



The e-Journal “IWRM in Central Asia” - the value and benefit from a Mongolian perspective

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Mongolia belongs to the most eastern Countries of Central Asia and has wide spread untouched and unique landscapes and natural resource. So due to the Asian Development Bank (ADB) Water Security Assessment Outlook 2013 [1] ranged Mongolia in terms of Environmental Water security on grade 4 of 5 possible grades. Mongolia's total water resource mount up to 608.29 km³, which is classified into Rivers (34.6 km³ (5,121 rivers, 9,340 streams and creeks), Lakes (500 km³ in 3.732 lakes) permanent frost and glacier areas (62.9 km³ including 262 glaciers), subsurface water (0.79 km³ including about estimated 140 groundwater resources). Steppe and deserts zones cover 76.6% of the entire territory including episodic or periodical river reaches. Low precipitation (annual average 241 mm/year), high evaporation, unevenly distributed water resources and insufficient drinking water quality characterize the present water situation, which should be adapted to national and international standards. Total water consumption in Mongolia was estimated at about 500.0 million m³ in the year 2012. The gain of negative impacts of climate change due to the supply of water resources increases annually.

According to the “UN-Water Country Brief 2013” [2] it is pointed out, that in Mongolia (total area: 1,56 mill km² with 2,8 mill. inhabitants and a population density of 1,8 inhabitant/km²) 34.800 mill m³/year are the long-term average of actual water resources and actual renewable water resources per capita are 12.429 m³/year. 1,6 % of total actual renewable freshwater resources are withdrawn, whereas 82 % of the groundwater is withdrawn. Equipped for irrigation is an area of around 84.300 ha, however only 57 % of this is used.

A new report by the Asian Development Bank sent a warning signal to Mongolia that despite its wealth of natural resources and pristine image, the country faces a severe water scarcity and quality crisis. Rural residents almost exclusively take surface drinking water. Most unprotected sources are exposed to significant levels of pollution.

Due to the above mentioned circumstances and facts, water will be the most important issue for the economic growth and the individual welfare of the population within the next 30 years not only in Mongolia. Thus an e-Journal is an important platform to disseminate information regarding actual challenges and results on an actual international relevant and scientific level. IWRM strategies and concepts help to reduce the important

water problems in Central Asia and identified the background of the crucial points finally leading to a Good Water Governance.

The scientific goal of the e-Journal “IWRM in Central Asia” is focusing on one hand on the classical challenges of water-related issues (Environmental Changes including climate change (i), human impact and land use changes (ii), consumption and demand of water for households in urban and rural areas such as industries, cultivation of land and pasture use for cattle breeding including fisheries (iii), economic development (iv) and institutional management of water on governmental and administrative levels (v). On the other hand there has to be a strong focus on the applied side of IWRM. International projects of different water-related topics are funded to identify and analyze the problems, develop strategies and implement best environmental practices focused on Good Water Governance. Country Water Security is only one instrument of recommendations leading finally to a healthy, ecological well-balanced and economic adapted livelihood of the population. Capacity Development of environmental education and training due to different target groups and the implementation of adapted technologies of water supply and demand (including water treatment, sanitation and water reuse) must be put into practice finally.

Coming back to the Mongolian perspective and future in IWRM it is an important strategic objective to use the water resources effectively and protect/ensure such resources on the base of a sustainable managed ecological balance due to Mongolia’s extreme continental harsh climate conditions.

Public administration of water resources management is working on national (Ministries-level) and local (Aimag-) levels based on the Water Law (2012) effectuating a number of changes in mandates and responsibilities for the Government of Mongolia with regard to water. Several ministries (9) are involved in the management of the water sector in one way or the other. Their roles have evolved over a long period of time. Some 13 main agencies and more minor ones are involved in various aspects of water sector planning and management, often with overlaps and sometimes leaving gaps.

Challenges of Integrated Water Management

Household Water Management	Urban Water Management	Economic Water Management	Environmental Water Management	
				Capacity Development
				Institutional Water Management
				Resilience of water-related disasters

Cross section moduls

Fig. 1: Challenges of Integrated Water Management and their Cross Section Modules

Implementation of best practices and assessment of the key dimensions of IWRM can only be as good as the data are reliable. In general the data collection situation and the data base must be improved.

The legal framework is issued that the authority in charge of environmental issues [mostly the Ministry of Environment] shall establish the “Water Resources Council” that will formalize the total and the exploitable water resources. National IWRM plans are mostly developed and submitted in order to provide necessary cross sectors, regional and policy coordination at all levels. Additionally rules, procedures, methods and guidelines related to water use assessment, inventory, water resources ecology and economic valuation, water resources monitoring, restoration of water resources area, utilization and ownership of water facilities and infrastructure has to be approved by the respective government organizations. Trans-boundary water agreements and its reformation play an important rule not only in Mongolia in future times.

River Basin Councils and River Basin Administrations in 26 river basins of Mongolia are already working or will start with their constitution within the next future. The staff (scientist, administrative officers, technicians etc.) have to be trained and informed about specific challenges and tasks about water management and I am convinced that this is even too an important issue of “IWRM in CA” e-Journal. The language has to be understood by everybody. Contributions about methodology on nature-scientific, socio-economical, culture-historical and administrative level are from my point of view welcome to be published.

References

- [1] ADB (2013): Water Security Assessment Outlook 2013. <http://adb.org/sites/default/files/pub/2013/asian-water-development-outlook-2013.pdf>, visited 25.04.2015
- [2] UN-Water (2013): Country Brief Mongolia. http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/Publications/MNG_pagebypage.pdf, visited 25.04.2015