



World Water Day 2010 — Clean Water for a Healthy World

Message from Achim Steiner, UN Under-Secretary-General and Executive Director of the UN Environment Programme (UNEP)

Nairobi, 22 March 2010 – Violent natural disasters of the kind that recently struck Haiti, and in 2004 battered coastlines across the Indian Ocean, often trigger a rapid international response and quite rightly so.

But what about water and in particular the decline of clean water—why does this disaster continue and in many ways intensify seemingly unabated and unchecked: why is this also not headline news?

The statistics and impact of polluted water are certainly no less shocking: moreover they are happening year in and year out.

- Globally, 2 million tons of sewage, industrial and agricultural wastes is discharged into the world's waterways.
- At least 1.8 million children under five years old die every year from water related disease, or one every 20 seconds.
- Over half of the world's hospital beds are occupied with people suffering from illnesses linked with contaminated water.
- More people die as a result of polluted water than are killed by all forms of violence including wars.

The impact on the wider environment is no less striking.

Here are some details from a new, Rapid Response Assessment, launched today by UNEP and UN-Habitat entitled *Sick Water? The Central Role of Wastewater Management in Sustainable Development*.

- An estimated 90 per cent of all wastewater in developing countries is discharged untreated directly into rivers, lakes or the oceans.

Such discharges, allied to run off of fertilizers, are part of the reason why de-oxygenated dead zones are growing rapidly in the seas and oceans of the developed world and emerging now in developing ones.

- Currently an estimated 245 000 km² of marine ecosystems are affected with impacts on fisheries, livelihoods and the food chain.

The climate is also being impacted.

- Wastewater-related emissions of methane, a powerful global warming gas and another called nitrous oxide could rise by 50 per cent to 25 per cent respectively between 1990 and 2020.

This is the situation today, so what about tomorrow and the day after that?

Already half of the world's population lives in cities, most of which have inadequate infrastructure and resources to address wastewater management in an efficient and sustainable way.

What will happen as the population climbs to over nine billion by 2050 with an increasing percentage living in such cities?

And how will other emerging challenges such as climate change affect not only water availability but the health of waters too.

For while water quantity and water quality may appear separate challenges, they are in fact closely intertwined: Rivers experiencing low flows as a result of over abstraction, the loss of snow, reduced glacial melt or evaporation will concentrate sewage and other pollutants.

Meanwhile over use of underground supplies often leads to salt contamination and a build up of hazardous, heavy metal compounds such as arsenic as is the case in the boreholes of Bangladesh and elsewhere.

So these are some of the facts and figures—more importantly, however, what should be the response?

For unless countries and regions accelerate improved management of water resources, the impacts on economies, livelihoods and the wider environment will be profound.

And the chance of achieving key targets such as the poverty-related Millennium Development Goals is likely to become ever more stark and sobering.

Raising Awareness—a Key Role of World Water Day

There are many issues surrounding water, from how best to price the resource to laws and regulations on reducing discharges to rivers and coastal waters.

Above all, a systems approach that makes all sectors of the economy—from the household and the farm to cities, industry and government—needs to be the foundation upon which a response is forged.

Thus building awareness, a key role of World Water Day, among the public but also the private sector and policy-makers is perhaps one of the most crucial steps.

The focus of that awareness needs to be on the abundant options for more intelligent management of water and on the multiple economic benefits linked with investing and re-investing in this resource.

Awareness too of the fact that perhaps our most powerful and cost effective allies are natural systems such as wetlands, forests and mangroves in terms of boosting water security and delivering cost effective, healthy supplies.

These are among the approaches UNEP is putting forward via its Green Economy Initiative. The multiple opportunities from improving the health of freshwaters are a key part of this endeavor.

- An investment of \$15 billion a year towards meeting the Millennium Development Goal of halving by 2015 the number of people without sustainable access to safe water and basic sanitation could generate global economic benefits worth \$38 billion annually.
- \$15 billion of these benefits would be in sub-Saharan Africa alone including less time away from work with water-related diseases and less money spent on medicines.
- Studies indicate that an investment of \$20 billion in low-cost water technologies such as drip irrigation and treadle pumps could lift 100 million poor farming families out of extreme poverty.
- The UN's Human Development Report of 2006 estimated that an investment of \$7 billion-- spent on extending small dams and water collection systems across India's rain-fed farming areas-- could quintuple the value of the country's monsoon crop to \$180 billion a year while also perhaps reducing pressure on rivers and aquifers.

Plugging leaky water and sewage networks is another avenue that can not only assist in securing supplies and reduce pollution but generate employment.

- In some developing countries, 50 per cent to 60 per cent of treated water is lost to leaks: Globally an average of 35 per cent is lost.
- By some estimates saving just half of this amount would supply water to 90 million people without further investment.

Ecosystems—One Big Piece in the Low Pollution Puzzle

Perhaps some of the most promising, multiple-return, investments will be those made in conserving and restoring ecosystems.

Take wetlands, natural water storage and purification systems: globally some 60 per cent have been drained and lost over the past century mainly to agriculture.

At the Shimo la Tewa in the Kenyan coastal city of Mombasa, inmates are involved in a wetland development project that is purifying waste-water from the jail while delivering important economic, social and environmental returns.

It is perhaps a surprising but nevertheless illustrative example of a Green Economy option.

The cost of the project, which includes labour and construction costs and the upgrading of sanitary facilities inside the prison, is amounting to some \$110,000, or \$25 per person.

Inmates are also using the project for fish farming and food while harvesting natural gas for electricity generation.

Benefits to the wider environment include reductions of solids that can choke coral reefs alongside cuts in bacterial pollution that can contaminate shellfish and ruin someone's holiday in a locale where tourism income is important to the local economy.

The scheme is among a raft of projects being undertaken under the Addressing Land-Based activities in the Western Indian Ocean (WIO-LaB) initiative which forms part of the UNEP-brokered Nairobi Convention treaty—a regional seas agreement.

It is hoped the lessons learnt can be applied to other parts of the world so that the multiple challenges of sanitation and pollution can in part be viewed through a nature-based lens.

The project is also working with the coastal Ndlame communities in Port Alfred South Africa using ponds of natural algae to treat wastewaters including sewage.

The algae, a freshwater or marine organism, assist in de-toxifying the pollutants and is then harvested as a commercial fertilizer and protein-rich animal feed.

The total project cost here is around \$188,000 with economic benefits from utilizing treated wastewater and fertilizer production offsetting the price by \$50,000 a year.

Sometimes the catalyst for wetland restoration can be another goal entirely. The Siberian Crane Wetland Project, funded by the Global Environment Facility and involving UNEP and China, Iran, Kazakhstan and Russia is a case in point.

The 10-year project has stabilized part of the population of this endangered and iconic bird by conserving and restoring its migratory resting, feeding and breeding sites—wetlands covering an estimated seven million hectares.

In doing so the project has assisted in securing water supplies and water purification systems for millions of people in the countries concerned while also benefiting thousands of other species of waterbirds.

Additional economic and human security benefits are also accruing in areas such as flood defense and climate change as wetlands store up to 20 per cent of the world's land-based carbon.

In many developed countries, big multi-billion dollar investments have been made in water sewage treatments works in order to treat pollution while maintaining water flows.

But there are other options, again linked with improved management of a natural resource.

The restoration of the Mau forest complex, being spearheaded by the Government in Kenya with support from UNEP, is an investment in the river systems of the country and ensuring adequate flows.

The Mau is one of the main water towers of Kenya generating annual revenues in terms of hydro-power, moisture for the tea industry and water supplies to major tourism attractions such as the Massai Mara, equal to around \$320 million a year.

It is also critical to the health of downstream lakes, such as Lake Nakuru—a major tourist attraction due to its pink flamingoes.

Recently river flows into the lake have ceased or become erratic: its main supply is undiluted sewage from a nearby treatment works.

Lake Naivasha, another tourism site and recreation centre, is facing similar health issues linked with low flows.

These are being linked with the digging of over 200 shallow boreholes around the lake and over abstraction upstream for agriculture.

It is leading to less dilution of agrochemical discharges from flower farms and untreated sewage from Naivasha town with concern over biodiversity including lake fish.

In cities, healthy and less polluted rivers can also be a key to urban renewal.

In the UK, canals and river systems were once so polluted that a match, tossed on the surface, would ignite sending flames back and forth between river banks.

Those same waterways, 100 years later, are some of the most sought after locations for up market housing, restaurants and leisure centres as well as major revenue earners from boating holidays.

The City of Nairobi, the government and partners including UNEP are working to trigger a similar urban renewal in the Kenyan capital via the Nairobi River Basin Project.

Over the past 12 months, some five km of river has been cleaned up representing 10 per cent of the river length in the city.

In order to sustain the project, sustainable investment will be needed and I would urge the private sector to back the Adopt a Mile initiative.

The project is tackling numerous pollution sources and generating new business opportunities including one major one linked with the Nyongara slaughterhouse at Dagroretti.

In partnership with the Kenya Industrial Research and Development Institute and the UN Industrial and Development Organization, animal wastes are being converted into methane rather than being discharged into the river system.

Along with newly installed solar panels, enough biogas-electricity is being generated to power the slaughterhouse including its cold storage facilities.

The company is now looking to other products and employment opportunities including poultry feed and pet food as it seeks to be a zero waste operation.

The project could be a blueprint for slaughterhouses across the Continent and an important example of how reduce water pollution from industrial sector.

The crisis and of water in the 21st century is a challenge of quantity but also very much quality. It is also a challenge to humanity in terms of far more effective management of an economically and environmentally essential resource.

Overcoming water pollution may seem insurmountable and often overwhelming when faced with the sheer scale of the problem, but it need not be.

There are now enough examples of where human ingenuity and sound planning allied to the hard technology of engineering, and perhaps the even more powerful soft technology of nature and natural systems, are already delivering Clean Water for a Healthy World.