

ORGANIZING AND ECONOMIC APPROACHES TO IMPROVING OF REGIONAL WATER SUPPLY PROCESSES

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According to the new UN General Assembly Resolution, accepted in 2010, nowadays the access to the clean drinking water is equated to the fundamental human's rights. Meanwhile, drinking water becomes the scarcest resource, and the provision of its quality turns to the global society's challenge.

The actual water supply problems, inherent to Ukraine, are selected and summarized, consequently, the following *groups of the problems* are presented: 1) economic; 2) administrative; 3) ecological; 4) social; 5) regulatory; 6) territorial. This study focuses on the economic and ecological water supply problems in Ukraine. In accordance to UN standards, Ukraine by its own reserves of surface and ground water is a region, not provided with freshwater in sufficient quantity and quality.

Water supply processes are considered in the system of interconnections of natural, water and economic subsystems. Balance of these interconnections ensures that the water performs a wide range of extremely important life-supporting functions, such as recreational function, use of water for energy, use of water in technological processes, water as an evolutionary environment, water as a component of living organisms, etc. Among named freshwater functions, the certain priority is the *people's provision with the qualitative drinking water*. People's provision with the qualitative drinking water is the strategic interest of any nation, primarily because the human health, by the World Health Organization, is the decisive factor in the characterization of the human capital.

Important to note that in Ukraine sanitary and epidemiological stations analyze the drinking water samples by approximately 20 quality indexes, while National Primary Drinking Water Regulations of the USA normalize over 50 agents, and EU's Drinking Water Directive contains 66 such parameters.

The study presents the regional analysis of the drinking water condition in two parameters, *sanitary-chemical* and *bacteriological*. However, necessarily to admit that sanitary and epidemiological stations' records don't include any results of drinking water quality control right after the accidents, which, unfortunately, are not rarities in Ukrainian water supply systems.

The fact that specific gravity of the *damage to public health, caused by the consumption of unsafe drinking water*, in overall economic damage is about 15%, mustn't be ignored. Firstly, we suggest estimating the ecological-economic damage on *three water supply categories*: 1) artesian water from underground sources; 2) from surface water bodies; 3) from groundwater runoff and close to surface aquifer, not protected from contamination (which rural population is mainly provided by). The *coefficient of population's awareness about a contamination degree of drinking water* is also taken into account.

Secondly, in prospect, authors suggest to estimate ecological-economic damage to public health, caused by the consumption of unsafe drinking water, by the improved method, which considers the *coefficient of availability of qualitative drinking water* for population. Particularly valuable in new method is the consideration of chemical and bacteriological factor of water contamination. Should be noted, that the average cost of curing infectious diseases is 15-20 times more than curing diseases, caused by chemical contamination of drinking water.

According to the mentioned-above first method, we calculated the annual ecological-economic damage to public health, which particularly for Sumy region makes about 60 million USD. The existence of resulting ecological-economic damage from unsafe drinking water causes the necessity of development of *approaches to its compensation*. Approaches, suggested by authors in the study, include the following: 1) social compensation in the water supply payments the costs of bringing the water to the drinking quality (taking into account that the human's daily need of drinking water is 3-4 l); 2) installation of water treatment systems on the second and third ascents of water and splitting of water supply for drinking and economic needs; 3) governmental distribution of "social drinking water" at an affordable price through the supermarket chain; 4) interest-free loans provision for purchasing the modern individual multistage water treatment systems; 5) access provision to at least one source of qualitative drinking water in the rural terrain.

Additionally, one of the effective ways of damage prevention is the improvement of drinking water sources state. For this purpose, on our opinion, the stimulating of involvement *ecological functions of water sources* is efficient, particularly, using the higher aquatic plants functions as the least capital-intensive and effective way of water ecosystem treatment.

To the practical implementation of measures recommended above, we propose to improve the existing mechanism of water supply, specifically, besides traditional administrative block, financial and economic block as well as resource block, we input to it an *allocative block* on the purpose of optimization water resources in time and space. To our mind, important to distinguish separately the motivational factors, directed to sustainable water use. Should be mentioned, that the *internal motivational factors* are the most efficient, i.e. the stimulating of sustainable water use and recovery processes in water sector is efficient, when inner motivation dominates.

To sum up, the approaches to estimating ecological-economic damage to public health, caused by the consumption of unsafe drinking water, are improved; the efficiency of involvement ecological functions of water sources, is justified; the structure of organizational-economic mechanism of water supply, is improved; as well as the ways of improving economic instruments of improving public water supply motivation, are formed.