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Ecosystem based river basin management planning in critical water catchment in Mongolia

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Developing the ecosystem based adaptation strategies to maintain water security in critical water catchments in Mongolia would be very significant. It will be base by reducing the vulnerability.

"Ecosystem Based adaptation" is quite a new term in Mongolia and the ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

To strengthen equitable economic development, food security, climate resilience and protection of the environment, the implementation of sustainable river basin management in critical water catchments is challenging in Mongolia.

The Ulz river basin is considered one of the critical water catchments due to the temperature has increased by in average 1.3^0Ñ over the period 1976 to 2011. It is more intense than the global warming rate (0.74^0C/100 years) and a bit higher than the warming rate over whole Mongolia as well. From long-term observations and measurements it is clear that Ulz River has low water in a period of 1970-1980 and since the end of 1980s and middle of 1990s there were dominated years of the flood. However, under the influence of the global warming, climate changes of Mongolia and continuation of drought years with low water since the end of 1990s until today river water was sharply fallen and dried up. For the last ten years rivers are dried up and annual mean run-off is less by 3-5 times from long term mean value.

The Ulz is the transboundary river basin and taking its origin from Ikh and Baga Burd springs on territory of Norovlin soum of Khentii province that flows through Khentii and Dornod provinces to the northeast, crossing the state border it flows in Baruun Tari located in Tari Lake concavity in Russia.

Based on the integrative baseline study on the “The Ulz River Basin Environmental and Socioeconomic condition”, ecosystem based river basin management was planned. “Water demand Calculator 3” (WDC) software was used to estimate water demand and calculate water use balance in 2015, 2021.

The result of the water balance estimation shows that water consumption-use will be increased 3 times in the river basin by 2021. As the water consumption-use source, surface water – 6.4 % and groundwater is 93.6 percent. The current consumption of the mining sector is shares 71 percent of the total users; it would be 82 percent in 2021. However, the livestock water consumption-use is 27 percent of the current demand; it would be decrease up to 16 percent in 2021.

Ecosystem based approach IWRM plan would be efficient to the local resident to adapt the climate change situation. Thus, the results of the research study on the river basin ecosystem services and values are the base of the planning.