



# **Water and Health in the 7<sup>th</sup> phase of UNESCO-IHP**

**Sarantuyaa Zandaryaa, PhD  
UNESCO International Hydrological Programme  
Paris, France**



## UNESCO-IHP's work on water quality

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- ▶ **Strengthening the scientific and knowledge base on protecting surface and groundwater resources from pollution and deterioration**
- ▶ **Developing sustainable and innovative approaches to securing water quality for drinking water, food security and livelihoods, and for ecosystems and maintaining environmental flows**
- ▶ **Building capacity to protect the quality of current and future water supplies for all their uses**





# International Hydrological Programme (IHP) of UNESCO

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UNESCO's International Hydrological Programme:

- ▶ the **intergovernmental scientific programme** of the UN system **devoted to water science, research and capacity building** for sustainable water resources management.
- ▶ **responds to the needs and priorities of UNESCO Member States**
  - ▶ IHP National Committees and focal points in 165 countries
- ▶ implemented in 6-year phases: **IHP-VII (2008-2013)**
  - ▶ 3 decades of water science and capacity building (since 1975)



# IHP *‘continuity with change’*

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## IHP-IV (1990-1995)

Hydrology and Water Resources Sustainable Development  
in a **Changing Environment**

## IHP-V (1996-2001)

Hydrology and Water Resources Development  
in a **Vulnerable Environment**

## IHP-VI (2002-2007)

Water Interactions:  
**Systems at Risk** and **Social Challenges**

## IHP-VII (2008-2013)

Water Dependencies:  
**Systems under Stress** and **Societal Responses**

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## Implementation of IHP activities

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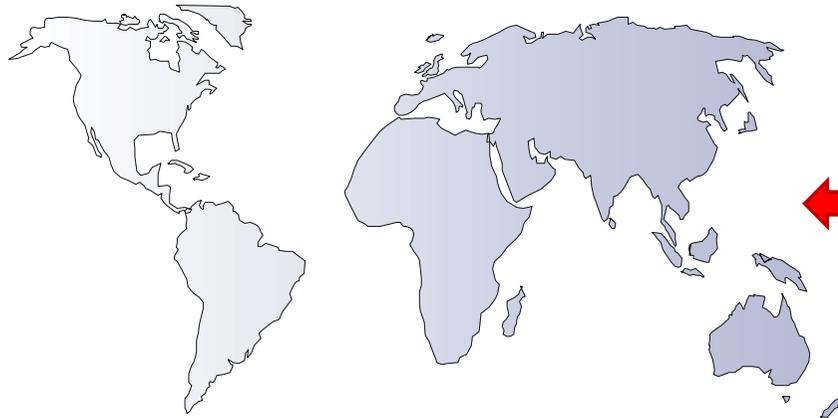
### Action-oriented and policy-relevant

- ▶ **promoting leading edge research** that provides timely and appropriate policy-relevant advice to the Member States (science-based policy recommendations for decision-makers)
- ▶ **facilitating water education and capacity development** responding to the growing needs linked to sustainable development
- ▶ **enhancing governance in water resource management** to achieve ecosystem sustainability



# Implementation of IHP activities

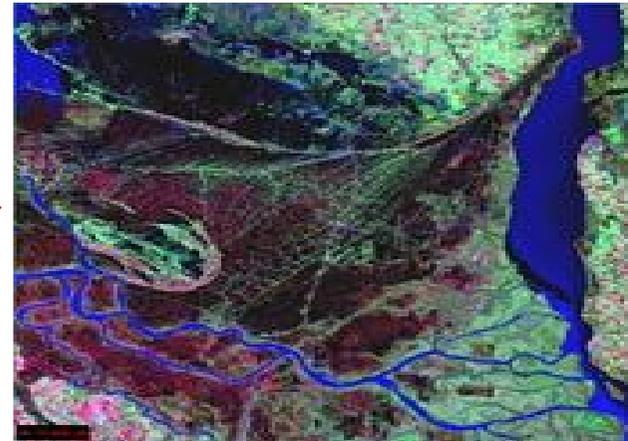
## Global



### Global issues:

- ▶ Adaptation to impacts of global changes (population growth, urbanization, climate change)
- ▶ Water governance,
- ▶ Water for life support systems

## Regional and local

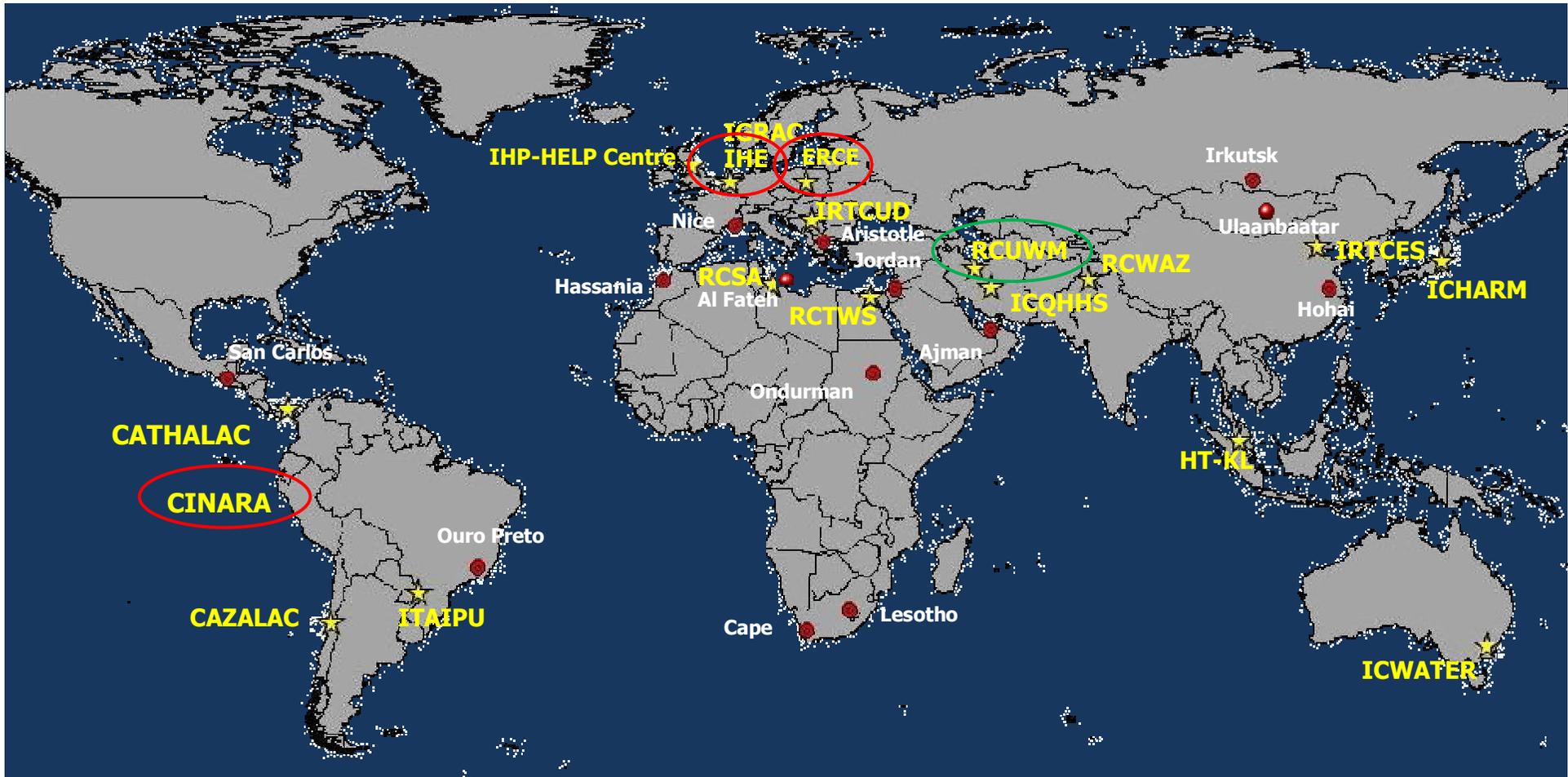


### Regional and local issues:

- ▶ Transboundary water resources management
- ▶ River basin management
- ▶ Ecological sustainability / pollution control



# UNESCO Water Centres & Chairs



★ UNESCO Centres  
(UNESCO-IHE and cat 2 centres)

● UNESCO Chairs on  
Water (14)





United Nations Educational  
Scientific and Cultural Organization



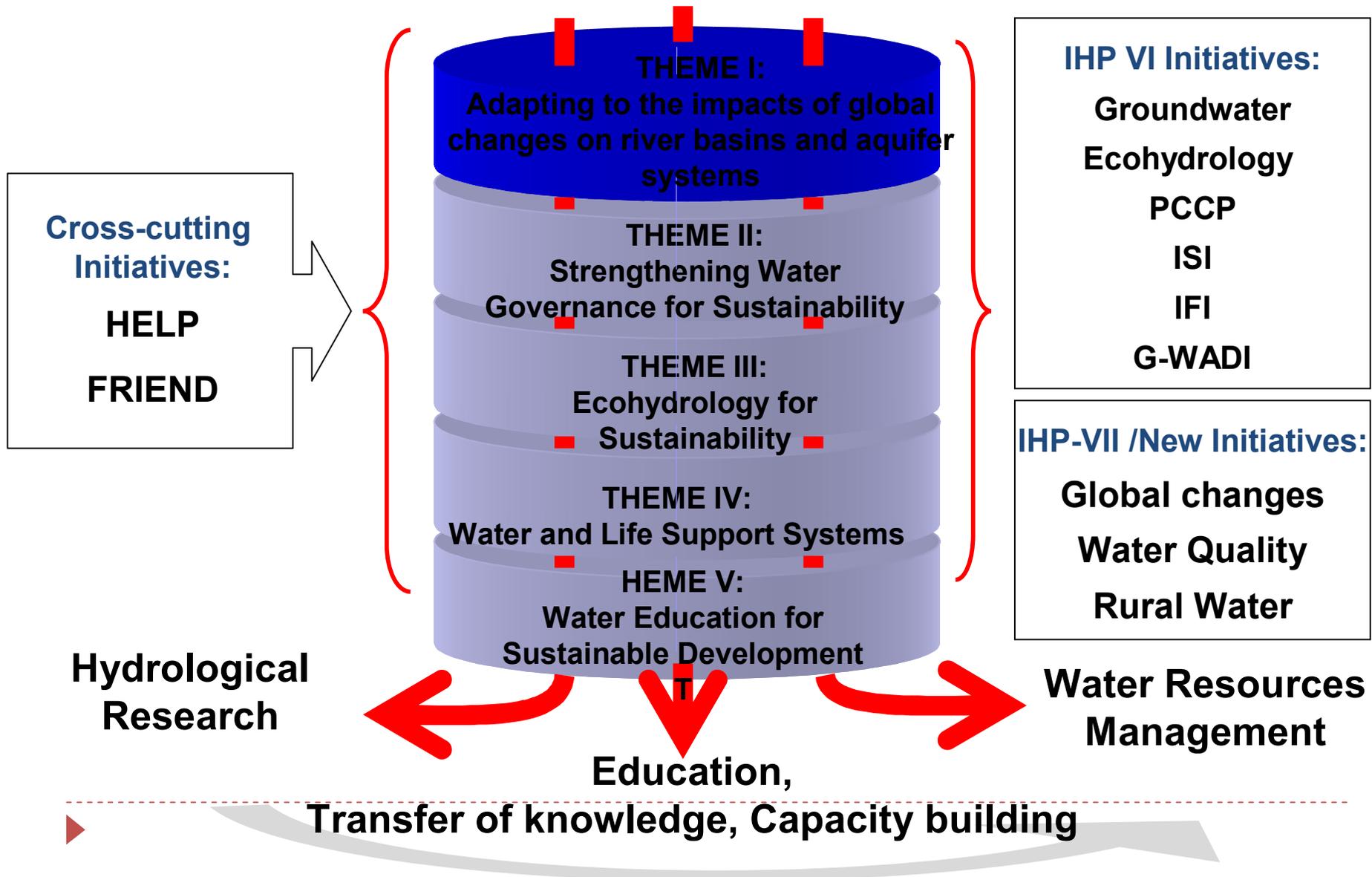
# UNESCO Water Centres & Chairs



- ★ Water-related Institutes and Centres under the auspices of UNESCO work on relevant thematic and geographic priorities in their areas of expertise. Since Member States have realized the potential of these centres, the network has been rapidly expanding.
- ★ UNESCO's Water-related Chairs are established as teaching or research positions at universities or research institutes around the world.



# IHP-VII Water Dependencies: Systems under Stress & Societal Responses



*“Almost one tenth of the global disease burden could be prevented by improving water supply, sanitation, personal hygiene and water resources management.”*

WHO Report *Safer Water, Better Health*, 2008

# **Water and Health in the 7<sup>th</sup> phase of IHP of UNESCO**



## IHP-VII Focal Area 4.1

# Protecting Water Quality

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Protect the quality of current and future water supplies for all their uses:

- ▶ Improve understanding and scientific knowledge of the distribution of abiotic and biotic pollutants in the water cycle and their impact on human health and ecosystems;
- ▶ Develop the scientific evidence for evaluations of contaminant attenuation rates under different environmental conditions and situations (*with focus on pathogens and emerging pollutants*)
- ▶ Promote, strengthen and develop the knowledge base for sustainable strategies for pollution prevention and control.
- ▶ Provide scientific basis for innovative approaches to access to water and sanitation (contributing to MDGs).
- ▶ Making water quality a priority in water resources management (linking quantity and quality aspects)





## UNESCO-IHP's work on water quality: Contributing to global initiatives

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### Millennium Development Goals

- ▶ Environmental sustainability
  - ▶ Access to water and sanitation
  
  - ▶ **UN International Decade 'Water for Life'**
    - ▶ water for drinking
    - ▶ water for sanitation
    - ▶ water for biodiversity
    - ▶ water for food production
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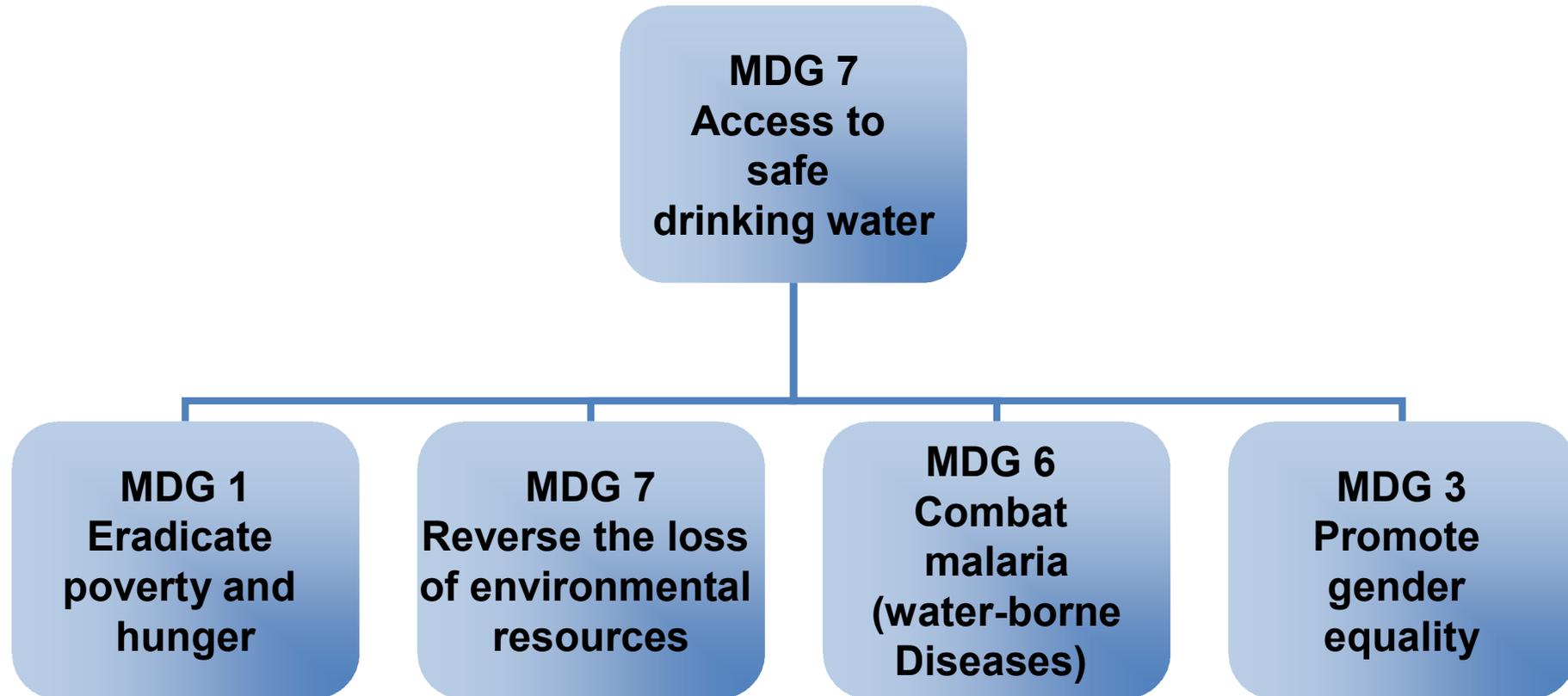
# Water and Health in IHP-VII

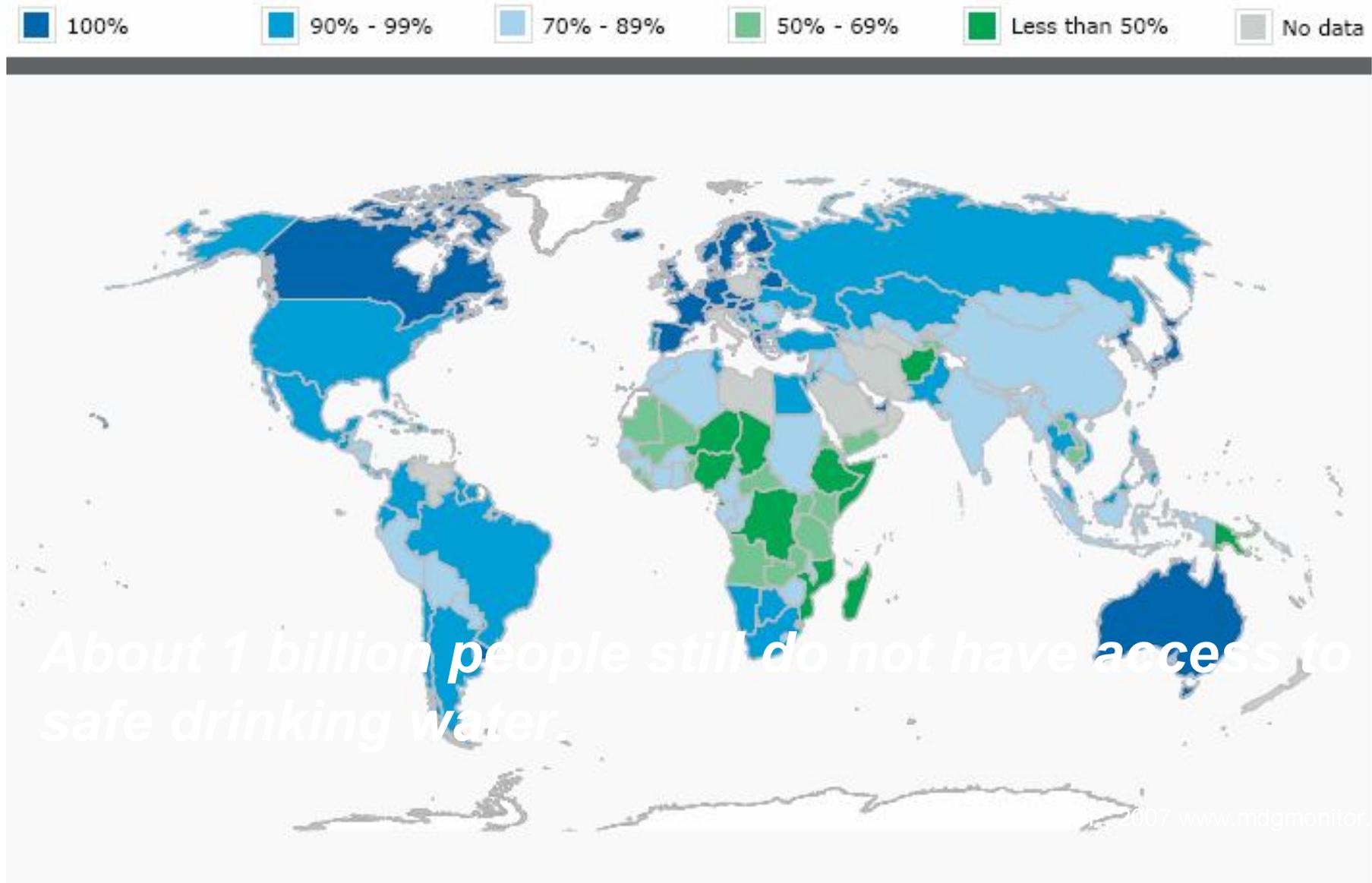
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- ▶ Access to water and sanitation
  - ▶ health risks of related to poor water and sanitation conditions (*improving access to safe water in unserved, poor communities*)
  - ▶ water-health-poverty nexus
- ▶ Unplanned and indirect reuse of wastewater for human consumption
  - ▶ health risks of wastewater reuse
  - ▶ integrated wastewater management (sanitation, wastewater treatment, wastewater discharge , biosolids)
- ▶ Emerging pollutants
  - ▶ human and ecological health risks



# Water-health-livelihoods





**MDG 7 - Proportion of the population using improved drinking water sources (2006)**



***Good Water Quality:***

***Is It a Luxury for Developing Countries?***



1st IWA  
Development Congress

MÉXICO  
15–19 November 2009

# Good Water Quality: Is It a Luxury for Developing Countries?

*Presented by*

**UNESCO International Hydrological Programme**

*In cooperation with*

**UN-Water**

**IWA**

**National Autonomous University of Mexico**



International  
Water Association



# *Good Water Quality: Is It a Luxury for Developing Countries?*

- ▶ a water supply of good quality;
  - ▶ scientific, technological and policy responses to addressing water quality issues
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- ▶ Challenges to be faced in order to secure global freshwater quality
  - ▶ Is water quality a major concern? - Regional perspectives on water quality trends and issues
  - ▶ Responding to current and emerging challenges in (integrated) water quality management
  - ▶ Making water quality a priority - World Water Day 2010



# *Good Water Quality: Is It a Luxury for Developing Countries?*

- ▶ Is safe water the same as water of adequate quality?
- ▶ Is it enough to ensure the flow of water in the environment, or is there also a need to ensure certain levels of ecological quality?
- ▶ Is the increasing degradation of water quality a major threat to the availability of freshwater resources, especially in water-scarce conditions?
- ▶ What are sustainable approaches to addressing water quantity and quality in an integrated manner?
- ▶ What are sustainable and innovative approaches to protecting water quality?



## UNESCO-IHP Water Quality Case Studies

### Fate of emerging pollutants

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- ▶ An ongoing case study on “Fate of emerging pollutants in soils irrigated with untreated wastewater”, Tula Valley, Mexico
    - ▶ Study the fate and behaviour of primary and emerging pollutants in soils irrigated with untreated urban wastewater over a long period of time
    - ▶ Analyze pollution retention and biodegradation capabilities of soils, with specific focus on emerging pollutants
    - ▶ Identify and assess risks to human and ecological health of the use of untreated wastewater for irrigation and groundwater recharge
    - ▶ Develop policy recommendations regarding the safety, health risks and environmental impacts of emerging pollutants in relation to the use of untreated wastewater
  - ▶ Preliminary results presented at WHO/IWMI/UNESCO-IHP seminar at Stockholm WWWW (August, 2009)
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# Water and Health in IHP-VII

## A renewed focus on water quality

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- ▶ Water related problems touch upon all elements of the water cycle, and through interactions between the different components of the water cycle directly impacting human health, well-being and safety.
  - ▶ There is the need for sustainable approaches and strategies for protecting water quality in order to reduce water-related health impacts arising from
    - ▶ ingestion of untreated or insufficiently treated drinking water
    - ▶ exposure to contaminated surface waters and groundwater
    - ▶ pathogens in food from crops irrigated by untreated insufficiently treated wastewater.
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*Thank you!*

*International Hydrological Programme*  
*UNESCO*

<http://www.unesco.org/water>

*Dr. Sarantuyaa Zandaryaa*

[s.zandaryaa@unesco.org](mailto:s.zandaryaa@unesco.org)

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