

## THE MAIN METHODS OF IMPROVING THE MANAGEMENT OF WATER RESOURCES OF THE REPUBLIC OF ARMENIA

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*Water resources are an important part of the natural resources of the Republic of Armenia. The study of the economic-legal system for regulating water relations, adopted in the early 2000s, shows that there are numerous shortcomings and gaps in the field occurred mainly from the violation of the requirements of the existing legal system. At the same time unnecessary changes and additions to the constitutional laws have actually worsened the state of the utilization of water resources in the Republic of Armenia. This has posed a challenge to the country which requires immediate correction of deficiencies and shortcomings in water relations, the creation of modern economic-legal system that takes into account the harmonization of both the state (as the owner of water resources) and the public interests thus ensuring effective partnership. The latter particularly implies the expansion of frameworks of state-private sector partnership and the application of various methods of such partnership.*

**Key words:** water resources, improvement of management of water resources, water code, corporation of water consumers, state-private sector cooperation, accreditation management, trade organization, renting, concession, free use of property.

### Introduction

Water resources are the most important state resources and the rights of their disposing, possessing and using are defined by the RA Water Code (adopted by the National Assembly of the Republic of Armenia on June 4, 2002 along with the RA Law on Corporations of water consumers and Associations of water consumers).

The Water Code of the Republic of Armenia, adopted on June 4, 2002, founded the new legal-economic and organizational system of water relations of the Republic, which, in addition to the above mentioned Code, includes the following three constitutive laws: Laws of the Republic of Armenia on «Companies of Water consumers and Unions of Water consumers», «Fundamentals of national water policy» and «National program of water».

### Conflict setting

Taking into account that the aforementioned legal acts are systematic documents in the field of water relations and more than 17 years were required after they had come into force and there are still many shortcomings and gaps in the field, first of all let us try to analyze and evaluate the legal status of these documents realizing the need for sectoral reforms which will serve as a basis for meaningful changes in further reforms as well.

However, as the analysis shows, after the adoption of the Water Code, the activity of the system did not improve at all, but on the contrary, the costs and debts of the system increased while the efficiency of management decreased. One of the reasons of such a situation is the number of settlements left out of the services of supplying drinking water (one reason is also that out of the five forms of water consumption defined by the RA Water Code only the right of free utilization of water systems has been applied so far and the remaining four which should implement new ways of investment and management in the water systems and in water consumer- companies – state relations remain on paper. An exception to this rule is the service of supplying drinking water provided by the

renter, but which also cannot be considered as highly effective especially when we take into account the high level of drinking water losses (about 570 settlements).

Thus, most of the irrigation water pipelines in Armenia were built during the Soviet era and have a high degree of fatigue. The water supply systems of the Republic of Armenia have been in operation for 15-50 years, most of which are technically inadequate and currently the losses in the water supply system make up 80%.

Hence all water consumers, the companies of the system and aslo the state are now dissatisfied from the acting system.

### Research results

**Water Code of the Republic of Armenia.** The RA Water Code can be considered as one of the most important codes of the third republic without exaggeration as it regulates perhaps the most valuable and indispensable resource of the Republic of Armenia such as water without which not only the economy of the country, but also the population of the country and its economy can not survive. In other words, the relations regulated by the Code refer to the vital activity of the whole republic.

The purpose of the RA Water Code (Article 6) is: the protection of national water resources, satisfaction of the needs of citizens and the economy through effective management of consumable water resources, ensurance of the environmental sustainability and the provision of legal bases to solve the issues of the Code. Based on this purpose the Water Code was designed as a firm set of interconnected parts (chapters) whose implementation and application had to proceed in an organic and logical unity especially over time.

However, as the study of amendments and supplements to the Water Code shows (Table 1), they are numerous and in many cases have not only violated the timeliness of the implementation of the Water Code, but have significantly reduced the effectiveness of the measures provided by the Code.

**Table 1**

**The amendments and supplements to the Water Code of the Republic of Armenia  
(adopted on June 4, 2002 by the National assembly of RA)**

N	Date of amendments and supplements	Total	From which			
			Number	Article (s)	Number	Article (s)
1	2	3	4	5	6	7
1	31.03.2003	2	1	121	1	121
2	04.11.2003	1	-	-	1	121
3	18.11.2003	1	1	121	-	-
4	25.12.2003	8	7	38, 39, 43, 44, 46, 79, 14, 121	1	79.1
5	22.11.2004	1	1	121	-	-
6	08.12.2004	1	1	121	-	-
7	08.12.2004	5	5	121	-	-
8	20.05.2005	1	1	121	-	-
9	20.05.2005	3	2	121	1	121
10	21.02.2007	1	-	-	1	79.1
11	16.11.2009	1	1	33	-	-
12	03.10.2011	2	1	33	1	8
13	24.10.2011	11	4	Title of 13 <sup>th</sup> , 61 <sup>th</sup> and 9 <sup>th</sup> chapters, 71	7	1, 14, 49, 55.1, 61.1, 61.2, 71.1
14	19.06.2013	1	1	33	-	-
15	23.06.2015	36	31	1, 5, 12, 14, 19, 20, 36, 38-43, chapter 5.1 (47.1-47.3), 48, 56, 57, 58, 59, 62, 73, 78, 79, 79.1, 114, 118, 121	5	1, 47.1, 47.2, 47.3, 121

1	2	3	4	5	6	7
16	21.12.2015	16	6	1, 8, 10, 19, 30, 33	10	19.1, 19.2, 25.1, 30.1, 30.2, 32, 34, 37.1, 37.2, 37.3
17	29.06.2016	1	1	78	-	-
18	17.11.2017	3	2	10, 37.1	1	37.1
19	23.03.2018	3	3	63, 64, 64	-	-
20	02.03.2018	16	13	1, 4, 113, 14, 19.1, 25.1, 39, 68, 75, 78, 101, 103, 104	3	62.1, 62.2, 62.3
21	21.03.2018	1	-	-	1	10
22	16.12.2016	1	1	93	-	-
23	23.03.2018	3	1	12	2	1.1, 3
24	19.06.2019	3	2	30.2, 92	1	1
25	28.06.2019	2	1	33	1	30.1

The study of amendments and supplementments made show that the most amendments and supplements had been made in Article 121 of the code (Transitional theses). Though it is foreseen by the first part of the Article that till July 1, 2004 the legal acts containing legal norms in water relations should be correspondent to the Code, but before these acts are correspondent to the Code in water relations, they are implemented as long as they are not contradicting to the law, however, according to transitional theses, almost all legal acts supporting the operation of the Code, had been admitted with unnecessary noticable delays of deadlines and postpones or had not been adopted at all thus making the Water Code “invalid”. Let us bring several examples only.

Hence, according to the 4<sup>th</sup> part of the Article 121 on basics of national water policy the bill of RA Law should have been presented to the National Assembly of RA by the RA Government during six months but the RA Law on basics of national water policy was adopted only on May 3, 2005. According to the same Article of Water Code, the discussion of the bill on national program of water should be held during one year, but RA Law on national program of water was adopted November 27, 2006. And the bill on drinking water according to the 4<sup>th</sup> part of Article 121 of RA Water Code had to be presented to the discussion of National Assembly of RA during two years (later the date was changed into 4 years), has not been adopted up to now.

The 6<sup>th</sup> Chapter of RA Water Code is of separate importance and topic of discussion which runs about the 5 following ways foreseen in the Law on consumption of water resources and their management which are state property:

1) by accreditation management (which is regulated by Articles 50-52 of the Code and by the Government Decree N 81-N of January 9, 2003 which describes the procedure for accreditation of water systems);

2) by an agreement of concession (regulated by Article 53 of the Code and the procedure for signing agreements of concession on water systems by the decree of the Government of the Republic of Armenia N 245-N of January 30, 2003);

3) by creating trade organization (regulated by Article 54 of the Code),

4) by renting (regulated by Article 55 of the Code and by the decree of RA Government N 243-N of January 30, 2003 on enabling the private business entities to rent the water systems),

5) by agreement of free utilization of property (regulated by Article 55.1 of the Code).

The variety of ways of utilization water systems mentioned above was aimed at providing the water sector with advanced methods of management and opportunities for managers to increase responsibility for fulfilling their tasks thus attracting investment resources in this area as well. All of these has not been implemented in practice and, in fact, the implementation of 4 of the 5 forms of water management in Chapter 6 of the RA Water Code was distorted and mainly the free use of water systems management was being preferred which was not envisaged at the time of the adoption of the

RA Water Code (2002) (the first 4 forms mentioned above were envisaged). This form of transfer of the rights of property was augmented by a supplement to the RA Water Code (SL-273-N) on October 24, 2011 when the first part of Article 49 of the Code was amended by new paragraph 5 which provides signing contracts for free use of property of water systems. In this case it is unclear how the water systems were managed for over ten years unless the methods provided by the Code of Water Systems Management were applied.

The above mentioned process of transferring the rights of utilization of water systems, how strange it may seem, has been “implemented” by the Government of the Republic of Armenia. Thus, the decrees of N 81-N of the Government of the Republic of Armenia of January 9, 2003 on “Approval of the regulation of assigning the state-owned water system to the accreditation management ” and N 243-N on “Approval of procedure of transfer by renting according to the rights of utilization of state-owned water systems” on January 30, 2003 of the Government of the Republic of Armenia and in all three Decisions N 245-N of the Government of the Republic of Armenia of January 30, 2003 on the Procedure for transferring the rights of utilization of state-owned water systems by concession agreement” were adopted for implementation of the RA Water Code. There was paragraph 2 in all three decrees stipulating that the Chairman of the State Committee of Water Economy by the Government of the Republic of Armenia was to submit to the Government of the Republic of Armenia the list of state-owned water systems (their parts) apt to accredited management, renting or concession agreement within 4 months thus classifying them by priority.

However, instead of making the above classification and submitting recommendations to the Government of the Republic of Armenia, by the decree of Government Decision N 9-N, adopted on 15 January 2004 the 2<sup>nd</sup> paragraphs of those three decrees were recognized as invalid leaving much uncertainty in the decision-making process and in this way essentially demonstrated the reality which excludes the use of progressive ways of transfer and management of the rights of utilization of water systems.

Hence, we can certainly insist that an absolute state monopoly has been established in the field of water utilization and management which has led to inefficient use and management of these systems excluding the use of progressive ways of management. And if we consider that water resources are the exclusive property of the state, we believe that the diversity of water systems utilization and management is a tool that can significantly improve the efficiency and use of management of water resources.

Therefore, by preserving the diversity of utilization of state-owned water systems and their management under the RA Water Code, their practical application should be continued by correcting governmental errors in this area as well as allowing private capital to be incorporated into these systems and the application of new forms of management. For this purpose it is proposed to add to the RA Water Code new forms of rights of transfer of water systems (6): building - ownership -operation - transfer (BOOT) for realizing programs and (7): building – ownership – operation or building – renting - mastering that will ensure improved governance, access to private property to these systems thereby ensuring competition which can significantly improve the situation.

The reform of the use and management of state-owned water systems can be substantially promoted by the Law on State-Private Partnership adopted on June 28, 2019, and according to the peculiarities of utilization and management of water systems, if necessary, they should be mentioned in the Water Code as well. In such cases, the government may define the peculiarities of state-private partnerships depending on the nuances of the particular transaction.

The proposed approach will contribute to the elimination of the state-owned monopoly on water systems management which reminds us of Spanish playwright Lopez de Vega's work “The Dog on the Grass”. As for the different forms of use and management of water systems (including the transfer to communities), this will be decided in practice as the legislative changes already adopted and proposed by us allow the application of these forms within the limits established by RA laws and other legal acts.

### RA Law on «Companies and unions of companies of water consumers»

**Formation and activities of CWCs.** According to the RA Law on «Companies and unions of companies of water consumers» stated in 2002 aimed at improving the irrigation systems of RA based on the idea of hydrounit about 50 companies of water consumers had been crated in the republic.

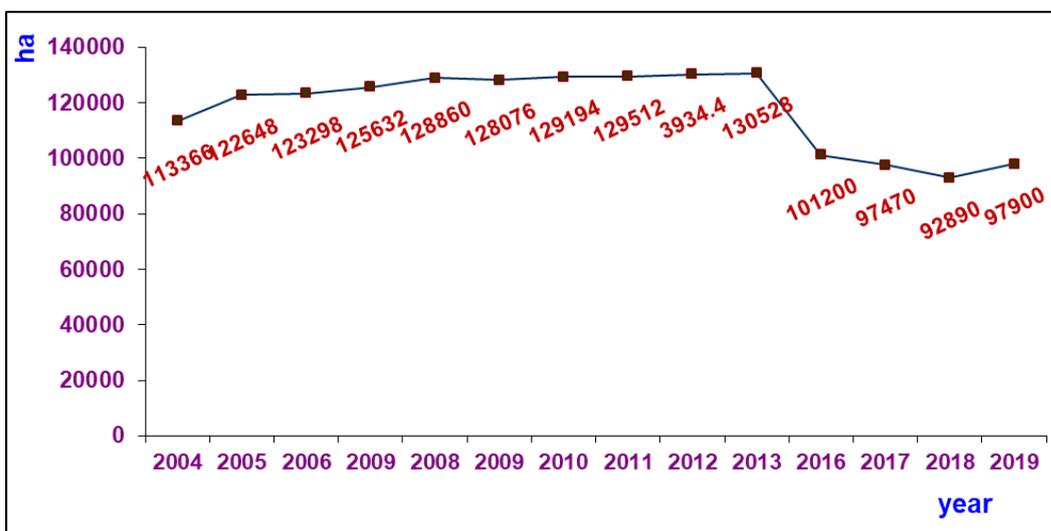
54 water consumption companies (CWUs) were formed on a voluntary basis in the Republic of Armenia with the support of the World Bank in 2003-2004. As a result of optimization of institutional reforms in the field of irrigation, the companies have been reorganized in several phases as a result of which 15 CWCs are currently in operation. Unlike the drinking water supply system, the primary and secondary water supply functions are carried out by different organizations in irrigation system.

CWCs play an important role in irrigation water management. In particular, the operation and maintenance of inter-economic and intra-economic systems as well as the preservation of small pumping stations and reservoirs have already been transferred to CWCs.

According to RA Government Decree N 422-N on 22.04.2015, the powers of the Executive Body of the Board of Regulators of RA CWCs and UWCs have been authorized to the State Committee of Water Economy (currently the Water Committee of the Ministry of Territorial Administration and Infrastructure). The management bodies of the CWC are the General Meeting of the Company and the Administration Council. The CWC is headed by an elected executive director.

CWCs were formed mainly on the basis of the indivisibility of one hydrounit operating about 1700 km of inter-economic and about 16 thousand km. km of inland canals, over 55 small and medium reservoirs, pumping stations and about 650 deep wells 90 of which are self-fountaining in over 600 communities for the provision of irrigation water supply services to about 180 thousand water users.

According to the Land Cadastre of the Republic of Armenia, the irrigated land in Armenia is about 210 thousand ha 190 thousand ha of cadastral irrigated land are in the service area of CWCs. In recent years, CWCs have actually irrigated about 90 thousand hectare of land (Chart 1).



**Chart 1. Factually irrigated areas by water consumption companies for years**

The studies show that the costs of water consumption companies increase year by year and at the same time the percentage of tax costs of water consumption companies decrease. Hence, the rates of the last five years show that the percentage of fees sharply decreased comprising 81,5% in 2014, 81,2% in 2015, 75,5% in 2016, 63,5% in 2017 and 48% in 2018. According to separate CWC water distribution, the income of the companies and data on the fees and the structure of the rates in 2018 are presented in Table 2.

Table 2

## The rates and structure of RA CWCs water distribution, income and toll and toll rate in 2018

N/N	Name of CWC	Water distribution th.m <sup>3</sup>	Income th. AMd	Toll th. AMD	Rate of toll %
1	Yerevan	24,019.80	264,217.80	172,324.00	65.0
	% to the total	4.32	4.05	5.25	
2	Artashat	71,595.90	787,554.90	519,506.90	66.0
	% to the total	12.88	12.06	15.82	
3	Ararat	32,677.90	357,374.80	339,069.10	94.9
	% to the total	5.88	5.47	10.33	
4	Armavir	140,205.20	1,542,257.20	502,429.00	32.6
	% to the total	25.22	23.61	15.30	
5	Ejmiatsin	101,358.00	1,114,938.00	346,760.00	31.1
	% to the total	18.23	17.07	10.56	
6	Shenik	34,523.20	709,755.00	333,239.70	47.0
	% to the total	6.21	10.87	10.15	
7	Aragatsotn	62,563.40	688,197.40	303,500.00	44.1
	% to the total	11.25	10.54	9.24	
8	Talin	20,733.00	228,063.00	114,271.00	50.1
	% to the total	3.73	3.49	3.48	
9	Kotayq	30,639.00	406,869.00	291,698.50	71.7
	% to the total	5.51	6.23	8.88	
10	Gegharquniq	7,094.00	78,034.00	52,203.60	66.9
	% to the total	1.28	1.19	1.59	
11	Shirak	6,310.00	69,410.00	65,451.80	94.3
	% to the total	1.13	1.06	1.99	
12	Tavush	6,514.90	71,664.10	70,085.00	97.1
	% to the total	1.17	1.10	2.13	
13	Lori	1,736.10	31,993.20	29,972.40	93.7
	% to the total	0.31	0.49	0.91	
14	Yeghegnazor	10,345.50	117,817.00	119,952.00	101.8
	% to the total	1.86	1.80	3.65	
15	Syuniq	5,704.60	63,211.50	22,750.00	36.0
	% to the total	1.03	0.97	0.69	
	Total	556,020.50	6,531,356.92	3,283,213.40	50.2
		100.0	100.0	100.0	

Table was drawn on the data of RA Water Committee of Ministry of Territorial Management and Infrastructures

Current tariffs for irrigation water supply mainly cover current costs for operating and maintenance. The most part of these expenditures is financed by state subsidies and credits and grant funds (Table 3).

Survey of irrigation system indicators also shows that in the period between 2006 and August 1, 2018 actually irrigated hectares decreased by 2,4% in average, but the subsidies by RA state budget to irrigation system organizations (CWCs and «Jrar CJSC») increased by 23,2% in average with increasing 3,5% in average to CWCs and 43% to «Jrar» CJSC. Operating costs per hectare increased by an average of 4,4% against 2,4% reduction in actual irrigated hectares, if, for example, the operating costs per hectare were 66,7 thousand in 2006. In 2017 these expenses raised to 103,3 thousand AMD or the actual growth in 2006 was 35%.

Table 4 presents the main indicators of the irrigation sector of the Republic of Armenia in 2006-2018.

Table 3

## RA subsidies for irrigation systems, debts and RA state budget, mln. AMD

	2013		2014		2015		2016		2017		2018		2019
	Debt by 01.01.2013	2013 RA budgetary allocations	Debt by 01.01.2014	2014 RA budgetary allocations	Debt by 01.01.2015	2015 RA budgetary allocations	Debt by 01.01.2016	2016 RA budgetary allocations	Debt by 01.01.2017	2017 RA budgetary allocations	Debt by 01.01.2018	2018 RA budgetary allocations	Debt by 01.01.2019
Total	1793.9	5374.2	1945.5	5491.8	2298.8	5585.4	3725.3	7077.2	2947.8	5207.5	5556.9	4922.0	9371.7
From which													
1.Electricity	267.0		214.7		659.4		1506.4		1588.3		3071.0		11.3
2. Water intake	475.5	Other current grants	978.9	Other current grants	815.4	Other current grants	1330.6	Other current grants	486.9	Other current grants	1365.2	Other current grants 466,8 and program financial recovery 260,2	2056.8
3. Spring preparatory	65.5		29.2		107.1		136.9		256.7		324.1		423.7
4. Salary	94.6		105.2		181.4		282.7		242.4		406.4		538.9
5. Taxes and fines	56.5		57.5		27.0		38.0		109.5		109.1		241.3
6. Loan and credit	743.3		452.2		390.0		337.8		229.9		107.0		5886.8
7. Other expenses	91.5		107.8		118.5		93.9		34.2		174.1		212.9

Table was drawn on the data of RA Water Committee of Ministry of Territorial Management and Infrastructures

Table 4

## Main indices of RA irrigation system in 2006-2018

№	Rates	Measure	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average rate
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Irrigated areas, cadastral	Hectare	194,036	194,036	194,036	194,036	194,036	194,036	194,036	194,036	194,036	198,283	198,283	198,283	198,283	195,343
2	Irrigated areas, factual	Hectare	123,298	126,819	128,860	128,076	128,767	129,417	130,527	130,280	130,942	115,769	101,214	97,473	92,890	120,342
3	Irrigated areas factual (growth or decrease compared to the previous year)	%		2.9%	1.6%	-0.6%	0.5%	0.5%	0.9%	-0.2%	0.5%	-11.6%	-12.6%	-3.7%	-4.7%	-2.21%
4	Costs of general exploitation of the sphere	Mln. AMD	8,222.0	8,219.0	9,685.4	8,232.6	8,538.0	8,593.3	8,794.4	9,217.0	10,487.0	10,967.0	10,227.0	10,466.3	10,711.2	9,404.6
5	Costs of exploitation for one hectare (average)	AMD	66,684.3	64,809.0	75,162.5	64,279.0	66,305.9	66,400.5	67,376.2	70,747.6	80,089.1	94,731.8	101,043.3	107,377.0	115,311.0	79,790.3

## ECONOMICS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
6	Costs of exploitation for one hectare (growth or decline compared to the previous year)	%		-2.8%	16.0%	-14.5%	3.2%	0.1%	1.5%	5.0%	13.2%	18.3%	6.7%	2.3%	2.3%	4.28%
7	Used electricity	Mln. kWt/hour	104.4	96.2	115.2	80.3	79.0	88.0	109.0	106.2	118.1	115.2	94.6	119.6	168.2	106.7
8	Supplied water	Mln.m <sup>3</sup>	574.8	521.0	575.2	412.0	448.7	414.6	471.8	472.0	461.2	473.7	454.2	450.6	626.6	487.4
9	Tariff for used water	AMD/m <sup>3</sup>	7.0	8.0	9.0	9.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.1
10	Current fixed income	Mln AMD	4,023.3	4,168.3	5,177.0	3,708.3	4,935.7	4,560.8	5,092.0	5,179.9	5,050.1	5,198.7	4,987.8	4,956.8	6,891.6	4,900.7
11	Current income for one hectare (average)	AMD	32,631.1	32,868.2	40,175.4	28,953.6	38,330.2	35,241.4	39,011.1	39,760.0	38,567.2	44,905.4	49,279.6	50,853.3	74,190.9	41,716.4
12	Costs of exploitation for one hectare (growth or decline compared to the previous year)	%		0.7%	22.2%	-27.9%	32.4%	-8.1%	10.7%	1.9%	-3.0%	16.4%	9.7%	3.2%	45.9%	8.68%
13	Sum of money from current income	Mln AMD	3,093.9	2,399.1	3,117.1	2,875.7	3,200.0	3,430.0	4,026.0	4,439.1	4,109.8	3,875.7	3,870.9	3,407.8	3,284.0	3,460.7
14	Collected money for one hectare (average)	AMD	25,092.7	18,917.4	24,189.8	22,453.4	24,851.4	26,503.6	30,844.2	34,073.3	31,386.7	33,477.6	38,244.8	34,961.5	35,354.1	29,136.7
15	Comparison of collected sum with income	%	76.9%	57.6%	60.2%	77.5%	64.8%	75.2%	79.1%	85.7%	81.4%	74.6%	77.6%	68.7%	47.7%	71.31%
16	State subsidies to CWCs	Mln. AMD	3,715.4	5,420.0	4,952.3	5,250.4	4,756.0	4,179.5	3,934.4	5,372.8	5,491.7	5,580.9	7,077.2	5,253.1	4,762.6	5,056.9
17	State subsidies to CWC (growth or decline compared to the previous years)	%	-0.7%	45.9%	-8.6%	6.0%	-9.4%	-12.1%	-5.9%	36.6%	2.2%	1.6%	26.8%	-25.8%	-9.3%	3.64%
18	State subsidies to water intake	Mln. AMD	0	0	0	0	0	583,700	583,700	578,894	2,782,962	1,717,739	1,213,284	1,131,617	1,178,000	750,981
19	State subsidies to water intake (growth or decline compared to the previous years)	%							0.0%	-0.8%	380.7%	-38.3%	-29.4%	-6.7%	4.1%	44.23%

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
20	Sum of state subsidies for one hectare (average)	AMD	30,133.5	42,738.1	38,431.6	40,994.5	36,934.9	32,294.9	30,142.7	41,240.5	41,969.1	48,203.9	69,919.9	53,892.3	51,271.5	42,925.7
21	Sum of state subsidies for one hectare (growth or decline compared to the previous years )	%		41.8%	-10.1%	6.7%	-9.9%	-12.6%	-6.7%	36.8%	1.8%	14.9%	45.1%	-22.9%	-4.9%	6.67%
22	Debet depth of the sphere	Mln AMD	5,805.4	6,346.8	7,982.7	8,052.1	8,956.3	7,599.0	8,247.2	9,204.0	10,631.0	11,661.0	13,044.0	13,044.5	20,104.4	9,992.4
23	Credit depth of the sphere	Mln. AMD	1,359.7	1,310.8	1,867.6	1,713.0	1,494.5	1,239.3	1,793.9	1,945.5	2,298.8	3,725.3	2,947.8	5,556.9	9,371.7	2,804.2

Source by «Reform of «harmful» subsidies of irrigation system of Armenia» final project of report, December, 2018, p. 56-57 (data of 2006-2016) and data of RA Water Committee of Ministry of Territorial Management and Infrastructures (2017-2018)

Taking into account the circumstance that the RA Law on “Companies of Water Consumers and Unions of Water Consumers with the new title and new edition of “Water User Associations” was developed in the framework of USAID's Program of Participatory and Effective Use of Water Resources (“Urban” Sustainable Development Foundation, “National Water Partnership” NGO with the participation of YSU Environmental Law Research Center), we have not discussed this law separately.

Without underestimating the importance and significance of the work done, we believe that such an approach to problem solving is fragmentary and incomplete. Changes in water system management essentially cannot fundamentally change the state of affairs as they do not namely relate to the deep strengthening of ownership and property responsibility, the increase in the interest and economic interest of water users in the sector of water consumption.

By the way, the results of the above-mentioned sociological survey also show that 61% of the population think that the head of their community is the person who is able to solve the problems of irrigation and drinking water in their community. In the second place is the council of trustees (51%) and in the third place is the population (40%). Then 38% of population are inclined to trust CWCs and then the governor (35%). Residents do not believe that the Ministry of the Environment or other governmental authorities, NGOs or international organizations are able to solve water issues in their community. According to the survey, most of the population of Ararat Valley (96% or more) are not actively involved in processes of water resources management nor have they received relevant information or participated in training courses of water resources management. The overwhelming majority of population (69%) indicated that they would participate in discussions about drinking or irrigation water in their community if such discussions were held.

In other words, it is clearly necessary to introduce economic competition in the field of water relations, to apply a flexible tariff policy for irrigation water as well as a system that will allow to invest private equality and private management methods, tools and best practices in this area. A separate topic for discussion could be the transfer of part of the existing water systems (local area network) to the communities which will allow to increase the efficiency of water use in this way.

Thus, even after the proposed amendments to the new RA Law on Companies of Water Consumers, these companies will continue to act as “unsuccessful” NGOs which is unacceptable in the economic system of water relations.

Solving complex and multifaceted problems in the field of water relations cannot be limited to the development of a new law on water use companies, sector reforms require a complex approach which need to be referred from both economic and organizational viewpoint with new legal acts as well as by organizing public discussions.

#### **RA Law on «Fundamentals of national policy of water»**

Within the logic of the Water Code of the Republic of Armenia, it was assumed and expected that the Law of the Republic of Armenia on the Fundamentals of National Policy of Water would define and regulate the developments of the water sector for the next 10-15 years, the measures implemented and the expected results. However, the current RA Law on Fundamentals of National Water Policy does not meet these requirements, it is more theoretical in nature and therefore needs to be edited depending on the demands of the long-term requirements of prospective-complex development of the sector.

#### **RA Law on «National program of water of the Republic of Armenia»**

The current Law of the Republic of Armenia on National Water Program of the Republic of Armenia also does not meet the requirements of water sector development and program of relationship management and it is of more theoretical than practical importance. One of the main reasons is that the requirement to submit a report on project implementation has been replaced by a report to the National Assembly (“The Government submits an annual report on the implementation of the National Water Program and any amendments made there to the National Assembly by May 15 of the following year”) which does not cause any legal consequences thus weakening the responsibility for the implementation of the National Water Program and the levers of control by the National Assembly of the Republic of Armenia.

To make the National Water Program more targeted and practical, it also needs to make a number of primary changes and additions, in particular concerning water management, regulation of water resource flow, flood risk assessment and management.

Besides, Article 11 of the RA Law on National Water Program of the Republic of Armenia states that: “1. State-owned water systems defined by the National Water Program are state-owned and are not subjected to privatization”. [1] Such an approach is unacceptable, firstly because of Article 171 of the RA Civil Code (“Privatization of State Property”) states: “The state may transfer the property under its ownership to the ownership of citizens and legal entities in accordance with the law on privatization (de-privatization) of state property”. [2] In addition to the fact that the note was made in the Civil Code of the Republic of Armenia, this provision also contradicted the RA Law on Legal Acts which had come into force at the time of the adoption of the RA Water Code and the National Water Program and stipulated that: “All other laws of the Republic of Armenia in the field of legal regulation of the Code shall comply with the Codes” [3], i.e. it confirmed the subordination of legal acts.

One more fundamental of RA Law on «Legal acts» (Article 24: «Suborditaion of legal acts of the Repblic of Armenia») defines that: «New legal act stated by the same body should not contradict the legal acts stated before which have equal legal power. When contradictions occur between legal acts having equal legal power the early acted norms of legal acts come into force except for the case of the second paragraph of the fourth part of Article 94 of the Law» [3].

Second, restrictions of state property privatization have been (and currently are) defined by state property privatization (ownership) programs which have always been adopted in the form of RA laws. In particular, in accordance with Article 4 of the Law of the Republic of Armenia “On State Property Privatization Program 2017-2020” (“Sectors and Spheres of Economy in which no privatization is provided”) «1. According to this plan, the following are not subjected to privatization:

- 1) sites of civil defense and mobilization and military structures,
- 2) companies with state-owned stake holders performing preservation of mapping, geodetic, hydro-meteorological spheres and also maintenance of environmental and natural resources,
- 3) objects of storage economy of state reserves and mobilization resources;

4) companies providing state-owned standardization with stake holdings and measurement services;

5) interstate and republican railways and highways; Yerevan subway; train and air flight security services and military marches;

6) state non trade organizations.

2. Areas that are subjected to privatization will not be privatized and will be separated from the property if they are distributed:

1) in engineering structures, communication routes (bridges, tunnels, dams, undergrounds etc.) and in engineering areas nearby such as railway stations, social and cultural facilities (educational establishments, cultural facilities);

2) in areas of protection and security importance and in the areas adjacent.

3. In the cases provided in paragraph 2 of this Article where privatization of the site is not permitted, it may be used on a lease basis in accordance with the legislation of the Republic of Armenia [4].

Third, Article 13 of the RA Law on National Water Program of the Republic of Armenia states that: “2. State-owned special water systems, first and second-class water systems are considered to be strategically important water systems for which funds have been deposited in the state budget of the Republic of Armenia to prevent emergencies. The list of water systems of special state importance shall be defined by this Law”.

3. Tertiary water systems which were not built by private investment, can be given to communities by ownership.

4. 4th class water systems which were not built through private investment, can be owned by communities, water user companies, their associations and other public service organizations.

5. 5th class water systems may be subjected to privatization.

6. “The legal, organizational, economic and other regimes of state-owned water systems and the requirements for their protection and operation also apply to those water systems built by private investors that meet the requirements of state-owned water systems in their characteristics. The dissemination of state water systems regimes on water systems built by private investors does not entail any change in their ownership rights”.

And according to the RA Water Code (Article 61.1. “State and Community Owned Irrigation System” supplemented by RA Water Code AC-273-N of 24.10.2011): “The irrigation system by functional significance is classified into:

1) highway irrigation system - a system of supplying irrigation water to inter-community, economic or intereconomic irrigation systems originating from a water source (first class (main) water pipes and pumping stations, main canals etc);

2) Intercommunity irrigation system - a system of supplying irrigation water to irrigated lands of more than one community originating from the highway irrigation system (second class canals and pumping stations);

3) Economic Irrigation System - a system that provides irrigation water originating from highway or inter-economic irrigation systems and providing irrigation water to irrigated land of only one community (tertiary canals);

4) Interfarming irrigation system - a system of distribution of irrigation water (fourth-class canals or distribution networks) originating from farming irrigation systems as well as local water springs and irrigated land of only one community.

State-owned and second class irrigation systems are not subjected to privatization. They may be transferred only to water suppliers with the right of use in the way prescribed by this Code.

State-owned tertiary irrigation systems which were not built by private investment can be transferred to the community by ownership.

Fourth class state-owned irrigation systems which were not built by private investment, can be granted to the community and water suppliers by the decree of the Government of RA”. [5]

### **State – Private partnership in water infrastructures**

State-Private partnership (SPP) with the participation of private companies is a way of primarily infrastructural development and service provision (including state and public) that implements resources and incentives of private sector into the sphere of infrastructures and services but at the same time requires the presence of the government as contracting party and/or regulatory authority as competition in the infrastructure sector being limited and the economic development of society from the perspective of development is significant in the country.

In general, the SPP characteristics is the long-term and/or short-term cooperation between the state and private sectors when the private sector finances and/or manages the construction and development of infrastructure facilities as well as the provision of services for the needs of the state. The emergence and development of various forms of contractual relations within the SPP is due to the use of effective models preferred by the sectors.

Due to the specificity of the related sector, the right choice of SPP models depends on the efficiency of the transaction, which will meet the needs of both the state and the private sector and society. SPP contracts are viewed not only as a means of financing public infrastructure, but also as a tool for improving the efficiency and quality of public services.

Some of the ways of directions impacting on the reduction of costs of Infrastructure development and government expenditure are:

- Provision of additional financing,
- Introduction of new methods of management,
- Creation of VAT for consumers and society,
- Better determination of needs and optimal use of resources whose applied efficiency is higher within the framework of SPP especially in the case of choosing the right model.

International experience shows that several main models of SPP are widely applied depending on the way of participation, way of infrastructure ownership, distribution of risks and duration of partnership.

**The agreement of outsourcing of accreditation management** is simpler form of SPP which does not suppose investment responsibilities. Ownership and investment decisions remain in the hands of the state while the private company is solely responsible for management and therefore only takes the transaction risks. This form of contract is typically applied where private investment is not possible because prices are traditionally lower than costs and the government is not in favor of setting tariffs that will cover costs. These types of contracts help to increase productivity, improve management and improve the quality of provided services. At the same time, these contracts are concluded for a short period and may not need to increase productivity and to improve efficiency which may not be mentioned there.

**During signing the contract of** the private sector leases state assets and provides services. However, the private sector also does not undertake investment commitments in this model.

In the case of a **concession agreement**, the private partner (operator) takes over the management and maintenance of the facility on a charged basis. During the period specified in the contract, he is obliged to invest for the acquisition of new equipment or the construction of an infrastructure facility. Thus, this form assumes that the private company takes over trade (commercial) risks while the property remains in the hands of the state. For this reason, the set level of tariffs is not essential as it may be related to the rental fee (i.e. if the tariff is insufficient to cover costs, the rental fee may be reduced), but the revenues should offset the long-term costs of providing services and give an opportunity to make a reasonable profit. This model is mainly applicable in those areas where project implementation takes a long time. It may also be applied in cases where the transfer of property rights is impossible for legal and political considerations.

The projects implemented from **«Green field» (from zero level)** assume that private company or mixed company (private and state) builds and operates new facility within the time period foreseen in the contract. After the deadline the facility either is transferred to the state or becomes the own

property of the company according to the conditions mentioned in the agreement. More widely distributed ways of «Green field» project are:

1) According to Building-Ownership-Operation-Transfer project (BOOT) the private sector invests in the construction of the facility after which owns and operates it within the time limit fixed in the agreement. After the deadline mentioned in the agreement the whole property is transferred to the state.

2) In Building-Management-Ownership and Building-Leasing-Ownership projects the private company is responsible for financing and management of infrastructure facility. Unlike BOOT project, the company becomes the owner of the very facility and he does not transfer it to the state. However, the economic activity of private company can be regulated by defining the tariffs for services using certain restrictions in the field of management. These costs suppose long term cooperation between state and private sector (more than 30 years) which are impacts for efficient and high quality construction and optimalization of management costs and keeping it in act and neat condition. This way of contract also supposes that private sector overtakes all market risks connected with construction and management.

### Conclusion

The law regulating SPP relations in the Republic of Armenia (“State-Private Partnership”) was adopted by the National Assembly of the Republic of Armenia on June 28, 2019 and came into force on January 1, 2020. [6] It provides a firm and reliable economic and legal basis, in particular for the change and improvement of the RA water relations system which is linked to the inflow of private capital in the management of water systems. The importance of establishing a clear SPP economic and legal field is due to the fact that the water sector itself needs huge investment, and these relationships, having remained state-owned for the last 20 years, have been inefficient and “absorbed” huge state resources without being maintained adequate ( financial and social) compensation.

The above mentioned law defines the concept of a SPP contract according to which: “SPP contract – is a contract between a state partner and a private partner for the purpose of implementing the SPP program as stipulated by this Law, including a concession”. The procedures and rules applicable to the implementation of SPP programs are set by the decree of the Government of the Republic of Armenia [6, Article 2].

The RA Water Code should provide for the application of the above forms of SPP in the water infrastructure. It is proposed to apply the fundamentals of the RA Law on State-Private Partnership, adopted by the National Assembly of the Republic of Armenia on June 28, 2019 in water sector management and to use the procedures following the Law where appropriate and if necessary, to define other features of state-private sector partnership.

### References

1. «Հայաստանի Հանրապետության ջրի ազգային ծրագրի մասին» ՀՀ օրենք, ընդունվել է ՀՀ Ազգային ժողովի կողմից 2006 թվականի նոյեմբերի 27-ին, ՀՕ-232-Ն, փոփոխություններով և լրացումներով տարբերակը Հայաստանի իրավական տեղեկատվական համակարգի պաշտոնական [www.arlis.am](http://www.arlis.am) կայքում:
2. «Հայաստանի Հանրապետության քաղաքացիական օրենսգիրք»-ը, ընդունվել է ՀՀ Ազգային ժողովի կողմից 1998 թվականի մայիսի 5-ին, փոփոխություններով և լրացումներով տարբերակը Հայաստանի իրավական տեղեկատվական համակարգի պաշտոնական [www.arlis.am](http://www.arlis.am) կայքում:
3. «Իրավական ակտերի մասին» ՀՀ օրենքը (Հոդված 9, մաս 6), ընդունվել է ՀՀ Ազգային ժողովի կողմից 2002 թվականի ապրիլի 3-ին (ներկայումս չի գործում), տե՛ս Հայաստանի իրավական տեղեկատվական համակարգի պաշտոնական [www.arlis.am](http://www.arlis.am) կայքում:

4. «Պետական գույքի մասնավորեցման 2017-2020 թվականների ծրագրի մասին» ՀՀ օրենքը, ընդունվել է ՀՀ Ազգային ժողովի կողմից 2017 թվականի հունիսի 9-ին, փոփոխություններով և լրացումներով տարբերակը Հայաստանի իրավական տեղեկատվական համակարգի պաշտոնական [www.arlis.am](http://www.arlis.am) կայքում:
5. «Հայաստանի Հանրապետության ջրային օրենսգիրք», ընդունվել է ՀՀ Ազգային ժողովի կողմից 2002 թվականի հունիսի 4-ին, փոփոխություններով և լրացումներով տարբերակը Հայաստանի իրավական տեղեկատվական համակարգի պաշտոնական [www.arlis.am](http://www.arlis.am) կայքում:
6. «Պետություն-մասնավոր գործընկերության մասին») ՀՀ օրենքը, ընդունվել է ՀՀ Ազգային ժողովի կողմից 2019թ.-ի հունիսի 28-ին (ՀՕ-113-Ն), տե՛ս Հայաստանի իրավական տեղեկատվական համակարգի պաշտոնական [www.arlis.am](http://www.arlis.am) կայքում:

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1. The RA «Law on National Water Program of the Republic of Armenia», adopted by the National Assembly of the Republic of Armenia on November 27, 2006, TC-232-N, with the amended version of the Legal Information System of Armenia at official website [www.arlis.am](http://www.arlis.am)
2. «The Civil Code of the Republic of Armenia», adopted by the National Assembly of the Republic of Armenia on May 5, 1998, amended and supplemented in the Legal Information System of the Republic of Armenia at official website [www.arlis.am](http://www.arlis.am)
3. Law of the Republic of Armenia on «Legal Acts» (Article 9, Part 6), adopted by the National Assembly of the Republic of Armenia on April 3, 2002 (currently not in force), see in Legal Information System of Armenia at official website [www.arlis.am](http://www.arlis.am)
4. RA Law «On Program of Privatization of State Property 2017-2020», adopted by the National Assembly of the Republic of Armenia on June 9, 2017, amended and supplemented in the Legal Information System of the Republic of Armenia at official website [www.arlis.am](http://www.arlis.am)
5. «Water Code of the Republic of Armenia», adopted by RA National Assembly, amended and supplemented in Legal Information System of the Republic of Armenia at official website [www.arlis.am](http://www.arlis.am)
6. RA Law on «State – Private Partnership», adopted by RA National Assembly on June 28, 2019, (TC-113-N), see in Legal Information System of the Republic of Armenia at official website [www.arlis.am](http://www.arlis.am)

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### ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅԱՆ ԶՐԱՅԻՆ ՌԵՍՈՒՐՍՆԵՐԻ ԿԱՌԱՎԱՐՄԱՆ ԲԱՐԵԼԱՎՄԱՆ ՀԻՄՆԱԿԱՆ ՈՒՂԻՆԵՐԸ

Ա.Խ. Մարկոսյան<sup>1,2</sup>, Է.Ն. Մաթևոսյան<sup>1</sup>, Վ.Գ. Խաչատուրյան<sup>1</sup>, Տ.Ս. Մարտիրոսյան<sup>2,3</sup>

<sup>1</sup>Երևանի պետական համալսարան

<sup>2</sup>Շուշիի տեխնոլոգիական համալսարան

<sup>3</sup>Եվրոպական համալսարան

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Հայաստանի Հանրապետության բնական ռեսուրսների կարևոր մասն են կազմում ջրային ռեսուրսները: Դեռևս 2000-ական թվականների սկզբին ընդունված ջրային հարաբերությունների կարգավորման տնտեսա-իրավական դաշտի քննական վերլուծությունը վկայում է, որ ոլորտում տեղ են գտել բազմաթիվ թերություններ և բացթողումներ, որոնք առաջացել են հիմնականում գործող իրավական դաշտի պահանջները հաշվի չառնելու հետևանքով: Միևնույն ժամանակ,

հիմնադիր օրենքների անհարկի փոփոխություններն ու լրացումները, ըստ էության, ավելի են վատացրել ՀՀ-ում ջրային ռեսուրսների օգտագործման վիճակը: Այդ հանգամանքը երկիրը կանգնեցրել է այնպիսի մարտահրավերի առջև, որոնք պահանջում են ջրային հարաբերություններում տեղ գտած թերությունների և բացթողումների շուտափույթ շտկում, ժամանակի պահանջներին համապատասխանող տնտեսա-իրավական համակարգի ստեղծում, որը հաշվի կառնի ինչպես պետության (որպես ջրային պաշարների սեփականատիրոջ) հանրային շահերն, այնպես էլ տարբեր ջրօգտագործողների շահերի ներդաշնակեցումը, և այդպիսով արդյունավետ գործընկերության ապահովմանը: Վերջին հանգամանքը ենթադրում է, հատկապես, պետություն-մասնավոր գործընկերության շրջանակների ընդլայնում և այդպիսի գործընկերության տարբեր եղանակների կիրառում:

**Բանալի բառեր.** ջրային ռեսուրսներ, ջրային ռեսուրսների կառավարման բարելավում, ջրային օրենսգիրք, ջրօգտագործողների ընկերություն, պետություն-մասնավոր գործընկերություն, հավատարմագրային կառավարում, առևտրային կազմակերպություն, վարձակալություն, կոնցեսիա, գույքի անհատույց օգտագործում:

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## ОСНОВНЫЕ ПУТИ УЛУЧШЕНИЯ УПРАВЛЕНИЯ ВОДНЫМИ РЕСУРСАМИ РЕСПУБЛИКИ АРМЕНИЯ

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Водные ресурсы являются важной частью природных ресурсов Республики Армения. Изучение экономико-правовых основ регулирования водных отношений, основанных в начале 2000-х годов, показывает, что в этой области имеются многочисленные недостатки и упущения, возникшие в основном из-за несоблюдения требований существующей правовой базы. В то же время необоснованные изменения и дополнения, введённые в Водный кодекс РА, фактически имели обратный эффект - ухудшили состояние водопользования в Республике Армения. Проблемы, возникшие вследствие этого требуют безотлагательного решения, в частности - исправления недостатков в сфере водных отношений, создания современной экономико-правовой системы (основы), которая будет учитывать как общественные интересы государства (владельца водных ресурсов), так и интересы различных водопользователей и их гармонизацию. Последнее подразумевает, в частности, внедрение практики государственно-частного партнерства, расширение рамок и осуществление различных форм такого партнерства.

**Ключевые слова:** водные ресурсы, совершенствование управления водными ресурсами, водный кодекс, ассоциация водопользователей, государственно-частное партнерство, доверительное управление, коммерческая организация, аренда, концессия, безвозмездное пользование имуществом.

Ներկայացվել է՝ 08.01.2020թ.

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