

Transboundary Artesian Basin of Georgia

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Extended Summary

Alazani-Agrichai artesian basin represents transboundary aquifer resources shared by Georgia and Azerbaijan. Total potential resource of the basin is 39.3 m³/sec, including 20,4 m³/sec in Georgia and 18,9 m³/sec in Azerbaijan. From the view of geotectonic the most part of the area belongs to the folded system of the Great Caucasus. It is built of Paleogene and Quaternary sediments. About dozen water bearing horizons and complexes are marked out and studied in the area including those having value as sources of potable and technical water. These are: water bearing complexes of modern alluvial sediments, not divided Quaternary sediments and Agchagil-Apsheron-Alazani series, Gurjaani and Telavi aquifers. This is a closed catchment of Alazani and Agrichai rivers where all surface waters forming the basin accumulate in one hydrological section. The study area Alazani-Agrichai artesian basin comprises the parts of the north-east Georgia and the north-west Azerbaijan with total area of 6300 square kilometers. Confined groundwater of the basin are, pure streams from the Great Caucasus and that from Tsivgombori ridge (south). At the same time, it should be mentioned that within the debris cones formed by multiple tributaries of Alazani and Agrichai rivers, the main places where natural outlets of groundwater area are observed the risk pollution is high.

Groundwater of Alazani-Agrichai aquifers are of vital importance for population Azerbaijan and Georgia Complex regional use of water resources of the basin should be created with consideration of water recharge.

The program is to include creation of a computer database, proved water reserve (industrial category), as well as creation and putting in place a proper monitoring network in order to avoid reduction of water reserve and desertification. At the same time, in conditions of intense technogenic impact on groundwater, preservation of a safe environment must be linked to creation of the system enabling performance of "in time" and "in space" qualitative and quantitative control of possible changes in the latter.

International practice of transboundary water use testified that the legal documents regulating resources use are addressing the issue in their own particular way practically ignoring the main requirement set out in the Helsinki charter on transboundary issues aimed for regulating parity distribution of resources between the neighboring states. Ignoring that fact might lead to serious conflicts between the "neighbors". Therefore, a regional legal basis should be worked out with consideration of economical, political and strategic interests of the neighbor states.

In the XX century much problems concerned with study of hydro geological settings of Alazani-Agrichai basin had been studying However, at present one can observe a necessity of re-estimation of some results from current viewpoint and geoinformation as well. Such problem as legislative and institutional aspects and so on are poorly studied. From the mentioned above it comes that this project re-estimation is extremely important for Georgia and Azerbaijan.