



Government
Office for
Science

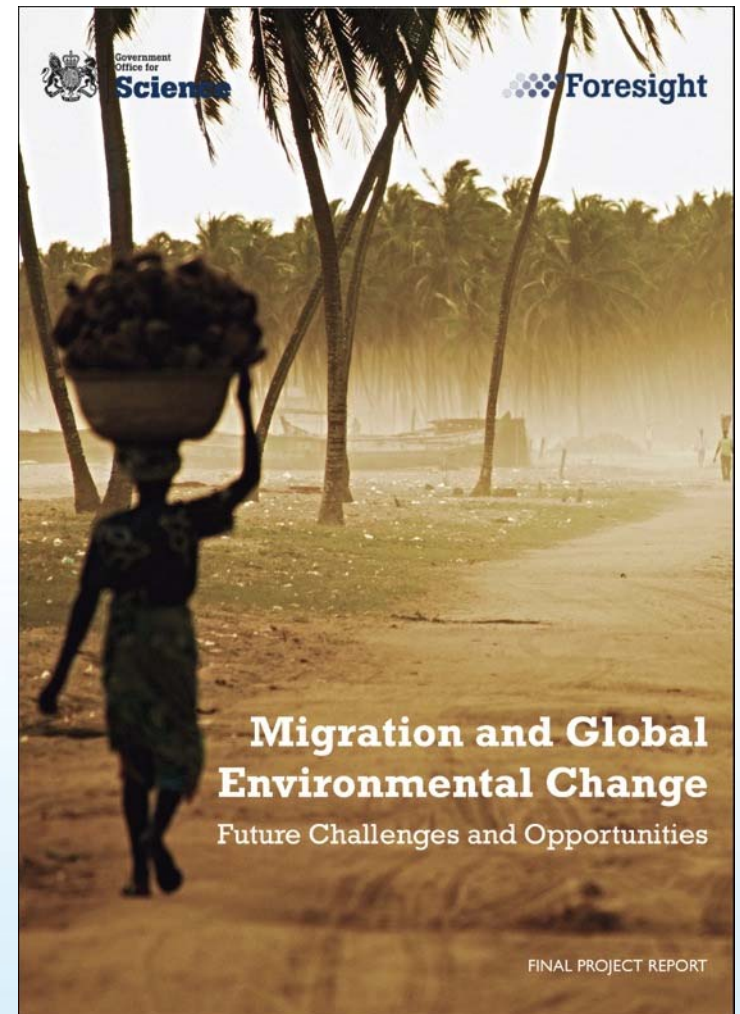
 **Foresight**

Migration and Global Environmental Change

*10th Coordination Meeting on
International Migration*

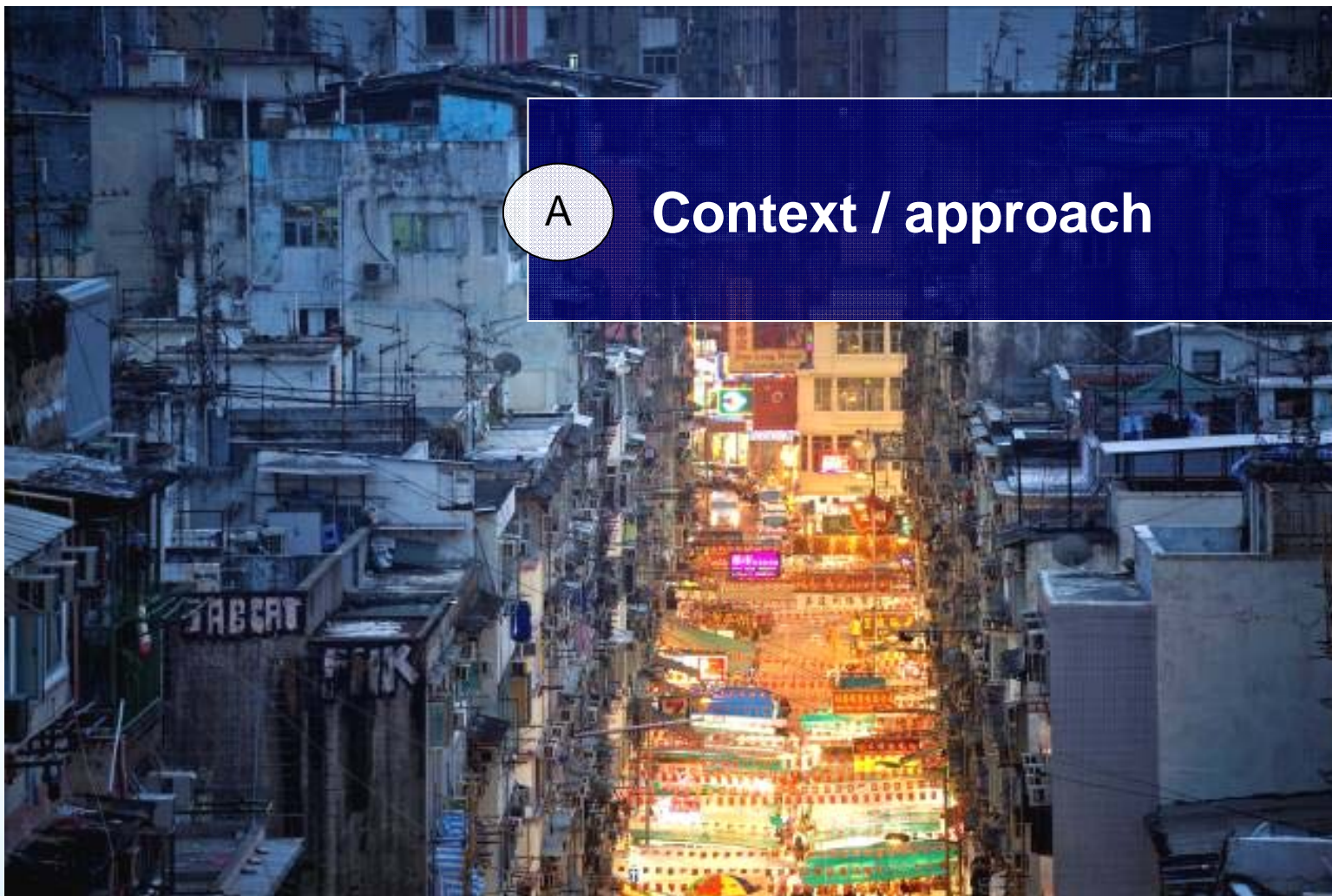
Professor Andrew Geddes

www.bis.gov.uk/foresight



A

Context / approach

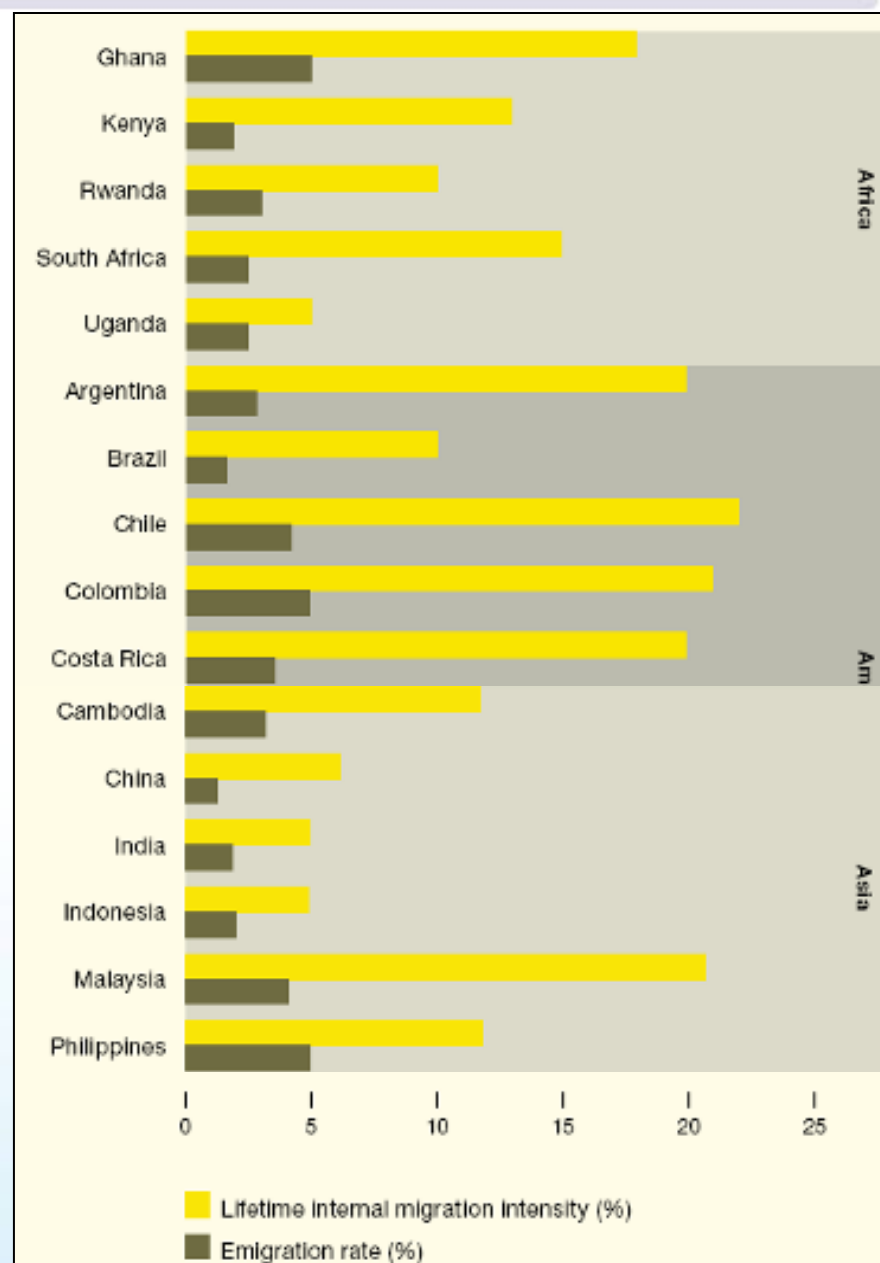


Scope of the Project

- A global perspective
- Importance of *internal* migration
- Analysis of key ecological regions
- Long term perspective

In 2009, there were approximately 740 million internal migrants compared with approx. 210 million international migrants in 2010.

HDR 2009 / IOM 2010



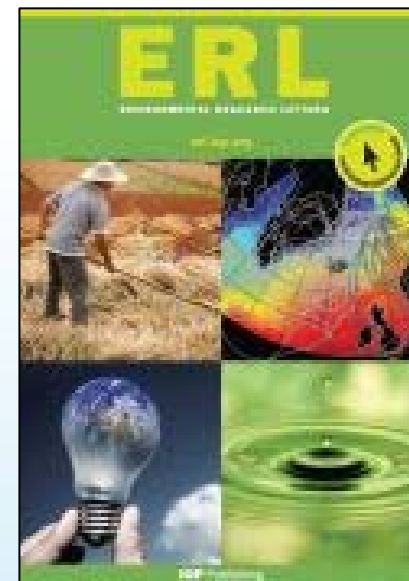
Source: UNDP Human Development Report 2009

Foresight Approach

- Independent analysis
- Diverse international experts and stakeholders
- Interdisciplinary
- Peer-reviewed evidence



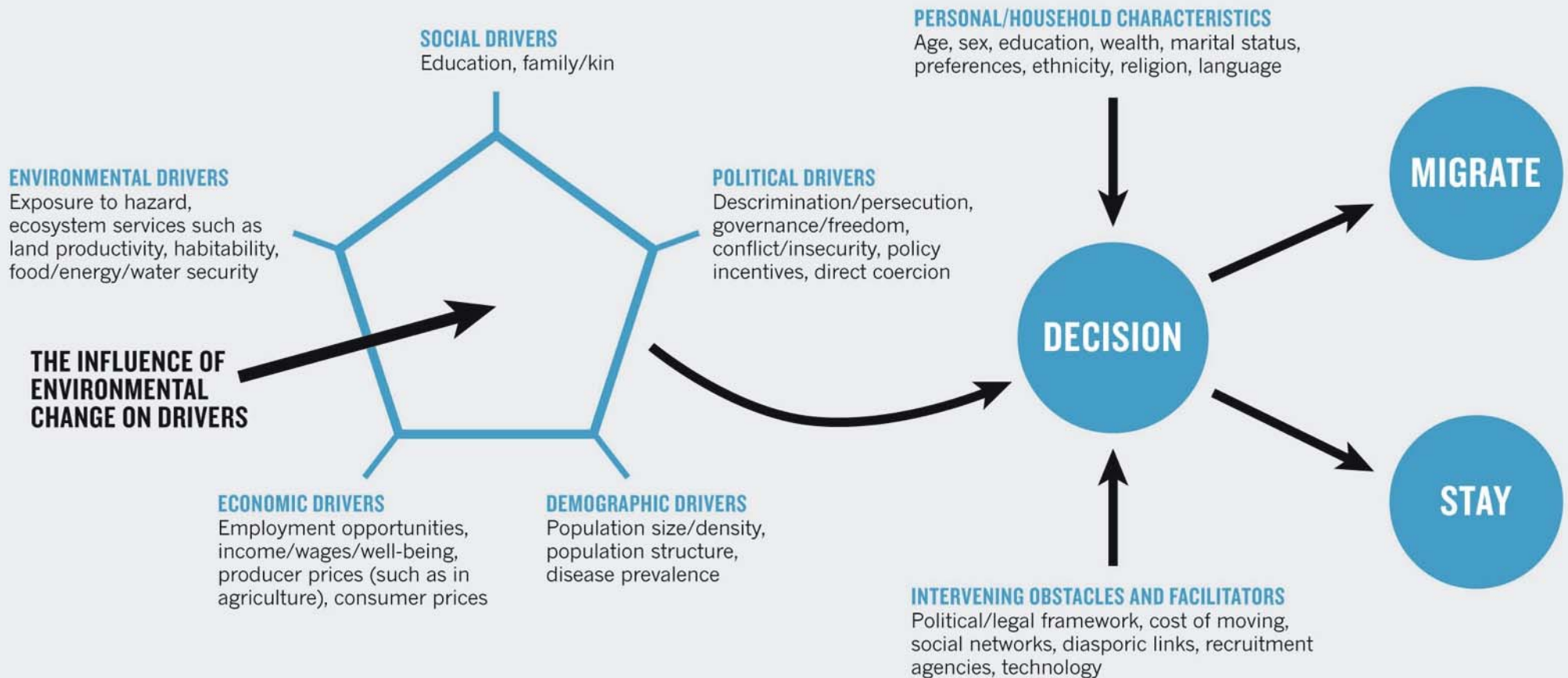
Nepal workshop



Foresight's Conceptual Framework: *the Drivers of Migration*

THE DRIVERS OF MIGRATION

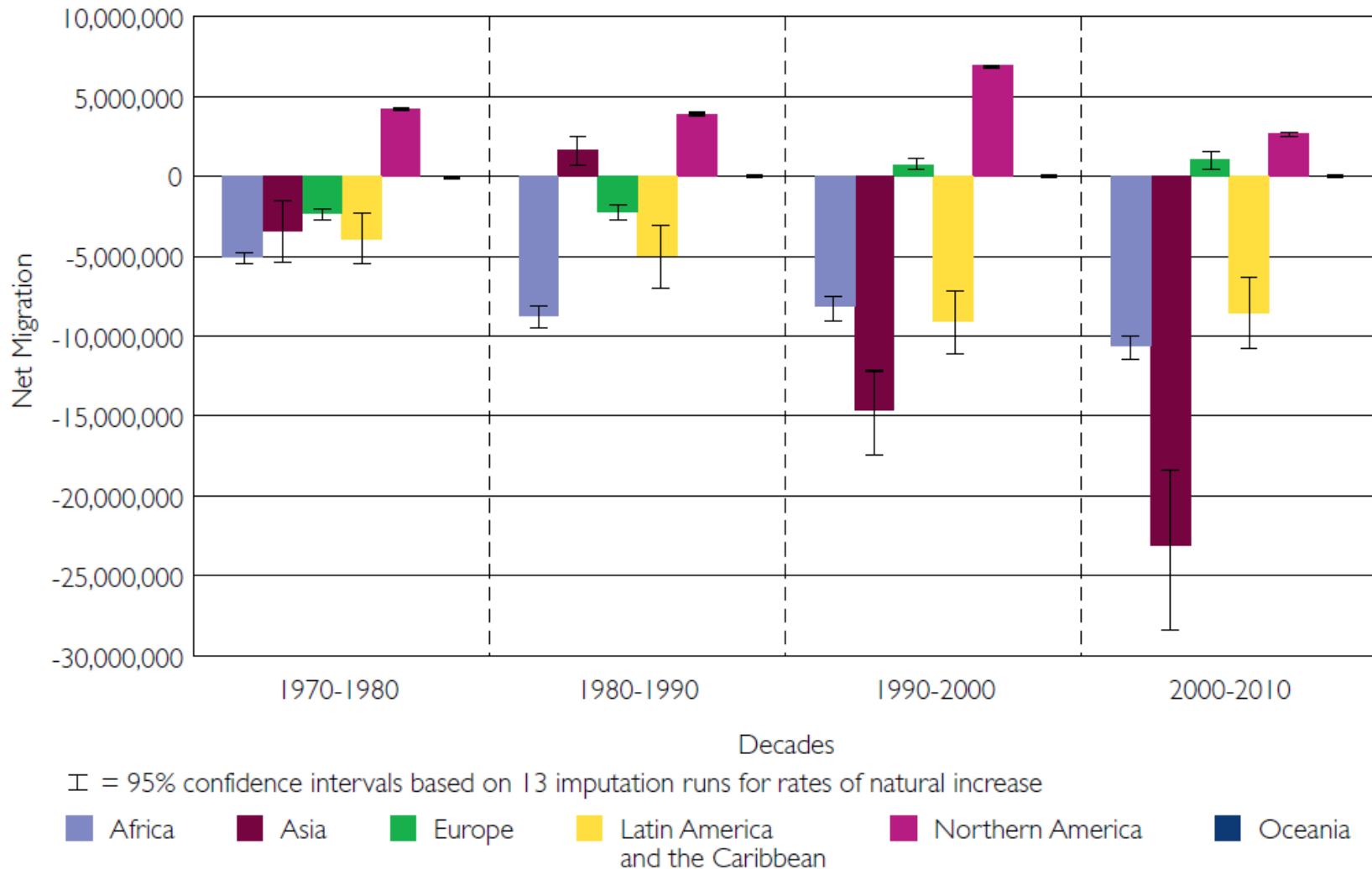
Many factors influence whether a person or family will migrate. Their effects are closely intertwined, so it makes little sense to consider any of them in isolation.



Source: *Nature* 2011, Vol. 478

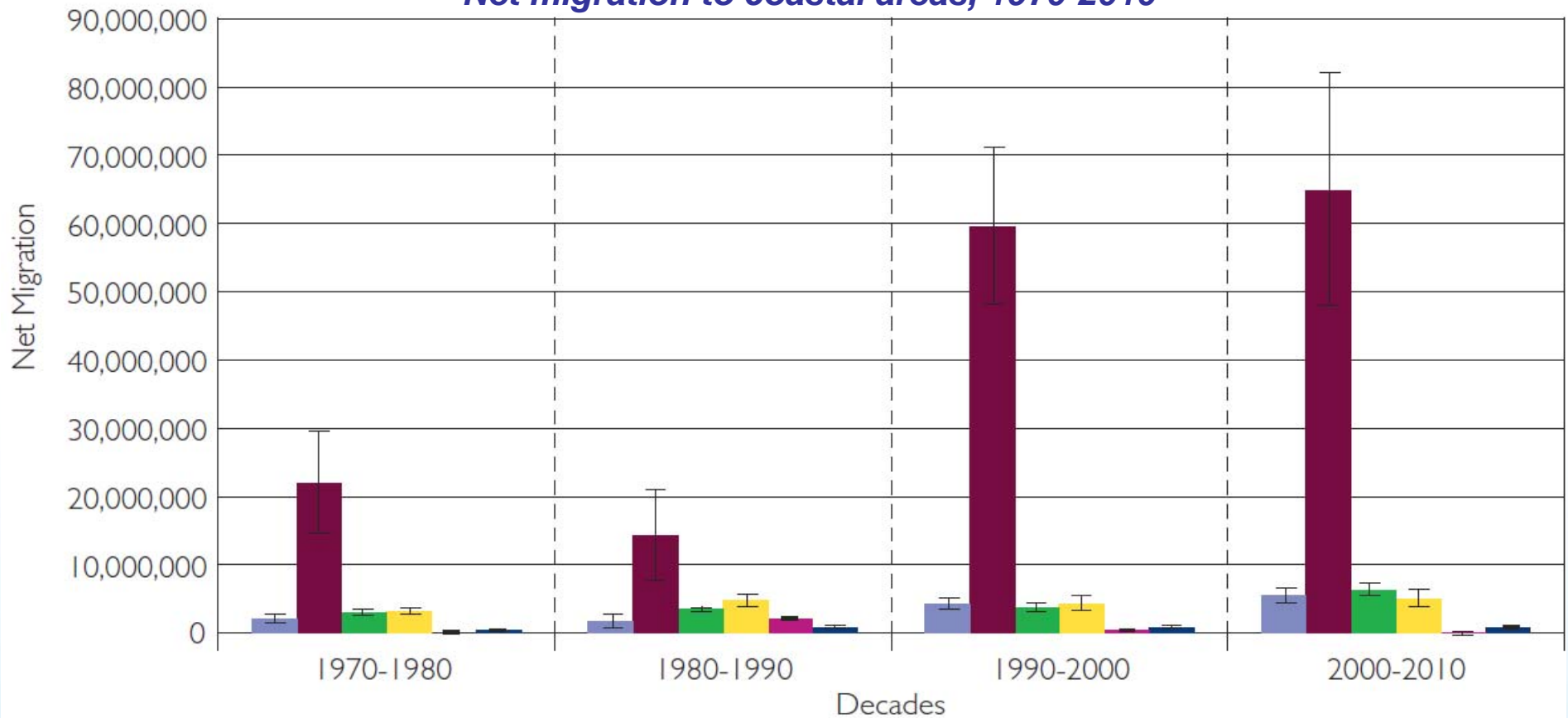
Regional Outlooks of Migration

Net migration to dryland ecosystems, 1970-2010



Regional Outlooks of Migration

Net migration to coastal areas, 1970-2010

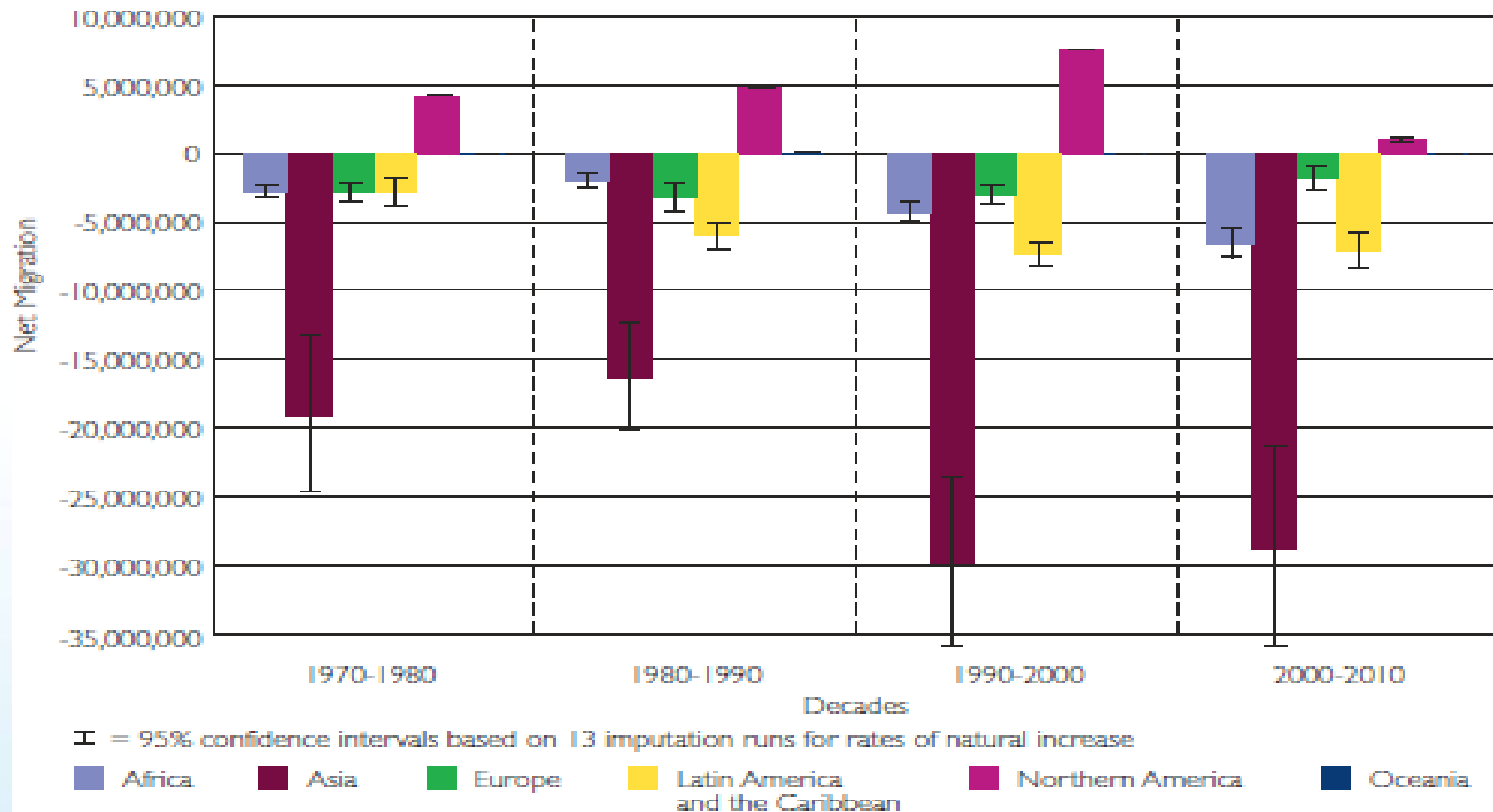


⊥ = 95% confidence intervals based on 13 imputation runs for rates of natural increase

■ Africa
 ■ Asia
 ■ Europe
 ■ Latin America and the Caribbean
 ■ Northern America
 ■ Oceania

Regional Outlooks of Migration

Net migration to mountain ecosystems, 1970-2010

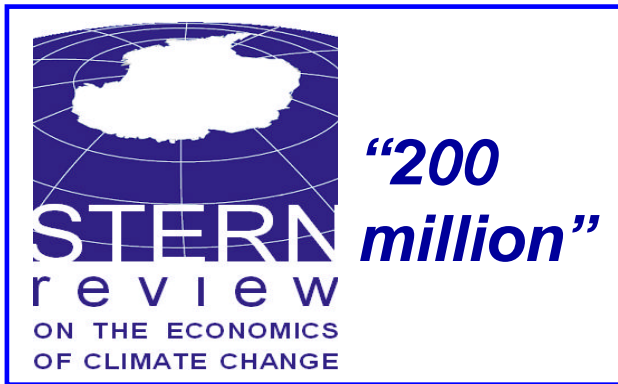




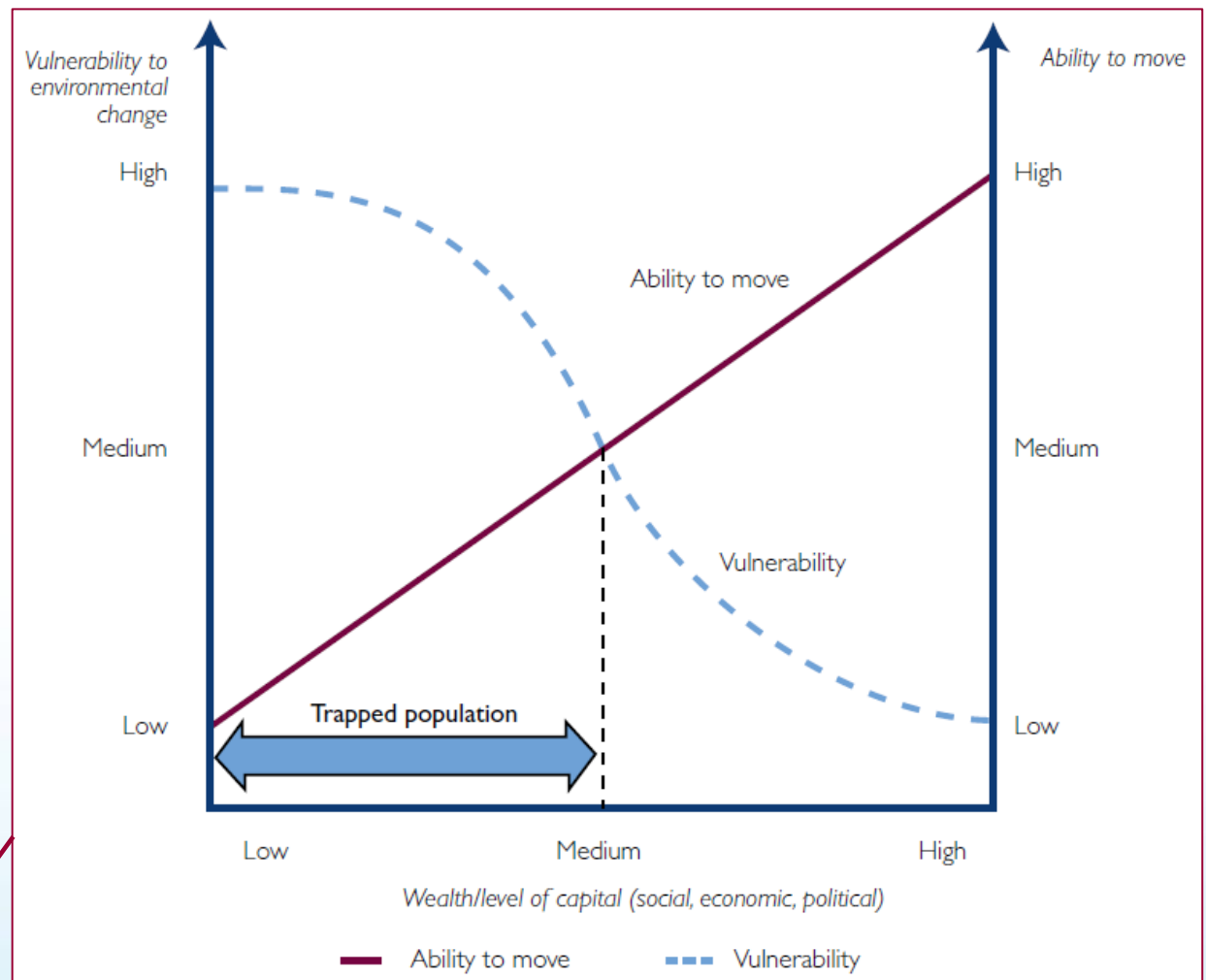
B

Report's three key conclusions

Key conclusion 1: Accounting for immobility



But is this population really likely to migrate..?



Or is it more accurate to describe them as 'at risk' – and possibly even trapped?

Key conclusion 2: Migrating *Towards* Environmental Risks

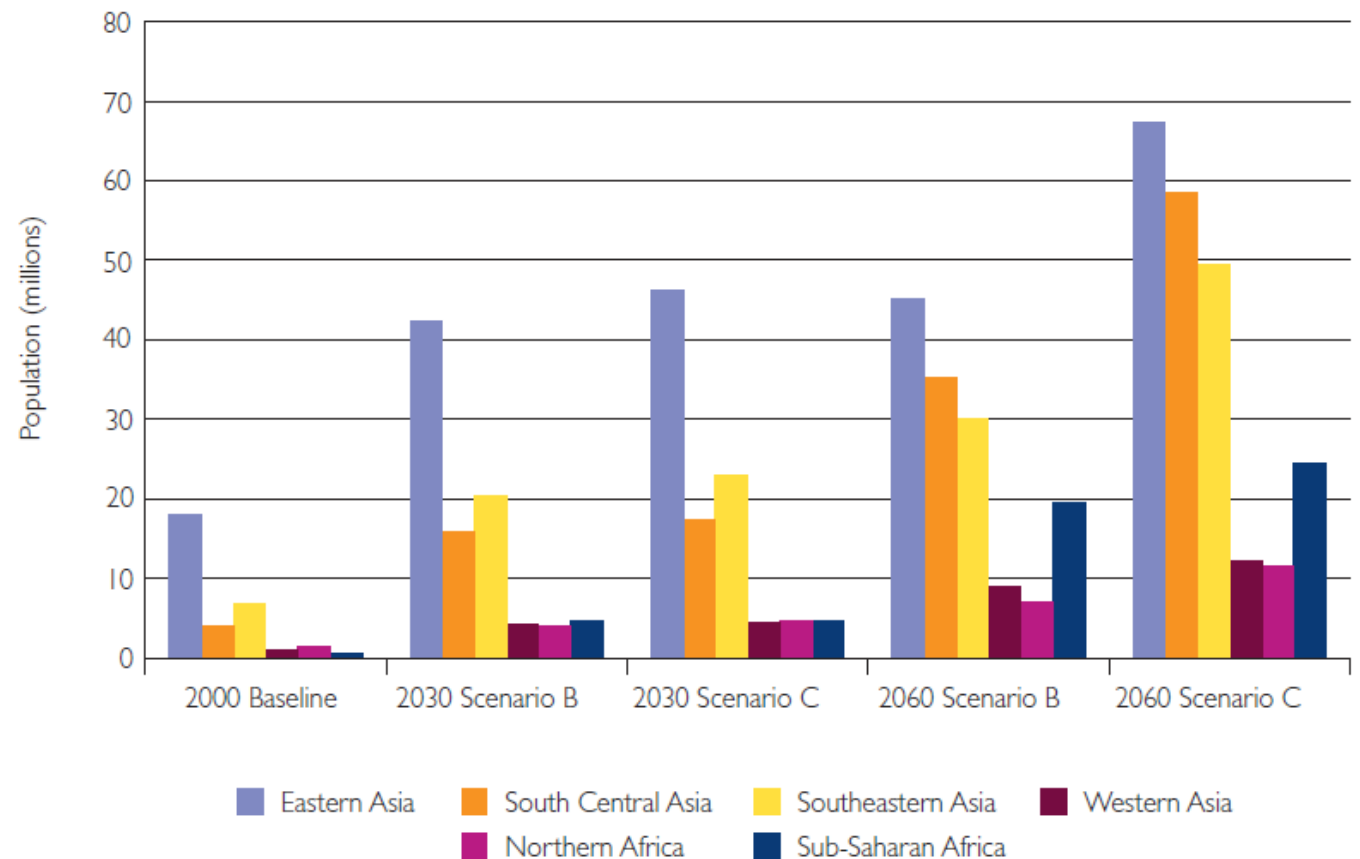
• South Central Asia

- 4.1 million in 2000
- 17 million in 2030 (high)
- 59 million in 2060 (high)

• Sub-Saharan Africa

- 0.7 million in 2000
- 5 million in 2030 (high)
- 25 million in 2060 (high)

People living in urban coastal flood zones in 2060



Explanatory note: Scenario B is lowest and Scenario C is highest, therefore representing the full range from these scenarios.

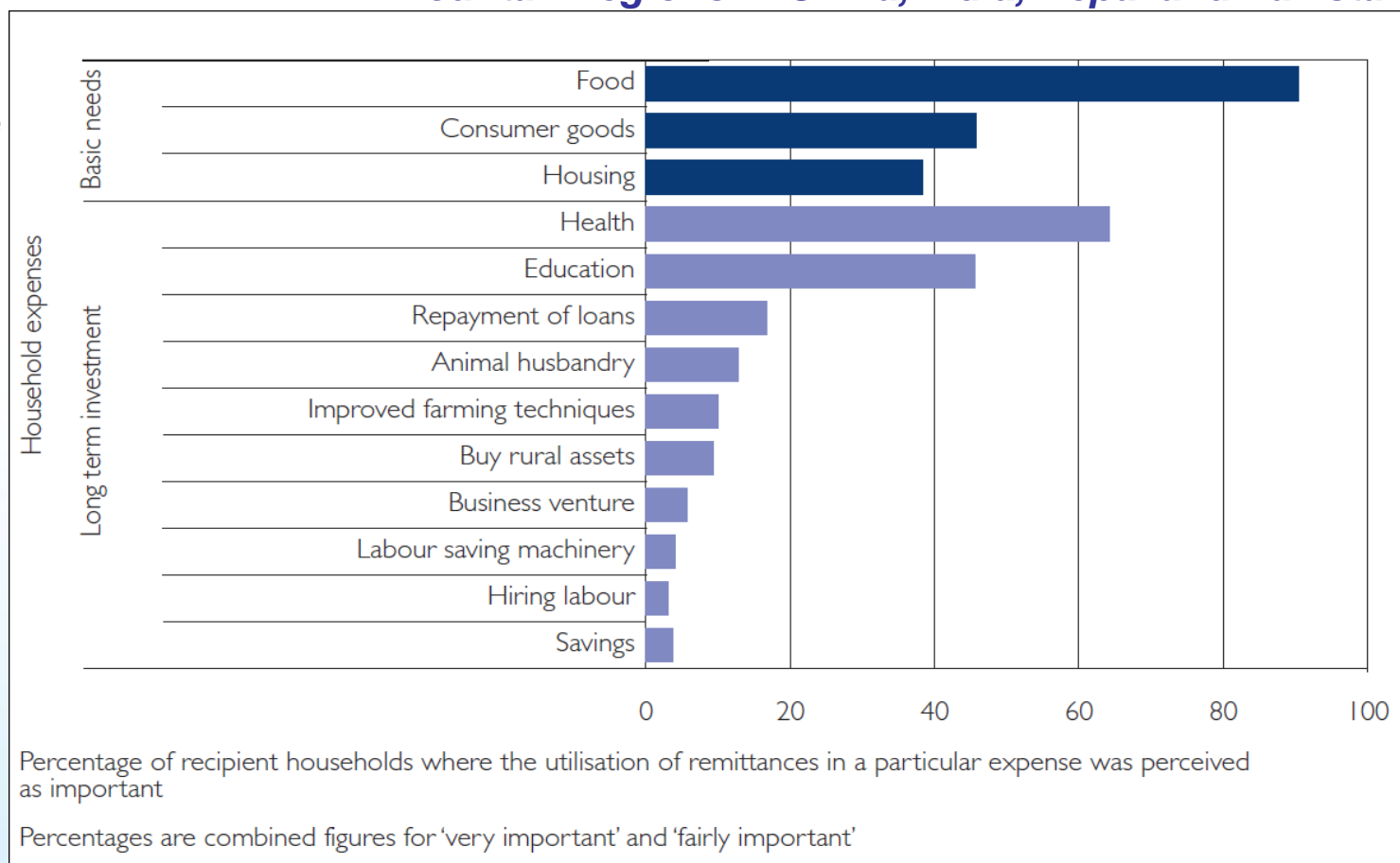
Key conclusion 3: Migration as Adaptation

Perceived importance of remittance utilization for different household expenses across case studies in mountain regions in China, India, Nepal and Pakistan

- **Livelihoods:** comprise social, financial & other forms of capital.

- Migration / remittances can build this **capital**

- A **sustainable livelihood** is better able to cope with & recover from stress and shocks



Source: Banerjee et al. (2011)



C

Three key priorities for international policy makers and UN

Summary of policy approach to issue of migration & GEC

To be pursued simultaneously

Reduce the impact of global environmental change (GEC) on migration

Limit or slow environmental change

Reduce impact of environmental change

Increase resilience to environmental change

Plan for/respond to migration in context of GEC

Address protection gaps

Planning for urban growth and adaptation

Mitigate social tensions and conflict

Recognise migration as adaptation to GEC

Relocate communities

Build new cities

Facilitating migration as adaptation



Summary of policy approach to issue of migration & GEC

To be pursued simultaneously

Reduce the impact of global environmental change (GEC) on migration

Limit or slow environmental change

Reduce impact of environmental change

Increase resilience to environmental change

Plan for/respond to migration in context of GEC

Address protection gaps

Planning for urban growth and adaptation

Mitigate social tensions and conflict

Recognise migration as adaptation to GEC

Relocate communities

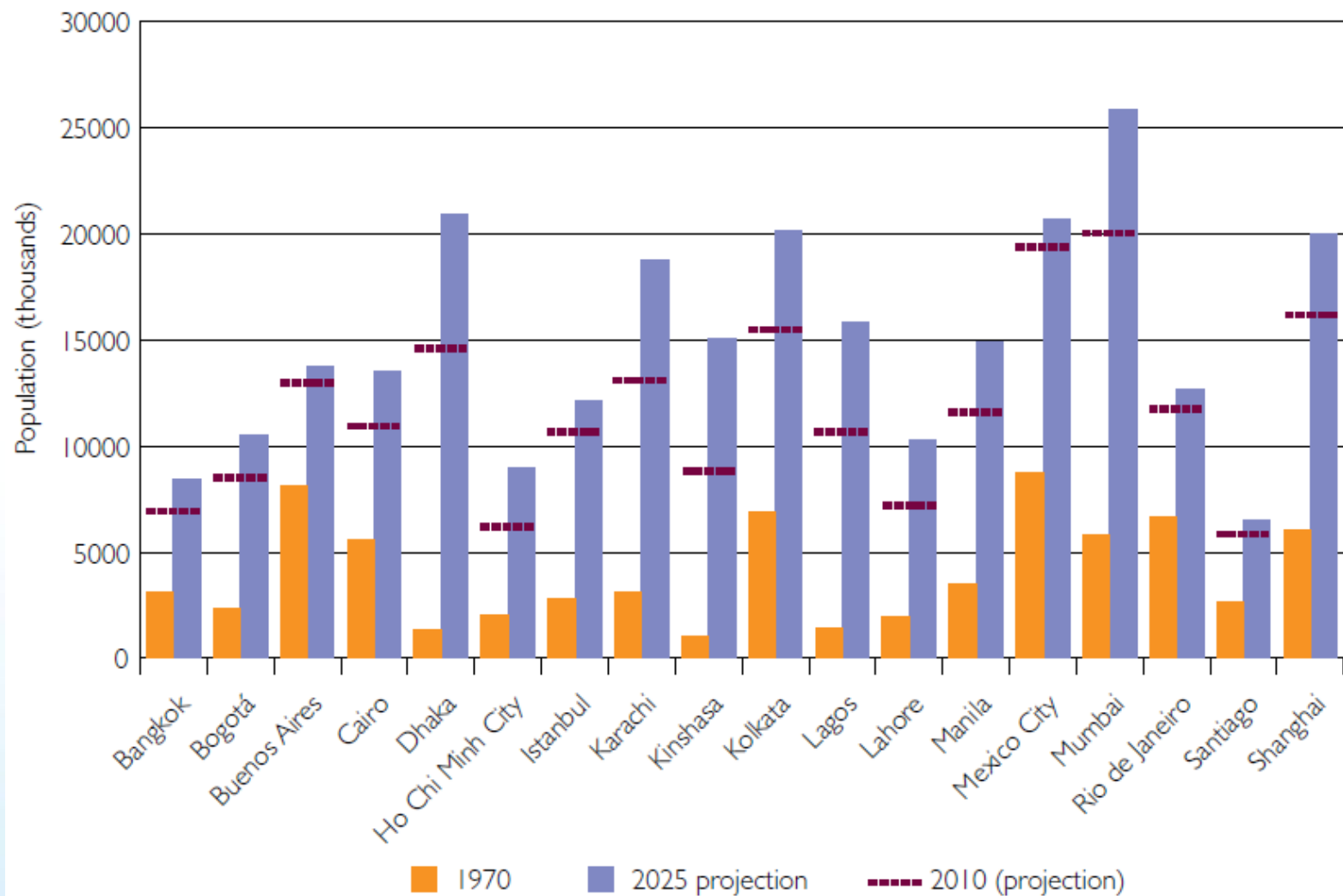
Build new cities

Facilitating migration as adaptation

Top down...

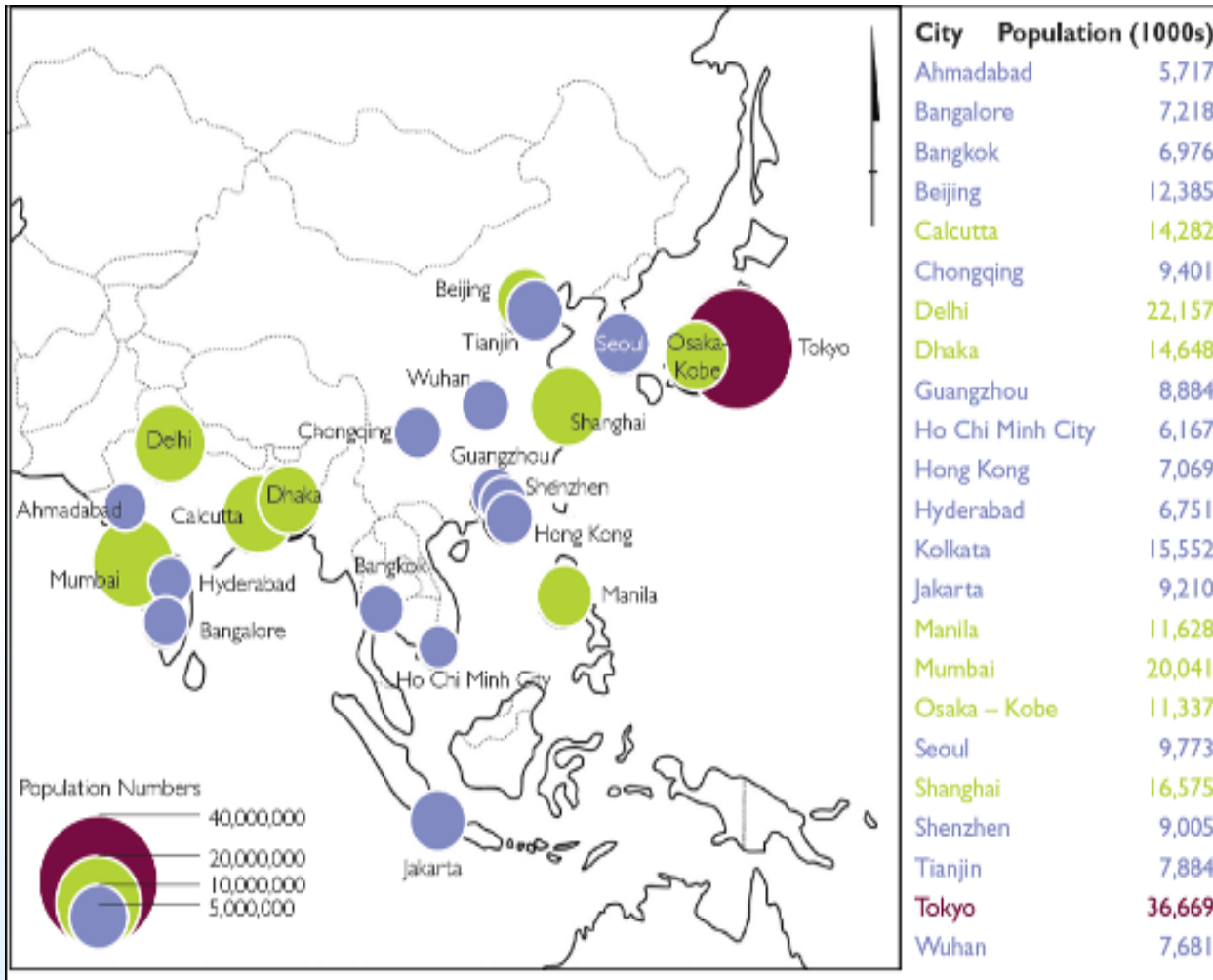
....Bottom up

Priorities for international policy 1: A focus on urban areas



Source: UN DESA Population Division (2009a).

1 (cont). Planning for Urban Growth



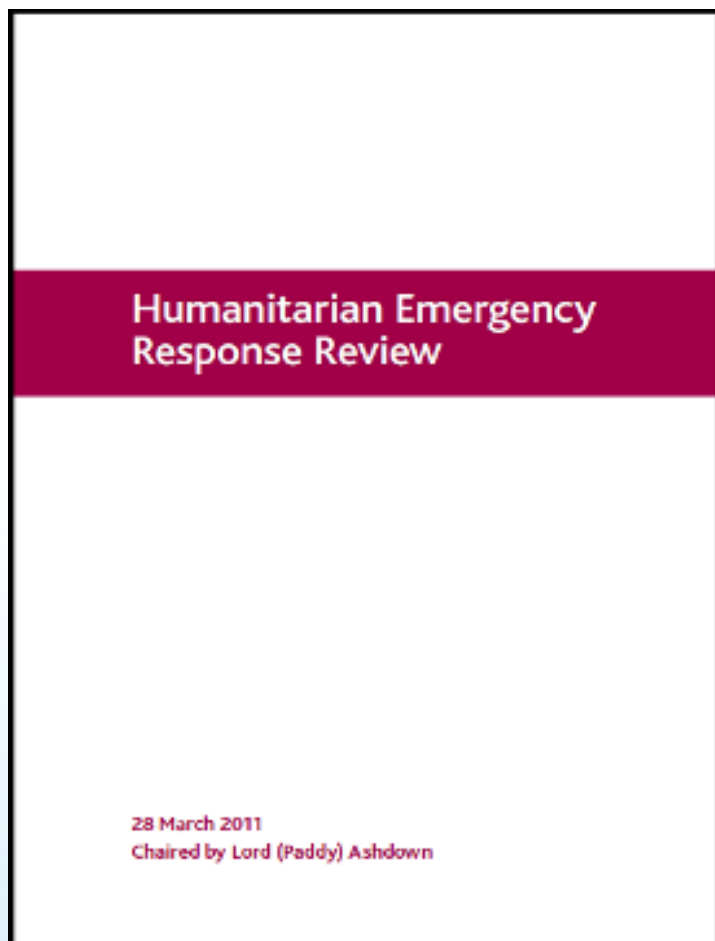
Appropriate Policies

- Infrastructure & hazards
- Including migrants
- Spatial planning

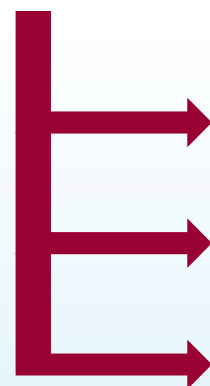
Source: UNDESA Population Division (2009a)

Priorities for international policy 2: building resilience

The Ashdown Review



- **Enhancing livelihoods**
- **Insurance**
- **Social protection**
- **Factoring in migration**



Can diversify livelihoods

The insurance motive

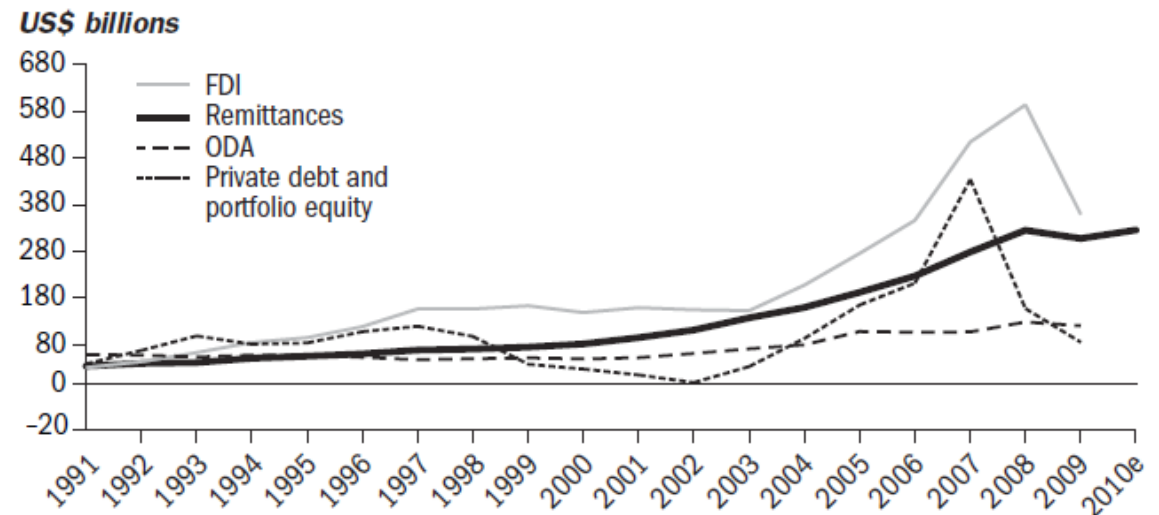
Great resilience unlikely to reduce migration

Priorities for int. policy 3: migration as part of the solution

- Adaptation to prevent migration? Not a recommended approach
- Adaptation that builds on migration is important:
 - Education
 - Social linkages
 - Remittances
 - Connectivity between places
- Resettlement – only as a last resort

Remittances Compared with Other Resource Flows

Remittance Flows Are Large and Resilient



Source: World Bank (2011)

What about protection gaps and global governance?



- Protocol on ‘environmental migrants’ likely to be inappropriate
- Importance of building on existing institutions and legal agreements
- Promoting regional solutions

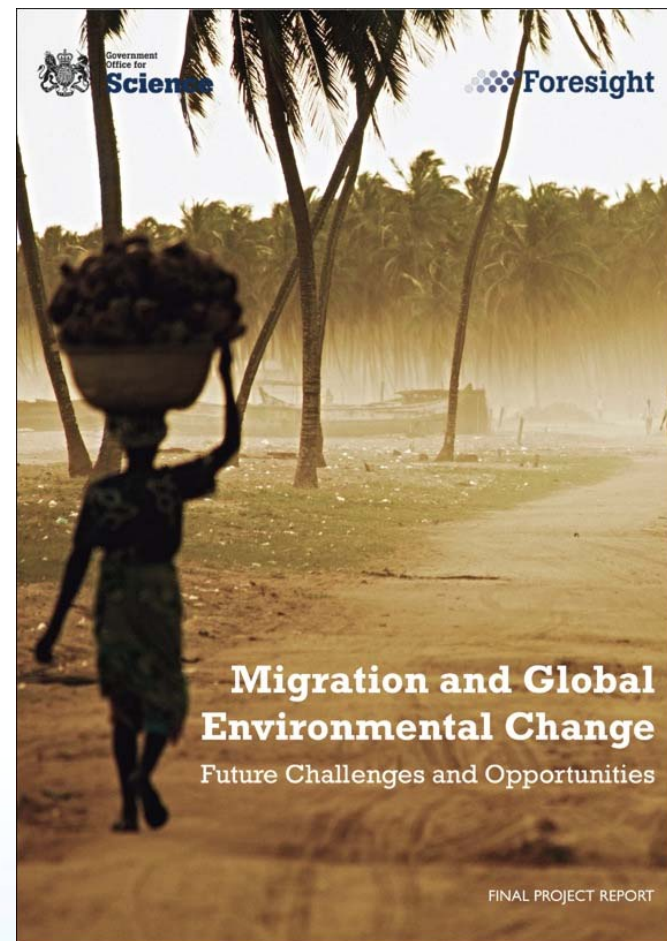


Case study: New Zealand:

- Pacific Access Scheme
- 75 migrants per year from Tuvalu / Kiribati
- 250 per year from Tonga
- Not linked to the environment
- Seasonal migration encouraged

Summary of what this means for UN

- Focus on ‘environmental migrants’ is difficult to justify conceptually...
- ... and critically misses key ‘at risk’ groups:
 - Those who move towards env. dangers;
 - Those who are trapped & unable to move.
- Yet environmental change, future migration, and links between are fundamental trends deserving of international attention. Key issues are:
 1. Urbanisation in the scope of environmental threats
 2. How migration can be a pathway to adaptation
 3. Harnessing migration to build resilience.
- **Can the Global Forum and HLD develop these agendas?**



What are Foresight's next steps?

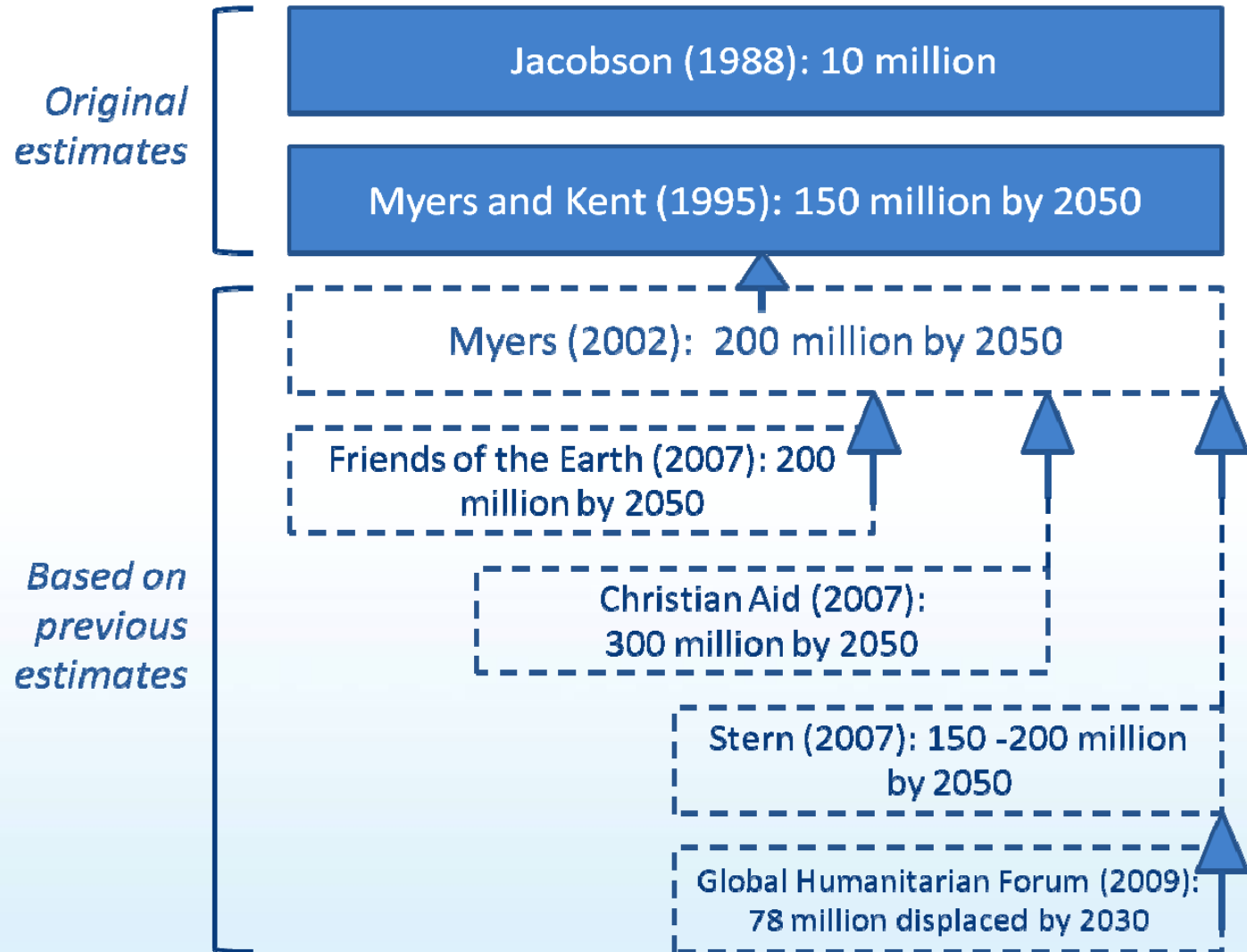
- **Follow-up work**
- **Supporting stakeholders** in interpreting the report for their own organisations (including international, intergovernmental stakeholders)
- **Strong track record**
- **Already developing workstreams**, e.g. with World Bank, holding workshop in Ghana, work with other parts of the UN system.
- Think of us for **collaboration**.



END (Back up slides to follow)

Starting Point: *Existing Knowledge*

- The roots of 'environmental migration' estimates
- Distinguishing populations 'at risk' from actual migrants
- The next stage of the debate



Three Key Ecological Regions

- **Drylands**



- **Low-Elevation Coastal Zones**

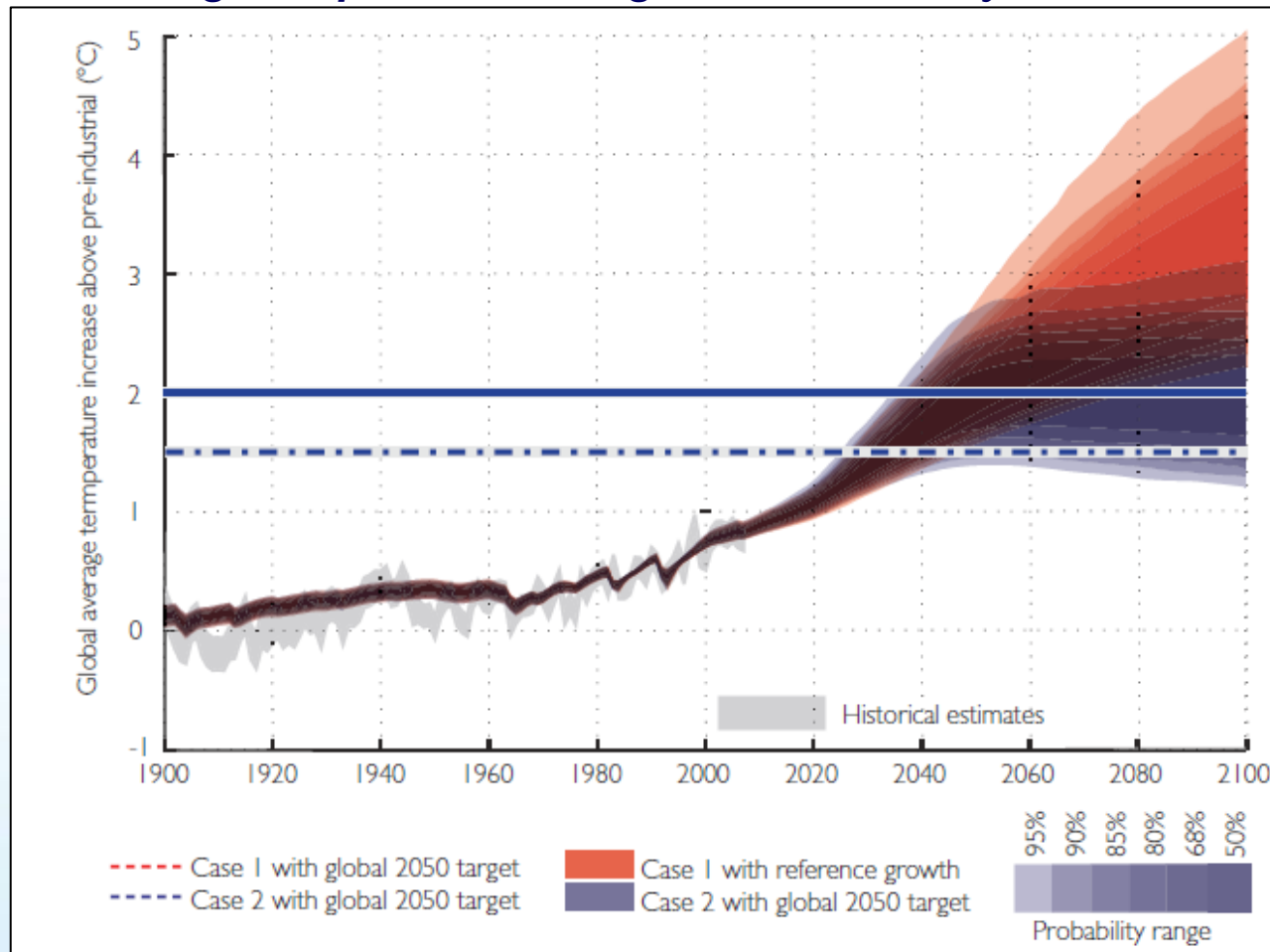


- **Mountain Regions**



Slowing the Rate of Environmental Change

The effects of the Copenhagen Accord on global average temperature through the 21st century



Source: Rogelj et al. (2010).

Reducing the Impacts

**Forecasting,
Warning**



*(DFID / International Development
Research Centre / Thomas Omondi)*



**Structural measures (e.g.
water supply)**



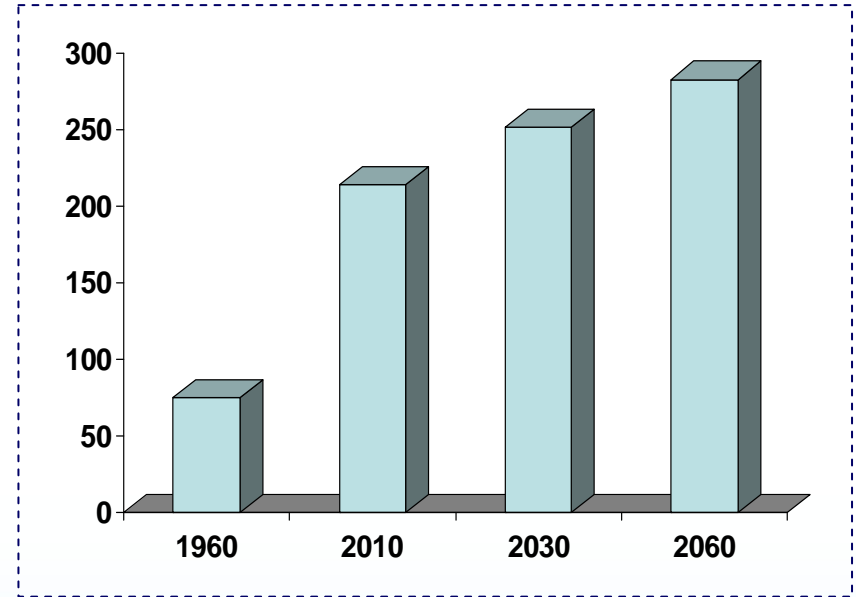
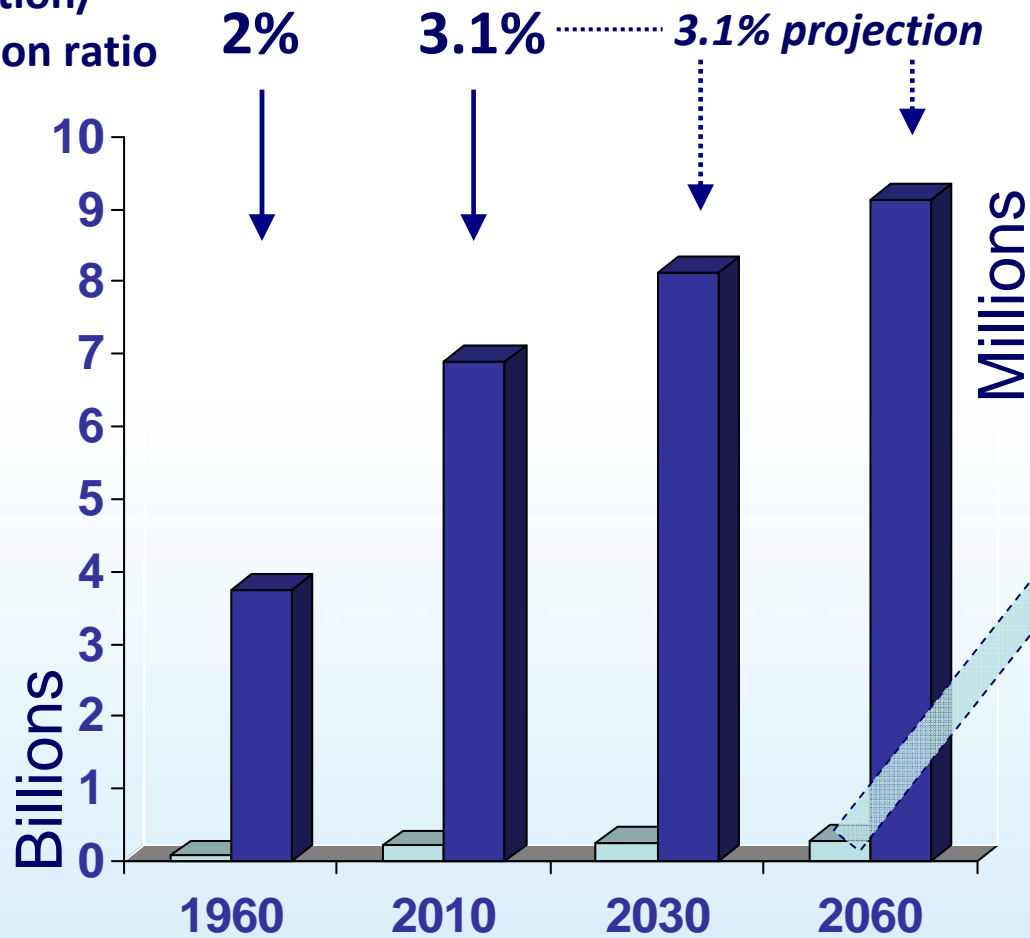
Emergency response

**Reducing
exposure
(e.g.
agricultural
practices)**



Planning for migration

Population/
migration ratio



Key

- International migrants
- World Population

Conflict and social tensions

*Causal linear relationships are difficult...
but this is what we can say:*

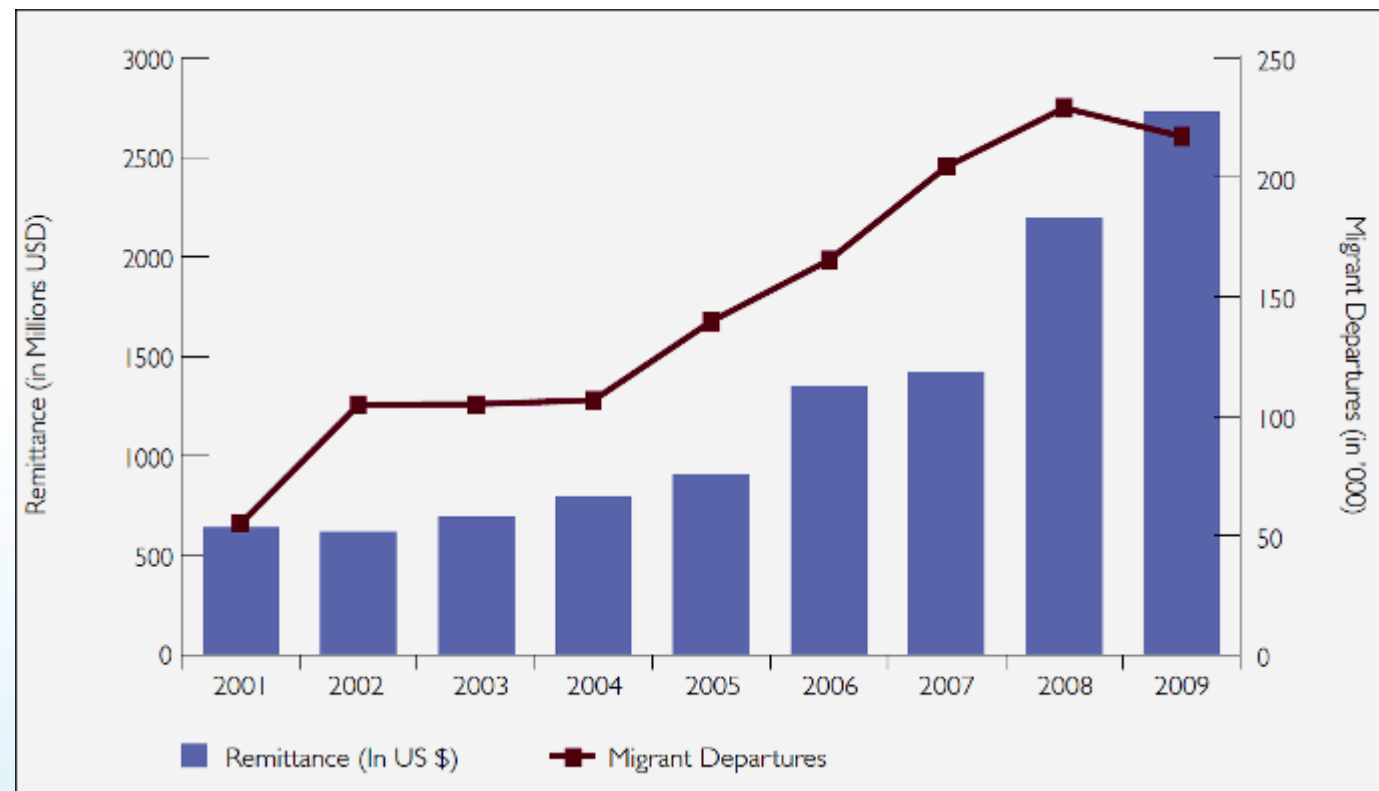


Trends	Policy Responses
<i>Migration can interact with tensions in destinations</i>	<ul style="list-style-type: none">• 'Normal' urban development• Community-led conflict resolution
<i>Conflict can cause <u>immobility</u></i>	<ul style="list-style-type: none">• Factor trapped populations into 'normal' conflict policies• Resolving resource conflict

The Importance of Remittances

- 2009: international **remittances** = US\$307bn, compared to US\$120 ODA
- Africa: remittances **quadrupled** to US\$40bn between 1990-2010
- Remittances account for **28%** of Tonga's GDP, **22%** of Samoa's

Migrant Remittances and Departures in Nepal, 2001-09

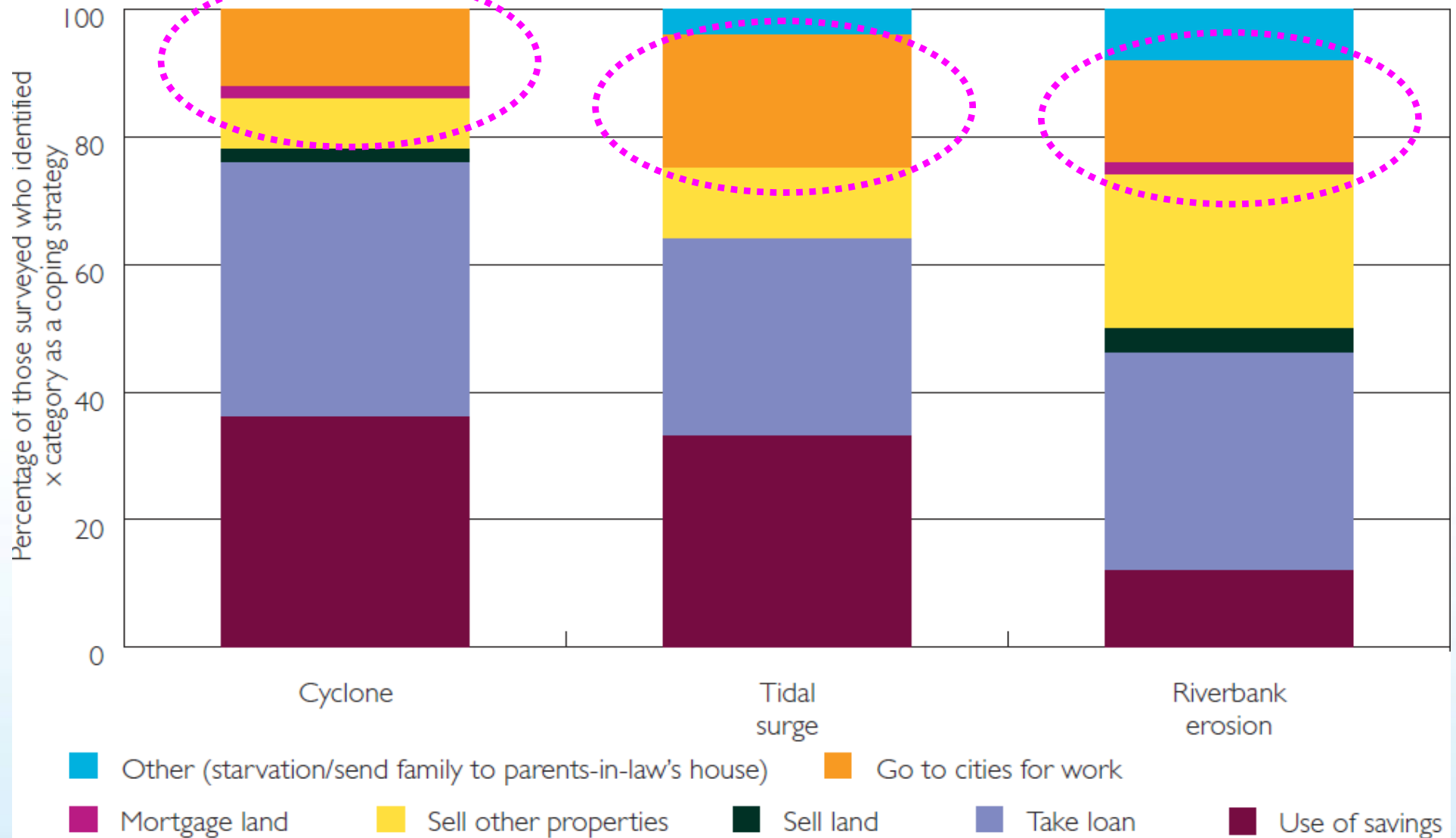


Source: World Bank (2011), Ratha (2011)

Source: World Bank (2009a)

Internal migration: diversifying livelihoods

Evidence from Bangladesh (CS4)



Building migration into adaptation planning

Three Domains of Measure Covered in Paragraph 14(f) of the Cancun Adaptation Framework

