



# Sanitation and groundwater protection: a WHO perspective

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# WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)

- Mandated by the UN to monitor global progress towards the MDG
- Use of national data sources
  - National censuses
  - Household sample surveys
- Use of standard definitions and indicators

# JMP definitions on water supply

## Improved water supply

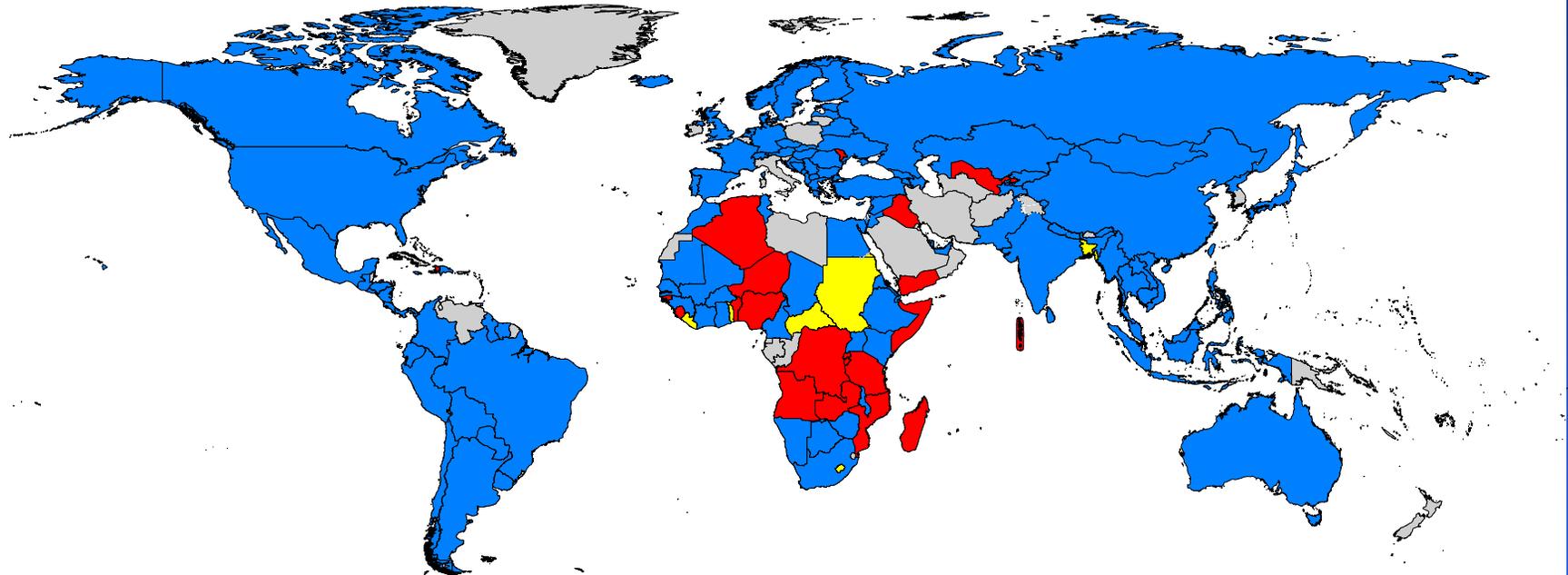
- Piped into dwelling, plot or yard
- Public tap/standpipe
- Tube well/borehole
- Protected dug well
- Protected spring
- Rainwater collection



## Unimproved water supply

- Unprotected dug well
- Unprotected spring
- Cart with small tank/drum
- Tanker truck
- Surface water (river, dam, lake, pond, stream, canal, irrigation canal)
- Bottled water

# Drinking water status in 2006



## Progress towards the MDG drinking water target, 2006

<div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 20px; height: 10px; background-color: blue; margin-right: 5px;"></div> <span>On track</span> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 20px; height: 10px; background-color: yellow; margin-right: 5px;"></div> <span>Progress but insufficient</span> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 20px; height: 10px; background-color: red; margin-right: 5px;"></div> <span>Not on track</span> </div> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: grey; margin-right: 5px;"></div> <span>No or insufficient data</span> </div>	<p>Coverage in 2006 was less than 5 per cent below the rate it needed to be for the country to reach the MDG target, or coverage was higher than 95%</p> <p>Coverage in 2006 was 5 per cent to 10 per cent below the rate it needed to be for the country to reach the MDG target</p> <p>Coverage in 2006 was more than 10 per cent below the rate it needed to be for the country to reach the MDG target, or the 1990 - 2006 trend shows unchanged or decreasing coverage</p> <p>Data were unavailable or insufficient to estimate trends</p>
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# JMP definitions on sanitation

## Improved sanitation

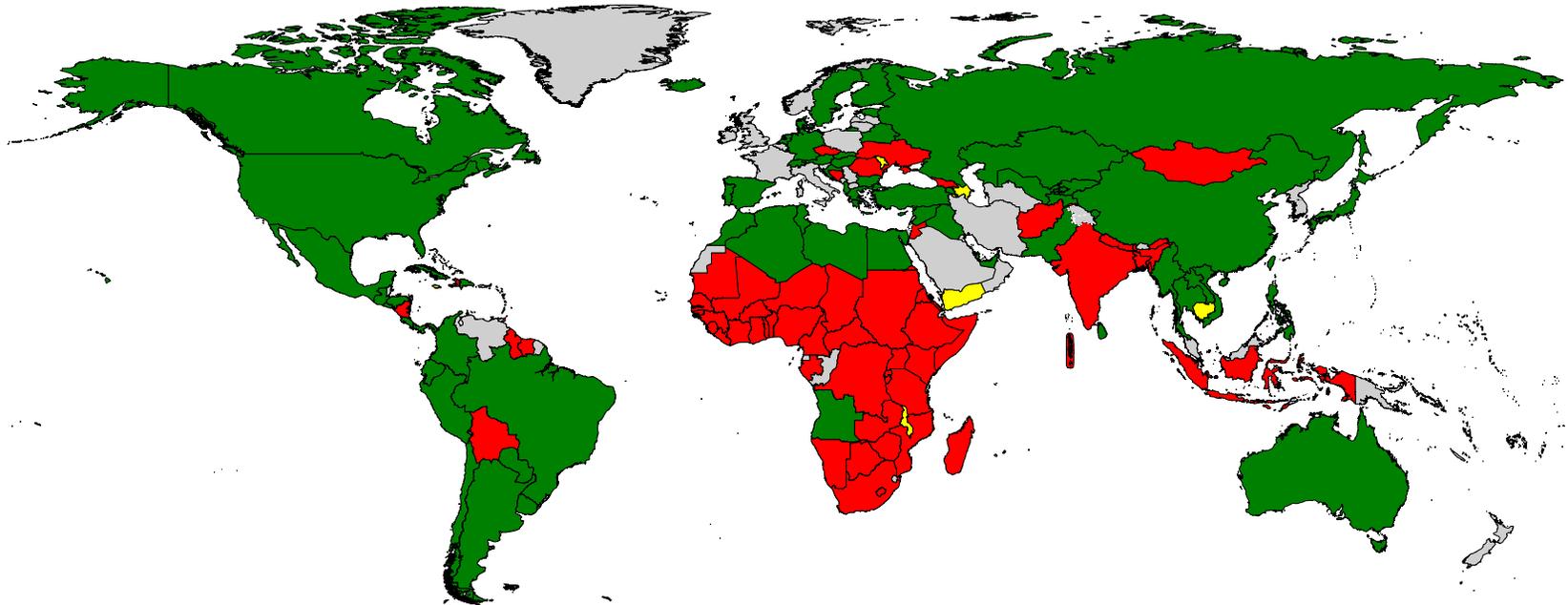
- Flush/pour flush to:
  - piped sewer system
  - septic tank
  - pit latrine
- Ventilated improved pit latrine
- Pit latrine with slab
- Composting toilet



## Unimproved sanitation

- Flush/Pour flush to elsewhere
- Pit latrine without slab/open pit
- Bucket
- Hanging toilet/hanging latrine
- No facilities, bush or field

# Sanitation status in 2006

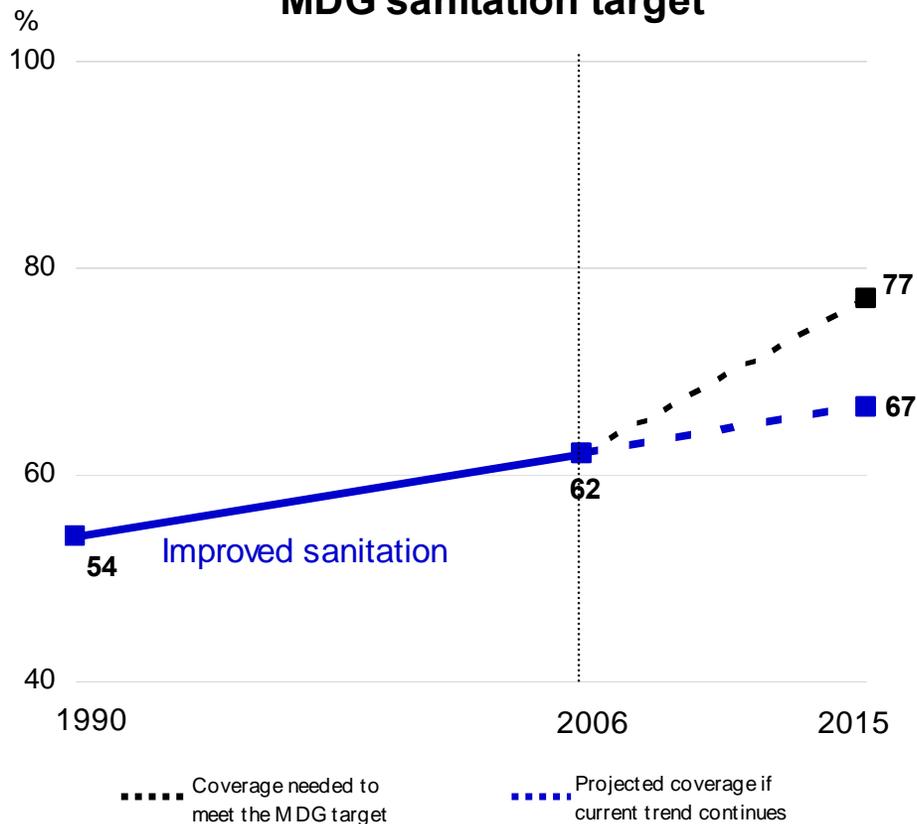


## Progress towards the MDG sanitation target, 2006

<div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 20px; height: 15px; background-color: green; margin-right: 5px;"></div> <span>On track</span> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 20px; height: 15px; background-color: yellow; margin-right: 5px;"></div> <span>Progress but insufficient</span> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="width: 20px; height: 15px; background-color: red; margin-right: 5px;"></div> <span>Not on track</span> </div> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 15px; background-color: lightgrey; margin-right: 5px;"></div> <span>No or insufficient data</span> </div>	<p>Coverage in 2006 was less than 5 per cent below the rate it needed to be for the country to reach the MDG target, or coverage was higher than 95%</p> <p>Coverage in 2006 was 5 per cent to 10 per cent below the rate it needed to be for the country to reach the MDG target</p> <p>Coverage in 2006 was more than 10 per cent below the rate it needed to be for the country to reach the MDG target, or the 1990 - 2006 trend shows unchanged or decreasing coverage</p>
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# Where we are?

## The world is not on track to meet the MDG sanitation target



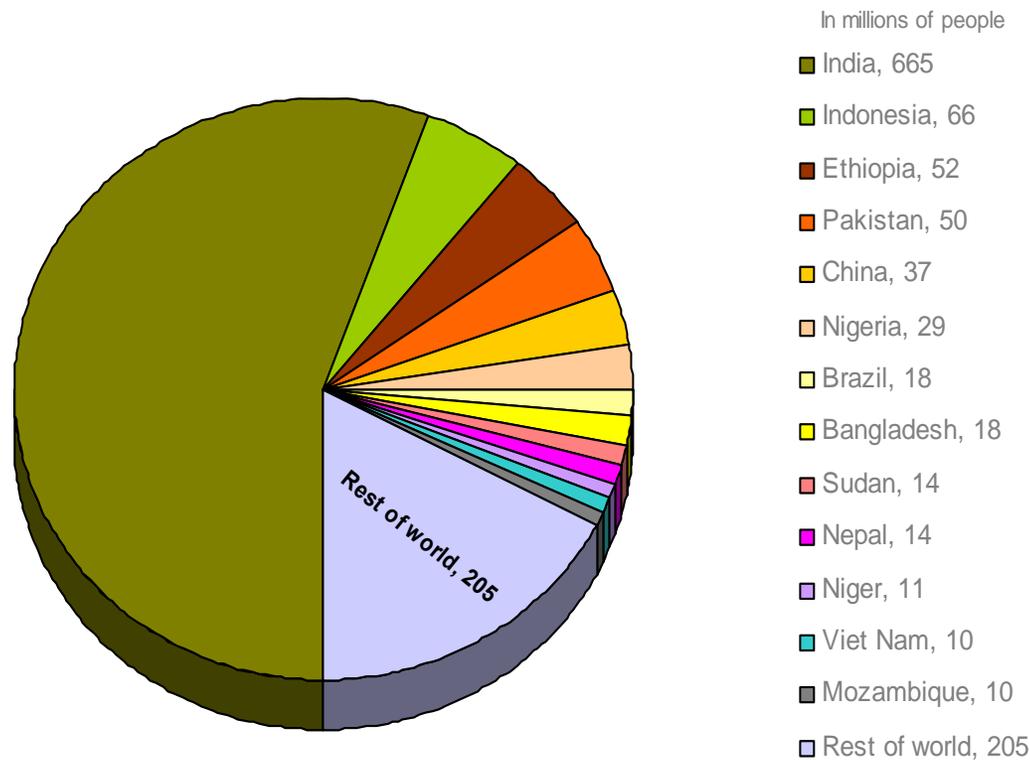
# Index of progress relative to population growth

Country	Proportion of the population that gained access to improved sanitation since 1990 (%)
Yemen	39
Benin	30
Cameroon	29
Comoros	29
Mali	29
Zambia	27



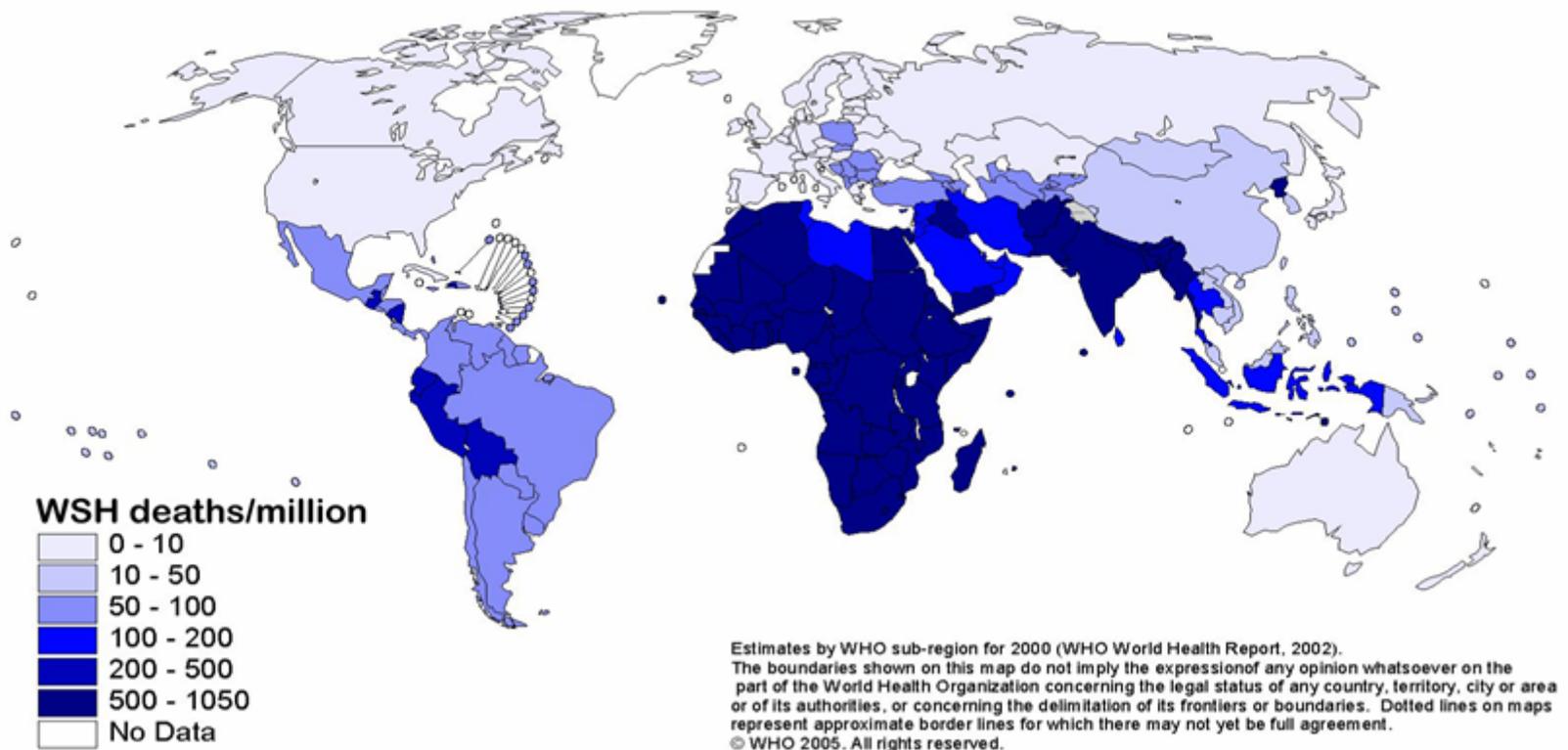
# Open defecation

**1.2 billion people practise open defecation,  
83 per cent of whom live in 13 countries**



# Global burden of disease

## Deaths from unsafe water, sanitation and hygiene



# Situation in the WHO European region

- 877 million people
- almost 140 million (16%) do not have a household connection to a drinking-water supply
- over 41 million (5%) do not have access to a safe drinking-water supply
- 85 million (10%) do not have access to improved sanitation

# Disease burden in the WHO European region



- 13,500 deaths per year of children under 14 years of age due to poor water
- Over 11,000 deaths occur in the EUR-B sub-region

# The three E's of IWRM

- Economic efficiency in water use
- Equity
- Environmental and ecological sustainability



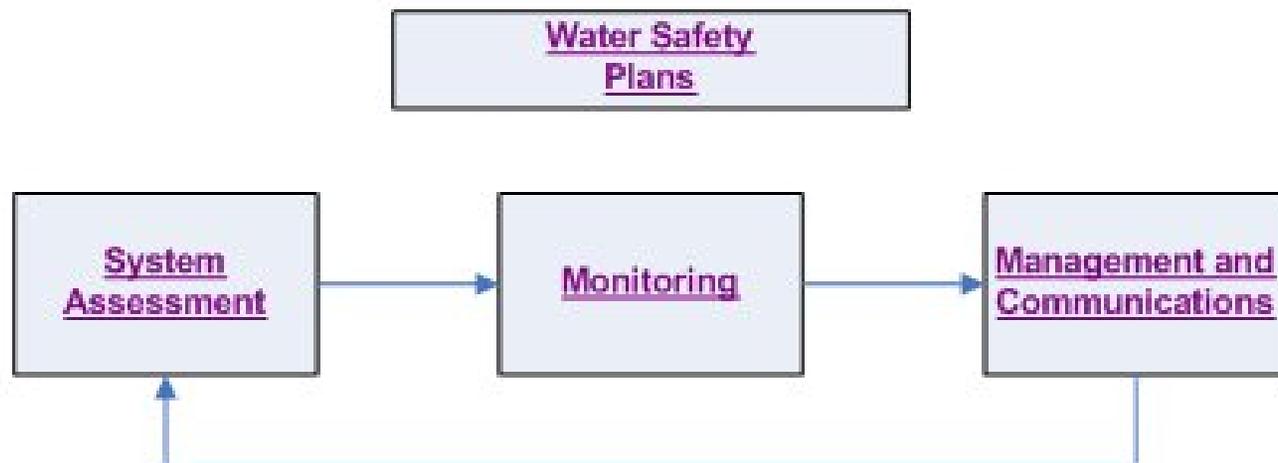
Source: <http://new.unep.org/themes/Freshwater/Documents/pdf/IWRMtargetBrochure.pdf>

# WHO & IWRM

- To assist non-health sectors in understanding and acting on the health impacts of their actions
- WHO's program on water, health and sanitation focuses on the critical interconnections between health and water
  - Water supply, sanitation and hygiene development
  - Water resources subprogram
  - Wastewater use
  - Economic Aspects

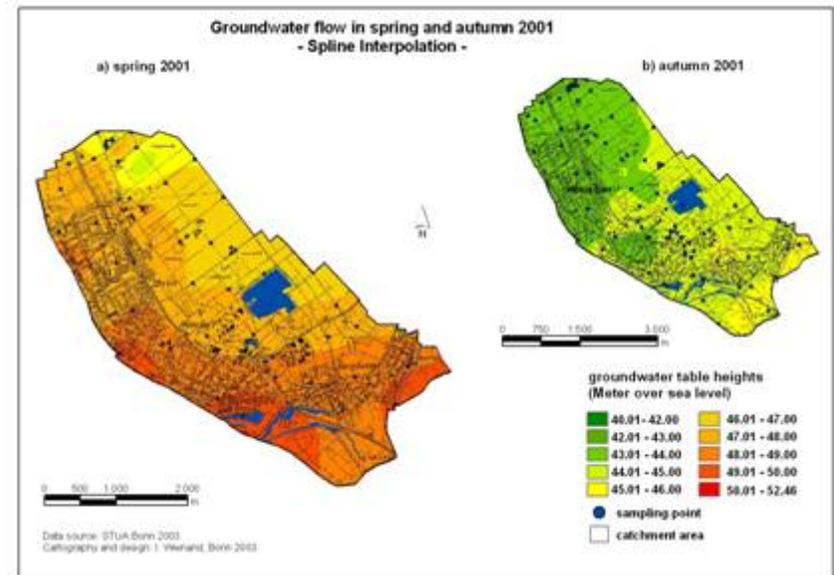
# WHO Water Safety Plan

- WHO Guidelines for Drinking-Water Quality 3rd edition are the basis of the development of Water Safety Plans
- Risk management and risk assessment approach
- Risk: Impact of a hazard and the likelihood of a hazard to occur



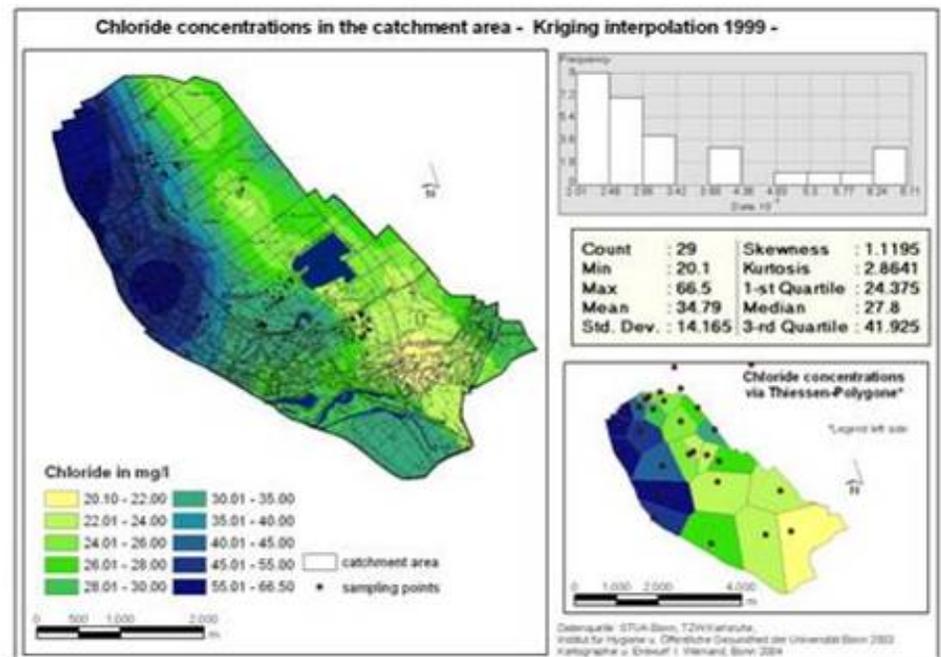
# System assessment

- Assembling the team
- Documenting and describing the system
- Assessing hazards and prioritising risks
- Assessing the system



# Monitoring

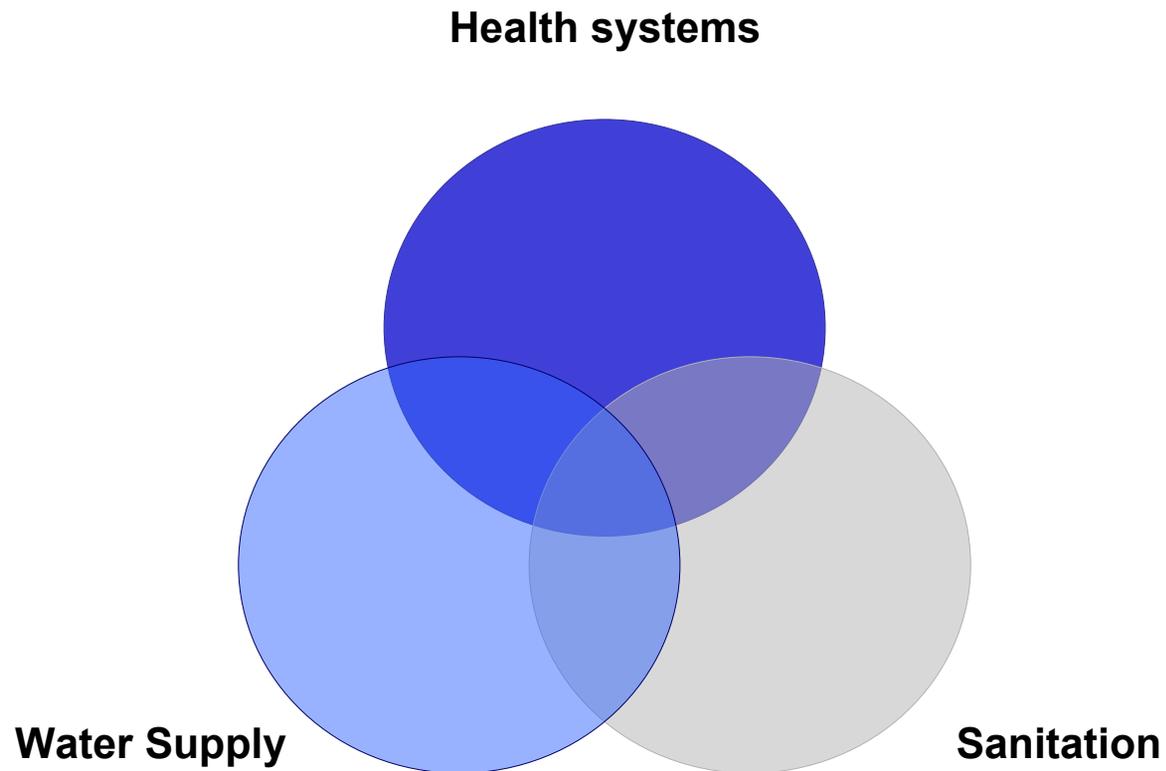
- Identifying control measures
- Monitoring control measures
- Validating effectiveness of WSP



# Management & communications

- Developing supporting programmes
- Preparing management procedures
- Establishing documentation and communication procedures

# Conclusion



# Acknowledgements

- Bruce Gordon, Water, Sanitation, Hygiene and Health, World Health Organization
- Jamie Bartram, Water, Sanitation, Hygiene and Health, World Health Organization
- Clarissa Brocklehurst, Chief of Water, Environment and Sanitation, UNICEF