



Technologies
for water

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Water Supply and Sanitation for All

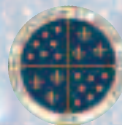
Obligation of the
water professionals for our
common future

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in cooperation with:



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Final Remarks

Peter A. Wilderer, Munich

During the symposium we have intensively discussed the various aspects of sustainable water management. We agreed that the approach traditionally taken to serve with safe water people, industry and agriculture is to be supplemented by innovative measures. Likewise, innovation is necessary to provide decent sanitation to all people on Earth.

The need for acting quickly and thoughtfully was repeatedly stressed and justified. It is not only global warming and the resulting change of climate which forces us to invent, demonstrate and implement new planning methods, management strategies and technologies. Concomitantly, we are confronted with a wide variety of equally fast changing conditions. Migration of people into urban areas, advances in medicine resulting in higher life expectancy, world-wide communication causing the desire of people to copy western lifestyle are just three of the many factors driving the development of the water sector towards a new horizon.

One aspect has not been stressed during the two days of our meeting, although mentioned as a sub-title of the symposium: “Obligation of the water profession for our common future”. Apparently, the participants of the symposium felt no need to discuss this issue.

Certainly, we as water professionals, as regulators, consultants, constructors, manufacturers, operators and researchers have - from the very beginning - felt obliged to serve people and industry, municipalities and rural areas. It is our generic duty to make sure that “All” get an equal chance

- to receive the water needed in sufficient quantity and quality.
- to stay healthy.
- to get food.
- to live a comfortable life.
- to enjoy water as a pleasure and as a gift.

In the past, we worked hard to develop and implement advanced water supply and sanitation systems, at least in the industrialized world. But why do we have to have a symposium to discuss our obligations for our common future all over again?

As mentioned above our world has changed. Well, our world has always changed. Changes are characteristic of the world we are living in - or as Heraklit said in the year 540 BC, repeated Plato, the great Greek philosopher, 200 years later: *panta rhei* - everything is flowing. But can we take it for granted that water will continue to flow in future down the rivers, to the tap as plentiful as today, in Berching, in Germany, in Europe, in the world?

The problem is that nowadays our world is changing more rapidly as ever before, faster than our societies and the nature around us can cope with. And the problem is that these rapid changes are man-made as stated in the latest IPCC-report.

However, it is not only the global temperature and the resulting climate which changed during the past 200 years because we blew enormous amounts of CO₂ into the atmosphere. As mentioned above, we are exposed to many other changes as well, changes which proceed at high speed both on the regional and on the global scale:

- Population growth
- Aging of societies
- Growth of the demand of comfort and luxury
- Globalization of fashion
- Dissolution of family ties
- Loss of moral values

Why do all these changes proceed so fast? Presumably, this is the response of the tremendous gain in knowledge we achieved and which facilitated and further facilitates unprecedented advances in technology, medicine, chemistry and agricultural practices.

At this point in time, after the release of the last IPCC report our political leaders try hard to reach an agreement for reduction of CO₂ emissions with the aim to limit the increase of the World temperature to 2 °C. I think we should support such efforts, but we should not stop reminding everybody, particularly our political leaders, decision makers in industry, lobbyists, journalists and the entire press media that it will take a considerable long time (100 to 200 years) until reduction of CO₂ emissions will show any effect.

In the meantime, climate will continue “to play crazy”. Droughts and flooding will threaten many regions of the World. The sea level will rise. Salt water will penetrate into estuaries and ground water bodies.

All this will make it very difficult to supply the more than 50% of the world population living in cities and the more than 80% of the world population living close to the ocean – supply them particularly with drinking water, agricultural products and with decent sanitation.

We must act quickly because the conditions driving us into misery change faster than we as engineers can get traditional technical solutions implemented. We do not have the time we had during the past two centuries to carry out business as usual. The current practice to accomplish a project, to install a water supply and sanitation system for instance, is too time consuming. Today and tomorrow we won't have much time to consider, design, argue with opposition groups, regulatory and financial institutions, negotiate with contractors, build, train operators and eventually to get a water supply and sanitation system operating.

Remember, more than one billion people are still living without access to safe water. More than two billion people do not have access to basic sanitation. Almost five billion people are not yet connected to wastewater treatment facilities. To meet the Millennium Development Goals (MDGs), and thus to halve the number of people not yet served so far, means that we have to bring into operation water works and water distribution system to about 200,000 people, every day and for the next 10 years. And we have to build wastewater treatment plants to almost 1 million people per day over next 10 years.

The mission is impossible when we stick strictly to the traditional concepts, inherited by the Romans and further developed over the past 150 years. These concepts are mature and practical. And they are a strong means to foster public health. But does the current technology meet sustainability criteria? Consider not only the time needed to get from the planning stage to completion. Consider also the generic ideas behind, the idea to use high quality water just for flushing sewers, for instance.

What we urgently need are innovative concepts of river basin management, integrated water management in coastal zones, and integrated water management in urban and in rural areas.

During our symposium we discussed in great depth various proposals for such innovations. We agreed that an enabling framework is to be established in order to raise the chance for advances to happen. We agreed on shifts from purification of dirty water to recovery of valuable materials and energy from water and wastewater. A shift from discharge to reuse is to be considered as our contribution to sustainable water resources management. We stressed the various aspects of decentralization as an option to

- facilitate recovery of valuable materials and energy,
- get water services implemented in a fast and straightforward manner.

It is in fact our obligation as water professionals to critically review our traditional concept of water supply and sanitation. It is our duty to invent and further develop those concepts, concepts which are tailored to the specific situation in the region to be served. And it is our obligation to help through teaching and dissipation of information getting those concepts implemented. That means: We as water professionals do have a political responsibility.

This symposium was held to

- inform ourselves about ideas, research initiatives and results.
- spread this information into the engineering society.
- properly inform our counterparts who are actively influencing
 - national and supra-national political and regulatory institutions,
 - non-governmental agencies,
 - municipalities, industry and agriculture.

From listening to the speakers I got the feeling that we are on the right track, all together. This is an experience which keeps me very optimistic. I am sure that together we will be able and eventually successful in driving the development into the right direction. But we should not allow ourselves to rest. We must stay on track, because this is our obligation for our common future.

Conclusion

Peter Wilderer*

* Institute of Advanced Studies on Sustainability, Amalienstraße 75, 80799 München, Germany, e-mail: peter@wilderer.de



Prof. Dr. Peter Wilderer