

## **Water and water management as part of local and urban development**

### **Political implications and challenges for cities and municipalities**

#### **Some basics and reminders as background of the subject**

At any times and in any parts of the world living near the water, near rivers or the seaside has always been highly attractive for mankind. Undoubtedly, this is easily comprehensible, as water is an indispensable element of life.

In former times as well as now the effects and results of economic and industrial development and the process of urbanization had severe consequences on nature and also negative impacts on the quality of water, on rivers, lakes and the way these environmental items were valued by people.

Now and even more likely in future days global warming and the effects of climate change will imply considerable disruptions for the lives of human beings. We will have to face rising numbers of environmental disasters caused by higher temperatures, lack of water and droughts, torrential rains and intensive floodings. In a way water therefore can be considered a blessing for those who are needy of water and a curse to those who will have to suffer from an abundant amount of water.

#### **Developing and shaping future cities and municipalities**

Such framework conditions and developments as described in the above paragraph actually coin political discussions. Coping with their results requires valid initiatives, substantial measures and solutions on different political levels. In that respect also people and local politics have to face new challenges for community structures in future cities and municipalities. The question is: How can we make and keep living spaces livable and future-oriented and ensure public services for people?

All the political concepts for this context and in the face of climate change have to provide suitable answers and contributions

- to design and establish a new blue-green infrastructure
- to find sustainable solutions in order to secure public welfare
- to sharpen the awareness for the importance of water and water management

In detail, apart from basically warranting a sufficient supply of drinking water, these necessities for shaping future-proof societies are closely linked to neighbouring political fields and thus demand as well fundamental considerations on development strategies for environmental protection, the design of residential areas, housing, local transport and mobility. A comprehensive political and administrative view on how to deal with water and on creating a general awareness for water management in cities and municipalities therefore has to take different measures into consideration. Three aspects should be mentioned here as examples:

1. Preventive measures for climate protection and climate impact adaptation by

- reducing space consumption near rivers and lakes and thus creating green retention areas against flooding and help to protect and to improve bio-diversity

- transforming urbanized areas into „sponge cities“ or „sponge communities“, which means to initiate and devise similar retention areas which in a best case scenario might provide a multifunctional benefit and likewise offer opportunities for sports or other leisure activities.

2. Efficient use of water resources and new forms of water management as part of a circular economy by

- using rain water as part of the domestic water circuit

- utilizing waste water and the water of rivers as part of the regenerative use of resources and as a supplier of energy

3. These improvements as well as an extension of the blue-green infrastructure will ameliorate the micro climate in urban areas and largely contribute to health care prevention. Additionally this will have positive effects on the social identity in urban living quarters.

### **Aspects of implementing the blue-green transformation**

There is no need to emphasize that all the necessities, suggestions and measures of the transformational processes require legal initiatives and regulations which may imply certain and perhaps unwanted obligations for property and house owners (for instance when regulations on the use of rainwater or minimizations of flooding risks are concerned). Yet, the discussion about measures to adapt to climate impacts will relate to new planning processes which demands new forms and strategies for communication and participation of citizens by equally involving experts and volunteers.