

Session 2.3

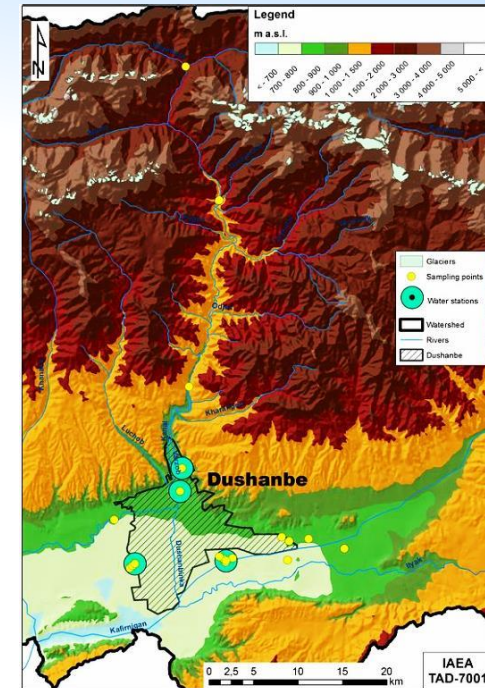
Climate Change and Its Impact on Water Resources: Case of Tajikistan

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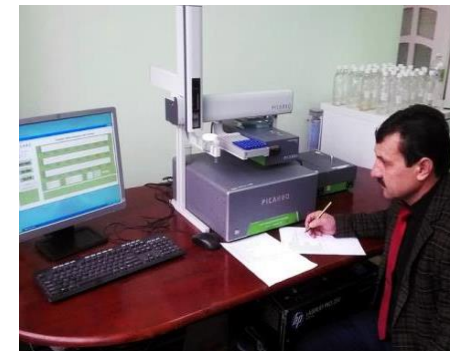
Project Area and Support from IAEA

- Background:
 - Dushanbe city is supplied by surface and groundwater. Share of every water source is not absolutely clear for urban water supply.
 - It is suspected that climate change may influence proportion of waters from different sources (rainfall/snow/ice).
- Challenge:
 - IWP involved in water investigation had no required potential to assess available surface and groundwater sources.
 - Study area included Varzob and Kafirnigan rivers supplying water to Dushanbe city and the surroundings.
- Assistance:
 - First isotope hydrology project “Using Isotope Techniques to Assess Water Resources and their Hydrogeological Conditions” was implemented in TJ in 2012-2013.
 - IAEA provided equipment, materials and training of specialists in isotope hydrology and chemical analysis of water.



Achievements under the Project

- Achievements:
 - Laboratory for analysis of water isotopes was established in IWP and staff was trained.
 - Analysis of collected samples provided information on chemical elements and isotopes in water, formation and travel of groundwater, and its residence time in aquifers.
- Further research:
 - Study of climate change and water potential in the Pamir was done using equipment/software provided by the IAEA.
 - Result of this study was published in a scientific GES magazine (http://www.rgo.ru/sites/default/files/upload/gi316_web.pdf).
- Project effect:
 - It was not possible to evaluate the long term change of water parameters in the study area due to short project period.
 - Obtained results were not sufficient for making any decisions with regard to rationalizing urban water management.



Future Use of Obtained Experience

- Dissemination:
 - It is necessary to train young specialists in the field of isotope hydrology.
 - Staff of other state water-related agencies can be involved in water sampling and further study.
- Sustainability:
 - Experience of the present study should be replicated throughout the whole TJ for sustainable result.
 - Similar investigation of surface and groundwater can be initiated in other large river basins.
- Future plans:
 - It is required to continue data collection in the study area and in other river basins.
 - Further research will contribute to water management in both urban and rural areas in TJ.

