

**ANALYSIS OF THE PRESENT STATE OF DE-
MONOPOLIZATION AND OF THE PRIVATE
SECTOR INVOLVEMENT IN THE SPHERE OF
DRINKING WATER SUPPLY AND SANITATION
IN THE REPUBLIC OF TAJIKISTAN**

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The list of used abbreviations

RT – Republic of Tajikistan

CC of the RT - Criminal Code of the Republic of Tajikistan

WC of the RT - Water Code of the Republic of Tajikistan

SUE – State Unitary Enterprise

DWSS – drinking water supply and sanitation

RF – Russian Federation

MUE – Municipal Unitary Enterprise

SUMMARY

The sector of drinking water supply and sanitation (waste water disposal¹) all over the world is considered to be the most conservative and gives way to market reforms with great difficulties. Problems arising in this sector depend on technological, economic and legal specifics of this sphere. Being a natural monopoly, the sphere of drinking water supply and sanitation is also the most unprofitable in comparison with other kinds of similar natural monopolies, such as, for example, spheres of electricity, telecommunications and gas. Services on drinking water supply and sanitation are services of "local" importance and can not be transported over long distances. The scope of services is usually geographically limited by one or several neighboring human settlements. In addition, construction and expansion of networks and of infrastructure require significant expenses, as networks are laid underground. After all, the key problem is the importance of water and sanitation for the human life and activities and these services are practically irreplaceable by any alternative services.

However, despite these and other problems and economic challenges, the need for major investments for maintaining networks and infrastructure, the population growth and construction of new residential estates and, subsequently, the increased demand for drinking water supply and sanitation services have led to initiating market reforms all over the world in this area since the early 80s of the last century. Reforms provided for de-monopolization and liberalization of the sector, moving aside from the direct state control in this sphere to the effective economic regulation by the state, to the expanded participation of the private sector in the operational management of the sector, development of the public-private partnership, attraction of private investments and of the private capital into this sector. In England and Wales, after a number of attempts to make reforms in operation of public companies in this sphere, it was decided to transfer the sector completely to the private ownership through privatization and corporatization, under the strict economic regulation by the state. In France, management rights of drinking water supply and sanitation systems were on a large-scale transferred to private companies. Today more than 75 percent of all drinking water supply and sanitation systems are managed by private companies under contracts with municipalities. Germany has also taken a number of steps aimed at attracting the private capital through creation of joint public-private companies. In CIS countries, for increasing competition and attracting the private capital into this sector the legislative and institutional framework was developed, in particular in Armenia, Russia and Kazakhstan. Reforms carried out in different countries, in the majority of cases resulted in significant improvements in this sphere, and improved the quality of servicing, provided continuity and reliability of financial and legal decisions accepted in the drinking water supply and sanitation sector.

In Tajikistan, only about 59 percent of the population have access to clean and safe water, despite of the fact that the country holds one of the top positions among the world countries by the level of freshwater resources. Current market conditions aggravated problems remained from the Soviet times. Market transformations concerned the sphere of drinking water supply and sanitation last of all, leaving this sphere without any significant changes for a long time. In spite of the claimed self-financing, tariffs in this sector still do not cover actual costs of water supply enterprises. Drinking water supply and sanitation enterprises in the overwhelming majority are state-owned and are managed by unitary enterprises established by the state that demonstrated the ineffectiveness of such approach during the last decades. Despite the economic isolation, the state unitary enterprises were not able to gain the full independence and still view themselves as an extension of the state power branches, and not as free market entities. Regulation in the sector is split between various government bodies and agencies that often duplicate each other, the regulatory functions are not arranged transparently and clearly. The regulatory process is not aimed at stimulating economic activities of enterprises and providing the balance of interests of water consumers and suppliers.

¹ Hereinafter in the text of this report under the term "*sanitation*" the *water disposal or sewerage system (canalization)* is understood. «The water disposal – is a complex of engineering constructions (pipelines, pump stations, waste treatment facilities and sanitary appliances, standpipes etc.), providing collection and disposal of waste waters from the territories of human settlements, industrial enterprises and other objects, as well as their treatment and disinfection before utilization or discharging them into water reservoirs or watercourses» - CNR of the Republic of Tajikistan, 40.02-2009 Construction norms and rules «Waste water disposal. External networks and constructions». Also in accordance with the WHO definition «In general, sanitation is provision of facilities and services for the safe utilization of human urine and faeces» - the source <http://www.who.int/topics/sanitation/ru/> – *the author's note*

Despite the claimed need for significant investments into the drinking water supply and sanitation sector in Tajikistan, the state policy in the sphere of drinking water supply and sanitation does not provide for any incentives and motivations for attracting investments, of the international and private capital and of private initiatives. The sector differs by the extremely low investment attractiveness. The state concepts and programmes do not provide for any long-term solutions for the further development of business potential of this sphere, for attempts to liberalize and build the effective economic regulation of operation of water supply enterprises.

The legal framework of the national legislation does not provide for the possibility of the private sector participation in the management of drinking water supply and sanitation systems. It does not have diversified approaches to the management based on involvement of enterprises of different organizational and legal forms and forms of ownership.

With the purpose to ensure the long-term functioning of drinking water supply and sanitation systems in Tajikistan, it is necessary to develop and implement a number of system-based changes in approaches to organization of activities on the drinking water supply and sanitation in the country. In particular:

- **Private management and attraction of the private capital.** Transferring of management rights to private companies, introduction of contract-based management, attraction of professional management companies with the experience of successful operation in the changing market environment – it is one of the potentially successful options for Tajikistan. Transferring of the management rights can be in the form of a lease contract, trust (discretionary) management, concessions and other forms. The option of public-private partnership in Germany through establishment the creation of a joint venture (enterprise) also looks interesting.
- **Combined approaches.** In Tajikistan, there are large and small drinking water supply and sanitation system varying from rural systems serving 100-300 households, to large municipal (urban) systems. Therefore approaches in de-monopolization should be based on economic and practical considerations in each particular case. In some smaller systems, more appropriate may be privatization and organization of the cooperative, community-based management with the appropriate regulation by the state and local executive bodies. And other large systems will be more effectively managed by private companies under management contracts.

Realization of any of these scenarios will set to Tajikistan a number of tasks that can be conditionally divided into political, economic and legal tasks:

ECONOMIC SOLUTIONS

- The drinking water supply and sanitation sector today needs substantial investments, but in Tajikistan no economic decisions are made for ensuring the flow of investments. It is necessary to settle the issue of financial support for the further functioning and development of the system, the issue of how and at the expense of what the working capacity of drinking water supply and sanitation systems will be maintained, as well as issues of their further expansion and modernization. Currently, the main sources of investments into the sector are grants and loans from international organizations that cannot provide the systemic long-term support for the sector. And just this decision can become a motive for investors, both for domestic and foreign investors as they should have a clear idea about recurrency of their investments.
- The tariff policy should be reviewed regarding longtermness of accepted tariff decisions and their economic feasibility. For attracting investors also the clear long-term tariff policy is needed.

LEGISLATIVE REFORMS

- All economic decisions should be accordingly reflected in the law. For example, in Germany, in accordance with the law, rates can not be lower than the actual expenses of the company. Issues of the tariff policy, of the tariff setting process, tariffs constituents and components, and its structure should also be clearly reflected in laws.
- De-monopolization and liberalization are always associated with forming up a clear system of economic regulation of the sector. Accordingly, it is necessary to establish an independent, collegiate,

single body for regulation of the sector. Like in other countries, the regulatory body may also engage in regulation of other similar areas of economy.

- The issues of transferring rights of management of drinking water supply and sanitation systems should be stipulated separately in the special legislation. The means and forms of transferring rights of management of drinking water supply and sanitation systems should be as diverse as possible, open for organizations of various forms of ownership, non-discriminatory and simplified.

POLITICAL STEPS

- De-monopolization and liberalization of the drinking water supply and sanitation sector – is a global challenge for Tajikistan, as it provides for fundamental changes in this sphere. Such changes can not be accepted without the political will of the government. Such will may be expressed in the form of a national programme or a special decree of the government of the country, where the goals, objectives and necessary steps for implementation of market reforms in this sector will be clearly set out. And most importantly, such a "documented" political will shall assist in promotion of initiatives on these market transformations.
- The changes will undoubtedly lead to economic consequences, since eventually it will lead to a significant increase in tariffs for drinking water supply and sanitation services. Therefore, the state should be ready for the reaction of the population: targeted social programmes should be developed for compensation to the poor, the awareness raising activities for the population should be developed and supported, a high degree of transparency, accountability and possibility for citizens to participate both in the reform and also in activities of water supply enterprises should be ensured.

I. THE CONCEPT AND SPECIFICS OF DE-MONOPOLIZATION IN THE SECTOR OF DRINKING WATER SUPPLY AND SANITATION

1.1. Natural monopolies in the sector of drinking water supply and sanitation

Enterprises of the drinking water supply and sanitation sector hold a monopoly position because of the nature of their production activities and technological aspects and they are named "natural monopolies".

According to economic terms, the natural monopoly corresponds to the market situation when the efficiency in production and distribution of any volume of products or services is possible at availability of a single firm-manufacturer. This criterion can be described as a subadditivity² of costs. The economic definition of natural monopolies comes to that for doing business in this sphere or in this direction the significant and unjustified costs are needed, for example, for construction of the parallel infrastructure.

The legal essence of natural monopolies is expressed in the Law of the Republic of Tajikistan "On natural monopolies" dated March 5, 2007. According to the definition given in the Law the "Natural monopoly is the state of the market of goods (works, services), where it is impossible or economically unreasonable to create a competitive environment for meeting demand for certain kinds of goods (works, services) due to technological specificity of the production (because of the significant decrease of production costs per unit of product with the increase of the production volume)". This definition is also based on the economic content of the term.

Origination of natural monopolies is traditionally conditioned by the following factors:

- **Specifics of the technology.** Existence of a natural monopoly is conditioned by objective physical laws underlying the applied technology. In the case of centralized drinking water supply, the technology has no analogues except for an extensive distribution network, pumps, stations and methods of wastewater treatment and disposal.
- **Uniqueness of the product and lack of substitute goods.** The uniqueness of goods or services produced by natural monopolies is in the impossibility to replace them by other goods or services because of their specific consumer properties. The drinking water supplied through the centralized water supply system, as well as services on waste water disposal (sanitation) can not be replaced by other types of goods and services.
- **Availability of the infrastructure.** The drinking water supply system is a compound, multi-level complex of interconnected infrastructure objects.
- **High barriers for entering into the market.** In order to enter the market as a supplier of drinking water supply and sanitation services considerable costs associated with the abovementioned factors are needed. This not only creates natural barriers for entering into the market, but also allows existing natural monopolies to retain their position.

Thus, establishment and operation of natural monopolies is an objective necessity. Natural monopolies are mainly created within so-called "costs-forming" sectors of the economy, therefore the level of their prices and tariffs often has an impact on the general level of prices in the country. Therefore, their activities should be clearly regulated and controlled, ensuring the balance of interests of parties, reducing risks of their monopoly position and their social and economic importance should be taken into account.

Specifics of natural monopolies determine the specificity of their activities that can be conditionally divided into technological, economic and social specificities. In particular:

² «Costs are subadditive if the total sum of costs for one firm is less than for two and more firms at a certain socially conditioned level of the production» - a source: Article «Natural monopolies: problems of functioning and the regulation practice», Mkrtchyan N.L., St. Petersburg State University of Economics and Finance

Technological limitations. The drinking water supply and sanitation system, as it was already mentioned, is a complex technological system that stipulates the collective nature of consumption on the basis of uninterrupted provision of such services. Individualization of services for water consumers and users of different categories at providing services is practically impossible. All systems should be constantly loaded, providing continuity of services, otherwise the technological chain will be simply destroyed. In addition, services are provided on a mandatory basis. Therefore, it is difficult to equate such services in the housing and communal sphere to other habitual types of goods and services on the market.

Economic characteristics. Traditional mechanisms of economic management in the market economy conditions are often inapplicable in the sphere of the drinking water supply and sanitation. This sphere is characterized by a high level of fixed costs and the most economical option for using this system is its full download. Such download can be reached by connecting up all water consumers in calculation of the system capacity.

Societal costs. The drinking water supply and sanitation system not always can be fully "commercialized", as the nonbusiness purposes may become a priority in its activities. Most often, the sector is affected because of non-economic decisions of the state when the state decreases or freezes tariffs of the water supply enterprises knowingly, for social reasons. In addition, water supply enterprises are burdened with chronic non-payments from the side of budget organizations, especially organizations of the social purpose, such as hospitals, schools, children's homes etc. It is usually impossible to terminate the water supply to such objects.

Taking into consideration these and other characteristics of natural monopolies, it is possible to review pluses and minuses of current operation of large drinking water supply and sanitation systems managed by the state unitary enterprises of different levels in Tajikistan.

1.2. Pluses and minuses of natural monopolies

Establishment and operation of natural monopolies in the sphere of drinking water supply and sanitation allows:

- To use as much as possible the effect of the production scale, that leads to reducing costs for manufacturing of the unit of product;
- Just concentration of financial and economic opportunities allows to mobilize considerable financial resources for maintaining means of production at the appropriate level;
- The integrated system also allows to effectively and consistently achieve the scientific and technological progress;
- Taking into consideration the high level of the required safety of drinking water and of sanitation services, the operation of natural monopolies allows to follow uniform standards for manufactured products (drinking water) and provided services;
- In conditions of the market economy the natural monopolies make it possible to replace the market mechanism, i.e. the market economic organization by the internal hierarchy and by the system of contractual relations, that will allow to reduce losses associated with risks and uncertainty.

However, the every positive aspect of natural monopolies' operation in the sphere of drinking water supply and sanitation often can also have the reverse effect. While analyzing the current state of the drinking water supply and sanitation sector in Tajikistan, the following challenges, risks and threats can be marked:

- **The unreasonable rise/decrease of tariffs.** Tariffs for water supply and sanitation services on the one hand often cause social concerns of the state, thus often, in spite of the economically reasonable need, the tariffs remain unchanged. On the other hand, the state unitary enterprises on the water supply, from a behavioral point of view in the business, are not oriented on the economic effect from their operations, as getting profit is not their main objective. In addition, they do not have that degree of economic responsibility for their activities, as the private business enterprises have. Therefore, their attempts to increase tariffs usually do not have clear calculation of the economic

profitability of their activities, and usually are just an attempt "to bring value of tariffs to the worldwide average level".

- **Lack of information on costs and performance results.** Financial and economic indicators of public water supply utilities are usually vague, not structured and not accessible for the general public. In countries with developed market economies, the annual reports on incomes and expenditures is a mandatory attribute of activities of public utilities, and are freely available on the Internet or upon request of citizens.
- **Failure to fulfill financial obligations.** Drinking water supply and sanitation enterprises are chronic tax defaulters. Here are many reasons, including not quite correct format of tax calculation (taxes are charged not from the amount of payments received for the water, but from the released water), up to indebtedness of different categories of water consumers. Debts of both parties "accumulate", forming multi-million losses.
- **Contradictions in interests of the state, natural monopolies and consumers.** Water consumers want to have the continuous supply of water of the proper quality and safety level and often refuse to pay for the hourly water supply with the low pressure. Suppliers not having the sufficient capacity for the market management, encumbered by social and other liability, having debts for already released water can not provide services of the adequate quality. The state, considering the social consequences and not always being able to manage effectively its infrastructure and resources, without a coherent policy in this sphere can not change the situation.
- **The low quality of services and non-compliance with obligations.** Tajik legislation contains stiff requirements for the quality of services; the main indicators in the sphere have remained from Soviet times – GOST (State standards), Construction norms and regulations, rules. These include estimates on the minimum pressure in the network, the time required for replacing the main and secondary pipes, the sanitary, hygienic and microbiological requirements to the drinking water quality. However, none of drinking water supply and sanitation systems and services they provide currently meet these standards in full in view of the mentioned problems. For example, Tajik laws contain mandatory norms on the continuous supply of drinking water, strictly regulating the breaks in the water supply, but in practice these norms are not observed. However, despite these significant law violations, no one bears responsibility for them.
- **Cross-subsidization.** The economically feasible and fair tariffs rates can not be based on the cross-subsidization, when some categories of water consumers pay at higher tariffs and other categories of consumers pay at lower tariffs at the expense of this difference. Tariff rates, or more precisely their structure, in countries with developed market economies may be different for various categories of consumers. Usually this is the difference in relevant costs on clients servicing; for example costs on servicing a large plant (cash servicing, accounting servicing, emergency services etc.), consuming large amounts of drinking water and respective costs for an individual living with the family in an apartment are different. The cross-subsidization in the case of Tajikistan is an attempt to regulate social liabilities of the state.
- **Economically unjustified investment projects.** Major investment projects of state enterprises on the water supply and sewage often do not rely on accurate financial feasibility studies in view of the mentioned above reasons - lack of the detailed information on costs and performance results.
- **The role of the state in regulation and management of the system.** The state does not view established by the state enterprises as business entities subject to regulation, but as subordinate bodies on supplying the population with drinking water and providing sanitation services. For example, in case with tax debts, if private companies would have such debts, the state would claim this indebtedness through different organs using various methods up to arresting the property and accounts. However, it does not happen so in relation to public companies. In developed countries, in order to avoid the conflict of interests, the independent bodies are established on regulation of state monopolies activities.
- **Environmental, resource and social impact of activities.** Improper functioning of public enterprises in the sphere of drinking water supply and sanitation leads to environmental impact, inefficient use of natural resources and to social unrest.

As a result, all positive sides of establishment and functioning of natural monopolies in the sphere of drinking water supply and sanitation are crossed out by minuses and risks of their operation.

For the efficient organization of activities on the drinking water supply and sanitation in the market conditions, both in post-Soviet countries and also in the developed countries with market economies a number of measures are being taken aimed at more commercial orientation of companies, on market-based approaches in their activities, on development of competition, monopolization and liberalization of the sector. However, taking into consideration specifics of natural monopolies in this sphere, the process of market reforms is implemented in this sector through other approaches and methods.

1.3. De-monopolization and liberalization in the sector of drinking water supply and sanitation

Traditionally, de-monopolization is understood as a range of economic and legislative measures of the state on limitation of activities of monopolies, creation of a competitive environment on the domestic market. This is a category of the market economy, where markets are liberalized, activity of competitive economic entities is encouraged. In the economy, the **liberalization** is usually understood as an increased freedom of economic activities of business entities, removal or reducing restrictions on economic activities. Since the independence in Tajikistan, the liberalization was applied to prices when the transfer from the state-set prices to the system of free market prices was carried out. Both of these economic categories are applicable in relation to natural monopolies, but due to their "natural" limitedness, they are applied specifically.

DE-MONOPOLIZATION in the sector of natural monopolies can not lead to the increased competitiveness through taking as such measures on the direct increasing of the number of competing economic entities in the sector, since it is impossible. As it was mentioned above, there are technological and infrastructural limitations. Therefore, the de-monopolization in this sphere can be realized using the following methods:

- **Division of technological chains of the production process.** Such division is most often done in the sphere of the electricity and gas supply. The process is divided into the production (generation/production), transportation (electricity transmission lines, gas pipelines) and distribution. Different companies are engaged in implementation of each part of activities under contracts with each other. Networks and infrastructure in this case may remain the property of the state or can be leased out. They also can be privatized. The point of this division is moving away from the vertically integrated companies and developing competition between different companies for the right to carry out activities at each production area. However, this strategy is hardly ever realized in the sector of drinking water supply and sanitation, because of the more close technological links between production areas and also because of that water is a local consumption commodity, and its transportation is limited by one or two compactly located human settlements.
- **Economic freedoms in the right of state objects management.** More than 90 percent of large urban water supply systems in the world are state-owned. But management of these systems can be realized in different ways:
 - **Direct state management.** This method of management provides for establishment of the state agency on the water supply directly in the structure of local municipalities. This approach is implemented, for example, in some European countries, such as Denmark, Switzerland, Sweden, Finland and others. Management of water supply systems is provided directly by the state through this body. All payments are forwarded directly to the city budget, and then from there investments are done back into the respective systems. Tariffs are designed only for covering the operating costs, without any profit. This form does not provide for competition and antimonopoly regulation, since it is not a commercial activity. This approach is implemented with a high degree of the budget transparency and citizen participation in the process of making decisions on the drinking water supply and sanitation. In these countries, it is not an absolute approach to the water supply systems management. Here also other forms are applied, such as combined public-private, private, cooperative forms of management, but the state form of management is dominating.
 - **Partial state management.** The state transfers the right on water supply systems management to state-owned enterprises established in this area, that are the most close to state unitary

enterprises in Tajikistan. Such enterprises have a certain degree of autonomy in making decision, as well as the necessary degree of economic isolation. In some US states, such enterprises are also not profitable. Tariffs in these enterprises are set assuming defrayal of costs for the production and distribution activities. In some cases, these enterprises are commercial enterprises established by the state, but operating as usual business-companies. The infrastructure of water supply and sanitation systems remains state-owned. The state regulates and controls their activities, coordinates their tariffs. This approach is also based on a high degree of transparency, accountability and citizen participation in decision-making in this sphere.

- **Partial private management.** The state transfers water supply and sanitation systems to private companies for the partial private management. This approach is applied on the basis of lease contract, trust management or concession agreements. The state remains the owner of the system, all relationships with the private company and mutual liabilities are specified in the contract with the state. Depending on the contract, either the state assumes investment obligations, or these obligations are also transferred to the private company. Tariffs and investment plans are stipulated in the relevant contract. Control measures and interventions of the state are also stipulated in the contract.
- **The full private management.** In case if a private company owns the water supply system, the management is exercised by the private company, or is delegated by it to a third party. In this case, the respective state bodies carry out a closer and more in-depth monitoring in order to ensure the quality and safety of services provided to the population by the private company. Tariffs are developed by a private company, but shall be approved by governmental authorities. In many cases, these companies should be licensed in order to identify compliance of the company with standards set in this area.
- **Co-operative forms of management.** Small water supply systems constructed in rural areas and small towns can be managed by cooperative forms of management, such as non-governmental organizations, water user associations, cooperatives and other types of private associations. Such organizations are usually unprofitable, the concept of tariffs is usually not applied here. Expenditures for the maintenance and operation of water supply systems are covered at the expense of membership fees of members of such organizations. The amount of membership fees is determined by the management of the organization based on the annual estimate (or the estimate for several years) and approved by the general meeting of the organization. The state also takes control over the quality and safety of services of such organizations through respective organizations.

De-monopolization through providing economic freedoms in the sphere of water and sanitation systems management is achieved through application of a diversified and equal approach to the mentioned above management methods, when the legislation provides equal conditions and opportunities for systems management in various ways.

- **Privatization.** Supporters of a more complete liberalization in the sphere of the drinking water supply and sanitation rely on a number of theories, one of which is the theory of the property right³. According to this theory, a private owner will always have much stronger motivation and efficiency in the work than the state owner. Whatever form would be the state management of its property, it will always be less effective than the private property management. Therefore, the privatization and the overall private management is considered to be the right alternative to the state management. The state through its structures only supervises and takes control over the quality and safety of services provided on the drinking water supply and sanitation. Moreover, the privatization of local water supply systems is allowed for foreign firms too. For example, since 2006 the right of ownership of the water supply system of London city belongs to an Australian consortium and since 2006 the water supply indicators in the capital of the United Kingdom have improved.

³ "Strategy and performance of water supply and sanitation providers", Marco Schouten, 2009

- **Combined schemes.** Here are the most free forms of management that can be applied in any combination: the private management of the state-owned administration system, the overall state administration, transferring of the right of management under various contracts: concession, trust management, leasing and other forms of agreements, privatization of drinking water supply systems in full or partially, cooperative and community-based management of local non-commercial organizations and even the state management of the privately owned systems. Decision on the particular management system is made only based on economic considerations. For regulation with the purpose to ensure the balance of interests of water consumers and suppliers the respective legal framework shall be adopted.

LIBERALIZATION in the sphere of natural monopolies is also under way, but with relevant restrictions. At large, natural monopolies set their own prices and tariffs for services on the water supply and sanitation, based on economic considerations. Further the state regulates prices/tariffs, reducing or increasing their rates in different ways, for example:

- **Coordination and approval of fixed prices and tariffs.** The simpler way is regulation not based on specialized calculations. The water supply enterprises develop their own tariffs, then the competent organ evaluates the reality of these tariffs according to the standard procedure and accordingly accepts, corrects or rejects the stated need for raising tariffs. The regulation object is the stated tariff itself. Approximately in this way tariffs on services of natural monopolists are coordinated and approved in Tajikistan.
- **Setting ceiling prices/tariffs.** The State on its own establishes ceiling tariffs for services. The water supply enterprise should carry out its activities based on set ceiling prices/tariffs.
- **Establishment of the marginal profitability rate.** It is a more streamlined method of tariff regulation of companies' activities. Here the object of regulation is the profitability level. Profitability – it is the general index of the economic efficiency, activities of the enterprise or using of the capital/resources (material, financial etc.). Usually, the production profitability is taken as the basis, as a ratio of the gross revenue to the cost price of manufactured goods (in liters in relation to services on the drinking water supply and sanitation), multiplied by 100 percent. The respective government body establishes the marginal profitability rate in percentage terms. Tariffs in accordance with which the actual profitability exceeds the established level should be reduced. Usually, such norm makes up 10-12 percent.
- **Method of return on the invested capital.** Method of return on the invested capital (RAB - Regulatory Asset Base) – it is a system of long-term tariff setting, the main purpose of which is attraction of investments into expansion and modernization of the infrastructure. For the first time the tariff setting technique on the basis of the Regulatory asset base (RAB) was applied in the Great Britain in the late 1980s in the process of privatization of the power grid complex and liberalization of the electricity market. In the mid-1990s many countries of Western Europe, Canada, USA, Australia transferred to RAB but with their own special aspects. In 2002 the European Union obligated the Eastern European countries to apply the RAB-regulation in setting tariffs for monopolies. The main idea of formation of the required gross proceeds (RGP) in the RAB method is the well-known and sound principle, according to which the investor shall have a right to receive the income for invested capital corresponding to the interest rate recognized by the market participants as fair, and to return all the invested capital by the end of the investment period. Here the object of regulation is the income received on the invested capital. The method allows to increase the investment attractiveness of the sector. For consumers, this method is similar to the mortgage credit lending as the value of tariffs includes the cost of modernization and maintenance of networks and equipment. The state shall ensure the control over transparency of expenditures of the water supply enterprise. Such regulation is usually long-term and depends on the size of the invested capital.
- **Other methods.** Also in different countries such methods are applied as "freezing of tariffs" - a temporary or partial ban on the increase of tariffs. Another method – it is the method of fixed prices or the ceiling amount of supply-sale or trade mark-ups, price increases, discounts for natural monopolies.

In fact, these and other methods of tariff regulation are various methods of the direct impact of the state on activities of natural monopolies, as protective measures to keep prices down. These methods to a certain extent restrain the full liberalization of prices for services of enterprises on the drinking water supply and sanitation.

The economic effect of de-monopolization and liberalization in the sphere of the drinking water supply and sanitation can be reached with the well-constructed regulation system in the sector.

1.4. Regulation and antimonopoly regulation

After changing of the political and economic course, the former Soviet republics started establishment and development of market institutions. One of the first emerged institutions on the state regulation of market processes was the anti-monopoly authority. As it was mentioned above, this body is not directly involved in regulation of natural monopolies, but supervises activities of different monopolies and companies dominating on the market so that they would not be able to take advantage of their position on the market and would not restrict competition for other market participants. However, in a number of countries, including Tajikistan, the role of the antimonopoly organ has transformed into a general regulatory organ for natural monopolies. Just this body is usually "accused" in raising tariffs.

However, in developed countries with market economies, the antimonopoly regulation is clearly separated from the economic regulation of natural monopolists' activities.

- **Regulation.** The state regulates activities of natural monopolies with the purpose to influence the economic activities of holders of natural monopolies. The purpose of such regulation is to provide the balance of interests of consumers and regulated entities aimed at the further sustainable development of the sector. Regulating bodies are established in the form of independent commissions being a collegial body. The collegiality provides a more informed decision. The independence of such bodies means their isolation from the rest of public authorities, in order to avoid their interference into activities of commissions. The regulation methods applied by regulatory bodies include:
 - Licensing of the activities, determining license terms and performing control in relation to them;
 - Introduction of reporting on accounts and sub-accounts for the licensed persons (entities);
 - Setting regulated tariffs;
 - Laying down rules and regulations on functioning of the market;
 - Setting requirements to the quality of servicing;
 - Setting exemplary forms of contracts or mandatory terms of delivery between persons (entities) having a license for carrying out activities and also of contracts concluded with customers;
 - Adoption of legal acts, taking control over their execution, within their competence;
 - Studying of investment development programmes submitted by persons (entities) who have a license for carrying out activities, with the purpose to include or reject investments (in full or partially) into future tariffs;
- **The antimonopoly policy.** It is the regulation with the purpose to prevent using by the natural monopoly its monopoly position. The control and restriction of activities of natural monopolies is carried out by the antimonopoly organ through:
 - Restriction of prices and, consequently, of monopolists' incomes by means of legislative acts and tariff agreements;
 - Prevention of lowering the production volume by the monopoly, usually through an agreement between the state and the monopoly;
 - Restricting discrimination of users, in particular, the restriction of discrimination of consumers – physical persons;
 - Taking control over formation of prices by monopolies. That is, firstly, preventing the overestimate of own expenses by monopolists; secondly, preventing the sale of unnecessary by-products to consumers together with goods needed to the consumer; and thirdly, taking control over that the monopoly would charge payment for the really consumed product.

Though, at first glance, the described above market institutions are quite similar, in fact, the main directions of economic regulation in the sector and of the antimonopoly policy are different that often

leads to the conflict of interests. For example, one of regulation method is licensing that in fact is restriction of competition, becoming a barrier for the entry of other companies to the market. The antimonopoly policy is aimed at restricting a certain behavior of natural monopolists in the market. And regulation is aimed at the sustainable development of natural monopolies, that at times in the short term may be a disadvantage for consumers. Another example: the antimonopoly policy as a whole is aimed at restricting attempts of any monopolies to merge. And the regulatory organ, on the contrary in view of economic considerations, may come out for the merger of large water supply enterprises with the purpose to reduce fixed costs through achieving the effect of the economy of scale.

1.4.1 Regulation of the drinking water supply and sanitation sector in Tajikistan

Currently in Tajikistan a single regulatory body in the sector of the drinking water supply and sanitation is not available. Also, there is no such organ, for example, in the energy sector. The concept of regulation itself as a term is not directly applied in the legislation of Tajikistan. Instead the concept close to the function of the sector regulation is applied - "the state control and supervision", and instead of "regulatory body" the term "the authorized body" is used. In accordance with the current edition of the "Order of state control and supervision of the drinking water supply", approved by the Government of Tajikistan as of 31 December, 2011 № 679, the main objective of the state control and supervision in the field of drinking water supply is to ensure observance of the following rules and regulations by legal and natural persons:

- the legislation of the Republic of Tajikistan in the field of the drinking water supply;
- requirements on protection of sources and systems of drinking water supply;
- standards on organization of accounting of the drinking water consumption;
- standards for the safe work practices at construction of drinking water supply objects;
- regime of the continuous supply of drinking water to consumers in accordance with the established norms on the drinking water consumption and quality standards of this water;
- legal guarantees for the supply of drinking water to water consumers in accordance with the established norms of drinking water consumption and its quality;
- state guarantees of reliability and safety of the drinking water supply, as well as the responsibility for violations of norms in this sphere;
- rights, obligations and responsibilities of state bodies, other legal entities and natural persons in the sphere of drinking water supply.

The system of state bodies exercising control and supervision within their competence includes:

- the Ministry of Health of the Republic of Tajikistan;
- Committee on the Environmental Protection under the Government of the Republic of Tajikistan;
- Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan;
- Committee on the Architecture and Construction under the Government of the Republic of Tajikistan;
- Main Department of Geology under the Government of the Republic of Tajikistan;
- Main Department on the State Supervision over Safe Work Practices in the Industry and Mines Inspectorate under the Government of the Republic of Tajikistan;
- local executive bodies of the state power

Also, in addition to the authorized bodies in accordance with the mentioned above Resolution, the State Unitary Enterprise "Housing and communal services" (SUE HPU) was added. The Ministry of Energy and Water Resources, at first glance, is a target Ministry, but it is not included in the list of authorized agencies. Though, in the Regulations of the Ministry⁴ a number of powers is specified that are directly related to water resources and facilities.

The mentioned above spheres of monitoring and supervision and areas of activities are only distantly related to the function of economic regulation of the sector. Basically these functions are aimed at

⁴ **REGULATIONS on the Ministry of Energy and Water Resources of the Republic of Tajikistan approved by the Resolution of the Government of the Republic of Tajikistan as of 3 March 2014, No. 149**

ensuring the safety and proper quality of services on the drinking water supply and sanitation and do not consider the economic aspects in the sector.

The economic analysis of activities of water supply and sanitation enterprises is carried out in the process of harmonization of tariffs by the Antimonopoly Service under the Government of the Republic of Tajikistan.

II. THE LEGAL AND PRACTICAL ANALYSIS OF DE-MONOPOLIZATION IN THE SECTOR OF DRINKING WATER SUPPLY AND SANITATION IN TAJIKISTAN

The basic operating infrastructure in the sector of the drinking water supply and sanitation in Tajikistan was established in times of the Soviet Union. And also at that time the institutional capacity of the management sphere in this sector was formed. And just that past is sufficiently reflected in present market conditions of the sector. The sector was directly governed by the state, the state covered all costs and consumers' charges made up about 2 percent of the actual cost of services. Since the independence, some attempts were taken to transfer the sector to market functioning mechanisms. First, the principle of paid services in the sector was declared⁵. State authorities on management of the drinking water supply and sanitation system were reorganized into state unitary enterprises on providing services on the drinking water supply and sanitation. The relevant laws, rules and regulations were adopted. But in general the primacy of the state ownership and the dominating state management both in legislative acts and also in practice has remained in the sector. This section provides an analysis of the current legislation in the sphere of the drinking water supply and sanitation and of their practical application in terms of de-monopolization and degree of the private sector involvement.

2.1. Legal framework of the market functioning in the sector of drinking water supply and sanitation: problems and perspectives

The present market conditions in the sphere of the drinking water supply and sanitation⁶ are regulated by a number of general and specific normative legal acts, ranging from the fundamental principles laid down in the Constitution, constitutional laws and some codified acts up to sectoral rules and regulations. The normative-legal acts being more pertinent to aspects under consideration in the sphere of drinking water supply and sanitation for the purposes of this report can be conditionally divided into:

- **Antimonopoly legislation.** The drinking water supply systems are natural monopolies, and accordingly their activities are supervised by the antimonopoly authorities and the sector falls within the scope of the relevant legislation.
- **Special legislation.** The sphere of the drinking water supply and sanitation is also regulated by a number of normative-legal acts specific in respect to this sphere that can be identified as a sectoral legislation.

2.1.1. The antimonopoly regulation

The basic law regulating activities of natural monopolies is the Law of the Republic of Tajikistan "On natural monopolies", dated 5 March 2007 (Akhbori Majlisi Oli of the Republic of Tajikistan, 2007, №3, article 168; 2008, №10, article 814, Law of the RT from 28.12.2013, №1055). According to its preamble, this law: "defines the legal framework of the state policy in relation to natural monopolies in the Republic of Tajikistan and is aimed at achieving a balance of interests between consumers and subjects of natural monopolies, providing accessibility of goods (works, services) sold to consumers and the effective functioning of subjects of natural monopolies". Thus, just this law indicates the basic prerequisites for the economic regulation, described in the previous section.

⁵ Article 31, the Water Code of the Republic of Tajikistan as of 29 November 2000

⁶ The drinking water supply and services on the wastewater disposal (sanitation) often are considered inseparably because they are provided by the same supplier. But services on the wastewater disposal practically are not regulated by the current legislation of Tajikistan, except for some norms of the Water Code regarding waste waters and some other indirect norms. Therefore here and further mainly legal aspects of the possibility of de-monopolization and participation of the private sector in the sphere of the drinking water supply are considered first of all.

The law of the Republic of Tajikistan "On natural monopolies" was passed instead of the previous version dated 13 December 1997. Changes in the new version dated 5 March 5, 2007 were aimed to bring the law into compliance with changes in the national legislation and with the level of the society development. The last amendments and additions were adopted in 2013. They mainly concerned the special legal regime for approval of electricity tariffs.

The Law of the Republic of Tajikistan "On natural monopolies" consists of 5 chapters and 25 articles. **The following key provisions of this law** relate to the purposes of this study:

- **Article 2. The scope of this Law.** The article defines the scope of this law, according to which:
 - The Law regulates relations arising in the market of goods (works, services), related to the existence and activities of natural monopolists. Moreover, provisions of this Law also shall be applicable to activity and inactivity of natural monopolies both in Tajikistan and also abroad, if such activity (inactivity) causes damage to consumers of their goods (works or services).
 - the Law shall not be applicable to activities, referred to the sphere of natural monopoly, but associated only with construction and operation of facilities intended for their own needs. For example, if a natural monopolist is constructing an office building or auxiliary rooms, the construction activity itself is not regulated. But if these costs are included into the tariff estimates, these costs may become the subject of monitoring by the antimonopoly authority.
 - If a natural monopolist is additionally engaged in other activities, for example, if it provides services on repairing pumps for different organizations, and this activity is not related according to the law to the sphere of natural monopolies, then this part of activities also shall not be subject to regulation. The sphere of natural monopolies is specified in Article 5 of the Law.
- **Article 4. Basic concepts.** This article introduces the basic terms and definitions, specifying that:
 - **Natural monopoly** – is a state of the market of goods (works, services), in which it is impossible to provide a competitive environment to meet the demand for a certain kind of goods (works, services) or it is economically impractical because of technological features of the production (in view of the substantial decrease in the production costs per product unit with the increase of the production volume). The definition is general and does not contradict the classical definition of natural monopolies.
 - **Subject of the natural monopoly** - an economic entity (legal entity) engaged in production (sale) of goods, performance of works and (or) provision of services to consumers in conditions of the natural monopoly. In accordance with the definition, only legal entities and equated to them natural persons (the forms of citizens' entrepreneurship without forming a legal entity⁷), regardless of the organizational-legal form and right of ownership, accordingly providing services on the drinking water supply and sanitation are recognized as subjects of natural monopolies.
 - **Consumer of goods (works, services) of the subject of natural monopolies** - a physical person or a legal entity that acquires goods (works, services) of the subject of natural monopoly. The Law is applicable to all categories of consumers, in contrast to the Law "On Protection of Consumers' Rights". According to the Law "On Protection of Consumers' Rights" dated 9 December 2004, Consumers are only those physical persons or legal entities who purchase, have intention to purchase, or use goods, works or services, exclusively for personal, family or domestic needs, not associated with the entrepreneurial activities.
 - **Tariffs or prices** mean the monetary expression of the value of goods (works, services) of the subject of natural monopoly, approved in the established order. In other words, until being approved the price claimed by the natural monopolist can not be considered as a tariff. For provision of calculations on the tariff design, natural monopolists submit a **tariff estimate** – the summary data on the income and expenditure items of a subject of natural monopoly, every year approved by the competent authority.
 - In different situations the following tariffs can be set:
 - **a temporary compensatory tariff** - the tariff set by the authorized body with the purpose to compensate for losses caused by the subject of a natural monopoly to consumers, or

⁷ Article 24, p.3, part 1 of the Civil Code of the Republic of Tajikistan

- a temporary decreasing coefficient** - the value established by the authorized body and applied to the tariff with the purpose to protect interests of water consumers and of subjects of natural monopolies.
- The law also provides for the possibility to hold **public discussions** - the procedure of discussing tariffs' design or their maximum level, inviting representatives of public authorities, consumers and their public associations, the media and subjects of natural monopolies.
 - In accordance with the Law, **the authorized body** is the state body responsible for the control and regulation of activities in the spheres of natural monopolies. As of today, such body is the Antimonopoly Service under the Government of the Republic of Tajikistan.
- **Article 5. The scope of activities of subjects natural monopolists.** In accordance with provisions of this article:
 - the Law gives a list of areas where activities of natural monopolies are regulated. This list, along with services on the electricity and gas supply, services of airports and aerial navigation includes **services of the water supply and (or) sanitation systems.**
 - The authorized body draws up **a register of subjects of natural monopolies**, consisting of national and local sections, indicating specific types of goods (works, services) regulated by this law. For example, the State unitary enterprise "Housing and public utilities" is a natural monopoly of the republican level and the SUE "Khujandvodokanal" – is a natural monopoly of the local level.
 - **Article 6. Methods of regulation of activities of subjects of natural monopolies.** The law defines only two basic methods of regulating activities of natural monopolies:
 - **through the price regulation** (setting and approval of tariffs or of their maximum level). For services on the drinking water supply and sanitation more common is the definition "tariff regulation". At making decisions on tariffs in accordance with provisions of this article, the competent authority shall take into account the following factors:
 - the cost of production (realization) of goods (works, services), including wages, the cost of raw materials, overhead costs;
 - taxes and other payments;
 - the cost of fixed production assets, requirement in investments needed for their reproduction and depreciation charges;
 - the anticipated profit from the sale of goods (works, services) at different tariffs;
 - remoteness of different groups of consumers from the place of goods production;
 - compliance of the quality of produced (sold) goods (works, services) with the consumers' demand.
 - Another method of regulation is determination of the **categories of consumers subject to mandatory servicing and establishment of a minimum level of providing** services in case if it is impossible to meet the demand in such services in full. In accordance with this method, the state establishes a category of consumers, which have to be served by the monopolist, even, for example, if they have debts. Usually these categories are defined by security concerns, by social aspects etc. It is difficult to attribute this method to the method of regulating activities of natural monopolies, it is rather a kind of "safeguarding" for the strategic and humanitarian purposes. For example, in the Russian Federation on 29 May, 2002 the Decree of the Government No.364 "On provision of the sustainable gas and energy supply to organizations financed from the federal budget resources that are ensuring the safety of the state" was adopted. This resolution defined the categories of consumers who had to receive services of respective natural monopolies, regardless of their indebtedness and other factors. The state in this case acts as a guarantor. Despite existence of such a rule, in practice currently it is not directly applied in Tajikistan. The analogue to this resolution can be considered the annual resolutions of the Government of Tajikistan on introduction of a limit in the electricity supply, when certain objects – of the strategic and social nature – are not subject to limitation in the energy supply.
 - **Article 16. The right of access to the information on activities of subjects of natural monopolies.** The authorized body has large powers to demand and obtain the information about activities of subjects of natural monopolies from public authorities, local executive authorities and self-government authorities, as well as from subjects of natural monopolies. In this case the authorized

body undertakes not to disclose the information that constitutes a commercial secret and is obtained by the authorized body on the basis of this article.

- **Article 18. Rights and obligations of the subject of natural monopoly.** Within the frames of this Law natural monopolies are granted a number of rights and responsibilities. The subject of the natural monopoly has the following rights:
 - to submit to the authorized body the request for approval of tariff or its critical level for goods (works, services) being regulated;
 - to reduce tariffs for provided goods (works, services) for all consumers in the rating period as agreed with the competent authority;
 - to put forth proposals at making decisions by the competent authority that affect issues of its activities and legal status;
 - to appeal in the court actions (inactions) of the authorized body contradicting the laws of the Republic of Tajikistan;
 - to appeal in the authorized body or in the court actions (inactions) of other subjects, affecting its activities, revenues, property or legal status;
 - to have other rights provided for by the normative legal acts of the Republic of Tajikistan.

Obligations of the subject of the natural monopoly:

- to fulfill decisions of the authorized body, not contradicting the legislation of the Republic of Tajikistan;
- to ensure the high-quality overall servicing of consumers of goods (works, services) taking into account tariffs set by the authorized body for goods (works, services) being provided;
- to provide equal conditions for consumers of goods (works, services) of the subject of the natural monopoly, except for cases when goods (works, services) are provided with account of privileges (discounts) established by the legislation of the Republic of Tajikistan;
- to establish technical specifications in accordance with the legislation to be observed by water consumers;
- to maintain and organize the check-up of metering devices in the order established by legislation of the Republic of Tajikistan;
- upon request of the authorized body to provide financial statements and other information required;
- to choose the most effective methods and technologies of the production and providing services of natural monopolies, in compliance with the principles of public safety and security of citizens;
- to carry out annual financial inspections (mandatory audits) by audit organizations (auditors), to publish audit results in the media;
- to conclude contracts with customers for provision of goods (works, services);
- not to admit violation of consumers' rights at concluding contracts on provision of goods (works, services);
- to ensure collection of payments from consumers for provided goods (works, services) through its own cash desks as well as through banks and other credit organizations;
- to install metering devices to consumers for taking account of provided services;
- to submit tariff estimates to the authorized body for approval.

- **Article 20. Specifics of reorganization and liquidation of the subject of the natural monopoly.** Reorganization and/or liquidation of a natural monopoly subject can be done only with the approval of the competent authority. With the purpose to prevent a break or a considerable reduction in the volume of provided regulated goods (works, services) the rehabilitation procedures can be applied to the subject of natural monopoly.

The Antimonopoly Service under the Government of the Republic of Tajikistan

The authorized body on regulation of activities of natural monopolies is the Antimonopoly Service under the Government of Tajikistan. This Agency was established on May 3, 2010 in execution of the Decree of the President of the Republic of Tajikistan dated March 9, 2010, №832 «On further improvement of the structure of central executive authorities of the Republic of Tajikistan". This agency is the legal successor of the Administration on the Antimonopoly Policy under the Ministry of Economy and Trade that carried

out the regulation activities since 2006 up to 2010. In its turn this Administration was created in result of reorganization of the Antimonopoly Agency in 2006. In its activities the Antimonopoly Service is guided by the Constitution of the Republic of Tajikistan, the Law of the Republic of Tajikistan "On competition and restriction of monopolistic activities on commodities markets", the Law of the Republic of Tajikistan "On natural monopolies", the Law of the Republic of Tajikistan "On Protection of Consumers' Rights", the Law of the Republic of Tajikistan "On Advertising" and other normative legal acts of the Republic of Tajikistan and international normative legal acts recognized by the Republic of Tajikistan, as well as by Regulations on "The Antimonopoly Service under the Government of the Republic of Tajikistan" dated 3 May, 2010.

Activities of natural monopolies are directly regulated by the **Administration on regulation of activities of natural monopolies of the Antimonopoly Service under the Government of the Republic of Tajikistan**. This Administration is acting on the basis of Regulations approved by the order of the Antimonopoly service under the Government of the Republic of Tajikistan dated 31 January 2014 under the No. 11. These regulations specify in details powers, rights and duties of this Administration.

With the purpose to carry out its regulation activities the Agency applies the following special bylaws, approved by the Antimonopoly Service:

- Rules about the Register of Subjects of Natural Monopolies;
- Instruction manual on the procedure of definition, approval and introduction of tariffs and tariff estimates for goods (works, services) of subjects of natural monopolies;
- Discussion of draft tariffs on goods.

All three documents have been approved by one order of the Head of the Antimonopoly Service under the Government of the Republic of Tajikistan, dated 5 October 2011, No. 107. These legal acts are adopted on the basis of the Law "On natural monopolies".

For the purposes of this analysis the "Instruction manual on the procedure of definition, approval and introduction of tariffs and tariff estimates for goods (works, services) of subjects of natural monopolies" is of the greatest interest. This Instruction manual additionally introduces the list of grounds for changing tariffs. In accordance with paragraph 4, section 2 of the Instruction manual, the regulated tariffs **can be considered from anew in the following cases:**

- the need to develop and improve the quality of services in this area;
- transition to regulation of tariffs for services on certain categories of consumers and also on certain types of services;
- if tariffs for services do not cover the costs for their provision and do not ensure development of services in this field;
- increasing of the volume of costs referred to the cost of services, mandatory contributions and payments to relevant budgets;
- inflationary processes and changes of other factors affecting the price of goods and materials used in this industry.

If the tariff changes are caused by other reasons, then the authorized body has right not to accept for consideration the submitted proposals.

The document also identifies **a list of documents to be provided by the subject of a natural monopoly to the authorized body at submitting the claim on changing tariffs:**

- reasons and grounds for changing tariffs;
- a draft of new tariffs;
- substantiation that takes into account the costs and demands of subjects of this branch in funding, providing the volume of investments required for development of the branch and meeting the consumers' demand, as well as the financial solvency of consumers;
- financial statements (on costs incurred and financial results, on movement of financial resources and means, on loans, investments etc.);
- documents of economic reporting and planned calculations (on production costs, the cost price of services, cost-effectiveness etc.).

2.1.2. Special legislation

The two fundamental normative-legal acts in the area can be identified as specific as regards to the field of drinking water supply and sanitation. This is the more baseline Water Code of the Republic of Tajikistan dated 29 November 2000 (Akhbori Majlisi Oli of the Republic of Tajikistan, 2000, No.11, article 510; 2006, No.3, article 164; 2008, No. 3, article 200; 2009, No.12, article 824; the Law of the Republic of Tajikistan dated 28.06.2011, No. 744; dated 16.04.2012, No.821). And a special law in this field - the Law of the Republic of Tajikistan "On Drinking Water and Drinking Water Supply" dated 29 December 2010.

The Water Code

The current version of the Water Code has replaced the "transition" wording of the Code as of 27 December 1993. The main objectives of the Water Code of the Republic of Tajikistan in accordance with Article 1 include "protection of the State water resources fund and lands of the State water resources fund for improvement of social conditions of the population and of the environment, protection of waters from pollution, clogging up and depletion; prevention and elimination of harmful effects of waters; improving conditions and protection of water objects, strengthening of the legality and protection of rights of physical persons and legal entities in the field of water resources management". Thus the Water Code has specified the economic conditions of providing the water objects for use. The Water Code contains rules and regulations in relation to all types of water resources utilization, including irrigation, drinking water supply, water supply for industrial and domestic use, for recreational and sanatorium-resort purposes and other.

The Water Code contains a number of provisions, which in varying degrees affect the level of de-monopolization of this sphere and involvement of the private sector, in particular:

- **Article 2** defines the basic concepts and terms applied in this sector. Among them there are the following:
 - **water bodies** - concentration of the water on the land surface in the form of its relief, or in the subsoil, that has boundaries, the volume and characteristics of the water regime;
 - **waterworks facilities** - water reservoirs, dams, channels, water-collecting headers and drains, water pipes, wells, ditches, waterworks, protecting dikes, aqueducts, *water pipes with communications and other elements of infrastructure*;
 - **water consumer** – physical persons or legal entities receiving water in the established manner for meeting their demands;
 - **water resources management** - activities of citizens and legal entities related to the use, restoration and protection of water bodies;
 - **permission for the special water consumption** - permission for using of the water body issued by the authorized state organs on regulating the consumption and protection of water resources;
 - **drinking water** - the water meeting regulatory requirements by its quality in the natural state or after processing (cleaning, disinfection, adding of missing substances) and intended for drinking and domestic needs of the person or for manufacturing food products;
 - **drinking water supply** - activities aimed at satisfying needs of physical persons and legal entities in drinking water;
 - **general water use** –water consumption without any facilities or technological devices;
 - **special water use** – water consumption through application of facilities and technological devices;
 - **primary water users** - physical persons and legal entities to whom water objects are provided for the individual use;
 - **secondary water users** - physical persons and legal entities to whom permission for using of water objects is granted with the permission of primary water users on the basis of agreements and subject to approval of authorized state bodies on regulating consumption and protection of water resources.

In accordance with mentioned terms and provisions of a number of articles of the Water Code, organizations engaged in activities on the drinking water supply and sanitation are *primary water users* that have received the water objects for the *primary water use* for implementation of *activities on water*

resources management. They carry out activities on the special water use, i.e. using water by applying constructions and technological devices. For carrying out such activities they have to obtain *permission for the special water use*.

- **Article 5¹. Waterworks facilities of the particular strategic importance.** The Code stipulates that waterworks facilities of strategic importance are the state property and can not be leased out or transferred for the private management. The list of such facilities shall be determined by the Government of the Republic of Tajikistan. Currently, such list with regard to drinking water supply systems does not exist.
- **Article 7. The competence of local state executive authorities in the sphere of regulation of water relations.** Along with other powers, the local state executive authorities are also responsible for provision of drinking water, protection and development of centralized, decentralized systems and systems of distributing drinking water to consumers within competences defined by the legislation of the Republic of Tajikistan. The mechanisms of such support are not detailed.
- **Article 8. State regulation and support in the sphere of water relationships.** In accordance with provisions of this article, the state support in the field of the drinking water supply includes adoption and implementation of national and local programmes on giving grants-in-aid, subsidies, preferential loans, budgetary and customs privileges to owners of centralized systems, to organizations operating these systems as well to organizations-producers of the equipment, machine units, materials and reagents for meeting needs in the drinking water. In practice almost no grants, subsidies, preferential loans, budgetary and customs privileges were provided to these organizations except for attracted external borrowings, loans and grants received from international agencies and organizations.
- **Article 10. Granting the right of management of state-owned waterworks facilities to specialized legal entities.** One of important articles of the Water Code for the purposes of this report assumes participation of local and foreign organizations in management of state-owned waterworks facilities. In accordance with provisions of the article:
"The Government of the Republic of Tajikistan can grant on a tender basis with preservation of the target function the right of management of state-owned waterworks facilities within a limited territory to specialized local and foreign legal entities on a contractual basis in compliance with requirements of this water legislation of the Republic of Tajikistan".

In accordance with mentioned provisions, the mandatory terms for transferring rights of management are the following:

- The tender basis;
- Preservation of the target function (a water supply system shall remain a water supply system);
- Transferring of the right of management on a contractual basis;
- Taking into consideration requirements of the Water legislation

Transferring of the right of management falls under the competence of the Government of Tajikistan. This article is related not only to water supply systems, but also to other waterworks facilities. However, a concept of *"waterworks facilities"* in the Water Code is not given. Contextually the most appropriate concept is the following: "waterworks facilities" - water reservoirs, dams, channels, water-collecting headers and drains, water pipes, wells, ditches, waterworks, protecting dikes, aqueducts, *water pipes with communications and other elements of infrastructure*. In practice, there were no cases of transferring of the right of management of drinking water supply and sanitation systems in accordance with rules of this article.

- **Article 23. General and special water resources management.** Activities on the drinking water supply and sanitation are related to the special water resources management. Special water resources management in general – it is the water resources management carried out with the use of engineering structures or equipment.
- **Article 25 Primary and secondary water resources management.** Organizations engaged in activities on drinking water supply and sanitation receive water objects for the individual use and are primary water consumers. Consumers of their services are secondary water consumers.

- **Article 26. Types of water resources management differing by the main target purpose.** One of types of water resources management is satisfaction of drinking and domestic needs of the population.
- **Article 27. Water consumers.** Physical persons or legal entities, regardless of the form of ownership, carrying out their activities on the territory of the Republic of Tajikistan and complying with requirements of the water legislation of the Republic of Tajikistan can be water consumers - primary and secondary.
- **Article 30. Prioritized provision of waterworks facilities for drinking and domestic needs of the population.** Waterworks facilities in the country are provided for use primarily for satisfying drinking and domestic needs of the population.
- **Article 36. Providing waterworks facilities for the individual use.** The waterworks facilities are provided for the individual use fully or partially pursuant to the Resolution of the Government of the Republic of Tajikistan, Decision of the local executive authority or of a specially authorized state organ on regulation of the use and protection of water resources, in coordination with the relevant local executive authority and in accordance with the legislation of the Republic of Tajikistan.

Chapter 9 of the Code regulates the basic rules and regulations on the use of waterworks facilities for drinking, domestic and other needs of the population, according to provisions of this chapter:

- **Article 53. Water and waterworks facilities provided for satisfying drinking, domestic and other needs of the population.** The main requirement for the provision of water and waterworks facilities for the drinking water supply and sanitation is *compliance of the water quality with the specified sanitary requirements*.
- **Article 54. The centralized water supply for the population.** Paragraph 1 of this Article defines that:
"While using waterworks facilities for satisfying drinking, domestic and other needs of the population at the centralized water supply, legal entities that have economic and drinking mains in their operational management or ownership, have right to take water from the water supply sources in accordance with the permission issued for special water consumption and supply it to consumers "
 In the Code a separate concept of "Centralized water supply for the population" is not given. This article gives a general explanation of the concept, according to which the water supply can be referred as specialized if:
 - it is carried out by legal entities that have economic and drinking mains in their *operational management or ownership*;
 - these legal entities are authorized for the special water resources management with the right to offtake the water and supply it to consumers.

This explanation of the term is contradictory, as the specified limit is imperative - only those legal entities that have the water supply system *in the operational management, or in their ownership have right* to engage in the centralized water supply. At the same time, the overwhelming majority of drinking water supply and sanitation systems in Tajikistan are state-owned and are managed by established State Unitary Enterprises - SUEs. In accordance with article 308, part I of the Civil Code of the Republic of Tajikistan, the SUEs manage the state property on the right of *economic management* and not of *the operational management*. This means that current activities of SUEs contradict this norm of the Code.

- **Article 55. Non-centralized water supply of the population.** The Code also does not specify a separate term "non-centralized water supply". To define this concept the following context is given in this article:

"While using water objects for drinking and other needs of the population at the non-centralized water supply, the enterprises, organizations, institutions and citizens have right to take water directly from the surface or underground sources, in the order of the general or special water consumption".

The concept of the non-centralized water supply in the Code is quite vast and does not have a clear meaning.

- **Article 57. Right of ownership for the drinking water supply systems.** This article defines rules on the right of ownership and rules on privatization of drinking water supply systems. According to the norms of this article:

"1. Centralized and non-centralized systems of drinking water supply can be the republican or communal property or the property of legal entities".

The right of ownership of the drinking water supply systems is not limited for legal entities, but drinking water supply systems can not be the property of individuals.

"3. Centralized and non-centralized systems can not be privatized"

In accordance with rules of paragraph 3 of the article, state owned centralized and non-centralized water supply systems can not be privatized.

"4. Physical persons and legal entities can have their own water supply systems constructed by their own in accordance with applicable norms and laws of the Republic of Tajikistan".

Norms of paragraph 4 are at variance with norms of paragraph 1, as here also physical persons are added who also may own the water supply systems, if they carry out its construction on their own.

The law «on drinking water and drinking water supply»

Taking into account the insufficient legal regulation of the sector of drinking water supply and sanitation, in 2010 in Tajikistan the law "On Drinking Water and Drinking Water Supply" was adopted. The Law of the Republic of Tajikistan "On Drinking Water and Drinking Water Supply" came into force on 29 December 2010. This law, in accordance with Regulations of the Republic of Tajikistan "On normative legal acts" has a greater legal force than the Water Code in relation to the sector of the drinking water supply. Because, according to norms of Article 70 of the law "On normative legal acts" first of all, by the date of entry into force it is more recent, and secondly it is more specific in relation to the regulated area. Therefore, norms of the law "On Drinking Water and Drinking Water Supply" are of paramount importance in comparison with norms of the Water Code. In case of inconsistencies in norms of these two normative-legal the norms of the law "On Drinking Water and Drinking Water Supply" should be taken into account.

The law "On Drinking Water and Drinking Water Supply", according to its preamble, regulates **"the legal and organizational framework of relations in the sphere concerning the drinking water and drinking water supply and establishes state guarantees for provision of drinking water to the population"**. The following provisions of this law are relevant to the subject of this study:

- **Article 1. Basic concepts.** This law adds a number of new terms and concepts and also corrects a number of concepts, which are also enlisted in the Water Code. In particular:
 - **a centralized system of drinking water supply (public water pipes)** - a complex of facilities and constructions for taking, treatment, storage and supply of drinking water to the places of its consumption, open for the general usage by physical persons and (or) legal entities;
 - **public non-centralized drinking water supply system** - facilities and constructions for taking and treatment (or without treatment) drinking water without supplying it to the places of consumption, open for the general usage by physical persons and (or) legal entities;

The law more clearly defines the concepts of centralized and non-centralized system of drinking water supply. The main difference between the two types of water supply systems is that at a centralized water supply system the water is *conveyed to the places of its consumption*, and at the non-centralized system it is *not conveyed to the places of its consumption*. At the same time, sometimes the issue of street standpipes remains questionable – is such type of water supply centralized or still street standpipes are not the place of water consumption.

- **autonomous drinking water supply systems** - facilities and constructions for taking drinking water and supplying (or without supplying) it to the place of its consumption, that are in the individual use (separate building, private farm, summer cottage or any other separate object);

Closed-loop systems of centralized or non-centralized water supply that are in the individual use (private).

- **Drinking water supply organizations - legal entities providing management of centralized or non-centralized drinking water supply systems;**

Here the concept of drinking water supply organizations is introduced. These are only legal entities providing management of centralized and/or non-centralized water supply systems.

- **Article 6. The competence of the authorized state body in the sphere of the drinking water supply.** The law introduces the concept of the "authorized body in the sphere of the drinking water supply". The following functions fall under the competence of this body:
 - development of main directions of state policy in this area and organization of activities on realization of this policy;
 - implementing of a single state scientific and technical policy on provision of drinking water to consumers in accordance with the quality standards and norms of drinking water consumption;
 - coordination of research studies in the field of drinking water supply and production of necessary materials and substances for treatment and disinfection of drinking water and ensuring financial backing for them;
 - organization of norming and accounting of the drinking water consumption;
 - approval of target regional programmes and action plans on establishment, maintenance and development of drinking water supply systems;
 - determining measures of protection and safeguarding of drinking water sources and drinking water supply systems;
 - organization of technological and ecological audit of drinking water supply systems;
 - organization of training, retraining and upgrading qualification of the personnel;
 - determining the order of certification of the drinking water quality standards;
 - submitting draft normative legal acts to the Government of the Republic of Tajikistan in the prescribed manner;
 - development and approval of tariffs for water supply services, standards and rules on operation of water supply systems in coordination with relevant authorities.

As it is seen from the above list, the competence of the authorized body includes quite diverse functions, ranging from regulation and normative-technical and environmental supervision up to promoting the scientific and technological development of the sector. For implementation of norms of this article the Resolution of the Government of the Republic of Tajikistan "On approval of the order of state control and supervision over the drinking water supply" was adopted on 31 December 2011. As it was mentioned in the section above, in accordance with the current edition of the "Order of state control and supervision over the drinking water supply" the system of state bodies exercising control and supervision within their competence includes:

- The Ministry of Health of the Republic of Tajikistan;
- The Committee for the Environmental Protection under the Government of the Republic of Tajikistan;
- The Agency for Standardization, Metrology, Certification and Trade Inspection under the Government of the Republic of Tajikistan;
- The Committee on Architecture and Construction under the Government of the Republic of Tajikistan;
- The Main Department of Geology under the Government of the Republic of Tajikistan;
- The Main Department of the State Supervision over the Safe Work Practices in Industry and Mining under the Government of the Republic of Tajikistan;
- Local executive bodies of the state authority.

Also, in addition in accordance with the above mentioned Resolution the SUE "Housing and public utilities"⁸ was added to the list of competent authorities. It is a commercial organization, established by the state. A target ministry - the Ministry of Energy and Water Resources is not included into the list of authorized agencies, though Regulations of the Ministry⁹ specify a number of powers that are directly related to water resources and waterworks facilities. Moreover in this Resolution the Antimonopoly

⁸ Article 50, p.2; article 124, p.1-2, part 1, of the Civil Code of the Republic of Tajikistan

⁹ REGULATIONS on the Ministry of Energy and Water Resources of the Republic of Tajikistan approved by the Resolution of the Government of the Republic of Tajikistan as of 3 March 2014, No. 149

Service is not specified though in accordance with Article 6 of the Law "On Drinking Water and Drinking Water Supply" the competence of the authorized agency also includes "design and approval of tariffs for services on the water supply...". The lawmaking body is describing this function not clearly enough, because tariff making – it is usually a function of the water supply enterprise and approval of tariffs in accordance with the Law "On natural monopolies" it is already the function of the Antimonopoly Service.

As a whole, norms of Article 6 establish a system of separate "allowing" authorized bodies, and not of a single authorized body in the sphere of the drinking water supply as it is indicated in the article.

- **Article 8. Forms of ownership for drinking water supply systems.** This article establishes a new rule on privatization of water supply systems, according to which transferring of the right of ownership is allowed upon condition that the systems operation will not be disturbed. The rest of the rules have remained as they were before. Drinking water supply system may be state-owned (republican and municipal property), and also be the property of physical persons and legal entities.
- **Article 9. Centralized systems of drinking water supply.** This article confirms the importance of centralized water supply systems, recognizing them as vital objects. And names of the equipment, materials and reagents for production of drinking water required for the operation of organizations on drinking water supply are entered into the list of products of the required state demand.

Paragraphs 4 and 5 of this article present another collision in the law establishing the contradictory rules. Paragraph 4 indicates that the centralized system of drinking water supply is managed by authorized state body. And in paragraph 5 it is stated that the owner of the centralized drinking water supply system can independently manage the centralized systems of drinking water supply or transfer them under contract to legal entities for the economic use or operational management. It is not quite clear what the legislator meant. In Russian language there are given some different concepts in the following points: "centralized system of provision of drinking water" and "centralized system of the drinking water supply" that makes a certain sense in understanding of these rules. But in the original law, in Tajik language, in both cases "the centralized drinking water supply system" is used - **шабақаҳои мутамаркази таъмини оби нӯшокӣ.**

Coming back to norms of point five - in accordance with these norms, the owner can transfer the right of management under the contract, but in the form of economic management or operational administration. The Civil Code that regulates these two forms of property management refers them only to forms of the state property management. Therefore, this point does not adequately regulate the issue of transferring the right of management on systems of the drinking water supply that are privately owned.

- **Article 10. Non-centralized and autonomous systems of the drinking water supply.** The article also sets more flexible regime for transferring the right of management of non-centralized and autonomous systems of the drinking water supply. In accordance with this regime, the management of non-centralized drinking water supply systems can be carried out directly by owners of these systems or they can delegate the right of management of these systems to other physical persons and legal entities.
- **Article 13. Financing of the drinking water supply system.** The law gives the absolute freedom as regards the funding sources. These may be budgetary funds if there are such within the scope of special state programmes, means of consumers (payments) and any other sources not prohibited by the law.
- **Article 14. The state support of the drinking water supply.** The article supplements support capabilities of the state, also indicated in Article 8 of the Water Code, in the form of preferential taxation, crediting and other benefits. This norm also is declarative in nature and practically has not been applied so far.

Specifics of regulating services on the drinking water supply and sanitation – is water an article of trade or a service?

One of the controversial issues today in the water sector in the world – is water an article of trade? In 1992 at the International Conference on Water and Environment in Dublin participants put forward 4 principles named as "Dublin Principles".

- **Principle 1 – Ecological principle:**¹⁰ “Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment”.
- **Principle 2 – Institutional principle:** “Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels”.
- **Principle 3 – Gender principle:** “Women play a central part in the provision, management and safeguarding of water”.
- **Principle 4 – Instrumental principle:** “Water has an economic value in all its competing uses and should be recognized as an economic good”.

These principles were later adopted and supplemented on a number of other conferences and high-level meetings. Just the fourth principle that proclaimed the water as an economic good has become the subject of disputes among countries of the world. Initially the purpose of proclaiming water as an economic good was in recognition of its value, so that the attitude towards water would be more economical and reasonable. And controversies arose between countries that use water of transboundary rivers, between countries in the upper and lower reaches. Countries located in lower reaches opposed this principle so that countries located in the upper reaches would not put forward "bills on the water use". In particular, in the region such disputes are going on between Kyrgyzstan and Tajikistan on the one hand and countries located in the lower reaches of the region, on the other hand.

In Tajikistan the legislation does not define the water as a commodity; the general legal nature of services on the drinking water supply and sanitation also does not specify the supplied water as a commodity. At the same time based on a number of articles of the Civil Code (Art. 490, with the reference to Art. 141, as well as articles 569-579 of the Civil Code of the Republic of Tajikistan), it can be concluded that the water supplied to consumers through the integrated network is both a commodity and also a service on supplying it. However, in the Tajik legislation the legal regime has no fundamental differences for natural monopolies, both for those that produce goods and also for those who provide services or carry out works on the water supply. Also legal characteristics of the sector of drinking water supply and sanitation from this perspective do not represent barriers for de-monopolization of this sphere.

For the purpose of de-monopolization of the sphere of drinking water supply and sanitation the second principle is applicable, the principle of equal participation of all parties in the decision-making process: suppliers, water consumers and the state. The principle should be reflected in ensuring transparency, accountability and inclusiveness in decision-making process and in carrying out activities in the sphere of drinking water supply and sanitation.

2.2. Problems in development of competition in the sector of drinking water supply and sanitation in Tajikistan

2.2.1. The right of management of drinking water supply and sanitation systems

The freedom in the right of management of water supply systems is one of important factors for the purpose of de-monopolization of the sphere. In current legislation of Tajikistan pursuant to the mentioned above articles of the Water Code and the law "On Drinking Water and Drinking Water Supply" there are no express prohibitions on the transfer and various methods of carrying out management of water supply systems, if not to take into account the nature of these norms that is not clear at times. For example:

The Water Code of the Republic of Tajikistan

- **Article 10. Granting the right of management of state-owned waterworks facilities to specialized legal entities.**

"The Government of the Republic of Tajikistan can grant *on a tender basis with preservation of the target function*, the right of management of state-owned waterworks facilities within a limited territory, to specialized local and foreign legal entities *on a contractual basis in compliance with requirements of this Water Legislation* of the Republic of Tajikistan".

The law of the Republic of Tajikistan "On Drinking Water and Drinking Water Supply"

Article 9. The centralized drinking water supply systems

¹⁰ Источник: <http://www.wmo.int/pages/prog/hwrrp/documents/english/icwedece.html>

- «... 5. The owner of the centralized drinking water supply system can independently manage the centralized systems of drinking water supply or transfer them to legal entities under contract for the economic use or operational management".

Article 10. Non-centralized and autonomous systems of drinking water supply

- «... 4. Management of non-centralized drinking water supply systems can be carried out directly by owners of these systems or they can delegate the right of management by these systems to other physical persons and legal entities".

The mentioned above norms of laws do not restrict rights of ownership and organizational-legal forms of companies to which the rights of management of drinking water supply and sanitation systems can be granted. The laws of the country that regulate water relations do not contain special norms regulating in details the transfer of management rights. The legal basis for transferring such rights can be found in normative-legal acts of the general legislation of the country. Currently in Tajikistan the following options of transferring rights of management of drinking water supply and sanitation systems are applicable:

The right of operational administration and the right of economic management

The right of operational management and the right of economic management are types of limited real rights in relation to the property of persons who are not owners of this property. Other types of limited real rights, for example - rights of leaseholders on the leased property. The legal nature of the lease and of rights of economic management and operational administration are similar. In both cases, the owner of the property transfers his/her property under certain conditions for the limited use, possession and disposal of the property. But if leasing is a clearer and easier way of transferring the property for management, the rights of operational administration and economic management – these are special legal regimes designed for transferring of the state-owned property.

The right of economic management is governed by norms of paragraph 2, chapter 18 of the Civil Code of the Republic of Tajikistan. In accordance with norms of this paragraph "Any property can be the object of the right of economic management, unless otherwise is provided by the legislation". For the right of economic management the republican or municipal unitary enterprise can be established. The name 'unitary' means indivisible; i.e. in essence the public property transferred to a limited real right is not subject to division on shares and deposits, including between employees of the enterprise, that is, the state property is given "for the turnover".

State unitary enterprises are free in disposal of their movable property, unless otherwise is provided by the law. The property transferred to the enterprises on the right of economic management is drawn out from the actual possession of the owner-founder and is entered into the balance of the enterprise. This property becomes a "distributed" property, detached from the property of others, including the owner, and serves as the basis for the independent property responsibility of the enterprise. However, property rights of state unitary enterprises are limited by the law. In particular, in accordance with norms of article 312 the limits are set on following types of entrepreneurial activities:

- a) to sell or convey to other persons, to exchange, to rent out for long-term lease (for the period over three years), to grant for temporary free use buildings, constructions, equipment and other fixed assets belonging to the enterprise. The Government of Tajikistan may determine the list of buildings, structures, equipment and other fixed assets of state-owned enterprises, leasing of which regardless of the lease duration shall be carried out in coordination with the authorized state body;**
- b) to establish affiliated branches and subsidiary enterprises, to found jointly with private entrepreneurs enterprises and joint manufactures, to invest their own production and monetary capital into such enterprises and manufactures;**
- c) to provide loans to private entrepreneurs with the interest payment on them below of the interest rate on loans approved by the National Bank of the Republic of Tajikistan.**

The right of operational management is regulated by norms of paragraph 3 of chapter 18 of the Civil Code of the Republic of Tajikistan. For the right of operational management the republican or municipal fiscal enterprise can be established. In contrast to the state unitary enterprise, the state-owned public enterprise is more strictly limited in property rights. In accordance with norms of Article 314 "The state-

owned fiscal enterprise has right to alienate or otherwise dispose of the property assigned to it **only with the consent of the owner of this property**".

In addition to articles 124-127 of the Civil Code of Republic of Tajikistan, activities of state-owned enterprises, is further regulated by the special law of the Republic of Tajikistan "On state-owned enterprises" as of 24 February, 2004. This law provides a more detailed distinction of the mentioned above types of state-owned enterprises. In particular, the state unitary enterprises can by their own set a price for their products based on the supply and demand, they have more freedom in production activities and in operational expenses, also they distribute profit on their own in accordance with the charter. The state-owned fiscal enterprises on the basis of operational management in their actions are more closely tied to owners and have to coordinate practically every step with the owner. In practice, the state-owned fiscal enterprises are established in the defense industry or in the penal correction (prison) system, as well as in other areas where a more flexible turnover of resources and the operational management are limited by various factors. One more difference is in that only state unitary enterprises can create their subsidiary companies.

There are no direct analogues of these two types of the limited proprietary right in the world practice. They are mostly applied on the territory of countries of the former Soviet Union. The history of their origin is associated with the need of transition of state-owned enterprises that were managed directly by the state to market business patterns.

There are no special restrictions in the legislation on using any of these forms for organization of the drinking water supply. But traditionally the form of the unitary enterprise is used, as it is more flexible in economic terms. In addition, this type of activities is directly indicated in the open list of activities for the state unitary enterprise¹¹. Almost all state organizations of drinking water supply have been established just in this form.

Other methods

The mentioned above methods are oriented at transferring the right of management exclusively to established state organizations. In the world practice different ways of transferring the property management rights are used: leasing out, transferring to trust management, to concession, to various forms of leasing, transferring to the management through establishment of a special commercial organization and others.

Some ways of transferring property management rights are also given in the general legislation of Tajikistan related not only to the drinking water supply systems but which also can be applied in this sphere. Some of them also refer to *other* limited proprietary rights. Other proprietary rights are regulated by paragraph 3 of chapter 18, consisting of only one article 320. In accordance with provisions of this article "**Limited proprietary rights for possession, using and disposal of the property also arises as a result of contractual obligations, such as: contracts of tenancy, lease, loan, and in other cases prescribed by the law**". This norm allows to transfer limited property rights on any property on a contractual basis under agreements of tenancy, lease, loans and in other cases prescribed by the law. In fact, it is an essential possibility to transfer the state (as well as non-state) drinking water supply systems into the limited possession, use and disposal to any types of organizational-legal forms.

The tenancy agreement is regulated by norms of chapter 33 "Property lease (rent)", part II of the Civil Code of the Republic of Tajikistan, articles 624-646. According to norms of Article 624 "Under the Tenancy agreement, the Lessor is obliged to provide the property to the Tenant for payment for the temporary possession and use or for exploitation". The Tenancy agreement on the real estate is subject to the state registration. The Tenant is obliged to use the property in accordance with terms of the agreement and if such terms are not defined in the contract - in accordance with the nature of the property. The Tenancy agreement is a non-gratuitous contract and stipulates the rent payment.

The Tenancy agreement or its more customary name - a Lease agreement is also regulated by the special law of the Republic of Tajikistan "On the lease in the Republic of Tajikistan", as of 6

¹¹ Article 20, the law of the Republic of Tajikistan «On state enterprises» as of 28.02.2004

December 1990 (the State paper of the Supreme Council of Tajik SSR 1990, No.24, article 415, the State paper of the Ministry of education of the Republic of Tajikistan, 1995, No.22, article 268; Statement of Majlisi Oli, 2004, part 1, No.12, article 692). The law was adopted before Tajikistan gained independence by the Supreme Council of the Tajik SSR. It was one of "transition" laws and was establishing new market rules for Lease agreements. The recent changes and additions were made in 2004. The law complements general rules of the property lease set forth in the above-mentioned norms of the Civil Code of the Republic of Tajikistan and can not be at variance with norms of the Civil Code.

For regulation of relationships on leasing on 22 April 2003 the law of the Republic of Tajikistan "On Financial Lease (Leasing)" was adopted. It is a special law that determines the general legal and economic principles of the financial lease (leasing) on the territory of the Republic of Tajikistan in conditions of a market economy. It also regulates legal relations arising in the process of implementation leasing activities.

A lease agreement – it is an agreement under which the Lessor undertakes to acquire the mentioned property of the Lessee (Leaseholder) from a seller indicated by this Lessee and provide this property to the Lessee for a fee for the temporary possession and using for entrepreneurial purposes. Leasing is one of the most promising forms of long-term crediting for purchasing or long-term use of large property complexes or fixed assets for entrepreneurial purposes. In accordance with Article 4 of this Law land plots and other natural objects, as well as the property a free circulation of which is restricted or for which a special procedure of treatment is established cannot be the subject of leasing.

The gratuitous use agreement (loans) is regulated by norms of chapter 35, part II of the Civil Code of the Republic of Tajikistan, articles 699-713. In accordance with the Gratuitous use agreement (Loan agreement) one party (the Lender) undertakes to give or gives the thing for a gratuitous temporary use to another party (the Borrower), and the latter undertakes to return the same thing in the same condition in which it was received, taking into account normal wear and tear, or in the condition stipulated by the contract.

However, in contrast to the right of economic management and operational administration the two mentioned forms of agreements to a different extent are taxable transactions for the Owner.

The trust management agreement is another form of possible transfer of the limited proprietary rights to immovable property. It is regulated by norms of chapter 48, part II of the Civil Code of the Republic of Tajikistan, articles 923-957. Under the Trust management agreement, one party (the Trustor) transfers the property to another party (the Trustee) for the trust management for a certain period of time, and another party undertakes to manage this property in the interests of the Trustor or of the person indicated by the Trustor (the Beneficiary). In contrast to the Lease agreement and the Loan agreement, the Trust management agreement does not provide for obtaining benefit from the use of the property by the Trustee (a physical person or a legal entity). The Trustee shall receive for implemented works a certain amount as wages (a physical person), or as a reimbursement under the contract (a legal entity).

Specifics of implementation of all three mentioned above contractual grounds for transferring of a limited proprietary right are regulated by indicated norms of the Civil Code of the Republic of Tajikistan, by special laws (leasing) and by the contract.

In practice, practically such types of contracts on systems of drinking water supply do not exist, as traditionally the drinking water supply is performed by state enterprises.

The concession agreement

The right for management of drinking water supply systems can also be transferred under the Concession agreement. Concession agreement is a type of agreement not stipulated by the Civil Code of the Republic of Tajikistan. Relations arising from the Concession agreement are regulated by a special Law "On Concessions", as of 26 December 2011, which was adopted instead of the first edition of 1997. In accordance with the Law "**concession** (authorization, assignment) – it is transferring of state property objects to the concessionaire on the basis of a Concession agreement giving the right for the effective temporary use of these objects including land, minerals, water, air space, flora and fauna, other state

property and natural resources not prohibited by the legislation, as well as the right of constructing (erecting) new objects at the expense of the Concessionaire on condition of their subsequent transfer to the state". This is one of potential types of contracts under which the state-owned property and natural resources can be transferred to private investors, including foreign investors for the temporary use (up to 49 years, in some cases up to 99 years, article 13).

The Concession agreement, in spite of similarities with the Lease agreement, still has a number of differences. One of the main differences is the subjective structure of these types of contracts. Subjects of the Lease agreement may be any legal entities and physical persons from both parties of the agreement. In the Concession agreement there are clearly defined subjects that can become parties of such agreement. In accordance with Article 1 of the Law "On concessions", parties of such agreement can be only:

- **the Concession grantor** - the Republic of Tajikistan, on behalf of which the Government of the Republic of Tajikistan acts or the local executive body of state power, carrying out their activities through relevant state bodies;
- **the Concessionaire** - natural persons and legal entities, except for state organizations and institutions, that have concession rights in accordance with the Concession agreement.

Another difference is in that the Concession agreement is usually associated with construction or re-equipment of obtained objects or with their extension. Upon expiry of the concession period the constructed, re-equipped or improved facilities shall be transferred to the possession of the Concession grantor, i.e. they become the state property. The Concessionaire derives its profit from the received property or from constructed objects during the Concession agreement. During the agreement period the Concessionaire shall pay out the agreed concession fee.

A Concession agreement is a form of a public-private partnership, so some of its aspects can be regulated by the Law of the Republic of Tajikistan "On public-private partnership" as of 28 December 2012.

The Law of the Republic of Tajikistan "On Concessions" has no restrictions on transferring the drinking water supply systems to the concession and can be applied in this area. But in practice, in Tajikistan the state-owned water supply systems have not been transferred under Concession agreements. In the world practice, it is a widely used method. For example, in 2015, the drinking water supply system of Volgograd city by competition results was transferred under the Concession agreement to the LLC "Concessions on the water supply" for 30 years (the company's website: <http://investvoda.ru/>).

2.2.2. De-monopolization of the drinking water supply and sanitation sector in concepts and programmes of the Republic of Tajikistan

In the Republic of Tajikistan two conceptual programmes have been adopted. These programmes define areas of activities in the housing and utilities sector and on issues of the safe drinking water supply: the Concept of reforming the housing and utilities sector in the Republic of Tajikistan for the period of 2010-2025 and the Programme on improvement provision of the safe drinking water to the population of the Republic of Tajikistan for period of 2008-2020. These long-term programmes as envisioned by authors are designed to ensure the sustainable development of respective areas.

- **The Concept of reforming the housing and utilities sector in the Republic of Tajikistan** for 2010-2025 was adopted by Resolution of the Government of Tajikistan as of 1 July 2010, under the No. 321. The main developer of this concept was the SUE HPU (State Unitary Enterprise for Housing and public utilities). The main responsible body for realization of this Concept also the SUE HPU was appointed, which has to submit every year to the Government a progress report on realization of this concept. This Resolution also binds ministries, departments and local executive branches of the Government to actively participate in realization of the Concept, through including needs of the sectors into the medium and long-term programmes on social and economic development of the country for realization of established requirements of the Concept.

The Concept covers the entire complex of the Housing and public utilities, but it is not the industry-specific, it does not define specific tasks for individual sectors, such as water supply, electricity supply, garbage disposal or housing maintenance. The Concept consists of 6 sections and 48 points therein. Here is the brief overview of relevant provisions of the Concept:

- **The main objective** of this Concept is provision of economic, legal and organizational conditions for the break-even operation, further development and reforming of the Housing and public utilities sector aimed at improving the efficiency, reliable functioning of life-supporting systems of the population, improving the quality of provided services, availability of communal services for every consumer of services.
- **The Concept objectives** also include the objective on **de-monopolization of the sector**, providing conditions for development of market relations, transition to formation of contractual relationships, development of a competitive environment on the market of public services and the wide involvement of homeowners for organization and provision of public services.
- In Section 3 "Goals, objectives and priorities of reforming of the housing and public utilities sector" it is stated that for achieving the set objectives it is necessary:
 - **to increase the investment attractiveness** of the housing and public utilities sector;
 - **to develop a competitive environment**, to enable consumers to influence the volume and quality of provided services
- In section 4 of the Concept "Basic Principles of implementation of reforms in the housing and public utilities sector" it is determined that for the successful implementation of reforms in the housing and public utilities sector among others also **the principle of separating regulation from provision of services is applied. Functions of the regulating body will be separated from provision of services** that will promote the obligatory fulfillment of requirements of the norms of housing and communal services in practice;
- In Section 5 "Basic ways of reforming the housing and communal services sector" a special subsection is dedicated to "De-monopolization and development of the competitive environment," according to some points of which:
 - 17) The most important element of the reform should be **creation of a competitive environment in the system of management and supporting of the housing and public utilities sector.**
 - 19) A necessary prerequisite for the competition development is **de-monopolization of the housing and public utilities sector.**
 - 20) **Spheres of activities where the competition development is possible** include:
 - management and servicing of the housing stock and of communal facilities;
 - attracting organizations that use alternative forms of providing communal services including autonomous life-supporting systems not connected to the networking engineering infrastructure of facilities (boiler-houses, condensive gas supply, autonomous heating supply, electricity supply etc.);
 - performing different works on serving communal facilities (repair and cleaning of nets, garbage disposal, maintenance of lifting mechanisms etc.);
 - planning-surveying and construction works on development of communal facilities;
 - providing conditions and of the normative-methodical basis for formation of the local competitive environment in the sphere of production and provision of housing and utilities services.

Thus, the Concept does not refer the water supply, electricity supply and gas supply to spheres where development of competition is possible.

- 21) In the process of de-monopolization of the housing and communal services sector it is necessary to observe:
 - implementation of measures on de-monopolization bearing in mind that the housing and public utilities sector is a complicated economic complex;
 - **non-discrimination with respect to any form of ownership of the housing stock and other communal facilities;**
 - coordination of activities carried out in the framework of state and local programmes on de-monopolization;

- taking measures on **establishment of a large number of entities of different forms of ownership in the field of providing housing and communal services**;
 - orientation on ensuring of the maximum possible competition of economic entities, as well as protection of rights and interests of consumers of housing and utilities services.
- In section 6 "Stages of implementation of reforms in the housing and public utilities sector", the concept implementation is divided on the calendar stages of five years each: 1) 2010-2015; 2) 2015-2020; 3) 2020-2025. In accordance with these stages currently it is the stage 2)2015-2020's. Among others the following was assumed:
- **de-monopolization of activities of organizations** of the housing and public utilities sector, attraction of organizations of various forms of ownership on the equal basis **for provision of housing and communal services**;
 - developing **mechanisms of obtaining and returning medium- and long-term investment loans** for development and modernization of housing and public utility facilities;
- **The Programme on improving the clean drinking water supply to the population of the Republic of Tajikistan for 2008-2020** was approved by the Resolution of the Government of Tajikistan on 2 December 2006, under the No. 514. In contrast to the Concept, it is sectoral programme aimed at development and improvement of the drinking water supply sphere. The programme was developed by a number of targeted ministries and agencies before entry into force of the Law "On Drinking Water and Drinking Water Supply". The law itself was developed in the framework of this programme. Implementation of the programme was assigned to a number of ministries and departments and state agencies, including the Ministry of Land Reclamation and Water Resources of the Republic of Tajikistan, the State Committee for Environmental Protection and Forestry of the Republic of Tajikistan, State Unitary Enterprise "Khojagii manziliyu communal", the executive authorities of Gorno-Badakhshan autonomous oblast, oblasts (provinces), city of Dushanbe, cities and districts of Tajikistan. Currently, due to a number of reforms in the state apparatus, some of the above departments were reorganized, according to their functions and tasks assigned to them have passed to their successors.

The programme is relatively not large. It consists of the introduction and four sections. The programme is more practical in nature and it does not take into account economic, social, financial components of the sector development. It does not provide solutions and directions for the sustainable long-term functioning of the industry. The programme gives description of existing problems, as well as the need to address them. Here also a partial cost estimate for improvement of the situation with the drinking water supply is given. By its structure and content the document is not a concept paper for development of the sector, but a short-term declaration of problems and the need to address them for attraction of credit funds from the international community and international financial institutions.

III. ANALYSIS OF SOME EXAMPLES FROM THE WORLD EXPERIENCE IN IMPLEMENTATION OF MARKET REFORMS IN THE SECTOR OF DRINKING WATER SUPPLY AND SANITATION

3.1. The European experience: Germany, France, England¹²

Since the early 80s of the last century, a number of European countries have started the process of liberalization and development of competition in the management of drinking water supply systems, which were mostly state-owned. The need for reforms was preconditioned by the low cost-effectiveness and lack of the market flexibility in the management of drinking water supply systems that reduced the performance showings of the sector and adversely affected the quality of services. Reforms in these countries started and were implemented mainly in urban areas.

Difficulties in implementation of reforms in the drinking water supply and sanitation sector in the world practice were conditioned by the low investment attractiveness of the sector, long-present traditions in management and by the attitude of the population to drinking water as to a kind of social good, rather than to a commodity. European countries faced similar problems while attempts were made to implement reforms with the purpose to promote competition in this sector. On the one hand, the obstacles were of economic nature. Because the volume and composition especially of start-up expenses in this sector substantially differ from other natural monopolies. Liberalization and development of competition among natural monopolists started in the sphere of air conveyances already in the middle of the last century, then in the sphere of communications and data transmission, then in the energy sector. However, the sector of the drinking water supply significantly differed from all these mentioned spheres. Water is "a local consumption commodity", it can not be easily "transported" in comparison with other services of natural monopolists; water supply networks are the most expensive in terms of construction and finally the water is an irreplaceable product and is a vital necessity.

Basic tools that are still used today for implementation of reforms in the drinking water supply are the following: privatization, corporatization¹³, participation of the private sector, public-private partnership. The process of reforms aimed at promoting competition in the drinking water supply and sanitation sector in European countries also passed by the same course - transition from the administration and control over the sector to operation on the contractual basis. The drinking water supply and sanitation systems were transferred for the management to the private entrepreneurial sector through privatization of drinking water supply facilities or through transferring rights for their management to private organizations. Experts distinguish three different leading European models that have been implemented in the UK, France and Germany. These three models differ by the degree of the private sector involvement and by organization of the state regulation.

3.1.1 England and Wales

All water supply and sanitation systems in England and Wales were fully privatized in 1989. The "total" privatization of this sector in England and Wales has its own background that started after the Second World War. For the development purposes, in the post-war years the state in every possible way supported local solutions for organization of water supply systems. By the end of the Second World War in England and Wales the water supply services were rendered by more than 1000 companies and sanitation services - by more than 1400 small companies. All these companies belonged to municipalities. The drought in 1959 and then flood in the 1960s prompted the need to integrate water companies in order to improve the overall management of water resources. In 1973, a new Law (Water Act 1973) was adopted, according to which the water supply companies in these two parts of the Kingdom were merged

¹² *Adapted from:* 1) "Liberalization in the Water Sector: Three leading models", Claude Ménard & Aleksandra Peeroo Centre d'Economie de la Sorbonne (CES) University of Paris (Pantheon-Sorbonne); 2) "Competition in water supply" CRI Occasional Paper 18, Peter Scott, The University of Bath; 3) "The Regulation and Privatization of the public water supply and the resulting competitive effects", Johann Wackerbauer

¹³ **Corporatization** – a term used by international financial institutions means privatization (denationalization) of enterprises through transforming them into joint-stock companies. The state reorganizes state enterprises into incorporated enterprise (joint-stock company) initially with the prevailing share of stocks in the ownership of the state. – *the author's note*

into 10 large regional Water administrations. Functions of these Administrations were aimed at protection and management of water resources on the basis of the basin authority. These administrations also provided services on the water supply and sanitation.

This approach did not pay off as these state administrations turned out to be underprepared for functioning in the framework of market relations. Moreover, they were loaded with a number of administrative functions on protection of water resources. As a result, in 1980 changes were done in the Water legislation that allowed local state organs in charge for the management of these administrations to attract private investments for development of water supply systems. However, these changes also did not bring the desired changes, as these Administrations were not able to cope with this task and were not able to allocate appropriate budget funds for increasing the investment attractiveness. As a result, these Administrations had great debts and pollution of water resources continued.

Taking into consideration unsuccessful reforms the Government of England and Wales in 1986 started development of a programme on privatization of the drinking water supply and sanitation sector. With the purpose to attract investments the water supply enterprises were reincorporated as joint-stock companies and their shares were issued to the stock market. The state provided tax preferences for private companies, cancelled debts and made one-time solid investments into water supply facilities. In 1989 all water supply companies were privatized, the functions on protection and water resources management were completely detached from enterprises on the drinking water supply.

For regulation of activities in the sector the National Rivers Authority on protection and management of river resources, the Drinking Water Inspectorate and the economic regulatory authority of the sector – the Office of Water Service - OFWat were established. For protection of rights and interests of water consumers along with making changes in the water legislation, in 2003 Consumer Councils for Water (<http://www.ccwater.org.uk/>) were established. This is a government organization, accountable to the Secretary of State of the Department for the Environment, Food and Rural Affairs.

The main regulatory authority of economic activities of water supply enterprises is the Office of Water Service - OFWat (<http://www.ofwat.gov.uk>). This body works closely with Consumer Councils for Water; their cooperation is mandatory and was enshrined in the Water legislation in 2003. Functions of the Office of Water Services include monitoring activities of water supply organizations, tariff regulation, monitoring of merging and division of enterprises on drinking water supply etc. In turn, the Councils represent the voice of consumers of drinking water supply services, accept water consumers' appeals and take measures on their protection and representation of their interests.

In result of full privatization and establishment of a new regulatory system in the sector, today the water supply and sanitation services in England and Wales are provided by 10 companies and there are 13 companies that provide services only on the water supply. During the first 15 years after privatization, these companies invested about 50 billion pounds sterling into the sector. Prices for the drinking water supply services were increased on average by 35 percent for covering investment commitments. Establishment of an independent regulatory body allowed avoiding political interference into operation of business entities, giving the top priority to long-term economic considerations, thereby providing guarantees to investors and creating a stable environment for investments. Companies that have privatized water supply enterprises made significant improvements in collection of the economic data that allowed to adjust the appropriate disbursement of funds, significantly reducing costs. In total, during the period from 1980 to 2010, the amount of investments reached 88 billion pounds sterling, or about 117 billion US dollars. Through present, the average annual amount of investments into the drinking water supply and sanitation sector of England and Wales is over £ 3 billion. Currently, in England and Wales there live about 58 million people, therefore, the average size of investment per year is about 62 pounds sterling per capita.

3.1.2 France

The French approach to liberalization of the drinking water supply and sanitation sector is completely different in character. In the middle of the 19th century in France the first contracts were concluded on the public-private partnership in the sphere of drinking water supply, on transferring the right of management of water supply systems and sanitation facilities to the private sector. However, such contracts were not widespread until the 80s of the last century. The needs for reforms in France, just as it was in case with

England, were prompted by financial problems in the sector. But in contrast to England and Wales, in France reformers went through the way of decentralization and transferring the right of management of water supply systems that were still state-owned to private companies.

Decentralization of the drinking water supply and sanitation sector in France started in 1982 with the entry into force of two laws on the full transition of competences on management of drinking water supply systems from the central state bodies to regional and local autonomous bodies - municipalities and local departments. The state control in the drinking water supply and sanitation sector is realized by a number of central ministries and departments such as the Ministry of Environment, Energy, Sustainable Development and Spatial Planning, Ministry of Health, Ministry of Regional Development, the Ministry of Economy and Finances. The main body is the National Office for Water and marine environment (Onema). These bodies within their powers carry out monitoring and legislative and statutory regulation in the drinking water supply and sanitation sector.

On other economic matters each municipality was free in organization of the drinking water supply and sanitation sector. Municipalities could provide drinking water supply services directly, through organizations established by them, joining with other municipalities and setting up joint ventures (enterprises) or transferring the right of management to private companies.

As of today, among the 36,700 municipalities in France about 23,000 municipal enterprises on drinking water supply are set up and functioning; about 2,000 of them are joint municipal enterprises. But only about 25 percent of them provide services on the drinking water supply by their own, 50 per cent provide services on the drinking water supply and sanitation. The right of management of other enterprises (75 percent on the drinking water supply and 50 percent on sanitation services) has been passed for management to private companies. The major private companies providing drinking water supply services in France today are the following - Veolia (provides services for drinking water for 24.6 million people and sanitation services to 16.7 million people in 8,000 municipalities), Suez (provides drinking water supply services for 12 million people in 5000 municipalities and services on wastewater disposal to 9 million people in 2600 municipalities) and Saur (provides drinking water supply and sanitation services for 5.5 million people in 6700 municipalities and municipal associations, mostly in rural area).

The specific character of the reform in France consists in the following:

- **The lack of the regulatory authority.** All tariffs for the water supply are regulated by the contractual relationships between municipalities and private managers, or are set directly by municipalities, if they provide drinking water supply services by their own.
- **Investment commitments.** Municipalities or municipal unions transfer to private firms only management functions under the management contract, retaining all investment obligations. The managing firms provide services, collect payments for the water and pass them to municipalities that make investments in the drinking water supply and sanitation sector on their own. Managing companies only receive remuneration for their works under the contract, except for a small part of contracts where investment commitments are also transferred to private companies.
- **Forms of agreements.** Agreements on transferring management rights are concluded mainly in three forms: rent (leasing), concession or management contract (similar to the trust management, as described in the previous section).

In 1993, after a series of corruption scandals with managing companies in the drinking water supply and sanitation sector, the socialist Michel Sapin initiated the Sapin Law on prevention of corruption. The Sapin law was passed in January 1993. According to this law there were adopted rules on mandatory tenders, ensuring transparency and accountability in the procedure of contracting for transferring rights of management of enterprises in the drinking water supply and sanitation sector, and also terms of such contracts were reduced from 20 to 11 years. One of main results of this law was the increased competition and subsequent reduction of compensations received by private managing companies by 9 percent. In 2001, the Association of Mayors of France developed a model contract on transferring rights of management of drinking water supply and sanitation systems that also was intended to reduce corruption.

In result of carried out reforms in average in France about 5 billion euro is invested into the drinking water supply and sanitation sector per year, that is about 80 euro per person in a year.

3.1.3 Germany

In contrast to France and Great Britain, Germany is characterized by more conservative approaches to the management in the drinking water supply and sanitation sector. The drinking water supply and sanitation system in Germany is complicated by a number of special aspects. In particular, it is a federal state structure of the country. 16 federal states of Germany have widely different laws at the local level. As a result, the drinking water supply and sanitation sector is highly fragmented and is represented by thousands of small enterprises on drinking water supply and sanitation in various forms of performance management (about 12,000 across the country). But, the state (municipal) ownership of drinking water supply and sanitation systems is always prevailing.

From an economic point of view in Germany, as a whole, there is no economic, tariff regulation of activities in the sector of drinking water supply and sanitation. All water companies work only on the principle of full compensation of expenses for provision of drinking water supply and sanitation services thus being unprofitable. The same approach is applied in many US states. Tariffs for the water supply represent only the cost price of services. Such enterprises are also not subject to anti-monopoly regulation.

Among the 1,266 larger water service providers about 15 percent are municipal [utilities](#); 16 percent are municipal unions; 63 percent are various utilities under private, municipal-private or joint ownership of municipalities and of the private sector, about 6 percent are managed by different cooperative forms (Water users associations and others), about 3 percent of service providers are privately owned.

A significant burden on municipal budgets, the need for large investments, EU requirements on liberalization during recent decades prompted introducing of changes in the management of the drinking water supply and sanitation sector. Basically, the private management is presented in major cities and in western Germany, where substantial investments into the drinking water supply and sanitation system were needed. Since in Germany the municipal management is very highly developed, therefore all attempts to separate economic activities on drinking water supply and sanitation from other functions of municipalities and local self-government authorities still in various forms remain under the control of municipalities of domicile. For example:

- **State commercial enterprises.** They remind analogues of our domestic unitary enterprises and are established in the form of Limited Liability Companies, with more strongly-pronounced economic and financial autonomy. The company is entirely owned by the municipality, but the municipality does not interfere into its daily activities. Municipality representatives reserve the right to influence any important decisions of the company by participating in its supervisory board.
- **Contract Management.** When the right of management of drinking water supply and sanitation systems is transferred to a private company under the contract, it reminds the French scenario of transferring management rights. Private firms receive only compensation for the operational management of the company activities.
- **Creation of a joint venture (enterprise).** One of the most popular forms of public-private partnership is when the municipality together with a private company creates a joint venture (enterprise). In order to be able to influence the decisions of the created company, the municipality reserves a little more than 50 percent of shares of the company. The main operational activities are performed by the private company, co-owner of the joint enterprise, and the co-owner, the Municipality retains the investment obligations.

In all mentioned cases, the municipality reserves the right to influence decisions in the drinking water supply and sanitation sector that is just something like its regulatory role.

The main problems in liberalization of the drinking water supply and sanitation sector in Germany are in the public opposition: the vast majority of citizens are against privatization, against admission of private companies into the management of water supply and sanitation sector. However, despite this, the trend

towards increasing of cases of corporatization of state-owned systems of drinking water supply and sanitation continues.

As a whole, the drinking water supply and sanitation sector in Germany is characterized by a high level quality of drinking water supply and sanitation services. The technical losses in networks amount to the record 7 percent, that is much lower than in France and the UK. Tariffs for drinking water supply and sanitation services, in accordance with the legislation, should cover the actual cost of the company's expenses (full cost recovery). In average, a tariff per 1 cubic meter of drinking water and sanitation services is about 6 euros.

3.2. Experience of CIS countries: Russian Federation, Armenia ¹⁴

On the territory of the former Soviet Union, the Russian Federation and the Republic of Armenia can be named as leaders on attraction of the private sector into the management of drinking water supply and sanitation systems. Currently in the countries the corresponding legislative base has been formed, the practical experience is gained and people habitually perceive participation of the private capital and initiatives in the water supply and sanitation.

3.2.1. Armenia

Like in all post-Soviet countries, in Armenia municipal infrastructure was state-owned. Since 1997, the government of Armenia started reforms and the first step was aimed at separation of the function of the sector regulation from the function of management of the sector objects. The state started commercialization of the sector, transferring municipal infrastructure giants to market rails. The energy committee was established, the tasks of which included regulation of the sector through setting tariffs, development of the framework for implementation of activities and licensing. The Committee, after a series of reforms in 2004 also joined other sectors of services of natural monopolists and was named "Public Services Regulatory Commission (PSRC)". Today, the PSRC regulates sector of the energy, water and sanitation, telecommunications, postal services and the mandatory technical inspection of vehicles. The main principles of the PSRC operation – ensuring the balance of interests of consumers and of regulated entities, ensuring transparency of its work.

The PSRC is a single body that carries out regulation in specified spheres. The legislation of Armenia clearly defines the status and authorities of the Committee. It is a collegial body consisting of five members appointed by President of the country as advised by the Prime Minister. To ensure the independence (freedom) of the Commission, the legislation strictly restricts the possibility of early termination of powers of the PSRC's members. The reasons for which the President of the country may terminate the powers of the PSRC' members are, for example, the following:

- loss of citizenship of the country;
- entry into force of the court decision for an intended crime, as well as for a crime committed out of negligence punishable by imprisonment;
- disability or special disability;
- absence on meetings of the Committee without a valid reason for more than 5 times;
- serious omissions in performance but only if other members of the Committee confirm it by their resolution.

And also some other reasons of similar nature, including the voluntary resignation or existence of a conflict of interests.

Nobody can dismiss the member of the Committee for any other reasons that ensures the adequate independence (freedom) in decision-making. The law also provides for the financial independence of this body by establishing the size and format of the annual budget.

¹⁴ adapted from publications: «Review of the private sector participation in the drinking water supply and wastewaters disposal in countries of EECCA (Eastern Europe, Caucasus and Central Asia)», the Institute of Economics of the city, Moscow. 2010; and «Financing of the water supply and sewerage system in countries of Eastern Europe, Caucasus and Central Asia», the protocol of the conference of Ministers of finances/economy, water management and environment of EECCA countries and their partners, 17-18 November 2005, Yerevan, Armenia

Establishment and operation of an independent regulatory body in Armenia has led to that today 100 percent of water supply and sanitation systems in Armenia are managed by foreign private companies. Their activities are regulated by PSRC through setting tariffs, tenders and licensing. The water supply has become a profitable business. French and Italian companies are presented on the market.

3.2.1.1 Legal framework

Currently, in Armenia participation of the private sector in the management of the drinking water supply and sanitation sector is regulated by a separate chapter of the Water Code of Armenia dated 4 June 2002. Chapter 6 of the Water Code of Armenia "The use and management of state-owned water supply systems", articles from 48 to 62 regulate issues of transferring rights of management of state hydrologic systems, including drinking water supply and sanitation systems, irrigation systems and other types of hydrologic system¹⁵. Currently, in Armenia participation of the private sector in the management of the drinking water supply and sanitation sector is regulated by a separate chapter of the Water Code of Armenia dated 4 June 2002. Chapter 6 of the Water Code of Armenia "The use and management of state-owned water supply systems", articles from 48 to 62 regulate issues of transferring rights of management of state hydrologic systems, including drinking water supply and sanitation systems, irrigation systems and other types of hydrologic system. In accordance with norms of this chapter:

- The freedom is given in choosing the forms of management of water supply systems: public and/or private;
- The Code defines 4 forms of transferring the right of use:
 - 1) **through transferring to the trust management.** It is a form of contract management, when the property remains under the state ownership, but the manager also undertakes the investment commitments. This form of management is widely used in Armenia in the drinking water supply and sanitation sector. The majority of foreign companies currently operate on the basis of such contractual agreements. This form of management is regulated in details by the Water Code.
 - 2) **under the concession agreement.** Under such agreement the entire water supply system or its part can be transferred. In practice, it has not been applied in the drinking water supply and sanitation sector in Armenia. It is regulated in details by a special law on concessions in the country.
 - 3) **creation of a commercial organization.** This form reminds the German approach to organization of the public-private partnership, under which a private company should contribute an amount not exceeding 49 percent of the authorized capital, leaving to the state the right to take decisions on key issues.
 - 4) **Leasing out.** A distinctive feature of leasing out the drinking water supply and sanitation systems in Armenia is in that the Operator had to create a separate private company to which the drinking water supply and sanitation systems will be offered for lease for a period up to 10 years or more. The company-lessee undertakes the full financial responsibility for collection of payments and carries out all necessary expenses. The Lessee undertakes responsibility for realization of the investment programme financed of funds provided by various donor organizations.

The most widespread of abovementioned forms of participation of the private sector in the water supply and sanitation sector in the country are management contracts and lease contracts. Privatization of water supply and sanitation systems can not be considered as an alternative in Armenia, since it is prohibited by the law.

Since August 2009, all relatively large systems of water supply and sanitation in Armenia are managed by international operators:

- The water supply company of Yerevan - a lease agreement with Veolia Water (France);

¹⁵ «*The water-based system – hydrotechnical constructions on the use of water resources (hereinafter - HTC), that cause changing of the water flow or are used for the diversion of water resources, including (but not limited by) dikes, dams, piers, channels (canals), tunnels, wells, water-pipes, pump stations, waste treatment plants, hydraulic works, drainage systems, water conduits, aqueducts, other water collectors, machinery, equipment, fittings, that are constructed, placed or used for closing dikes, collection, diversion, distribution, withdrawal of water, control, water production, electrical power generation, treating and using of water or rainwater harvesting.*» *Article 1 «Basic terms used in the Code», the Water Code of Armenia*

- The company "Armvodokanal" – a management contract with SAUR (France);
- Lori-vodokanal, Shirak-vodokanal and Nor Akunk – a management contract with the consortium consisting of MVV decon, MVV Energie (Germany) and AEG Service (Armenia).

3.2.1.2. Figures and facts

Operating results of the company Armvodokanal, the contract manager of which is a company Saur (France), for the first 4 years:

Operating results of the company Armvodokanal in the period of 2004-2008.

	2004	2005	2006	2007	2008	2008 / 2004
Duration of the water supply period, hours/days	6,04	7,39	9,62	10,98	12,10	200,3%
The level of payments collection (not considering budget organizations), %	47,9%	36,2%	62,6%	72,3%	75,9%	158,5%
Number of employees in the calculation per 1000 consumers, persons.	9,45	8,34	7,15	6,87	6,85	72,5%
The electricity consumption in calculation per 1 cubic meter, kWt-hour	0,43	0,38	0,31	0,30	0,29	67,4%

Another example - operating results of the company "Yerevan Jur", a private company established by the French company Veolia Water (France):

- The company "Yerevan Jur" serves Yerevan and 30 neighboring villages, it is about 240 thousand consumers, 20 thousand of which are legal entities, and the rest - the population;
- The annual electricity consumption of the water service company "Vodokanal" until 2005 amounted to 120 million kW/h. After leasing it out, the company reduced the electricity consumption to 24 million kW/h. This was achieved by significant reduction of the number of pumps by conveying the water supply to the natural flow from land-based sources (luckily, the nature allows to do it, as it turned out after calculations) and the complete replacement of all remaining pumps to more modern and cost-effective;
- The level of water losses was significantly reduced, counters were installed to 100 per cent of water consumers, water leakages were eliminated, cases of theft were minimized. However, the level of losses is still quite high;
- The water extraction was reduced by 20 percent, but at the same time, the volume of sold water increased by 15 percent;
- Annual revenues make up on average 10 billion drams (the national currency of Armenia), or slightly more than \$ 20 million, with 98 percent of collectability.

In accordance with the lease contract the company "Yerevan Jur" during the first five years of its operation had to raise tariffs, and after five years – to lower them. This decision was prompted by the need for substantial investments in the repair and replacement of the equipment and networks. If in 2006 the cost of a cubic meter of water (including services for the water supply and sanitation) for the population was 195 drams, now it is 170 drams. In our currency it is about 2.88 somoni. For comparison: tariffs in Dushanbe for the same cubic meter if the water counter is available - 0.52 somoni, in Khujand - 1.40 somoni.

3.2.2. Russia

De-monopolization and liberalization of the water supply and sanitation sector in the Russian Federation started in the early 2000s. By that time, the legal and institutional framework for tariff regulation was already developed. But the legal basis for participation of the private sector in the management of drinking water supply and sanitation systems was not formed yet. Therefore, the first experience of participation of private companies was based on short-term agreements on leasing state systems on drinking water supply and sanitation without investment commitments.

A step towards creation of mechanisms for financing individual projects in the communal sphere should also become the incentive for the private sector involvement. Thus, the Government of the Russian Federation approved the sub-programme "Modernization of municipal infrastructure objects" of the

Federal target programme "Housing accommodation" for 2002-2010. The main objectives of the subprogramme are the following: modernization of the municipal infrastructure objects, improving efficiency of the management of municipal infrastructure objects, attraction of extra-budgetary sources for financing the municipal infrastructure projects. For realization of the subprogramme in 2006 - 2010 funds from the federal budget in the amount of 28.14 billion rubles (about 800 million euros) were provided, including in 2006 - 4.8 billion rubles, in 2007 - 6.1 billion rubles, in 2008 - 7.5 billion rubles, in 2009 - 6 billion rubles, in 2010 - 3.74 billion rubles.

The Investment Fund of the Russian Federation was established (its amount at the time of establishment was 69.741 billion rubles or 2 billion euros). Resources of this Fund on the competitive basis (by tender) were provided for implementation of investment projects that have the national and regional importance and are implemented on terms of the public-private partnership. To date, from amongst of all major private operators in the field of drinking water supply and sanitation only the JSC "Eurasian" was able to arrange financing from the Investment Fund of the Russian Federation:

- through its affiliated company – the JSC "Vodokanal of Rostov-on-Don city" – on the project "The integrated programme of construction and reconstruction of water supply and sanitation facilities in the city Rostov-on-Don and in the south-west part of Rostov region" in the amount of 6 660.29 million rubles.
- through its project company OJSC "ABVK-Eco" – on the regional investment project "Clean Don" in the amount of 1 055.60 million rubles.

Only very large projects (the total amount of costs on the project should be not less than 5 billion rubles and 500 million rubles for the entire duration of the project for the federal and regional projects accordingly) can compete for receiving money from the Investment Fund of the Russian Federation. At that, the procedure of preparing project for consideration in the Investment Fund by itself is very costly and time-consuming.

Just during that period the largest private companies in the drinking water supply and sanitation sphere started to operate and are functioning up to now:

- **"Russian Communal Systems" (RCS)** is the largest private federal company operating in the communal sphere. The company was founded on 29 May 2003, in the period of active implementation of reforms in housing and public utilities sector for formation of a new market of communal services. The goal of the company is development of the communal infrastructure of Russian cities and provision of quality services to water consumers.

Currently, the companies in the RCS group are working in 7 regions of Russia: Perm Krai, Amur, Kirov, Samara, Tambov, Ulyanovsk regions and in the Republic of Karelia. The long-term strategy of the company development sets out the further expansion of the business both through starting work in new regions and also through expanding the area of activities and the range of services in the regions of the RCS operation.

Activities of the RCS group of companies is implemented mainly on the basis of agreements on leasing of the municipal property complex (from 1 year to 49 years) with regional and municipal administrations. The Concession agreement has been signed by the OJSC "Novogor-Priramye" under the RCS, and the authorities of the city of Perm.

- **The group of companies "Rosvodokanal"**- it is another major Russian private operator of water supply and sanitation. The headquarters of the company is located in Moscow. The recent history of "Rosvodokanal" started in 2003, when the company became successor of the trust "Orgvodokanal", established in 1949. The trust developed projects and managed the construction of water supply, sewerage and wastewater treatment systems across the country. The objective of the company is to develop the water infrastructure of cities and provide quality drinking water to the population, as well as to provide the quality sewage treatment.

Enterprises of the Group every year supply about 600 million cubic meters of water to the network and take up the same amount of waste waters for treatment. The total length of operational network exceeds 23 thousand kilometers. More than 10 thousand people work in the company.

Under the "Rosvodokanal" supervision seven regional water utilities of Russia operate. They are serving more than 5 million consumers in five federal districts, cities with over one million population and large industrial centers: Omsk, Voronezh, Tyumen, Krasnodar, Orenburg, Barnaul and Tver. "Rosvodokanal" manages the infrastructure on the basis of long-term lease and concession agreements. The concession agreement has been signed with authorities of Voronezh. In other regions, the lease agreements with duration from 1 year to 49 years are in force.

At the end of 2014 "Rosvodokanal" was holding more than 5% of the Russian market of water supply and sanitation and 24% of drinking water supply and sanitation market served by private operators.

- **The JSC "Eurasian" was established on 5 September 1994. Today it is one of the leading Russian companies operating in the municipal drinking water supply and sanitation infrastructure.**

One of shareholders of the JSC "Eurasian" is Vnesheconombank. The authorized capital of the company amounts to 900 million rubles. The number of employees working in subsidiary and affiliated companies exceeds 7 thousand people, and the number of the population served during the seasonal peak loads reaches up to 4 million people.

The JSC "Eurasian" has many years of experience in implementing large-scale investment projects in the sphere of water supply and sanitation in southern Russia on principles of public-private partnership. Unique investment projects of the company were supported at the high state level and have become a pilot platform for development of a public-private partnership in the sector.

Foreign companies working as operators in the communal sector in the markets of many countries have not achieved any significant business success in Russia, and in some cases they have even reduced their activities. So, the French company Veolia Water, mentioned several times in this report, has made several attempts to take on lease water supply systems in a number of cities in the central part of Russia, but after unsuccessful completion of these projects practically ceased its operations in Russia.

The Concession Agreements in the drinking water supply and sanitation sector

However, despite the presence and active participation of private companies in the management of the drinking water supply and sanitation sector, no significant changes occurred in the overall situation. Therefore, in 2014 specific amendments and additions were introduced into the Law of the Russian Federation "On Concession Agreements". In accordance with the Federal Law "On introducing amendments to the Federal Law "On Concession Agreements" and some legislative acts of the Russian Federation" dated 7 May 2013, a special chapter 7.1 "Specifics of transferring rights of ownership and (or) using of centralized systems of hot water supply, cold water supply and (or) water disposal by some objects of such systems; termination of agreements on leasing the centralized hot water supply and cold water supply and (or) wastewater disposal by some objects of such systems that are in state or municipal ownership and responsibilities of parties" was adopted. This innovation, together with a number of bylaws promoted increasing the number of concession agreements.

According to the data of the Ministry of Construction, Housing and Utilities of the Russian Federation¹⁶ during 2015 there were signed 271 concession agreements in relation to the objects of heat supply, water supply and sanitation. This figure more than twice exceeds the number of concession agreements concluded in 2014. Concession obligations under these agreements also became more significant. If in 2014, the concession obligations accounted for about 8 billion rubles for all concluded agreements, then in 2015 the concessionaires assumed commitments for about 70 billion rubles. At that about 58 billion rubles of the mentioned amount – it is one big concession in the city of Volgograd. However, the remaining part of funds is distributed between small concessions. The majority of concession agreements

¹⁶ the source: <http://fondqkh.ru/modern/news/stimulirovanie-kontsessiy-v-kommunalnom-hozyaystve-kommunalnyiy-kompleks-rossii-moskva-7-iyunya-2016-6-00/>

currently have been concluded as for heat supply facilities (50%). About 40% - as for water supply and sanitation systems. The rest is divided between small electrical networks and the Solid Municipal Waster sector. At the end of 2015 the concession agreements have been concluded in 39 subjects (constituent territories) of the Russian Federation.

The terms of validity of concluded concession agreements also considerably vary, but on average they are concluded for 10 years. According to the Ministry of Construction, as a whole it is a normal planning time-frame: in the period of 10 to 15 years it is possible to modernize the facility and also return investments. At that it is emphasized that each case should be considered separately, taking into account the starting conditions, the volume of investments etc. There are also very short agreements - for a period less than three years, and long lasting agreements – for more than 30 years. For example, the Concession in Volgograd, implying 58 billion rubles of investment is intended for 29 years.

However, in spite of the legal framework and availability of state investment opportunities the rates of attracting investment into this sphere are insufficient. Companies prefer to conclude Concession agreements without investment commitments, only receiving the right of management and implementing only operating activities.

Another problem, according to the Ministry of Construction of Russia, is the lack of long-term perspectives for investors. In particular, the current tariff regulation is usually timebound and does not allow setting long-term tariffs, as for example, tariffs in Armenia. Starting from this year it is planned in Russia to define, de jure, the possibility of long-term tariff regulation.

A significant omission is also the lack of commitments to ensure fulfillment of the Concessionaire's investment obligations. In accordance with the legislation, the Concessionaire bears almost no responsibility for non-fulfillment of investment commitments stated in the contract.

Finally, the main question on Concession agreements is that municipal property objects in a number of subjects of the Russian Federation have been transferred to concession to municipal unitary enterprises (MUEs)¹⁷. This puts in doubt the whole idea of developing concession relations for attracting investments, because MUPs anyway overwhelmingly manage drinking water supply and sanitation systems in the Russian Federation and just their weak management and market inefficiency was the reason to make changes and additions in the legislation on Concession agreements. In general, the work on development of this area of drinking water supply and sanitation in the Russian Federation still continues.

CONCLUSIONS AND RECOMMENDATIONS

One of perspective courses for the further financial recovery and sustainable long-term development of the drinking water supply and sanitation sector in Tajikistan is development of market-based approaches at organization of activities in this sphere.

As the international experience shows, attraction of private initiatives even in such a conservative industry has a positive impact: it helps to solve problems with large capital investments, regulates relationships between consumers, suppliers and the state, improves the economic efficiency and productivity, influences protection and sustainable management of natural resources. However, the background of drinking water supply and sanitation sector in Tajikistan complicates the task on further de-monopolization and development of the competition in the sector. The concept of de-monopolization and liberalization by itself today may seem strange both to the population and also to water supply enterprises. But the successful experience of other CIS countries shows that changes are possible in spite of the background and history of the sector.

De-monopolization and liberalization in Tajikistan should be started with determination of the vector of changes: privatization, private management or combined forms.

¹⁷ **Municipal unitary enterprises (MUEs) and State unitary enterprises in Tajikistan are identical both in the legal and practical terms, - the author's note**

- **Full privatization**, as it was done in England and Wales, for Tajikistan at the current stage of development of market relations, of securities market and of the institutional capacity of the state is not realizable in practice. Moreover, such course requires the substantial start-up investments in order to bring the sector into a good starting condition and increase the investment attractiveness, as it was done in England and Wales.
- **Private management and attraction of the private capital.** Transferring of management rights to private companies, introduction of contract-based management, attraction of professional management companies with the experience of successful operation in the changing market environment – it is one of the potentially successful options for Tajikistan. Management rights can be transferred in the form of a lease contract, trust (discretionary) management, concession and other forms. The option of public-private partnership in Germany through establishment of a joint venture (enterprise) also looks interesting.
- **Combined approaches.** In Tajikistan, there are large and small drinking water supply and sanitation system varying from rural systems serving 100-300 households, to large municipal (urban) systems. Therefore approaches in de-monopolization should be applied based on economic and practical considerations in each particular case. In some smaller systems, more appropriate may be privatization and organization of the cooperative, community-based management with the appropriate regulation by the state and local executive bodies. And other large systems will be more effectively managed by private companies under management contracts.

Realization of any of these scenarios will set to Tajikistan a number of tasks that can be conditionally divided into political, economic and legal tasks:

ECONOMIC SOLUTIONS

- The drinking water supply and sanitation sector today needs substantial investments, but in Tajikistan no economic decisions are made for ensuring the flow of investments. It is necessary to settle the issue of financial support for the further functioning and development of the system, the issue of how and at the expense of what the working capacity of drinking water supply and sanitation systems will be maintained, as well as issues of their further expansion and modernization. Currently, the main sources of investments into the sector are grants and loans from international organizations, that cannot provide the systemic long-term support for the sector. And just this decision can become a motive for investors, both for domestic and foreign investors as they should have a clear idea about recurrency of their investments.
- The tariff policy should be reviewed regarding longtermness of accepted tariff decisions and their economic feasibility. For attracting investors also the clear long-term tariff policy is needed.

LEGISLATIVE REFORMS

- All economic decisions should be accordingly reflected in the law. For example, in Germany, in accordance with the law, rates can not be lower than the actual expenses of the company. Issues of the tariff policy, of the tariff setting process, tariffs constituents and components, and its structure should also be clearly reflected in laws.
- De-monopolization and liberalization are always associated with forming up a clear system of economic regulation of the sector. Accordingly, it is necessary to establish an independent, collegiate, single body for regulation of the sector. Like in other countries, the regulatory body may also engage in regulation of other similar areas of economy.
- The issues of transferring rights of management of drinking water supply and sanitation systems should be stipulated separately in the special legislation. The means and forms of transferring rights of management of drinking water supply and sanitation systems should be as diverse as possible, open for organizations of various forms of ownership, non-discriminatory and simplified.

POLITICAL STEPS

- De-monopolization and liberalization of the drinking water supply and sanitation sector – is a global challenge for Tajikistan, as it provides for fundamental changes in this sphere. Such changes can not

be accepted without the political will of the government. Such will may be expressed in the form of a national programme or a special decree of the government of the country, where the goals, objectives and necessary steps for implementation of market reforms in this sector will be clearly set out. And most importantly, such a "documented" political will shall assist in promotion of initiatives on these market transformations.

- The changes will undoubtedly lead to economic consequences, since eventually it will lead to a significant increase in tariffs for drinking water supply and sanitation services. Therefore, the state should be ready for the reaction of the population: targeted social programmes should be developed for compensation to the poor, the awareness raising activities for the population should be developed and supported, a high degree of transparency, accountability and possibility for citizens to participate both in the reform and also in activities of water supply enterprises should be ensured.