WATER – AN OBJECTIVE OF NATIONAL SECURITY

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Abstract

Water is an essential element of life. This is the reason why water has made the object of some fundamental reflexions in the field of religion, philosophy, mythology, and sciences. In the present paper we intend to make a short analysis of the reasons why water is considered the essence of life, but also of the reason why water should be treated as an objective of national, European and global security. Reflecting on the importance of water, we identified five essential levels on which it can be analysed: individual, local, national, European and global levels.

Keywords: *water, European & global security, management of water resources*

1. Short Analysis of Water from a Religious and Philosophical Perspective

Water is the essential element of life. This is the reason why water has made the object of some fundamental reflexions in the field of religion, philosophy, mythology and sciences. Reflecting on the importance of water, we identified five essential levels on which it can be analysed: individual, local, national, European and global levels.

At the individual level, water is an ambivalent symbol of life and death. As a symbol of life, water is the primary element in the creation of the world. To this effect, the biblical sequences are eloquent because they indicate the fact that when "Earth was without form, and void" and "darkness was upon the face of the deep", "the Spirit of God moved upon the face of the waters"[1].

Reading other biblical sequences, we can observe that references to water – as a symbol of life – continue. Thus, the Spirit of God is presented as

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[1] "Facerea – Întâia Carte a lui Moise", Chapter 1, verse 2, in *Biblia sau Sfânta Scriptură*, Editura Institutului Biblic şi de Misiune Ortodoxă, Bucureşti, 2013, p. 11.

working in a slow and inner process of creation that has as a result, first of all, the organization of cosmos and which starts with the separation of waters: "And God said: "Let there be a firmament in the midst of the waters, and let it divide the waters from the waters!" (...) God made the firmament and God divided the waters, which were under the firmament from the waters which were above the firmament. God called the firmament Heaven"[1].

Also, the land or Earth is itself born from the separation of waters that gathered together into one place forming the sea: "And God said: "Let the waters under the heaven be gathered together into one place, and let the dry land appear!" (...) God called the dry land Earth, and the gathering together of the waters He called Seas. And God saw that it was good"[2].

From a religious point of view, water has multiple meanings for the individual. We identified the following: life, purification of the soul, spiritual force, divine punishment and death.

According to the biblical texts, the average man who sinned could purify his soul by washing his body and clothes with water: "(...) shall wash his clothes, and bathe himself in water and be unclean until the evening"[3].

The prescribed way for purification through the bath into water in the Old Testament was not specific only for the average men, as it was also established as a mandatory ritual of the process of consecrating the priests: "And Aaron and his sons thou shalt bring unto the door of the tabernacle of the congregation, and shalt wash them with water"[4].

And also for the their physical cleaning before the service into the Tabernacle of the Congregation: "«Thou shalt also make a laver of brass, and his foot also of brass, to wash withal; and thou shalt put it between the tabernacle of the congregation and the altar, and thou shalt put water therein. For Aaron and his sons (the first priests of the Old Testament) shall wash their hands and their feet thereat with water. When they go into the tabernacle of the congregation, they shall wash with water, that they die not; and when they must come near to the altar to minister and to burn

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[1] "Facerea – Întâia Carte a lui Moise", Chapter 1, quotations from the verses 6-8, in *Biblia sau Sfânta Scriptură*, *op. cit. supra.*, p. 11.
[2] "Facerea – Întâia Carte a lui Moise", Chapter 1, quotations from the verses 9-10, in *Biblia sau Sfânta Scriptură*, *op. cit. supra.*, p. 11.
[3] "Leviticul – A Treia Carte a lui Moise", Chapter 15, Verse 10, in *Biblia sau Sfânta Scriptură, op. cit.*, p. 131.
[4] See verse 4, Chapter 29 concerning "The consecration of Aaron and his sons" - "Sfinţirea preoţilor – Ieşirea - A Doua Carte a lui Moise", in *Biblia sau Sfânta Scriptură, op. cit.*, p. 100.

offering made by fire unto the Lord, they shall wash their hands and their feet with water, that they die not. And it shall be a statute for ever to them, even to him and to his seed throughout their generations»"[1].

So, the punishment for the priests who did not wash before the holy service to the Lord was death.

The symbol of purification through water can also be found in many religions of the world, from Christianity to Hinduism, Islamism, Judaism, Shinto.

If we were to make reference to water as a symbol of vitality and of the spiritual force, then we must recall: the Holy Baptism, which along with the purification of the soul also offers a spiritual force to the "new man"; the healing powers associated to the Holy Water; and last but not least, the fact that the Holy Spirit is associated to the eternal water: "Jesus answered and said unto her: Whosoever drunkest of this water shall thirst again; But whosoever drunkest of the water that I shall give him shall never thirst as the water I shall give him shall be in him a well of water springing up into everlasting life"[2].

But water is also the symbol of the divine punishment and of death. The most eloquent biblical example to this effect is the great flood, when God, for the multitude of the human sins, desired the loss of mankind: "(...) all the fountains of the great deep broken up, and the windows of heaven were opened. (...) And the waters prevailed exceedingly upon the earth, and all the high hills, that were under the whole heaven, were covered. Fifteen cubits upward did the waters prevail, and the high mountains were covered. And all flesh died that moved upon the earth. (...) and Noah only remained alive, and they that were with him in the ark"[3].

From a philosophical perspective water has also a special symbolism. In a paper called "For a philosophy of water", L. Bibard highlights three essential aspects related to water. First of all, he shows that water has a contradictory symbolism, being sometimes clear, and other times muddy, calm but also violent, terrifying but also comforting. In other words, water is paradoxically black – as it is characterized by the Taoists, even though at first glance, in its liquid form it is transparent. Then, the author points out that in its liquid form water flows, so that Aristotle showed that it behaves

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[1] Verses 18-21, Chapter 30 – "Ieşirea - A Doua Carte a lui Moise", in *Biblia sau Sfânta Scriptură, op. cit*., p. 102.
[2] Verses 13-14, Chapter 4 – "Sfânta Evanghelie după Ioan", in *Biblia sau Sfânta Scriptură, op. cit*., p. 1208.
[3] Verses 11-23, Chapter 7 – "Facerea", *op. cit*., pp. 17-18.

in the same way as pebbles which in their fall follow their own finality. Water is made so that it drains in the most possible deep places. It cannot be stopped from following its course but through physical constraint. Finally, L. Bibard recalls that in the 20th century, Heidegger the philosopher, showed that this physical constraint exercised for restraining water actually represents a "impoundment" of nature by man[1].

Thales of Miletus considered that the principle of all things is water, that everything is made out of water and that everything goes back to the water.

Another pre-Socratic philosopher, Heraclitus, considered that water is the one that indicates the fact that time is running out indefinitely. It is the famous "everything flows"[2].

In philosophy, water, in spite of its hybrid and contradictory character, is also considered the symbol of femininity, and in turn, fire is the symbol of masculinity[3].

For Aristotle, water is one of the four elements – earth, air, water and fire – that stand at the basis of all things[4].

Some humanist philosophers as Descartes considered water as a thing among many others that man can possess and master, whereas from the philosophical thinking of Hegel it appears that water becomes the mediator of the relationships between man and his fellows. For Hegel water is the symbol of the spirit and of the self-awareness[5].

Finally, we must also show that for Carl Gustav Jung water is an archetype, it is the symbol of life, of rebirth, it is a powerful rational and living force, it is a symbol of the unconscious[6].

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[1] L. Bibard, "Pour une philosophie de l'eau, Ha 32", Jeudi, 18 octobre 2012, p. 1, http://ha32.org/spip/IMG/pdf/Texte_de_la_conference.pdf.

[2] *Ibid*., p. 3.

[3] *Ibid*., p. 4.

[4] *Idem*.

[5] *Ibid*., p. 7.

[6] Andrey Davydov, Olga Skorbatyuk, "From Carl Gustav's Jung Archetypes of the Collective Unconscious to Individual Archetypal Patterns", in vol. *Archetypal Pattern. Fundamentals of non-traditional psychoanalysis*, Kate Bazilevsky (edit.), HPA Press, 2005, p. 25.

2. The Importance of the Local Water Management

At a local level, water receives different practical purposes, being destined for the consumption, production, and health of the collectivity. In order to discuss the issue of water at a local level we must make a short foray into the legislation dedicated to waters in Romania.

In the research literature dedicated to the environmental law, waters can be classified according to the criterion of their administration (in International, territorial and National waters[1]); according to the criterion of their settlement (in surface waters and ground waters); according to their economic destination (in waters for general use, waters destined for industries, agriculture or waters with special destinations); and according to the criterion of the form of property, we can distinguish between waters that belong to the public sector and waters that belong to the private sector[2]. The Law of waters no. 107/1996 establishes the composition of the two sectors[3]. We also mention that, no matter the form of property to which the water resources belong, the regime of their use is exclusively established by the government, through the central public authority of the water field[4].

In the public sector of the state we can find:

- "the surface waters with their minor riverbeds of over 5 km long and with river basins that exceed a surface of 10 km^2, lakesides and lake basins, and also ground waters, inland sea waters, the waterfront and the beach, with all their natural resources and valuable potential, the territorial sea and the bottom of the maritime waters"[5], except "the nurseries and the fish hatcheries that are placed outside the watercourses"[6];
- "permanent reservoirs whose execution was financed from public funds allocated from the state budget, the surfaces of the lake which are under the share of the dam's canopy are a part of the public sector of

[1] Mihai Floroiu, "Concepte de Drept Internațional Public", Ed. Didactica si Pedagogica, București, 2013, pp. 53-54.
[2] Sorina Lucreția Drăgan, *Dreptul mediului, Note de Curs*, http://file.ucdc.ro/cursuri/8_2_do2319_Dreptul_ mediului_Dragan_Sorina.pdf, pp. 79-82.
[3] The law of the waters - *Law 107/1996* updated, published in Monitorul Oficial no. 244, 8.10.1996.
[4] Art. 4 (1, 2nd thesis) *Law 107/1996*.
[5] Art. 3 (1) *Law 107/1996*.
[6] Art. 3 (5) *Law 107/1996*.

the state and are included in the category of the land covered in water, being assimilated to the notion of minor riverbed"[1];

- "surface and ground water resources" which "are a natural monopole of strategic interest"[2];
- "(...) the waters with a valuable energy potential, of national interest, the beaches, the territorial sea, the natural resources of the economic area and of the continental shelf (...)"[3].

In the private sector we can find:

- "the minor riverbeds of the water streams of less than 5 km long and with river basins that do not exceed the surface of 10 km^2, on which the waters don't flow permanently, belong to the owners, with any title, of the lands on which they form or flow. The owners of these riverbeds must use these waters in accordance with the general conditions of use imposed for that river basin"[4];
- "the riverbeds" which "belong to the riverside resident owners, except the ones which, according to the law, are the object of the public property"[5].

According to the legal previsions, the State is the one which must ensure the exploitation of the natural resources – in which category water can be included too – in accordance with the national interest. In addition, the State must ensure the restoration and the protection of the natural environment, and also the maintenance of the ecological balance and the increase of the necessary conditions for the growth of the quality of life[6]. In accomplishing these fundamental objectives established by law, the Romanian state must manage its waters in accordance with the principle of the human solidarity and of the common interest, "in a tied collaboration and cooperation with all the levels of the public administration, with the water users, with the representatives of the local collectivises and with the population"[7].

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[1] Art. 3 (3[1]) *Law 107/1996*.
[2] Art. 4 (1, 1st thesis) *Law 107/1996*.
[3] Art. 136 (3) - the *Constitution of Romania*, updated and republished in Monitorul Oficial no. 767, 31 October 2003.
[4] Art. 3 (2) *Law 107/1996*.
[5] Art. 573 (1) *Law 287/2009 concerning the New Civil Code of Romania*, republished in Monitorul Oficial no. 505/2011, applicable starting with the 1st of October 2011.
[6] See: art. 135 (2, lit. d), e), f) - *Constitution of Romania, cit. supra*.
[7] Art. 6 (2) *Law 107/1996*.

The national authority that was designated to manage the waters from the public sector of the state, the infrastructure of the national system of water management (formed out of reservoirs, dams for the defence against floods, channels, inter-basin by-pass, water plugs and other specific works) and the infrastructure of the national systems of hydrological and hydro geological lookout, and for monitoring the quality of the water resources of its patrimony is the "Romanian Waters" National Administration. This is a public institution of national interest, with legal personality[1]. "Romanian Waters" National Administration has under its command water basin administrations which are organised at the level of the river basin districts, also as public institutions with legal personality – Someş-Tisa Water Basin Administration; Crişuri Water Basin Administration; Banat Water Basin Administration; Jiu Water Basin Administration; Mureş Water Basin Administration; Olt Water Basin Administration; Siret Water Basin Administration; Argeş-Vedea Water Basin Administration; Buzău-Ialomița Water Basin Administration; Prut-Bârlad Water Basin Administration; and Dobrogea-Seaside Water Basin Administration.

Over the last few years, the foreign research literature has insisted on the need to establish some guidelines for the water management at a local level. The purpose of this water management at a local level consists of the desire to improve the life of the users through[2]:

- the increase of the access to water through developing the infrastructure at a local level;
- the development of the capacity of the local communities to manage their water resources in a proper environment;
- the implementation of a water infrastructure which to correspond to the needs and priorities of the community.

For such a water management at a local level it is necessary, first of all, that the local communities identify and prioritize both water consumers and water sources. The bottom-up integration between water management at a national level and the one at a local level takes place on the basis of the national strategies. At a local level, there are multiple water sources: rain, standing waters, ponds, springs, and ground waters. The needs for water at a local level are also multiple: for drinking, hygiene, sanitation, internal (domestic) use, gardening, irrigation of the crops, maintenance of the plant

[1] Art. 6[1] (1) *Law 107/1996*.

[2] Barbara von Kopper, *Guidelines for Local –Level Integrated Water Resource Management*, IWMI, p. 1, http://www.iwmi.cgiar.org/Publications/Other/PDF/Guidelines_for_local-level_integrated_water_resource_management.pdf.

and animal crops, irrigation of the orchards, handicraft, food processing, the use of the small enterprises, fisheries, aquaculture, etc.

Among the benefits of water management at a local level we recall: the integration of the land use, the increase of the quality of water, the improvement of health, and the amplification of the sanitary education and of agriculture.

Barbara von Kopper considers that for the local water management it is necessary that the representative local structures coordinate their services of water delivery for satisfying the integrated needs of the people. In this process there must be also involved other local structures, as for example: governmental agencies, multi-sectorial agencies, NGOs, local organisations, private firms and other entrepreneurs. All these represent the "environment of support" at a local level, whose basis is represented by the processes of participative planning and negotiation[1].

Through the creation of horizontal and vertical sustainable relationships, local communities can demand the services suppliers to finance and provide their technical and institutional expertise. It is also being created a control mechanism in which these last ones can be held accountable by the local communities[2].

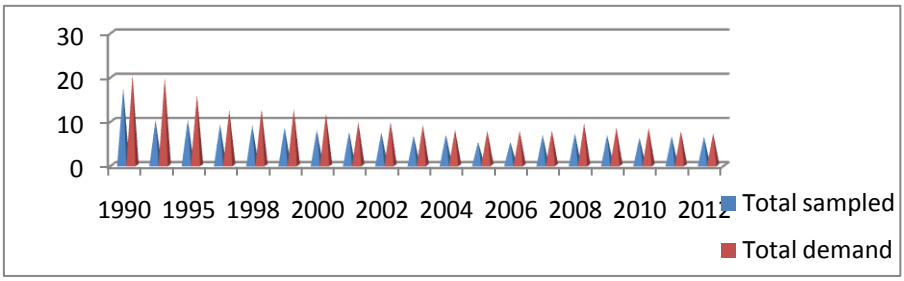
An essential aspect without which we cannot talk about water management at a local level is represented by the decentralization of the decision-making process. To this we must also add the financing of the development of some responsible local structures.

A. Water Management at a National Level

According to the "Water balance 2012" elaborated by the "Romanian Waters" National Administration, in 2012 the effective water sampling from direct sources within the ensured services was under the level of the ones recorded in 2011 (when it was of 6.60 billion mc), being of 6.49 billion mc. In a graphic that we present below, the "Romanian Waters" National Administration presented the evolution of the water demand and sampling in Romania during a period of 12 years, since 1990 until 2012.

[1] *Ibid.*, p. 2.
[2] *Ibidem.*

Graphic 1 – The evolution of the water demand and sampling in Romania (1990-2012)[1]



VOLUME MLD MC/YEAR	Total sampled	Total demand
1990	17,5	20,4
1993	10,2	19,9
1995	10,3	16
1997	9,26	12,46
1998	9,05	12,67
1999	8,57	12,65
2000	7,96	11,74
2001	7,5	9,78
2002	7,45	9,78
2003	6,7	9,19
2004	6,95	8,02
2005	5,3	7,8
2006	5,33	7,78
2007	6,88	7,9
2008	7,22	9,44
2009	6,87	8,5
2010	6,22	8,45
2011	6,6	7,7
2012	6,49	7,19

Analysing this graph, we can observe that, starting with 1990s and until 2012, the total sampled never rose to the level of the total of the sampling demand, being inferior to it. To this aspect we must also add another one which is disturbing, namely that from one year to another there occurred a reduction of the total of the sampling demand. Thus, if in 1990 the total of the sampling demand was of 20.4 billion mc (from which there were sampled 17.5 billion mc), in 2012 the total of the sampling demand dropped

[1]Source: *Balanța Apei 2012*, Administrația Națională "Apele Române", http://www.rowater.ro /Lists/Balanta%20Apei/AllItems.aspx, p. 2.

to 7.19 billion mc (from which there were effectively sampled 6.49 billion mc).

Starting from these data provided by the "Romanian Waters" National Administration we must highlight the importance of having a clear and firm legislation concerning the cautious water management at a national level which needs ?? to be in full accordance with the legal European and global previsions in the field.

At a national level, water has a very important role in industry, for the maintenance of the vegetal mass of the earth and it is an important source of energy. Water is a factor of balance in any society.

In Romania, Law 107/1996 concerning waters, to which we have already made reference, applies to all surface and ground waters, except the geothermal waters[1]. We consider that it lists in article 1 (1), (1[1]) the reasons why water is considered an objective of national security, establishing that waters are "a renewable, vulnerable and limited natural resource", an "***indispensable element for life and for the society***", "raw material for the productive activity", a "source of energy" and a "means of transportation", but also a "determining factor in maintaining the ecological balance"[2]. Water is "a natural patrimony that must be protected, treated and defended as such"[3]. Protecting, knowing, valuing and using in a sustainable way water resources represent "actions of general interest"[4].

Law 107/1996 establishes the principles that stand at the basis of the protection regime of waters[5]; the purposes that the law establishes[6]; the environmental objectives for the ground and surface bodies of waters[7]; the general framework for taking the necessary measures for the fight against water pollution[8]; the regime for the use of the waters and riverbeds; the regime of servitudes and expropriation; the aspects concerning water management – which includes the knowledge of the water resources, the protection of the minor waterbeds, of the shores and of the works of water

[1]To this effect see art. 3 *Law 107/1996*.
[2] Art. 1 (1) *Law 107/1996*.
[3] Art. 1 (1[1]) *Law 107/1996*.
[4] Art. 1 (2) *Law 107/1996*.
[5]Those principles are according to art. 1 (6) *Law 107/1996*: the precautionary principle, the principle of prevention, the principle of avoiding the damages at the source, the principle according to which polluter pays, and also the principle of maintaining the quality of the waters because the balance of the aquatic ecosystems is directly affected by the quality of the water.
[6]Art. 2 *Law 107/1996*.
[7]Art. 2[1] *Law 107/1996*.
[8]Art. 2[11] – art. 2[14] Law 107/1996.

management, the planning in the field of water management, the regime of the works that are being built on the waters or that are related to the waters, the defence against floods, dangerous climatic events and accidents in the hydro-engineering constructions, risk management during floods, public participation; the control of the activity of water management; the economic mechanism in the field of waters; penalties applicable in case of violating the legal previsions.

The law encompasses a series of annexes concerning: the clarification of the terminology used by the legislator, the conditions for reaching the objectives of water protection and of the aquatic environment for all the surface and ground water bodies, the protected areas, the delineation and characterisation of the water bodies and the evaluation of the impact and pressures generated by the anthropic activities, the width of the protection areas around the natural loopholes, the accumulation loopholes along the watercourse, the dams of the channels, the barrages and other hydro technical works, the minimum content of the master schedule of planning and managing the river basin and of the programmes of measures related to them, the economic analysis of the water management and use, the list of the priority dangerous substances, the list of the main polluters, the management plan for the flood risk.

In 2002 there was adopted OUG 107/2002 concerning the establishment of the "Romanian Waters" National Administration (ANAR)[1]. Within this ordinance there are stated ANAR's main responsibilities.

Starting with 1996 there were adopted numerous legal acts which contain references concerning mainly water management, water quality, pollution, floods, and the state of emergency. The quality of the potable water is regulated by Law 458/2002 updated, whose main objective is the protection of people's health against the effects of any type of contamination of the potable water by ensuring its quality of clean and healthy water[2].

Romanian researchers in the field showed on different occasions that nowadays economic development and the need to accomplish the standards of living demand, in an excessive manner, the use of water resources. Quantitative factors that lead to the fact that important areas of Romania have an uneven distribution of water resources are various: the insufficient degree of distribution of water flows on the watercourses, the drought, very law temperature during winter, excessive use of water by the

[1]Published in M. Of. No. 691, 5 September 2002, updated.
[2]Published in Monitorul Oficial no. 552, 29.07.2002.

consumers. These quantitative factors are accompanied by qualitative factors which refer to water pollution. The conclusion of the researchers is that there is a need for the rational use and protection of this resource by reducing water consumption, by reducing at minimum the useless losses of water at the level of the individual homes, at the level of the centralised water systems, in the economic activities from agriculture, industry and services[1].

Water resources must also be defended from a qualitative point of view by the treatment of waste waters.

B. European Union and some of the Most Significant Regulations in the Field

In order to address the issue of solving the problems related to water – as an objective of national security, the European Union institutions adopted a series of directives whose objective was both the improvement of the quality of life of the individuals and of their needs, and the aspects on which the balance and the existence of the ecosystems depend on. In a paper written in 2013, the theme of the water as a basis of the national security of a country was treated from the perspective of the aspects concerning the need to ensure the potable water resource for the population and to ensure the quality of the water[2]. Analysing the European legislation, we could conclude that the legal basis of the reason why water is an objective of national security of any state are indeed the need to ensure the potable water and a quality water for the population. We consider that to these we can also add the need to ensure the balance and the existence of the ecosystems.

Directive 2000/60/CE was adopted as a consequence of the high pressure put on the waters from the European Union and determined by the continuous growth of the demand for good quality water for different purposes. The main objective of the Directive was to protect and improve the quality of water. The Directive establishes the norms for the cessation of

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[1]Corina Boscornea, Cristian Rusu, Roxana Stoica, Marius Albu, "Asigurarea accesului populației la infrastructura de apă în conformitate cu cerințele Uniunii Europene", in vol. *Hidrotehnica*, vol. 55, 2010, p. 12, http://www.rowater.ro/Revista%20Hidrotehnica/Numar%20dedicat%20Zilei%20Mondiale%20a%20Apei%202010/Ziua%20Apei_2010.pdf.

[2]Octavian Sergentu, "Cultura apei în Rusia şi Ucraina", in vol. Flore Pop (edit.), *Dreptul şi Guvernanța Apei în Uniunea Europeană. Studii asupra Europei Centrale şi de Est*, Ed. Argonaut, Cluj-Napoca, 2013, p. 172.

the deterioration of all bodies of water from the European Union, and also for the improvement of the state of rivers, loopholes and ground waters of Europe. It refers to: the protection of all forms of water (interior, of transition, of coast, and ground waters); the recovery of the ecosystems from these waters and around them; the reduction of pollution from the water bodies; the insurance of an enhanced protection and of an improved aquatic environment through special measures for the gradual reduction of the evacuation, emissions and looses of priority substances and through their gradual cessation and elimination; the guarantee of the durable use of water by physical persons and by the enterprises; and the attenuation of the effects caused by floods and the periods of drought[1].

This Directive is also called framework-directive because it establishes the main lines to follow regarding the quality of the water. The previsions of the framework-directive were transposed into the Romanian legislation through the adoption of Law 310/2004 for the modification and supplement of the Law of the waters no. 107/1996[2].

Other directives with a direct impact on the quality of water are: the Directive of the Council of 21 May 1991 (91/271/CEE) concerning the treatment of the residual urban waters[3] - whose objective was the protection of the environment against the damages caused by the evacuations of the residual waters; the previsions of this directive were supposed to apply to the collection, treatment and evacuation of the residual urban waters and also to the treatment and evacuation of the waste waters that came from certain industrial sectors. This directive was modified and completed by Directive 98/15/EC of the Commission of 27 February 1998[4].

Romania implemented the previsions of the directives recalled above during 2002-2005 through the Government's resolution (H.G.) no. 188/2002 for the approval of some norms concerning the conditions of unloading of the waste waters into the aquatic environment, completed and modified by H.G. no. 353/2005. The implementation terms depend on the pollution produced and on its impact on the receiving waters. The time limit by

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[1]*Directiva 2000/60/CE a Parlamentului European şi a Consiliului din 23 octombrie 2000 de stabilire a unui cadru de politică comunitară în domeniul apei*, JO L 327, 22.12.2000, http://eur-lex.europa.eu/legal-content/RO/TXT/?uri=CELEX:32000L0060.

[2]Published in M. Of. No. 584, 30.06.2004.

[3]JO L 136, 30.05.1991, http://www.icpi.ro/DBs/sustainleather/admin/download/directiva_91-271cee_privind_tratarea_apelor_urbane_reziduale.pdf.

[4]JO L 67, 07.03.1998, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:067:0029:0030:PT:PDF.

which some of the Directive's objectives can be fulfilled was established for date of 31st December 2018 – as for example, the demand for the local authorities to implement the programme of rehabilitation, modernization and building the collection system and the water treatment station for the waste waters[1].

In order to transpose and implement the Directive 91/271/CEE, The National Institute for Research – Development for Environmental Protection ICIM-Bucureşti, in association with "Romanian Waters" National Administration, accomplished and used different technical and scientific documentation and studies so that, in the end, to elaborate a detailed action plan for this purpose. The objectives of this action plan were: "to ensure the protection and normal functioning of the sewer networks of the villages and of the water treatment stations for the city's waste waters" and "to protect the population and the environment against the negative effects of the evacuations of the city's industrial waste waters"[2].

Many legal previsions that are relevant in the field of the water are encompassed by Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 concerning the liability for the environment in a close connection with the prevention and compensation for the damages brought to the environment[3]. The reasons that stood at the basis of adopting this Directive are presented in the introductive part of the European legal text. Among these we recall: the awareness concerning the existence of numerous polluted sites that determine great risks for the health; the acceleration of the loss of biodiversity; the absence of actions in order to prevent the production of these risks in the future; the desire to prevent and to act in the sense of repairing the damages caused to the environment which is manifested in a close relationship to the community policies in the field of environment. The directive introduces the fundamental principle already foreseen by the Treaty: "the polluter pays", meaning that "the operator whose activity caused a damage to the environment or an imminent threat to produce such a damage must be held financially responsible". The purpose of implementing this principle is

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[1] To this effect see also: Guvernul României, *Plan de Implementare pentru Directiva 91/271/CEE privind epurarea apelor uzate orăşeneşti, modificată prin Directiva 98/15/CE*, Octombrie 2004, pp. 23-25, http://www.rowater.ro/Legislatia%20internationala/Directiva%20Cadru%20Apa/Plan_implementare_Directiva_ape_uzate%20oraseneti.PDF.

[2] *Ibid*., p. 13.

[3] JO L 143, 30.04.2004, http://mmediu.ro/new/wp-content/uploads/2014/02/Directiva-2004_35.pdf.

an obvious one and it materializes into the desire to determine the operators "to adopt measures and to develop policies" in order to diminish the risks of producing damages to the environment[1].

Thus, according to art. 1 – Directive 2004/35/CE its main objective was to establish a framework of liability for the damages brought to the environment based on the principle "the polluter pays", in order to prevent and repair the damages brought to the environment[2]. The directive was transposed into the Romanian legislation through OUG no. 68/2007 concerning the liability for the environment with reference to the prevention and reparation of the damages brought to the environment[3], approved by Law no. 19/2008[4].

In accomplishing the objectives of the community policy in the field of environment, the European institutions have adopted over time numerous other legal previsions with incidence in the field of water. Among these we recall: Directive 2006/21/CE of the European Parliament and of the Council of 15 March 2006 concerning waste management in the mineral-extracting industries and the modification of Directive 2004/35/CE, whose objective was to establish the measures, procedures and orientations for the prevention or reduction of any harmful effects on the environment, especially on water, air, soil, fauna and flora, and on the landscapes, and also of any risks for the human health, that would result from the waste management in the mineral-extracting industries[5].

Then, we must recall Directive 2009/31/CE of the European Parliament and Council of 23 April 2009 concerning the geological storage of the carbon dioxide and the modification of other directives (among which Directive 2004/35/CE) and Regulations, with incidence in the law of the sea and whose objective was to create a legal framework for the geological storage – secure from the perspective of the environment – of the carbon dioxide in order to contribute to the fight against climate changes and to the elimination as far as possible of the negative effects and of any risks for

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[1] *Directiva 2004/35/CE a Parlamentului European şi a Consiliului din 21 aprilie 2004 privind răspunderea pentru mediul înconjurător în legătură cu prevenirea şi repararea daunelor aduse mediului, cit. supra.*, p. 2.
[2] *Ibid.*, p. 7.
[3] Published in M. Of. No. 446, 29 June 2007.
[4] Published in M. Of. No. 170, 5 March 2008.
[5] JO L 102, 11.04.2006, p. 8, http://mmediu.ro/new/wp-content/uploads/2014/02/Afaceri%20Europene/Legislatie/1_Directive%20UE/4_Managementul%20%20deseurilor/Directiva%202006_21_CE/Directiva%202006_21_CE.pdf.

the environment and for the human health[1]. This directive was transposed into the Romanian legislation through OUG no. 64/2011 concerning the geological storage of the carbon dioxide[2].

Directive 2013/30/UE of the European Parliament and Council of 12 June 2013 concerning the safety of the offshore petroleum and gas operations and the modification of Directive 2004/35/CE had as objectives to reduce the occurrence of the major accidents related to the offshore petroleum and gas operations and to limit their consequences, and also the increase of the level of protection of the marine environment and of the costal economic activities against pollution[3]. According to Annex 2 to the Report concerning the representation of the 30th of September 2015, the present directive was not transposed into the Romanian legislation, being shown that the national measures of transposition are in the process of adoption[4].

As Liviu-Petru Zăpârțan shows, in the process of accomplishing the European model of society, the European Union made the commitment to use some technologies within the agricultural policy in order to be respectful to the environment[5].

We must also show that along with the signing of the Lisbon Treaty in 2009, one of the major objectives at the European level with incidence in the field of water becomes the fight against climate changes. The protection of the environment will continue to represent a sphere of competence divided between the European Union and the Member States. The intervention of the Union in this field has clear objectives, among which we recall: the conservation, protection and improvement of the quality of the environment, the protection of health, the promotion of the rational use of

[1]JO L 140, 05.06.2009, art. 1 and art. 2 par. 1, p. 13, http://mmediu.ro/new/wp-content/uploads/2014/02/Afaceri%20Europene/Legislatie/1_Directive%20UE/8_Schimbari%20climatice/Directiva%202009_31_CE/Directiva%202009_31_CE.pdf.

[2]Published in M. Of. No. 461, 30 June 2011, http://www.dreptonline.ro/legislatie/oug_64_2011_stocarea_geologica_dioxid_carbon.php.

[3]JO L 178, 28.06.2013, p. 66, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:178:0066:0106:RO:PDF.

[4]Ministerul Afacerilor Externe, *Agentul Guvernamental pentru CJUE, Serviciul Contencios UE, Anexa 2 la Raportul privind reprezentarea din 30 septembrie 2015*, p. 5, http://www.mae.ro/sites/default/files/file/_CJUE/2015.09.30_raport_cjue_anexa_2.pdf.

[5] Liviu-Petru Zăpârțan, *Reflecții despre Europa Unită*, Ed. Eikon, Cluj-Napoca, 2011, p. 269.

the resources, and the promotion of the measures for the fight against the environmental problems[1].

Over the last years, in the Romanian research literature has grown the concern for the analysis of the water issue – as an objective of national security through the perspective of the European legislation and of the concept of European governance. Flore Pop considers that, in the future, water and the impact of the climate changes are aspects that must be approached in the light of the concept of "new governance", in an integrated and pluridisciplinary manner[2].

3. Short Foray into the Water Issue at a Global Level

At a global level, the water issue is treated by the research literature in many ways. First of all, water is seen as a component of the ecosystem along with vegetation, food, energy, biodiversity, etc., which suffered out of the process of global warming. Then, water is perceived as a resource which is necessary for the survival of mankind, alongside food. The issue of water resources and of their rational consumption is doubled by the climate changes that occurred over the last years. The growth of the atmospheric temperature average determines the evaporation of a great quantity of water from oceans, but it is also the cause of the monsoon rains. In the research literature it is considered that in the future we will assist to the expansion of the arid areas on the globe[3].

Water is largely and unevenly spread on Earth. A great quantity of water can be found in the oceans or stored in the glaciers. In order to access it, to find it and to conserve it, man often needed to elaborate major works. In the world, the issues related to water depend especially on the geographical location of the states on the globe, but also on the efforts made for the removal of the dangers that sometimes water brings with it[4].

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[1] *Tratatul de la Lisabona*, JO C 306 din 17 decembrie 2007, www.eur-lex.europa.eu; see also: Rodica Stănescu (coord.), *Ghidul politicilor Uniunii Europene*, Broşura nr. 4, Politica de Mediu, Institutul European din România, Bucureşti, 2012, p. 8, http://www.ier.ro/sites/default/files/pdf/politica_de_mediu_brosura_nr.4_.pdf.

[2] Flore Pop, "Cuvânt înainte", in vol. Flore Pop (edit.), *Dreptul şi Guvernanța Apei în Uniunea Europeană. Studii asupra Europei Centrale şi de Est*, Ed. Argonaut, Cluj-Napoca, 2013, pp. 6-7.

[3] Maria Zăpârțan, *Biometeorologie vegetală*, Ed. Dacia, Cluj-Napoca, 2004.

[4] *Ibidem*.

Besides the industrial revolution that we witnessed, a hydrological revolution – consisting of the creation of some public networks for water distribution to the population - also took place[1]. In order to satisfy the needs for water, people have captured it, conserved it, transported it towards the great cities and have even resorted to modifying nature for this purpose. Barrages bare witness in this respect. To this it can also be added the implementation of the technologies for the desalination of sea waters[2].

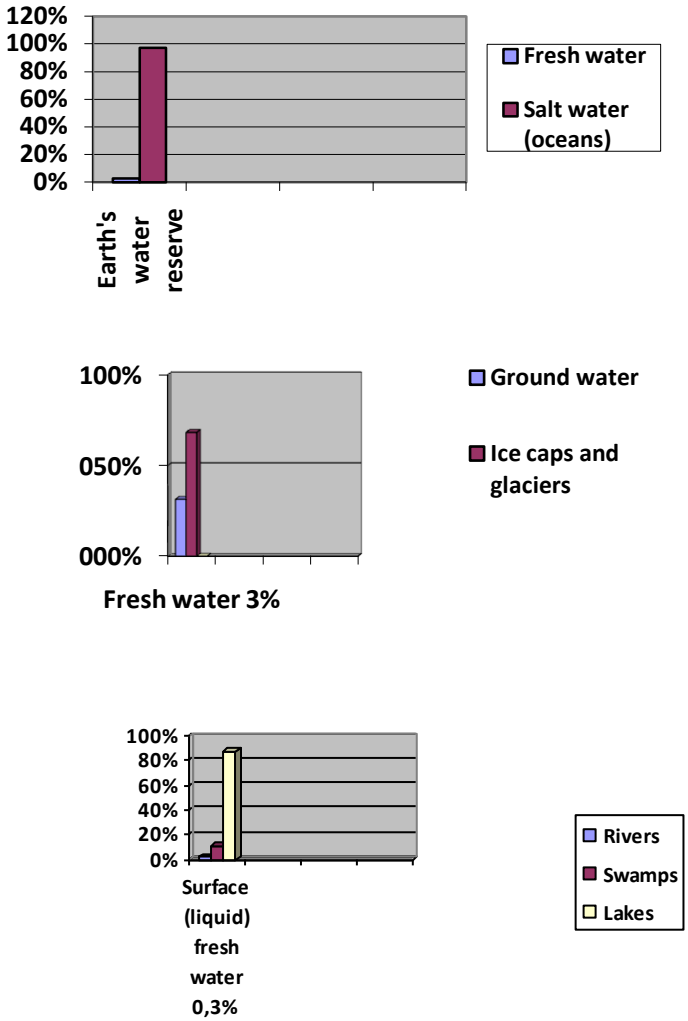
It is considered that modern agriculture is one of the greatest water consumers. This is the reason why some authors have made a classification of the human civilizations in relation to water use over time. There have resulted four great agricultural civilizations. The first of them is called "monsoon Asia" - which stretches from India to Korea, passing through China and South-East Asia. This agricultural civilization encompasses the overall "hydraulic societies" due to the fact that the overabundance of waters in these areas represents a considerable danger. The second agricultural civilization is "the irrigation civilization" and it encompasses more or less arid countries from the Central Asia, Middle East, and the Mediterranean Area. The problem of this civilization is the relationships between the demographic increase and the insufficiency of water resources. The third civilization is called "tropical Africa" and it is the place where there can be practiced cultures "in the rain" on soils that have a rudimentary layout. Finally, the fourth agricultural civilization – "Europe and the Americas" stretches on vast land spaces and it is a "mosaic of cultivated fields and prairies". This civilization stores a variable quantity of water, depending on different factors: soil permeability, the volume of annual rainfall and the evaporation index[3].

According to the National Institute of Hydrology and Water Management U.S Geological Survey, at present, out of the total of water existing on the globe, 96.5% can be found in seas and oceans and bays, 1.74% in ice caps, glaciers and permanent snow (representing 68.7% of the total of fresh water); 1.7% ground water of which 0.76% is fresh water (representing 30.1% of the total of fresh water) and 0.94% is salt water; 0.001% soil moisture (representing 0.05% of the total of fresh water); 0.022% permanent and non-permanent ice in the soil (representing 0.86% of the total of fresh water); 0.013% lakes of which 0.007% with fresh water (representing 0.26% of the total of fresh water) and 0.006% with salt water; 0.001% atmosphere

[1] J. Sironneau, *Water: a new strategic issue for the world*, Ed. Economica, Paris, 1996, pp. 5-15.
[2] Y. Lacoste, *De la géopolitique aux paysages, dictionnaire de la géographie*, Armand Colin, Paris, 2003.
[3] F. Lasserre, L. Descroix, *Eaux et territoires: tensions, coopérations et géopolitique de l'eau*, Presses de l'Université du Québec, Collection géographie contemporaine, Québec, 2002.

(representing 0.04% of the total of fresh water); 0.0008% swamps (representing 0.03% of the total of fresh water); 0.0002% rivers (representing 0.006% of the total of fresh water); and 0.0001% biological water (representing 0.003% of the total of fresh water)[1]. Shown schematically, water distribution on the globe looks like this:

Graphic 2 – Distribution of the water resources on Earth[2]



[1] http://water.usgs.gov/edu/watercycleromanian.html#global.

[2]Institutului Naţional de Hidrologie şi Gospodărire a Apelor U.S Geological Survey, http://water.usgs.gov/edu/watercycleromanian.html#global.

It can be observed that unlike other raw materials for which the issue of depletion does not represent a current issue yet, the issue of the fresh water depletion has already become a global one.

Among the most essential challenges raised by the climate changes within the Pacific Institute for the Studies of Development, Environment and Security there were analysed: water availability (the quality of potable water after the floods and the drought caused by the extreme weather changes); food supply (that exists after the reduction of the agricultural production); and reduced access to natural resources (due especially to the extreme weather changes and to the formation of the glaciers)[1]. The researchers believe that the use of natural resources and of water by the States of the world will generate in the future greater and greater conflicts that will need political and diplomatic approaches instead of the economical ones used to date[2].

4. Conclusions

The present article is structured in five parts, each of them centred on an essential level to which the importance of water can be analysed.

In the first part of our scientific approach we made a synthetic analysis of water from the religious and philosophical perspective and we highlighted the reasons why water is so important for man.

From a religious point of view, at the individual level, water receives different meanings. It is the symbol of life, of the divine creation, of the creation of cosmos and earth, of the purification of the soul, of the spiritual force and also of the divine punishment and of death.

Still at the individual level, but this time from a philosophical perspective, water is presented by the references to the three main aspects identified by L. Bibard: the contradiction between its features, its unmanageable character and the impact of man on it; and also through the perspective of the symbolism granted to it by great philosophers as: Tales of Miletus, Heraclitus, Aristotle, Descartes, Hegel and Jung.

Then, we analysed the importance of local water management which encompasses references to: the clear establishment of the area of water

[1] Pacific Institute, http://pacinst.org/.
[2] Maria Zăpârţan, cit. supra.

expansion in the private sector of the Romanian state from a legal point of view; the need for the Romanian state to accomplish the legal objectives for the natural resources exploitation (hence, of water), and to have a close collaboration and cooperation with all the levels of the public administration, with the water users, with the representatives of the local communities and with the population; the process of decentralisation of ANAR (here we mentioned the 11 water basin administrations); and also the water management at a local level – we indicated to this effect the purpose of such a management, the steps to follow, the importance and the benefits of water management at a local level.

With reference to the process of water management at a national level, we considered that we must start from presenting the disturbing evolution of the demand of water sampling in Romania over the last years (Graphic 1) in order to show why the need for adopting a firm and clear legislation concerning a cautious water management in accordance with the European and global previsions in the field.

We also presented the most important aspects provided by the Law of the waters in Romania, concluding by highlighting the red flag raised in the research literature concerning the need for a rational use and protection of water through methods that imply reducing the useless water consume and loss at the individual, local, and national level; and also the treatment of the waste waters. Also, international regulations are of outmost importance[1]

The European Union was aware of the importance of water in its environmental policy and, therefore, adopted many directives whose main objective was the desire to improve the quality of the life and needs of the individuals. Among the European directives to which we directed our attention we recall: Directive 2000/60/EC, Directive 91/271/EEC, Directive 98/15/EC, Directive 2004/35/EC, Directive 2006/21/EC, Directive 2009/31/EC, and Directive 2013/30/EU. They have been all implemented so far into the Romanian legislation, except Directive 2013/30/EU.

We consider that, based on the analysis of the European legislation, the legal foundations of the reason why water is an objective of national security of any state are: the need to ensure potable and quality water for the population and the balance and the existence of the ecosystems.

Also, it is necessary for the future that the issue of water be treated alongside with challenges brought by the climate changes from the

[1] See Marcel Stanciulescu, Mihai Floroiu, "Drept Internaţional Public", Ed. Paralela 45, Pitesti, 2006, pp. 115-121 and pp. 132-141

perspective of the concept of "new governance" in an integrated and pluridisciplinary manner[1].

Finally, the last part of our text was dedicated to a short analysis of the issue of water at a global level, in the context of the challenges determined by the climate changes, by the issue of the water resources on the globe and of their unequal distribution, and also by the more or less rational water consumption.

In this context, we consider that given the importance of water at all analysed levels, there is necessary a greater accuracy of the legislation when regulating water issues. We plead for the need of a firm and clear legislation in the field of water which must be in full accordance with all the regulation levels (local, national, European, and global).

Along with a firm legal framework, it is also necessary that the political factors treat the water issue with the greatest responsibility.

We must all be responsible when it comes to water whether we are a part of the category of the ones who use it or we are the ones who manage it. Someone asked me once: "Why must we pay for the water we consume?", while someone else firmly asserted that all men have "the right to water" even though this right is not expressly provided by the law. We consider that water equates life. In the absence of water everything dies. Therefore, as long as we have the right to live, we also have the right to water. But nobody says that this right must necessarily be a free right.

The justification for the water costs mainly reduces to the feature of its exhaustion. As we have shown in the final part of the text, unlike other raw materials for which the issue of exhaustion is not a current one, the issue of the exhaustion of the fresh water has become a global one.

At a national level, the issue of the exhaustion of the water resources arises from Graph 1 concerning the evolution of the water demand and sampling in Romania, from which we can observe the reduction of the total of sampled water from one year to another.

The costs that we bear for drinking water can also be justified through the perspective of the different investment that the water suppliers make so that we can have potable and quality water. Fresh water cannot always be consumed in its natural state because it is often rich in toxic, unhealthy elements which are not indicated for the human body. Water pollution is

[1] Flore Pop, *op. cit*., pp. 6-7.

also an aspect that influences the costs bearded by the water users. Finally, to this investment we can also add the one that makes functional the water distribution network – briefly, the one that the water suppliers make so that the favoured ones could receive potable water directly in our homes.

Due to the exhaustible character of water, it is estimated that in the world there will be more and more conflicts which will be no longer solved through an economical approach, but at the very least through political and diplomatic approaches.

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