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Spatial aspects within water management systems

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One main task of water management consists in the adjustment of spatial differences between water demand and supply. River basins are the natural spatial units for planning of such approaches. However different aspects complicate these tasks: the human demand for water is driven by factors which are independent from the water availability (e.g. demographic development, economic boundary conditions, natural inventory, cultural preconditions). Over a long time water transfer systems were means of choice. However the high costs and the punctual increase of supply limited the options to implement demand management and to find a balance between local water resources and demand. Options to implement efficient local solutions remains unrecognized. Much more difficult approaches to re-arrange water management conditions, e.g. by spatial shifts of water demand, are not realized even if they would be more sustainable. Local water management systems suffer from insufficient operation and maintenance. In this contribution theses spatial aspects are discussed with some examples from Europe and China to demonstrate the needs for a more holistic approach in spatial planning and more administrative measures to improve local and regional water management conditions.