

Management of Water in a Changing World: Lessons Learnt and Innovative Perspectives

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Sustainability, IWRM and Water Resources – a critical reflection

Christian Leibundgut, Prof. em. of the Institute of Hydrology IHF - University of Freiburg, Germany

Abstract

In a long-term perspective sustainability of the water resources is indispensable. The general definition of sustainability implies a balance between the three sectors ecology, economy and the social-cultural system. To reach such a goal we need an economic activity which leaves or, if needed, brings the three sectors in balance by promoting economic and social developments and balancing diverse use interests, while simultaneously safeguarding water resources. However, in the global perspective water resources are far away from sustainability. Moreover, there are enough efforts by states and economic trusts to produce many further objects of troubles. The economic sector is more or less out of control driven by the immense streams of virtual finances and the speculations on resources including water. The social-cultural sector is considerably endangered by the big social differences between the wealthy and the poor. But moreover, this sector is characterised by a huge overpopulation which is one of the fundamental drivers of economy and social disruptions. The overpopulation is an unsolved and may be unsolvable problem. It causes an increasing under nourishment which must be fought by excessive food production which in consequence stresses the water resources disproportionally. Thus this item confronts water experts with a serious ethical problem.

The concept IWRM is widely accepted as a successful instrument to tackle the challenges. Often it is actually considered as some kind of a magic bullet. However, many shortcomings like inadequate management structures and missing competences are common. Even if all these requirements are achieved the volition and the willingness of the responsible stakeholders to implement the findings and recommendations of the IWRM process is often not given. Considering the medium-term and long-term perspective the situation is even worse. IWRM process needs compromises between the three sectors. In consequence each step to find consensus causes a little bit less "ecology". Taking the biodiversity as an indicator for ecology the outcome is evident. Despite of a successful IWRM process with balanced sectors the biodiversity will decrease with each step until the nature is below the critical threshold. The IWRM itself is not concerned by this judge and no better alternative is known.

Taking into account all these concerns a redefinition of sustainability is inevitable. The consumption of "ecology" must be stopped. That means consequently first a slowdown, medium-term a stop of the conventional economic growth. In other words we need a change in system we are living in. At same time the population growth must also be stabilized. Generally the faith in the economic growth has to be replaced by concepts of degrowth. It will be the great and crucial challenge of the future saving water resources and life.

The Swiss research program "Sustainable Water Management" (NRP 61) is an effort to improve the IWRM processes. But to be clear: the water resources of Switzerland, a country holding the water tower of the Alps, are not the adequate example to run through the approaches given above. Although there are increasing pressures on parts of the water resources and also foreseeable more serious user conflicts, the situation is much more favorable compared to the global ones. Anyhow, the persons responsible of the country try to

avoid a critical situation in future by acting now developing advanced tools and concepts. The basic concept follows a holistic approach using IWRM. The two identified external drivers are the climate change on the one hand and the global economic drivers on the other hand.

Those responsible of the program are aware of the discrepancy between research and implementation. The state of water resources research in Switzerland which will be certainly improved by the program is excellent. However, the imponderability of the implementation is recently high. To implement the probably unpopular results of the program and to take the needed measures presume the willingness of the society, of the political leadership and of the stakeholders of economy. In order to facilitate the process the program has developed a strong implementation part including all levels of involved persons yet from beginning of the research. The levels are the researchers, the users, the stakeholders and the authorities. A stringent synthesis established already after the first year as target horizon for the ongoing research should help to guarantee a successful work with impacts for a long time after completed the NRP 61 – program.