Think global, act local

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Water is neither inexhaustible nor invulnerable. But the intensity with which it is used today tends to ignore these facts, as we increasingly exploit and pollute this gift of nature that is so essential for life. If we do not want to have to dig for our own water in future, we must think co-operatively, decentralize, and establish autonomous systems for water use at a local level.

There is no other natural resource on which mankind makes such heavy and complex demands as it does on water. Although it is not renewable in part, we neglect it far more than other resources – just remember how oil exploitation was co-ordinated internationally. In contrast with this, we treat water as though it were inexhaustible. Philosophy, science and technology have contributed to this mistaken assessment.

On the whole, people prefer and have always preferred to establish towns near water. It can then be exploited directly, it is a transport medium that promotes trade, and it contributes to the well-being of the inhabitants. Water in a town fulfils cultural, architectural and social functions. The urban hydrologist Murray McPherson was emphatically pushing for planning of the water economy to meet social and ecological requirements as early as 1970.

Water was comprehensively studied and managed even in ancient cites like Miletus. This requires creativity that can combine art and design, social perceptions, insights into handling water and technical innovation. It was probably this universal appeal that inspired so many scholars to occupy themselves with water. Thales of Miletus (624–545 BC) reflected on the water cycle, Plato (427–347 BC) later philosophized about it and Palissy (1510–1590) provided scientific justifications. Annually recurring precipitation or springs and rivers that never dry up give people the feeling that water is limit-lessly available – which is often reflected today in senseless use of water in precisely those cities where there is a drought. In recent times, despite all the insights and knowledge about it, water has become a utility whose origins we do not think about, that we simply use and throw away.

Towns have always been the heaviest water users. If local supplies were not sufficient, water was brought from near and far – according to the technology available. Thus the resource was exploited beyond the extent to which it could be renewed, and the natural water cycle was permanently damaged. The devastating effects of urban growth and user behaviour were simply not seen at first. Increasingly more efficient technologies opened up new supplies like deep groundwater, for example, that could not be regenerated. Large dams on rivers in arid areas, often the life-arteries for many different peoples, may show the life-giving attributes of water, but they can also be a threat to peace. Low water charges, well below its market value, have also led to errors of judgement about the availability of water. Thus users remain unaware of the price they are really paying for water, and this leads to careless handling of the resource. For example, in an Indian community in which there was a major drought, water was brought in at great expense and distributed free of charge. This meant that users were not able to recognize the true value of water and left the taps running night and day even when no water was being used. This was justified by pointing out that the water did not cost anything.

There has been a failure to take precautions when dealing with water in the past. Problems arising from excessive consumption were often not recognized in time. And then when the problems were recognized they did not all generate appropriate pressure leading to political action, not all the solutions that were determined politically led to decisions that could be implemented, and those decisions did not all lead to concrete measures. Such measures were frequently consequence-driven, local case-by-case decisions that were made in response to damage, but not to causes. Here the 'enemy approach' was generally taken: excess or dirty water had to be removed from towns as quickly as possible. Measures were designed to meet a purpose, and not integrated into comprehensive planning appropriate to the complexity of the water cycle. Thus the groundwater level was inevitably lowered in many urban areas, flooding increased, and natural plant and animal habitats were destroyed.

The larger cities become, the more they seem to use water regardless of the consequences. For example, Peking is a city with millions of inhabitants. The groundwater level is going down annually by over 2 metres, but water is used for air conditioning plants, cleaning cars and street cleaning, huge sprinkler systems are installed for green areas and rainwater is removed from the city in large channels. A Mediterranean tourist uses a thousand litres of water a day, even though it is a particular scarce commodity in the region in the summer months. Water is wasted all over the world, in countries with rapidly growing cities that are in the early stages of industrialization, in industrialized countries growing at a moderate rate, in regions that have little water and regions that have a lot of water. At the same time there are already a billion people who do not have adequate supplies of drinking water, two billion people have no sanitary facilities and four billion people produce contaminated water that is not subsequently purified to a sufficient extent. Additionally, thoughtless introduction of harmful chemicals and bacteriologically polluted sewage into the ground and water often makes the water