

MIGRATION AND ENVIRONMENTAL CHANGE IN ASIA

by

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Outline of Presentation

- **Introduction**
- **The Relationship Between Climate Change and Population Movement**
- **Anticipated Hot Spots Asia**
- **Potential Mobility Responses**
- **Policy Issues**
- **Conclusion**

‘Stresses such as increased drought, water shortages and riverine and coastal flooding will affect many local and regional populations. This will lead in many cases to relocation within and between countries, exacerbating conflicts and imposing migration pressures’.

Fourth Assessment of IPCC (2007)

Some Projections of Environmentally-Displaced Population Due to Climate Change Impacts

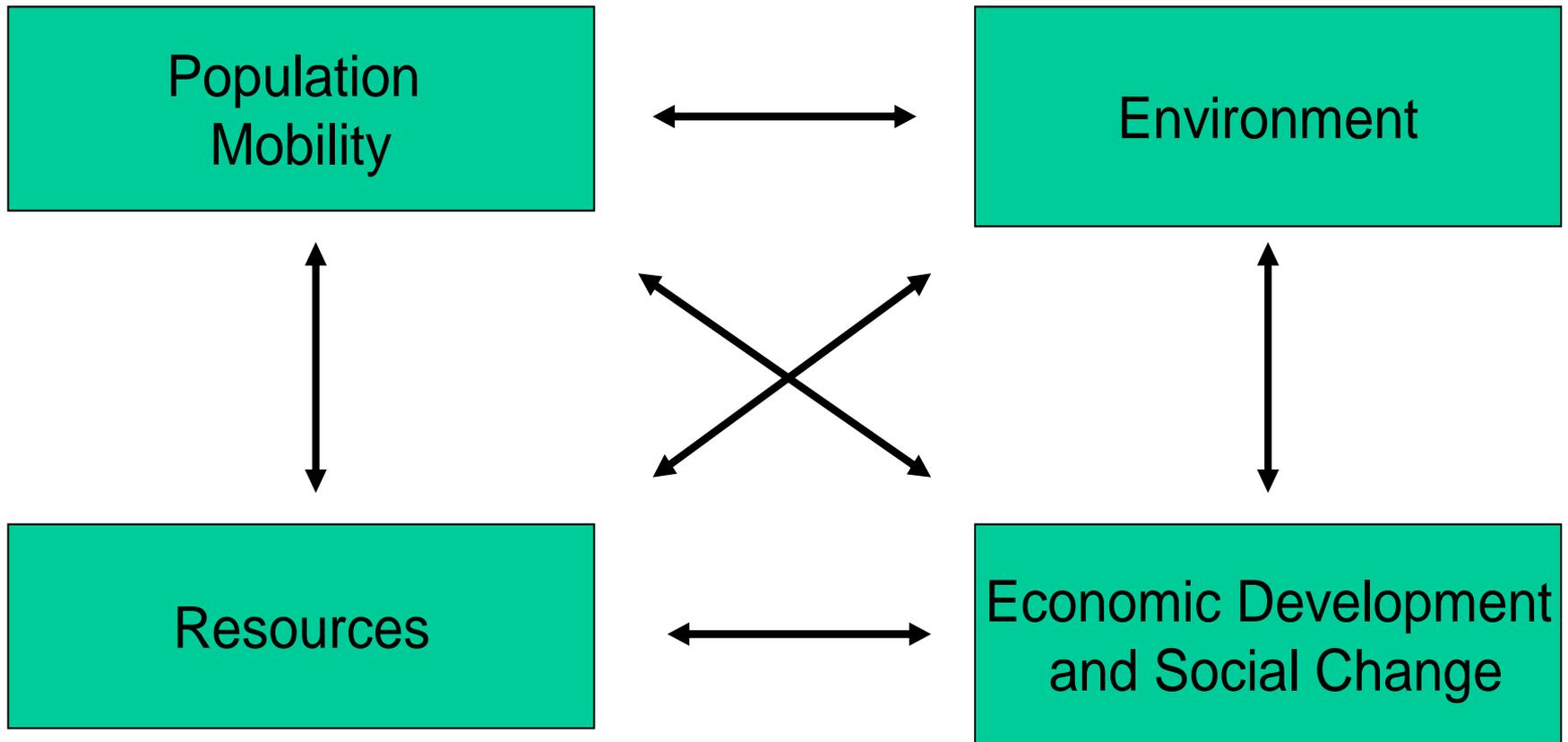
Source: Adamo, 2008

- People at risk of sea level rise by 2050: 162 million (Myers, 2002a)
- People at risk of droughts and other climate change events by 2050: 50 million (Myers, 2002a)
- People potentially at risk of being displaced because of desertification: 135 million (Almeria Statement, 1994)
- Number of people who have fled because of floods, famine and other environmental disasters: approximately 24 million (UNHCR, 2002, 12)
- Environmentally displaced people by 2010: 50 million (UNFCCC, 2007)
- Refugees due to by climate change by 2050: 250 millions (Christian Aid cited in Biermann and Boas, 2007)
- People estimated to become permanently displaced 'climate refugees' by 2050: 200 millions (Stern, 2006)

However these predictions lack credibility for at least two reasons

- The science of climate change is not sufficiently advanced to allow precision in identifying either the location or severity of impacts.
- There is no comprehensive and accurate data on contemporary internal and international migration flows on which to base projections of future mobility.

A Complex Interrelationship: Migration, Environment, Resources and Development



Environment as a Cause of Migration: Forced vs Unforced Migration

**Voluntary
Movement**

**Forced
Movement**

Key Issues in Environmental Migration

- Complexity – these rarely are single causes of migration
- Forced resettlement vs migration as adaptation
- Sudden vs slow onset impacts
- Forced vs voluntary migration
- Moving as a result of potential vs threats of actual environmental deterioration
- Forced settlement vs migration and adaptation
- Linear vs non linear impacts
- Migration is only one of several adaptations to climate change

Debate on the Significance of Environment and Migration

‘although the estimates and projections of environmental refugees are based almost entirely on anecdotal evidence and intuitive judgment, it is important not to trivialise the role environmental change and resource depletion may play in population movements.’

Lonergan and Swain (1999, 2)

‘although environmental degradation and catastrophe may be important factors in the decision to migrate, and issues of concern in their own right, their conceptualisation as a primary cause of forced displacement is unhelpful and unsound intellectually and unnecessary in practical terms.’

Black (2001, 1)

Responses to Climate Change

(Balk 2008)

- Mitigation
- reduce climate change severity eg reduce emissions
 - promote investment and infrastructure away from risk areas
 - socio-economic development in risk areas
- Modification
- technological solutions in high risk areas
 - building up resilience
- Migration
- as adaptation
 - resettlement

Linear Vs Non Linear Impacts of Climate Change on Migration

1. significantly increase the numbers of people migrating using established patterns both internally and externally in a linear manner, primarily via voluntary mechanisms; and
2. lead to non-linear changes to create new migration flows that result as thresholds of resilience or tipping points are met.

Key Issues in Impact on Migration

- Needs to be considered in context of existing migration, not separately
- Can influence migration through impact at both origin and destination
- Crucial role of migration networks
- Inter-relationship with poverty – poor least able to use migration as adaptation more likely to be forcibly displaced

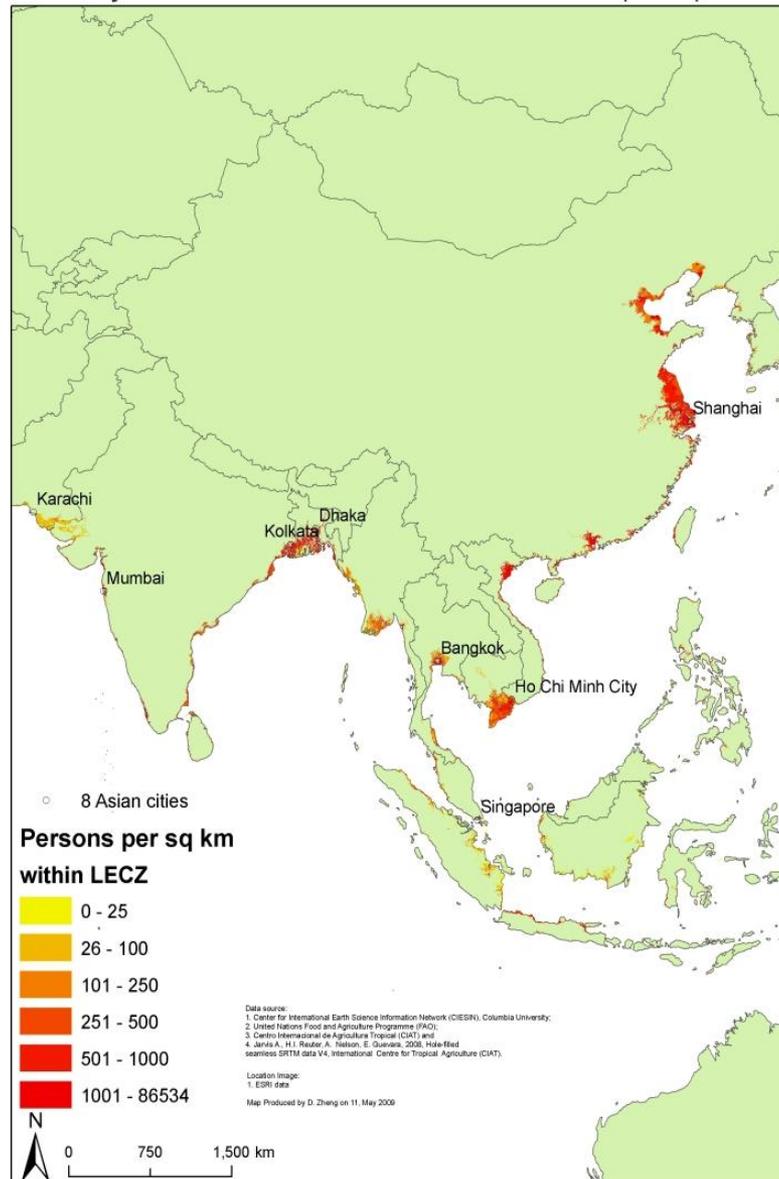
Hot Spots of Climate Change Impact

‘a specific area or region that may be at relatively high risk of adverse impacts from one or more natural hazards which result from climate change’

Main Types of Hot Spots in Asia

- **Low lying coastal areas, including major mega cities**
- **Delta regions – most intensively settled areas in the world**
- **Low lying islands, atolls**
- **Semi arid and low humidity areas**
- **Areas of enhanced hurricane activity**
- **Areas with declining rainfall**

Southern and Eastern Asia: Estimated Population Density Within a 5m Low Elevation Coastal Zone (LECZ), 2010



Southeast Asia: Location of Hot Spot Areas Likely to be Most Impacted by Coastal Flooding Associated with Sea Level Rise, Riparian Flooding, Cyclones/Typhoons and Water Stress as a Result of Climate Change

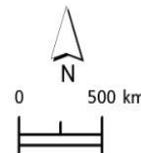
Source: Yusuf and Francisco, 2009, 6



Additional Data Sources:

Global Rural-Urban Mapping Project, Center for International Earth Science Information Network (CIESIN), Columbia University; International Food Policy Research Institute (IPFRI); The World Bank; Centro Internacional de Agricultura Tropical (CIAT) 2005; USGS EROS Data Centre; ArcWorld, ArcWorld Supplement

- Major Cities
- Countries
- Impact areas
 - Coastal Flooding
 - Cyclones / Typhoons
 - Riparian Flooding
 - Water Stress



South East Asia



May 2009

‘Uncertain global estimates compromise the possibility of producing reliable, usable and comparable data – without which action is not possible. Whilst not denying the potentially widespread displacement consequences of environmental change, these estimates instil a fear of migrants and humanitarian crises. They may obscure the positive role of human agency in mediating these potential outcomes – how, in practice, local communities actually do, or might, react and thus what appropriate responses should be’.

(Boano *et al.*, 2008, 12-13)

Projecting Impacts of Climate Change on Migration

- Too many uncertainties to project numbers of migrants
- Can project populations in hot spots

Identifying the Population in At Risk Areas

‘calculating the population ‘at risk’ from sea level rise is a long way from predicting mass flight of a refugee nature’

Black (2001, 9)

Indicative Population Projections

- To underline the urgency of the need for development of appropriate institutions and mechanisms to cope with the impact of climate change.
- To give an indication of the areas that are most likely to be impacted by climate change induced mobility in order to target intervention strategies.

Southeast Asia: Population in Hot Spot Areas at High Risk of Climate Change Impacts, 2000

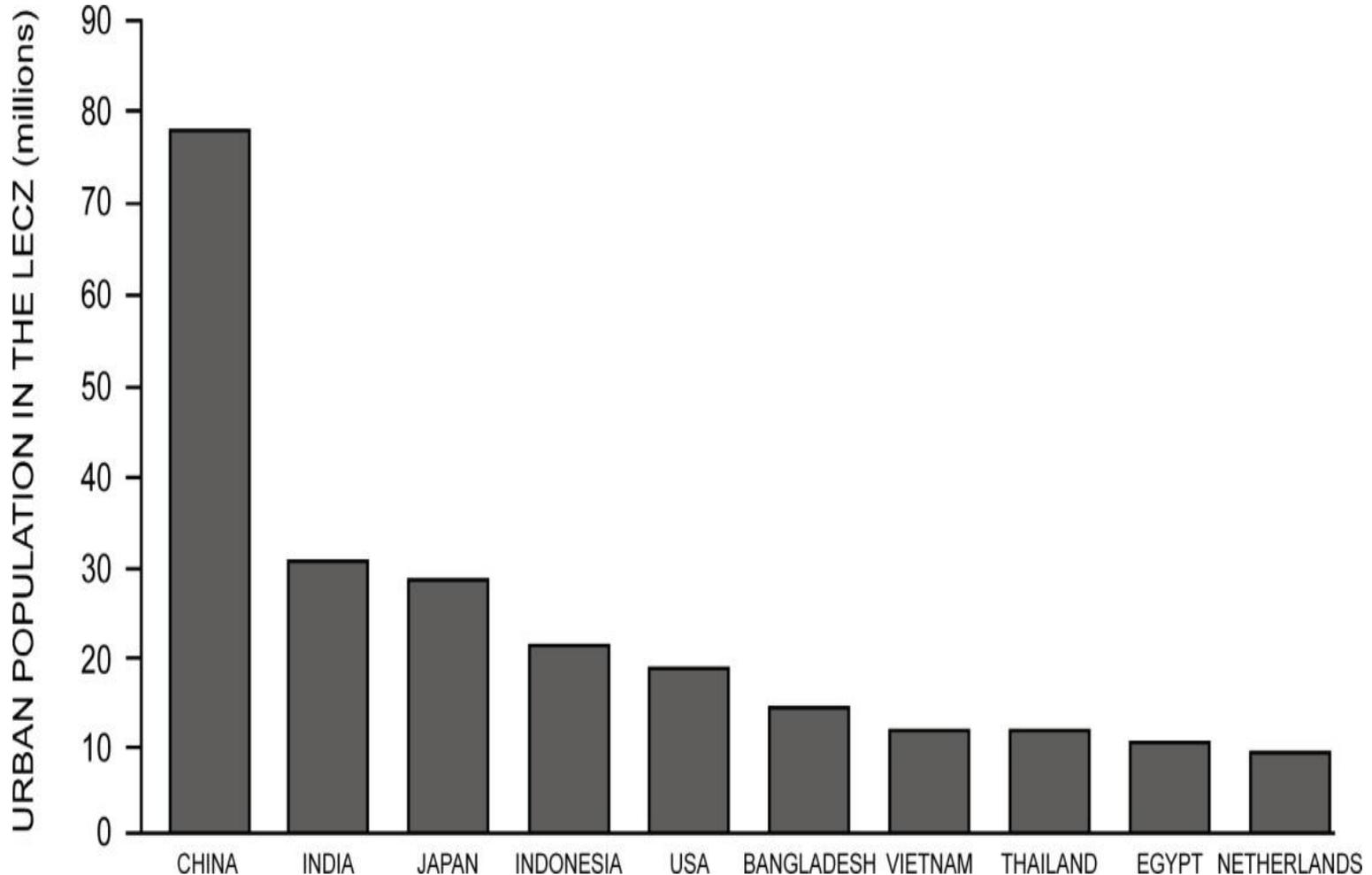
Country	Total Population 2000 (’000)	Percent of National Population at Risk of:			
		Coastal Flooding	Cyclones	Riparian Flooding	Water Stress
Brunei	317	-	-	-	-
Cambodia	13,145	18.0	1.0	100.0	-
East Timor	739	-	-	-	-
Indonesia	212,060	25.9	-	-	68.2
Lao PDR	5,275	-	64.2	-	-
Malaysia	22,334	29.3	-	-	-
Myanmar	47,833	34.1	9.4	32.7	48.9
Philippines	75,652	39.3	100.0	7.7	-
Singapore	3,923	-	-	-	-
Thailand	62,770	21.3	9.1	-	65.3
Vietnam	78,114	67.8	60.5	100.0	-
Total (number ’000)	522,163	176,196	136,627	112,751	204,048

Projected Total Megacity Populations at Risk Allowing for Sea Level Rises of 1 and 5 Metres ('000), 2000

	Total	Sea Level Rise	
	2000 Population	1m	5m
Bangkok	9,667,300	193,606	4,077,760
Ho Chi Minh City	5,545,760	630,135	3,405,010
Jakarta	19,682,700	713,960	1,755,040
Manila	14,071,900	36,841	398,650
Singapore	3,327,740	0	0

Countries with Largest Urban Populations Currently Living (2000) in Areas Less Than 10 Metres Below Sea Level

Source: McGranahan *et al.*, 2007



Example: Key Impacts on Migration in the Mekong Delta

- Much of current inmigration directed to high risk areas
- Extensive impact in both Vietnam and Cambodia
- Large highly vulnerable poor population
- Increased outflows – international and internal along established channels
- Increased rural-urban migration

Poverty: Central Issue

The poor are most exposed because

- They are often forced to exploit natural resources on the environmental margins such as coasts, flood plains or semi-arid areas;
- They are more directly dependent on natural resource management and environmental services for their livelihoods
- They have poor accommodation, no means to flee and are often living in groups that are comparatively poorly informed and/or educated about environmental hazards.
- They have the fewest personal or community economic resources to support autonomous adaptation, including migration;
- They often have the least access to formal institutional assistance or collective adaptation responses;
- They are often distanced from national and international decision-makers and therefore, their plight may go un-noticed or responses may be comparatively weak or late.

Migration Policy Responses are of Two Types

- Migration of some people out of areas influenced by climate change on a *temporary* or *permanent* basis can enhance the capacity of those left behind to adapt to climate change.
- In extreme cases where climate change makes it impossible for communities to remain in their home areas, *displacement migration and resettlement* elsewhere offers a last resort.

Policy

- Migration will be an important adaptation mechanism and response strategy to climate change in Asia and the Pacific.
- However, these displacement patterns could incur massive additional economic, social, political and environmental costs unless they are carefully planned for.
- Without careful planning it will be only the well-off communities and individuals who are able to use migration successfully as a mechanism to cope with climatic changes and who will benefit from migration as an adaptation option.
- Preparing for climate change involves important national and subnational policy components but it is crucially important to recognise that international and regional cooperation and action are vital.
- In developing policy implications it is important to bear in mind that migration is only one of a number of responses to the onset of climate change and needs to be considered in context with other adaptation and mitigation mechanisms.

Key Policy Issues

- Most of mobility adjustments will be internal
- Key international dimensions
 - funding of internal adjustments
 - role of international migration as an adaptation mechanism
 - role of international migration in resettlement
- Necessary for setting up an international fund on “polluter pays” principles to fund adaptation and resettlement
- Should there be a dedicated fund for migration adaptation–resettlement or should it be a fund for all adaptation?

Key Migration Policy Issues – Migration and Adaptation

- **Build on role of migration as a facilitator of development and building resilience in origin areas.**
- **Focus on high risk areas in encouraging internal and international migration.**
- **Policy to facilitate and enhance existing flows and in some cases help create new flows.**
- **Need to involve poorest groups in them.**

(cont.)

- **Introduction of best practice into temporary labour migration**
- **Improving governance.**
- **Need for more ‘development friendly’ approach in destination countries (e.g. RSE in New Zealand).**
- **Based on recognition of the reality of the effects of ageing and low fertility in high income nations**
- **National Spatial Development Policy – encouraging development away from hot spots over the next five decades.**

Resettlement of Entire Communities: A Last Resort

- **Focus of attention – resettlement on both a temporary and permanent basis will need to be planned for.**
- **Need to mesh responses with existing disaster management systems (Hyogo Framework for Action).**
- **Some permanent displacement will be necessary, most within countries.**
- **Need to build on huge body of existing knowledge on planned resettlement of displaced populations.**

Barriers to Establishing a New International Regime to Protect Climate Change Migrants

- **Difficulty of separating climate change from other drivers of migration.**
- **Reluctance of potential destination countries to accept a new category of asylum seeker**
- **Lack of existing international cooperation on migration in Asia and the Pacific.**
- **Short term vs long term goals.**

Advantages to Accommodating Climate Change Migration Within Existing Structures

- **The option is immediately available to climate change forced migrants.**
- **It overcomes the manifest suspicion of destination country governments and societies existing, let alone expanded, 'asylum' categories of immigration.**
- **It obviates any need to set up new institutions, structures and mechanisms.**
- **There are for many nations a plethora of different categories of migration which provides a range of ways in which climate change displaces could be accommodated.**
- **The system would utilise existing migration networks where they exist to facilitate migration and to assist settlement at the destination.**

Recommendations

- 1. Consciousness Raising, Climate Change Adaptation Plans**
- 2. Need for an Improved Empirical Basis**
 - Data Collection on Migration**
 - Targeted Case Studies**
- 3. Capacity Building and Improvement in Governance in Migration**
- 4. Enhanced Regional and International Cooperation**
- 5. Develop Best Practice in Migration**
- 6. Effective Mechanisms for Funding Migration Responses**
- 7. Integrate with Disaster Management**
- 8. Enhancing Resistance in Communities**