Workshop 4 (synthesis): criteria for priorities between competing water interests in a catchment

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Abstract Growing demand for water leads to increased competition between water users. A holistic, participatory and decentralized water management approach is promoted to reach a fair allocation mechanism between competing water uses. Domestic political discourse has a strong influence on water policies being developed.

Keywords Management systems; water allocation; water resources policies

Objective of the workshop
In many catchments of the world there is a growing competition for water between a diverse set of economic sectors. Water is used, for example, for irrigation, industry, hydropower production, to provide water supply in urban and rural areas, and to sustain ecosystems. With growing demands for water and increasing water scarcity in many regions of the world, choices and allocations of water between different uses have to be made at different scales. This includes the local scale in the catchment, the river basin scale that crosses domestic political boundaries, the national level to stimulate economic growth in various sectors, and the international level to address the internationally shared nature of many water bodies. In this analysis it is pertinent that land use for various purposes such as storage of waste, urban sprawl and intensive forestry has a negative impact on the quantity and quality of water.

The objective of the workshop was to discuss what criteria and tools could be used to make priorities between increasing claims for water by water users with a focus on the catchment. In addition, the workshop discussed how different management systems could be developed to manage water in a sustainable manner to promote sustainable economic growth. The workshop took into consideration that water use differs from basin to basin and from time to time. Also that there are a multitude of management systems in place reflecting different values in the societies.

Structure of workshop and participation
The workshop was opened by two invited speakers. Professor Lassere began by addressing water scarcity and conflicting uses of water in China. He was followed by Mr. Jägerskog who discussed the impact of the sanctioned discourse in formulating national water policies. These two speakers were followed by five oral presentations that covered a wide set of topics including water use conflicts in the Volga River Basin, integrated water resources management in the Panama Canal watershed, water management for socio-economic development in Nepal, the making of a new integrated water resources policy in Zimbabwe and the concept of water transfers between water use sectors in rural areas in Asia. Following these key presentations there were eleven poster presentations spanning a wide
set of topics providing case studies of water use and management systems in Asia, North America, and Europe. Subsequent to the presentations there was a lively discussion spanning different water-related issues such as planning and regulation, water quality, data collection and management and the importance of addressing the political aspects of water resources policy making.

**Highlights from the oral session and the discussion**

Three themes could be distinguished from the oral sessions that contributed to clarify the concept of water allocation and management options at various scales. The *first* theme addressed the fact that *competition* for water is growing in the world and that unsustainable economic activities are contributing to this. The *second* theme dealt with the issue of transferring water from low performing economic sectors with a high use of water to sectors with higher outputs with lesser water use. The *third* theme, finally, dealt with the political *discourse* in a society and how it impacts the water resources management policies chosen by a state.

The fact that competition for water is growing is not new. The workshop, however, contributed with a number of case studies that illustrated how closely linked water use and management are to economic activities and governance. The Volga river basin e.g. illustrated the shift from a central government structure of the river basin as a whole during the regime of the Soviet Union, led by the Minister for Water, to a totally decentralized system currently under development. The present system lacks authority and has inherited a highly industrialized production system associated with serious water polluting problems and water quality degradation. The challenge in this case is to move towards stakeholder inclusion and participatory water resources management as well as to move towards more sustainable production systems. An example from China served to demonstrate how high economic growth and increased standards of living demands more and more water and how soaring economic growth, contrary to the Volga river basin case, also contributes to water quality degradation through water pollution. Cases from Nepal and the Panama Watershed demonstrated the well known fact that poverty is a challenge to sustainable water use and management due to lack of financial and human capital. Finally, tensions between states on how to share common water resources, as illustrated by water use in the Middle East, was yet another example of how water resources can be mismanaged and competition grow at the transboundary river basin level.

The competition theme outlined by the speakers served as a starting point for analyzing how water could be more efficiently managed to promote sustainable economic growth and the protection of life sustaining ecosystems. It is well known that agriculture consumes 70 – 90% of the developed water resources at the global scale and that much of the water is not efficiently used. With a growing population globally and a strong trend of urbanization there is a need to analyze how water use could be transferred or shifted from low performing sectors to more high performing sectors. A case to partly illustrate this process was given from China where the central Government is promoting more efficient use of water in irrigated agriculture. The industrial and urban users have also seen high price increases of water which has lowered the demand. Simultaneously, however, China is considering ambitious domestic and international water transfer schemes to mitigate the growing water scarcity especially in the urban areas of the country. Another case from Asia demonstrated that rural livelihoods are vulnerable to water transfer schemes and that aspects of equity and stakeholder participation must be considered in these processes to ensure that they are considered fair to all that are involved. There was a consensus amongst the participants that water transfers or the transfer of rights to use water can be achieved to reach win-win solutions for all parties. Such policy shifts need to be negotiated in a transparent way and be
based on sound water use data, and economic and social analyses. Water markets is an example of one such system. Shifting water use underscores the importance of having effective water resources data collection systems and monitoring systems in place at different scales to make correct decisions.

Moving from increased competition for water and growing water scarcity, to increasing water availability through water transfers, the final theme distinguished the impact the domestic political discourse has on water policy. This complex theme aims to analyze the underlying political discourse in a country to understand how water policy is being made. This was illustrated by the water negotiations between Israel, Palestine and Jordan on the water resources of the Jordan River Basin. The case demonstrated that the domestic political discourse is driven by e.g. farming interests, defense considerations, and historical imbalances in water rights and allocations. Another example of the link between the political discourse and water policy were provided from Zimbabwe where the liberation process has had a strong impact on the new water policy. The issue of equity and fairness in water use by all citizens has been stressed in this case. The conclusion is that the political discourse influences and politicizes the water management policy agenda in a country. In order to understand water policies established and under development there is a need to be aware of the prevailing or sanctioned discourse. Stakeholders also need to recognize the existing underlying political discourse in order to effectively contribute to policy development.

**Conclusions**

Demand for water is growing due to a multiple set of causes. This leads in turn to increased competition for water between users at the local and regional scale. In many parts of the world this precludes sustainable and equitable economic growth. A holistic, participatory, and decentralized water management approach was promoted by the workshop to reach a fair allocation mechanism between competing uses to increase water efficiency. Management models should make best use of available data and efforts should be made to acquire new data for sound decision making.

It was recognized that water transfers between sectors to promote economic growth is important. To ensure the sharing of benefits for all, a detailed analytical process was proposed to identify key stakeholders within the larger user groups and engage them in the decision making process. It was recognized that the domestic political discourse has a strong influence on water policies being developed. Water managers need to recognize that they are not operating in a vacuum but in a complex political and economical framework.