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MUNICIPAL WATER SUPPLY OF UKRAINE: STATE AND PROSPECTS OF DEVELOPMENT IN THE STRUCTURE OF REGIONAL WATER MANAGEMENT CLUSTERS

The article deals with the analysis of the state of municipal water supply (MWS) of Ukraine and the reasons that have led to its decline. An alternative way of its strategic development, namely as a part of the regional water management cluster (RWMC) has been suggested and substantiated. The benefits and the factors that affect the success of its development and operation have been determined.

Keywords: municipal water supply, regional water management cluster, public-private partnership.

Стасюк В.В. КОМУНАЛЬНЕ ВОДОПОСТАЧАННЯ УКРАЇНИ: СТАН ТА ПЕРСПЕКТИВИ РОЗВИТКУ У СКЛАДІ РЕГІОНАЛЬНИХ ВОДОГОСПОДАРСЬКИХ КЛАСТЕРІВ

У статті виконано аналіз стану комунального водопостачання України та причин, які призвели до його занепаду. Запропоновано та обґрунтовано альтернативний шлях його стратегічного розвитку, а саме у складі регіонального водогосподарського кластера. Визначено переваги останнього та визначено чинники, від яких залежить успіх його становлення та функціонування.

Ключові слова: комунальне водопостачання, регіональний водогосподарський кластер, державно-приватне партнерство.

Стасюк В.В. КОММУНАЛЬНОЕ ВОДОСНАБЖЕНИЕ УКРАИНЫ: СОСТОЯНИЕ И ПЕРСПЕКТИВЫ РАЗВИТИЯ В СОСТАВЕ РЕГИОНАЛЬНЫХ ВОДОХОЗЯЙСТВЕННЫХ КЛАСТЕРОВ

В статье выполнен анализ состояния коммунального водоснабжения Украины и причин, которые привели к его упадку. Предложен и обоснован альтернативный путь его стратегического развития, а именно в составе регионального водохозяйственного кластера. Определены преимущества последнего и определены факторы, от которых зависит успех его становления и функционирования.

Ключевые слова: коммунальное водоснабжение, региональный водохозяйственный кластер, государственно-частное партнерство.

Statement of the problem. An extremely serious condition of the MWS of Ukraine is being complicated by the lack of distinct directions of its strategic development at the state level that would ensure investment income and stop further degradation process. Therefore, the search and argumentation of the alternative ways of strategic development of the MWS is an actual scientific and practical task at the moment.

Analysis of recent research and publications. A series of publications of famous Ukrainian scientists, particularly the research results made by M.A. Hvesyk [1] and V.A. Holian [1; 2] are devoted to the analysis of the state and prospects of the development of the water management complex of Ukraine. However, alternative ways of development of the MWS as the extremely important component of water services have not been identified in the above-mentioned and other scientific papers.

Statement of the task. The aim of the article lies in the analysis of one of the possible alternative ways of strategic development of the MWS sector of Ukraine, namely as a part of the regional water management cluster (RWMC).

The main material of the research. The analysis of National reports on the quality of drinking water and the state of drinking water supply in Ukraine and National reports on the state of technogenic and natural security in Ukraine in recent years, as well as a large number of different reports and analytical information published on the website of the Ministry of Regional Development, Construction and Housing services (HCS) of Ukraine (<http://minregion.gov.ua/>), the National Commission for the State Regulation of public utilities (<http://www.nkp.gov.ua/>), State Service of Emergencies of Ukraine (<http://www.mns.gov.ua/>), and the Ukrainian Association of enterprises of Water Supply and Sewerage System «Ukrvodokanalecologiya»

(<http://ukrvodokanal.in.ua>) suggests that the MWS, occupying a key place in the social and industrial infrastructure of urban agglomerations, is in the condition of profound crisis today. Lack of investment income and government financial support has been resulting in an annual increase in the length of the deteriorated networks (e.g. at the end of 2012 it increased by 1957 km compared to 2011 and it was 51855 km [3]), and leads to worsening of the water pumping equipment (4758 pumping units required replacement at the end of 2012 [3]).

The high degree of networks deterioration causes increase in the number of accidents and the volume of drinking water losses. The Decision of the Board of the Ministry of Regional Development, Construction and Housing dated June 27, 2013 №37 [4] states that water losses in water supply networks are over 40%, and in some cases even reach 70%. It is emphasized that the majority of water and wastewater enterprises of the country are unprofitable – during the period from 01.01.2013 to June 27, 2013 they suffered losses worth 373.6 million hryvnia (the total loss of utility sector for the specified period was 1657.6 million hryvnia, and the most unprofitable is municipal heating sector – 1199 million hryvnia [4]).

The analysis of the above mentioned reports and analytical information allows to determine the main reasons of the decline of the MWS of Ukraine: imperfection of the state policy in the sphere of water management and its legislative and regulatory framework; non-conformity of the MWS tariffs to its prime cost, cross subsidizing; critical level of depreciation of basic assets of the MWS utilities, their unsustainable operation; frequent inobservance of the norms of the technical maintenance of production equipment and infrastructure; non-compliance with regulations of diagnostic measures aimed at the regeneration of wells; in-

sufficient level of supply of the MWS enterprises with cleaning and disinfecting units (which often causes the inability to achieve the standard indicators of drinking water quality); extremely high power consumption of production processes; significant unproductive losses of drinking water, retardation methods for detecting locations of leaks; frequent use of groundwater (much cleaner than surface one) for technological needs; lack of a unified system summarizing information on sanitary, epidemiological and technical condition of drinking water sources (based on their certification); frequent ignorance of the need to maintain laid-up underground sources of drinking water during urban policy; non-use of modern techniques to enhance productivity of water intake.

The imperfection of the domestic institutional environment for water use should be highlighted as an especially negative factor, disadvantages of which were studied in details in the research paper [2, p. 20]. Such disadvantages as institutional gaps and traps, unjustified import of certain institutions, institutional vacuum, institutional chaos and institutional constraints are inherent for the MWS sector. Institutional gaps in water supply lie in the inconsistency between the legal registration of institutions and their real embodiment into the system of the formed economic relations. An illustrative example of the presence of institutional traps in the MWS is a hidden pressure of senior government bodies (Ministry of Regional Development, Construction and Housing, the National Commission for the State Regulation of public utilities – state collegial body subordinated to the President of Ukraine and accountable to the Parliament of Ukraine) during the adoption of vital decisions (especially setting tariffs for water supply).

Confirmation of an institutional vacuum in the sphere of the MWS is substantial weakening of some institutions (e.g. water protection legislation), which has been leading to intense violation of the established norms and rules of behavior (in particular, over the past decades a substantial increase of the incidence of unauthorized building in the water protection zones). The attempts at the level of the Ministry to implement into the MWS some institutional forms from the sphere of water use in developed European countries (without proper examination of the adaptation possibility) is the evidence of unreasonable import of the foreign institutions. A striking example of the presence of institutional constraints in the MWS is retardation (compared to foreign counterparts) of regulatory sacurance of commercialization of water management relations, and the example of institutional chaos is the rapid and spontaneous, often unjustified, dismantling of some institutions from the Soviet epoch.

Thus, it is obvious, that today the search of the ways for removing the MWS of Ukraine from the crisis is an urgent scientific task of national importance. The involvement of private sector capital in the MWS sphere establishing public-private partnership (PPP) is determined as one of the main options for improving the MWS conditions by many legislations and national policy documents, concerning the operation and development of utilities of Ukraine (Economic Reform Program for 2010-2014 «Prosperous society, competitive economy, effective state», Resolution of the Cabinet of Ministers of Ukraine dated February 27, 2013 №187 «On approval of State program of revitalization of economic development for 2013-2014», Law of Ukraine «On the National target Program «Drinking Water of Ukraine» for 2011-2020», Decree of the Cab-

inet of Ministers of Ukraine dated September 16, 2009 №1184-r «On Approval of the Concept of the development of Public-Private Partnership in Housing Economy», etc.).

However, the MWS in Ukraine belongs to the sphere of natural monopolies, and this fact legislatively limits the applicability of capital-intensive forms of PPP (although their effectiveness is confirmed by the experience of not only developed European countries, but even by many countries with transition economy). Concerning cooperation with the private sector within the framework of «light» forms of PPP such as the conclusion of short-term contracts for service, performance, management, outsourcing, trust management contracts (which, of course, has a reasonable basis in the context of political instability in the country and offers benefits to private operators and municipality), this cooperation is able to improve the situation in the sub-sector only for the short term and will not provide a good income of investments. Besides, extremely low investment attractiveness of the MWS utilities, which is one of the main reasons for the lack of interest from international financial institutions and the private sector to invest their development, complicates the situation significantly.

Much more opportunities for effective cooperation in the framework of PPP with the private sector are provided within cluster associations [5, p. 246-266]. Clusters have some significant advantages over other enterprises incorporations, which are described in detail in the research papers [6, p. 89, 93-94; 5, p. 164]. Therefore, special attention should be paid to the MWS utilities within cluster associations, particularly regional, no matter on which of the three approaches, tested in domestic practice, they are built (these approaches are analyzed in detail in the research paper [5, p. 246-247]).

The analysis of the above-mentioned advantages of cluster associations allows to formulate them for the RWMC (they serve as conclusive evidence of the expediency of the MWS enterprises participation in them):

- 1) the ensurance of the strategic development of each member of the cluster. This is possible due to the formation and distinct adherence to fully balanced strategy of operation and development of cluster association as a whole, and the ensurance, in the case of necessary (when changing external or internal factors), the possibility of their efficient correction. Besides, common goals and interests of the cluster participants, dynamic and gradual increase of volumes of financing, reducing the potential risks, the rise of the market value of the cluster structure and a high level of stability of the RWMC economic development is the basis which forms the future prospects of each member of cluster;
- 2) the growth of indicators for financial and economic activities, including revenue and profitability level;
- 3) the improvement of the innovation activities of enterprises participating in the RWMC achieved, primarily, through enabling substantiated choice of the most efficient options for innovative projects (without external pressure by leading government agencies) and through the common economic interests in their implementation. This provides the possibility for self-forming of innovation project selection criteria (depending on the orientation). In particular, the most important criteria for water supply companies projects are to reduce the energy intensity of industrial processes and to provide standard indicators of drinking water quality;
- 4) the achievement of synergetic effect (in the broadest sense – by sharing highly efficient use of the basic assets of all companies participating in the

cluster). However, in reality the display of synergetic effect is rather different, for example: improving of information components (due to the formation of a common information space within the cluster structure), increase of the technological level of production (due to the introduction of the advanced technological process, application of the results of inventive activity, etc.), rationalization of the resource potential use (due to common use of the main types of resources on the basis of favourable conditions), increasing of the quality of infrastructure component use (due to shared infrastructure, banking, insurance, consulting services) and others.

In addition, in the framework of the RWMC local bodies of self-government will possess much greater opportunity to realize their possibilities envisaged by the Law of Ukraine «On Local Self-Government in Ukraine», as they will take a direct part in various water management projects along with business structures and financial and credit institutions.

It should be noted that the establishment of the RWMC in Ukraine and active participation of the MWS utilities in these enterprises will serve a visible embodiment of the international water policy tasks, because in the conditions of transforming of economic relations in water use at the global level the formation of new structures of regional water management complexes (in this case, the cluster formations) using wide range of forms of economic development of water resource potential and mechanisms of prevention to excessive depletion of water resources is also an important task for the national economy. Due to the extremely high level of ordering of the economic relations system within the RWMC economic development of water resource potential of administrative region, development of infrastructure of its drinking and industrial water supply, organization of monitoring of available water resources will be excelled with extremely high level of efficiency.

Although due to significant differences between water management complexes of some administrative regions the RWMC will be able to vary from each other significantly (i.e. each of them can have its own organizational structure, due to the natural resource and technological factors), but their industrial-technological and organizational-administrative tasks (the basis of which will be the principle of prudent use of water resources) will be characterized with a high level of unification. In particular, the adherence to the above mentioned principle will greatly increase the number of water recycling systems in industrial areas that will provide significant savings of fresh water. After all, today the use of water recycling systems does not have the proper dissemination in the Ukrainian economy. Moreover, it will be extremely important for the MWS interest of cluster in groundwater extraction for drinking water supply because they are naturally much more protected from pollution and the costs for bringing them to the requirements of sanitary standards are much lower. The costs for the organization of sanitary protection zones of water intakes will also substantially reduce in this case.

When creating the RWMC it should also be remembered that it is a complex system – structural formation, which combines three diverse components – natural, technical and economic, and therefore its formation (especially in the time of the formation of market relations in the country) requires a systematic

approach. The natural component includes water resources and environment, the technical component contains water intakes, water facilities, pipeline network etc., and economic component is introduced by, first of all, the control system of water use. Therefore, the effectiveness of the RWMC depends on the perfection and efficiency of the mechanism of interaction of these three components.

Of course, the success of the formation and functioning of the RWMC depends on an extremely large number of different factors, but the most important ones (according to research of domestic scientists [1, p. 312-333] and the results of our own analysis) are the following:

- 1) the appropriate level of legislative and regulatory support for creating cluster and similar structures;
- 2) the excellence of methodical ensurance concerning the formation and structuring of water management cluster associations;
- 3) the revision of socio-economic development of regions towards the formation of the RWMC;
- 4) the legislative support to the effective cooperation with international financial institutions (primarily in the MWS sector) in the framework of regional water management programs.

Conclusion. The above mentioned arguments convincingly affirm in favour of the regional water management clustering, because the participation of the MWS utilities in it will ensure not only survival, but their further development. In order to achieve this goal, special attention should be paid to the expansion of the PPP, cooperation with international financial institutions and with well-known reputable companies that specialize in the management of water supply activities.

The prospects for further research in this area are, firstly, to study the specific characteristics of the RWMC formation, taking into consideration the specificity of certain administrative regions, and, secondly, to study the specifics of cooperation with the private sector, international financial institutions and specialized water management companies in the framework of the RWMC.

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