



Facts and Figures about Water

- **3 hours** on average per day is spent by girls and women to collect water from distant sources (Source: WTN 2007)
- **25%** of the human population remains does not have proper access to water and sanitation (Source: WHO)
- **42%** of the world's population does not have access to improved sanitation facilities (Source: UN)
- **42%** of households in 2002 had no toilets, and one in six people had no access to safe water. (Source: UNICEF)
- **45%** is the proportion of people living in countries chronically short of water by 2050
- **64%** of the population can't access hygienic sanitation in Sub-Saharan Africa. (Source: UNICEF)
- **66%** in Latin America and the Caribbean have access to piped water through household connections. 49% in Asia, 24% in Africa (Source: UN)
- **97.25%** of the earth's water is not drinkable. (Source: The Economist)
- **260 000** additional people need to gain access to improved water sources and an additional 370 000 people should gain access to improved sanitation in order to meet the water supply and sanitation target (WHO 2004, Facts and Figures).
- **1.1billion** people lack access to safe drinking water according to the UN
- **2.6 billion** people lack toilets and other forms of improved sanitation. (Source: Millennium Development Report 2005)
- **5%** of GDP in Africa is lost annually due to illness and death caused by dirty water and poor sanitation
- **20%** of children in poor countries do not reach the age of 5 because of infectious diseases provoked by poor water quality. (Source: UNESCO)
- **39%** reduction in diarrhoea episodes can be achieved through improving household drinking water (Source: UNICEF)
- **50%** of developing world's hospital beds are occupied by parents suffering from water-related diseases at any one time (Source: UN)
- **65%** of deaths cause by diarrhoeal diseases can be reduced by the integrated approach of providing water, sanitation and hygiene.
- **80%** of health problems are linked to inadequate water and sanitation
- **90%** of deaths from diarrhoeal diseases is due to unsafe water an sanitation in the developing world occur in children below 5 years old (Source: UNICEF)
- **90%** of water-related diseases are due to unsafe water supply, sanitation, and hygiene, and is mostly concentrated on children in developing countries. (Source: WHO)
- **3900** children die every day from water borne diseases (WHO, 2004)

- **1.8 million** people die every year from diarrhoeal diseases including 90% of children under 5
- **5 million** people die each year due to inadequate water and sanitation, of which 1.8 million are children
- **900 million** people worldwide remain undernourished
- **Over the past 10 years**, diarrhoea has killed more children than all those lost to armed conflict in almost 60 years since Second World War. (Source: WHO)
- **0.3%** of global GDP is invested in sanitation
- **US\$1** invested in sanitation can save between US\$3-34 in medical costs, lost productivity and saved time.
- **6 times** the amount of renewable water resources was used while the world population tripled during the 20th century. (Source: World Water Council)
- **10 litres** of water is used by the average person in the developing world for drinking, washing and cooking (Source: WSSCC).
- **20 to 50 litres** of water per day is needed to ensure our basic needs (Source: UNESCO)
- **30 to 50 times** as much water is consumed by a child in the developed world than on in the developing world (Source: UNESCO)
- **200 litres** of water is used everyday by the average European (Source: WaterAid)
- **400 litres** of water is used everyday by the average North American (Source: WaterAid)
- **US\$11.3 billion** would be the cost to meet the MDG targets on water and sanitation.
- By 2030, the demand for food crops in developing countries will have increased by **67%**, further straining already over-tapped water resources
- **70%** of the world's water consumption is in agriculture (Source: UNEP)
- **1000 litres** of water is needed to produce 1kg of wheat
- **1400 litres** of water is needed to produce 1kg of rice
- **13000 litres** of water is needed to produce 1kg of beef



MAKING THE CASE

FACT SHEETS AND CASE STUDIES

Right to Water and Sanitation

Case Study : South Africa

Transboundary Water Security

Case Study : The European Water Framework Directive

Water for Health

Case Study : Bangladesh

Water, Food and Energy

Case Study : Brazil

Marseilles

Case Study : From Longchamps (1862) to Géolide (2004)



FACT SHEET

Right to Water and Sanitation

- Over 1.1 billion individuals lack access to a basic supply of safe water
- Over 2.6 billion people lack access to basic sanitation
- About 10,000 people die each day due to diseases caused by lack of clean water and sanitation.
- Every day, at least 5,000 children under the age of five die due to diarrhoea, a disease directly related to poor sanitation.
- As outlined in the General Comment No. 15 (2002) and the Sub-Commission Guidelines, the right to water and sanitation includes the following:
 - **Sufficient water:** Water supply for each person that is sufficient and continuous for personal and domestic uses
 - **Clean water:** Safe water that, in particular, is free from hazardous substances that could endanger human health, and whose colour, odour and taste are acceptable to users;
 - **Accessible water and sanitation:** Water and water and sanitation services and facilities that are accessible within, or in the immediate vicinity, of each household, educational institution and workplace, and which are in a secure location and address the needs of different groups, in particular threats to the physical security of women collecting water.
 - **Affordable water and sanitation:** Both the direct and indirect costs of securing water and sanitation should not reduce any person's capacity to acquire other essential goods and services, including food, housing, health services and education.
- The right to water and sanitation is implicitly included in a range of international human rights treaties (Convention on the Elimination of All Forms of Discrimination against Women, Convention on the Rights of the Child, Convention on the Rights of Persons with Disabilities, the Geneva Conventions and the International Covenant on Economic, Social and Cultural Rights).

- Virtually all states have recognized the right to water and sanitation in at least two political declarations:
 - 1/ the Programme of action of the 1994 Cairo conference on Population and Development and the Habitat Agenda, endorsed respectively by 177 and 171 States recognize that the right to an adequate standard of living encompasses access to both water and sanitation.
 - 2/ In December 2007 at the 1st Asia-Pacific Water Summit, 37 countries from the region endorsed the “Message from Beppu”, which recognizes “the people’s right to safe drinking water and basic sanitation as a basic human right”.
- More than 30 countries already recognized the right to water in their national legislation, including France in 2006.
- Eight countries specifically recognize the right to sanitation in their Constitution, national legislation or in their sanitation policies: Uruguay, South Africa, Honduras, Bolivia, Algeria, Bangladesh, Kenya and Sri Lanka.
- The lack of access to basic levels of water and sanitation is primarily due to exclusion and neglect of the poor and not, as commonly assumed, lack of sufficient water resources or lack of technical solutions.
- According to recent estimates, diseases and productivity losses related to unclean water and poor sanitation cost the countries in Sub-Saharan Africa 5% of GDP or \$28.4 billion per year, a figure that exceeded total aid flow and debt relief into the region in 2003.
- It is estimated that achieving universal access using lowest-cost sustainable technologies would require investments of approximately \$20 billion per year - allowing the current trend to continue would thus cost roughly nine times more than resolving it. The amount of \$20 billion equals less than one week of global military spending (at \$1.2 trillion in 2006).
- The annual cost of providing every human being with access to clean water and a decent toilet would be less than what Europeans and Americans spend on either ice-cream or household pets every year.
- Recent research by the World Health Organisation suggests that every \$1 spent on water and sanitation would bring an economic return of between \$3 and \$34. On average, every dollar invested in the sector is estimated to create \$8 in costs averted and productivity gained.



CASE STUDY

SOUTH AFRICA

Right to water and sanitation

The Challenge

- How to implement the right to water and sanitation enshrined in their Constitution (1996)
- Resulting from fifty years of apartheid, severe inequalities between black and white communities exist in terms of access to water and sanitation services. By 2000, only 27% of black households had running water, compared to 96% of white households.
- In 2000, over 12 million people did not have access to drinking water and 18 million people lacked adequate sanitation.
- National scarcity of fresh water resources which increased competition among users

Quest: How to implement the right to water and sanitation in a developing country context.

Solutions

- South Africa has adopted a progressive law and policy framework for water and sanitation, predicated on the constitutional recognition of the right of access to water and, implicitly, sanitation.
- The primary target of the policy is fair and equitable access to water and sanitation.
- Each household receives an amount of water per month deemed necessary for basic needs. Above this basic amount, rates paid for water are adjusted according to the use of water and the user's socio-economic status. Prices rise as more water is withdrawn, with especially steep tariffs applied to luxury water use, large landowners and industry.
- Ensure public participation in planning of water and sanitation services
- Funding from national government to local government for the implementation of certain policies. Further funding is provided to local government through the Municipal Infrastructure Grant (MIG) to enable municipalities to extend basic services, including water and sanitation, to all residents.

Targets

- Although backlogs in water and sanitation services were supposed to have been eradicated by 2008 and 2010 respectively, a 2008 Cabinet decision aligned the provision of universal access to water and sanitation with the provision of housing and other basic services. The new target of ensuring universal access to basic services and housing is 2014.
- The target set for 2008/09 financial year was to serve 1.08 million people with basic water supply and 1.1 million people with basic sanitation. During the year under review, basic water supply was provided by local government to a further 1.01 million people and 1.35 million people received access to basic sanitation services.
- December 2007 was declared as a national target for the eradication of the bucket system in established settlements.

Impact

- South Africa has been at the forefront in implementing the right to water and sanitation.
- Currently, 85.6% of the total South African population enjoy access to basic water services
- Presently, 86% of the poor population are benefiting from this service.
- Access to basic water services has increased from 59 % in April 1994 to 96 % at the end of March 2009.
- Similarly, access to basic sanitation services increased from 49 % to 76 %
- Increase and improvement data collection and publication
- More participatory process (public participation)

Partners involved

- Department of Water Affairs (DWA)
- Local Governments
- Citizens

More information

www.dwa.gov.za ; www.cohre.org



FACT SHEET

Transboundary Water Security

- Some 263 international river basins exist worldwide and cover about 45% of the land surface of the Earth (with the exclusion of Antarctica); a further 265 aquifers cross the political boundaries of two or more countries; international basins account for some 80% of global river flow
- A river basin is defined as the land area where all surface waters drain into a particular river (this is commonly called a watershed (in the US) or catchment)
- Many international river basins are as possible conflict flashpoints as demand for scarce water increases. This has led to speculation that the next war in the Middle East will be about water, not oil.
- As recent experience on the Nile basin has shown, cooperation moves are often stronger than conflict. Nevertheless, entrenched positions and the 'historic' rights claimed by some states involve complex negotiations and to get all states that share a transboundary resource to agree new institutional and legal arrangements can take years, if not decades.
- Achieving greater water cooperation is becoming a global quest at the highest political levels – recent evidence includes the US Government's stated position on water conflict resolution in Secretary of State Clinton's speech on World Water Day 2010: 'We should view every regional watershed or aquifer as an opportunity for stronger international cooperation.' See <http://www.state.gov/secretary/rm/2010/03/138737.htm>
- Further examples of cooperation within shared river basins can be found at: <http://www.transboundarywaters.orst.edu/database/>

International rivers

- The three largest river basins by area are the Amazon, Congo and Mississippi; the three that drain the largest volume of water are the Amazon, Congo and Ganges (the Nile's flow is approximately one tenth of the Congo's although the Nile is often referred to as the longest river in the world)
- In Europe major river basins include the Danube and Rhine: The Danube is regarded as the most international river basin in the world, with 18 riparian countries and a population of some 82 million people living within the basin itself

- The Rhine river is some 1,320 kms long and an example of a transboundary river that has undergone massive quality improvements since the 1980s, in part the result of the European WFD being implemented. It has underscored what can be achieved through a quest for collective action among riparian countries, combining both government, civil society and the private sector.
- Between 1955 and 1980 the river suffered from major pollution as a result of heavy industrial development along its course. More recently concerns about flooding have increased as some 85% of the river's natural floodplains have been lost. In 1998 the conference on the Rhine adopted a 20-year plan – Rhine 2020 – to counter flood risk.
- Much of the international quest to improve the transboundary governance of international rivers is based on the principle of 'equitable utilisation'. This is enshrined in the 1997 UN Treaty on Non-navigational uses of watercourses and has become the international watchword for cooperation. See <http://untreaty.un.org/cod/avl/ha/clnuiw/clnuiw.html>
- At the same time there is a growing realization that greater emphasis needs to be placed on sharing the benefits from international rivers and not simply the resource. These concepts of benefit sharing are being used to marry together the economic development challenges in shared river basins with the cooperation arrangements that are emerging amongst riparian states. See <http://www.odi.org.uk/resources/download/1929.pdf>
- However, linking more effectively economic and social development with river basin management remains a quest yet to be completed – this is the task ahead for an increasingly globally aware and interconnected water community.

More information

- http://maps.grida.no/go/graphic/major_river_basins_of_the_world
- http://maps.grida.no/go/graphic/major_river_basins_of_the_world
- <http://72.26.206.151/gef/node/1294>
- http://www.unep.org/dewa/giwa/giwafact/giwa_in_brief_fr.asp



CASE STUDY

Transboundary Water Security

European Water Framework Directive

The Challenge

- During the first wave of legislation on water in the 1970s as environmental issues came to the fore in Europe, water quality targets and abstraction standards were set, including bathing waters and groundwaters.
- This was in part in response to 'bottom-up' demand from Europe's increasingly environmentally conscious population, and also existing problems of poor water quality in many lakes and river systems in particular.
- This led to a broad consultation process to which the citizens and citizens groups had a central role, culminating in a two-day Water Conference in May 1996. More than 250 participants included states members, regional and local authorities, water providers, farming lobbies, environmentalist and consumer groups.
- This broad consultation led to the conclusion that the existing situation was one of fragmentation of policy approaches and the need for a single item of legislation, as a response to which the Directive was proposed.

Solutions

- The European Water Framework Directive was designed to include the following aspects in response to the increasing realisation that water should be managed more coherently, within hydrological units.
- It expanded water protection to all surface and groundwaters.
- It set a deadline by which to achieve 'good status' for all waters.
- Water management became river-basin based and a 'combined approach' was taken under which emission limits and quality standards were set.
- Citizens' involvement was enhanced and the pricing of water was accorded more attention.
- The WFD came into force in 2000 and was implemented from December 2003 onwards.
- Over six-year planning cycles, states are required to produce key documents, most important amongst which are River Basin Management Plans, to be published in 2009, 2015 and 2021. Drafts are published for consultation a year in advance.

- At the level of interstate cooperation, examples from the Maas, Schelde and Rhine have served as positive examples, with joint objectives set across state borders (and in the Rhine example with non-EU states too).

Partners involved

- States, the European Commission, citizens and citizens' groups
- Belief in balancing of interests and in ensuring that economic analysis is open to scrutiny by those affected

Outcome

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:NOT>

More information

http://ec.europa.eu/environment/water/water-framework/index_en.html

<http://www.euwfd.com/>

<http://www.wfduk.org/>



FACT SHEET

Water for Health

- Inadequate water, sanitation and hygiene continue to pose a major threat to human health. These risk factors contribute to millions of unnecessary deaths each year, including 1.8 million diarrhoeal related deaths in children less than 5 years of age.
- 860,000 children under the age of 5 die each year as an indirect or direct result of malnutrition caused by lack of sufficient water, sanitation and hygiene.
- 2.6 billion people or 39% of the world's population live without access to improved sanitation. The vast majority lives in Asia and sub-Saharan Africa in extreme conditions of poverty. They are normally peri-urban dwellers or rural inhabitants.
- In the developed regions almost the entire population (99 %) used improved facilities as compared to 52 % in developing regions.
- Access to a toilet alone can reduce child diarrhoeal deaths by over 30%, and hand-washing by more than 40%.
- The MDG sanitation target is to "halve, by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation."
- At current rates of progress the world will miss the MDG target by almost 1 billion people.
- However, the MDG target is not the end of the sanitation challenge. Even if the target is met, some 1.7 billion people will still not have access to improved sanitation facilities.
- Meeting the global sanitation goal would cost about US\$ 10 billion per year, but yield nearly US\$200 billion in yearly benefits (by saving time, by reducing health costs, by increasing returns on investment in education)
- If we meet the target, people and governments will save more than US\$ 500 million in direct health treatment costs and get back more than 3 billion working days that are now lost to sanitation-related illness.
- Meeting the target would also slash the number of premature deaths, benefits that can be valued at a total of US\$1.7 billion.
- In Sub-Saharan Africa, treating diarrhoea consumes an estimated 12 % of national health budgets, and half the hospital beds are occupied by people with sanitation-related diseases.
- Improved sanitation in developing countries yields about US\$9 worth of benefits for every US\$1 spent.

- The link between sanitation to health is not just theoretical. A recent city-wide sanitation drive in Salvador, Brazil resulted in 43% fall in the prevalence of diarrhoea in the poorest areas of the city.

More information

www.who.int/water_sanitation_health/dwq/en/

www.sanitation2008.org

www.wsp.org



CASE STUDY

BANGLADESH

Water for Health

The Challenge

- Most people lacked a clear understanding of the link between faeces in the environment and the transmission of pathogens to the water and food they consumed.
- Latrines were not seen as necessities, but rather as prestigious and expensive consumption items.
- Many men actually preferred defecating in the open to using latrines
- Change people's attitudes and behaviour towards hygiene

Quest: To put an end to open defecation

Road blocks

- The Government is centralised and functions in a top-down and supply-driven manner
- Fixed latrine models are too expensive for the poorest people and in many geophysical areas prove non-user friendly
- Lack of tenure rights, particularly for slum dwellers, mean poor people have no right to build latrines where they live
- Women's specific sanitation-related needs are unrecognised by the community
- Cultural taboos and embarrassment hinder open discussion

Target

The Government of Bangladesh has set itself the target of achieving 100% sanitation by 2010, five years ahead of the MDG target.

Solutions

- Community Led Total Sanitation (CLTS) approach (which is a 'Whole community' approach)
- Raising awareness, Health and hygiene education
- Social mobilization for creating demand
- People's skills, abilities and knowledge are valued

- 0% subsidy for latrine construction
- Use of participatory research tools to analyse the problems
- Formation of Village Development Committees - local engineering groups
- Identification of potential community leaders and involve them as community 'catalysts'
- Mobilisation of local resources
- Involvement of local government

Impact

- After CLTS was implemented, feedback indicates a 70% reduction of diarrhoea among male respondents and a 50% reduction among female respondents.
- In Bangladesh, the percentage of population practicing open defecation fell from 33% in 1990 to 7% in 2008.
- Bangladesh has made some progress in increasing access to improved sanitation from 39% in 1990 to 53% in 2008. Sanitation achievements are continuing in the rural areas in more or less every district in Bangladesh. The more pressing problem is now the poor urban slums and settlements which are lagging behind.
- A cultural shift from 'top down' to 'bottom up' approaches has happened at community level
- The Government has adopted a National Strategy for Sanitation based on the demand-responsive approach and launched a National Programme on sanitation in 2003.
- The CLTS approach has been spread with success to neighbouring India and then subsequently to Indonesia and parts of Africa. Today CLTS is in more than 20 countries in Asia, Africa, Latin America and the Middle East.

Partners involved

- Community
- NGOs
- Local government
- National government

The CLTS approach was first developed in Bangladesh in 1999 by Dr Kamal Kar, a consultant working with Village Education Resource Centre (VERC) and supported by WaterAid. Since then the approach has spread rapidly, being taken up by several other NGOs as well as donor supported government programmes.

Amongst others, some of the major actors promoting CLTS in Bangladesh are [Plan Bangladesh](#) & their partner organisations, [WaterAid](#) & their partners, some programmes of CARE, [Dhaka Ahsania Mission \(Dishari\)](#) and [World Vision](#).

More information

- <http://www.communityledtotalsanitation.org/>
- “Shifting Millions from Open Defecation to Hygienic Practices” Ms Rokeya Ahmed, Poverty & Equity Adviser, WaterAid Bangladesh (2006)
- WHO, UNICEF (2010) Progress on Sanitation and Drinking-Water: 2010 Update



FACT SHEET

Water, Food and Energy

- The world's population has more than doubled since the mid-20th Century
- Per capita food consumption has risen by 30%
- In recent months there have been predictions of a 'perfect storm' of water, food and energy problems by 2030, resulting from a surging demand driven by population growth and rising levels of per capita consumption.
- Particular problems are anticipated in Africa where the population will double by 2050. Energy demand is expected to double by 2030 and the anticipated cereal bill for low income countries as a whole will have tripled by this year.
- Agriculture remains the largest consumer of the resource, accounting for some 70% of all freshwater use
- Water loss in agriculture is estimated to be between 30-70%
- Agriculture forms the basis for many African economies, providing some third of GDP and employing 70% of the work force in most countries. However, biomass fuels provide much of the rural population's energy requirements (for cooking and heating) and there is a major trade-off taking place between energy demand on the one hand and the productivity of farmland (denied the replenishment of biomass) on the other.
- Many challenges remain in order to increase the efficiency of water use in agriculture. This can be achieved through producing more with less water (crop varieties and irrigation performance), augmenting supplies through greater use of non-conventional waters (e.g. wastewater and brackish water), and/or through more water harvesting, in particular to boost rain-fed agriculture in semi-arid regions.
- Energy consumption in most African countries is less than a tenth of average world consumption and more than half a billion people in sub-Saharan Africa have no power supply at all. Hydropower potential on the continent is an increasing focus of both governments and the international community, with some 13% of the world's potential, but only a fraction of this actually being exploited.
- The output of a recent international meeting in Sirte, Libya on water for food and energy production in Africa highlighted the necessity of taking a combined approach to future investments.



CASE STUDY

Food and Energy

BRAZIL

The Challenge

- Brazil is a rapidly emerging economy and one of the 'BASIC' group of country's. It is of increasing global significance. With a population of some 190 million is the 5th largest in the world and has an economy that now ranks within the top 10 globally.
- Brazil's development exemplifies many of the challenges facing a country that is rapidly expanding economically. Income inequality remains high and development is uneven within the state's territory. Some 40 million people still live on less than \$2 a day (many concentrated in the northeast) and there are fears that the country may not be able to attain the 2015 MDG poverty reduction target by relying on growth alone.
- Even though 12% of the world's freshwater resources is located in Brazil, water distribution is uneven in space and time.
- Some of the challenges of a rapidly growing industrial and population growth include the acute energy and food demands that have arisen and the water challenges that are associated with this change. Brazil is now the 10th largest energy consumer in the world and the second largest ethanol producer – largely from its huge sugarcane crop (the world's largest producer). Ethanol production provides an element of energy security, but of increasing importance is hydropower. Brazil is now the third largest producer behind China and Canada and, in 2007, hydropower provided some 80% of the country's electricity production (included in which is the second largest hydropower plant in the world with the Itaipu Dam on the border with Paraguay).
- Food production is mainly concentrated in the southern, richer regions, whilst 60% of the food in-secure live in the North-east. For these complex food, energy and water management reasons, Brazil embarked on a radical rethink of its national water policy in the 1990s and, from 2000 onwards began implementing a new water law.
- Agriculture accounts for 60% of total water withdrawals. 69% of total water use in Brazil is used for irrigation.
- Potential for conflicts in transboundary areas with hydropower potential.

Solutions

- The Federal Law of 1997 established the Policy and National Water Resources Management System under which water is regarded as a public good, but one that is scarce and has an economic value.

- The National Plan on Water Resources of 2006 was drafted to “establish a national pact for the definition of guidelines and public policy targeted at improving the supply of water [...] and managing demands, considering water as an essential element for implementation of sector-specific policies from a sustainable-development [...] standpoint.” This plan provides greater cross-sectoral integration in the water sector and allows for a better harmonization of energy, agriculture and water policies.
- 83% of Brazil’s electric energy comes from hydropower.
- Better irrigation practices, national food security, National Policy on Irrigation and PPP projects: integrated approach to agriculture development, soil and water management
- Potential for increased ethanol and sugarcane production without infringing on Amazon region: Total area under sugar-cane production comprises 3% of total Brazil’s arable land. 3.5 Million ha is dedicated to ethanol production in Brazil compared to 43 Million worldwide. 1/3 of Brazil’s total arable land is sufficient to produce world’s ethanol production
- The Sao Francisco River Basin is a case in point. One of the most important basins in the country, it covers some 654,000 km² and is home to about 13 million people. The very multiplicity of use – for food production, energy and domestic consumption – is a key factor in past conflicts over the resource within the basin. The basin generates about 17% of the country’s total power demand, but also has about 11% of all irrigated farming in Brazil. Inevitably, perhaps, conflicts over power generation, irrigation, human consumption (water quality issues) and the transfer of water to other basins. The new Water Resources Management Policy has brought a truly integrated approach to water multiple uses in Brazil – the challenge now is to see whether this newly-established approach will have the support of future governments

More information

- <http://www.ana.gov.br>
- http://www.un.org/esa/dsd/dsd_aofw_ni/ni_natiinfo_brazil.shtml



CASE STUDY

Marseilles visionary in water management

FROM LONGCHAMPS (1862)
TO GEOLIDE (2004)

Marseilles has over a century and a half of experience in the field of water management. Since the Canal of Marseilles in 1838, helping to bring water from the Durance into the heart of Marseilles, including the Palais Longchamps, there is now the recent construction of the first buried biological purification station in the world in 2008, the "Géolide".

Palais Longchamps

The Challenge

- Most people lacked a clear understanding of the link between faeces in the environment and the transmission of pathogens to the water and food they consumed. The city of Marseilles, to address the water shortage that manifested itself increasingly with the development of the town during the previous two centuries, built in the nineteenth century the canal from Marseilles to divert water from the Durance.

Quest: A huge construction: 10 years of work, opening of underground aqueducts and 18 bridges were built. Canal length: 85 km

Targets

- The water is considered to Marseilles for over 10 years as the best water in France, with a nitrate level 10 times lower than that of Paris ... the treatment is natural and organic. When disaster strikes, Marseilles has a battery life of 15 days against 3 or 4 days in other major cities

Solutions

- 1838: Creation of the Canal de Marseilles
- 1849: Arrival of the Durance to Marseilles
- 1862: Opening of the Palais Longchamp. Water Tower monument, richly carved, built to honor the waters of the Durance fuelling Marseilles. Architect: Henri Espérandieu (Architect of Our Lady of Guard).

Impact

- It was until the 1970s, almost unique source of water supply for the City. It still provides the 2 / 3.
- The City of Marseille has also provided water to Barcelona during drought

Sources (sources for more info)

Press Office City of Marseille dgcre-presse@mairie-marseille.fr

T. 04 91 14 65 25

Géolide

In 2008 Géolide became the world's first biological underground waste water treatment plant: thus preserving the Mediterranean seabed and the quality of bathing water.

The Challenge

- Launched in 2004, this project set out to renovate the sewage system and reduce harmful discharges to the sea

The Quest

- Technological and environmental challenge: the lack of city space has forced the construction of an underground factory, and the use of biological process for the environmental

Targets

- No noise, visual and olfactory.
- Marine environmental protection, animal and plant species.
- Better quality assurance of bathing water
- Simple to use and economic

Solutions

- Biofiltration: Biological purification by the process BIOSTYR (removal of pollutants and detergents).

Impact

- This equipment has helped to raise the rank of Marseilles in the best performing cities for wastewater treatment, and contribution for the environment.
- It is the largest structure buried wastewater treatment in the world.
- The investment for this massive construction driven by Jean-Claude Gaudin when he chaired the Metro, is estimated at 180 million €.

- Géolide treats 90 million m³ per year for 18 municipalities, representing nearly one million inhabitants

Partners Involved

Jean-Claude Gaudin, Mayor of Marseilles
HE Water Company of Marseilles
OTV France (subsidiary of Veolia Environment)
Urban Community of Marseilles Provence Métropole

More information

Press Office City of Marseilles dgcre-presse@mairie-marseille.fr T. 04 91 14 65 25



The World Water Forum

Every three years the World Water Council organizes a World Water Forum in close collaboration with the authorities of the host country. The World Water Forum is the largest international event in the field of water. It gathers over 20,000 participants from around the world to raise awareness on critical water issues and subsequently generate action.

Following previous Forums in Morocco (1997), the Netherlands (2000), Japan (2003), Mexico (2006) and Istanbul (2009), the 6th World Water Forum will be held in Marseille, France in March 2012.

The World Water Forum aims to:

- Raise awareness with decision makers and the public at large on water issues and, subsequently, to generate action;
- Contribute to improving access to water supply and sanitation and report on progress towards meeting the Millennium Development Goals;
- Provide opportunities to progressively develop shared visions on challenging water issues, to develop new partnerships and to pave the way for cooperation and action among a wide diversity of organisations and individuals;
- Encourage greater media attention for water issues and solutions

The Forum is made up of four primary components:

1. The Thematic Programme: providing the substantive discussions in the form of sessions and panels;
2. The Political Process: providing the opportunity for discussion amongst and with elected officials (local authorities, parliamentarians, ministers) and resulting in various statements and commitments;
3. The Regional Process: providing perspectives on water from all regions of the world;
4. The Fair and Expo: providing a space for all stakeholders to showcase their contributions.

Each of these components benefits from extensive preparatory processes that commence two years prior to the World Water Forum.

Past editions have included other features, such as side events, a Learning Centre, a Children's Forum, a Youth Forum, a Children's Education Village, Water and Film Encounters and cultural entertainment.

The World Water Forums have significant involvement from elected officials including Mayors, Parliamentarians, Ministers and Heads of State. Their contributions provide the unique opportunity to put wise water management higher on the political agenda. In preparing for the Ministerial Conference, the World Water Council collaborates closely with the Host Country and the United Nations.

www.worldwaterforum.org



The World Water Council

The World Water Council is an independent, international organisation incorporated as a French not-for-profit association, with a special consultative status granted by UNESCO and ECOSOC. It has more than 400 member organisations including Governments, non-governmental organisations, businesses, professional networks and research institutions, based in over 60 countries.

The World Water Council strives to

- Identify critical water issues of local, regional and global importance on the basis of ongoing assessments of the state of water;
- Raise awareness about critical water issues at all levels of decision making, from the highest authorities to the general public;
- Develop a common strategic vision on integrated water resources management on a sustainable basis, and to promote the implementation of effective policies and strategies worldwide;
- Provide advice and relevant information to institutions and decision-makers on the development and implementation of policies and strategies for sustainable water resources management, with due respect for the environment and social and gender equity; and
- To contribute to the resolution of issues related to transboundary waters.

The World Water Council was established in 1996 on the initiative of water specialists and international organizations. As a global leader, the World Water Council brings together policy and decision makers, water experts, water users, beneficiaries, and representatives of civil society around water in a unique way. It uses their creative force to shape global, regional and national strategies on water and development. The Council serves as a catalyst for the development of common understanding and partnerships within and beyond the water sector in order to trigger actions for water.

Some of the Council's achievements are:

1. **World Water Forum** - Every third year the World Water Council organizes the World Water Forum in close collaboration with the authorities of the hosting country. The Forum is the largest international event in the field of water, with over 20,000 participants from more than 190 countries for the last edition.
2. **World Water Vision** - At the 1st World Water Forum, Marrakech, 1997, the World Water Council received the mandate to develop the World Water Vision for Life and Environment for the 21st Century. Within two years, over 15,000 women and men at local, district, national, regional and international levels shared their aspirations and developed strategies for practical action towards the sustainable use and management of water resources.
3. **World Water Actions** - In continuity with the Vision, the World Water Council set-up an action-monitoring program after the 2nd World Water Forum (The Hague, 2000).

This exercise was conducted by the Water Action Unit, focusing on field actions, and on leading processes.

4. **Financing Water for All** - The World Panel on Financing Water Infrastructure also called Camdessus Panel, was active over the 2001-2003 period, and presented its final report "Financing Water for All" at the 3rd World Water Forum in Kyoto, 2003. The Panel's objective was to address ways and means of attracting new financial resources to the water field. It comprised 20 personalities with top-level experience in government, finance ministries, international development financial agencies, commercial banks, water companies, NGOs active in the water sector and a number of eminent independent professionals.
5. **Strengthening Local Authorities** – The World Water Council set up a programme to develop capacities of local authorities (municipalities, district and provincial governments in rural and urban areas) for development and management of water and water services. As a result, the Istanbul Water Consensus was presented during the 5th World Water Forum, Istanbul 2009. This document requires cities to prepare action plans to analyse water-related challenges and implement strategies to cope with them, to set up a series of indicators and to report on the progress at the next World Water Forum.

The World Water Council's membership is organised into five colleges to ensure the representation of the various stakeholders within the governing body of the Council:

College 1: Intergovernmental organizations

College 2: Government and governmental authorities

College 3: Enterprises and facilities

College 4: Civil society organizations and water user associations

College 5: Professional associations and academic institutions

Every three years, the members elect a Board of Governors to represent members in the decision making of the Council. Each college is guaranteed a minimum number of four seats on the Board:

The World Water Council's headquarters is in Marseille, France.

www.worldwatercouncil.org



France and Marseille host the 6th World Water Forum in 2012

France has been a dynamic contributor to the World Water Forum since its inception in Marrakech in 1997. Furthermore, France also sent the second largest delegation to the last two forums held in Mexico, in 2006, and Istanbul, in March 2009.

In the earliest preparatory stages prior to each event, France consistently initiates dialogue, within the water community, in order to disseminate consensus messages, which are subsequently promoted throughout the various discussion processes.

In addition, following on from the Mexico Forum, France has taken a number of initiatives and pursued a lead role in processes involving local authorities and members of parliament.

TOP-LEVEL ENTHUSIASM

These efforts reflect the widespread commitment of French stakeholders to support France's bid to host the 6th World Water Forum, and this enthusiasm spread to the upper echelons of the French political sphere. The head of state himself, President Sarkozy, expressed his desire in writing to see the 2012 Forum held in the city of Marseille. Further support was voiced by two of the ministers most closely involved, Jean-Louis Borloo, Minister for Ecology, Energy, Sustainable Development and Regional Development, and Chantal Jouanno, Secretary of State for Ecology, who welcomed the Forum Evaluation Committee during its visit to France on behalf of the French government and who also accompanied the French delegation to the oral presentation of its application to stage the event.

Thanks to its international network, the French Ministry of Foreign Affairs was able to raise the profile of "Ambassadors" of the environment. France's bid was also endorsed by the President of the French Senate, Gérard Larcher, and the President of the French National Assembly, Bernard Accoyer.

This support was broadly echoed locally and regionally among government agencies and elected bodies as well as throughout the professional and business community. Alongside Jean-Claude Gaudin, senator and mayor of Marseille, the president of the regional council, Michel Vauzelle and the president of the local council, Jean-Noël Guerini, and the president of the Marseille Provence Métropole Urban Community, Eugène Caselli, mobilized actively in support of Marseille's application. Support among the business community was voiced through Jacques Pfister, chairman of the Marseille Provence Chamber of Commerce and Industry, as well as many other local decision-makers. No fewer than 22 letters of support were received for the city's firm application, which was submitted last April to the World Water Council.

FRANCE AND MARSEILLE'S CHIEF ASSET: A WATER-CENTRIC CULTURE

France and Marseille are committed to fostering the spirit of previous forums by promoting the benefits of French water policy.

PUTTING FRANCE'S EXPERIENCE IN WATER POLICY TO WORK FOR THE INTERNATIONAL COMMUNITY

Under the impetus of the Ministry of Ecology, steered by the MEDEM, Energy, Sustainable Development and Regional Development (MEEDDAT), French water policy addresses a dual qualitative and quantitative challenge.

In the first instance, the aim is to implement the European framework directive on water and pursue the objectives set for 2015, as well as to reduce urban pollution and the dissipation of agricultural chemicals. Secondly, policy seeks to adapt to climate change and extreme weather events, especially flooding and drought.

Policy draws on France's extensive experience in this area. Three key laws underpin national water policy, which is firmly in line with sustainable development.

The first law, which dates back to 1964, anchored the notion of '*concerted management of water*' in its natural environment – the catchment area. This was endorsed by the creation of Catchment Area Committees.

The second law, passed in 1992, declared that water was a "*shared national asset*".

The most recent law, passed on 30 December 2006, established the right for all individuals to "*have access to drinking water and sanitation under economically acceptable conditions*". It also introduced more openness in public water and wastewater provision.

DIALOGUE, THE KEY TO FRENCH WATER MANAGEMENT

In addition to the underlying principles of French water legislation, one of the central features of France's proposed programme for the hosting of the 6th World Water Forum is the decentralised, partnership-based approach to water management.

French water policy is anchored in ongoing dialogue and the participation of all stakeholders, from local officials to consumers, industry, farmers, environmental groups and consumer organisations. This approach is translated at both the national level, with the National Water Committee, and at the local level, with the Catchment Area Committees and Water Agencies.

All of these stakeholders contribute actively to the management of France's water. They are all consulted on the main policy thrusts for this vital resource which concerns each and every French citizen.

In addition to these partnerships, consultative bodies operate both locally and nationally, reflecting France's decentralised approach. To ensure that decisions are taken at the

appropriate level, responsibility for providing access to water and sanitation lies solely with France's 36,000 local authorities and their groupings.

RENEWED COMMITMENT TO THE ENVIRONMENT

This consultative, dialogue-centric framework was further reinforced following the outcomes of the "*Grenelle de l'environnement*" roundtable discussions held in 2007. Conducted at local and national levels, these talks brought together representatives from five main groups of stakeholders: the state, local authorities, NGOs, industry and trade unions – all on an entirely equal footing – to discuss environmental issues.

Five key topics were explored, resulting in recommendations and commitments, which have since translated into two new laws which are currently before parliament.

A wide range of water-related measures were considered during the talks, from regenerating and protecting aquatic environments to improving water resource management, drinking water and sanitation provision, as well as research into new technologies.

WORLDWIDE ENGAGEMENT

Government policy has set an ambitious nationwide goal for 2015: achieve a "satisfactory ecological state" of the country's water and aquatic environments. This is based on and in line with European water policy.

But French policy seeks to go beyond national borders by exporting its unique approach in the form of a bold, far-reaching international strategy.

France is the fourth largest financial sponsor in the world of water-related projects and programmes. Its international policy is hinged on providing fully-fledged access to water and sanitation and at the same time supporting sustainable water management.

The groundbreaking "Oudin-Santini Law", passed in February 2005, reflects this commitment. Under the law, French local authorities can spend up to 1% of their water budget on international cooperation, emergency relief and solidarity actions with local authorities overseas.

Numerous international initiatives are also undertaken by other stakeholders, including businesses, water agencies, NGOs and scientific and technology agencies. Many of these efforts are pursued on a collaborative basis within the French Water Partnership.

In addition, France has committed to doubling its aid to NGOs to allow them to step up their work in the international arena. The World Water Council provides continuous, long-term support in this regard.

Lastly, France announced at the 2009 World Water Forum in Istanbul that it would ratify the 1997 United Nations Convention on Transboundary Waters.

Benedito Braga

Vice President - World Water Council

President of the International Forum Committee

Professor of Civil and Environmental Engineering at the University of São Paulo (USP)



Biography

Benedito Braga is a civil engineer with extensive experience and management skills. He currently holds the position of Vice-President of the World Water Council (WWC) and Professor of Civil and Environmental Engineering at the University of São Paulo (USP). From 2001 to 2009, he held the position of Director of the National Water Agency (ANA) of Brazil. Prof. Braga earned a Ph.D. in Water Resources from Stanford University. His areas of technical expertise are hydrologic forecasting, mathematical modeling, water resources planning and management, multiple objective decision making, operations research applied to water resources management and environmental hydrology.

Prof. Braga is Vice-Chairperson for Latin-America and the Caribbean region of the International Hydrological Programme (IHP) of UNESCO.

Prof. Braga is a member of a great number of organizations dedicated to water resources management, both national – Brazilian Water Resources Association (ABRH); – and international – American Society of Civil Engineers (ASCE); International Water Resources Association (IWRA); International Association of Hydrological Sciences (IAHS). Mr. Braga has published extensively on issues related to water resources development and has chaired several international workshops and conferences on the subject of sustainable water resources management.

Martine Vassal

Deputy Mayor - City of Marseille

Member of the Bureau of the International Forum Committee



Biography

Born in 1962, Martine Vassal is graduated from SupdeCo, a business and management school.

After 2 years of training in textile industry in several countries of the world (Japan, Europe, USA), she managed from 1987 to 2000 a textile company, employing 240 persons and specialized in knitwear mass production for the administrations.

At the same time, she was engaged in different professional executive associations (Centre des Jeunes Dirigeants, Union Patronale des Bouches-du-Rhône, Association pour le Management, syndicat de la FACIM).

Since 2001 she is engaged in politics and gets more and more responsibilities.

In March 2001, she was elected deputy mayor of the city of Marseille and elected again in March 2008. Her main activities are the quality of the city, urban planning and public space (outdoor terraces of restaurants, some important attractions installation, marketplaces, etc...), rain water treatment and retention basin.

At the same time, she belongs to the Intercommunality of Marseille Provence Metropole ; she is president of a committee which works on recycling, waste and sanitation.

Since 2002, she was elected Member of Department Council from Bouches-du-Rhône where she takes care of some districts of Marseille (canton de Saint-Giniez, 8ème arrondissement). Nowadays, she is at the head of 13 councillors on 57 : L'Avenir du 13.

About her implication within the political group, Union pour le Mouvement Populaire (UMP), she is Vice-secretary of UMP of Bouches-du-Rhône since 2006.

Andras Szöllösi-Nagy

Governor - World Water Council

Member of the Bureau of the International Forum Committee

Rector UNESCO-IHE



Biography :

András Szöllösi-Nagy was born in 1949 in Budapest, Hungary. He holds an MSc in Civil Engineering (1972) and a Dr. Techn. (Summa cum Laude) in Hydrology and Mathematical Statistics (1975) from the Budapest University of Technology. He holds a Ph.D. in hydrological forecasting from the same university. Dr. Szöllösi-Nagy was awarded a Doctor of Science (D.Sc.) degree by the Hungarian Academy of Sciences in 1991. In the same year, he was made a Dr. Habil. by the Budapest University of Technology. In 1992, he was made Professor HC at the Technical University of Budapest and in 1994 full Professor at the same institution.

Prof. Szöllösi-Nagy joined UNESCO in Paris in 1989 as Director of the Division of Water Sciences and Secretary of the International Hydrological Programme. Between 1999 and 2002 he also served as Coordinator of UNESCO's environmental programmes (MAB, IOC, IGCP and MOST) and was tasked with UNESCO's preparations for World Summit on Sustainable Development (WSSD), Johannesburg, South Africa, in 2002. Since 2000 he served in addition as Deputy Assistant Director-General of the Natural Sciences Sector of UNESCO. He also served as member of the Steering Committee of the Global Water Partnership and Chair of the World Water Council (WWC) Publication Committee. He was a member, and former Chairman, of UN-Water, was elected to serve since its inception the Board of Governors of WWC and was co-Chair of the Political Processes Committee of the 5th World Water Forum held in Istanbul, Turkey, 2009.

During his tenure at UNESCO Professor Szöllösi-Nagy was able to significantly reinforce UNESCO's response capacities in the area of freshwater through a variety of actions. Due to a reinforced IHP, the establishment of UNESCO-IHE, 23 UNESCO Water Centres and the UN World Water Assessment Programme (UN WWAP) unique capacities and expertise was gathered to assist Member States in achieving their share of the Millennium Development Goals.

In addition, Professor Szöllösi-Nagy was instrumental in the establishment of the new UNESCO-IHE Institute for Water Education in March 2003 and acted as a key player in the integration of the Institute's education and research programmes in UNESCO. The Director General of UNESCO nominated him Rector of the UNESCO-IHE Institute for Water Education, Delft, The Netherlands, as of September 1, 2009.

Odile Gauthier

Engineer, France

Member of the Bureau of the International Forum Committee

Director Water Resources, French Ministry of Ecology



Biography:

Odile Gauthier, Director of Water and Biodiversity at the Department of Regional Development, Housing and Nature (DGALN), part of the French Ministry of Ecology, Energy, Sustainable Development and Regional Development (MEEDDM).

Prior to her current position, Ms Gauthier was deputy director of the MEEDDM Risk Prevention Department from July 2008 to February 2008. From 2006 to July 2008, she served as assistant director at the ministry's Pollution and Risk Prevention Department. Before that, she held the post of assistant director of Economic Studies and Environmental Assessment at the Ministry of Ecology and Sustainable Development (before it became MEEDDM), from 2004 to 2005.

From 2001 to 2003, Ms Gauthier was senior advisor at the French Agency for International Investment in Italy. Prior to that, she worked at the Cour des Comptes (French audit office) from 1996 to 2000. Between 1991 and 1995 she was head of Industrial Environment and deputy director of Air Pollution Control at the Ministry of the Environment. She began her career in 1988 as head of Environmental and Technical Services at the Languedoc-Roussillon regional authority for industry, research and the environment (DRIRE).

Ms Gauthier is a non-specialized engineer and holds a degree from Ecole des Mines in Paris. She attended Ecole Normale Supérieure from 1981 to 1985.