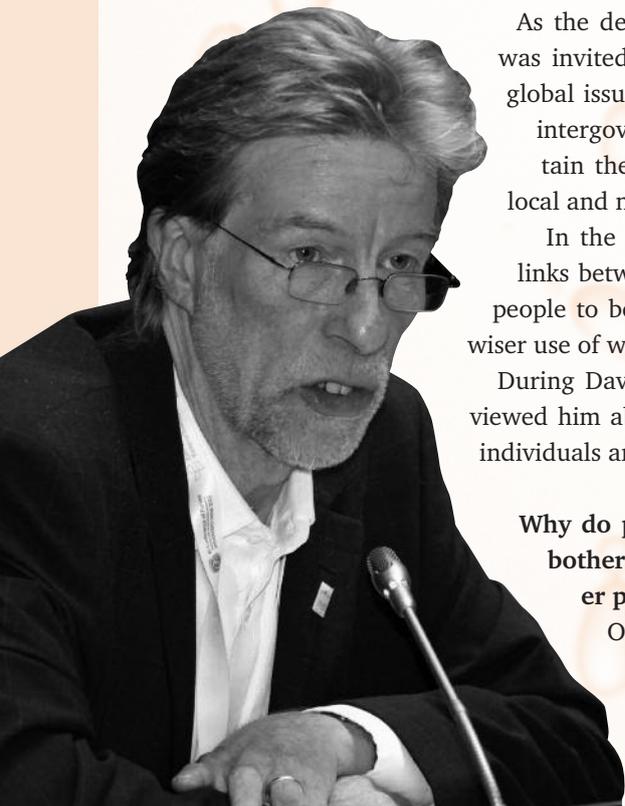


Swamps, marshes, mangroves and bogs – in the realm of human literature and film, these are often places of darkness and threat. We imagine them as a maze of foul, unsanitary water, home to poisonous spiders and vicious, flesh-eating reptiles and fish that lie in wait for any human to enter.

Nick Davidson, an internationally recognized expert in wetlands and water policy, understands the archetype, but he devoted his career to urging people to see past it and to recognize the value and beauty of these ecosystems.

Wetlands, he says, are not wastelands. Rather, they are critically important for a healthy planet and for healthy people. They are a vital habitat that helps feed humans. They manage floodwaters and protect against rising oceans during storms. And they can hold vast stores of water that are used for agriculture, industry, and domestic needs.

HEALTHY WETLANDS, HEALTHY PLANET



As the deputy secretary-general of the Ramsar Convention, Davidson was invited to Trieste Next to share his experience and expertise on a global issue of broad local importance. That is Ramsar's focus: It is the intergovernmental treaty that commits its member countries to maintain their wetlands and to plan for their sustainable use – through local and national actions and international cooperation.

In the closing ceremony of Trieste Next, Davidson urged stronger links between environmental science and governance, and encouraged people to be more involved in influencing practices and policies for the wiser use of wetlands and water.

During Davidson's visit to Italy, TWAS staff writer Cristina Serra interviewed him about the science and policy surrounding wetlands, and what individuals and their communities can do to make a difference.

Why do people still think of wetlands as useless areas filled with bothersome insects, only fit to be drained and converted for other purposes?

Of course wetlands can cause us trouble, particularly if we move into them – for example building on river floodplains which, when it rains heavily, then flood our properties. But this view does not correspond to what wetlands actually are and do for



us. However, when we say ‘wetlands’, this is a general term, and it’s important to define what we mean. There are many different types of wetland, from peat-swamps at the top of mountains, through lakes and rivers to coastal wetlands such as estuaries and sea grass beds. Some are freshwater, but other are saline. Essentially they are all the parts of our world whose functions are dominated by water. Some wetlands are permanently or regularly covered in water, but many others

are dry for some parts of a year and flood annually only in the wet season. At the extreme are places such as the salty wetlands of inland Australia which because of infrequent rains may only flood perhaps once in a decade. It is the presence of water which shapes the land and leads to the presence of specially adapted plants and animals which depend on these wet places for their survival. We could think of wetlands as transitional areas between terrestrial and aquatic systems, where nature ... has not made up its mind [laughs].

What percentage of our planet is covered with wetlands?

It’s hard to provide a precise figure, because wetlands vary so much in size and shape, according to the seasons, and now also even more so with our changing climate. Recent estimates suggest that inland wetlands cover at least 7 to 9 million square kilometers of our planet: that is roughly 4 to 6% of the earth’s land surface. With this uncertainty in mind, and due to their multifaceted character, it comes as no surprise that most people fail to appreciate their importance to the environment and to the world economy, despite the international efforts set in motion more than 40 years ago to change this lack of appreciation.

What happened 40 years ago?

The Ramsar Convention, or the Convention on Wetlands of International Importance, was adopted in the Iranian city of Ramsar, in 1971, with the aim of laying the groundwork for local and national action and international cooperation for the conservation and wise use of wetlands and their natural resources. It acknowledges the interdependence of people and the environment. Its core philosophy, in fact, is the “wise use” of wetland resources; that is, “the maintenance of wetlands’ ecological character, achieved through implementation of ecosystem approaches, within the context of sustainable development.”

WETLANDS FACTSHEETS

- *There are 2,106 areas designated for inclusion in the list of wetlands of international importance. They cover some 2.05 million square kilometres.*
- *The global value of wetlands worldwide has been estimated to be USD14.9 trillion (1997).*
- *A hectare of wetland can store 9,000 to 14,000 cubic metres of floodwater.*
- *Up to 75% of commercially harvested fish are wetland-dependent.*



What has been the impact of the Ramsar Convention so far?

It has helped move us from the idea of *environmental protection* – conceived as “let’s put a fence around and prevent people from using this area”, to the broader *sustainable use of resources*, which involves recognizing that through maintaining wetlands we can benefit greatly from what they can and do provide us with. In addition to the commitments to wise use, governments also identify and designate what the Convention calls Wetlands of International Importance (Ramsar Sites) against globally standard criteria for their importance.

Can you name a few benefits that we derive from this type of environment?

Wetlands provide a huge range of benefit to people (often called ‘ecosystem services’), largely for free. Some behave as natural sponges that store water and slowly release it. When rivers flood they absorb water and keep damage under control, acting as natural buffers that reduce environmental risks. Coastal wetlands shield us against hurricanes or tropical storms, an important role if we think that a single storm event in the US may cause USD33 million damage per hectare of land. They absorb pollutants before these substances reach rivers or the sea, thus improving the quality of our waters for swimming and drinking, and make water available to plants and animals. In addition, they provide habitat for fish and many other animals on which many people depend for their livelihoods. What’s more, they provide us with recreational opportunities, and also aesthetic benefits, that we tend to underestimate.

What future scenarios may we face if we do not protect wetlands from degradation?

Agriculture, extractive industries, energy, paper and cotton industries, as well as recreational and tourism activities, to name a few – all depend on water for their business. The cycle of water, in turn, depends on wetlands’ prosperity. We must acknowledge that water is essential for any business, let alone for our individual lives. Take reeds, for example: they grow in swamps, and in recent times they have undergone a marked revival as roofing material, for their insulating qualities and their long life. Destroy or degrade their habitat and that whole business sector is going to be damaged soon.

Is it possible to quantify the percentage of damaged wetlands?

It has been estimated that we have lost 50% of the world’s wetlands over the past century alone,

DROPS OF WATER

- *Some 884 million people – 12.5% of the world's population – do not have access to safe drinking water.*
- *About 2.5 billion people lack proper sanitation, due to the lack of water.*
- *Every day, nearly 4,000 people – mostly children under 5 – die from diseases caused by contaminated water.*
- *People in developed countries on average use more than 500 litres of water per day.*
- *Agriculture alone accounts for 70% of freshwater usage worldwide.*
- *Competition for water and lack of access to basic water and sanitation services may become a source of conflict.*

and we have been destroying wetlands in many parts of the world for much longer than that. In some places it is even more: for example in some states in the United States, such as California and Iowa, more than 90% of these areas have been lost. Losses have slowed in some parts of the world, but are accelerating rapidly in others such as Asia, where the rapid economic growth and the demands of feeding a growing human population are overriding maintaining the environment, including wetlands, on which such sustainable growth actually depends. Unfortunately, I have to admit that the problems now haven't changed much from those recognized in the 1960s, which led to the creation of the Ramsar Convention.

What would you suggest to governments to get out of this situation?

We certainly need to be more efficient in our governance arrangements, putting water at the heart of green economy, and recognizing that working with wetlands is often a more cost-effective measure than engineering solutions. New infrastructures and robust governance mechanisms implementing and integrating the Ramsar Convention into national policies would help. Business

as usual is more dangerous today than it was in the past. Wetlands must be everybody's business, because we are approaching a no-turning-back threshold of loss.

Is there anything that people can do?

Everyone can help make a difference. The three Rs – recycle, reduce, reuse – are essential. Consumers can act directly, by installing water-saving devices at home, for example. And they can act indirectly, moving away from purchasing items that require huge amounts of water in their production, to items with a lower water demand. Both types of actions require awareness and information. With this, consumers can change manufacturers' choices and the market itself. ■

TWAS Newsletter, Vol. 24 No. 4, 2012

