



**“Advancing human security through knowledge-based approaches to reducing vulnerability and environmental risks“**



**UNITED NATIONS  
UNIVERSITY**

**UNU-EHS**

Institute for Environment  
and Human Security



# ***Climate change, human security, and social vulnerability:***

## ***Empirical evidence of environmentally induced migration***

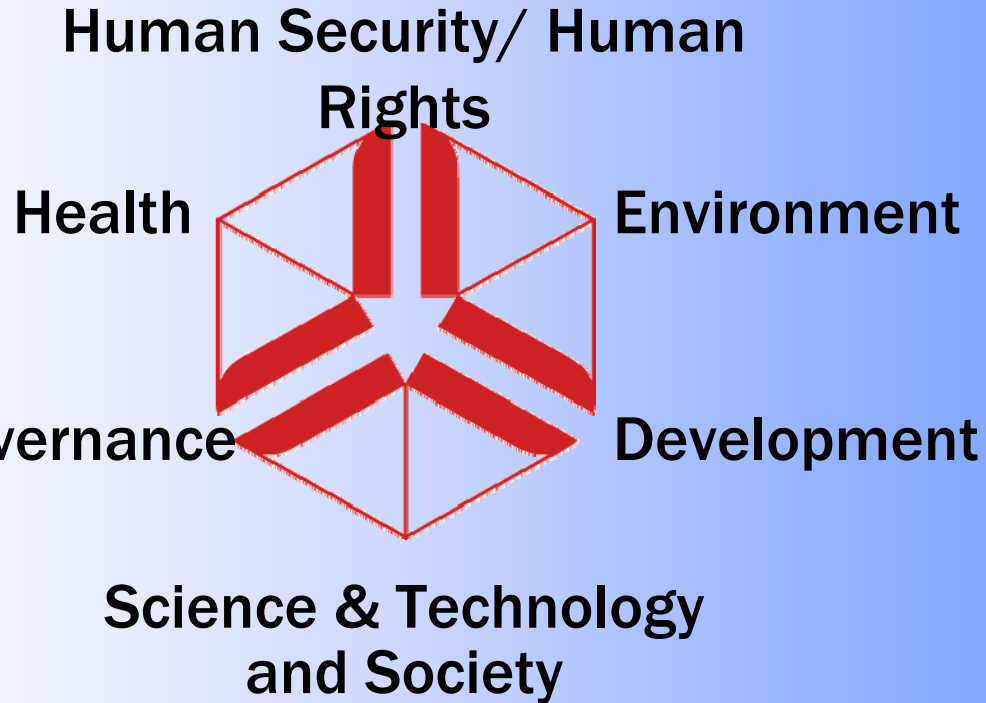
Dr. Koko Warner

United Nations University Institute for Environment and Human Security (UNU-EHS).

Bonn, Germany



# The UN University (UNU)





# Overview

1. Climate change, security questions, & social vulnerability
2. Climate change and human displacement: Framing the issue
3. Empirical research on environmental change and migration
4. Are we asking the right questions?
5. Conclusions



# Climate change, security questions, & social vulnerability

- **Is climate change a security threat?**

- Climate change and environmental degradation
- Migration, food security, shifting borders and trade patterns
- Do climate change stressors affect conflict? If so, how?

„Climate change has serious implications on international peace and security, including migration.“

- UN General Assembly Thematic Debate, 11-12 Feb. 2008

- **Climate change & *human* security challenge**

- The IPCC says less developed regions are especially vulnerable to impacts of environmental change

- **How many will migrate? Are they a security threat?**

- Estimates vary from at least 24 million *today* to 700 million *by 2050*

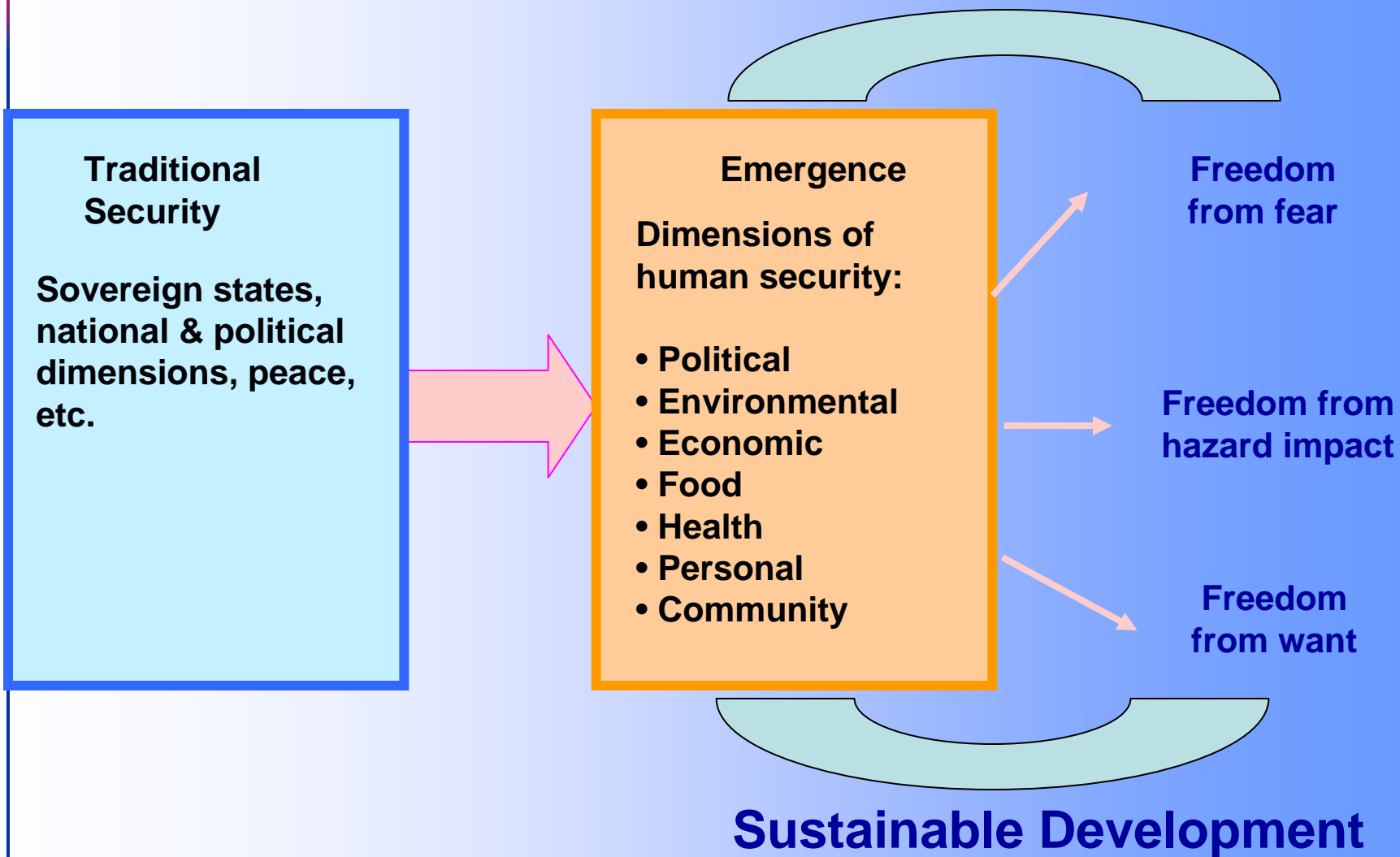


# 5 channels through which climate change can have security implications

1. **Vulnerability** - impacts on human well-being of vulnerable individuals and communities;
2. **Development** - retardation of economic development;
3. **Coping and Security** - uncoordinated coping through population migration and/or conflict over scarce water, land or other resources;
4. **Statelessness** - displacement of whole populations through sea-level rise and consequent statelessness;
5. **International Conflict** - changes in availability of or access to internationally shared resources, e.g., transboundary waters.



# From Security to Human Security





# What role does social vulnerability play in human security?

- Social vulnerability is one dimension of vulnerability to multiple stressors & shocks, including climate change-related risks.
- Social vulnerability to climate change refers to the inability of people, organizations, and societies to withstand adverse impacts from multiple stressors to which they are exposed.
- These impacts are due in part to characteristics inherent in social interactions, institutions, and systems of cultural values.



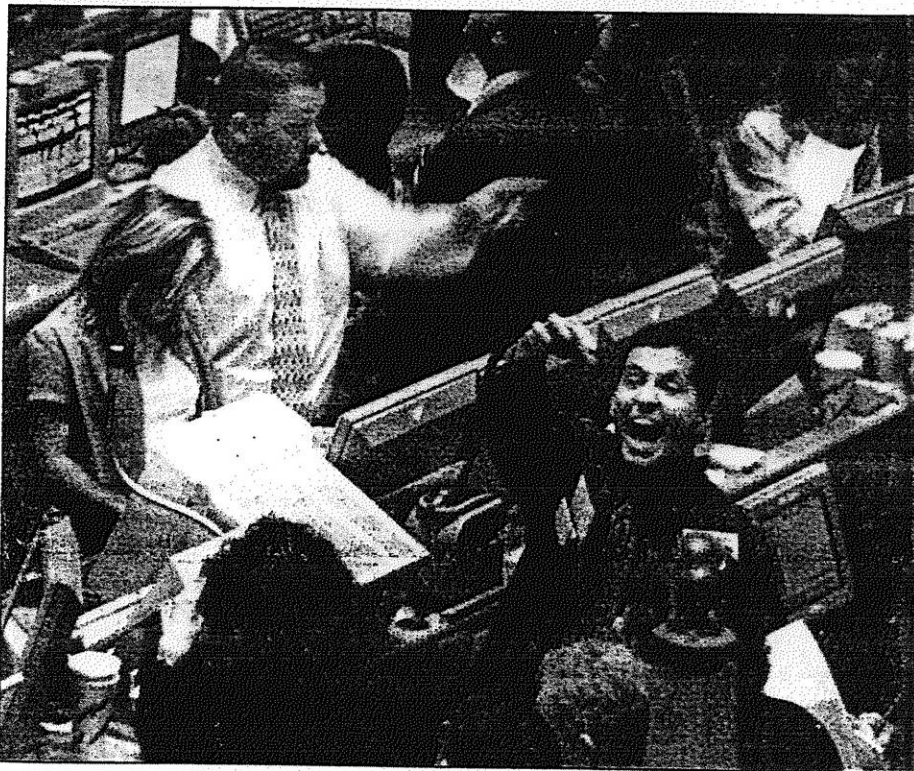
# A tale of two catastrophes



**CRISIS IN WALL STREET:**  
A hedge fund totters and the West organises a \$3.5bn rescue package



**CRISIS IN CENTRAL AMERICA:**  
At least 11,000 dead, millions are homeless and the West organises a \$100m rescue package



Traders on Wall Street buying and selling shares in September (left) while two-year-old Felix Silva cries at a shelter for evacuees in Nicaragua this week after the disastrous mudslide

PHOTOGRAPHS: left, MITCH JACOBSON and OSWALDO RIVAS

Financial crisis but hurricane took little more than writes **Larry Elliott**

**The Guardian 7 November 1998**

**A**LL the Masters of the Universe were there on the night of Wednesday

Management, or run the risk that what Bill Clinton has called "the greatest financial system in 50 years" could

Hurricane Mitch had unleashed the deluge, the White House extended its offer. With at least 11,000 dead, thousands of people running LTCM had an estimated \$100 billion — 250 times their capital base.

whereas most homeowners in Britain can only borrow 2½ times their salary to buy a house, the people running LTCM had an estimated \$100 billion — 250 times their capital base.

Wall Street whooped for joy, but it had been close. Britain's top regulator, Howard Davies, had no sleep for 48 hours as he coped with the London end of the package.

At least half the country is severely affected by flooding. So far, there has been no co-ordinated response from the global community. The World Bank has sent \$15 million to Honduras and Nicaragua for

Royal room at the New York Fed was in darkness. The Masters of the Universe had left town for the weekend.

News focus, pages 4 and 5

Courtesy of Terry Cannon



# Are we asking the right questions?

- What social changes represent adaptation to climate change? What forms of social change might indicate that adaptation is failing?
- What social changes related to climate change have the potential to destabilize vulnerable countries? Would that represent a security threat?
- Are states and institutions prepared to manage these changes in ways that enhance societal resilience to shocks and avoid conflict?



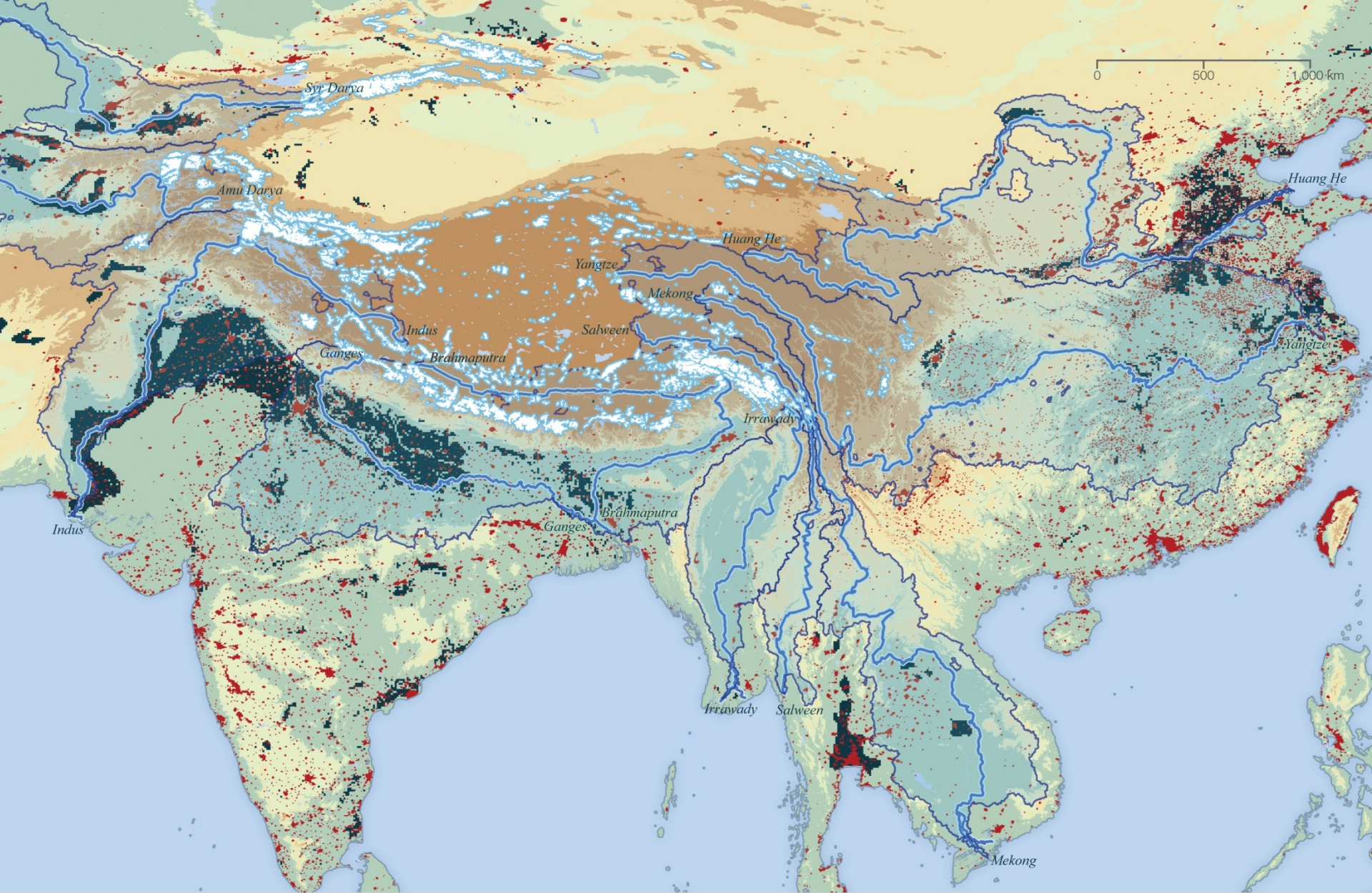
# Climate change & migration

- **What will climate change mean for migration?**
  - “In coming decades, climate change will motivate or force millions of people to leave their homes in search of viable livelihoods and safety. Although the precise number of migrants and displaced people may elude science for some time, all available estimates suggest their numbers will be in the tens of millions or more. The mass of people on the move will likely be staggering and surpass any historical antecedent”.
- **Do we know what we need to know?**
  - A noted scholar suggested recently that despite widespread anecdotal evidence, generalised assumptions and emerging research findings, we still have little empirically grounded knowledge or conceptual understanding of the links between the environmental impacts of climate change and population mobility
  - We know surprisingly little about how these factors interact.

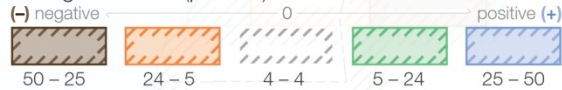


# Compelling questions

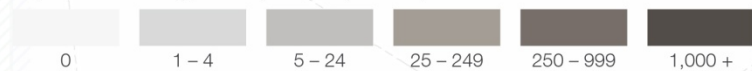
- **Who** has been migrating away from situations of environmental degradation/change;
- **Where** migrants are coming from and where are they going to;
- **Why** people have migrated, and the role of changing environments;
- **How environmental degradation interplays** with other social, economic and political factors when migration decisions are made;
- **What might have prevented people** from migrating in the first place;
- **Why people who remained** in areas of environmental degradation/ change remained in their location while others migrated
- **How the migration activities occurred** (choice of destination, what networks were used to facilitate migration?).
- **The effects of migration** on the area of origin (remittances, community ties, etc.)



Change in Runoff (percent)

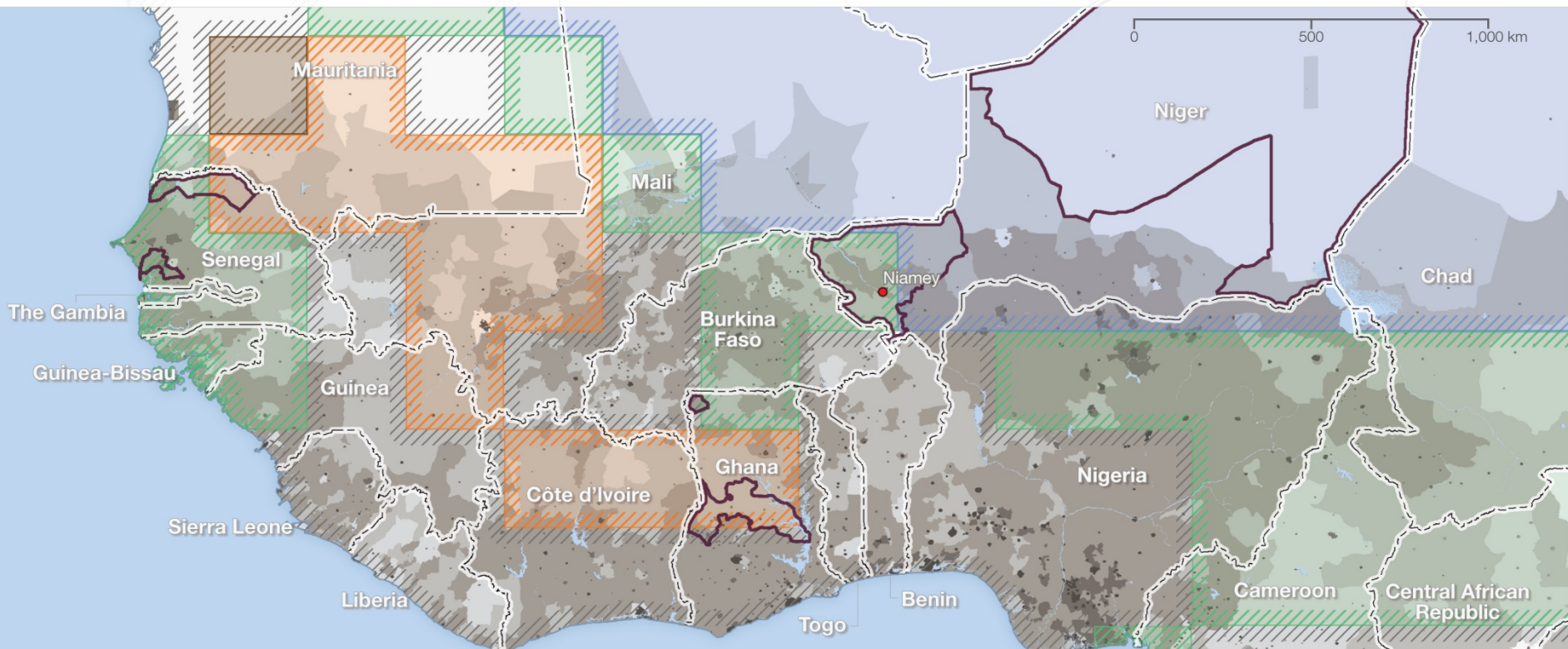


Population Density, 2000 (persons per km<sup>2</sup>)

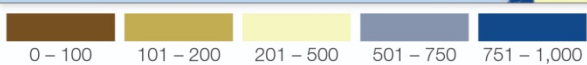
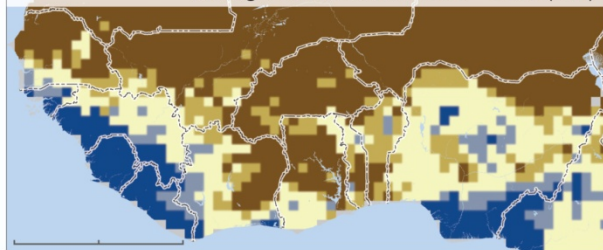


EACH-FOR Study Area

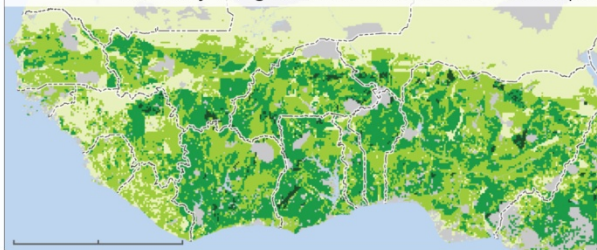
Major City  
Country Borders



Average Annual Runoff 1960 - 1990 (mm)

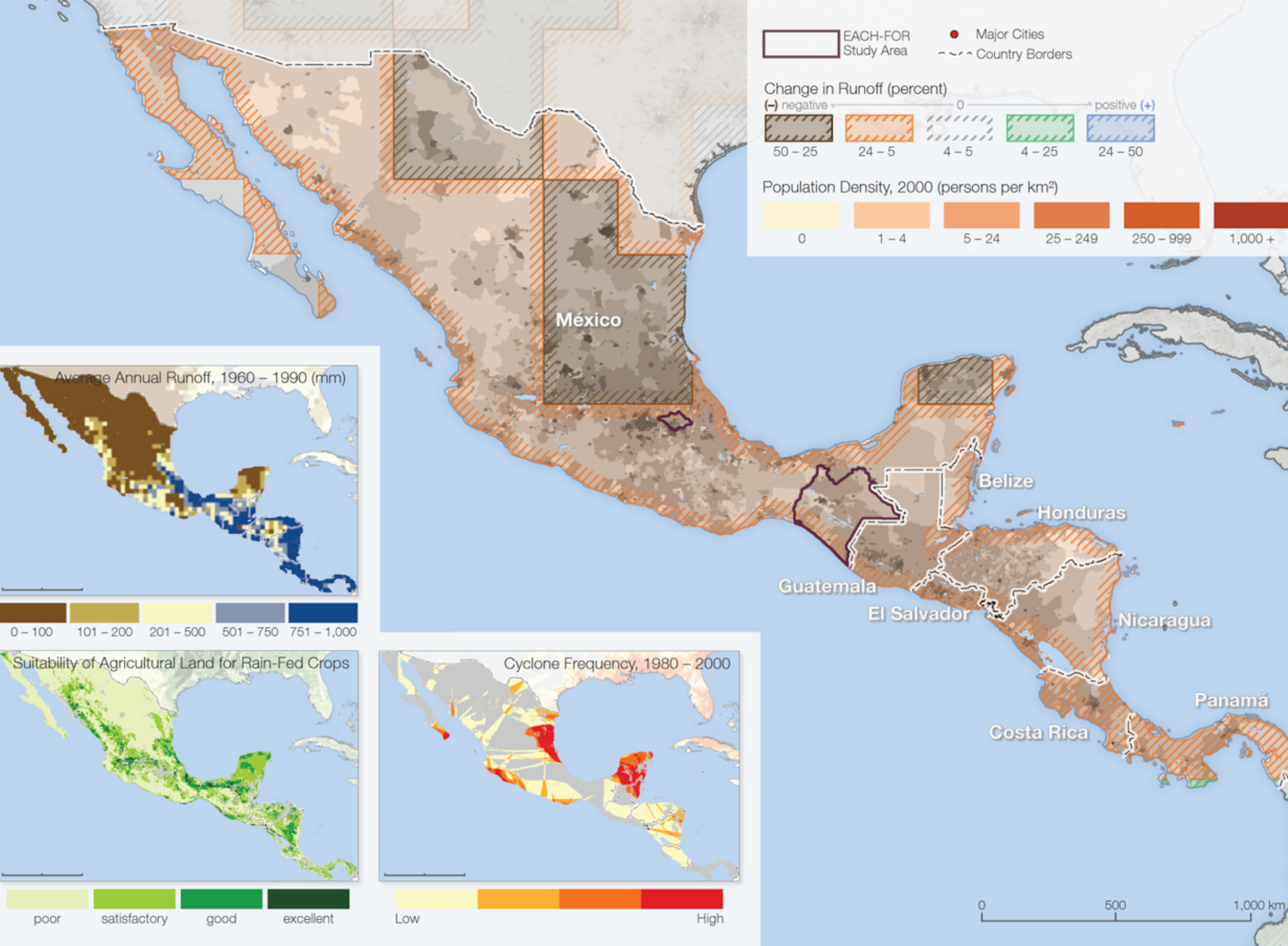


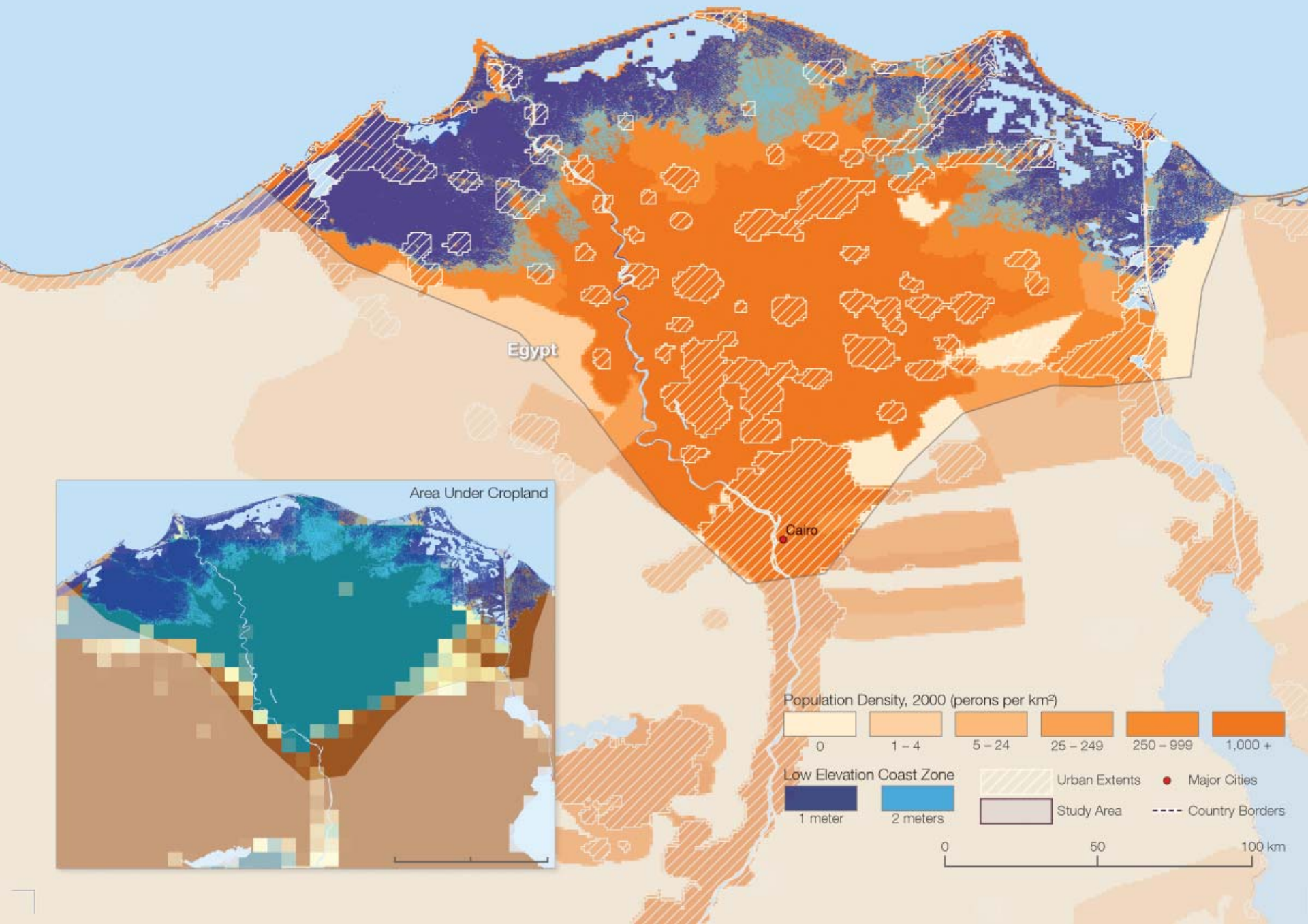
Suitability of Agricultural Land for Rain-Fed Crops



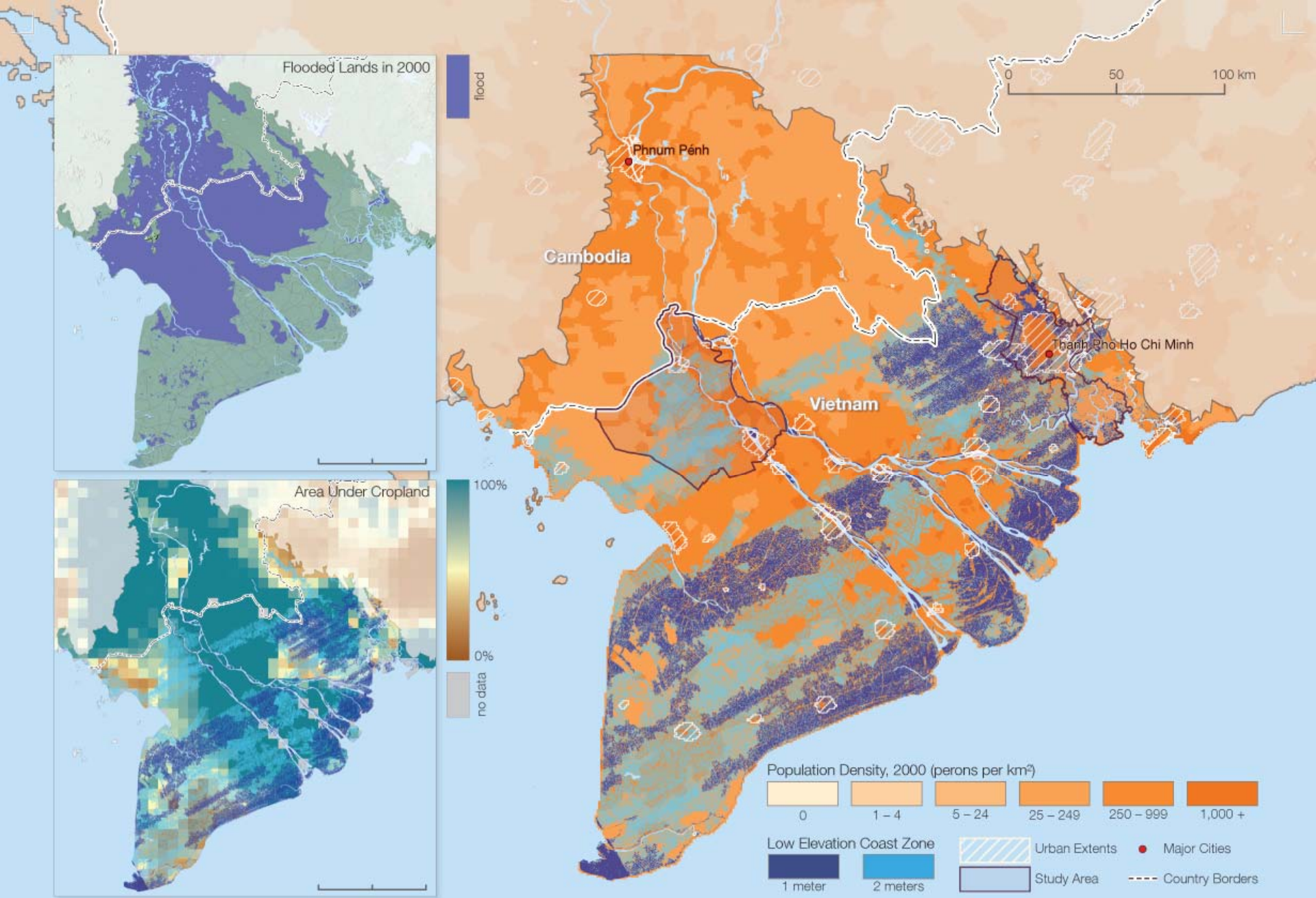
Proportion of Area in Pasture

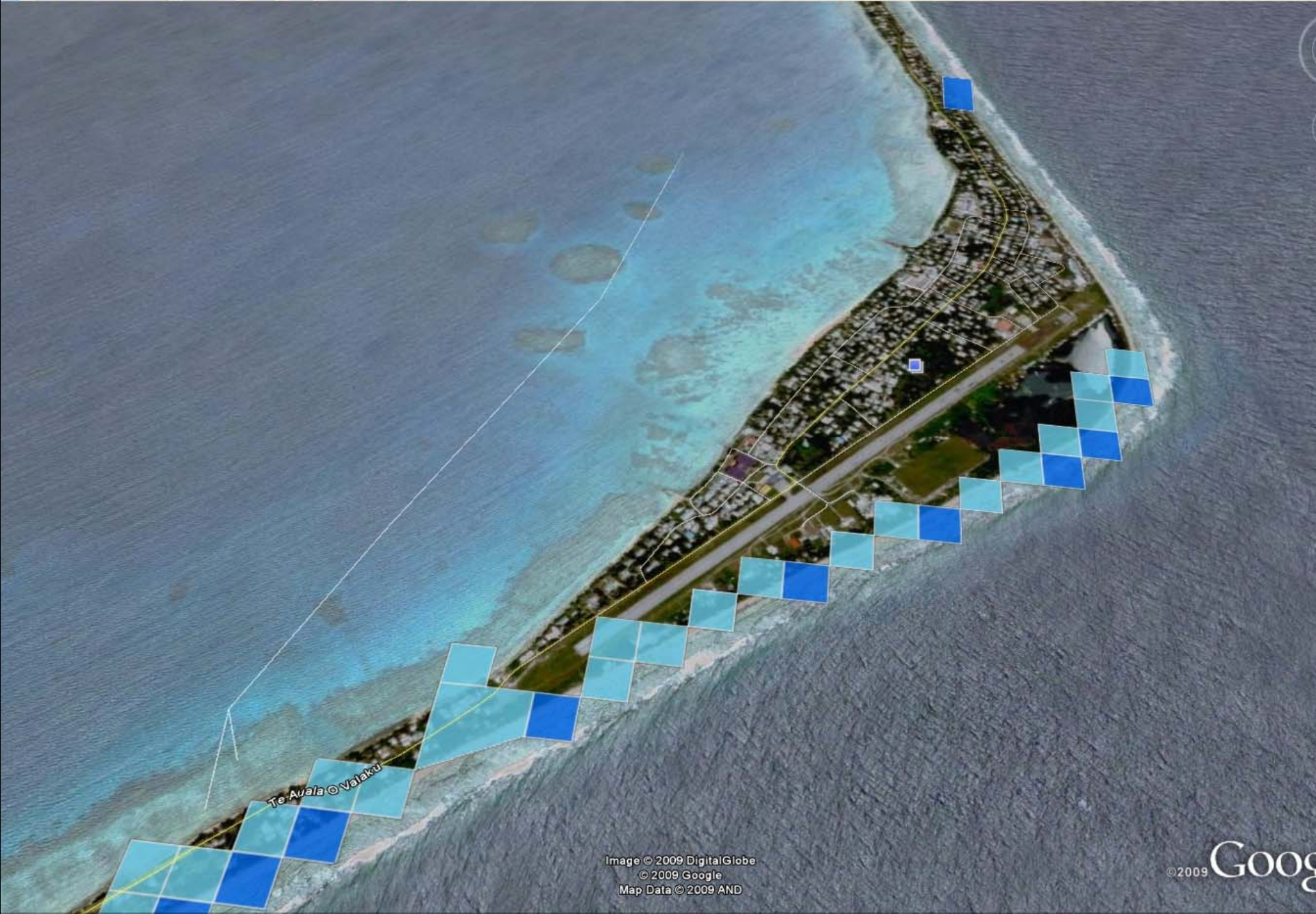












Te Avala O Valaku

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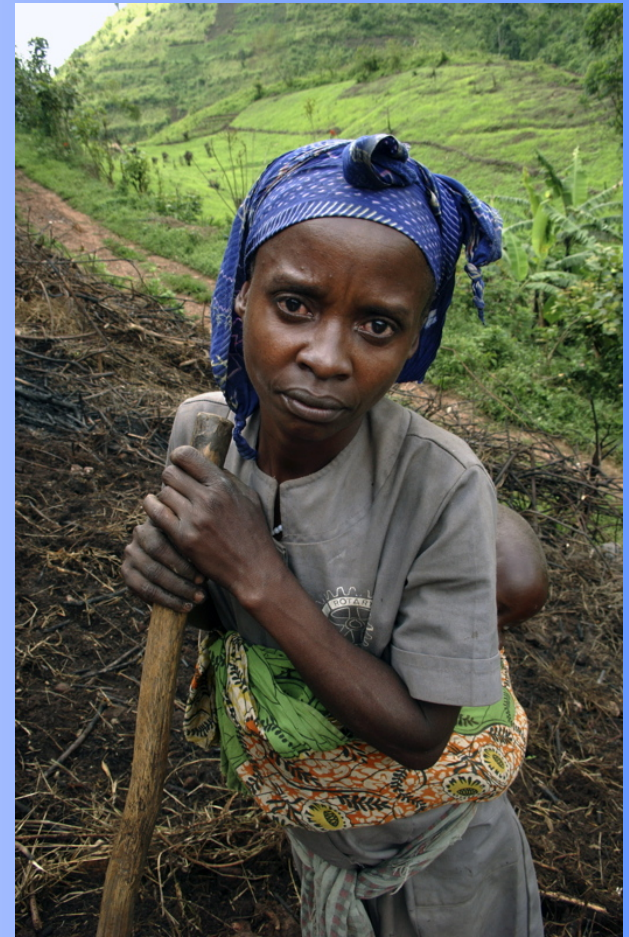
# Summary of findings

- Who is migrating
  - Some of the most vulnerable affected first and worst by climate change, just surviving
- Where are they going?
  - Migration mainly internal, not international
  - How likely is the „waves of climate refugees“ scenario?
- Links to conflict?
  - None were found
- What institutional responses do they need
  - Need livelihoods and flexible responses, possibly more than emergency assistance
  - „humanitarian plus“ approaches needed
  - Requires new modes of governance



# New modes of approaching human security, climate change, & mobility

1. Focus on human security
2. Address social vulnerability
3. Flexible institutional approaches needed—we are only partially equipped today
4. Invest in resilience
5. Prioritize the world's most vulnerable populations



Download the report at:

<http://www.ehs.unu.edu/file.php?id=621>



# Thank you.

**UNU and our partners will report  
back to the climate negotiations in  
Copenhagen in two weeks.**

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# What happens to a dream deferred?

*Does it dry up  
like a raisin in the sun?*

*Or fester like a sore--  
And then run?*

*Does it stink like rotten meat?  
Or crust and sugar over--  
like a syrupy sweet?*

*Maybe it just sags  
like a heavy load.*

*Or does it explode?*

