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WORLD CONFERENCE ON
HEALTH PROMOTION
25-29 AUGUST, PATTAYA, THAILAND



Integrated health security in the Yautepec River Basin in Mexico

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25-28 of August, 2013**

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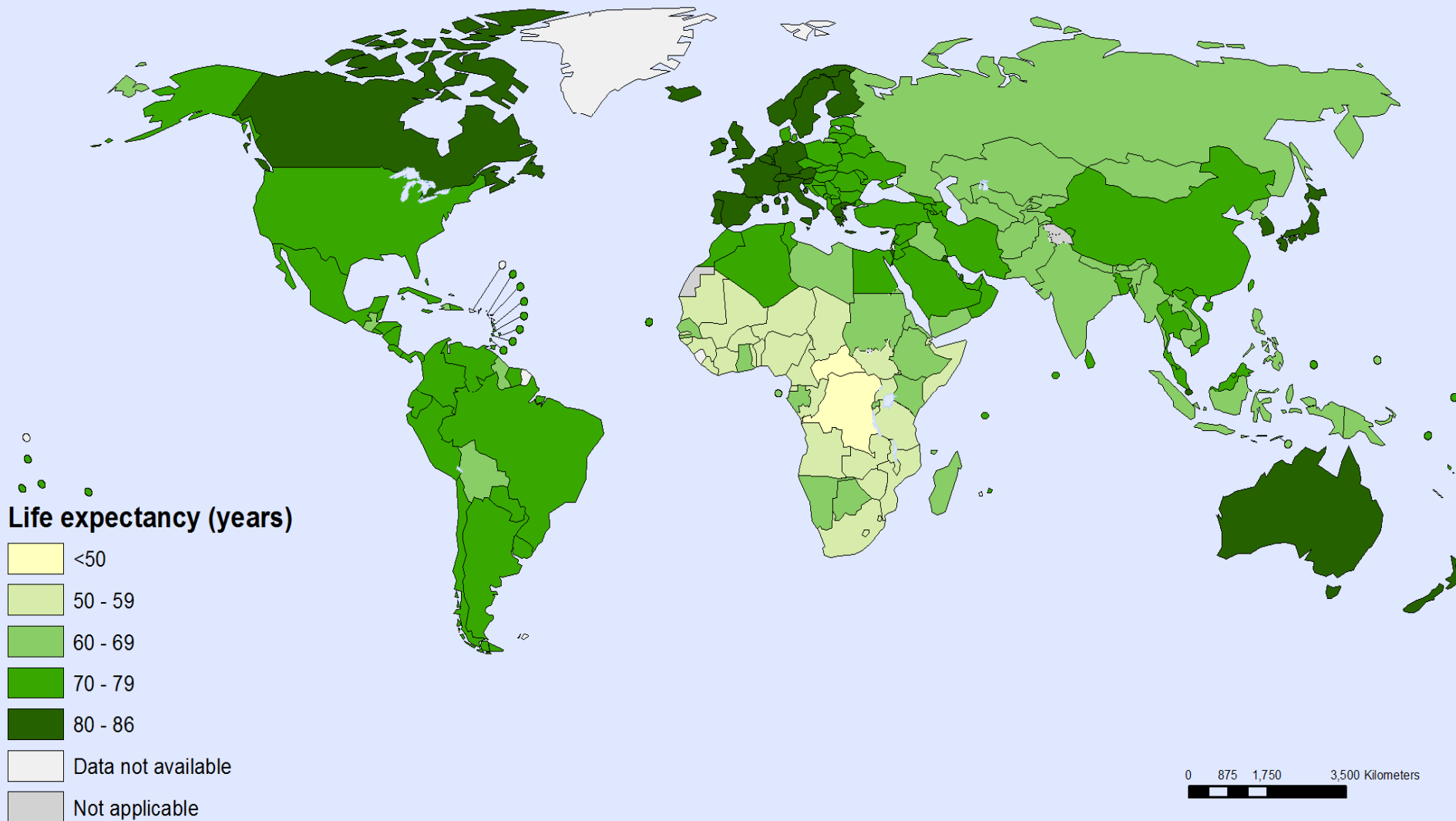
1. Research questions

How can poor people, especially vulnerable women, living in a highly risky water basin affected by climate change overcome both their social and environmental vulnerability and therefore defending their health security?

Definition of Health Security

- **WHO (2007)** defined as the provision and maintenance of measures aimed at preserving and protecting the health of the population
- **USA: bioterrorism:** public health security is also defined as the policy areas in which **national security and public health concerns overlap.**
- Broader dimensions of cross-border health risks: **transmission of anti-microbial resistant organisms**, as well as health risks associated with **noncommunicable diseases, environmental degradation and conflicts.**
- **UNDP:** inadequate health care and diseases
- **Ogata/Sen:** spread of **HIV/AIDS** (33.4 million estimated)
- **Globally:** HS guarantees a minimal protection from **diseases and unhealthy lifestyles (61% of deaths: 35 million** with 49% of costs in 2005; estimation 2030: 70% of global costs).
- **Low and middle-income** countries: 80% of global chronic deaths occurs.
- **Poor countries** and among poor people: it includes **infectious and parasitic diseases** (17 million /year), **undernourishment** which kills daily 28,000/day mostly small children and unhealthy lifestyle.
- **Rich countries** diseases of the **circulatory system** kills 5.5 million/year, **diabetes mellitus and overweight** is affecting also transitory countries.

Life expectancy at birth Both sexes, 2011



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization



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Critic to health security concept of WHO

- WHO uses global health security in a limited sense: several definitions used that are **inconsistent, incomplete** and **fail** to address public health and operational terms; they are **not related** to the **community health safety** or primary health care.
- Political OECD countries emphasize protecting its people against **external threats** such as terrorism and pandemics, while health workers and politicians in poor countries understand health security more broadly as **public health**.
- Different approaches to health security of WHO Member States: combined with **fears for the national security agenda** and an interference in internal affairs have caused some **breakdown of cooperation**, especially in the **international health regulations** (William Aldis, 2008). Some countries hesitate to share their data internationally as they fear that could be used against their interests.

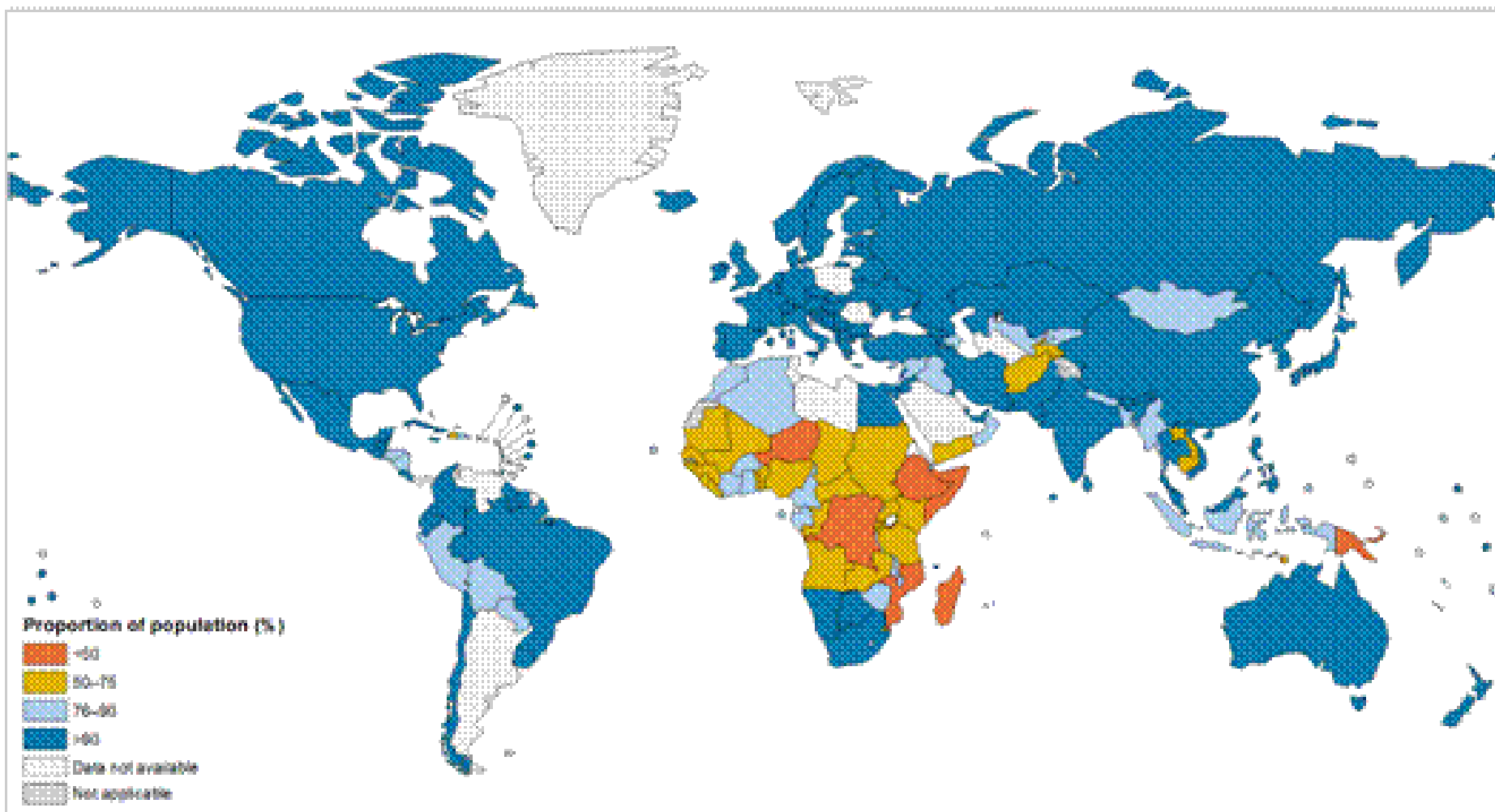
Health security includes four pillars of human security (Brauch, 2005, 2009, Oswald 2011)

1. "***Freedom from fear***" which reduce the dangers of being killed by landmines, small arms and natural conditions that force people to migrate (UNESCO, HSN) Canadian Approach: Human Security Report
2. "***Freedom from needs***" which limits the social vulnerability through poverty reduction, respect for human rights and equality and equity policies (PNUD 1994, CHS 2003: Ogata / Sen: Human Security Now) Japanese Approach;
3. "***Freedom from natural disasters***", which reduced social vulnerability and the possibility of extreme natural events become social disasters (Bogardi / Brauch 2005; Brauch 2005a, 2005b; Oswald 2008, 2010, 2011, 2013); UNU (EHS) approach
4. "***Living with dignity***" (Kofi Annan in his report: In Larger Freedom (March 2005), UN Approach: rule of law, human rights, equity, empowerment.

Includes water security

- Water is vital for the life and health of people and ecosystems
- **One common goal:** *to provide water security in the 21st Century (Ministerial Declaration The Hague:*
 - This means ensuring that freshwater, coastal and related ecosystems are protected and improved;
 - sustainable development and political stability are promoted;
 - every person has access to enough safe water at an affordable cost to lead a healthy and productive life
 - the vulnerable are protected from the risks of water-related hazard
- Water resources are under **threat** from pollution, overexploitation, land-use changes, unsustainable use, climate change and other anthropogenic forces.
- Links between threats and poverty: the poor who are hit first and hardest (slum dwellers without basic services).
- One simple conclusion: **business as usual is not an option.**

Proportion of improved drinking water (%)



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3. Environmental and social vulnerability from a gender perspective

Women confronted with four times discrimination: indigenous, poor, migrant and woman



Gender perspective

Masculinity and femininity

Roles, behavior norms, values, state, social representations, identity

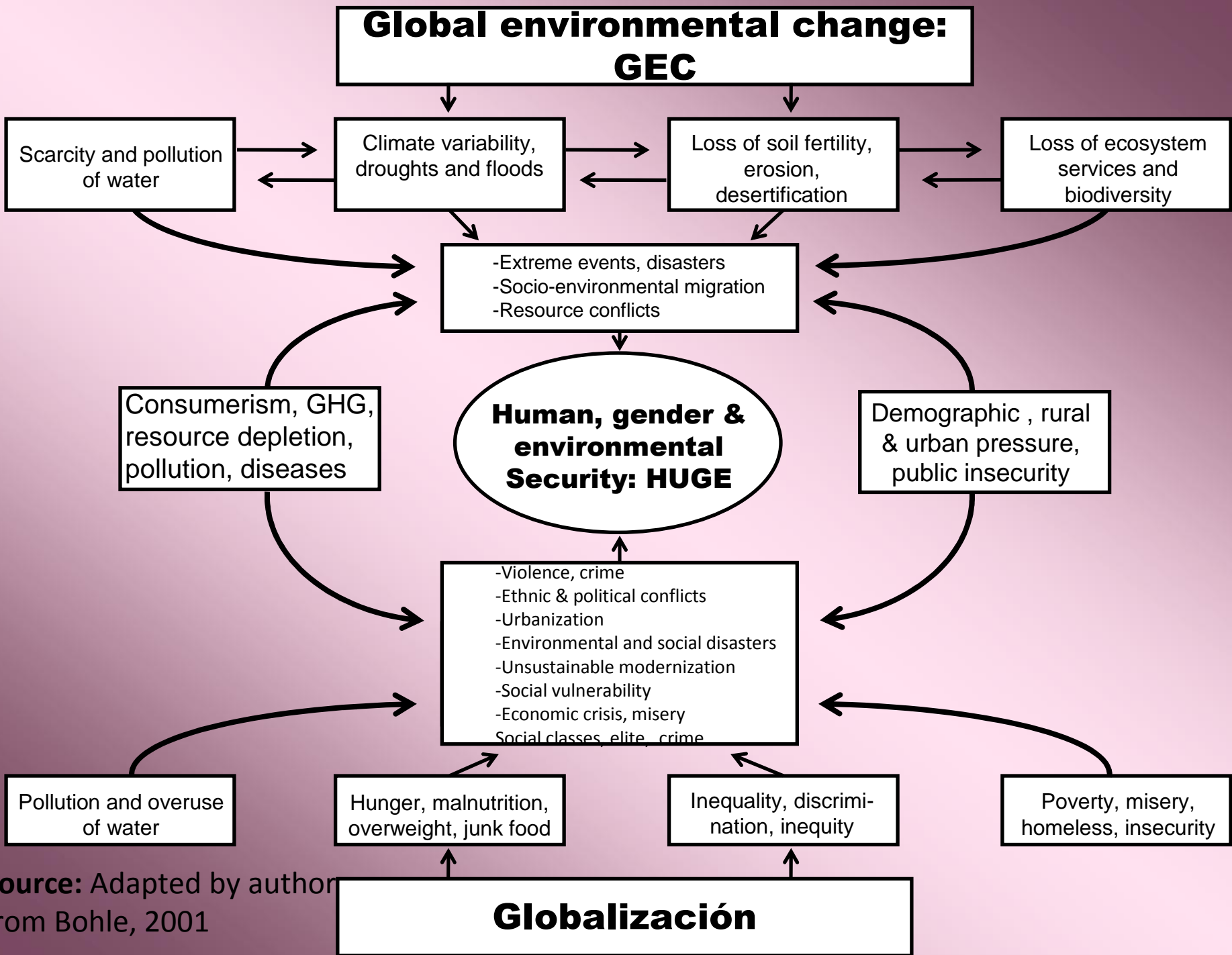
Responsibilities, necessities, expectation, social controls

Sexuality and sexual behavior

GENDER

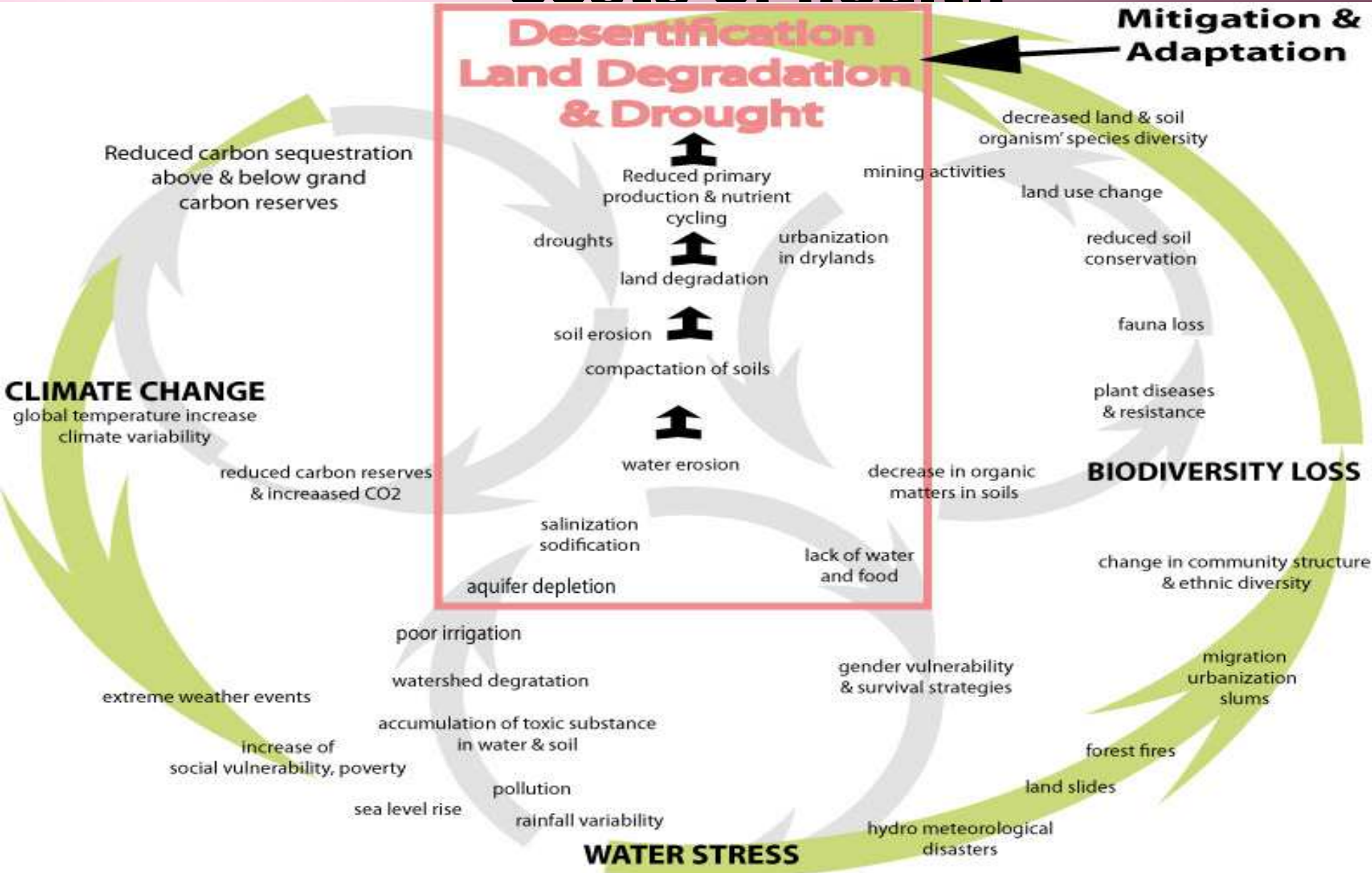
Division of labor, power, participation, responsibility and workload

Distribution of resources, benefits, profits and compensations

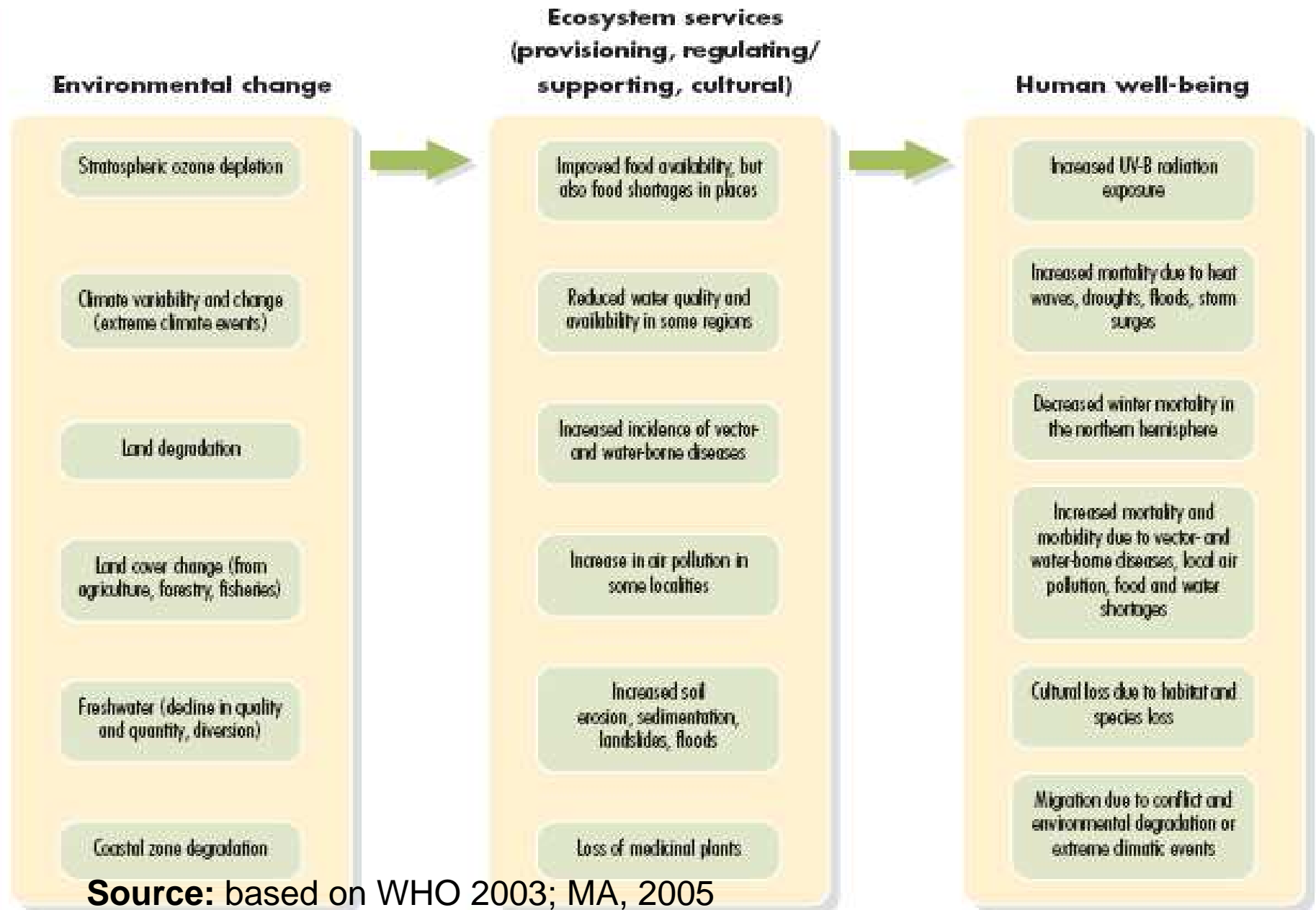


Source: Adapted by author from Bohle, 2001

4. Threats to GEC, climate change and costs of health



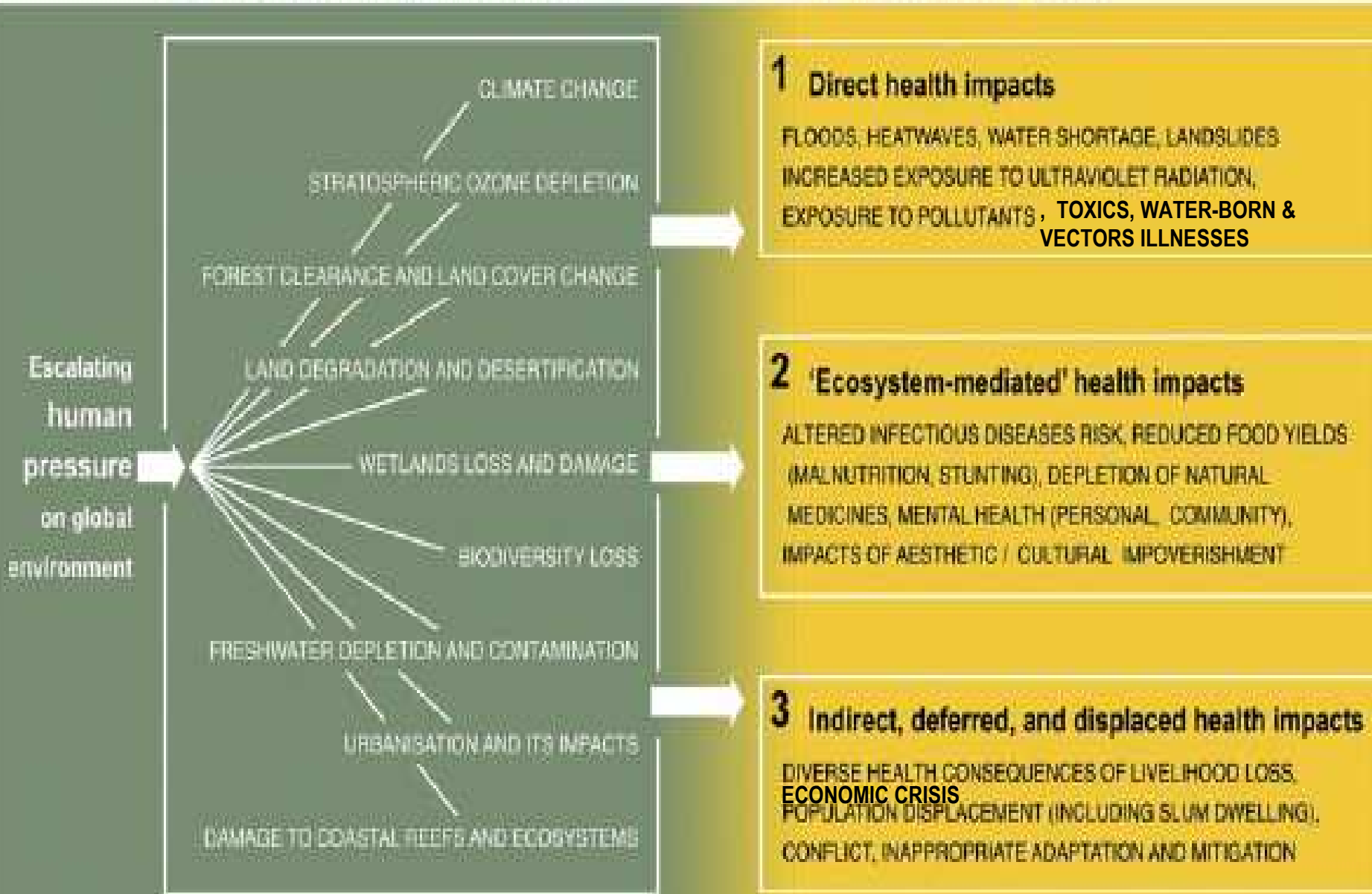
Environmental effects on health



Source: based on WHO 2003; MA, 2005

Environmental changes and ecosystem impairment

Examples of health impacts

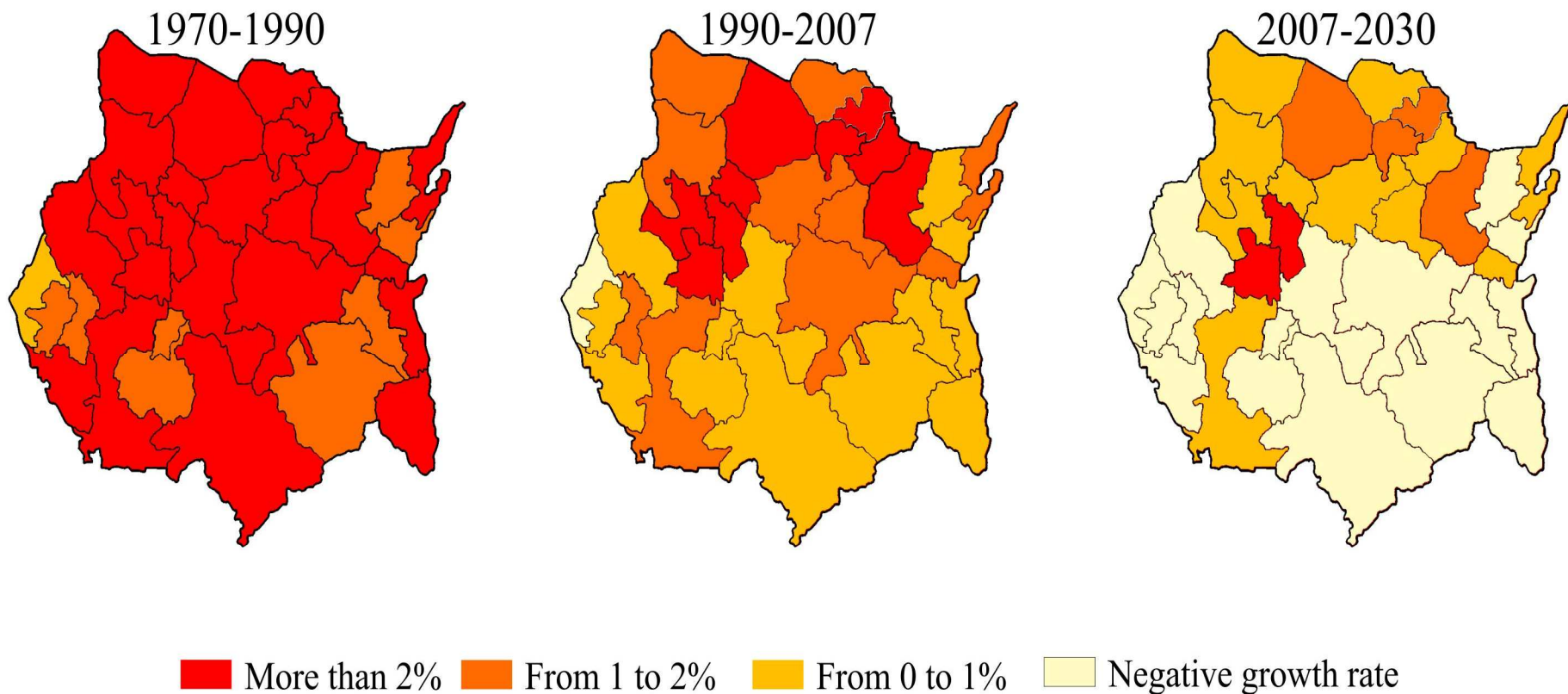




5. Resilience building, prevention and disaster risk management

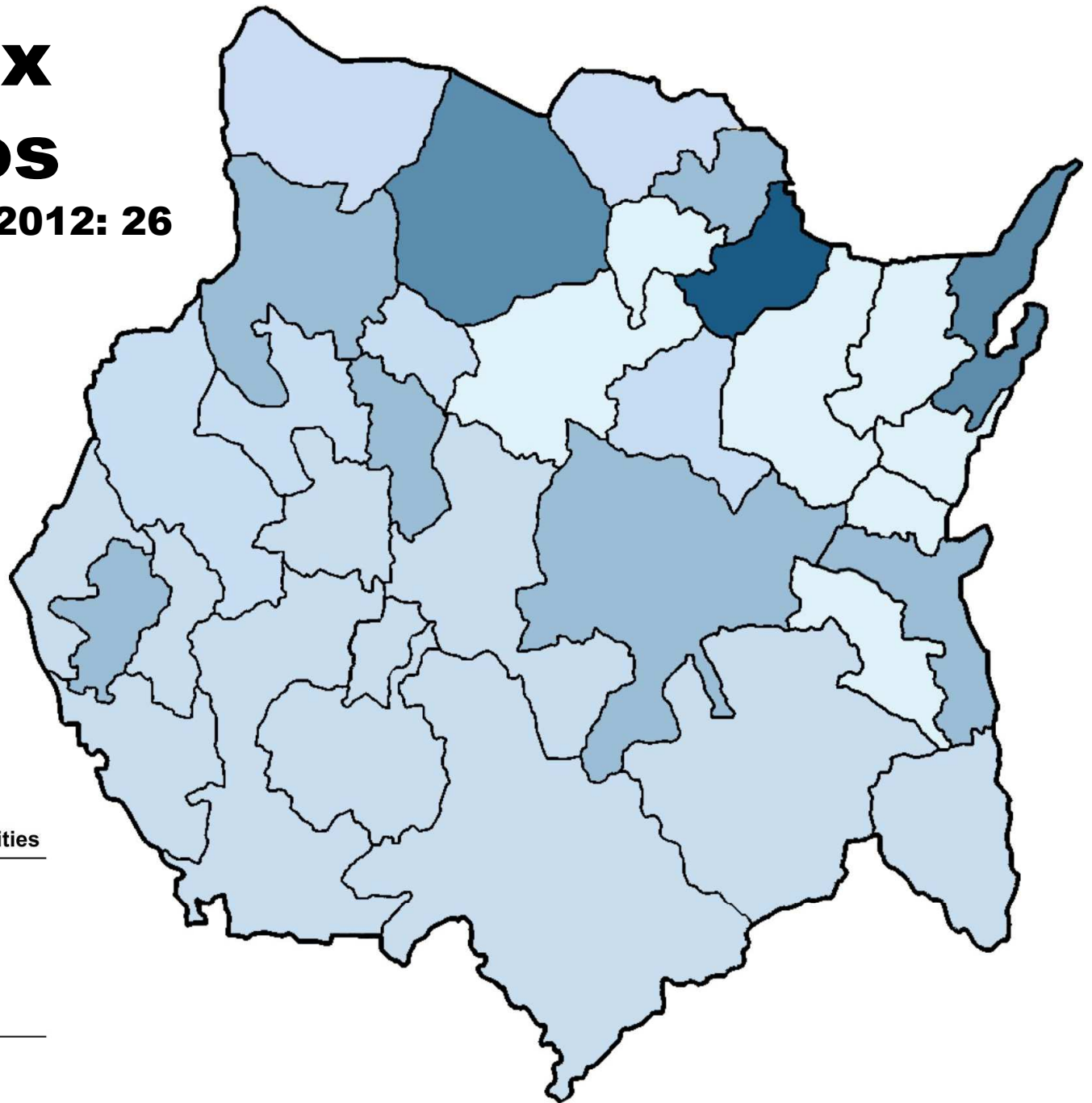
Rate of population growth with urbanization for different periods

Source: Partida, 2007: 17



Gini Index in Morelos

Source: Coneval, 2012: 26



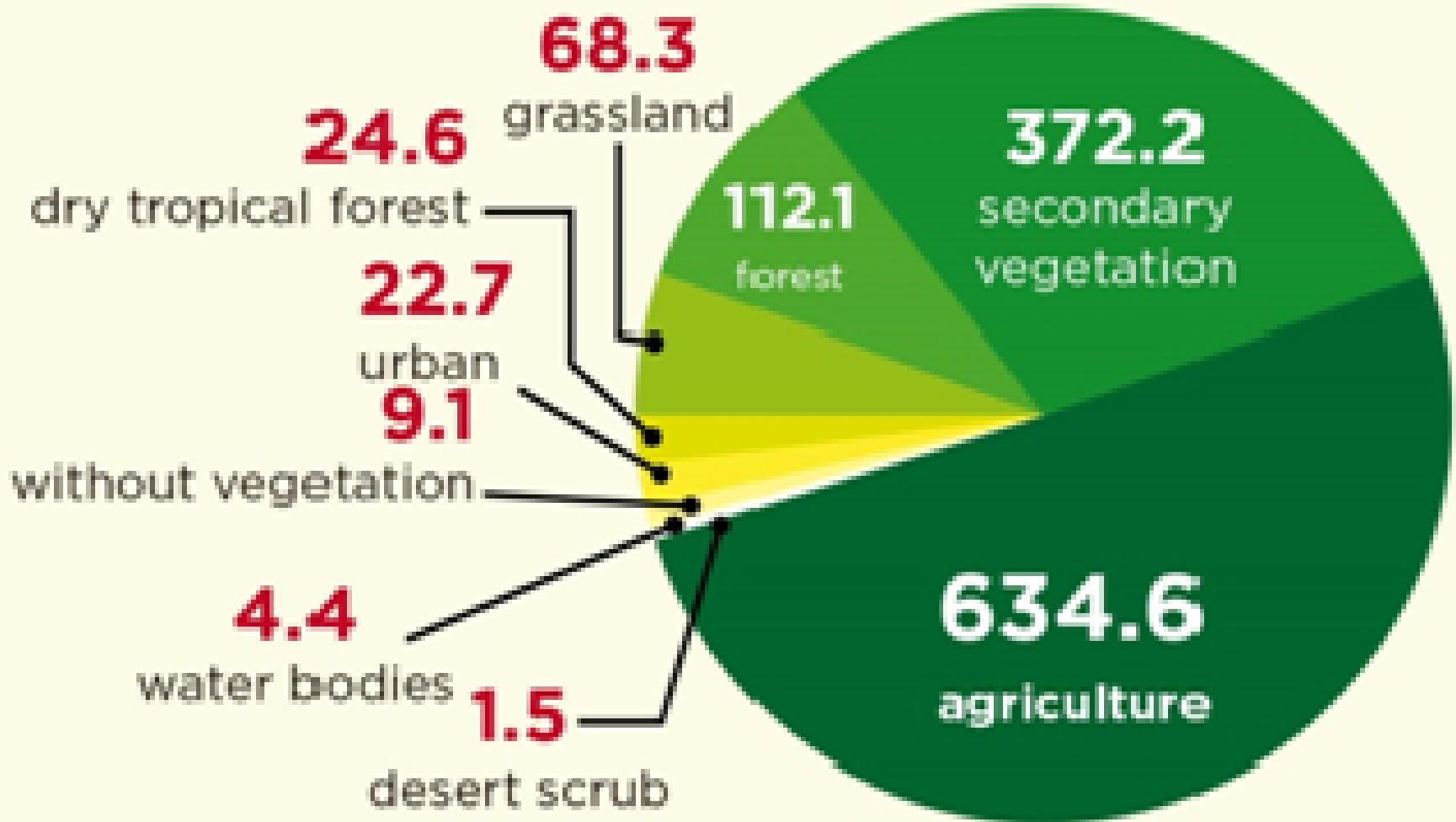
Gini coefficient	No of municipalities
0.3768 - 0.4114	7
0.4114 - 0.4460	17
0.4460 - 0.4806	6
0.4806 - 0.5152	2
0.5152 - 0.5497	1
Total	33

Land use changes in Morelos

Land use changes	1977 (ha)	1994 (ha)	2000 (ha)*
Agriculture	185,799	210,251	287,362
Forest	232,774	197,805	151,868
Livestock	67,044	71,552	197,000
Urban areas	7,690	15,380	18,563
Water bodies	793	834	1,085

Sources: Rueda 2006:161 and INEGI 2000.

Land use



Source: Inegi, 2012 and Survey, CRIM-UNAM, 2011-2012

Evolution of water use in the basin

Decades	Total available	Irrigation	Consumption	Total used
1980	2374	745.4	277.6	1023.0
1990	2374	790.0	391.3	1181.3
2000	2374	1416.5	472.1	1888.6
2010	2374	1568.0	495.2	2063.2

Source: Aguilar 1999 1980-1990 (millions of m³); 2000-210 the author based on INEGI

Environmental problems in the River Yautepec Basin

Source: Survey, CRIM-UNAM, 2011-2012



33%
waste



28%
lack of
water

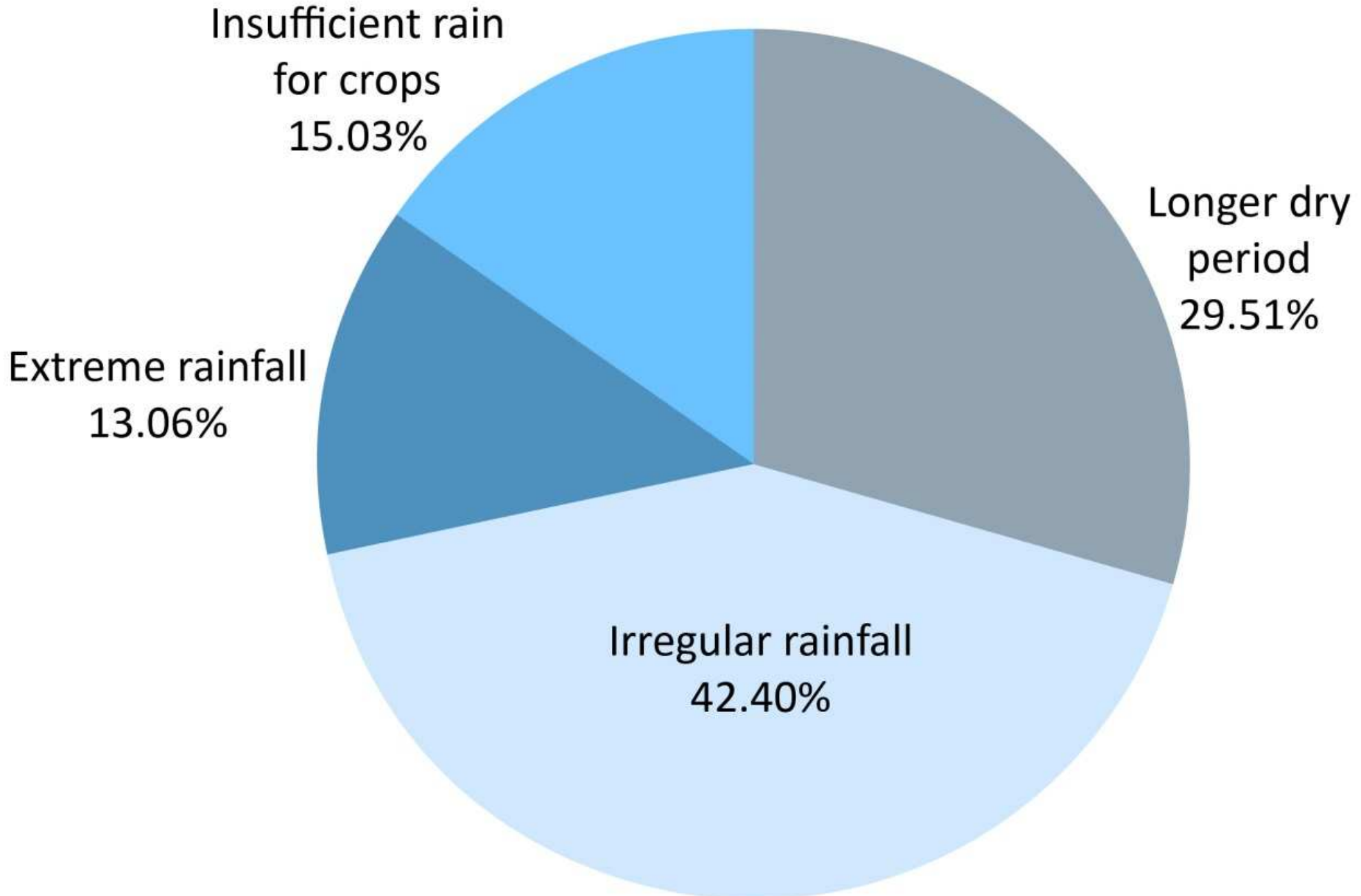


19%
air
polluted

20%
others

Risks posed by GEC and CC

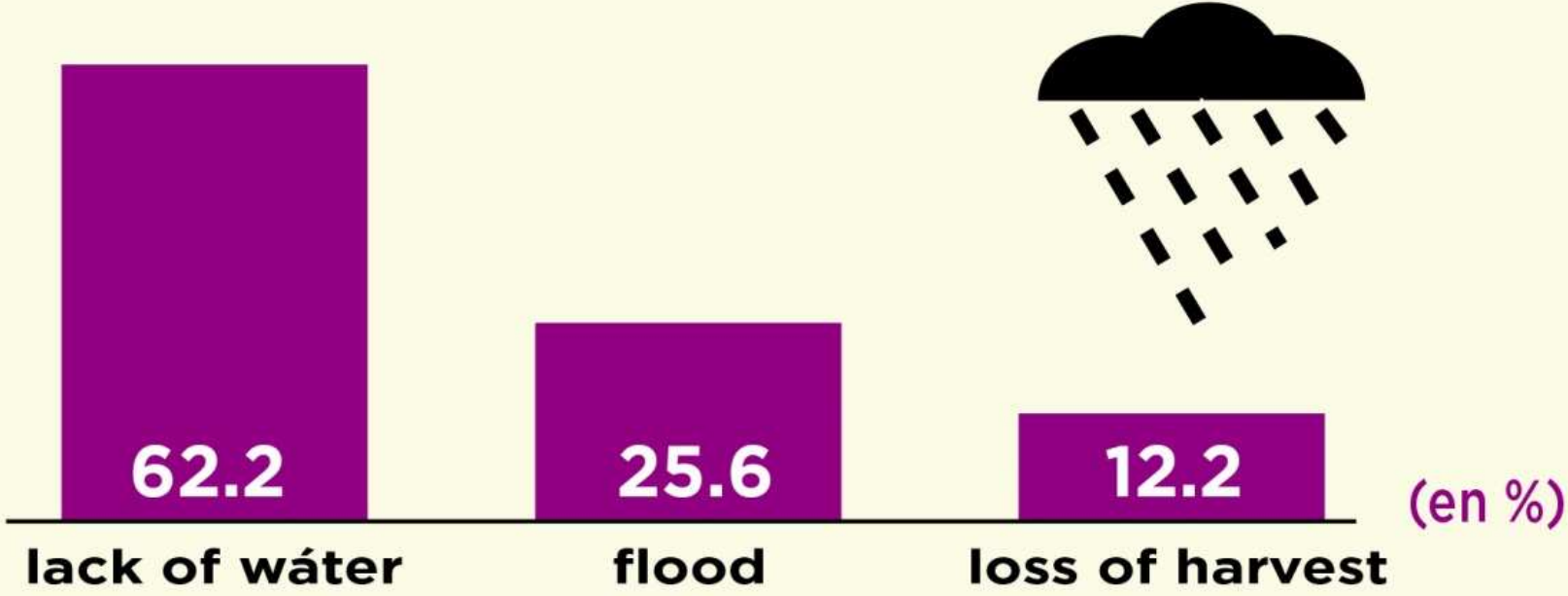
Source: Survey, CRIM-UNAM, 2011-2012



Most important risks for people in RYB

Source: Survey, CRIM-UNAM, 2011-2012

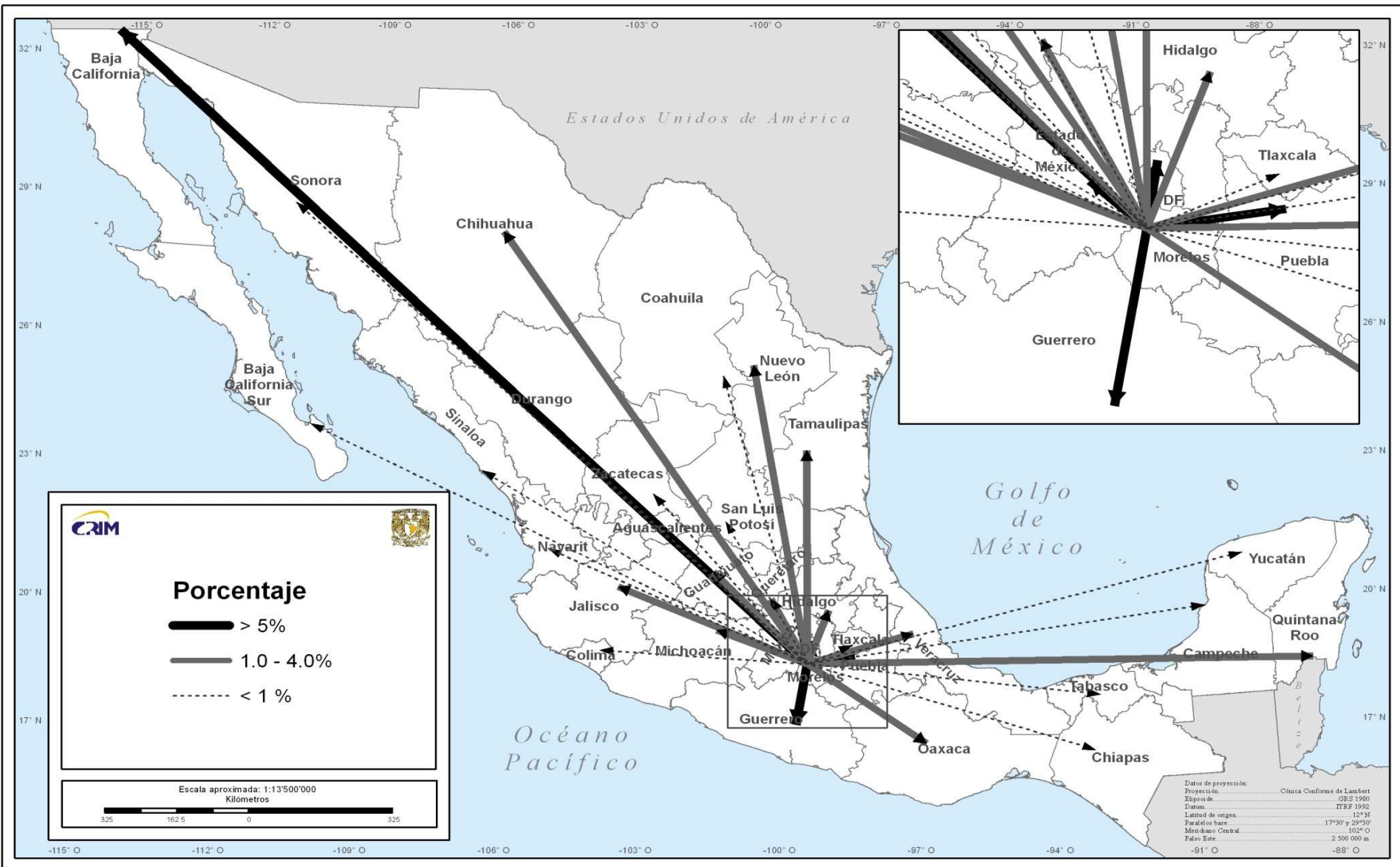
Risks



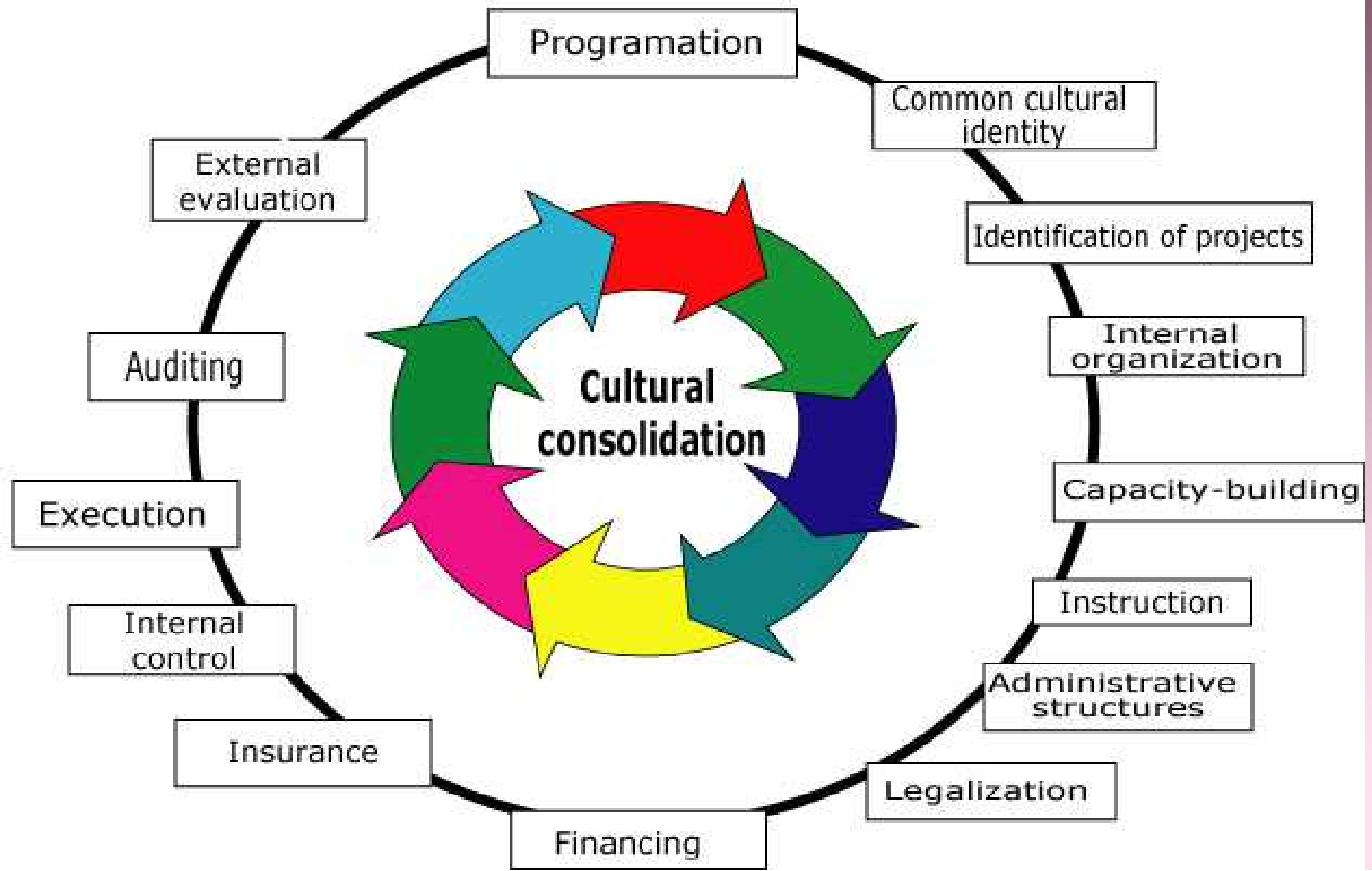
6. Adaptation and resilience building



Flows of migration from Morelos to other states and abroad



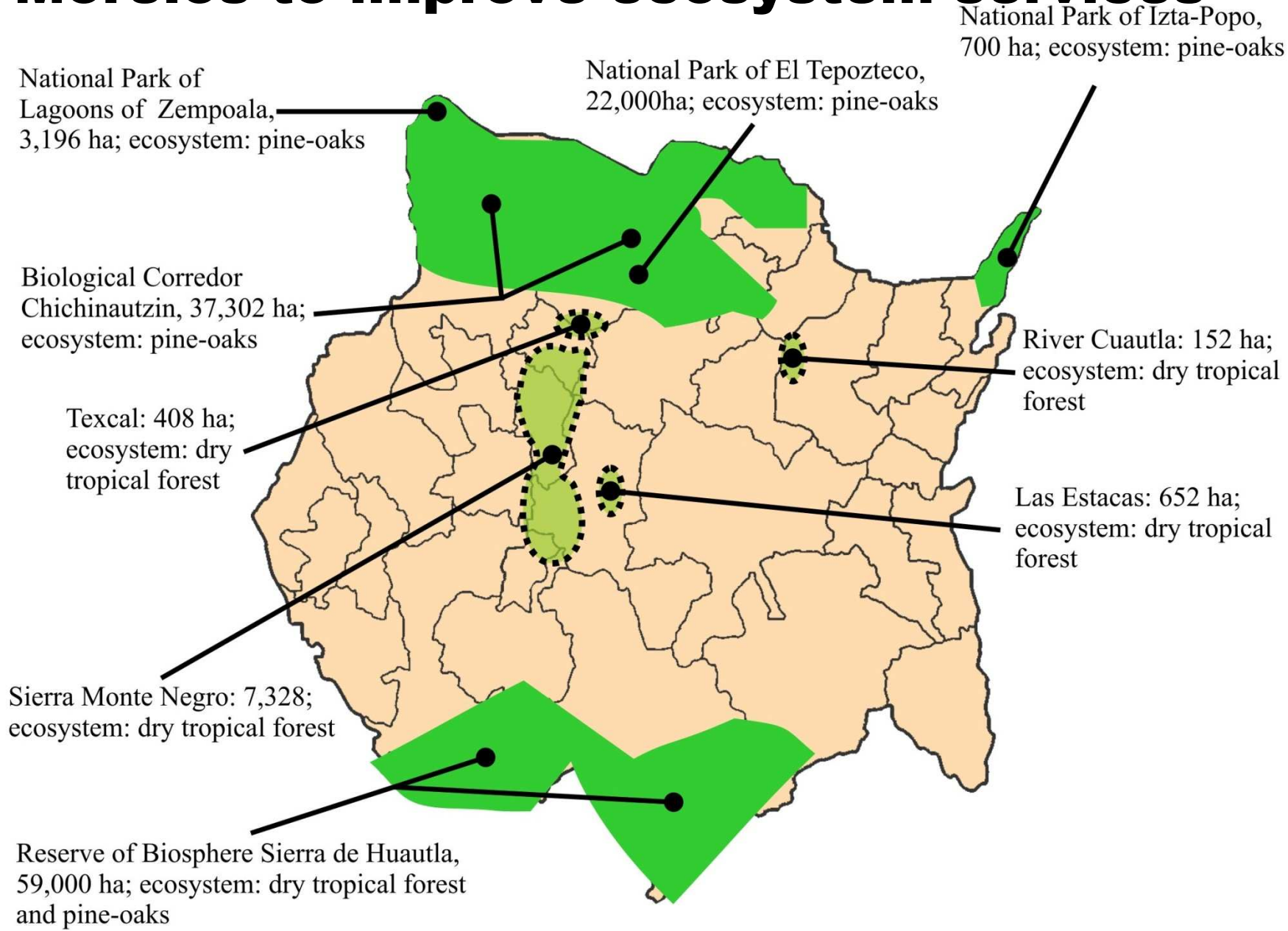
7. Model of self-reliant entrepreneurship



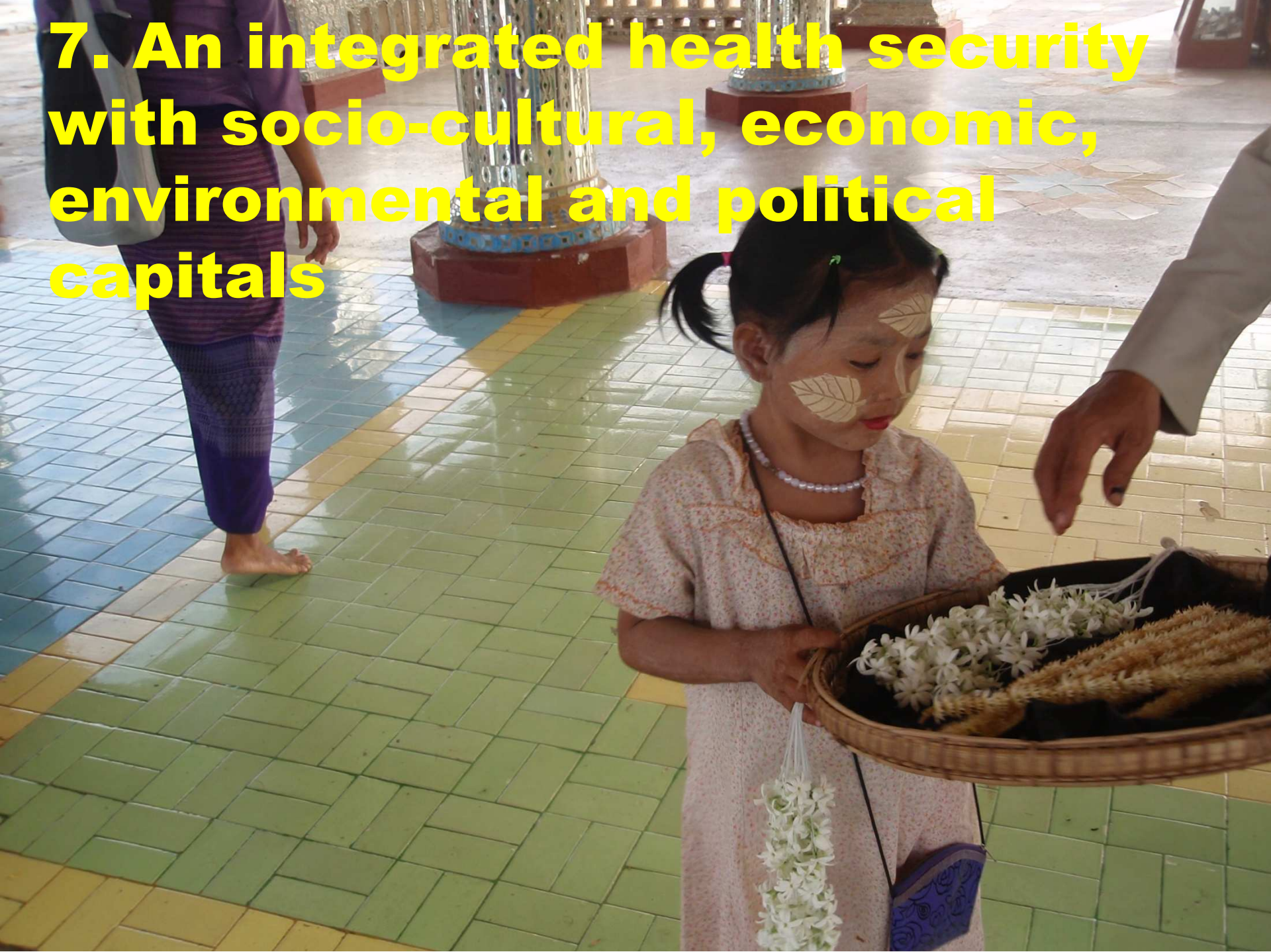
Empowerment of women

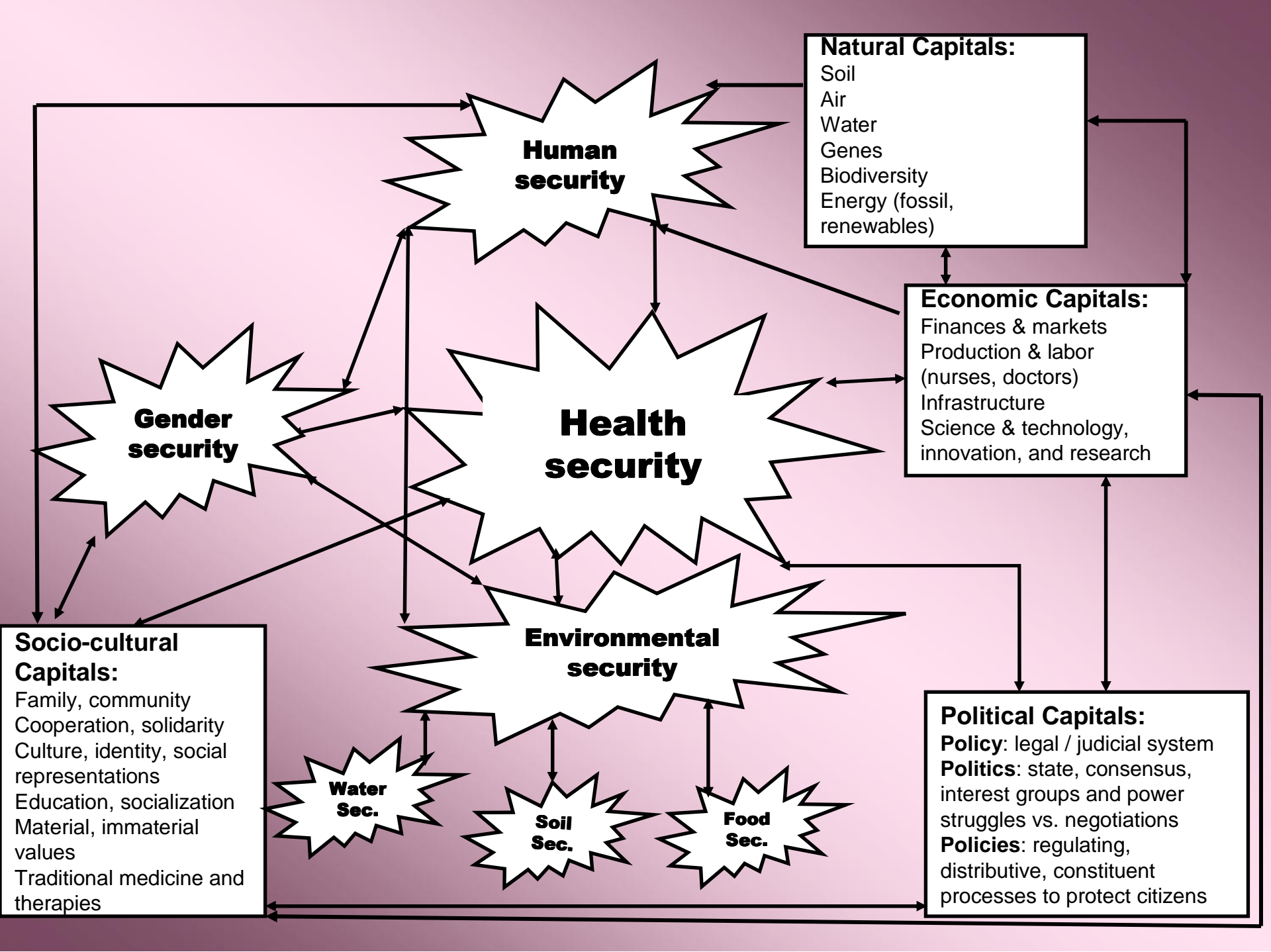
1. Women get better trained
2. Are no sold for marriage when 12 years old
3. Learn hygiene and childrearing
4. Have access to anticonceptive drugs
5. Get precarious health access
6. Income insufficient to survive
7. No money to pay electricity and water supply
8. Change to protestant churches
9. Take antidepressive drugs to support the social and family pressure
10. Some get involved in local policy due to lack of men

Natural protected areas: federal and state of Morelos to improve ecosystem services

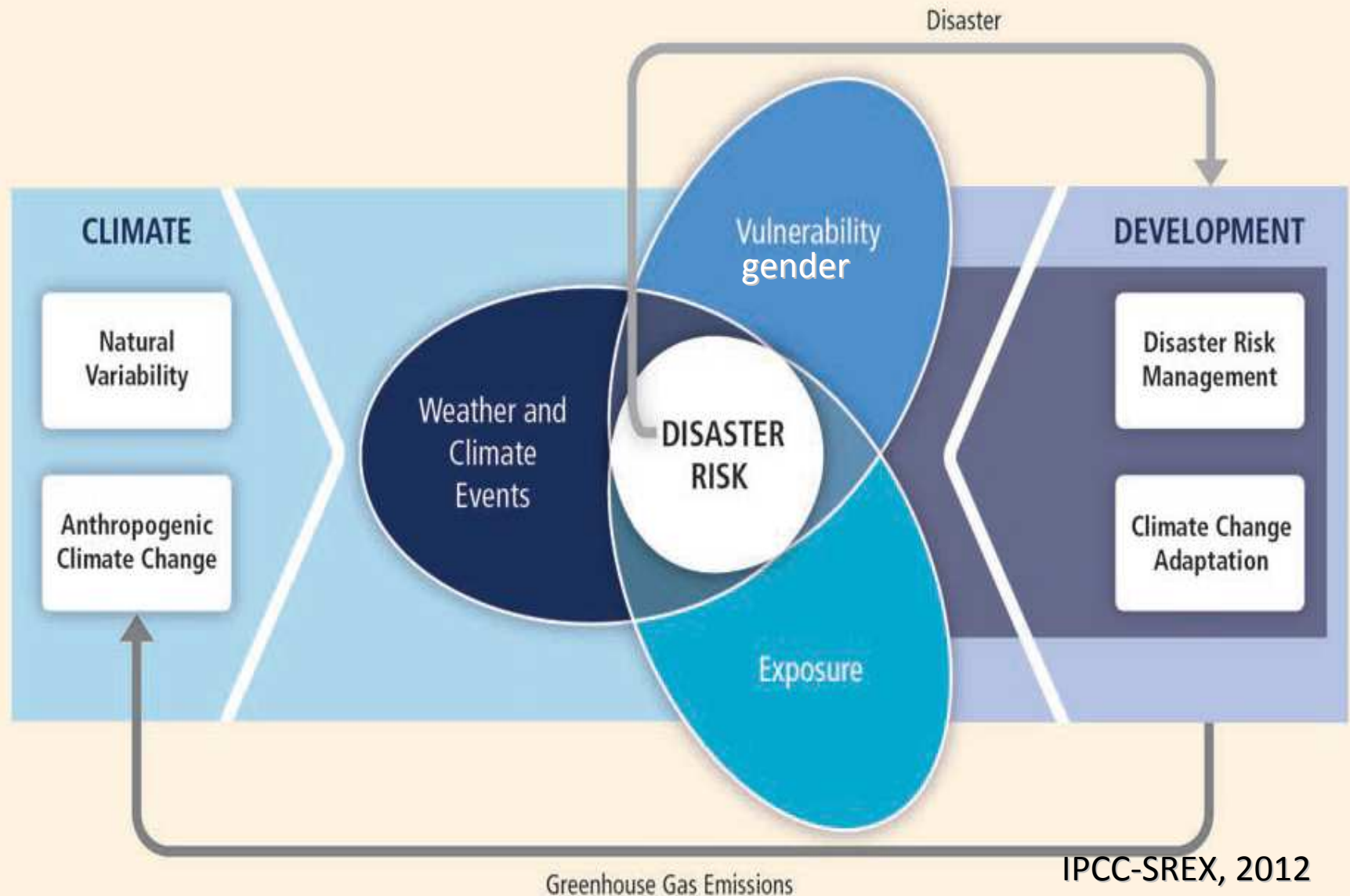


7. An integrated health security with socio-cultural, economic, environmental and political capitals





Integration of 3 epistemic communities: **DRR**, **CC** & development with a gender perspective





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much for your attention**

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