural to urban migration are highly sensitive to climate change, whereas cross border population movement and short term international contract migration had mixed sensitivity to climate change and long term permanent migration to the west had extreme low sensitivity.
- Lack of understanding and coordination among government agencies and **action plans** hinders the process of an integrative approach that accommodate local level adaptation programs with livelihood migration and resettlement of the displaced people.

What can be done - Support proactive migration. How?

- Better quantify all costs and benefits of migration, especially in terms of employment and food security
- Strengthen social networks
- Secure land tenure
- Release credit constraint
- Support services to migrants in receiving areas
- Support services to communities left behind
- Better link migrants with their communities of origin
- Inform migrants of vulnerability of receiving areas
- Create safeguards against distress migration (esp. conflicts)
- Better use of remote and reliable data to quantify vulnerability and human mobility when surveys and censuses are impractical.



- This is not planned relocation *per se*,
- but leads to **increased capacity for people and households to plan bottom up** (because we cannot relocate 100M people...)
- because they are supported by better services in sending and receiving areas.



Some Preliminary Outputs

- Contribution to I.O.M. Atlas of Environmental Migrations
- Large Open Access Database Of household surveys (15000+) in and outside deltas: **THIS NEEDS TO BE SUSTAINED**

+

- Decision making support tool for large planning intervention in deltas (example the Bangladesh delta Plan)
- Catalogue of adaptation options to support migrants in their decisions



Some Preliminary Outcomes

- MPs initiative in Ghana
- Project informing implementation of Integrated Coastal Zone Management Project in state of Orissa, India
- Contribution to **Migration Registry** in Orissa state (**knowledge and data legacy**)
- In 2015 the Ministry of Disaster Management framed a national strategy on the management of Disaster and Climate Induced Displacement
- Ministry of Planning in Bangladesh asks for future DECCMA scenarios to inform implementation of National Delta Plan

Integrated Coastal Zone Management Project

Government of Odisha

Integrated Coastal Zone Management Society of Odisha

ସମନ୍ୱିତ ଉପକୂଳ ପରିଚାଳନା ପ୍ରକଳ୍ପ

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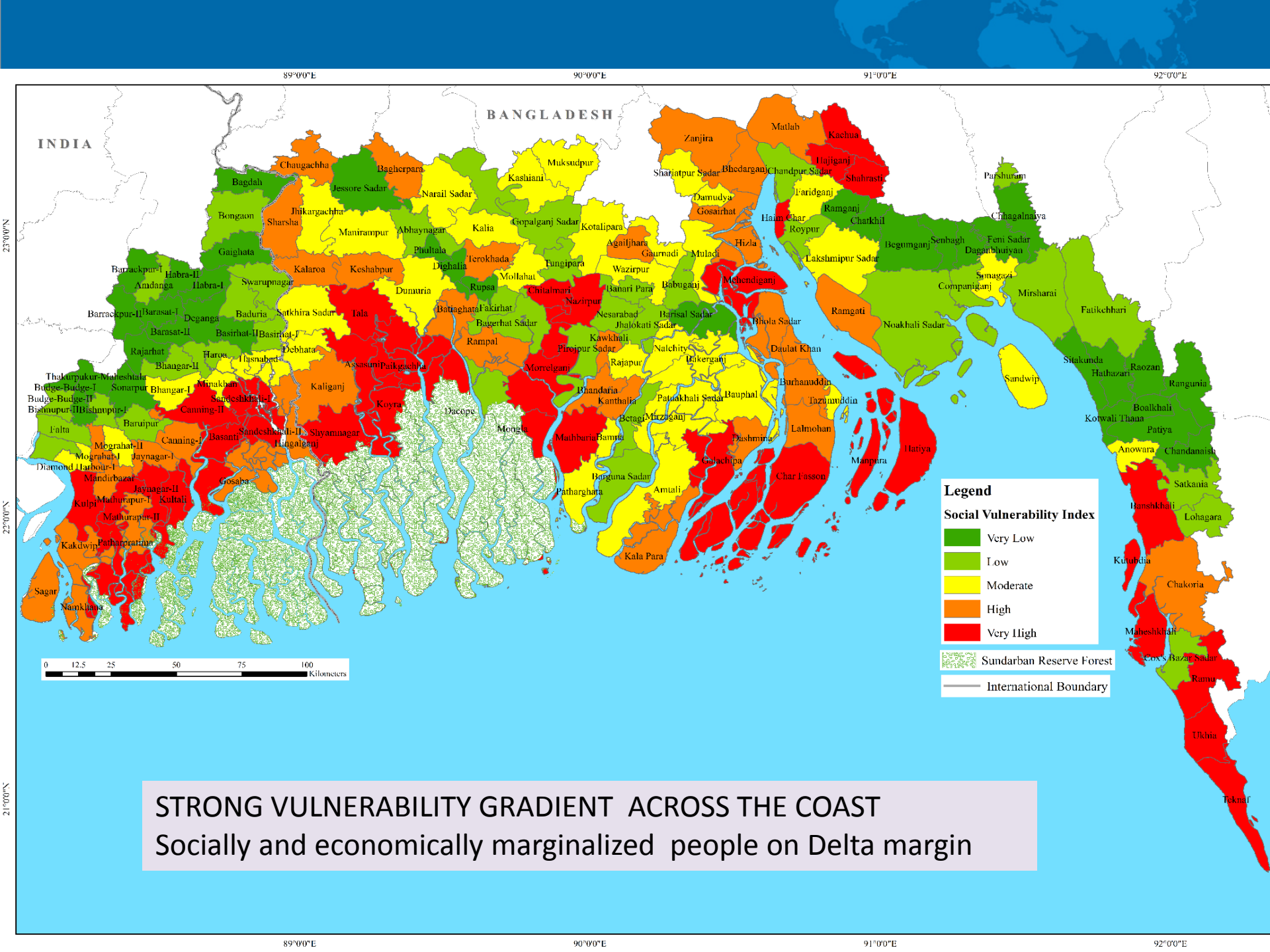
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STRONG VULNERABILITY GRADIENT ACROSS THE COAST
 Socially and economically marginalized people on Delta margin