

# Global Storm and Wastewater Initiatives: Past, Present and Future

Keynote and Opening Remarks

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## Global Storm and Wastewater Initiatives: Past, Present and Future

- 1. A hint on the relevance**
- 2. A little of history**
- 3. A scent of Portugal**
- 4. ... a bit of humour**



# A hint on the relevance

Preaching to the priest ... !



## **GWJ SESSION - GLOBAL STORM AND WASTE-WATER INITIATIVES: PAST, PRESENT AND FUTURE**

**Plenary Session** - Auditorium Laginha Serafim

### **Scope**

It is crucial that wastewater management be considered as part of unified, full life-cycle, ecosystem-based water management in today's world of water scarcity. The agricultural, energy and resource potential lost in the lack in wastewater treatment must be recognized, and its deleterious effect on the environment seen around the world needs to be urgently addressed. The need to address the global wastewater challenges has been echoed in the post 2015 Sustainable Development Goal 6: 'Ensure access to water and sanitation for all.'

**Water and sanitation is important, but . . .  
we need to have an integrated view of all uses  
and all values at stake**



**Water**  
*is life*

***Water is many things  
. . . to many different people!  
they are ALL important!  
they ALL must be considered!***



**such as:**



**irrigation**  
**energy**  
**water food link**  
**water energy link**  
**ecosystems services**  
**nature conservation link**

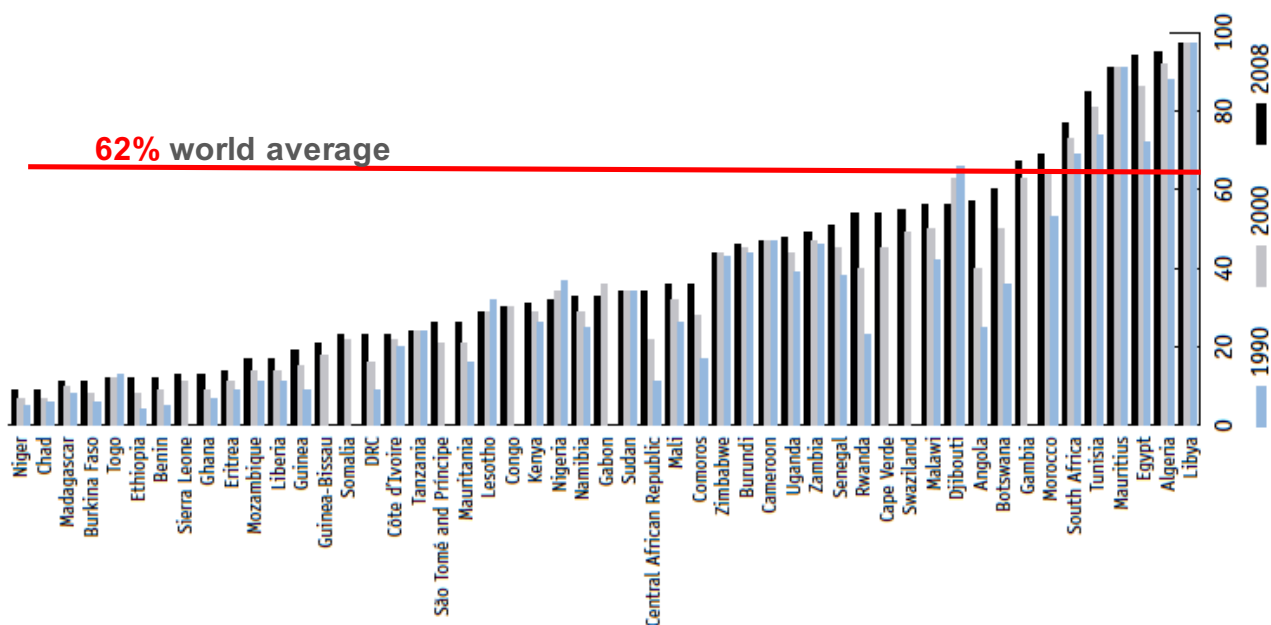
**and, of course,**

**water supply and  
sewage treatment  
hygiene link**

***Water is a common  
thread of environment  
and development***

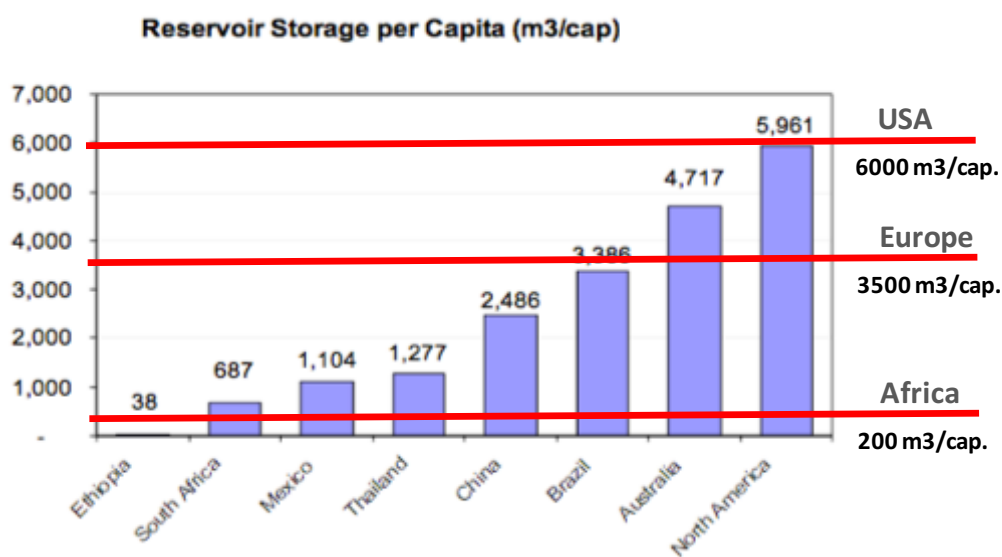
***An integrated approach  
is always required !***

To progress we need to give serious attention to both **infrastructure and governance**



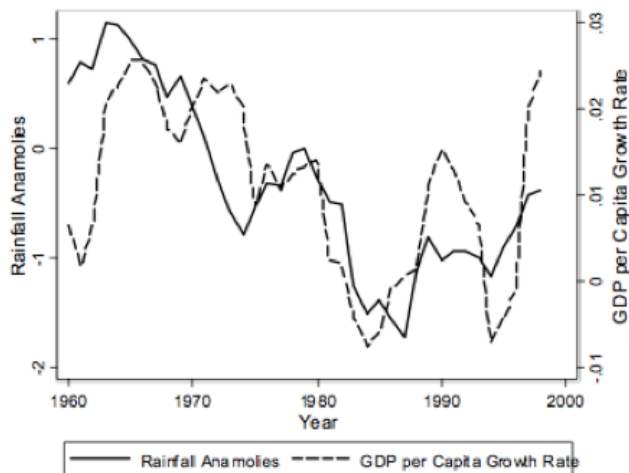
Percentage of population with improved sanitation in Africa  
Only 8 countries in 51 equal to or above the world average !

To progress we need to give serious attention to both **infrastructure and governance**

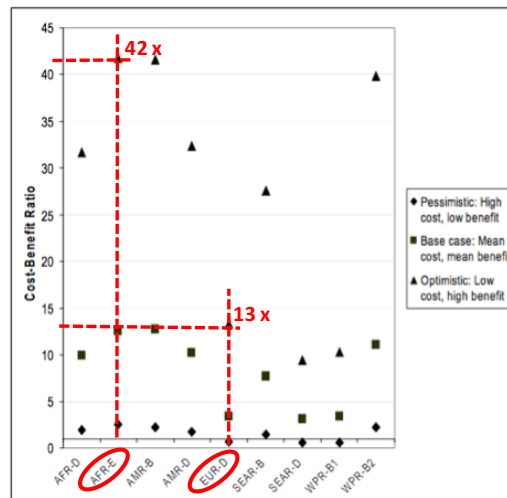


Africa has very little water storage capacity

## To progress we need to give serious attention to both infrastructure and governance



Precipitation as a tremendous impact on GDP per capita – **lack of infrastructure !**



Benefit-cost ratio of investing in water and sanitation – up to 13 in Europe, up to 42 in Africa !

**It is certainly one of the best investments that a society can make !**

## Sustainable Development Goals

### Agenda for 2030



# Sustainable Development Goals

## Agenda for 2030



...  
...  
...

6.2. By 2030, achieve access to adequate and equitable sanitation and hygiene for all

## Goal 6. Ensure availability and sustainable management of water and sanitation for all

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and increasing recycling and safe reuse by [x] per cent globally

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 By 2030, implement integrated water resources management at all levels, including through trans-boundary cooperation as appropriate

6.6 By 2030, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes



**Explicit references to water:**

- 3.3 ... combat water-borne diseases ...
- 3.9 ... reduce the number of deaths and illnesses from water pollution ...
- 11.5 ... reduce the number of deaths caused by water related disasters. . .
- 12.4 ... reduce the release to water of chemicals and all wastes ...
- 15.1 ... ensure sustainable use of terrestrial and inland freshwater ecosystems ...
- 15.8 ... reduce the number of deaths caused by water related disasters. . .

**Water directly is relevant for other goals: 1, 2, 5, 7, 13, 14, 16, 17 ... may be all !!!**

## We are at the dawn of a new era in what concerns water and sanitation !



**The General Assembly of the United Nations**

***“Recognizes the right to safe and clean drinking water and sanitation as a **human right** that is essential for the full enjoyment of life and all human rights”***

**28 July 2010 : Resolution 64/292**



This is a “revolution”, a true civilizational step:

# Water and Sanitation for All !!!



## A little of history

Who invented the toilet?





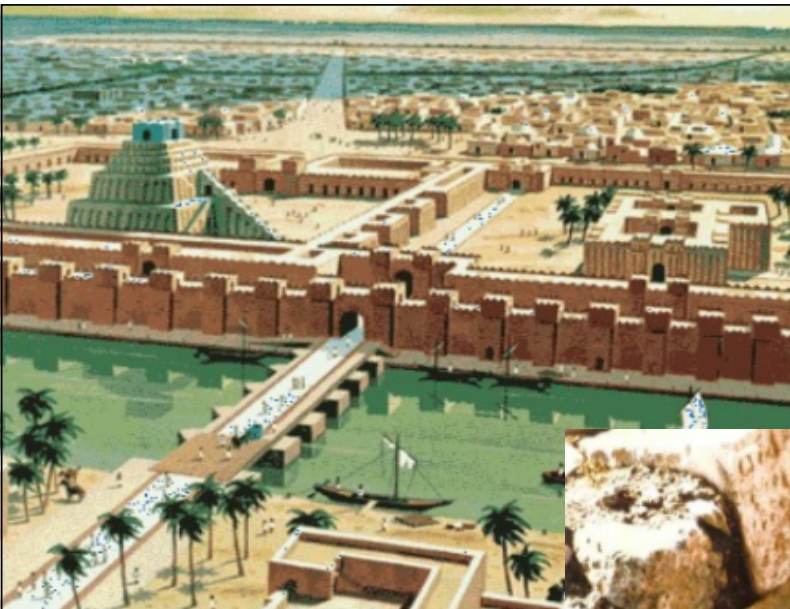
For many centuries, these were the “procedures”

For the poor:

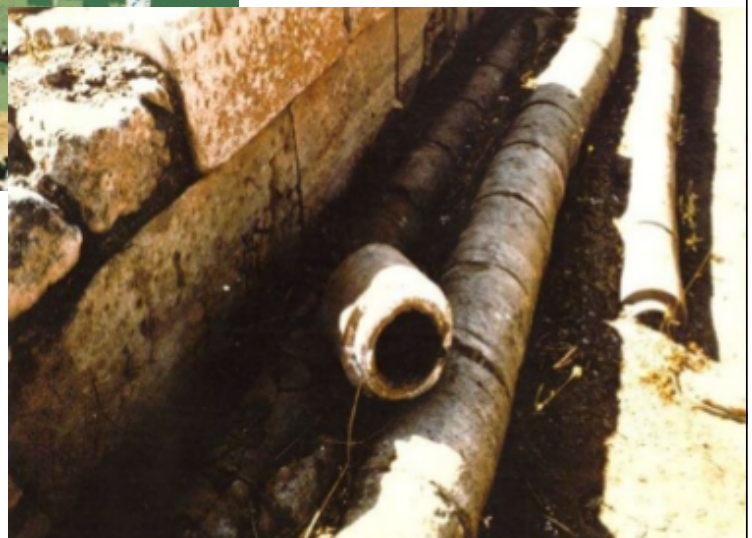
For the not so poor:



We have come  
a long way, indeed !



Sewers  
in  
Babylon



3750 B.C. !



## Sewers in Harappa (Indus Valley)

**2600-1900  
B.C. !**

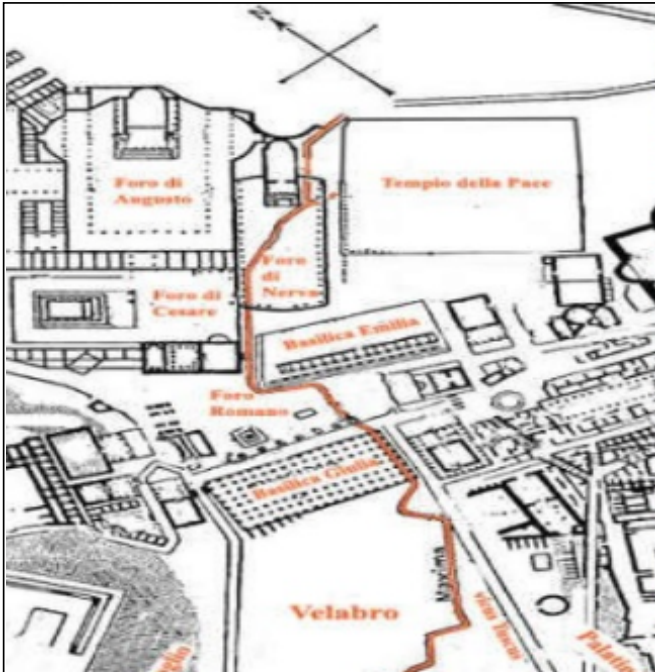


## Sewer in Knossos palace (Crete)

**1<sup>st</sup> in Europe**

**1700 B.C.**





## ***Cloaca Maxima*** **(Rome)**



**600 B.C.**

## **Public Toilet in Efeso, Turkey** **(Roman Empire, 100 b.c.)**



**In Rome, in 315 A.D.**  
**there were 144 public toilets !**

*(Source of 6 previous slides: Sonia R. Buff, 2010 – Saneamento Básico – Como Tudo Começou, Elo Ambiental, São Paulo, Brasil)*

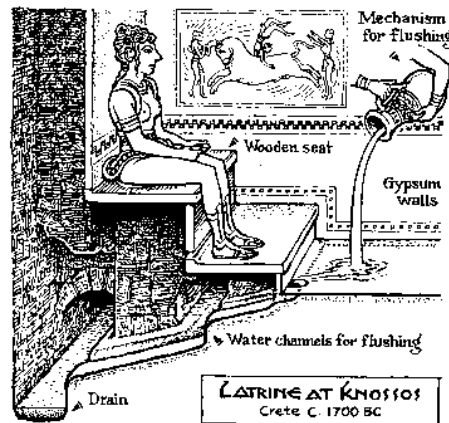
## “Modern” times:

1596 – John Harrington invented the toilet ... a poet !!!



... a godson  
of Queen Elizabeth I

... or maybe  
he simply reinvented it!  
(Knossos, 1700 B.C.)



## “Modern” times:

1668 – All houses in Paris are required to have toilets

1824 – First public bath in Paris

1883 – First toilet in ceramics made for Queen Victoria

1889 – Sewage is treated for the first time in the world

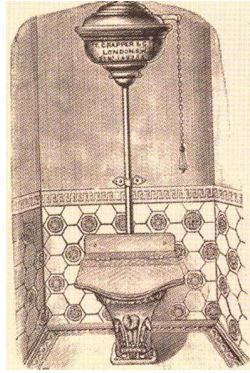
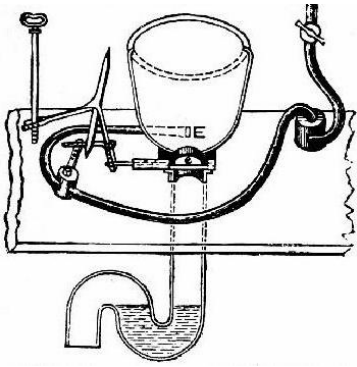
**Throughout the ages and all over the world sanitation was a privilege of affluent people in urban areas.**

**Only a few decades ago the idea of expanding water and sanitation services to rural areas and poor people started doing its way.**

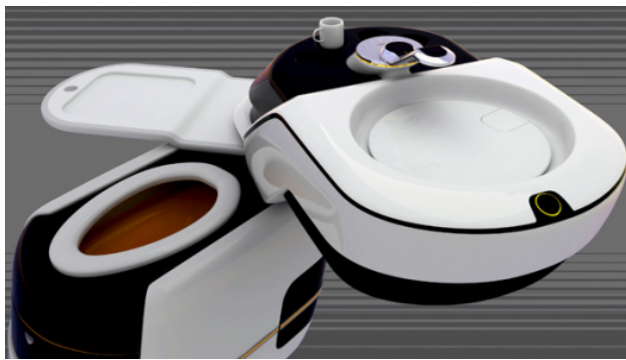
This is why UN Resolution 64/292, 2010, is so important:

**Water and sanitation FOR ALL !**

**Yes, we have come a long way !**



**Google search: "space-age toilet"**



**A scent of Portugal**

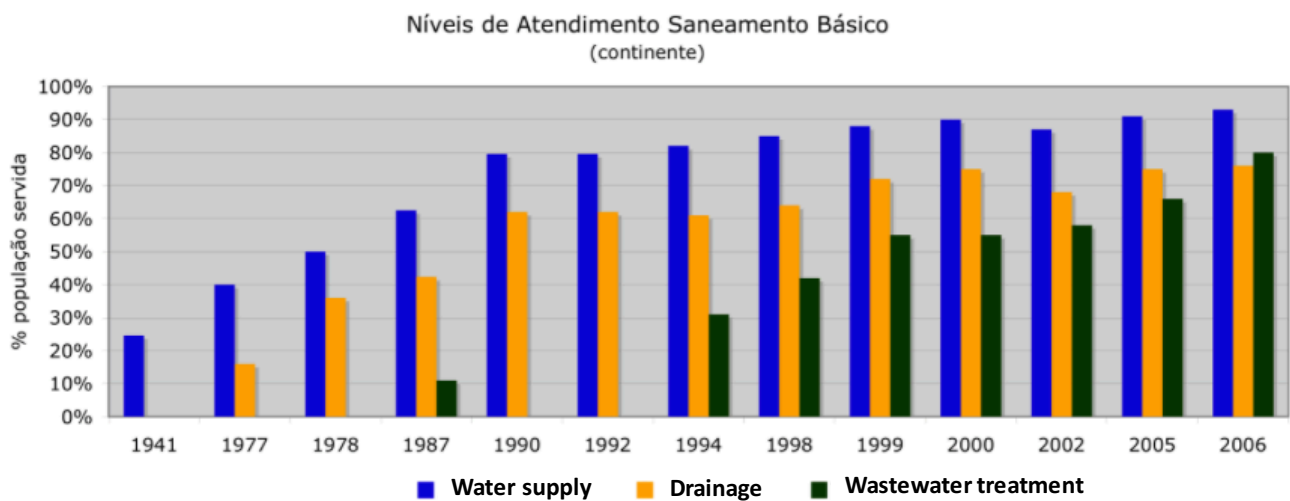
**We've come a long way!**



## Portugal has come a long way as well !

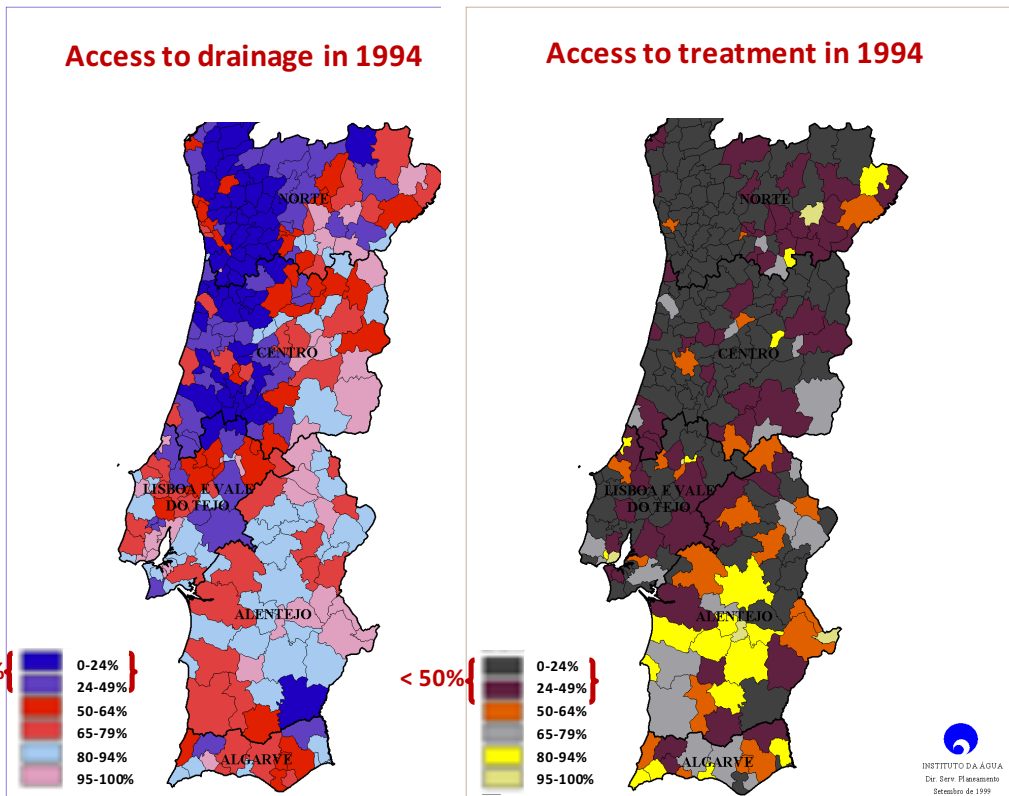


Downtown Lisbon 1939

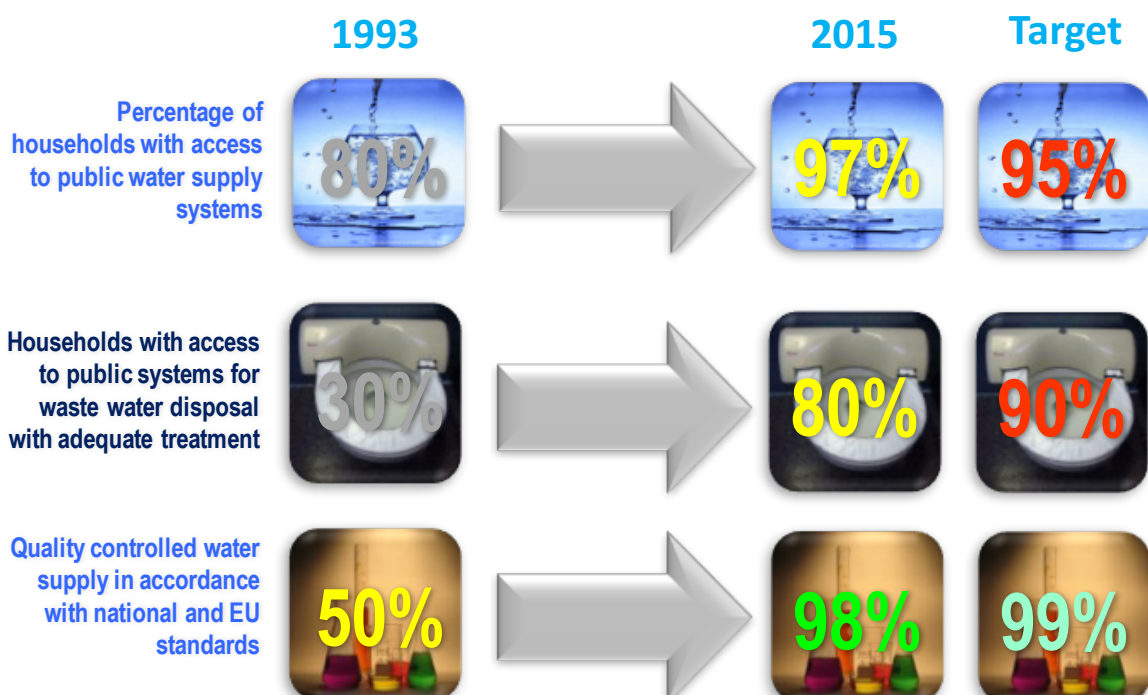


(Source: Pato, J., 2008 – Artificializing waters - the consequences of a late modernity in Portugal)

## A very poor baseline 20 years ago...

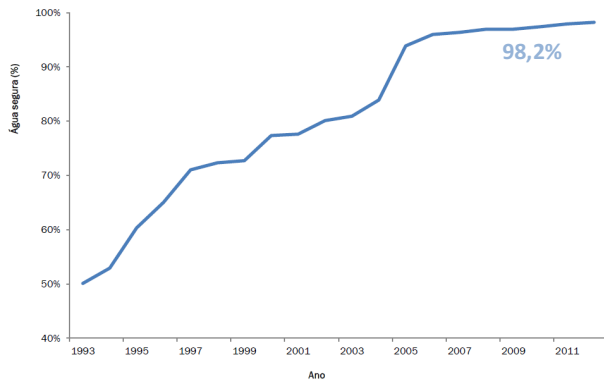


## Evolution from 1993 to 2015 of the Public Supply of Water and Wastewater

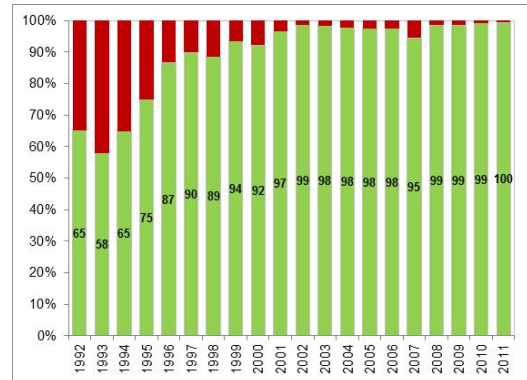


## Evolution from 1993 to 2015 of the Public Supply of Water and Wastewater

Safe Drinking Water (%)



Bathing water quality (%)



**A boom in attendance and quality of service!!!**

***“The Portuguese miracle...”***

***Paul Reiter, Former Executive Director of IWA***

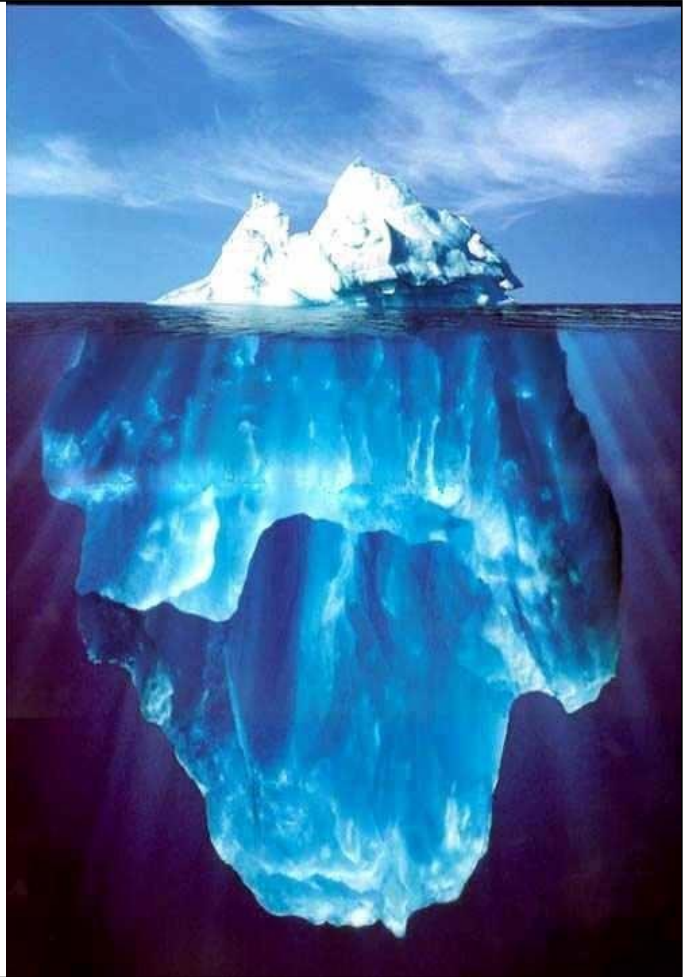
**... a bit of humour**

**... and why not?**



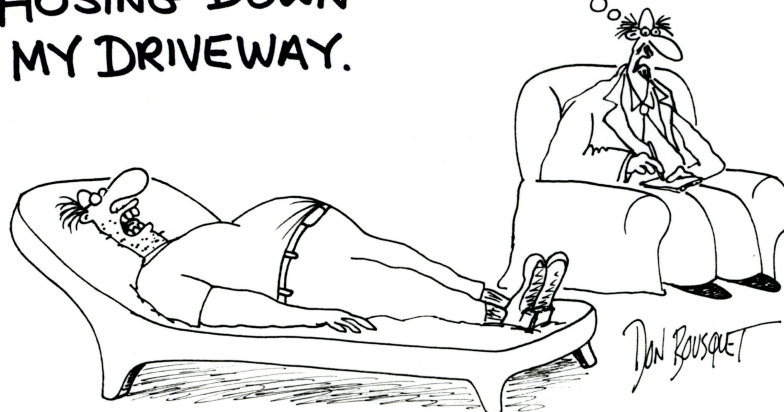


**We often see nothing  
but the tip of the  
iceberg . . .**



**I OVER FERTILIZE  
MY LAWN AND  
I ENJOY  
HOSING DOWN  
MY DRIVEWAY.**

**THIS GUY'S  
DANGEROUS!**



**Habits and gestures of everyday life count !**

Please never forget that  
*water and wastewater management  
is an animal that walks on two legs:*

Rhino by: Leo Reynolds <http://www.flickr.com/photos/lwrf/6321351179/>



***infrastructure & governance !***

*(John Briscoe, 2011 MAKING REFORM HAPPEN IN WATER POLICY: Reflections from a practitioner)*

We have learned a few thing from the past



**A good water and wastewater policy  
is not a “watered down” water policy**

**We need affirmative action at all levels!**

But... we also need to keep our feet well on the ground !



תודה  
Dankie Gracias  
Спасибо شکرًا  
Merci Takk  
Köszönjük Terima kasih  
Grazie Dziękujemy Děkojame  
Ďakujeme Vielen Dank Paldies  
Kiitos Täname teid 谢谢  
**Thank You** Tak  
感謝您 Obrigado Teşekkür Ederiz  
감사합니다  
Σας ευχαριστούμε ඔබට  
Bedankt Děkuje vám  
ありがとうございます  
Tack