

WATER USER SPECIFIC PROBLEMS OF THE IN APPLYING THE PRICE AND TARIFF SYSTEM

Government Decision 1001/1990, on establishing a Uniform payment system for water management products and services was approved in 1990, aiming to "increase the role of economic instruments in the rational management and protection of water quality and to base the water management price and tariff system on economic principles.

"With a view to stimulate the users to reduce water demand and improve water quality, this decision shall provide prices and tariffs to be applied for water management products and services and penalties for violations of the legal provisions regarding water quantity and quality uses."

Prices and tariffs were designed to cover the full costs of operation, maintenance and repairs in the National Water Management System and part of the depreciation of the hydrotechnical works in its administration, as flood control works are exempted from depreciation by law.

The implementation of the new price system was laborious, as the users had difficulty in accepting that water is a good **with a value**.

In the old system, only users that received water from reservoirs had to pay for it, a different price for each reservoir.

Impacts appeared in three areas:

- prices for abstracted water;
- tariffs for discharge of contaminants in the water streams;
- penalties for failure to comply with regulations and contracts.

GOALS

The goals in introducing a price system were largely attained, namely:

- to integrate organically water management activities with the other national social and economic activities;
- to recover operation and maintenance costs in this sector, without financing infrastructure, by transferring the financial effort to the beneficiary;
- to change user behavior about water (saving and protection);
- to provide economic and environmental conditions for all the activities involving waters.

After the uniform pricing system was introduced, the users reduced their water demand.

As economic changes occurred at the same time, it is not clear how much of the demand reduction was due to the effect of water pricing and how much to the fact that users reduced production.

EFFECT

The impact on the users was felt in the following aspects:

POSITIVE

- better proportioning of water demand, although demand is typically greater than actual abstraction;
- reduced loss within the water systems in production processes and internal re-circulation of water;
- increased interest in installing flow-meters, to avoid paying for more water than was actually abstracted;
- improved water quality in some of the very polluted areas.

Effect of reduced abstraction:

- Reduced costs for abstraction and for waste water treatment - reduced product price.
- Reduced discharge, therefore reduced impact on the receiving water. But unless treatment plants are retrofitted, this effect is small.
- Reduced circulated water volumes - reduced cost of retrofitting systems - reduced product price.
- By the internal re-circulation of water, total water costs are reduced:
 - reduced total product price; or
 - increased production for the same water price.

NEGATIVE

- since the goal was to achieve larger production and competitive products, investment went primarily into production technologies, while waste water plant and the internal water circulation systems would be upgraded when more profit was obtained;

- company expenses on water, although a small percentage of total costs (1-2%) are paid to the water management companies with great delays.

Bills are paid with priority to suppliers of electricity, gas, raw materials, etc., and only later for water.

PROBLEMS WITH THE USERS WHEN PRICES ARE RAISED OR WHEN PAYMENTS ARE INTRODUCED

- Delayed payment for water management products and services impacts the volume of maintenance and repair work conducted compared to the needs, while the value of delayed payments decreases due to inflation and river beds and river bed construction deteriorate over time.
- Resorting to loans means additional costs due to high interest rates and hence an increase in the real price of water.
- Reduced volumes of abstracted water due to the reduction of production capacities or the shut down of industrial facilities leads to an increase of water prices, as expenses in this sector are relatively constant.

- Insolvent users are sued and made to bear financial penalties, which leads to increase of product prices or reduction of profits, but even so, debt repayment is very laborious.
- In case price is established by river basin, in a river basin with a lot of users, one or two of the large beneficiaries shut down or reduce their production very much, accounts receivable decrease in proportion, revenue goes down, and so the possibility to maintain the river basin system up to its nominal operation parameters disappears.
- Local administrations are one of the customers that pose problems by delayed payments. They distribute water to an important number of small and medium enterprises, that produce for export.

The price of water needs to be brought up to its real value. This will have a negative effect on the users, especially now, in a difficult economic environment.

We appreciate that a uniform price, differing by source and users, would induce a lower impact than price differentials.

Agriculture was privileged by having low prices (the value of water is lower than in industry), that were not adjusted to inflation at the same rate as in industry.

This is a difficult issue, because if a correct price of water for irrigation is introduced, its impact would be greater than in industry.

Currently, very little water is used in agriculture, although the price of water per hectare per year equals that of one egg.

Price update to account for inflation and reduced water abstraction for the users determined revenues that do not fully cover the expenses needed in the system.

Penalties to be disbursed into the Water Fund have not been updated since 1993, so that their value is no longer a pollution control instrument. Even so, penalized users fail to pay penalties, in disregard of the law.

In case water prices are brought up to needs, so that they may cover increased operation and capital expenses, the users' ability or willingness to pay will also be lower.

In this case, bills will go up, but so will debts.

If prices are to be differentiated by river basin, in some basins the price for the user may grow 7 fold compared to the present. Under such conditions, for the same product, water costs will be greater in some river basins and much lower in others, compared to the current situation of uniform prices, which would greatly impact the respective product price.

We can not further any guess regarding the users' ability to pay, or acceptance of increased prices.

IDENTIFICATION OF EXPENSES TO PROVIDE WATER IN THE SOURCES AND FOR THE USERS

Under exclusive ARRA administration	Administered by ARRA or units of other ministries and central authorities		Administered by the users			Administered by the users or third parties	
Hydrological and water management works	Water abstractions	Treatment Transport Piping	Storage Distribution	Water use	Sewer	Treatment	Discharge
National Hydrological and Water Management System	Surface and ground water sources			Restitution			
Area of water price source formation (expenses for information systems, maintenance of water sources, operation and maintenance of hydrotechnical and water management works)	Expenses that are added to the source price of water, or, as applicable, to the price of abstracted, transported, treated or distributed water.		Internal expenses of the users.		Expenses to be added case by case, to the users' internal expenses or to be expressed as third party tariffs.		

*Average costs of bulk water nationwide and as broken down by river basin
1998*

<i>Specification/ Subsidiary</i>	<i>U.M.</i>	<i>Cluj</i>	<i>Oradea</i>	<i>Mures</i>	<i>Timisoara</i>	<i>Craiova</i>	<i>Valcea</i>	<i>Pitesti</i>	<i>Buzau</i>	<i>Bacau</i>	<i>Iasi</i>	<i>Constanta</i>	<i>Stanca</i>	<i>Total Regie</i>
<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>
<i>Total expenses</i>	<i>mill. lei</i>	27.5	14	35.6	18.2	21.15	38.78	47	39.4	32.8	28.5	16.9	3.9	32 3.73
<i>BVC expenses (year 1+2)</i>	<i>mill lei</i>	22.90	13	28.1	17.6	18.6	27.3	40.5	22.3	22	23.5	16.9	3.1	255.80
<i>Supplied volume 1998</i>	<i>mill. m³</i>	407	221	1045	245	1582	500	1102	583	601	124	1999	114	8523
<i>Average BVC cost (year 1+2)</i>	<i>lei/ m³</i>	56.27	58.82	26.89	71.84	11.76	54.6	36.75	38.25	36.6	189.52	8.45	27.19	30.02
<i>Total expenses cf. Norms</i>	<i>mill. lei</i>	51.15	33	84.09	33.7	31.5	55.06	76	82.3	72.58	53.01	25.35	7.08	604.82
<i>Normal expenses (year 1+2)</i>	<i>mill. lei</i>	42.9	28.88	70.07	32.5	25.38	37.89	68.29	61.23	50.06	47.45	25.35	5.98	495.98
<i>Nominal average cost (year 1+2)</i>	<i>lei/ m³</i>	105.4	130.68	67.05	132.65	16.04	75.78	61.97	105.03	83.29	382.66	12.68	52.46	58.18

*Evolution of contracted and actually supplied water volumes
during 1991-1994*

*Evolution of contracted and actually supplied water volumes
during 1995-1998*

*Situation of supplied water volumes
by category of use - 1998*

*Evolution of the price and tariff increase index for water management products and services
1991-1998*

Reference base 1990

Comparison between the price increase index of consumption goods and of water management products and services

Year	Cost index Consumption price	Index Water management price
1991	2.702	2.370
1992	3.104	2.010
1993	3.561	2.606
1994	2.367	2.632
1995	1.323	1.280
1996	1.388	1.460
1997	2.548	2.350
1.09.1998	1.686	1.393

Reference base 1990

Year	Cost index Consumption price	Index Water management price
1991	2.702	2.370
1992	8.388	4.757
1993	29.87	12.398
1994	70.719	32.633
1995	93.534	41.770
1996	129.825	60.984
1997	330.794	143.313
1.09.1998	557.855	199.635

TARIFFS
for water management services provided by water management units

Water Management service	U.M.	Tariff (lei/ U.M.)
1. <u>Receiving into the surface waters substances discharged within regulated limits</u>		
For suspensions and substances in solution (all the indicators in the permit)	tons	27.487
For oxygen demanding substances	tons	111.163
2. <u>Concentration of electricity potential in the Regie dams</u>		
<u>For average head provided by the dams</u>		
power stations under 4 MW installed power	m head/year	498.056
power stations between 4 MW and 8 MW	m head/year	669.478
power stations over 8 MW	m head/year	825.249
1.1. <u>For volume of water used</u>		
power stations under 4 MW installed power	10.000 m ³	1.014
power stations between 4 MW and 8 MW	10.000 m ³	1.386
power stations over 8 MW	10.000 m ³	2.240

Tariffs do not include VAT and may be applied starting on January 1, 1999.

Penalties for violation of norms regarding water abstraction from the source and discharge of waste waters

Type of violation	Magnitude of violation	UM	Level of penalties lei/ U.M.
1. Exceeding abstracted flow or volumes as legally or contract regulated	over 10%, up to 20%		twice the supply price
	over 20%, up to 50 %		three times the supply price
	over 50%		four times the supply price
2. Exceeding during restriction periods of abstracted flows or volumes provided by the legally approved plans, by the water management units	over 10%, up to 20%		twice the supply price
	over 20%, up to 50 %		three times the supply price
	over 50%, up to 75%		four times the supply price
	over 75 %		six times the supply price
3. Abstracting volumes of ground water larger than those provided by regulations	volume		five times the supply price
4. a) Abstracting water from surface or ground water sources without a permit	volume		10 times the supply price or tariff
b) Using products or services without a contract	volume		10 times the supply price or tariff
5. Using the water for a different purpose than the regulation provides	volume		three times the supply price
6. Exceeding the average daily value of permitted quality indicators	The difference between permitted amounts and amounts actually achieved.		

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Type of violation	Magnitude of violation	UM	Level of penalties lei/ U.M.
- total suspensions		kg	47.84
- chlorides, sulfates, magnesium, sodium, calcium		kg	72.20
- nitrates, organics (CCO ₂ Cr)		kg	96.40
- organics (CBO ₂)		kg	214.80
- ammonium, nitrites, cobalt		kg	479.25
- trivalent chromium, detergents, active anions, fluorine, total iron		kg	958.55
- ammonia, total phosphorus, manganese, nickel, oil products extractable in petrol ether		kg	2875.65
- hexavalent chromium, molybdenum, lead, copper, zinc, sulfide or hydrogen sulfide		kg	9588.50
- silver, arsenic, selenium		kg	19180.00
- cyanides		kg	28768.65
- free residual chlorine (Cl ₂)		kg	38360.00
- cadmium, phenols, nitrotylbenzene		kg	47948.00
7. Very toxic substances banned from discharge into the water sources			
- mercury		kg	575377.00
- persistent organo-halogenic, persistent organo-silicic, organo-phosphoric pesticides		kg	958970.00
- carcinogenic substances (benziprene and its compounds, nitroderivative dinitro-ortocresole, dinitro-btylphenole, etc.)		kg	2397425.00

Determination of contaminant substances discharged and analyzed to identify average daily values shall be conducted for all the quality indicators provided in the contract, according to the technical norms of implementation of Government Decision 1001/1990.