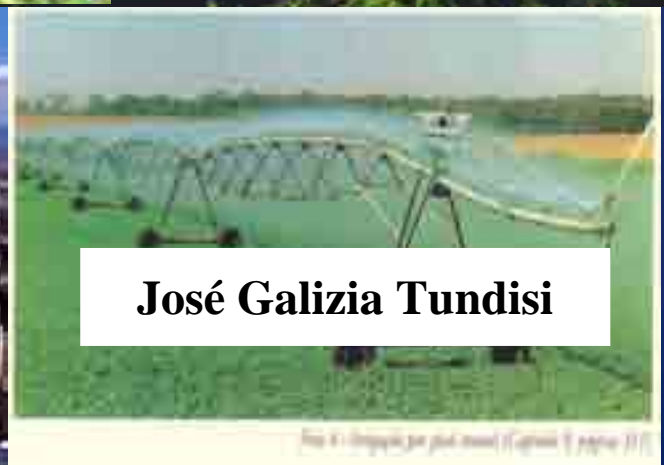


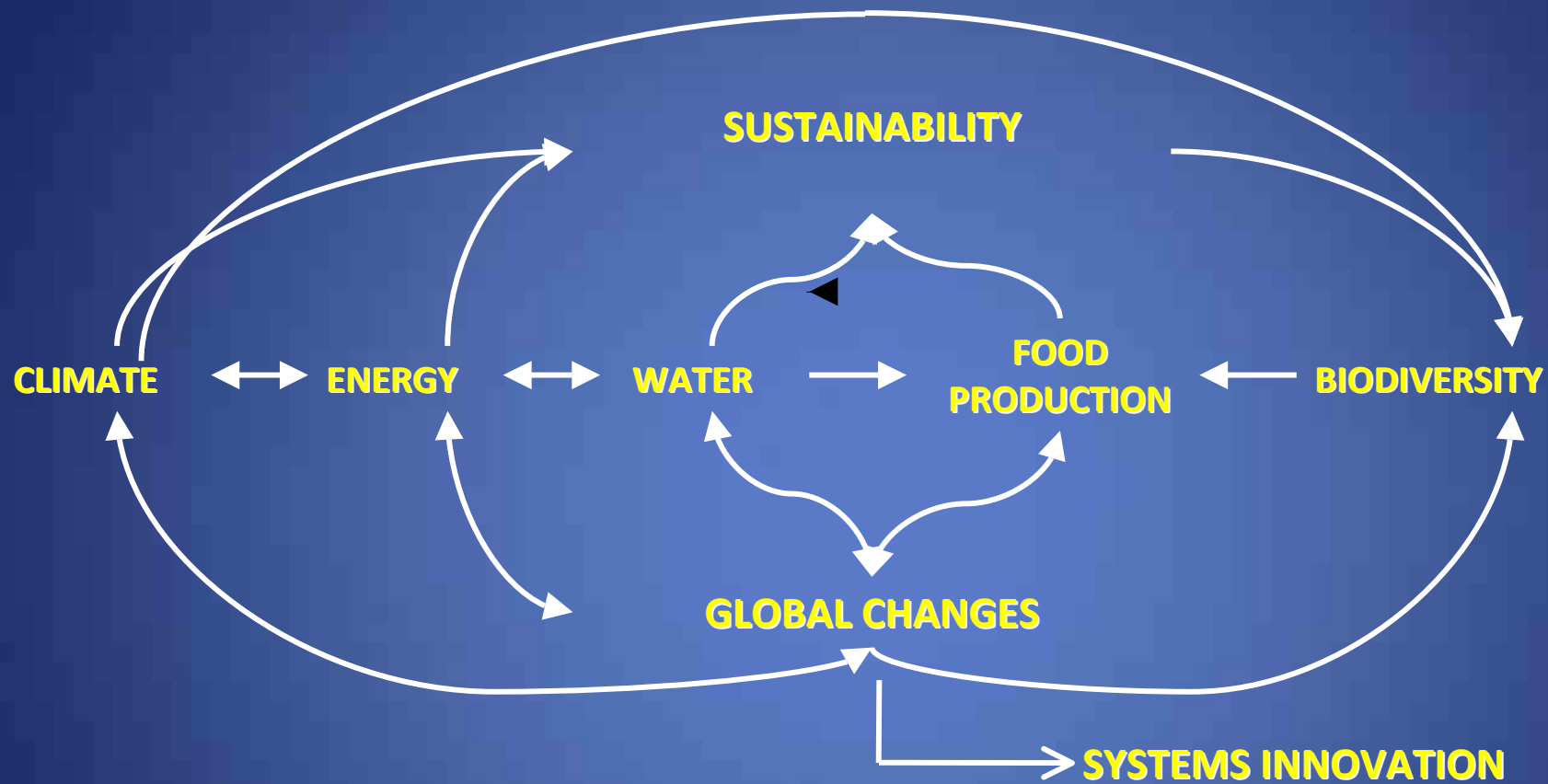


Global Water Issues



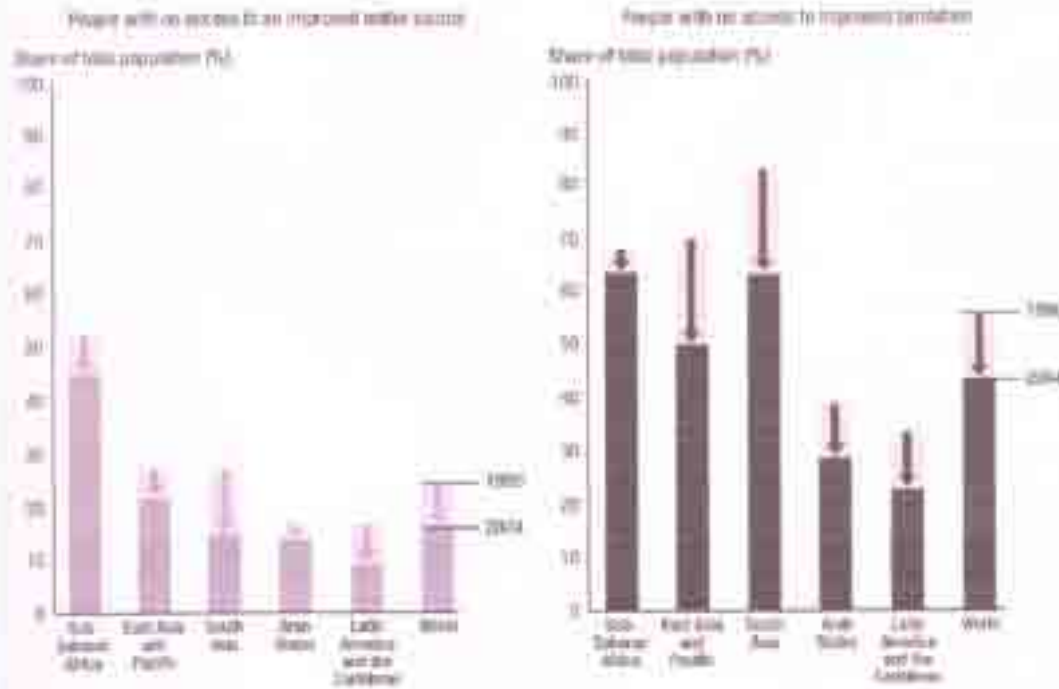
José Galizia Tundisi

BACKGROUND



MATRIX OF COMPONENTS AND INTERACTION

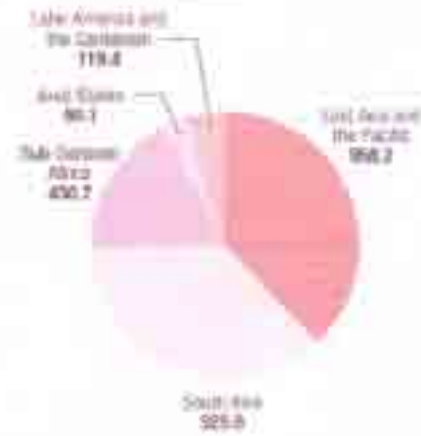
Figure 1.1



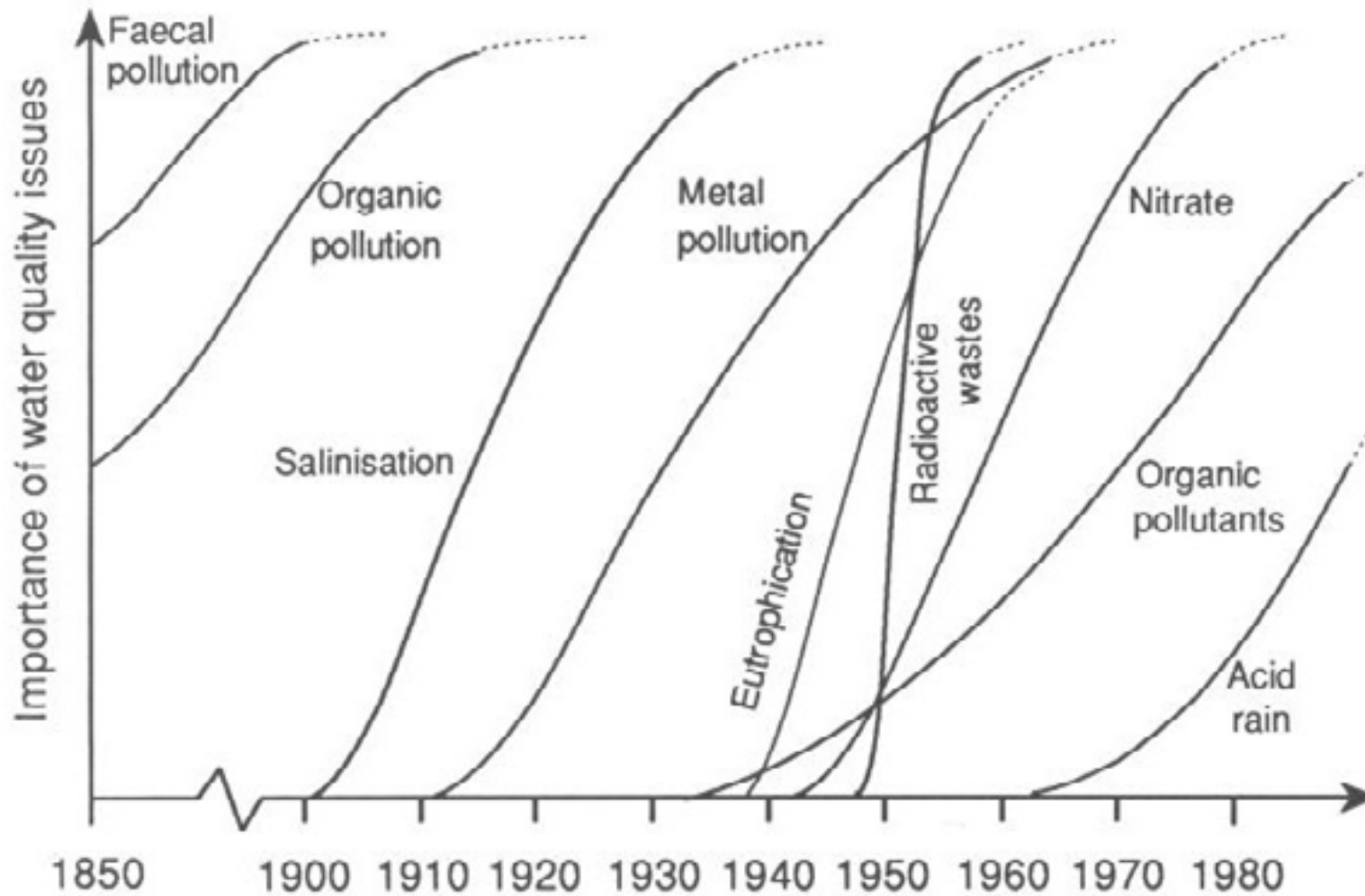
People with no access to improved water in 2004 (millions)
Total: 1.1 billion



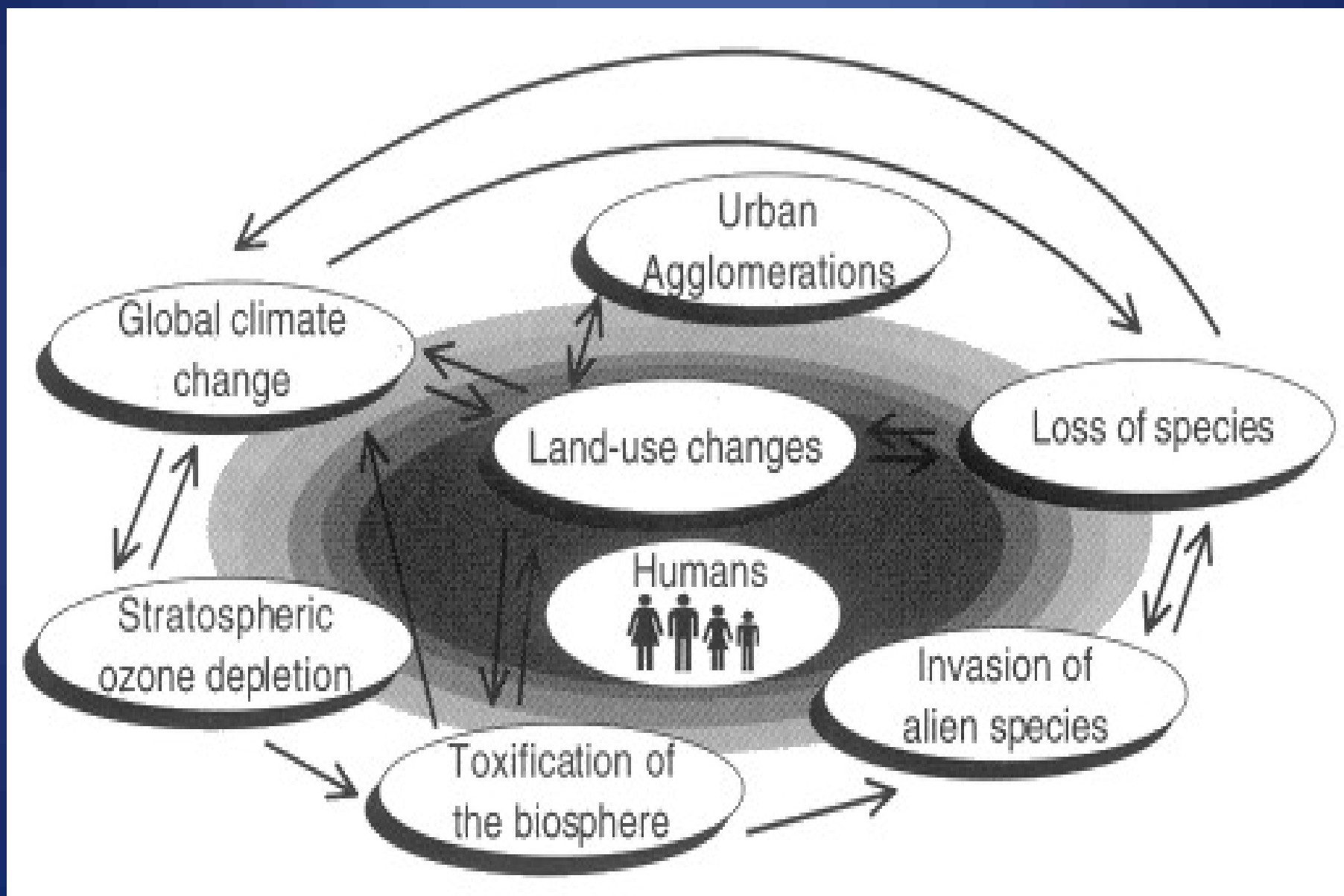
People with no access to improved sanitation in 2004 (millions)
Total: 2.8 billion



Water Quality Assessments

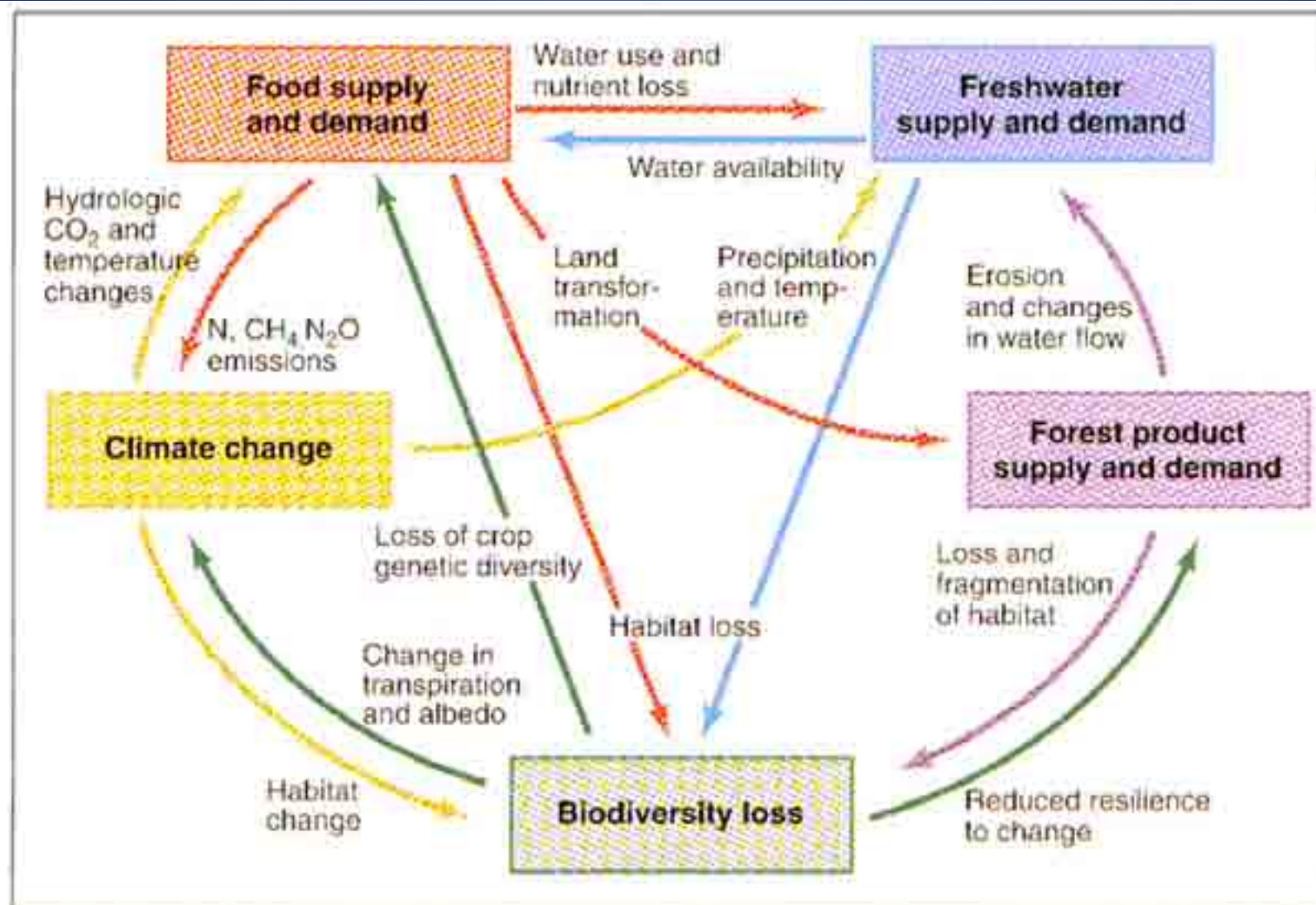


The sequence of water quality issues arising in industrialised countries
(After Meybeck and Helmer, 1989)



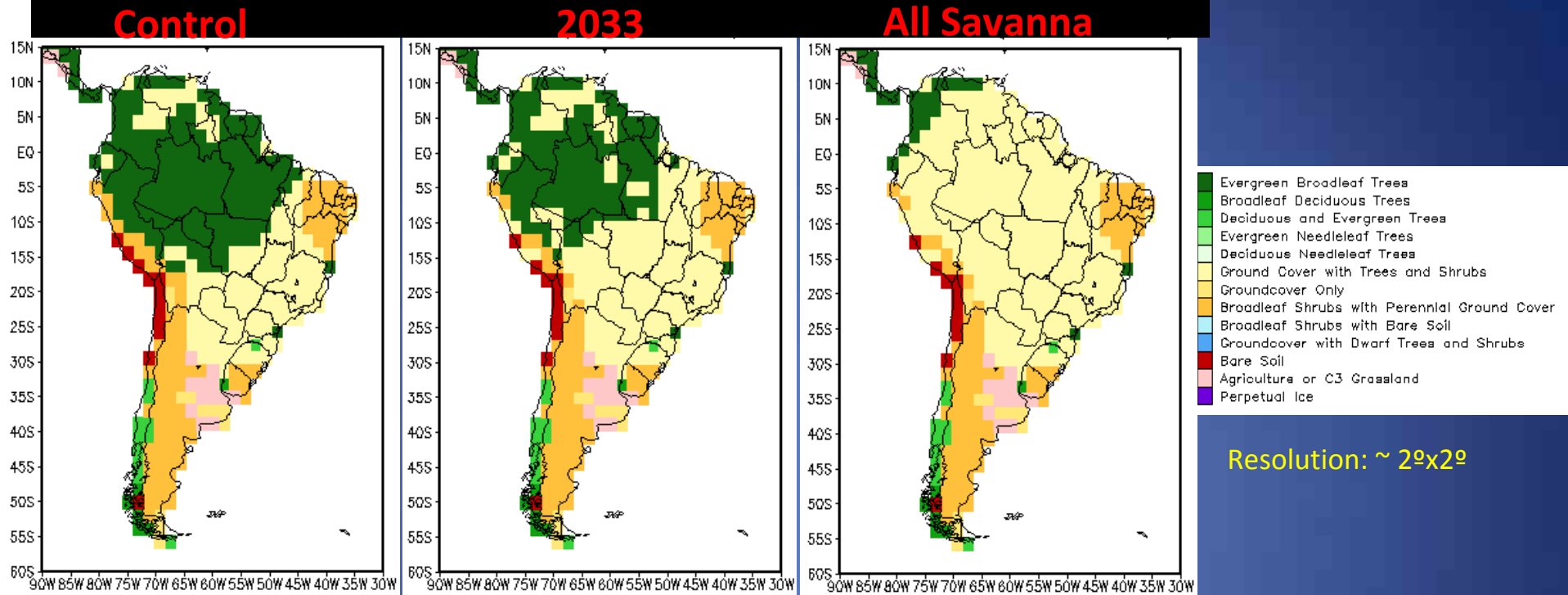


Linkages



Linkages among various ecosystem goods and services (food, water, biodiversity, forest products) and other driving forces (climate change) [modified from (7)].

Sensitivity Analysis to 'Savannization' of Amazonia

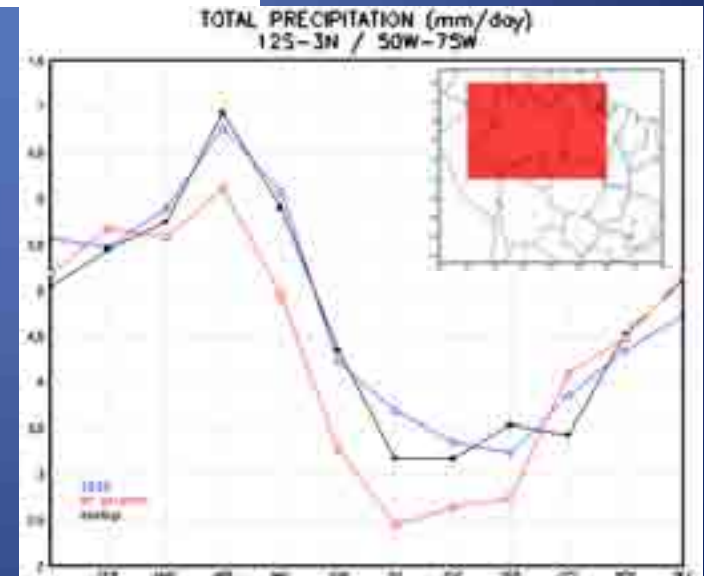


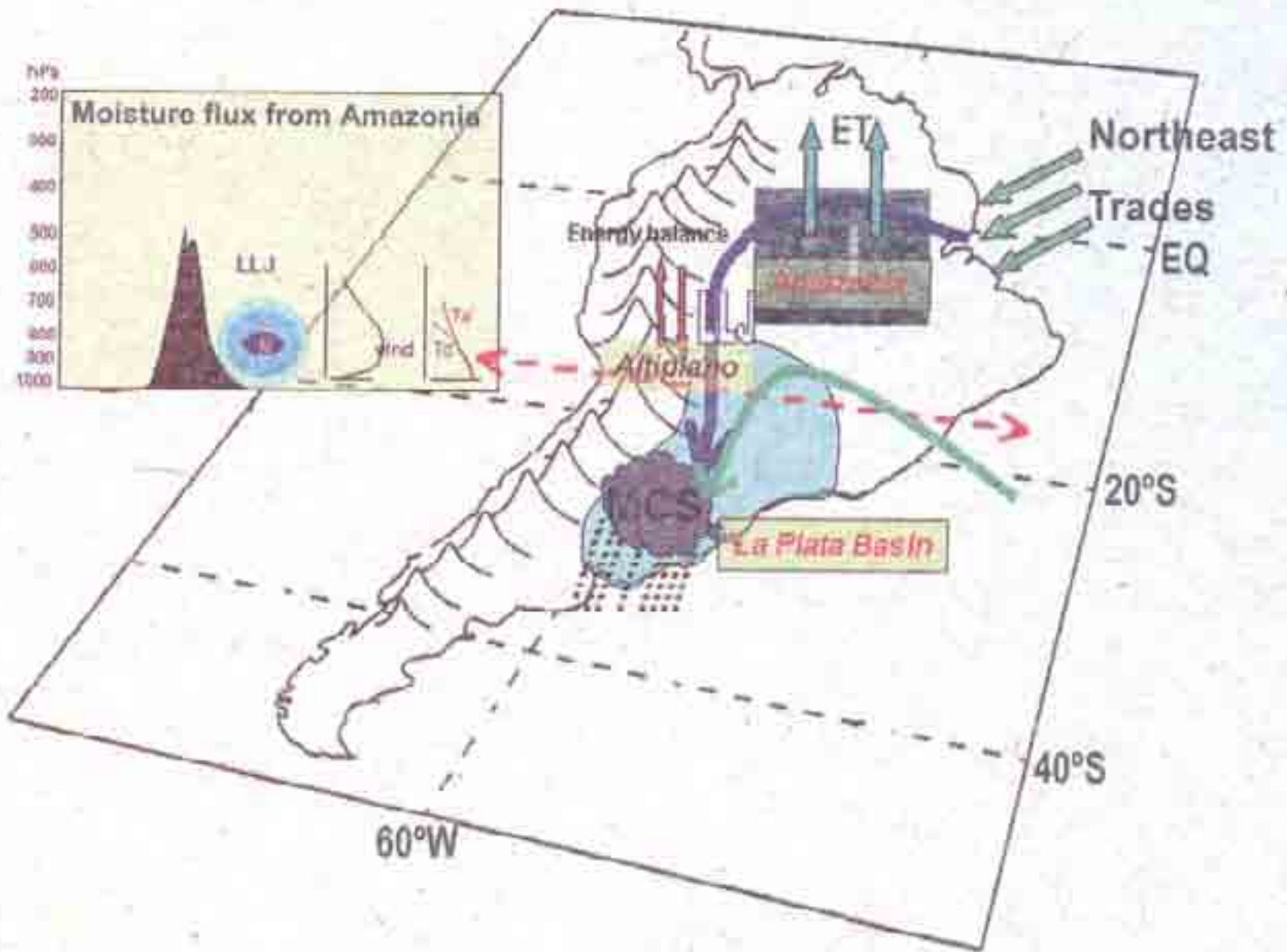
Dry Season Precipitation*

	2033	All Savanna
JJA	5,4%	-21,7%
JJAS	1,9%	-21,9%

* 12°S-3°N / 50°W-75°W

Oliveira et al., 2004

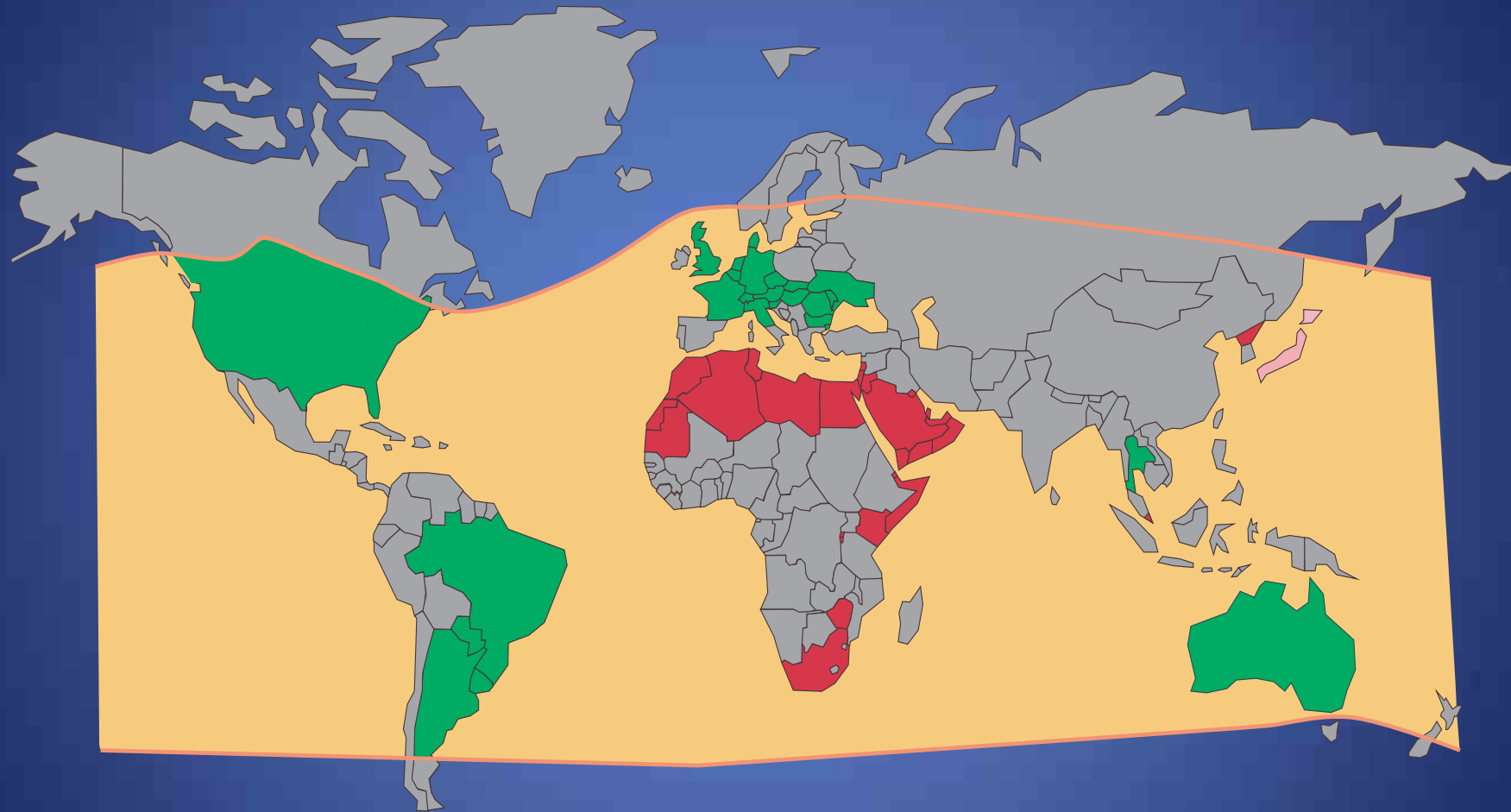




Fonte: Marengo, 2008

Situation 2000

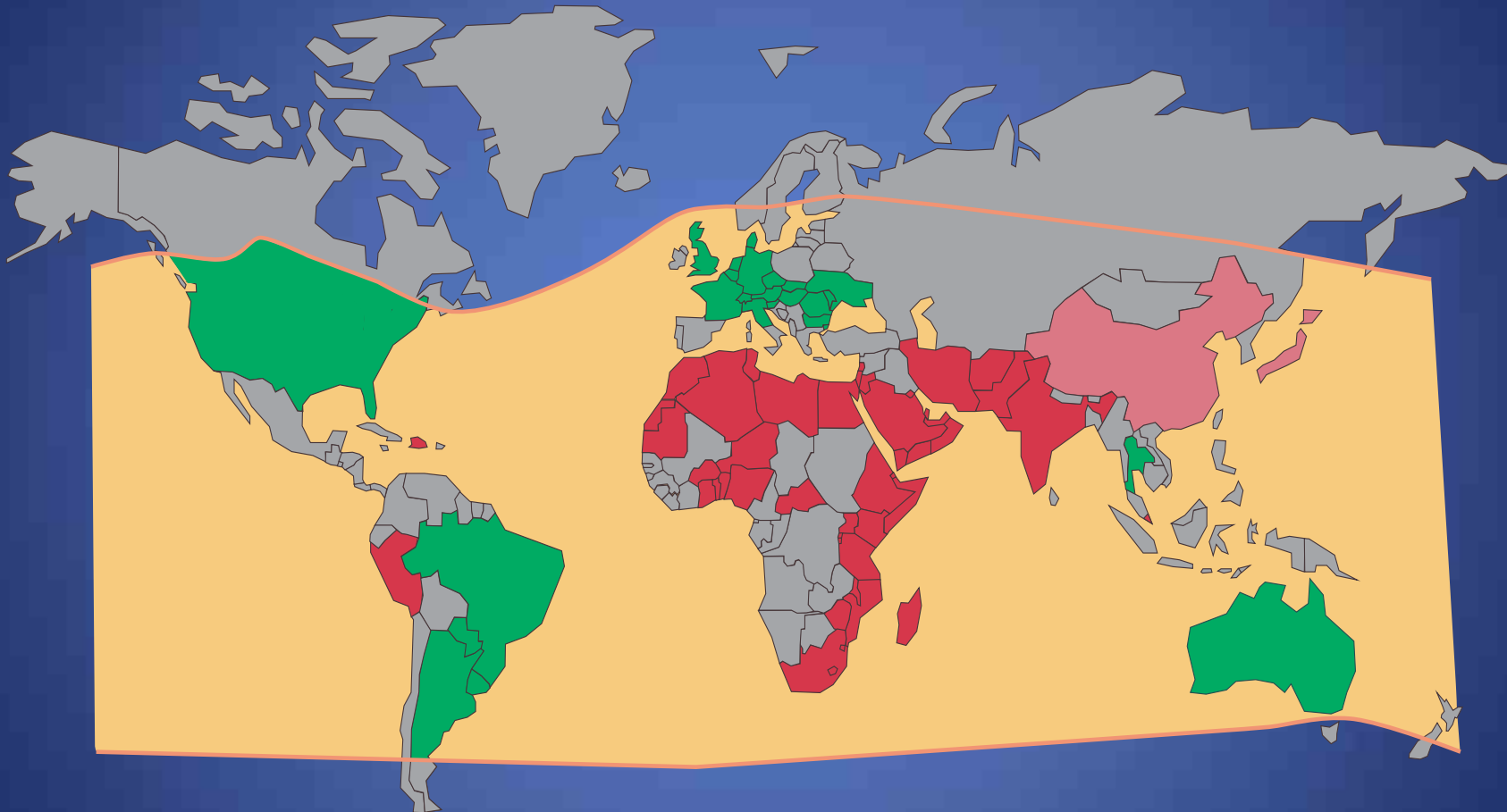
Situation 2000



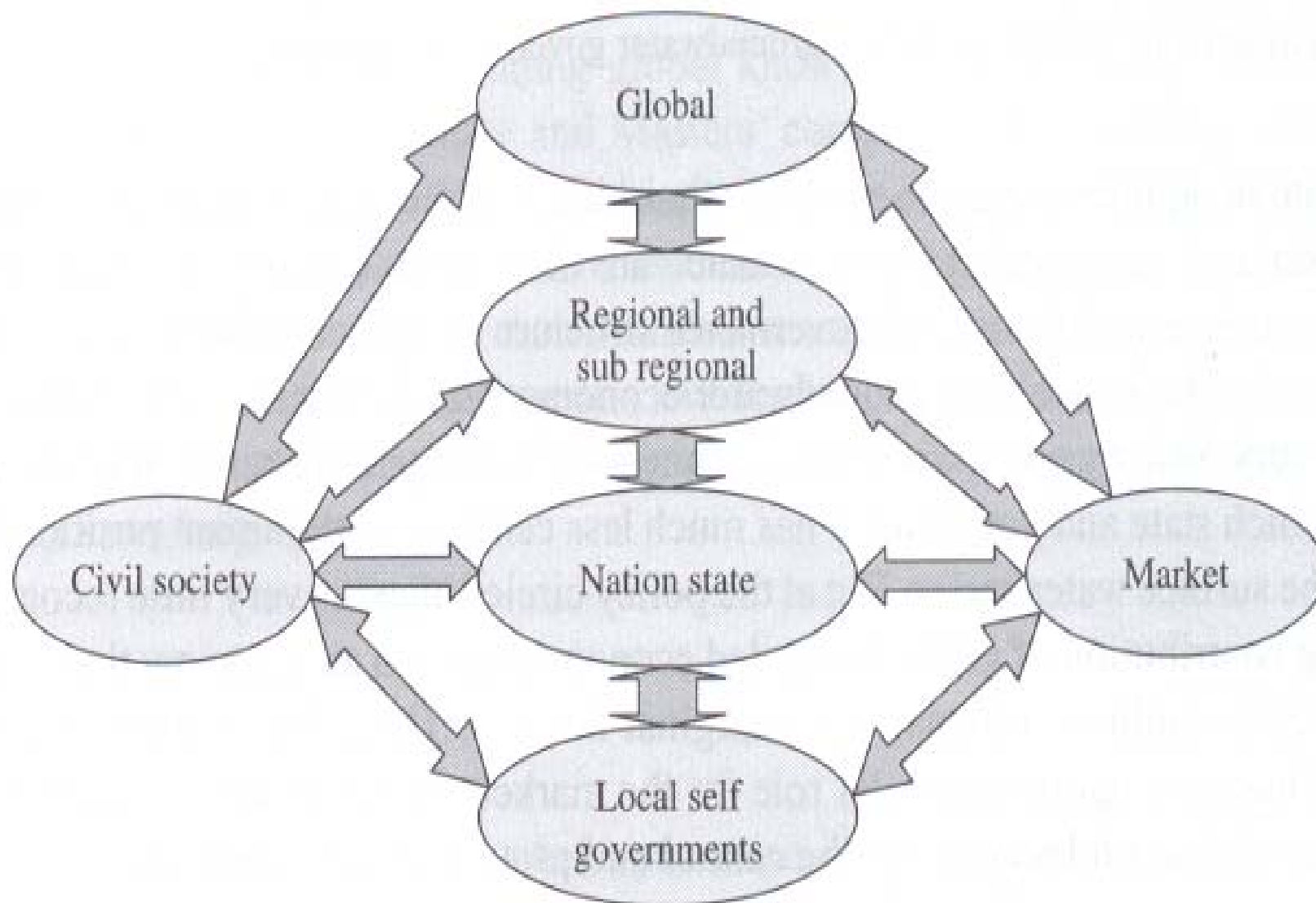
- Limits for food production
- Lack of water for sufficient food production
- Water, soil and climatic conditions allow substantial food production for export

Situation 2025

Situation 2025



- Limits for food production
- Lack of water for sufficient food production
- Water, soil and climatic conditions allow substantial food production for export



9. The conceptual ideal concept of governance

MANAGEMENT

20th Century

- Local
- Sectoral
- Response

21st Century

- Watershed (Ecosystem)
- Integrated
- Predictive

WATER POLICY PRIORITIES (WORLD WATER DEVELOPMENT REPORT):

- ***Water and cities:*** acknowledging that urban areas are increasingly the focus of human settlements and economic activities and that they represent distinctive challenges to water managers.
- ***Water and industry:*** focusing on industry needs and the responsibility to respect water quality and take account of the needs of competing sectors.
- ***Water and energy:*** recognizing that water is vital for all forms of energy production and that there is a need to ensure that energy requirements are met in a sustainable manner.

Focus

1 – Global changes: impacts on the water quality & water quantity

- Surface & ground water problems**
- Global changes and human health**
- Economic impacts: agriculture, human health, periurban areas**

2 – Water and economy

- Water in the economy of continents, regions, municipalities**
- Virtual water: water used in the food production & food security**
- Water and human health: economic impact**

3 – Contamination of water resources

- Surface and ground water**
- Toxicity of fresh waters**
- Costs of water contamination and treatment**
- Health impacts of contaminated water (eutrophication as an example)**

4 – Capacity building of managers: needs and perspectives(IAP WATER PROGRAMME)

CONCLUSIONS FROM GUARULHOS(SP,BRAZIL) WORKSHOP

-GUIDELINES FOR FUTURE ACTIONS-

Four working groups:

- From Science to Practice in Water Management.**
- Major Problems and Challenges in Water Management.**
- Social and Environmental Aspects.**
- Urban Management of Water Resources.**

IAP Water Programme

Objectives

- Develop continental regional and local capacity building in water resources management.
- Establish a Network of water researchers and managers to enhance water management capacity.
- Address policy and decision makers on how to cope with the challenge of assuring global access to safe-drinking water.
- Increase public awareness on emerging water crisis
- Call to the table major international water programmes to discuss complementary work and to avoid inadequate duplication of funds.

International Centers for Innovation & Research & Capacity Building

1 Innovation

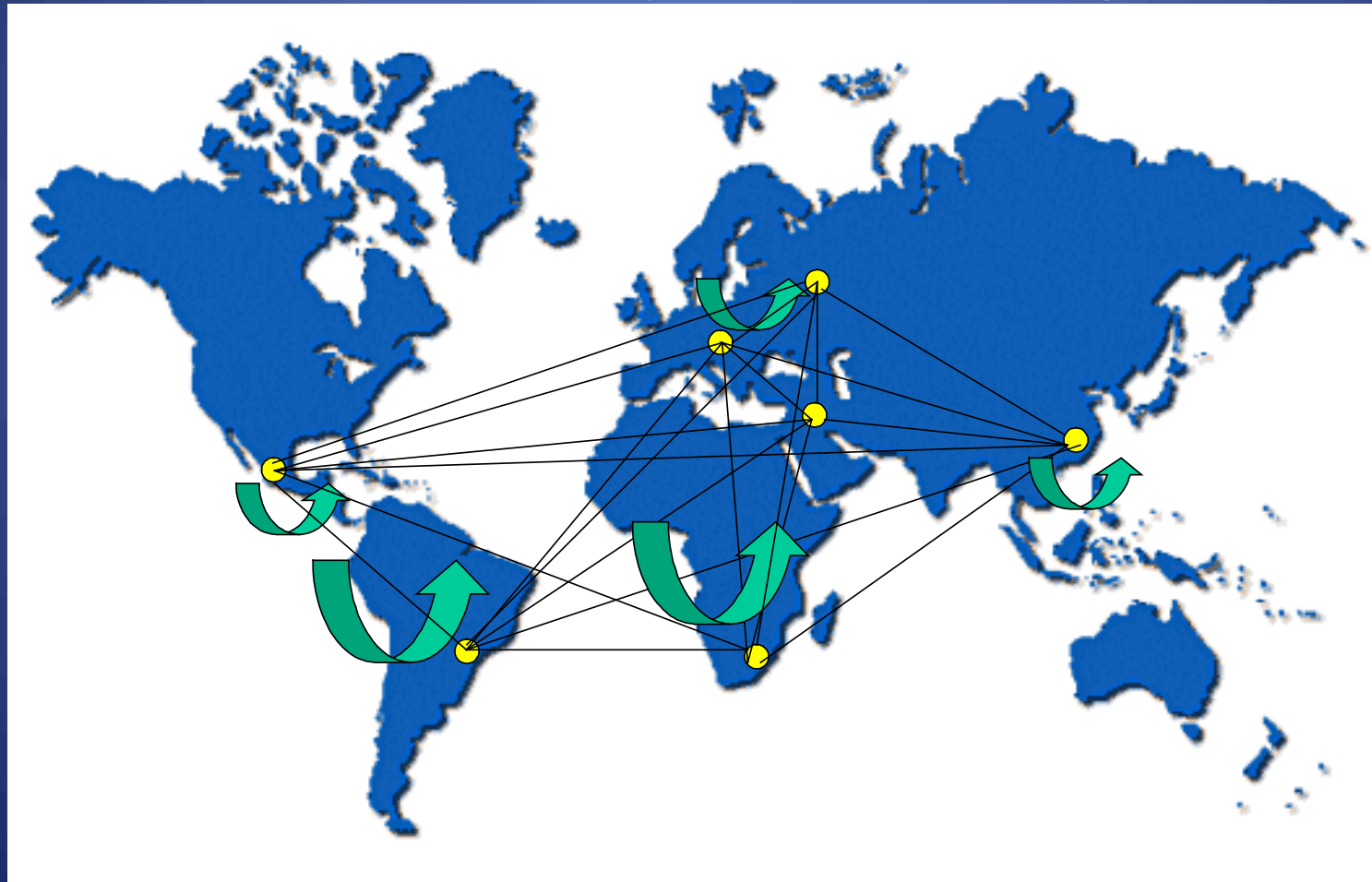
2 Technology transfer

3 Capacity building

4 Diffusion of knowledge

•Innovation & Tecnology & Capacity Building

International Centers for Innovation, Research & Capacity Building Cultural diversity and water management



Regional Workshops:



**East Asia & Pacific
Beijing, June 2006**



**Americas
Guarulhos, July 2006**

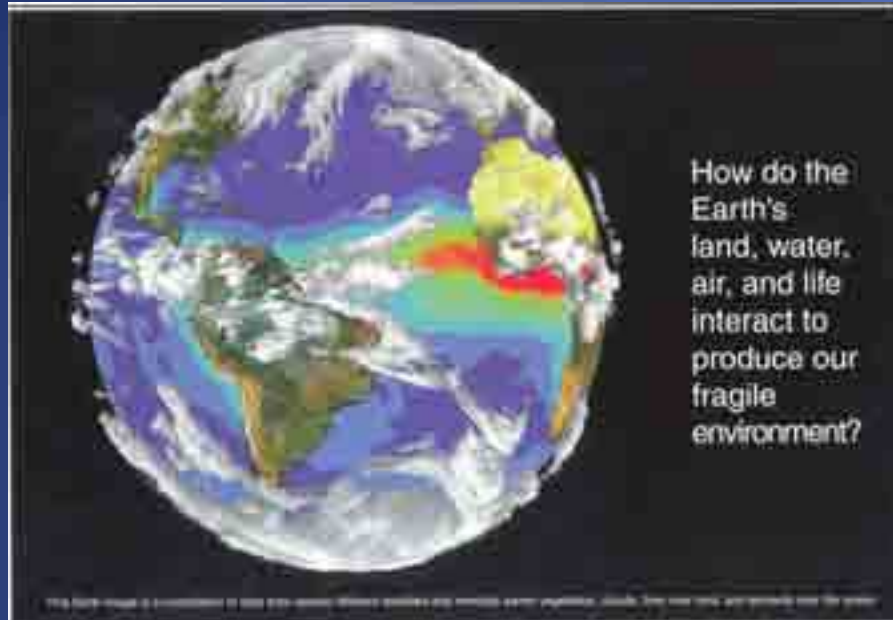


**Africa
Pretoria, August 2006**



**Europe
Lodz, September 2006**

THANK YOU!



- **INSTITUTE OF GEOGRAPHIC SCIENCES & NATURAL RESOURCES RESEARCH (CHINA)**
- **INTERNATIONAL INSTITUTE OF BIODIVERSITY AND WATER RESOURCES (BRAZIL)**
- **INTERNATIONAL CENTER FOR ECOLOGY (POLAND)**
- **WATER RESEARCH COMMISSION (SOUTH AFRICA)**

