

***"FIGHTING POVERTY THROUGH WASTE WATER MANAGEMENT"***  
**IVth WWF SESSION**  
**WATER FOR ECONOMIC GROWTH & DEVELOPMENT THEME**  
**17<sup>th</sup> MARCH 2006 - 11-13 am**

**SYNTHESIS DOCUMENT**

**INTRODUCTION**

Why did Seine-Normandie Water Agency (AESN) and the sewerage public owner of the great Paris (SIAAP) take the initiative of registering this session with 3 of their foreign partners, respectively in charge of urban waste water control for Istanbul, Fez, and Mexico? Why did they register this session within the "*water for economic growth and development*" day? Why did they choose such a pretending title, linking their jobs to poverty reduction, even for the old Paris case?

Definitely not to pretend that they are doing better than others, nor to introduce a competition between the 5 local actions that will be presented and debated in this session: in their professional area, problems are more obvious than solutions!

They only share similar missions and face similar difficulties, but on very specific cases, at various historical stages of economic growth and development of their stakeholders. The waste water management sector is neither self speaking nor attractive.

Except in crisis situations, the benefits of related capital investments are not easy to demonstrate. The vocabulary used in most languages is confusing and misleading. As a result, it has a very limited public audience, it does not raise interest to the medias, it does not deliver benefit to the politicians, nor profit to the relevant financial institutions.

We all know that waste waters stink, and that most societies hate approaching them or talking about this issue. In our jobs, we know it as the "not in my backyard" complex !

But it seems that despite previous world fora and large conferences, following several UN water decades, there is no general understanding of urban pollution lethal power, both physically for mankind and our basic needs, and economically for human development and economic growth. Whereas for us, a small sample of the waste water community, those interlinked realities look so obvious!

This communication gap would bare no interest if our professional community could not see, at the global scale, all signs of major sanitary and economic crisis due to it.

## **Recorded benefits of Urban Waste-water treatment: reduction of mortality and of economic costs in the European union**

Up to the 19<sup>th</sup> century, even though European cities were the cradles of economic development, they were marked by a mortality rate higher than the birth rate and a lower life expectancy compared to rural areas. Angus Maddison<sup>1</sup> attributes this situation to a lack of hygiene, proper urban sanitation and safe drinking water. Between 1830 and 1895, most European cities encountered major cholera epidemics, where they lost up to 9% of their populations. Wastewater treatment was introduced to protect drinking water from contamination, and to avoid epidemics of cholera which caused heavy lives' loss in the large European cities (Evans, 1987). The outbreak of cholera in 1892, for instance, took place all over Hamburg where drinking water was extracted from the river Elbe (Kluge and Schramm, 1986). Since then, wastewater has been treated at the end of the sewer before being discharged into the river. This end of pipe technology has been widely established as a standard way of managing wastewater worldwide.

Heavy investment programs launched in the 19<sup>th</sup> century in many big cities created large urban waste water systems and improved public health considerably. Obvious socio-economic benefits were gained: life expectancy has doubled in E.U between 1820 and 1990, tripled in the case of women and there is nowadays thirty times less infant mortality. Malaria was responsible of up to 55% of child mortality in some regions of southern Europe (Corsica). Urban drainage progressively allowed its full eradication from Europe by 1960.

Urban pollution control saved life and ecosystems; but it also delivered economic growth, created jobs in the water industry as well as in tourism, shellfish and fishing industries, and reduced health & water supply costs, notably for those rural or coastal dwellers living downstream from large agglomerations.

### **EU's Urban Waste Water Treatment Legislation – a breakthrough**

The "*urban wastewater treatment*" Directive from 1991, imposed notably that all agglomerations over 2000 inhabitants should have waste-water treatment systems, and all urban discharges to eutrophication sensitive areas should remove azote and phosphorous before 2005. At that time the total investment required was estimated to €200 billions<sup>2</sup> in the 12 EU member states.

This legislation stimulated National governments, local authorities and industries to put emphasis on pollution reduction. This directive also drove progress in the technologies and practices in the field of sanitation: better integration of treatment plants into the environment, better control of

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<sup>1</sup> OECD macroeconomist.

<sup>2</sup> Including about €60 billions for German new länders.

rainwater pollution, improvement of existing networks and flood management.

As a result, from 1991 onwards, E.U reinforced the capital investments dedicated to urban waste water pollution control therefore delivering considerable benefits notably for health, tourism and the recovery of water bodies. Moreover these major works contributed to create employment<sup>3</sup>, especially permanent jobs in the services and companies that sprang up to operate these new infrastructures.

Those investments did not exceed 1% of total E.U capital investments that is about 0.15% of E.U GDP. Over the same period, capital investments in the tourism sector were 3 times higher; and health expenses reached about 14% of E.U GDP, when sanitation expenses (including capital investments) represented less than 0.5% of E.U GDP. Financing urban waste water treatment is economically feasible, but calls for a strong political commitment.

A recent study held on various french coastal resorts showed that the expected touristic gains<sup>4</sup> for meeting future EU bathing water standards would entirely repay the required waste water investments within less than 2 years. This confirms that when polluted populations and natural resources are taken into account, the resulting costs of no pollution treatment are finally much higher than the waste water treatment costs.

In the past 30 years, the number of fish species permanently settled in the river Seine in Paris grew from 3 to 28 species, due to the implementation of the polluter-pays financial mechanism with multistakeholders governance and participatory dialogues in the "water agency" IWRM system. Related investments never costed more than 0.15% of the Seine watershed GDP<sup>5</sup>; and the total economic weight of the French sanitation sector, including operation and maintenance costs, remains below 0.3% of French GDP<sup>6</sup>.

Financial solidarity pays over the time: when water polluters contribute to the pollution control cost, equitable waste water tariffs end up catering for most related capital investments. The definition of a fair tariff structure allowing cost recovery on one hand and cross-subsidizing for the poorest populations on another should be done for all stakeholders.

And cadmium content of Paris sewage sludge was divided by 10 following prevention at source and awareness raising campaigns, with a strong impact on the shellfish sector of the Seine estuary. Multistakeholders

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<sup>3</sup> The waste water sector caters for about 6 to 8 permanent jobs for 10 000 people served.

<sup>4</sup> estimated at about €1 billion

<sup>5</sup> 17 millions inhabitants, including the population of small coastal watersheds of Normandy.

<sup>6</sup> To be compared to the 2004 figure of 21% of french GDP dedicated to healthcare.

governance and public participation at basin level allowed efficient dialogues and mediation between rural and urban dwellers, rich and poor users, downstream polluted populations and upstream polluters.

### **Facts and figures:**

World population has been multiplied by 7 within the 2 past centuries generating unprecedented human pressures on water resources and environment. Today, the world's water ecosystems have to cope with about 6.5 billion domestic polluters, 3 times more than 40 years ago. Lack of urban wastewater treatment widens the gap between the urban rich and the rural poor.

In 1950, less than 30% of the world's population lived in urban environments. By March 2006, this figure will probably have reached 50%: it is already over 80% for Brasil and Mexico federal nations that host more than half of total population of Latin America. Between 1950 and 2005, the number of cities worldwide containing more than 10 million people increased by 30. Demographic growth mostly concentrated in urban areas because economic wealth concentrates there. This means that urban citizens are actually richer than rural dwellers.

Moreover, half of the global population now lives in fragile coastal areas, where all untreated polluted water ultimately ends up. Industrial and urban stormwater pollutions have also increased considerably, the last ones due to the permanent increase of water proofed surfaces in urbanized areas.

Globally only 15% of all polluters are connected to a waste water treatment facility and only 2% -based mainly in developed regions- are connected to modern treatments including nutrient removal. These uncontrolled discharges of urban wastewater affect people's health and cause major economic losses.

They also damage water ecosystems and pollute the oceans. The consequences are: contamination of water supplies and resources, water and food born diseases, loss of incomes, increased costs for health care and treatment of drinking water, massive fish killing and drop in tourism.

### **Wastewater: a global challenge**

In fact, 85% of the polluted urban wastewater currently produced in the world is discharged without treatment (98% for Africa). This permanent pollution load on water resources and ecosystems is at least 15 times bigger than 2 centuries ago!

Unless a much greater attention would be paid to this global challenge the world will not achieve the Millennium Development Goals (MDGs), or more specifically MDG7: "ensure environmental sustainability".

### **Urban pollutions widen the gap between the rich and the poor**

The resulting growth of persistent contamination directly threatens a large number of water supplies, notably those currently being developed to fulfil the world's commitment to meet target 10 of MDG7: "halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation".

Moreover, basic sanitation does not refer to pollution treatment but to household hygiene through excreta removal without necessarily treating them. It never referred to sewers and treatment plants but mainly to domestic latrines. As a matter of fact the international community is not committed to any pollution treatment through this target 10. And this is reflected by the U.N figure of 2.4 billions, for persons quoted as having no access to basic sanitation (UNICEF,WHO). Undirectly this means that 4.1 billions representing 63% of the world population are classified as having access to sanitation. Yet the same U.N produced the above mentioned figures of 15% of the global population being connected to some kind of domestic pollution treatment (UNEP). For the medias and for most politicians there is no difference between sanitation and waste water treatment, one illusion being to believe that all urban pollutions are discharged from toilets. In fact domestic "greywater"<sup>7</sup> contains most domestic chemicals and 60% of the organic matter produced by households. Moreover, removing excreta from houses does not mean treating the pollution: sludges and end products do concentrate the pollution and have to be processed. At last industrial and stormwaters pollutions are systematically omitted and rich countries can easily move their factories to developing countries where they will face no legal requirement to treat their raw discharges.

In the absence of international commitment and national political awareness this situation will worsen and still widen the gap between the rich and the poor, between developed and devoping countries, and at a watershed scale between the upstream pollutors and the downstream polluted populations.

Lack of urban wastewater treatment therefore adds to the burden of the poorer rural, peri-urban and coastal populations who have to deal with polluted water of richer urban polluters. It thus leads to massive transfers of poverty, but those poorer populations can not complain because they are rarely voters when urban dwellers are usually recognized citizens.

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<sup>7</sup> That do not go through the toilets.

So, the adoption of international rules requiring the treatment of all urban water pollution would directly reduce poverty and improve justice as well as the sustainability of water ecosystems, fish stocks and existing drinking water supplies. In practice, developing new urban water supplies should be systematically associated with investments in comprehensive urban wastewater treatment. Target 10 of MDG7 should therefore be revised in priority to include pollution treatment and stop confusing the public with a target limited to "basic sanitation".

### **OBJECTIVES OF THE SESSION**

Water decision makers from Istanbul, Fez, Mexico, Paris and from their respective watersheds will present historical reviews of their waste water systems: crisis or problems met, major steps taken, solutions and impacts identified.

Not less than 7 local actions have been registered for the session:

- LA0532 Basin solidarity to control pollution in France and contribute to poverty alleviation in developing countries
- LA0713 Economic impact of quality of coastal resources management
- LA0808 Financing a large scale sanitation plan to achieve major goals
- LA0737 – Public participation in the implementation of European water management issues
- LA 1697 Sanitation systems and environmental protection activities in Istanbul metropolitan area
- LA Waste water treatment in the city of Fez, Morocco
- LA1703 Manejo de aguas residuales de la zona metropolitana de la ciudad de Mexico...
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They will attempt to assess the costs and benefits of the undertaken local actions as well as of the pending ones, both for the urban dwellers and for the downstream populations and ecosystems

Pragmacy, transparency and experience sharing will be the session rule. We wish to discuss all aspects of concrete achievements and challenges in this field:

- technical and planning options,
- financial, human development and economic choices
- governance choices and socio-political acceptability
- environmental, health and economical benefits,

Speakers will try to answer the following questions:

1. Can the world community durably and equitably treat MDG7 target 10 without paying any specific attention to the global challenge of untreated municipal discharges?
2. Can we identify real experiences of low cost technologies able to bring reliable and long lasting solutions to this challenge?
3. How long can the planet stand the present level of anthropic pressures and contamination over its water ecosystems and resources. What are the consequences of the present “business as usual trend” in terms of global sustainable development, growth, poverty reduction and equity between urban and rural dwellers? What would be the predictable economical consequences if we succeed in reverting this scenario and controlling the urban pollutions?
4. Starting from the case studies and other registered local actions which concrete elements can enlighten local political choices? These concrete tools should be related to identified costs-benefits analysis characterizing the respective major impacts of action and non action.
5. Can this issue be financially and politically solved only by municipal water owners? How did large agglomerations in developed countries finance their existing infrastructures? Which financial systems integrating social equity and solidarity can be identified at each step of the development of municipal waste water systems?

## SESSION TEMPLATE

### Presentation of the session

<b>welcome by convenors</b> Maurice OUZOULIAS (SIAAP) Guy FRADIN (AESN)					3'
<b>session presentation</b> chair: Ben BRAGA, animation: Olivier BOMMELAER					3'
<b>Global picture UNEP</b> Cees VAN DE GUCHTE					7'
<b>Local cases</b>					40'
Istanbul (8')	Fez (8')	Mexico (8')	Paris (8')	SN Basin (8')	
<b>Representative groups</b>					25'
<b>Parliaments</b> Nancy Patricia GUTIERREZ	<b>L. Authorities</b>  César BUENROSTRO	<b>NGO</b>  Célia de LAVERGNE..	<b>Women</b>  Sascha GABIZON	<b>Junior</b>  Daniela STOICESCU	
<b>Public debate: 5 questions</b> 5 answers: local actions or experts					10'
Istanbul(2)	Fez(2)	Mexico(2')	Paris(2')	UNEP (2')	10'
<b>Public debate (2): 3 questions</b> 3 answers: local actions or experts					10'
<b>Conclusion: animator, chair, convenors</b>					12'

Suggestion: during the session ask the public to write down their questions so that the convener can consider them and make a link with the oral ones.

## EXPECTED OUTCOMES OF THE SESSION

Draft key recommendations of the session:

1. The world community will not durably or equitably reach target 10 of MDG7 without paying a reinforced attention to the global challenge of untreated municipal discharges: a stronger urban pollution control directly conditions the sustainability of existing drinking water supplies. Only referring to "basic sanitation", that does not require any urban pollution treatment, target 10 is not presently worded to secure that urban pollution will effectively be controlled. Therefore, the sanitation commitment of target 10 should be reworded to fit MDG7.

2. Pollution control saves life and ecosystems; but it also delivers economic growth, creates jobs in the water industry as well as in tourism, shellfish and fishing industries, and reduces health & water supply costs, notably for those rural or coastal dwellers living downstream from large agglomerations.
3. Multistakeholders governance and public participation at basin level allow efficient dialogues and mediation between rural and urban dwellers, rich and poor users, downstream polluted populations and upstream polluters. Appropriate public sensitization and information campaigns do deliver considerable benefits in terms of willingness to pay and reducing pollution at source.
4. Financial solidarity pays over the time: once that all water polluters & consumers pay equitable water fees, reasonable water tariffs end up catering for all water & pollution control investments : sanitation bills represent less than 0.5% of GDP of french basins, to be compared to 21% spent on health care.
5. National and International financial supports must be increased to allow those communities, regions or countries late in developping their urban waste water infrastructures to handle their pollution control challenges. Overseas development assistance facilities and programs specifically dedicated to urban waste water infrastructures and services should be developped.
6. International water solidarity can also be based on water bills of northern water polluters: 75 % of the french water consumers are ready to add 1% to their water bills to assist implementing target 10 of MDG 7. The French parliament recently passed a law to legalize AESNs existing solidarity fund and extend it to all french water agencies, utilities and public waterowners.