ASPECTS CONCERNING PUBLIC VISION OR PRIVATE OF SCARCITY AND CONTAMINATION OF WATER IN ROMANIA

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Abstract

This paper will attempt to address and analyzes several critical questions. This paper intends to examinesome fundamental aspects of water resources, such as scarcity, pollution and the key role of management of resources for sustainable development.The main issues analyzed are: waterscarcity;the increase in consumption due to population growth;the unbalanced use across sectors and between societies; the use of water as an instrument of geopolitical pressure; the right of access and the legal character of the water good.After the analysis, the paper will purpose a change of approach; specially on themes concerning the perception of water asa common good, and new shared and complex management of this resource. Both themes are fundamental pillars to build a more equitable roadmap to guarantee the access to this basic resource to the entire population.

Key words: water resources, waterscarcity, pollution, quality assessment.

Water is the most abundant natural resource of planet Earth and its quantity is constant over time. The question of water, and its importance in modern society, poses serious questions about the key strategies of sustainable development in an intra-and inter-generational perspective (Chartres and Varma, 2010). Each year 8 million people die from lack of access to of quantity and quality water.While approximately 3900 children are daily due to water shortage;more than 2.6 billion people suffer from health and hygiene issues related to water. It is estimated that 1.1 billion people lack access to adequate water resources. In Europe, water consumption is characterized by a strong uptake by the energy production and the industry (56%) sectors, followed by agricultural uses that do not exceed 30%, and ultimately for civilian purposes (14%).

MATERIALS AND RESEARCH METHOD

The research methods and procedures are based on social and economic studies of the territory, assessments of water's quality on biological basis, chemical and morphological

The research methods can be grouped as follows:

- the statistical grouping method.
- comparison method
- methods of forecasting the evolution of phenomena.

RESULTS

The Romania water resources consist of surface waters - rivers, lakes, Danube, Black Sea or groundwater. In Romania the main source of water for human needs, are represented by surface water, including for drinking water and their quality assessment on the basis of biological, chemical and morphological is done according to the requirements of the Water Framework Directive 2000/60 / EC transposed into Romanian legislation by Law no. 310/2004 on the body of water as the basic unit used for determining, the reporting and verification of the way how achieve the environmental objectives targeted by the Directive.Through The "Body of surface water" we understand a discrete and significant element of surface waters as: river, lake, canal, river sector, sector channel, transitional waters, a part of coastal waters. The evaluation of surface water quality and ecological status is performed on 5 classes of quality (I, II, III, IV, V) and 5 states of ecological: very good, good, moderate, weak, very weak.

The environmental objective for a surface water body is considered to be achieved when the water body falls into good ecological status or good ecological potential (*table 1)*:

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Table 1

Evolution of watercourses monitored at national level in the period 2008-2012

Chemical status/ecological	% Of the monitored network				
	2008	2009	2010	2011	2012
Class I	26,4	25,7	1,9	0	0,02
Class II	45,5	46,8	70,5	63,9	61,2
Class III	19,4	17,9	26,1	35,65	38,6
Class IV	5,6	6,1	1,2	0,3	0,04
Class V	3,1	3,5	0,3	0,15	0,14
SE* **lower good condition (%)**	28,1	27,5	27,6	36,1	38,74
monitored network (km)	26.513	26.347	52.996	29.421	28.895
Number of monitoring points	817	818	818	818	818

In 2013, for 139 groundwater bodies from a total of 142 bodies existing were monitored for the purpose of preliminary assessment of the annual chemical state a number of points 1271 monitoring (wells, springs, drains, wells). The two subterranean water bodies are not monitored in inaccessible mountainous areas or have a small number of wells without water inflow.

By applying the methodology and criteria for evaluation of groundwater bodies in year 2013 situation of 139 monitored groundwater bodies has been as follows:

- 122 bodies are in good chemical status (87.77%),
- 17 groundwater bodies are in poor chemical status (12.23%).

In terms of water supply,although coverage has almost doubled in the last 25 years, in 2010 only 56.5% of the population have received public services apă10 supply, cca 70% of water being provided by surface waters.

Uneven distribution of water resources at national level, regulation of water flows and internal significant pollution of rivers influences the water supply services. In 2011, regional operators had covered 87.5% of population which has water supply. About half the population - 52% (in most urban areas) are connected at drinking water centralized (which supplies over 5,000 inhabitants or providing over 1000 m3 / Day). On the other hand, about 30% of the population is supplied with water from individual sources (public fountains individual wells).

The rehabilitation and development of water treatment plants , along with the measures to increase safety and reduce the risk to the system water , increasing number of users of water services and the introduction of the advanced technologies and equipment modernization / expansion of Water supply is now priority .

In 2011, a percentage of 75% of the wastewater from the main pollution sources they came into natural receivers, especially rivers, untreated or insufficiently treated. The largest contribution to the total volume of water discharged (including clean conventional waters) have the producers of electricity and heat about 69% of the total.

In Romania is need for strong operators technically and economically speaking, who be able to implement large investment projects financed from European funds imposed by the regionalization of water and sewerage services operation. Through the Integrated Water Monitoring was done a database the National Administration "Romanian Waters", which encompasses data on quality of surface water and wastewater in rivers. The measures required and associated cost estimates and other measures are defined in River Basin Management Plans developed by The National Administration "Romanian Waters" in accordance with Directive Water Framework. The investment costs for implementation of action programs were valued at approx. 21 billion until 2027.

CONCLUSIONS

After 2015, they were scheduled to be stations executed and the treatment measures for the small clusters and to find solutions for agglomerations with a large area and low population density, in the case of the necessary individual approach each situation in part. The small treatment stations or individual resolutions they will not affect "the Good water status". Significant financial resources are still needed to ensure an infrastructure adequate to water in Romania and the EU environment requirements, particularly in context of the large differences between regions and the major needs in regions.

For the period 2010 - 2027 the total costs of basic measures and measures further are, for the

measures to implement the program at national level the amount of 20.992 billion euro's, of which 97.8% are for basic costs, and 2.2% are costs for the preparation of additional measures to reduce pollutants.

REFERENCES

Chartres, C. and Varma, S., **2010** - *Out of water. From Abundance to Scarcity and How to Solve the World's Water Problems, FT Press (USA).*

*** - *Summary of water quality in Romania in 2013.*

*** - *The current state of public services of water supply and sewage 2011 / ARA.*

*** - The National Administration "Romanian Waters' annual summaries concerning the quality of water resources; Publisher.