



# *Comitato per la vigilanza sull'uso delle risorse idriche*

*SUPERVISING COMMITTEE ON THE USE OF WATER RESOURCES*

## **The State and the Reform of Water Services**

**Memorandum for the OECD EPR mission**

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## 1. The state of water services

For water services, it is meant here all those services linked with what Law n° 36 of 5 January 1994 calls “Integrated water service” i.e. those dealing with supplying - fetching, transporting and distributing - water for domestic use, as well as those dealing with the collection and treatment of wastewater. At present these services are still very fragmented, from the point of view of both territory and management. This may explain why the statistical knowledge of this field is still so poor, as shown by the fact that the latest complete overview dates back to 1996. The 1996 data, however, even if no longer perfectly reliable on an absolute level, are still able to offer a valid picture of the structure of this sector and of the grounds and the meaning of the reform introduced by the above-mentioned Law.

### 1.1. Turnover and investments of the sector

The yearly turnover of the sector in 1996 amounts to 6,400 billion lire. Supply services account for 68% of that amount, while the remaining 32% derives from the collection and treatment of wastewater. The economic result is -500 billion lire. The deficit is essentially due to the underpricing of the collection and treatment services (Table 1). The workforce numbers 49,000 units, and its distribution reflects that of the turnover, namely 69% in supply services and 31% in collection and treatment of wastewater (Table 2).

The investments, as of 1998, equal 3,400 billion lire. They have been decreasing for more than ten years: in real terms, considering 100 as the level of investments in 1985, it is at a level of 29 in 1998. After the remarkable public investments in the 1980-1990 decade in all three sections (water system, sewage, treatment), there has been a general reduction, especially relevant for sewage and treatment (Fig. 1).

*Table 1 – Turnover, expenses and results (billions lire)*

	<i>Water system</i>	<i>Sewerage</i>	<i>Treatment</i>	<i>Total</i>
Turnover	4,323	765	1,296	6,384
Expenses	4,311	1,135	1,464	6,910
Results	12	- 370	- 168	- 526

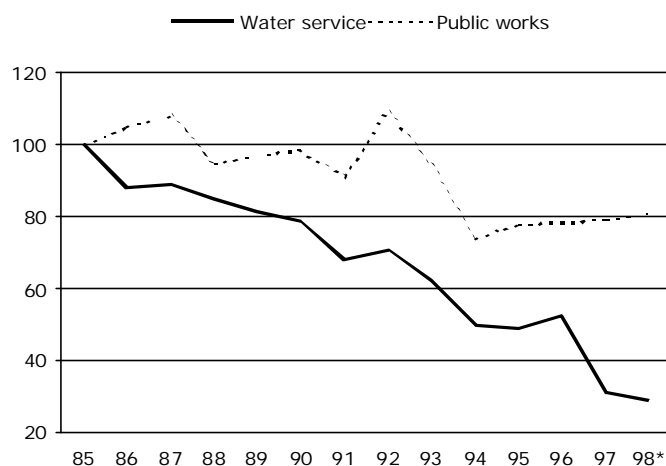
Source - Data: Municipal Governments' Accounts (Certificato del Conto Consuntivo dei Comuni 1996) and Association of Natural Gas and Water Supply Companies (Federgasacqua) 1999; data processing: Institute for Social Research (IRS - Istituto Ricerche Sociali).

*Table 2 – Workforce distribution according to type of operating structure*

	<i>Municipal direct supply</i>		<i>Public companies</i>		<i>Private companies</i>		<i>Total</i>	
	<i>n.</i>	<i>%</i>	<i>n.</i>	<i>%</i>	<i>n.</i>	<i>%</i>	<i>N*</i>	<i>%</i>
Water System	16,169	58.6	14,197	84.4	3,096	62.2	<b>33,462</b>	<b>68.6</b>
Sewerage	6,598	23.9			296	5.9		
			2,047	12.6			<b>15,337</b>	<b>31.4</b>
Treatment	4,809	17.4			1,587	31.9		
<b>Total</b>	<b>27,57</b>	<b>100.0</b>	<b>16,244</b>	<b>100.0</b>	<b>4,979</b>	<b>100.0</b>	<b>48,799</b>	<b>100.0</b>

Source - Data: Central Statistics Institute (ISTAT), Municipal Governments' Accounts (Certificato del Conto Consuntivo dei Comuni 1996); data processing: Institute for Social Research (IRS - Istituto Ricerche Sociali).

Fig. 1 – Total investments in water services (1985 = 100)



Source: data: Central Statistics Institute (ISTAT – Archivio ISTAT, Opere Pubbliche e di Pubblica Utilità, 2000); data processing Institute for Social Research (IRS - Istituto Ricerche Sociali ).

\* Provisional datum

## 1.2. Water supply system

The volume of domestic water supplied in 1996 is estimated around 6,000 m<sup>3</sup>/year, i.e. 105.3 m<sup>3</sup>/p.c./year or 288 l/p.c./day. Such an outcome appears undoubtedly positive, especially if it is correlated with the sector's turnover of 6,400 billion lire, that yields an average cost of 1,070 ITL/m<sup>3</sup>. Given the increases in the last five years, it is likely that the present average value is 1,300 ITL/m<sup>3</sup>, that is 1.3 lire per litre.

More precise but partial data are now available thanks to the “ricognizioni”, i.e. analyses on the state of plants and services made pursuant to law n° 36/94. Such data, concerning 11 million inhabitants, mainly in the central regions of Italy, show that:

- almost everywhere, the water supply network reaches more than 90% of the inhabitants, with an average around 93%;
- the water supply derives for 86% from underground waters, using surface waters only for 14% (which explains why the treatment of water for potability is mainly limited to simple chlorination);
- network leakages, including also the water supplied but not billed, amount to 33%;
- the per capita supply is 241 l/day;
- the average price is 975 ITL/m<sup>3</sup> for water, 157 ITL/m<sup>3</sup> for sewage, 394 ITL/m<sup>3</sup> for treatment, for a total of 1,526 ITL/m<sup>3</sup>.

These data, partial but more up-to-date, are worse than the national data for 1996 previously described. Nevertheless, even if we want to apply the average data arising from the “ricognizioni” to the whole country, that is, an average supply of around 240 l/p.c./day paid at 1.5 ITL/l, the image of a country enjoying abundant drinking water at a tolerable price does not change, so that even the relatively high percentage of water leakages becomes less important.

Unfortunately, the national and wide area averages are misleading for policy purposes, because they hide considerable variations between the big areas of the country and sometimes even within small areas.

A more enlightening indication, although subjective, about the heterogeneous situation derives from a sample survey by the Central Institute of Statistics (ISTAT) of the perceived service quality among users. It comes out that 14% of Italians denounce irregularities in supply. The phenomenon is inversely correlated to the dimensions of the municipalities; in addition, it worsens going from north to south: it concerns only 3.9% of families in Trentino Alto Adige, but as many as 45.2% of the families in Calabria. The situation is serious also in Sicilia (29.7%) and Molise (24.2%).

In addition, there are warnings, on specific cases but in increasing numbers, of depletion and pollution of water layers and of intrusion of saltwater; this forecasts higher costs of drawing and treating water, which in turn means future problems in areas where the service is now satisfactory.

### ***1.3. Sewage and treatment of wastewater***

However, what is already really worrying is the situation in the collection and treatment of wastewater.

In the above-mentioned survey by ISTAT, 31% of those surveyed expressed little or no satisfaction with the state of the sewage system, the highest percentages being registered in Puglia (44%) and Campania (47%). In addition to the subjective data, there are the results of the above-mentioned “ricognizioni”: notwithstanding the fact that they refer to areas where the state of the water services is likely better than the national average, it comes out that the sewage system covers around 86% of residents only, and goes down to 77% in the South. In addition, it appears that there is a remarkable diffusion of specific problems like the failure of the network to cope with heavy outpours of rain and the unreliable state of plants that have been abandoned after construction.

As far as the wastewater treatment is concerned, the “ricognizioni” show that the service covers around 60% of the residents. There are several small plants carrying out just the primary treatment; it is however reassuring that 97% of the purification capacity is offered by plants carrying out secondary treatment through biological purification of organic matter, while the tertiary treatment of wastewater for the elimination of nitrogen is still very rare. As far as the sludge is concerned, the absolutely prevailing practice is dumping in dedicated sites (80%), rather than spreading over agricultural land and incineration.

The situation, however, should change in the next few years thanks to Law n° 388/2000, art. 141, which requires the preparation and implementation of “piani stralcio”, that is, plans that are parts of a bigger, integrated plan for the whole spectrum of water services in the sense that they deal only with sewage and treatment problems, and only in those areas where there is a delay in implementing the Decreto legislativo n° 152/1999 that introduced in Italy the relevant European directives on water pollution, issued in 1991. The plans have been already gathered by the Ministry for the Environment, so that we will know, in a very short time and in details, the deficiencies in the collection and treatment of wastewater in Italy, as well as the corresponding investment needs. The partial data at our disposal, however, confirm the results of the partial “ricognizioni” about the worrying dimension of the problems.

#### **1.4. *The economic structure of the sector***

A final aspect of the water services to be considered is their economic structure. The 1996 data indicate that there are 8,100 subjects active in the sector: 60% in the North, 29% in the South and 11% in the Centre of Italy. In the north, however, there is a higher percentage of big public companies. As a whole, the direct management by the municipalities of the water services still prevails all over the country, serving 50% of the population and employing 56.5% of the workforce in the sector. The presence of private companies is still marginal, although their role is increasing, especially in the sub-sector of treatment services.

Since 1996, a concentration process has taken place, but no doubt the sector is still very fragmented.

## **2. The process of implementation of Law 36/1994**

The outline given for the state of the water services - fragmented management and high deficiencies in the collection and treatment of wastewater, and even present and future problems in water supply in some areas of the country – explains the rationale of the radical reform introduced by Law 36/1994. Based on the necessity to industrialise the sector and, at the same time, on the impossibility of avoiding a natural monopoly, the law imposes at least the exploitation of all possible economies of scale and scope, aiming at reaching a competition for the market as a surrogate of the impossible competition in the market.

### **2.1. *Principles and implementation of the reform***

More precisely, the law establishes:

- the territorial integration, through the definition of Optimal Territorial Basins (ATO –Ambiti Territoriali Ottimali), i.e. users' basins of relevant size;
- the functional integration of the various activities of the water cycle within each basin;
- the sharp distinction between the planning and control function and the management functions;
- the creation of a central supervising body, independent from public administration ( Comitato per la vigilanza sull'uso delle risorse idriche- Supervising committee on the use of water resources);
- the creation by municipalities and provinces concerned of a governing body for each Territorial Basin. Such body, commonly called the Ambito, like its territorial basis, must then carry out the "ricognizione" of plants and services, prepare a plan of investments and improvements of the services, contract out to a company the management of the integrated water service, and supervise the behaviour of the management company with respect to the implementation of the plan and definition of tariffs.

At which stage is the implementation of the law, more than seven years after its passing?

Out of the 89 basins in which the national territory has been divided by regional laws, only 48 have an official governing body already constituted. They include 49% of the Italian population and 44% of the 8,102 municipalities of Italy. The situation is very uneven throughout the country: the percentage of ATOs constituted as against those planned is 100 in the Centre, 66 in the South and only 30 in the North. In 8 regions (Valle d'Aosta, Lombardia, Friuli Venezia Giulia, Liguria, Molise, Puglia, Sicilia, Sardegna), no ATO is fully constituted. The average population of the planned ATOs is around 692,000 inhabitants, with a maximum of more than 4 million in Puglia, where the ATO coincides with the geographical region. As far as the number of associated

municipalities is concerned, there is an extreme variability going from a maximum of 377 municipalities in the ATO Sardegna, to a minimum of one municipality for the ATO Milano.

## **2.2. *Activity of the ATOs.***

Out of 89 ATOs planned, 41 have not started the “Ricognizione” yet, 23 are carrying it out and 25 have completed it. Again, Central Italy is the leader, followed at a distance by the South, while in the North the process is still at the beginning.

At the planning level, 12 plans have already been completed and they will be commented here later; 6 in Toscana, 4 in Lazio, 1 in Veneto and 1 in Campania. Seven of these plans have been approved by the respective ATO authorities.

The ATO must then choose how to manage the integrated water service. Only in 16 cases the choice has been made; everywhere in favour of direct concession to a local stock company, i.e. a company where the majority of shares are owned by local public governments (“S.p.A. a prevalente capitale pubblico locale”), with the sole exception of ATO 4 Lazio (Frosinone), that has chosen to contract out through a tender.

Only two ATOs, ATO Valdarno in Toscana and ATO Valle del Chiampo in Veneto, have completed the process. In both cases the management has been directly entrusted to a local stock company.

## **2.3. *Investments and tariffs in the first ATOs’ plans***

The analyses of the first ATOs’ plans completed, which concern four regions, offer an overview of problems and tendencies of the integrated water service in Italy. All plans have been developed on a long-term basis, on average 23 years.

As far as water supply is concerned, the investments planned, aimed at improving the existing networks, finding new sources of supply and building new plants, amount to 30,037 ITL/p.c. yearly.

For sewage and treatment, the plans show a prevailing effort in the first 5-6 years, sometimes sacrificing other investments, and are concentrated for 70% on the sewage network. In both areas investments are aimed mainly at building new plants and infrastructures.

For the whole integrated water service the investments planned amount to 78,072 ITL/p.c. yearly.

An extrapolation at the national level of these results shows a need of investments of about 4,200 billion lire per year for the next 23 years. The cumulated figure is 96,600 billion lire, thus confirming the 100,000 billion forecast that has been circulating for some time now, as a rough estimate of the investments needed to modernise the water services in Italy.

As for tariffs, all plans forecast their increase, with the highest point between the 10° and 15° year, with a subsequent decrease towards the end of the investment term. Average values amount, in ITL/m<sup>3</sup>, to 2,256 in the 5° year, 2,676 in the 10° year and 2,981 in the 15° year.

These values deserve attention, because for many families they mean a monthly charge between 50,000 and 100,000 ITL, in any case much higher than the present figures. The reaction of consumers could be strengthened when they realise that, in this sector, privatisation means higher costs instead of savings, as in the other public services. It is therefore important to make people understand two important truths. The first one is that the higher cost will be justified by a better service, especially from the point of view of environmental protection. The second one is that,

within the new Integrated Water Service, the tariff will reflect the full cost of the service, and will no longer enjoy the hidden aids which are widespread in the present management by municipalities; and that, therefore, the higher water charge will find a partial compensation in savings in terms of municipal costs, which allow shall the citizens to get less local taxes or an increased supply of other public services.

#### **2.4. *Final remarks***

How to evaluate the implementation process of this reform? We repeat the sequence of figures: 89 ATOs planned, 48 constituted, 25 “ricognizioni” carried out, 12 plans prepared, 7 plans approved, 2 tenders under way and 2 concessions granted. It looks as if a perverse geometric progression at a rate of 0.5 has been in action, with the consequence that half of the subjects were lost at every subsequent step.

Therefore, given where we are now, after seven years from the passing of the law, it seems legitimate to speak of failure of the reform, especially since the law established a time span of 12 months for its full implementation. However, the evaluation changes if we consider the dynamics of the events that have taken place in these seven years. Indeed, in the last two years there has been a reassuring acceleration of the process. In addition, our contacts with the regional authorities evidenced many subjective elements which confirm that the willingness to implement the reform is widespread, even if not unanimous.

Finally, the new government has explicitly taken a stand in favour of the reform and has promised to accelerate it by studying and introducing soon some relevant procedural simplifications.

### **3. The implementation of the reform with respect to some new laws**

A hint, now, at some new laws that can influence, positively or negatively, the implementation of the reform process.

#### **3.1. *The “piani stralcio” under art. 141, par. 4 of Law 388/2000***

It has already been mentioned that these “piani stralcio” are dictated by the necessity and urgency of complying with the Community rules of 1991 concerning wastewater quality. As an emergency provision, they can accelerate the implementation of the reform, but they can also generate detours which will make it more difficult to establish a fully integrated water service managed by a single entity, as foreseen in Law 36/1994. It is therefore important to supervise the approval and execution of the “piani stralcio”, in order to minimise the possible negative impact and get the best possible results.

#### **3.2. *Funding of works in the water supply sector, under art. 109 and art. 144 of Law 388/2000***

Law 388/2000 allocated considerable amounts to fund investment programs, dealing with the optimisation of the use of basins and networks for domestic water supply. The investments must be included in the plans drawn by the ATOs. This public aid shall allow to accelerate the building

works and/or to reduce water tariffs. Funds have been allocated also for the promotion of water saving and recycling. The rapid and efficient use of these funds will surely help the implementation of the reform in a significant way.

### **3.3. *Project financing***

Also the implementation of Law 109/1994 concerning public works in general, is having an impact on the water service reform. The present effort to increase the use of project financing in Italy looks promising, also in the water sector. At the same time, some concern must be expressed for several particular initiatives taken by municipalities and other institutions, which aim, by using the project financing, at building new infrastructures for the water service without following the procedures set out by Law 36/94: such initiatives may indeed postpone or even hinder implementation of the reform.

### **3.4. *Incentives under the European Union QCS.***

The QCS - “*Quadro Comunitario di Sostegno per le Regioni Italiane dell’obiettivo 1 2000-2006*” – approved by the European Commission on August 1, 2000, may be an important incentive to speed up the water service reform. Indeed, the specific program concerning the water cycle is divided in two phases and foresees that:

- a) in the first phase (2000-2002) funds shall be allocated only after adoption of Law 36/1994 and the designation of the ATOs;
- b) in the second phase, funding shall be granted to the plans that are under implementation by the manager of the integrated water system appointed by the relevant ATO or that have at least been approved by the ATO.

### **3.5. *The provisional tariff***

Waiting for the complete application of Law 36/1994, regulation of water tariffs is carried out by an interministerial committee (CIPE). In the past there have been some discrepancies between CIPE’s decisions and the criteria of the reform. It would be desirable, therefore, for the transitory discipline to harmonise fully with Law 36/1994.