WATER MANAGEMENT IN REPUBLIC OF MOLDOVA. PRINCIPAL THREATS

NICOLAE OPOPOL
State Medical and Pharmaceutical University
“Nicolae Testemitsanu”
165 Stefan-cel-Mare Bul.
2004 Chisinau
Republic of Moldova
Tel.: +373 22 – 735822; -205189. Fax: +373 22 – 735804; -
242344.
E-mail: nopopol@sanepid.md

Abstract

Water management and impact of water related hazards on health were investigated. Although some aspects of water quality and supply have improved over the last decade, progress has been variable. Anthropogenic pressure on water resources affect health and water born diseases occur throughout country. The rural and socially excluded populations are especially vulnerable to water related hazards. To improve the situation with regard to water resources, the following issues need to be addressed: (a) the overall poor quality of water resources, (b) the supply of drinking water to the rural population in accordance with established standards and (c) watershed protection.

Keywords: Republic of Moldova / aquatic resources / water management / mineralization / nitrates / fluoride / hydrogen sulfite / bacterial hazards / health
1. **Aquatic resources**

1.1 **SURFACE WATERS**

The water resources of a country are determined by a number of factors, including the amount of water received from precipitation, inflow and outflow in rivers and the amount lost by evaporation and transpiration (Water and Health in Europe 2003). Republic of Moldova, which area is 33.7 thousand km², is located in South-East of Europe, in a region of insufficient precipitation, limited water resources, with temperate climate and relatively limited humidity (Environmental performance reviews 1998). About 1.32 billion m³ of water are formed in its territory every year. There are not uniform and regular precipitations in Moldova. In its northeast part (Briceni, Ocnita, Soroca, Camenca) and in the central part of the country (Sraseni, Calaras) it falls 550-600 mm of precipitations yearly. This value is decreasing gradually from northwest to southeast, reaching 370-400 mm in Taraclia and Ciadir-Lunga. As a rule precipitations fall as downpour in the warm period of year and approximately 10% from whole its quantity is in form of snowfall (Ropot, 2002). Tremendous downfalls are characteristic for Republic of Moldova. It can occur that in a short time the precipitations constitute more then 200 mm per day. In 1991-1996 years such rains in many localities provoked a number of human victims and enormity of economic losses. There are also many droughts in this territory.

Three years from every ten are drought-afflicted here. The hydrographic network is quite pronounced (16000 km total length of rivers). It includes 3621 rivers and rivulets, 57 lakes with a total area of 62.2 km² and about 3000 ponds (Ropot, 2002; Starea mediului, 2004). Moldova is mostly located between two large rivers: Dniester and Prut. River Dniester, with a basin covering 57% of the Moldovan territory and an average annual discharge of 10 billion m³, separates the Republic of Moldova from Ukraine. River Prut, with a catchment covering 24% of country’s territory and a yearly discharge of 2.4 billion m³, delimits Moldova from Romania. The largest natural lakes are situated in the lower part of river Prut and river Dniester. The largest water reservoirs are Costesti-Stinca - on river Prut (735 million m³) and Dubasari - on river Dniester (490 million m³) (Starea mediului, 2004).

The river water resources are classified in 4 categories: natural resources (14.82 billion m³), generated by the specific climatic conditions of the territory; real resources (14.36 billion m³), collected from the entire river