Demographic Aspects of Climate Change, Environmental Degradation and Armed Conflict

Presentation to the United Nations Expert Group Meeting on Population Distribution, Urbanization, Internal Migration and Development

United Nations, New York 21-23 January 2008

Henrik Urdal
Centre for the Study of Civil War (CSCW)
International Peace Research Institute, Oslo (PRIO)
henriku@prio.no

Population pressure

Four schools

- Resource scarcity
- Technological optimism
- Political ecology
- Institutionalists

The resource scarcity model

The Technological Optimism Model

Population pressure & resource depletion

↓

Resource scarcity

↓

Technological innovation

↓

Economic development

↓

Peace

Climate Change and Conflict

- Physical changes:
  - Resource depletion (water, land)
  - Sea-level rise
  - Increased severity, frequency of natural hazards
  - Conflict mechanisms:
  - Local resource conflicts
  - Migration

Climate refugees

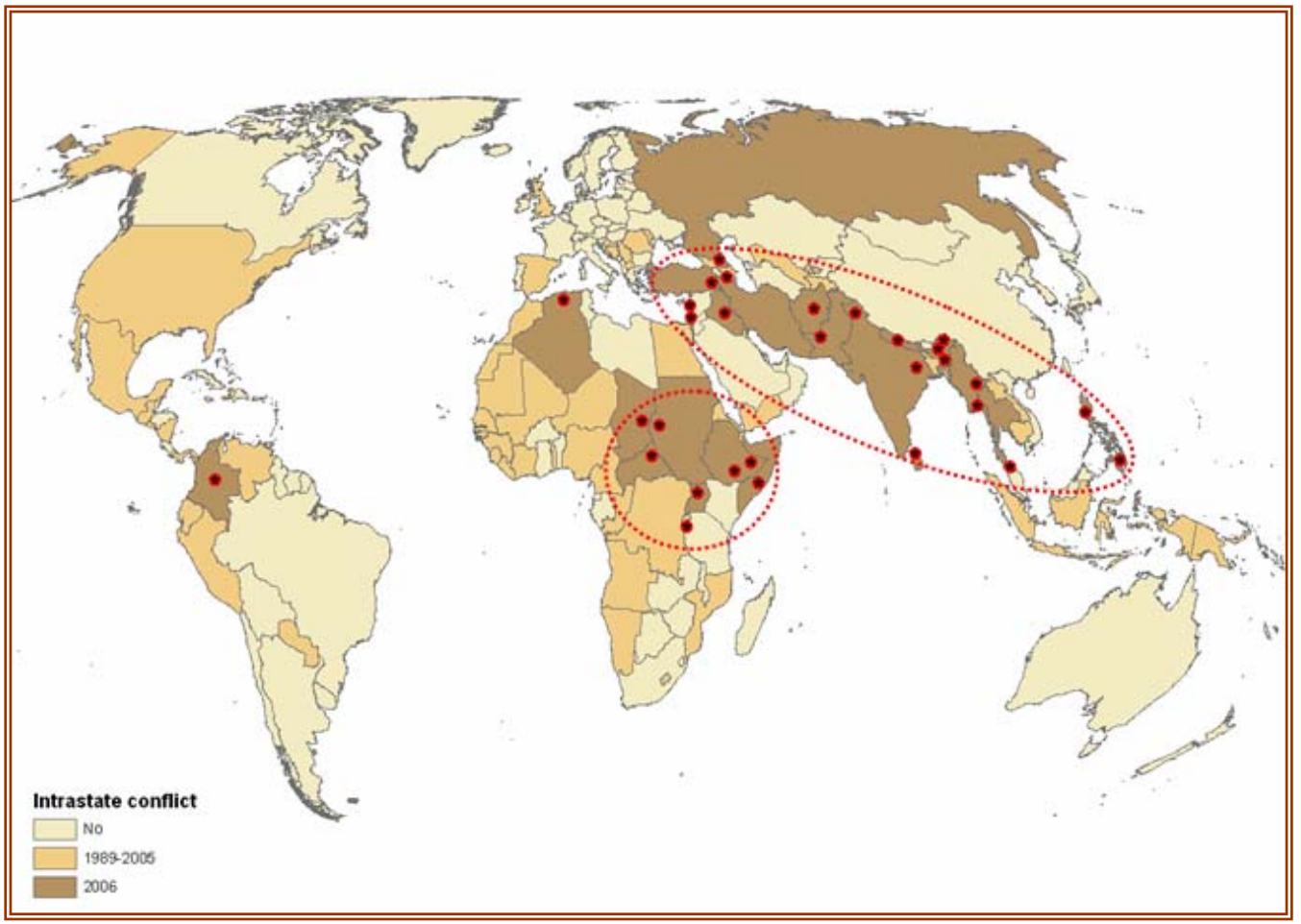
- Environmental refugees: contentious
  - Stable stock: 20-25 million
- 200 million climate refugees by 2050?
  - Vulnerability, coping strategies
  - Pace
  - Destination
- Significance
  - Rural-urban migration 2005-2015: 250-310 million

Defining internal armed conflict

- Incompatibility over government/territory
- Armed force
- At least two organized parties
- One is the government of a state
- Minimum 25 battle-related deaths per year

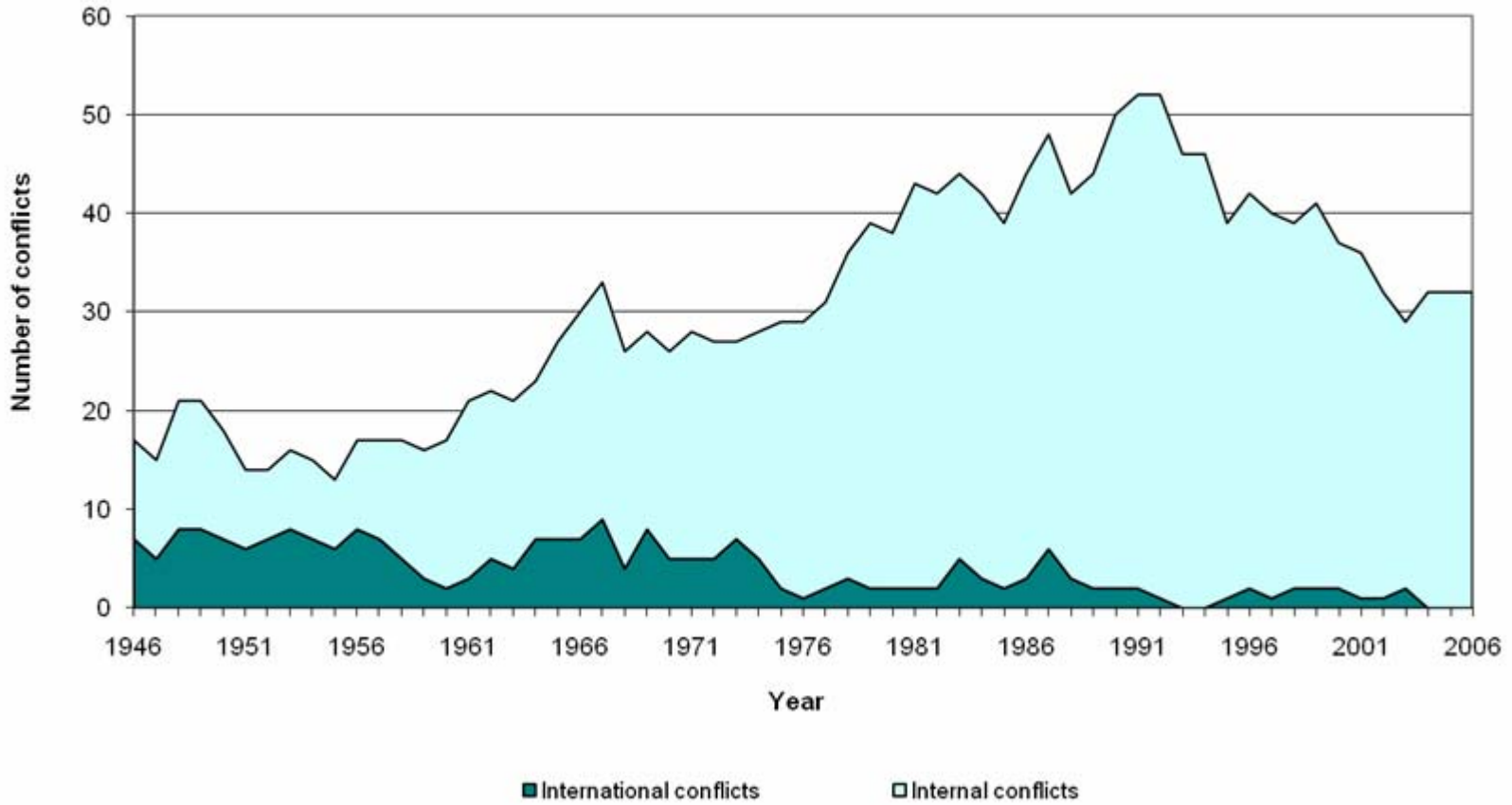
Uppsala/PRIO conflict data (Gleditsch et al., 2002)

The location of armed conflicts in 2006

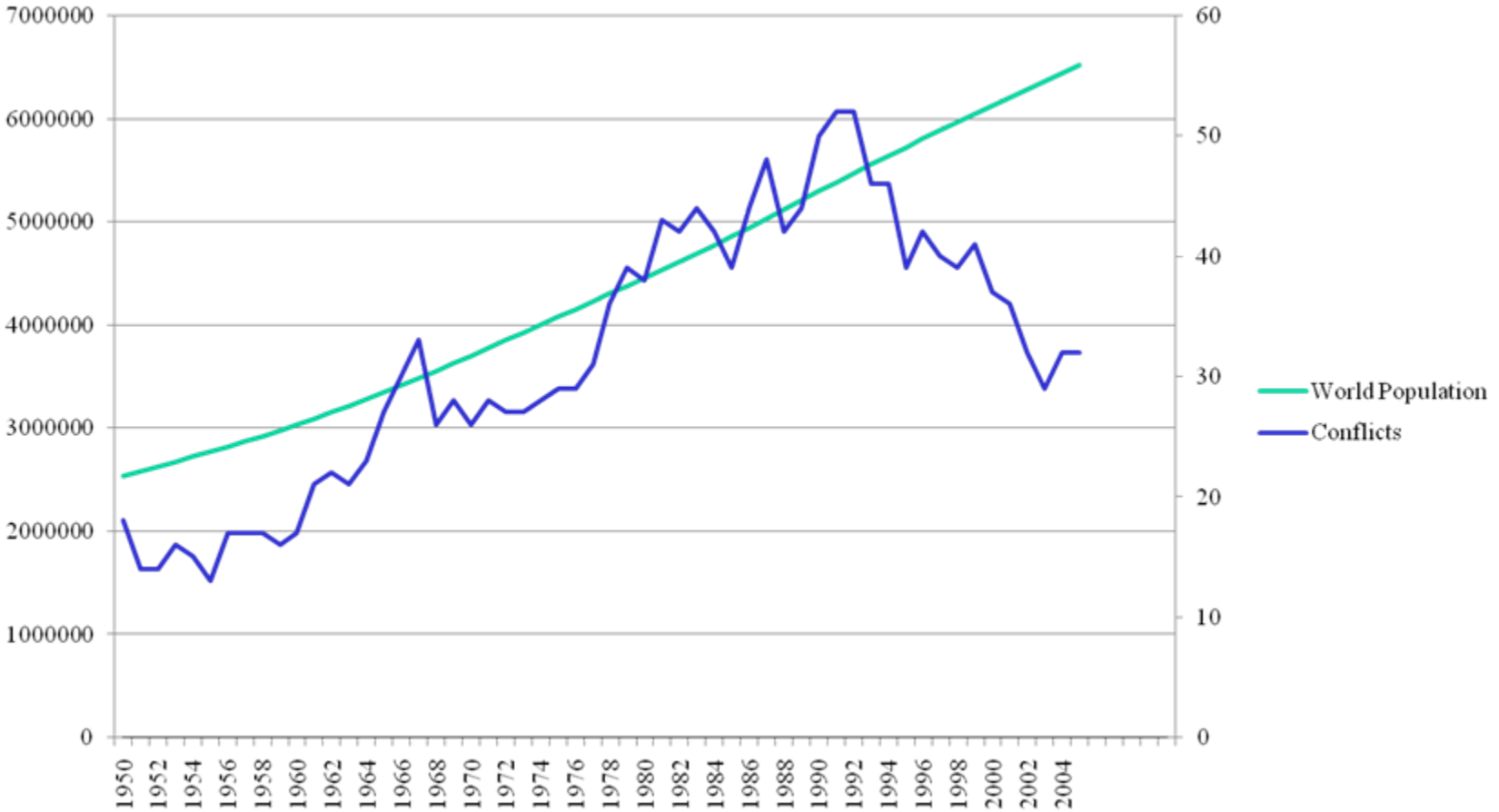


Source: Harbom & Wallersteen, 2007. Map produced by Halvard Buhaug.

Armed conflicts 1946-2006



World population and conflicts



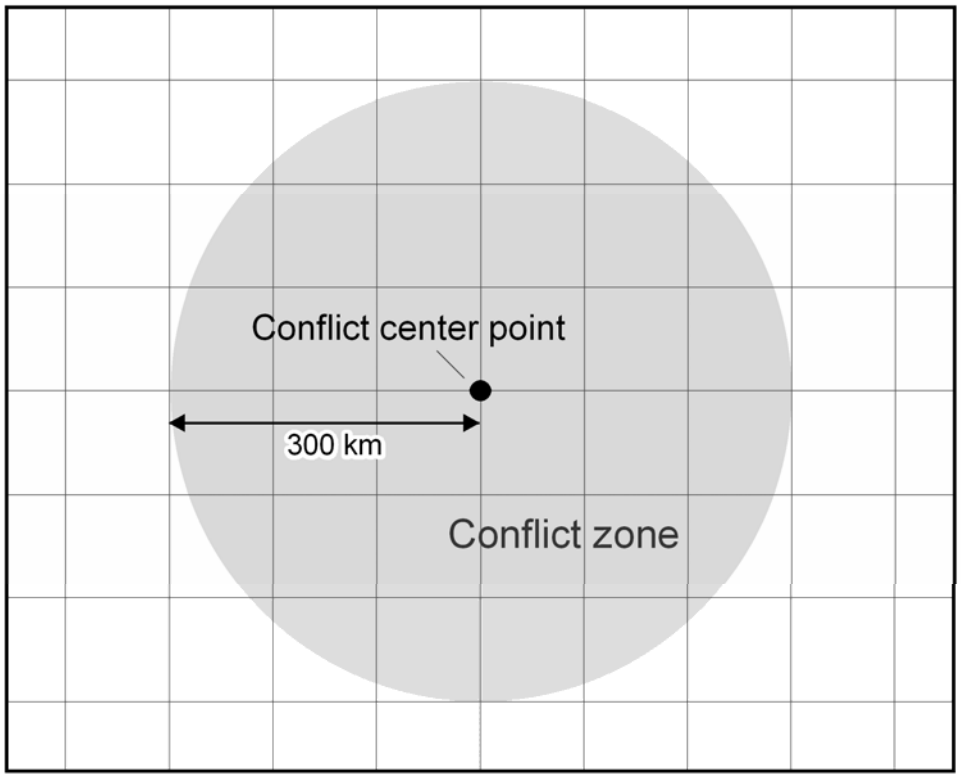
State-level demographic pressure

	Basic Model	**Expanded Model**	**Post-Cold War**
Population growth	Not significant	Not significant	Not significant
Population density	Lower risk (weak)	Not significant	Not significant
Growth * density	Not significant	Not significant	Not significant
Urban growth		Not significant	Lower risk

Urdal, Henrik, 2005. 'People vs Malthus: Population Pressure, Environmental Degradation and Armed Conflict Revisited', *Journal of Peace Research* 42(4): 417–434.

Climate change and conflict

- Global coverage
- Time-period 1990-2004
- IPCC scenarios:
  - Population growth and density
  - Water scarcity
  - Soil degradation



Raleigh, Clionadh, & Henrik Urdal, 2007. 'Climate Change, Environmental Degradation and Armed Conflict', *Political Geography* 26(6): 674–694.

Climate change and conflict

	High Income	Low Income
Low degradation	Higher risk	Lower risk
Medium degradation	Higher risk	Not significant
Very high degradation	Higher risk	Not significant
Water scarcity	Higher risk	Higher risk (weak)
Population density	Higher risk	Higher risk
Population growth	Higher risk	Higher risk
Pop growth *density	Not significant	Higher risk
Pop growth *water scarcity	Not significant	Higher risk (weak)
Pop growth * degradation	Not significant	Not significant

Raleigh, Clionadh, & Henrik Urdal, 2007. 'Climate Change, Environmental Degradation and Armed Conflict', *Political Geography* 26(6): 674–694.

Demography and violence in India

- State-level analysis
- Time-period 1956-2002
- 3 measures of violence:

  - Armed conflict
  - Violent political events
  - Hindu-Muslim riots

Urdal, Henrik, 2008. 'Population, Resources and Political Violence: A Sub-National Study of India 1956-2002', *Journal of Conflict Resolution,* in press.

Demography and violence in India

	Armed conflict	**Political violence**	**Riots**
Rural pop growth	Not significant	Not significant	Not significant
Rural pop density	Higher risk	Not significant	Not significant
Rural growth *density	Not significant	Higher risk	Not significant
Urban growth	Lower risk	Not significant	Not significant
Rural inequality	Not significant	Not significant	Not significant
Agricultural yield	Not significant	Higher risk if high density	Not significant
Decline in agricultural wages	Higher risk (long-term)	Not significant	Not significant

Urdal, Henrik, 2008. 'Population, Resources and Political Violence: A Sub-National Study of India 1956-2002', *Journal of Conflict Resolution,* in press.

Preliminary conclusions

- Security is not a rationale for reducing global population growth
- Local effects more likely due to:
  - Local resource management failure
  - Adaptation failure
- Climate change and security: desperate need for solid research