

## World Wetlands Day 1998: Briefing paper

### **ONLY ONE DROP OF WATER**

2 FEBRUARY IS WORLD WETLANDS DAY. THIS YEAR THE CONVENTION ON WETLANDS PROPOSES TO LOOK AT THE ROLE PLAYED BY THESE SPECIAL HABITATS IN THE WATER CYCLE OF THE PLANET. THEY CONTRIBUTE SIGNIFICANTLY TO MAINTAINING WATER QUANTITY AND QUALITY FOR THE CONSERVATION OF BIODIVERSITY AND HUMAN WELL-BEING. YET IN MANY COUNTRIES THEIR ROLE IS NOT FULLY UNDERSTOOD, AND THE LOSS OF WETLANDS CONTINUES TO POSE A THREAT TO FUTURE SUSTAINABILITY.

**Gland, Switzerland, 22 January 1998.** -- Take a litre of water – with an eyedropper pick up one drop and place it in your open hand by the litre container. That precious, fragile drop taken from the litre is, in proportion to the world's water, all the freshwater available for human use, for the maintenance of optimal levels of populations of all freshwater and terrestrial species, and for ensuring the proper functioning of the freshwater systems in our Blue Planet. So full of water, so short of it!

Of all the water on Earth, 97% of it is salty and found in the seas and oceans. Only the remaining 3% is freshwater, but most of that is trapped in the polar ice caps and underground, leaving as surface and atmospheric water a tiny proportion of that 3%. Yet about 12% of animal species, including 41 percent of all recognized fish species, live in the 0.08% of the world's freshwater available in river and lakes. Globally, in terms of species per unit area, freshwater ecosystems are, on average, slightly richer than those on land and 15 times richer than the marine environment. In addition, all terrestrial species of plant and animal, including *Homo sapiens*, are dependent on the availability of freshwater.

Freshwater has two other important characteristics that we have to reckon with. One is that its amount is constant (so far we cannot create water!), even if it is in permanent motion and transformation: the great "Water Cycle". Every day 800,000 million megawatt hours of solar energy (the total output of all our power stations is about 20 million megawatt hours) is used to evaporate the equivalent of 5 million Olympic-size swimming pools of water from the surface of the sea and land that will return to the surface in the form of rain and snow fall. On average, the water in rivers is replenished every 18-20 days, but a single molecule of water may take up to a year to complete the whole water cycle.

The other significant feature of the water resource is that it is unevenly distributed. Of the 129 cubic kilometres of freshwater available on the planet, South and Central America are endowed with 43 of them, Asia 36, North America 22, Africa 21, Europe six, and Australia only one. Within the continents, particularly in Africa and Australia, the distribution is also very uneven.

Water is critically scarce in many places. In general, it is considered that a country will experience periodic water stress when the supply goes below 1700 m<sup>3</sup> per person. On average, the planet has some 7400m<sup>3</sup> of water per person, but there are 22 countries that have less than 1000 m<sup>3</sup> per capita, and 18 more countries with less than 2000 per capita. By the year 2025, one out of every three people – or some 3.75 billion persons – will live in some 52 countries affected by water stress or chronic water scarcity.

The scarcity of water has placed the issue at the top of the international political agenda. Water is a shared resource: 40% of the world population live in the more than 200 river

basins that are shared by two or more. Thus, managing water with a sound whole-basin approach requires a strong dose of political will to cooperate for the common good. Otherwise, water, the source of life, could easily become the source of deadly confrontations.

The finite nature of the resource, its uneven distribution and the fact that one's access to it may depend on other people's options, are compounded with the highly "intrusive" nature of the human species. Most freshwater systems have been heavily exploited in the quest for human development – a process far from completion, if we take into account that at present 1 billion people still lack an adequate supply of water and 1.7 billion have no proper sanitation. Considering that the world population is projected to increase by 50% over the next 30 years, and taking into account current trends in water use, the demand can be expected to grow by over 650% in the same period.

Many of the natural river flows and the floodplains upon which we live have been regulated and controlled through major engineering works, particularly in the developed world. In the USA only 2% of the country's 5.1 million km of rivers remain free flowing and undeveloped, with more than 85% of inland waters artificially controlled. In Europe, the Rhine river is now cut off from its original floodplain for 90% of its 1,300 km, and the fast-flowing constructed channel is digging a deeper and still faster channel on its way to the Low Countries. People along its banks have experienced 10 major floods in the past 20 years, including the 1995 flood which caused the evacuation of 250,000 people in the Netherlands and cost an estimated US\$1 billion in damage.

Water system regulations and drainage for agriculture and urban development have been the major causes of the loss of over 50% of the wetlands in countries such as the USA, New Zealand, Australia, Pakistan, Thailand, Niger, Chad, Tanzania, India, Viet Nam, and Italy. This has happened at a time when there was little knowledge and recognition of two important factors. The first is that in making decisions about water use, the environment itself is an important user of water. It sounds like a platitude: water systems needs water (the right quantity in the right place) to function properly and to secure a constant and quality supply for other users. Yet some water managers still have difficulty understanding that the allocations for human use can only be satisfied in the long term by first ensuring the "environmental allocation" that the systems require to continue to perform. The second factor that has affected wetlands has been widespread ignorance about the multiple and beneficial functions that they perform in the basins and coastal areas where they are located.

Times are changing. One hundred and six countries have joined the Convention on Wetlands, originally signed on 2 February 1971 in the Iranian city of Ramsar, on the Caspian sea. By so doing, these countries have committed themselves to engage in a process of identifying sites within their territories than can be classified as "wetlands of international importance", so as to provide special attention to their conservation and sustainable use. Almost 900 such sites, covering some 67,500,000 hectares (more than the total area of France or Kenya), have been placed so far in the Ramsar List kept by the Convention. In addition, the parties to the treaty have engaged themselves to promote the sustainable use of all wetlands within their territories, through the adoption of appropriate policies and legislation. None of the 106 member countries has yet applied the Convention to the fullest extent and it would be false to claim that all wetlands are definitively saved in any of them. But important progress is being made, and there are clear signals that countries and, even more importantly, societies are changing their perception of wetland values, and acting accordingly.

Bathed in shallow water, and often saturated with nutrients, wetlands make up some of the most productive natural systems on Earth, and they also provide an ideal medium for moving both people and goods. It is no surprise that wetland areas were the birthplace of the agricultural revolutions that heralded the dawn of human progress. Nearly all the great ancient states were founded by "wetland peoples". Today, the wetlands that nurtured these

great civilizations in Mesopotamia and Egypt, and the valleys of the Niger, Indus and Mekong rivers, continue to be essential to the health, welfare and safety of people who live in or near them. Of the 10 largest modern conurbations in the world seven border upon estuarine wetlands: Buenos Aires, London, Los Angeles, New York, Osaka, Shanghai and Tokyo.

Most of the fish we eat depend upon wetlands at some stage in their life cycle, while millions of cattle and wild herbivores are supported by floodplain pastures. In 1995, inland water fisheries and inland aquaculture production supplied 7 million tons and 14.6 millions tons, respectively, for direct consumption and processing, and the sale of fish generated important incomes for many communities and business worldwide. In Asia alone, it is estimated that more than 2 billion people depend on wetland crops and fish as their staple and protein sources. Estuarine and coastal wetlands – mangrove forests, salt marshes, seagrass beds and mud flats – have enormous biological productivity and are important nursery grounds for marine fishes as well as defences of low-lying coasts against sea storms.

In many places, wetlands play a significant role both in the recharge of aquifers and in groundwater discharge. In Peninsular Malaysia, peat swamp forest is being conserved in order to provide reliable sources of water for the neighboring rice schemes during the dry season. In Amboseli National Park in Kenya, the most important source of water is a series of springs which have their origins on Mt. Kilimanjaro and which, after percolating through porous lava soils, re-emerge in the Amboseli Basin in a series of small swamps.

Where streams are straightened and uplands denuded of forests and swamps, flash floods cause chaos after storms, and the accelerated run-off leaves little to rely on in summer drought. The draining and ploughing of floodplains and riverine wetlands have had a similar effect in hydrological terms to the loss of upland forests. For example, a study by the Illinois State Water Survey in the USA found that every 1 percent increase in watershed area covered by wetlands decreased flood peaks in streams by nearly 4 percent. A lot could also be said about the role of wetlands in contributing to water quality – they have been called the "kidneys of the planet" because of their cleansing of the water passing through them – as well as on their role in supplying water for many local communities.

Integrated water resources management (IWRM), including informed participation of all stakeholders, is being promoted as the new paradigm to respond to the impending water crisis. To be truly "integrated" this approach has to consider the water requirements of the natural ecosystems as a key user. On their health and adequate performance depends the satisfaction of all other users' needs: households, industry, irrigation, energy generation. Wetlands are an important component of most aquatic systems, and thus they deserve a place around the "integrated management" table. The Convention on Wetlands, when celebrating its 27<sup>th</sup> anniversary on 2 February, should get ready to occupy that place at the table, bringing its experience over all these years to assist the world in ensuring that water continues to be available for environmentally sound human development.

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*A World Wetlands Day 1998 Statement prepared for the press and other users by the Bureau of the Convention on Wetlands (Ramsar, Iran. 1971), with materials provided by, among others, Doug Hulyer, a Director of the Wildfowl & Wetlands Trust, UK, and Ken Lum, Senior Associate, Wetlands International - Americas (Canada) and consultant to the Bureau. Some figures were also taken from "Water Resources Management: A New Policy for a Sustainable Future", by Ismail Serageldin, Vice-President for Environmentally Sustainable Development, The World Bank.*