Water resources in the Southern region of the Republic of Moldova – challenges and perspectives

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Abstract

Present research is dedicated to evaluation of water resources state of the Southern region of the Republic of Moldova (occupying about 1/3 of the country territory) in conditions of human impact as well as determination of those measures that are important to improve the water bodies' state. Main methods were taken from national normative documents and recently adopted governmental decision that allow to estimate the water bodies changes under the impact of pollution from diffuse sources (agriculture and livestock) and point sources (settlements), morphological alterations (under dykes, irrigation channels and reservoirs impact), hydrological changes (caused by urbanization, water abstraction and discharge, water accumulations, agricultural activities). Total number of surface water bodies identified in the region is 60 (8 in the Dniester river basin district and 52 in the Danube – Prut, Black sea basin district) from which only 3 water bodies are lakes (one in the Dniester river basin district and 2 in the Danube – Prut, Black sea basin district), and the rest are of river type. Over all the highest impact on the water bodies' quality is caused by agriculture land, all water bodies being under high pressure due to this factor, livestock is almost without any effect. Point sources of pollution have a significant impact only on 10 water bodies. Hydromorphological alterations are significant for 18 water bodies, main pressure being induced by dykes, less by reservoirs constructed of river courses and irrigation channels. For about a half of the water bodies, the quantitative state of water resources is severely influenced by the human impact, main tendency being the decrease due to agricultural activities, water use and reservoirs functioning. Improved water resources management with involvement of governmental institutions, local authorities as well as population needs to be developed and applied in order to improve water bodies' status.