



Water-related disasters and cities

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Increasing importance of cities

- Half of humanity lives in cities
- In 2050, 75% of the world population will live in cities: almost 7 billion people!
- Cities are growing mainly in developing countries: 5 million people each month
- The development of cities is due to :
 - Growing in urban population (50%)
 - Urban sprawl or extension (25%)
 - Rural exodus (25%)



Increasing threats to water

- **Demographic growth in poor countries**
- **Raising living standards**
- **Agricultural and industrial economic growth**
- **Pollution**
- **Climate evolutions**



Cities coping with water uncertainties

- An increasing number of cities are facing floods, droughts, industrial and agricultural pollution
- 21 biggest megacities –out of 33- are located on the coast, ou
- 1,5 billion people live in areas of water scarcity
- Urban and industrial water use is projected to double by 2050
- Around 50% of the African and Asian population live in slums and poor housing



Main challenges

WATER SCARCITY

50% of the world population will be affected in the long term



DROUGHTS

2nd cause of natural disasters with long lasting impacts



FLOODS

84% total deaths caused by water contamination

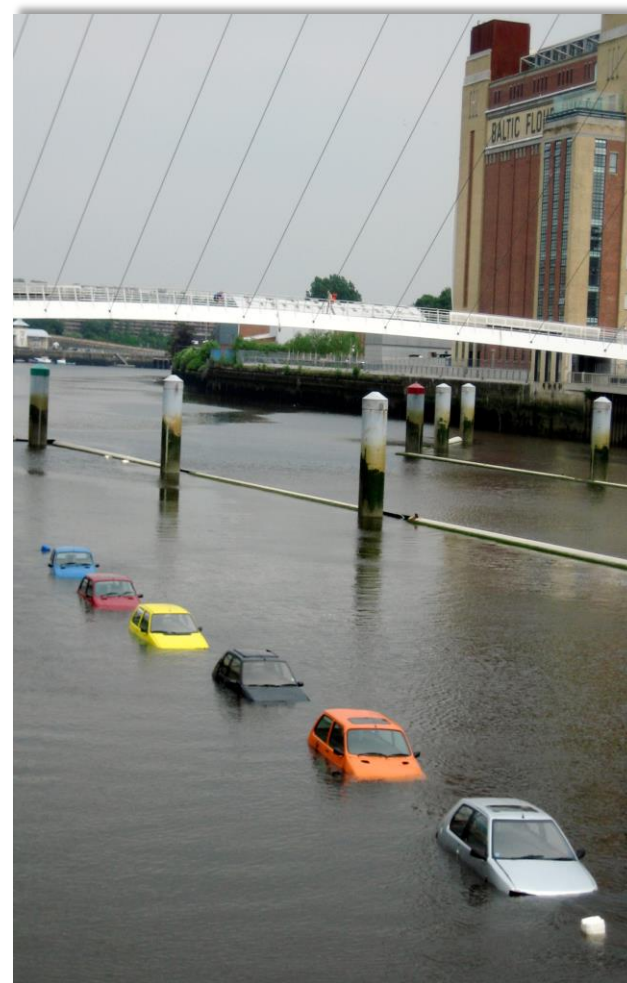


CLIMATE EVOLUTIONS

Future impact on water availability and quality

Which kind of responses?

- **LIVABLE:**
Improve well being and reduce environmental footprint
- **INCLUSIVE:**
Improve social sustainability
- **SMART:**
Catch up on the digital transformation
- **CIRCULAR:**
Optimize resources management
- **RESILIENT:**
Reduce risks and improve adaptability



Cities and Resilience

WHAT IS RESILIENCE?

- From Latin: *resilire* – to spring back, rebound
- Definition: The capacity to recover quickly from difficulties
- From literature: The strength to rebuild without resignation in front of fate or misfortune

WHAT IS A RESILIENT CITY?

- A city that copes with climate evolutions, natural disasters, mass urbanization
- A city that protects its population and secures its economic, cultural and environmental heritage
- A city that reduces the impact of crises and improves its global performance



Solutions for a resilient city coping with disasters

- **Containing urban development on the long term through urban planning**
- **Reducing the water footprint of the cities**
- **Delivering multiple energy sources**
- **Creating spots of urban heat**
- **Forming leaders to risks management**



Some resilient responses to water-related disasters

- **URBANIZATION :**

- **Containing rural exodus**
- **Establishing belts of medium size cities**
- **Elaborating urban risks prevention plans**
- **Promoting adapted constructions**

- **FLOODS :**

- **Controlling water flows within the city**
- **Creating retention basins**
- **Privileging adapted storm drainage systems**
- **By-passing waste water treatment plants, only if needed**



Some resilient responses to water-related disasters



- **DROUGHTS :**

- Increasing the mobilization of surface and groundwater resources
- Securing supply and storage urban systems
- Optimizing the efficiency of water networks

- **IMPLICATION OF THE CITIZENS :**

- Politics: responsible local authorities
- Education: resilience in school programs
- Awareness: good practices for the public at large
- Information: innovative medias and social networks

Resilience vs. water-related disasters



- **The Rockefeller Foundation: 100 Resilient Cities Initiative (100 RC):**
 - Accompanying the cities in the definition and implementation of their strategies of resilience
 - 67 already selected for this program: Mexico city, New Orleans, Rio de Janeiro, Quito, Belgrade, Marseille...
- **Other initiatives: ICLEI's resilient cities program, UNISDR framework in Sendai, Istanbul Water Consensus during the 5th WWF,...**
- **Our Panel on Water and Disasters (HELP) proposes to coordinate the dissemination of good practices and solutions through existing cities and water networks**



OUR RESPONSIBILITY IS TO PREVENT
PERIODIC DISASTERS FROM BECOMING PERMANENT



THANK YOU

worldwatercouncil.org

Sources: UN-Water Decade programme, World Water Council, Veolia (L. Auguste), Water Supply Company of Marseille