

Some aspects of water use in the Republic of Armenia

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Under the conditions of limited water resources, an urgent need has emerged in the Republic of Armenia for development of multipurpose water facilities, e.g. for water supply, irrigation, hydropower, recreation. Meanwhile, each water user imposes specific requirements for quality and quantity of water.

Uncontrolled water intake and deforestation have caused reduction of water content in large watercourses and, accordingly, of inflow to inland water bodies. Regulation of runoff of small rivers also leads to transformation of water quality in both reservoirs and rivers. The problem is exacerbated due to intensive development of metal mining industry, facilities of which are located in mountainous areas of flow formation, with rich forest cover.

The average annual flow formed on the territory of Armenia is estimated at 7.3 billion cubic meters, including 3.5 billion cubic meters of surface flow and 3.8 billion cubic meters of groundwater.

Groundwater plays an essential role in total water balance of the republic, constituting 96% of use by water utilities. In addition, 1.6 billion cubic meters of water out of total is extracted as springs, the rest is discharged into rivers and lakes [1]. Since quality of groundwater is very high, they are used for drinking water supply without additional treatment. Meanwhile, multi-purpose reservoirs with total volume of about 1 billion cubic meters have been constructed for flow regulation.

An apparent reduction in river flow necessitates revision of priorities of either of water uses in developing water management balance for multiple uses of water.

The concept of sustainable development of the region must encompass nature conservation technologies and activities aimed at rational use, control and management of water resources. In addressing these problems, it is necessary to have information about the current state of water resources in order to forecast admissible limits for water use to ensure conservation and development of aquatic ecosystems [2-4].

References

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