

2017 World Water Week
Africa Focus Sessions

Safe drinking water for
all in an era of highly and
continuously polluted
water sources



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Not only there is an increasing concern for rapidly deteriorating supply of water but the quantity of utilizable water is also fast diminishing.

- About 70 percent of Earth is covered in water.
- Only 2.5 percent of Earth's water is fresh, drinkable water, and most of that is trapped in ice at the poles or deep underground.
- That leaves about 0.007 percent of Earth's water available for almost seven billion people to use for drinking, growing food, providing energy, and producing goods.

Water sector is worldwide facing so many issues due to:

- Population growth
- Urbanisation
- Industrialisation
- Increasing and expanding food production
- Climate Change

With consequences such as:

- Shortages
- Drought
- Floods
- Water quality issues
- Expansion of diseases



The use of any resources generates a waste,

Survival and pollution are closely related to each other and go hand in hand.

Water pollution also relates with urbanization, civilization and living standards.



Therefore the population growth and industrialization both lead to increase the level of pollution.

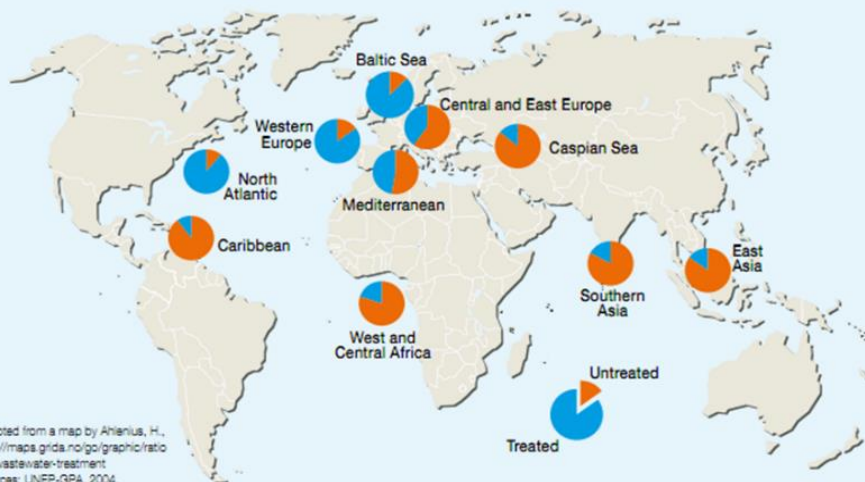
Pollution comes from: Agricultural, industrial and domestic wastewater

- ✓ More than 80% of the sewers in developing countries discharge without treatment, polluting rivers, lakes and coastal areas.
- ✓ Many industries - some known to be highly polluting (such as skin tanning or chemicals) - are moving from high-income countries to emerging market economies.

But most of the world wide pollution is born from the use of clean water from human kind that is released in the nature without treatment: wastewater

- ✓ Every day, 2 million tons of sewage, industrial and agricultural waste are released into the world's water system. (PACIFIC INSTITUTE 2010)
- ✓ Up to 90% of the world's wastewater (domestic, industrial and agricultural) in coastal zones is released untreated (CORCORAN et al. 2010)

Ratio of wastewater treatment



Other factors contribute to the global water pollution

- Industrial waste
- Marine dumping
- Oil pollution
- Radioactive waste
- Underground storage leakages
- Global Warming
- Atmospheric deposition
- Eutrophication

Water Pollution in Africa : the causes

Rapid population increase

Industrial waste directly using water as vehicle or through air pollution

Rapid and unplanned urbanization

Erosion due to deforestation

Non treated Sewage and waste water

Sceptic Tanks mismanagement

Ocean and marine dumping

Lack of real Politics and regulations

Effects and Consequences of water pollution

- Diseases, illness and death especially concerning the children
- Destruction of Ecosystem
- Economic cost for treating water, reducing tourism activities



Mitigating and reducing water pollution and its effects



- ✚ Technical Solutions
- ✚ Societal Solutions
- ✚ Regulatory Solutions

Technical solutions and action to be taken against continuous pollution of water :

The pollution mainly affects the Quality of Drinkable water and measures have to be taken to monitor and control the water quality.

3 technical solutions are proposed through the implementation of AfWA programs

- ✚ **Monitoring for Safe Water (MfSW)** was an action research program that promotes drinking water safety through improved monitoring. 72 institutions (water suppliers and health surveillance agencies) from 10 countries participated in the study. Findings : Drinking water is not sufficiently tested **for microbial contamination in sub-Saharan Africa**. And Water and health agencies must prioritize testing and risk management of small piped supplies and water point sources.



- ✚ **LOB laboratory operators Partnerships (Africap) Reinforcing the capacity of Utilities water quality Laboratories** under a peer to peer scheme.

- ✚ **Sanitation Operators Partnerships (SOP) improve faecal sludge management in cities reducing risks of urban water contamination (RASOP Africa program)** 5 African cities and their private emptiers companies are involved in the program leading to Urban Sanitation master plans, performance improvement plans and at the end of the program proceed with investments such as vacuum trucks and faecal sludge management plants.

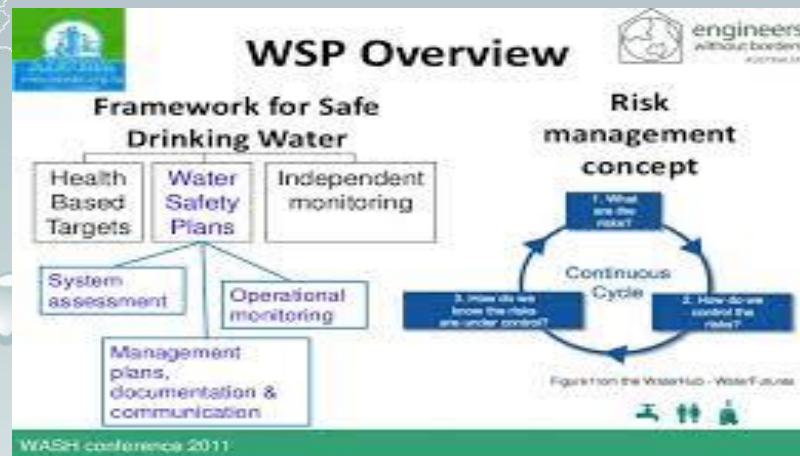


Technical solutions and actions to be taken against continuous pollution of water :Con't

2 technical solutions are proposed

- ✚ **The implementation of Water safety planning (WSP)** processes in water operators operation schemes. It is the most effective means of consistently ensuring the safety of a drinking-water supply is through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer.

- ✚ **Improvement of Recycling of wastewater.** Encourage the Implementation at larger scale in Africa of waste water reuse technologies. Many wastewater reuse technologies are in place worldwide there is a need to identify and prioritize the ones that could suite the African context.



Societal Solutions

- ✓ Education and training of the population on the causes and harms of pollution*
- ✓ Educating the people of Africa on cleaner and safer water practices
- ✓ Reduce waste creation
- ✓ Advocacy for the change of behavior,
- ✓ Improvement of city waste disposal arrangement
- ✓ Promotion of water saving behavior.



Legal and Policy Solutions

- ✓ The polluter pays pollution legislation
- ✓ Reinforcement of Environmental laws in African Countries focus on waste management, water conservation, and land planning
- ✓ Governments can invest in research, and assist with the provision of logistics for industries, farms and businesses to dispose off waste.
- ✓ Laws must be enforced, with very hefty fines and actions for industries that do not comply with water pollution prevention laws.



Conclusion


It seems very difficult to win the war against water pollution, but it is not impossible. Some solutions have been highlighted, Technical, Societal and Policy, one cannot be effective without the other –

Technical Capacity building on WSF, Water Quality, FSM is a must to technically reduce the contact to the water with any kind of waste or sludge

the change of behavior as a societal solution that gives the population to start protecting itself from itself by better managing its own waste.

And regulation through policy makers' law on pollution should be strongly enforced to prevent industries and even citizens to bypass the rules.





Water pollution is nowadays at high risk and can jeopardize the life of our future generation.

We cannot stay inactive