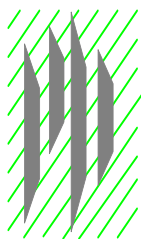


**Impact of decentralization on public service provision  
(Case of water sector)**

**Prepared by  
József Hegedüs and Mária Papp**



Metropolitan Research Institute  
Budapest  
2007

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This study will give an overview of the consequences of the decentralization process in the water sector. The process of decentralization has been constrained by the technological infrastructure system in the water sector, especially by the following factors: 1. Water service belongs to the category of natural monopoly, where competition is limited. 2. The technological network of water production and distribution (location of wells, water reserves and network of pipelines) makes it, in some cases, impossible to allocate the property physically among the municipalities; 3. Water resources are interrelated, thus local consumption and sewage treatment have important external effects.

In the study, decentralization is perceived as a process which does not always move into one direction. It is better to speak about the *reorganizing responsibilities among the different levels of government*. This reorganization process, which started from an extremely centralized system built in the centrally planned economy, was influenced by different interest groups (line ministries, municipal governments, water service companies and different professional associations, etc.) and thus it is a conflicting process, which leads to a new water sector through compromises.

One consequence of decentralization was the adjustment process at local level. Therefore the organizational structure of service delivery, the water quality, fee structure, etc. vary in the different municipalities. It is an important question how efficient the individual municipalities were, and a further issue is how efficient the system was overall. Moreover, it is also important to discuss how decentralization and marketization of the water sector has influenced the equity issue through the new institutional structure of the water services (access to the service, affordability, and the quality of the services for different households group.) The study tries to evaluate all these issues using the background research available, but the data and information available do not allow us to have our hypotheses to be proved.

The study has the following structure: The first, introductory part of the study describes the new political and administrative framework emerging after 1990. The second part of the study deals with the new structure of the service provider, the process of privatization and commercialization. The third part focuses on the issue of price setting, while the fourth part deals with the water sector subsidies. In the last part we summarize the main conclusion and show some new direction for research.

## **1. Background: water sector in transition**

### **1.1. Public sector reforms in 1990**

Hungary was among the countries which in years of 1990/1991 started radical decentralization and privatization.

The 1990 Act on Local Government established a new, decentralized system of local governments with strong basic rights and responsibilities in social and public services. There are 3175 municipal governments<sup>1</sup> and 19 county governments, which are independent elected tiers of government. The capital city of Hungary, Budapest has a

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<sup>1</sup> 20<sup>th</sup> of December 2006.

special status: it consists of 23 district municipalities and a city wide Municipal Government without a hierarchy between them. (Balás-Hegedüs, 2004) Apart from Budapest, Hungary has 23 cities with county rights (18 seats of the counties and 5 other cities), which are legally considered to be separate entities, not parts of the county. The “main victim” of the political decentralization was the county level, which used to be the omnipotent power centre of the communist party. However, the price the country paid for the political democratization was the lack of an efficient middle (regional) level of government. The public sector reforms after 1990 tried to correct this shortcoming introducing small regions (NUTS 4 level) and regions (NUTS 2 level), but without political support these levels could not become an independent tier of government.

Hungarian local governments have a wide range of responsibility including both social and communal services, which account for 13-14% of the GDP. The main task of the local governments in the area of social services are education, health care and social protection, in communal services water, sewage, garbage collection, district heating, local road and local public transportation. Decentralization has taken place at varying pace in different sectors due to special sector characteristics, organizational interests of different institutions and macro-economic factors. Hospitals, for example, had more power (social capital) to resist the financial control of the local government than schools, which partly explains the slow restructuring in the health care sector.

Generally, decentralization in Hungary was considered to be successful, though the process was not only burdened with conflicts, but was, from time to time, halted by political and institutional interests in centralization. The key elements of decentralization in Hungary were the (1) democratic elections held every four years (accountability); (2) substantial expenditure and (less) revenue responsibility given to local governments (autonomy) and (3) hard budget constraints (fiscal discipline). These factors determined the framework of the structural adjustment in the local government relations, but the adjustment was burdened by social, economic and political conflicts.

### **1.2. Decentralization and privatization in the water sector**

The law on Local Government in 1990 defined water and sewage as responsibilities of the local government. The process of the extreme decentralization has affected the **water sector** as well. The ministries have no direct control over the local governments, the power of the central government and the parliament is exercised through different laws. The assets of the water companies (*except four regional water works*) were transferred to municipal ownership with the right to split the companies, if it was technically possible. As the once state owned 33 regional water companies (which fitted more or less to the county structure) were split up and the core utility assets were transferred to the local municipalities, the number of water companies increased to almost 400. In the second half of the 1990s 7 water companies have been privatized. The regional water works (controlled by the ministry) serve 25% of the population, the municipally owned companies 52%, and the privatized companies 23%<sup>2</sup>. The responsibility for service provision and the price setting authority were also allocated to the individual

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<sup>2</sup> Of which the Budapest Water Company counts for 17%.

municipalities. As a part of the abolishment of the big general subsidy systems, the water prices became very different depending on the production cost of the utility company. The supply side subsidy to water tariffs was replaced by a targeted subsidy given only to those water companies where the production costs exceeded the average level. This transformation of the subsidy system generated a high increase in water tariffs, higher than the inflation, similarly to other utility tariffs.

### **1.3. State of the water sector: challenges in the 1990s**

The Hungarian water sector has been facing serious challenges from the beginning of the 1990s. On the one hand, the centralized water sector needed to be restructured (due to excess capacities, low price and high price subsidy, low efficiency, etc.), and, on the other hand, because of the low level of services – especially the water quality and the lack of sewage systems – huge investments were needed.

Decentralization, in theory, helps the adjustment process because local governments, being politically interested in better and cheaper services, force the water sector companies to change their market behavior (cost pricing, fee collection, new service contracts, restructuring management, etc.) However, the self-interest of the fragmented local governments – one possible outcome of decentralization – could lead to a technically sub-optimal company structure, especially if the process lacks the supervision of the regulatory authorities.

The Hungarian water sector has suffered from decades of under-investment in the reconstruction of water pipes and the low level of the sewage system. Though the quality of water in Hungary is sufficiently good to meet about 90% of the demand for drinking water without having to apply any substantial treatment, some major investment is required nevertheless to meet the requirements of the EU Drinking Water Directive<sup>3</sup>.

There is a serious gap between the water and sewerage supply in Hungary despite the significant investments made into new network developments during the nineties. By the year 2001, almost all the settlements (99.9%) had been provided by public water, while at the end of the nineties this rate had only been 80%. The percentage of households connected to public water provision is high as well: 93% of the households had water in their house in 2001. In contrast, the ratio of settlements and households that are connected to the public sewerage network is much lower: 32% and 53% respectively. It presents a further problem that many households do not want to connect to the existing sewerage network because of the high level of sewage fees.

Prior to and after the EU accession, huge investment needs caused a problem for most of the local governments. The investment needs in 1990s and in 2000s exceeded the financial possibilities of the local governments, thus the central government programs had a decisive role in the development of the sector.

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<sup>3</sup> Hungary has to meet the requirements of the Urban Waste Water Treatment Directive by 31 December 2015; however, all aspects relating to the treatment of industrial wastewater must be complied with by 31 December 2008. The Drinking Water Directive is being implemented now, but the period allowed for compliance with parametric values for Arsenic has been extended to 25 December 2009.

The length of the water supply pipelines has grown in the last 20 years from 44 thousand km to 63 thousand km, and the number of connected households has increased from 2.9 (80% of the apartments) million to 3.9 million (93% of the apartments). However, the consumption decreased from 900 million m<sup>3</sup>/year to 530 million m<sup>3</sup>/year, which is a 40% decrease – mainly because of the decline of industrial and agricultural production. The size of water sources and the capacity of the waterworks are actually sufficient; only 43% of the capacity of the drinking water production is realized yearly. The sewage system developed more: the length of the pipes has increased from 12 thousand km to 32 thousand km, the number of connected apartments from 1.5 million to 2.1 million; that is an increase from 40% to 55%. By 2005, 68% of the collected sewage had been treated; the rest of it had been discharged untreated. 50% of the settlements have a sewage network. 70% of housing units are located in an area with a sewage network.

**Table 1 Statistical Data of water and sewerage supply**

	<b>1985</b>	<b>2005</b>
Length of water pipe	44.000 km	62.000 km
Drinking water supply	900 million m <sup>3</sup>	530 million m <sup>3</sup>
Apartments served	2.9 million	3.9 million
Proportion of apartments with water supply	80%	92.6%
Length of sewage system	12.000 km	32.000 km
Collected waste water	501 million m <sup>3</sup>	510 million m <sup>3</sup>
Proportion of apartments with sewerage	30%	61%
Gross value of assets	163 billion HUF	594 billion HUF
Number of water and sewerage companies	33	350
Work force in water and sewage sector	45 thousand workers	23 thousand workers
Net revenue of the water sector	8 billion HUF	62 billion HUF
Net revenue of the sewage sector	3,3 billion HUF	42 billion HUF

Source: Hungarian Central Statistical Office

The water sector went through a dramatic change in the 90's, when the water production decreased by 40%, the workforce by 50%, and the water pipe network increased 40% -- these changes took place without deep social conflicts.

## **2. The effect of decentralization on efficiency**

### **2.1. *Legacy: main characteristics of the water sector before the transition***

Before the change of the political system (1989-1990), 33 state-owned regional companies operated with one centrally defined water and sewage fee in the whole country. The water and sewerage sector was heavily subsidized in two forms. During the socialist regime the housing expenditures (water, sewage fees, heating expenditures such

as gas and district heating, electricity and the rent in the public rental sector) were generally heavily subsidized through the general below cost prices. This was the same in the water sector, where households paid much less than the accounted cost of the services; the difference between the low prices and the actual cost was transferred to the water companies by the central budget. The degree of the subsidy was quite high in the eighties; the households had to pay approximately 40% less than the cost prices for the water and sewerage provision, which resulted in low fees for households. On the other hand, the fee adjustment system of the Water Fund equalized the water and sewerage fee for all companies. Companies that were not able to cover their expenses from the fees collected and received state subsidies, while those companies that operated with low expenses paid extra money to the Water Fund. Until the beginning of the eighties, almost all the water companies had been profitable providing these two subsidies.

Through the eighties the companies had to face financial difficulties more and more because of the depressed fees and decreasing subsidies in relative terms. By the nineties the sector ended up in a very difficult financial situation, the revenues from the collected fees did not even cover the cost of operation, while significant investments were needed both in the water and the sewerage sectors.

## **2.2. *Legal framework: shared tasks***

The water policy of the country is determined by the Law 1995. LVII. on the Water Management, which was based on the principles of the decentralized and integrated water management system. The professional supervision of the water sector in Hungary is performed by the Ministry of Environment and Water. The Ministry is responsible for the national water management policy concerning the usage of the water sources, water damage protection, the supervision of the state de-concentrated administrative organizations and the protection of water sources. After several reorganizations, in 2005 the Ministry set up 12 (reduced to 10 in 2006) Regional Water and Environment Authorities with the task of professional supervision (issuing water permissions, enforcement of the regulations, controlling water quality, etc.) , and, in addition, 12 Regional Water and Environment Agencies were set up with the task to manage and implement state programs.

The expenditure assignment among the different levels of government in the water sector has been modified several times after 1990. The textbooks on decentralization argue that the recipe for an efficient decentralization is a clear legal framework. It is, however, only part of the truth, as the implementation and the enforcement of the legal rules representing water policy depend on several other factors, such as the political and financial incentives of the organizations involved in the sector (such as credit institutions, both national and international, construction companies, financial consultancy companies). The Law on Local Governments (1990) declared that water service provision is a compulsory task of the local governments. However, because of institutional and organization interests, the central government did not pass over the management and ownership of the regional water works ("path dependency"). As a consequence, 25% of the water sector is under the control of the central government and its water companies (price setting, etc.). Legally, local governments are responsible for investments in the water sector as well, though it was the central government that

negotiated with the EU about the required environmental standards in terms of water quality and sewage water collection and treatment. Therefore, the water sector investment policy has been deeply influenced by the central government grant policy. A good illustration of the central government involvement was the separate negotiation with the county cities on the specific condition to have access to World Bank resources in the middle of the nineties. Another example of the multi-level government cooperation was the use of the Pre-Accession Fund in water sector investments.

The allocation of the water sector responsibilities has been modified in 2000, when sewage water collection and treatment became a compulsory task of the local governments as a part of the negotiation with the EU.

Water price setting is the task of the municipalities provided by the Law on Prices, which does not provide detailed enough regulations and therefore causes several conflicts discussed later in this study (see Part 3).

The conflicts between the central and local governments revolve around two issues: 1. who will control the water sector assets (water base, infrastructure, pipes, etc.) and 2. how will the financial burden of the service improvement be allocated between the central and local government (and the EU)? These are open questions even today.

The basic restructuring of the company of the service providers took place in 1990, though the future of the state owned regional water companies has not been settled yet. The municipalities serviced by the regional companies (either directly or mediating by their companies which buy the water from the regional water work) are complaining that the regional state owned companies set a price too high for them. They tried to have direct access to water resources, but only one of them (Kaposvár) was successful in splitting from the regional water work. Typically it requires a huge investment to create new water assets. The municipalities lobbied (as yet unsuccessfully) to acquire the ownership of the regional works, but the central government, because of fiscal interest, prefers privatizing these companies.

The water quality control raises the question of the optimal expenditure assignment between the central and local government. Water quality improvement programs following the EU directives put a huge burden on the shoulder of local governments, not only because of the high investment cost, but because of the high operational expenditure, which will inevitably induce a considerable water price increase. Several experts and politicians questioned the rationality of the high water quality requirement determined by the EU, and argue that these are unfunded-mandate regulations imposed by the central government, which will put an unnecessary political and economic burden on local governments. The literature on environmental federalism argues that environmental requirements should take into consideration local factors. For example, according to experts, the arsenic content of the water is less of a problem in Hungary where sea food represents only a small fraction in the nutrition. Imposing the same standards, Hungary has to take an unjustified surplus burden, which is only the interest of the companies producing and implementing water protection equipment. Even in one region, the costs of the environment improvement are unevenly allocated in a decentralized system because of the economy of scale, and neglecting local factors leads to an increase in regional inequalities (ratio of the cost to the regional GDP). (See Kerekes 2001)



The first stage of the drinking water protection program (diagnostic of the vulnerable water resources) has been finished. The next stage is more complicated, because of the lack of proper regulation over the land around the water resources (base). In several cases the land has been privatized and the land use has not been controlled. To get back more control over the land use, for example, through the expropriation of the land around the water base, requires a lot of financial resources. Thus the program raises serious financial questions: who will pay for the cost?

### **2.3.      *Transfer of water assets to municipalities***

According to the Law on Local Government, the ownership of the public utility companies had to be transferred to the new municipal governments. (The Law 33 of 1991 “On the Transfer of State Owned Assets to the Municipalities”.) Regarding the transfer of assets, two major groups can be distinguished. One group of assets is the **public utilities as such**, consisting of the equipment and networks for the water and the waste water supply of a given settlement (pipes, wells and pumps), the other major group is called **operating assets**, which includes the assets of the servicing company such as office buildings, laboratories, vehicles etc. The principle of the law on assets was that the public utilities were transferred to the ownership of those municipalities where the public service was provided. The operating part of the assets was distributed among the concerned municipalities based on the share of the used water or the number of inhabitants. As a result of the property transfer law, 80% of the public utility assets were transferred to the ownership of the municipalities.

The process of the transfer of assets to the municipalities was not simple, because the legal regulations and the actual implementation were not consistent, and the assessment of the assets proved to be a complicated and enormous task. The transfer of the assets was delayed for several years. As a consequence, the process of setting up new organisational forms slowed down and the new servicing bodies did not always get established according to professional requirements. In general, the transformation of the water companies was implemented in two steps. Many service providers were first transformed into municipal enterprises or integrated into the local administrative system and only later into a business company form.

One of the consequences of the inconsistent legal regulations was that some of the water companies that were turned into stockholder companies right after the asset transfer to municipalities are now the owners not only of the operating assets but of the utilities as well (e.g. it is the case in Budapest and in Kecskemét – another major city). A long debate emerged concerning the problem whether the utilities themselves can be owned by other entities than the municipalities or the state. It was only after the Supreme Court’s decision that it became unambiguous that water and sewerage utilities are limitedly negotiable assets. However, the share holder companies were already registered and this status could not be changed. Therefore there are two types of assets ownership:

- (1) The municipal public utilities are transferred to an individual business company. The municipality is either the owner of the company or controls it as its

price-maker body. Nevertheless, the everyday operation of the company is in the hands of the management. (These are the exceptions).<sup>4</sup>

(2) The operating assets are transferred to an individual company, but the municipality remains the owner of the public utility assets. In this case the companies lease the utilities and the related equipment from the municipalities and pay a leasing fee to the municipalities.<sup>5</sup>

Although the former regulation and the market economy environment push water companies to operate more as business units, there are several impediments that restrain the companies to rationalize their operation. The main impediments are connected to the problems of price formation, to the amortization, and to the need for technological development.

A new organizational system had to be established by the municipalities. According to the legislation, the water and sewerage works had to be transformed into business company forms by the end of 1996. Beyond this requirement, the decision on the exact form of the operating company belonged to the municipalities' competence. Also it is the municipalities who can decide on privatization. However, the legislation sets two main constraints. Firstly, the municipalities must retain the utilities in their ownership, secondly, public service companies must have municipal majority in their ownership structure. (Actually, in the case of the Budapest Water Company the assets were sold as well, which is legally a questionable case.)

After the change of the political system, the number of waterworks increased by more than tenfold. The motivation of the individual municipalities to split from the big water companies was quite simple and understandable: they wanted more control over the services – over the prices, investments and personnel. If it was technically possible, municipalities that expected lower prices were eager to split from the other, "higher cost" part of the companies.

Nearly **400 companies** were founded in place of the 33 companies to provide water and sewage services. There are still five state owned companies that operate some regional water network systems and those local networks that cannot be technically separated from the regional networks. The regional state companies supply those local networks with water which do not have their own wells. The companies operating local networks are owned by the municipalities. The size of the water companies (that in most of the cases operate the sewerage system as well) differs a lot. Out of the nearly 400 companies, 90 companies cover more than 90% of the service. The proportion of those water companies that provide services only to one settlement is quite high, while other companies supply several ones. It is not determined by any technical, technological, economical concerns how many and how big settlements should be provided by one water company. Many small settlements operate their own water companies, although there are other water companies that supply several settlements and there are water

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<sup>4</sup> However, the situation of these companies is very ambiguous. The new investments cannot be presented in the book of the companies but only in those of the municipalities'. As a consequence, the book value of these companies decreases by the rate of amortization.

<sup>5</sup> Papp, Mária. 1999.b.

companies that provide water for more than one hundred settlements. The largest cities usually have their own company, which may provide supply for the agglomeration area as well.

**Table 2 The number of settlements provided by water companies, 1997**

Number of settlements provided by one water works	Drinking water supply	Sewerage supply	Water and sewerage supply
	Number of service providers		
1	149	116	167
2-10	120	60	128
11-50	39	14	39
More than 50	16	--	16
	324	190	350

Source: Somlyódy – Búzás – Clement – Licskó. 2002.

This degree of fragmentation of service providers causes serious problems regarding not only the efficient and economical, but the professional and safe operation as well. Small municipalities have generally no financial capacities either to employ professional experts or to invest into new technologies, know-how etc. A further problem is that the establishment of water companies is not specified by the regulation, new operating companies can be established by registration by the Court, but no professional license is needed for registration. The current regulations do not encourage the integration of the sector, even if the merger of small companies into larger service providers would increase efficiency and raise the technical level of the service in the long term.<sup>6</sup>

Concerning the organizational form of the companies, the municipalities have the right to choose in what form they want to operate the water and sewerage utilities. According to the original regulation, the service providers had to be transformed into a business company by the end of 1996. Later this requirement was cancelled, but other economic conditions pushed municipalities to establish business companies for water provision. By now the bigger companies operate as either a stockholder company or a limited liability company, but there are still smaller ones that operate as municipal enterprises or in the municipal administrative framework. Furthermore, some of them work in a non-profit company form. In the table below the organizational form of waterworks belonging to the National Professional Association of Water and Sewerage Companies is shown.

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<sup>6</sup> Source: Somlyódy – Búzás – Clement – Licskó. 2002.

**Table 3 Organizational form of water companies belonging to the Professional Association, 2007**

	Number
Stockholder companies	29
Limited liability companies	64
Water Association	1
Municipal administrative institutions	4
Non-profit company	4
Total	102

Source: Hungarian Water Association

According to the law, the water infrastructure assets have to remain in state or local government's ownership, however, in the process of the transition 30-35% of the assets moved to the book of the water companies<sup>7</sup>, which is an unsolved legal problem in the system. (For example, the water assets in Budapest were privatized as well.)

#### **2.4. Privatization and marketization**

Privatization has concerned only eight companies so far, but, as the companies operate mainly in larger cities, this new form of water and sewerage supply concerned about one-fourth of the Hungarian population. The privatization took place between 1994 and 2001.<sup>8</sup>

As the legislation specifies, the utility networks and their related equipment have to remain fully in public ownership and only the management can be privatized. After 1990 nine utility companies have been privatized, of which seven provide water and sewerage services and the other two provide exclusively water and sewerage services separately (these two latter ones are the Budapest water and sewerage companies). The privatization happened mainly in large cities (in some cases together with agglomeration settlements), but the proportion of the affected population is substantial. The companies were privatized to foreign investors with one exception, and all privatizations were carried out in the form of concession contracts. The municipalities established joint stock companies with the foreign investors, where the latter typically possess the minority of the shares while usually having effective control on the management board. The responsibility for investments has remained a municipal competence and the utility fees are still defined by the municipalities. Interestingly enough, in two cases the municipality bought back the privatized shares. (For example, Hódmezővásárhely was one of them.)

In **Budapest**, where two different stockholder companies owned and operated the water and sewerage utilities, the privatization of the water and sewage companies took place in the spring (waterworks) and autumn (sewerage) of 1997. After open international tenders, French and German investors (SIdE-RWE consortium for

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<sup>7</sup> Source: Hungarian Water Association

<sup>8</sup> Information on the privatized companies was gained from the studies Papp, Mária 1999.a., Hall, David. 1997., Hall, David – Lobina, Emanuele. 1999. Hall, David – Lobina, Emanuele – de la Motte, Robin. 2003

the waterworks and Vivendi – Berliner Wasser Betriebe consortium for sewerage) won 25% +1 shares of the total asset (58.6 billion HUF in the case of water and 74 billion HUF in the case of sewerage assets). The other 75% of shares of both companies remained in the ownership of the Municipality of Budapest. The foreign companies also won a 25-year long concession for the company management. The water and sewerage companies serve 1.9 million people.

The privatization of the **Kaposvár** Waterworks Kft. took place in 1994. After the tender, a concession contract was signed by the Kaposvár Municipality and the following owners: SldE (French) with 36.01% of shares, five Hungarian part owners with 64.99% of the shares. The operation assets were given to the company. The company provides water supply for 71,000 people and sewerage for 50,000 people.

In **Pécs** and 10 surrounding smaller settlements the privatization occurred in 1995. After the tender, the operation assets were owned according to the following: Pécs Municipality possessed 50.05%, SldE 48.05% and the 10 smaller settlements owned altogether 1.9%. The company provides water supply for 172,000 people and sewage for 137,000 people.

In the town of **Szeged**, the city's water and sewerage network is owned by the municipality, which set up a company, Szegedi Vízmű Ltd, to operate the network and to provide services. This company was privatized in 1994; 49% of its shares were acquired by the French company Vivendi, previously Compagnie Générale des Eaux. The majority ownership with 51% of shares was retained by the municipality. The concession contract was valid for 15 years. Later, after a long debate between the municipality and Vivendi, the Szeged Vízmű Ltd was turned into a stockholder company and the concession contract was renegotiated.

The company operating the water and sewerage system of **Hódmezővásárhely** and two other towns was privatized in the autumn of 1997. Regarding the ownership, the municipalities have 51.3%, Vagyongkezelő Rt. (Municipal Asset Management company) 1.7% and the Berliner Wasser Betriebe is the owner of 47% of the shares. The municipality bought the shares of the foreign owners in 2006.

The **Borsodvíz** Stockholder company was privatized in 2001. Gelsenwasser gained a 20-year concession contract to operate the water and sewerage system of the region with 109 settlements. A joint venture company was established by Gelsenwasser and the municipal water company, having 49-51% ownership respectively. They supply water for 146,000 people and sewage for 71,000 inhabitants.

The Municipality of **Szolnok** city and the 10 agglomeration settlements attached to it, launched a concession tender for a more effective and efficient operation. The concession application was obtained by a shareholding company established by one Hungarian private person and a concession contract of 35 years was signed.

In 2001 Association for Sewage of Dunavarsány's Region (*Dunavarsány* and other 5 local governments) signed a concession contract for a period of 2002-2029 with the DTV Zrt, which was created in order to operate the sewage network built in 2000 and 2001. The sewage system was developed and built by the Resonator Kft. (Ltd.), who became a partner in operating the system. The owners of the DTV Zrt are EVN Wasser GmbH an Austrian company (51%), Association for Sewage of Dunavarsány's Region (26 %) and Resonator Kft (23%). The DTV provides water services in 4 settlements as well. DTV Rt. (DTV Ltd.) has provided drinking water since 1st January, 2002, and has performed the disposal and cleaning of sewage in the area of Dunavarsány.

As it can be seen from the short descriptions, seven public utilities in the water and sewerage sector were privatized by foreign professional investors and one waterworks by a Hungarian investor. All privatizations were carried out through concession contracts. With the exception of Budapest (in the cases of both the water and sewerage company) the utilities remained in municipal ownership and the operation of the utilities was given into concession. Regarding the ownership structure, there are different solutions. In Kaposvár, the foreign investor owns only 35% of the shares and no shares are owned by the municipality. In Budapest only 25%+1 shares are owned by the foreign investors. The responsibility for investments remained a municipal competency. Similarly to the waterworks, the privatized companies pay a leasing fee to the municipalities for the usage of the utilities. From this leasing fee the municipalities finance emerging investments (reconstruction and new development).

The price formula is specified in the concession contract. The price formula usually contains the factors of operation costs, inflation, HUF and ECU /Euro exchange rates and a management fee. The level of employment is usually also stipulated in the concession contracts. In most privatized water companies in Central and Eastern Europe, there has been a reduction in employment levels. The Hungarian cases are exceptions. In most of the cases the employment has almost remained unchanged. In most of the privatized companies, the multinational partner has effective control of the management board. In some cases, this control is specified in the concession contract, despite the fact that the municipalities own the majority of the shares. In Pécs, for example, the contract specifies that Lyonnaise des Eaux has exclusive, 100% control of the management of the company, although it has only 49% of the shares. In Budapest, the contract states that the Lyonnaise des Eaux / RWE joint venture is responsible for the operation of the company, and it has a permanent majority – 4 out of 7 seats – on the management board, despite the fact that it has only 25% of the shares.

One of the exceptions in Hungary is Kaposvár, where Lyonnaise des Eaux owns 35% of the water company, with the rest of the shares being owned by local private investors. Lyonnaise does not control the management of the company; its senior executive in Hungary describes it as a “minority investor without decisive influence”, and says that the company would be more profitable, if Lyonnaise gained control. In Szeged, the new contract, which was concluded in 2001 between Vivendi and the municipality, changed the original proportion in favor of the municipality. It has now majority in the management board.

In some of the cases (e.g. Budapest and Szeged) there were serious disputes between the municipalities and the foreign companies. The municipalities regarded some of the elements of the contracts as unfavorable for them and for the consumers. Mainly the level of the management fees was questioned, especially because of the public indignation about such large profits while people experienced significant price increases. Municipalities were able to achieve some modifications to the management fees during long and difficult disputes. The reason why the foreign investors made some compromise despite their valid contracts was connected to their reputation; they wanted to keep and expand their position in the market.

Dunavarsány illustrates the typical conflicts between the local governments and the investors/operator. According to the concession contract the water price was set according to a business plan, which predicted the future price on the basis of the future water and sewage consumption indicated by the individual local governments. The prices were supposed to increase with the general inflation. Local governments might set the price lower than the cost price, but they have to compensate the company accordingly. Local governments after changes in the elected council, refused to increase the water and sewage price, and refused to compensate the loss of the DTV Zrt company because of the lower price. Therefore DTV Zrt sued the local governments, and the trial ended with a renegotiated concession contract. As a consequence of the conflicts, water prices were under strict control, the company had to cut its cost to make its operation sustainable.

The city of Debrecen appeared to be a good example for restructuring the local water and sewerage supply through a public arrangement. The municipality created a stockholder company, owned by the municipality but operating as an independent entity. After public discussion about the privatization, the council decided not to privatize. The company rationalized its operation and increased its efficiency through adopting business management practices. The basis of the successful development was that the municipality put its trust in the local management and technical experts. In 2002, the municipality decided to merge most of its public companies into one big holding company, including separate companies responsible for district heating, local TV, bath, property management, etc. The advantages and disadvantages of the municipal holding company are very much debated. The financial advantages (more efficient cash management, saving on management cost, better access to credit market, tax savings etc.) go with a less transparent operation (cross-subsidies). Since then several other cities have started to follow the Debrecen model. (Hegedüs-Tönkö, 2006).

The privatization process has slowed down in the last 10 years, but the process has not finished yet. For example, Biatorbágy, a small settlement (with 8300 inhabitants) close to Budapest, privatized its water works, sold 49% of its shares to Budapest Water Work in 2007, and made a concession agreement for 15 years with the new company. However, the privatization of the regional companies owned by the central government is an ongoing, far-reaching issue, which is highly discussed among the experts and politicians. Municipal governments that belong to the service area of the regional water companies demanded the ownership of the regional network, but the line ministry refused the request, and it did not enjoy political support either. There are some concerns that the privatization of the regional water companies will lead to a further water price increase according to the professional water association. The proposed new law on water sector

will separate the water infrastructure assets from the operational assets, and will make the privatization of the companies, not the assets, possible. The regional water companies are not among the companies which are legally protected from privatization, so the regional water service provision will be open for investors.

## **2.5. *New developments: competition for operating the water and sewage services***

The Hungarian water sector is balanced in respect of ownership composition, and since 1998 no major shifts in the sector have taken place. Though the restructuring process which created the present fragmented system had been finished in the 90s, because of the huge investment in the sector (especially in sewage networks and treatment), new companies were formed. It was typical that the construction companies formed an operational company after the completion of the investment. The number of water companies (where the municipality owns more than 50% of the shares) increased from 124 to 238 from 2000 to 2005.

The efficiency of the fragmented water sector has been questioned. Especially small municipalities that set up their own companies have problems. (Typically, the municipalities that predicted a lower operation cost and consequently lower water fee were interested in the separation.) It is not just the sub-optimal scale that is a problem, but the lack of capacity in the small municipalities to regulate the company as well.

The management of the water service companies has been under constant financial pressure, because of the decline of water consumption and constrained water fees, to increase efficiency. One possible strategy for the companies was the expansion of the service area to economize on the general cost – that is, an integration of the company structure. This policy was supported by expert groups, as the fragmented structure of the water sector indicated by the small workshop size incurred a lot of costs.

Municipalities, though generally being interested to keep the water companies under control, frequently considered the options to privatize the service. In the cases of the new privatization offers, the existing private and public water companies receive offers, sometimes from the adjacent municipalities.

The opportunity for a new merger is afforded by the failure of the companies, like, for instance, in the case of Érd and its surrounding 17 settlements located 20 km from Budapest. The water company of Érd and its region got basically bankrupt, and started to negotiate about selling the company. The failure of the company was caused by the low water fee and mismanagement. After a long administrative process the privatized Budapest Sewage company (owned by the French Veolia group) was able to buy it, but the Budapest Water Works was interested as well. There is an interesting competition between the Budapest Sewage Work and Budapest Water Work for water market in the Budapest metropolitan region. Having lost the tender for the Érd water service, Budapest Water Company successfully bought a share in the water work of Biatorbágy, which used to be part of the water work of Érd and its region. Another interesting development is that the Municipality of Miskolc offered for sale 49.9% of its shares in the Miskolc Water



Company, for which the Debrecen Water Company made an offer. (The transaction has not yet been completed.)

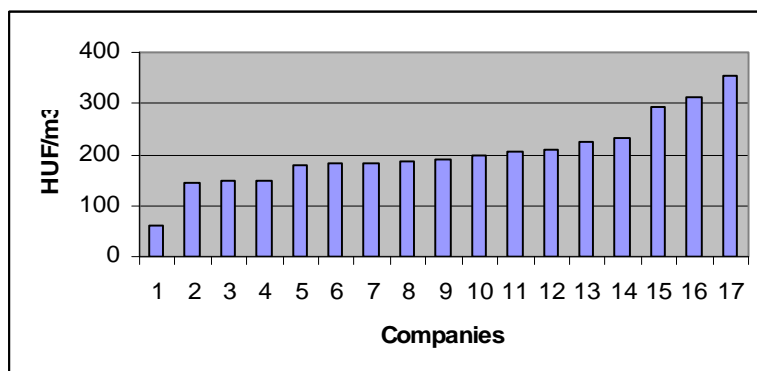
These cases indicate that the enterprise structure of the water sector is under transition, and there is market pressure for more rational enterprise size. Until now, there has been no systematic research on factors influencing this process.

## **2.6. *Results of benchmarking***

Benchmarking is an important managing technique in the public sector, which is especially important in decentralized systems. Experiences accumulated in other public sectors (e.g. in district heating and housing) show at least two types of difficulties about comparison. Firstly, because of the differences in the institutional/organizational/financial structure of the services, it is difficult to define conditions for clear comparison. For example, the rent in the public housing sector does not represent either the real burden of the households, or the cost of the services because of the housing allowances implemented by local governments and the subsidies or cross-subsidies the management companies have access to. In district heating, the measurement problem makes the comparison unrealistic (at which point of the heat transmission should the quantity be measured, etc.) Secondly, the data are provided by the service provider voluntarily, which can easily be a source of distortion.

The benchmarking of the water sector companies was started by a research project financed by the EU and executed by MAKK. As a continuation of this work, 18 companies voluntarily joined a project organized by the Hungarian Water Association to collect comparative information about the operation and water service. Though it provided very useful information for the managers of the water companies and supported some of the general conclusions related to the water sector, the exact comparison of the efficiency of the individual companies was not possible. (There are some important methodological problems as well: the sample size is small, the differences in accounting practice could cause a 'noise' in the data, the variables explaining the differences surpass the number of cases, etc.)

For example, the operational cost of the water (HUF/m<sup>3</sup>) varied between 60 HUF/m<sup>3</sup> and 353 HUF/m<sup>3</sup>, and the un-weighted average was 203 HUF/m<sup>3</sup>. The standard deviation of the indicator would decrease from 33% to 15%, if the outliers (one case on the lowest end, and three cases on the highest end) are taken out.



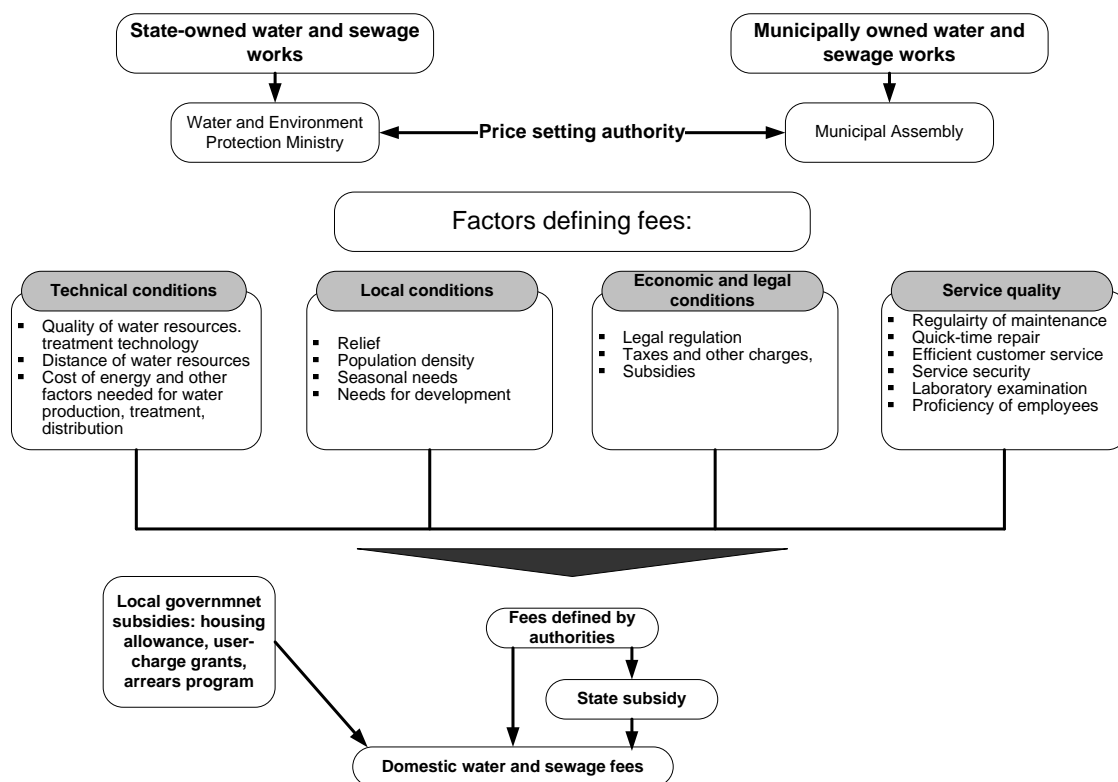
**Figure 1 Operational cost (HUF/m<sup>3</sup>) by companies, 2006 (Source: MAK data)**

The implemented indicators help the comparison, but because of the complex structure of the water services the control of the individual effects is almost impossible. The cost structure depends on the quality of the network infrastructure the companies inherited. The profitability depends on how much the company spent on the reconstruction of the equipment, etc.

### 3. Price setting and arrears

#### 3.1. *The legal background of the price settings*

The Price Law (LXXXVII/1990) defined the water and waste water service as of ‘authority fixed price services’, which meant that price setting also became a municipal competence, except for the five regional water companies where it is the task of the Ministry of Environment and Water. The municipalities enjoy autonomy in setting prices, but the law stipulates that the fee should cover the effective costs of the services (which includes a modest profit as well above the operational cost). Most of the water and sewerage companies define fees on the basis of a ‘cost plus formula’, where the costs cover the operation costs and a limited level of amortization, but rarely include the costs of new developments or even the necessary renovation of the existing networks). Contrary to other sectors, the ***Water Law does not regulate in a detailed way the accounting procedure, which leads to a cost-recovery fee structure.*** Consequently, the way how the companies calculate the fee differs very much, which leaves ample room for political negotiation. When water fees are specified, the price maker must (should) take into account that—according to the regulations—the fees must cover the expenses of the service. The regulation specifies the type of expenses that must be taken into account, but beyond that, the method of price formation is not specified centrally. Different fees are defined for households and industrial consumers, but there are also significant differences among the local public/industrial fees. Despite the significant price increase, the revenue raised from fees still does not cover the level of expenditures (including operation, reconstruction, new developments) that service providers consider to be necessary for efficient operation.



**Figure 2 Process of price setting (source: DRV, 2003)**

The fact that the municipalities are the owners and the price setting authorities of the water companies created – in principle – a twofold interest on their side: firstly, an economic interest to operate the company owned by them in a profitable way, secondly, a political one to represent residential interests by putting limits to price increase. However, in most cases, the political and economic incentives are more complicated depending on several factors, such as the economic base of the municipality, the technical capacity of the staff to supervise the company, the nature of the relation between the service provider and the municipality (one company – one municipality, or one company – several municipalities), etc.

The actual level of water and sewerage fees varies by municipality: even when one water and sewerage company supplies several municipalities, the fees can differ.

**Table 4 Water and sewage fees in 2006**

Water fee (Ft/m <sup>3</sup> )	Households	Non-households
Minimum	92,4	101,0
Maximum	500,0	2393,0
Average	203,8	250,0
Sewage fee (Ft/m <sup>3</sup> )		
Minimum	32,0	48,0
Maximum	650,8	1038,0
Average	186,1	265,9

Source: Hungarian Water Association

The differences in water fees are due to several factors. One type of factors is related to the technical conditions in accessing water resources: quality of water, the distance from the water base, the water cleaning technology, the energy and material cost of the water production, management and distribution. The second type of factors is related to the local conditions, like geographical conditions, density, seasonality, etc. The third type of factors is related to the quality of services, like maintenance, customer service, emergency service, etc.

In practice the water and sewerage fee shows a high diversity according to companies, but even in the case of one company, which serves several municipalities, the fees differ by municipalities.

For example, Pannon-Víz Zrt, water company serving the city of Győr and its region uses uniform water and sewage fee for the 128 local governments. Bakonykarszt Zrt, water company serving the city of Veszprém and other 120 local governments in the region negotiates individually with the local governments and uses different water tariffs. In the region of Baja, the city and its region have different fee structures. (Jokay, 2007)

In the following part of the chapter we will discuss two problems related to price setting:  
1. How do the cost items provide resources for the future investments and reconstruction managed in the process? 2. How is the affordability issue managed?

After 1990 the coverage of sewage service increased from 30% of the households (1985) to 61% of the households (2005). Except in Budapest, the water companies service both water and sewage, but typically the coverage of the water service is much wider than the sewage services. Expanding the sewage service through investment, the water companies struggled with the problem that households have less willingness to pay for the sewage services than for the water services. The law did not make the connection to the pipe network compulsory, therefore, because of the high sewage price, a significant number of potential users did not join the network. The cost price thus makes the service more expensive (cost per m<sup>3</sup> of sewage water), and tends to decrease the intention to join the network. Therefore, most of the water works have to subsidize the sewage service through the water price. As a consequence of this practice, the rural population cross-subsidizes the sewage services of the more urbanized areas. The costs of the non-payers (arrears) disappear from the books, resulting in good payers having to cover the cost of the services.

### **3.2. *Prices and investment: the problem of depreciation***

Depreciation is an important factor in the price setting procedures. To guarantee the safe operation of the water sector, regular reconstruction work and technical improvement of equipment are necessary because of the deterioration of the assets. Neglecting reconstruction inevitably leads to lower level of services, e.g. service cuts, broken pipes, and high volume of water loss caused by leakages. According to experts, the yearly amortization rate should be 3% of the total value of the assets (including all kinds of assets, pipes, technical equipment, cars etc), while according to the accounting laws it is much lower: 1% only. The amortization is generally accounted in the framework of the leasing fee, as the companies do not own assets.

At the beginning of the 90s, one reason for the “split-ups” of water service companies was the municipalities’ interest to influence water prices. By setting up new (separated) service companies, the assets of the company had to be re-valued, which had a direct effect on the price level. The assets had been taken over at historical book-value, which was much lower than the real economic value of the assets in order to keep the water prices low. However, as a down side of this method, the water price would not generate enough resources for the maintenance and the reconstruction of the network.

Municipalities, because of the political advantages of relatively low water prices, typically followed the method of asset under valuation, which made their investment strategies more difficult.

However, in the case of privatization the interest of local governments is to over-value the assets of the water work to maximize the revenues, which was the case in Budapest. The new owner would recover its investment through the higher water fee.

Investment finance has an important effect on water prices. Following the cost recovery rule of the price formation, the value of new investment (independently from how it was financed, that is a “pay as you go” or “pay as you use” principle) increases the prices through the high depreciation value of the new assets. This is the case if the new assets were transferred into the books of the water company. However, if the new assets were in the book of the municipality another scheme was followed: the service provider paid a leasing fee to the municipality for using the newly established network. An important difference between the two methods is that while in the first case the depreciation factor is fixed by the accounting rules, in the second, the leasing fee (which is identical to the depreciation) is subject to negotiation between the municipality and the service provider.

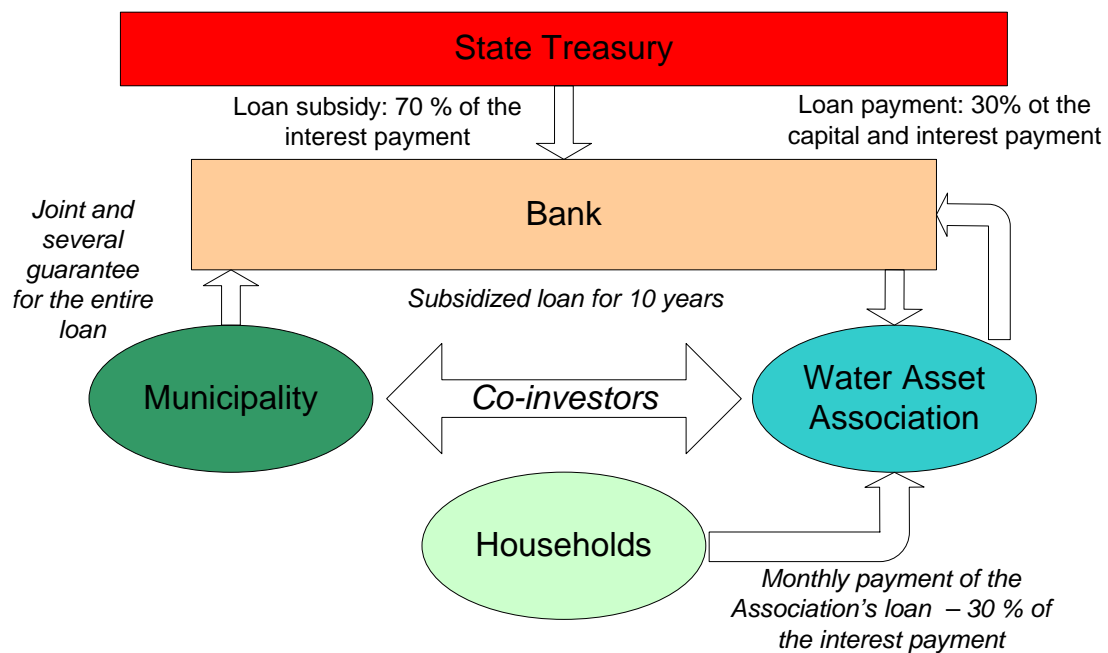
The financial method of the investments, that is, the shares of grant, loans, own revenues of the municipalities and households’ contributions have a direct effect on the water prices. The investments (new developments) are the responsibility of the local municipalities; however, they lack sufficient financial resources. Therefore, state subsidy systems were established to help implement new developments from the early 1990s. In the original scheme suggested in the preparation of the 1990 Law, there was a central government operated investment fund (targeted central matching grant) allocated on the entitlement basis under the centrally defined eligibility and priority criteria. The grant was a matching one, where the central government paid typically 70%, the municipality 30% of the investment cost. The municipalities had to apply for the grant; their claims were processed in a normative way. For projects with national importance a special discretionary grant was set up (called Investment Grant), where 100% of the cost was paid by the central government, and the allocation has to be approved by the Parliament. One of the priority areas of these grants was the development of sewerage networks and treatment plants.

This scheme has never worked according to these clear principles, because different ministries and agencies of the central government (Ministry of Environment, Water Agency, Ministry responsible for Regional Development, etc.) felt that their influence on the water sector policy would be inappropriate under the entitlement funds. Therefore they lobbied with great success for setting up special funds (Environmental Fund, Water Fund, Regional Development Fund, etc.) through which they have a more direct role in

defining the investment strategy. Consequently, not only the water sector service providers, but the institutional structure responsible for water policy has been fragmented, too, – very little coordination has existed – among the different funds.

From the millennium, EU resources (ISPA, Structural Funds and Cohesion Fund) have also been available, and since accession they have played a decisive role in financing investments. As the EU funded projects have gained priority, the majority of national central funds go to co-financing such projects.

## Financing sewage investments with resource gap Traditional mechanism



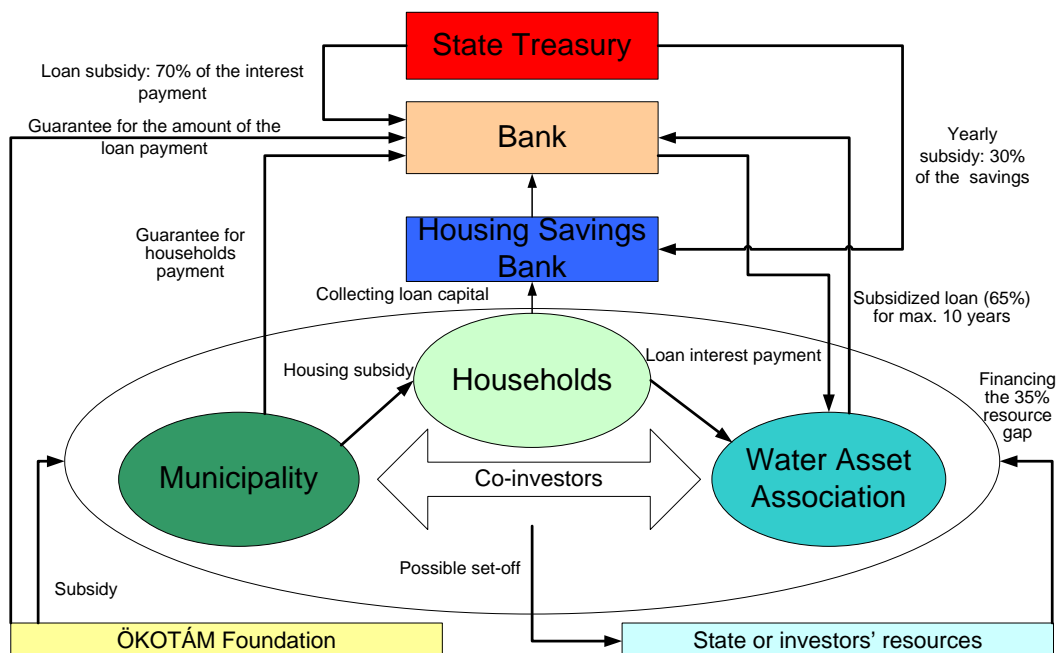
**Figure 3 The traditional financing scheme (Source: <http://www.geotorr.hu>)**

The own contribution of the municipalities comes either from their budget or from direct household contribution. There are special grant schemes (matching grant to the investment, interest rate subsidy and a contract saving scheme) to help the household contribution as well.

Municipalities often do not have enough financial means; the residents also contribute to the investments of expanding networks. The law specifies that a special association (Water Asset Association) can be established by the stakeholders to implement new developments. Many such associations have been established to finance the contribution fee of the households and also to supplement the resources of the municipality when the latter could not generate enough money. The households of the association can obtain a centrally subsidized loan to cover their contribution.

From 2000, a special investment scheme was used to help smaller local government investments, called Ökotám. (See Figure)

## Financing sewage investments with resource gap ÖKOTÁM mechanism



**Figure 4 Ökotám financial model (source: <http://www.geotorr.hu> )**

There is a proposal (supported by the professional association of waterworks) which would introduce more detailed regulation of the procedures setting the water prices. It would determine exactly what cost types will play a role in the price setting formula exterminating the practice of undervaluing the water price for political reasons. The danger is the unprecedented price increase, which would be a political problem, but it seems to be inevitable according to the professional association (Hungarian Water Association). According to them the water fees contain only 50% of the depreciation fee of the asset valued as 700 billion HUF.

### 3.3. *Price and affordability*

In Hungary, water **affordability** is related to the affordability of the housing costs in general. The sharp and sudden increase of utility fees led to a serious affordability problem already at the beginning of the nineties. Recent data show that around 13% of households have problems to pay housing expenditures and rents, while 2% have accumulated significant amount of arrears.

The huge subsidy for the household sector was abolished<sup>9</sup>, thus, the households had to experience a significant growth in water and sewerage fees. Further price increases were

<sup>9</sup> During the socialist regime the housing expenditures (water, sewage fees, heating expenditures such as gas and district heating, electricity and the rent in the public rental sector) were

generated by the decline of water consumption. While at the end of the eighties the water fees were around 7 HUF/m<sup>3</sup>, by the middle of the nineties they were increased to six fold and during the following ten years another 3.5-4 times increase occurred (See Table 5.) The data in the table show only the average level of fees.

**Table 5 The average price of water and sewerage supply in the household sector between 1994-2007, in HUF/m<sup>3</sup>**

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Water fee for households	47	57	77	95	110	115	120	133	143	169	164	174	204	226
Sewerage fee for households	34	52	60	72	80	89	98	108	122	131	149	179	186	209

Source: Hungarian Water Association (The data for the year 1999 was not available, the data are calculated as an average of 1998 and 2000.)

Regarding water fees, according to international experiences, households should spend less than 3% of their income on water (and sewage). In Hungary, the average household spent in 2001 around 2.2% on water and sewage, but lower income households spent 3.4 % of their income (Rákosi, 2003). In an international comparison among the OECD countries Hungary and Poland turned out to have the highest water fee/household income ratio (OECD 2003a).

**Table 6 The average price of water and sewerage supply in the non-household sector between 1999-2007, in HUF/m<sup>3</sup>**

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Water fee for non-household consumers	116	128	140	155	193	177	171	250	280
Sewerage fee for non-household consumers	99	115	130	145	154	174	193	266	293

generally heavily subsidized. After the transition this subsidy system was abolished and, as a result, the housing expenditures grew significantly. While the housing expenditure/income ratio was around 10-15% at the end of the eighties, it grew to an average of 22-26% by the middle of the nineties. One-third of the households pay 30% of their income for housing expenditures and in the lowest income group the ratio is more than 40%.



Source: Hungarian Water Association

The problem is that water price above 4% of the household income is not affordable, however, the lower price level does not guarantee the cost recovery of the investment and it is not consistent with the “polluter pays principle”.

### **3.4. *Issue of arrears***

Nevertheless, the level of the water and sewerage fees proved to be quite high for the lower income households. The total arrears amounted to 9.2 billion HUF in 1998, which meant 10% of the yearly revenue of the sector. Almost 70% of the arrears (in value) were generated by households, while the rest was mainly due to the non-payment of the public institutions. Generally, the water arrears are managed in a different way by the individual water companies in cooperation with the municipal government. Basically, the typical solution is a kind of cross-subsidy between the different groups of consumers (payers and non-payers). Another solution is the combination with the housing allowance schemes.

## **4. The design and allocation of the water sector (operational) subsidies**

The water sector enjoys different types of subsidies and grants. As the investment needs related to the EU accession could not be financed exclusively from user charges, national and European investment grants (capital grants and soft loans) have been used in the water sector developments initiated by local governments.

Beyond the investment grant, the water sector has access to the following type of operational subsidies:

- The most direct operational grant is the central government targeted grant to the local government for supporting the operational cost, which has existed since 1992.
- According to the Social Law of 1993, local governments have to give housing allowances to the needy households for paying their housing cost including water fee. In 2004, a normative national housing allowance program was introduced with a more favorable matching finance scheme for local governments.
- Water service companies operate special funds to support households with affordability problems to pay their water fee. (Nyíregyháza, Sopron, Budapest)

The study will not deal with the investment grant, but it will focus on the operational subsidies.

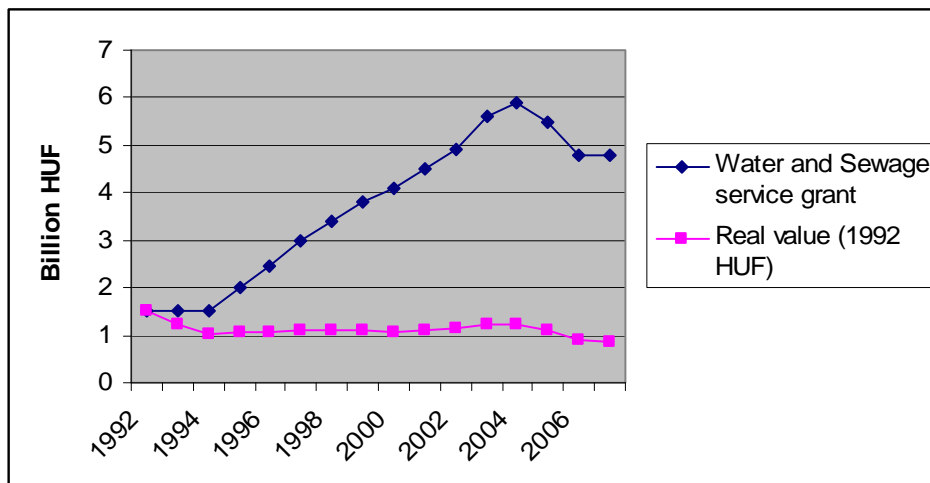
### **4.1. *Targeted water and sewage grant to service providers through local governments***

A central government grant to support water and sewage services was introduced in 1992 to decrease the price differences in water and sewage service among different regions in the country. Because of the fragmented structure (400 companies), without the

equalization mechanism (price pooling system over regions), the price of the services for households living in areas having un-advantageous geographical circumstances would be unaffordable. The new local governments have been eligible for the specific targeted grant: local governments, for whom the cost of the water and services would be “extremely” high. The total pool of the grant (which is announced in the yearly Budget Law) is allocated based on a formula which takes into consideration the consumption of the previous year, its expected changes, actual and predicted cost of the services. From 1993, the exact allocation rules have been announced and the decisions are made by an inter-ministerial committee, in which the Ministry of Finance, Ministry of Health, Ministry of Regional Development and the Local Governments and Ministry of Water are represented. The committee is supposed to make its decision by February of each budget year. The grant goes through the budget of individual local governments to either local service providers or to the regional companies. The allocation of the grant follows a simple principle: the committee, on the basis of the individual application, sets threshold prices for three cases:

- for areas with both water and sewage services – maximum total price of the water and sewage (in 2005 601 HUF/m<sup>3</sup>; in 2007 733 Ft/m<sup>3</sup>)
- for areas only with water services – maximum total price for water (in 2005 319 HUF/m<sup>3</sup>; in 2007 375 Ft/m<sup>3</sup>)
- for areas where the local service providers take over the raw water from the regional water company – maximum transfer water price (in 2005 175 HUF/m<sup>3</sup>; in 2007 222 Ft/m<sup>3</sup>)

The local governments are eligible partly or totally for the difference between the threshold price and the actual costs of the water and sewage services in the cases defined above.



**Figure 5 Water and sewage grants between 1992 and 2007 (Source: Yearly Budget Laws)**

The individual application has to follow certain accounting rules, which makes the comparison of the cost fair. The committee published an ordinance related to these rules in order to control the endeavor of service providers toward pushing the price up. For example, the ordinance set a maximum limit for the increase of certain cost items (wages,

material cost or other cost); strict rules are imposed for the calculation of depreciation (which limits the maneuvering room of the service providers in cases when they rent the water and sewage infrastructure from the local government).

Through other eligibility rules the central government tries to force a rational economic behavior of the local governments. For example, one eligibility criterion is that minimum 60% of the owners are already hooked to the sewage system (if it exists). Another criterion is that the loss of water in the system cannot be more than 20%.

This grant is a kind of deficit grant, which typically gives negative incentives to the actors: the higher your deficit is, the larger your grant is. However, through the procedures the applicants have to demonstrate that their calculations are correct, and they have done everything to decrease the cost. The question is how efficient the control is.

**Table 7 Eligibility threshold price for the water grant program (HUF/m3)**

	1992	2005	2007
Area with water and sewage services	60	601	733
Area with water services	40	319	375

Beyond these aims the grant covers the extra cost of safe water provision, which is needed in areas where safe water is not available. The National Health Authority can command local governments to service pregnant mothers and kids below one year of age with bottled water.

According to the EU regulations this grant program has to be ended by 2015, and a new means-tested water subsidy should be introduced which is targeted to the households in hardship.

#### **4.2. Local government programs<sup>10</sup>**

In Hungary, the housing allowance scheme was introduced in 1993 as a part of the new Social Act. Local governments had to introduce housing allowances for households whose housing expenditure was higher than 35% of the household income<sup>11</sup>. The detailed conditions were to be defined by the local governments in their local ordinances: the size of the allowance, the eligibility criteria for household income (maximum), and housing consumption. Local governments enjoyed a wide autonomy in defining the beneficiaries' target group, but the system they introduced is an entitlement scheme. The housing allowance program became quite modest in terms of budget expenditures, due to its

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<sup>10</sup> This point draws on Hegedüs-Teller, 2005

<sup>11</sup> After January 1 of 1997 the housing cost to income ratio was defined 20% in respect of the heating cost, and remained 35 % with the total cost. The aim was to compensate the high district heating cost for low-income households. The cost items for the general housing costs included water charge, garbage fee, rent, mortgage payments, electricity etc.

financial structure: the social tasks of local governments were (and still are) financed through two types of grants. One type is a formula based general-purpose grant, where the size of the grant for local governments is defined as a function of “need” indicators. The utilization of the grant is not earmarked, thus local governments – in principle – can spend this revenue also on other task areas. The other type of the grant is a beneficiary-based or earmarked matching grant, in which the central government finances a given percentage of the cost of the program. (Hegedüs, 2003)

Housing allowances were financed through the first type of grant, while other benefit programs were financed through the second scheme. Local governments were generally more interested in providing assistance through programs where the central government’s contribution was secured (like in the beneficiary and earmarked matching grant), and as it was they who administered the benefit programs, they had certain room for maneuvering. According to the Act, in the local decree they had to introduce the housing allowance program, but with the freedom to set the eligibility criteria they could limit its size to a large extent. This was the reason why housing allowance programs in the 90s remained very modest. The total cost of the housing allowances reached 1.5-1.6% of the social benefit and family support program in 2000-2001.

In Budapest the housing allowance program belongs to the district municipalities’ responsibility. It means that there are 23 different such subsidy systems in the city. However, realizing the scale of the affordability problem, the city municipality established its own program in 1995 that operates parallel with the district programs. The program was managed by the Utility Compensation Fund (UFCF). The UFCF works in a special arrangement; it is managed by a foundation where both the Municipality and the utility companies are represented. The UFCF manages two programs. One program aims to help the needy households to pay their utility fees, and the other aims to help households who have accumulated high arrears. The fund is financed from the “voluntary contribution” of the utility companies<sup>12</sup> (around 1-2% of their turnover), nevertheless, this contribution enjoys tax advantages and can be built into the utility fee calculation. This means that the financial source of the allowance was paid through the utility bills by the consumers. The other peculiar feature of the program is that each utility company got back roughly the same amount they had paid to maintain the incentives for the contribution through the individual compensations.

The UFCF is an intermediary working in the social sector. The utility companies’ interest to take part in the program has a business nature: they are interested in keeping arrears at a level that does not jeopardize their daily operations or the provision of their long-term services. These companies regard their contribution to the Foundation as a business technique aimed at reducing their losses and also as a guarantee for the smooth continuation of their services preserving the consumers’ willingness to pay (Hegedüs, 2004).

Similarly, in Nyíregyháza the NYÍRSÉGVÍZ Water Company introduced a subsidy system parallel with the introduction of a new, two-factor water fee, which aimed at supporting the payment for the base-fee for households which, because of low

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<sup>12</sup> The Budapest Municipality has full or shared ownership in all participating companies.

consumption and low income, would be worse off. They contracted to a foundation, which supports low-income households, in order to operate their housing allowance scheme. Low-income households who do not have arrears are eligible for the fixed sum subsidy. 20% of households with low consumption (less than 2 m<sup>3</sup> per month) were given this subsidy in 2005.

#### **4.3. Central government subsidies: normative housing allowance**

A new normative central entitlement program was introduced in 2004, because of the negative experiences with the local government managed programs. The aim of the normative housing allowance program was to ensure a larger participation and better targeting. The target group of the normative allowance scheme is households with per capita income less than 150% of the social minimum (in 2004 23,200 HUF, app. 94 EURO) and the ratio of the maximum housing cost to household income is higher than 25%. To be eligible, both conditions have to be fulfilled. The normative allowance scheme covers app. 7.3% of the Hungarian households according to 2003 data.<sup>13</sup> This means that targeting focuses on a narrow group, the lowest income stratum of the society: 71% of the households having per capita income below 150% of the social minimum level are eligible for the allowance.

### **5. Conclusion**

Political changes in 1989/1990 led to radical social and economic changes in the CEE/CIS region, where decentralization and marketization of public services were the two crucial processes in the public sector reform. Both decentralization and marketization are very much debated issues not only among the schools representing different ideological approaches, but among donor agencies (such as the World Bank, EU, Council of Europe, UNDP, IMF, etc.) having direct impact on the reforms through aid programs. There is a vast literature on these issues with no general conclusion on the optimal solution for transitional countries.

In our study we analyzed the effects of the decentralization and marketization in the Hungarian water sector. The study gave a framework for the further research aims at the evaluation of the decentralization and marketization in the perspectives of efficiency and equity.

Decentralization, in theory, helps the adjustment process because local governments, being politically interested in better and cheaper services, force the water sector companies to change their market behavior (cost pricing, fee collection, new service contracts, restructuring management, etc.) However, the self-interest of the fragmented local governments – one possible outcome of decentralization – could lead to a technically sub-optimal company structure, especially if the process lacks the supervision

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<sup>13</sup> See Hegedüs and Teller 2004. The Survey was organized by the Central Statistical Office, and it was representative for the whole country including 8,800 observations.

of the regulatory authorities. The data and other empirical information do not make it possible to draw a final conclusion on the efficiency issue, however, we have some important findings.

1. The water sector went through dramatic changes in the 90's, when the water production decreased by 40%, the workforce by 50%, and the water pipe network increased by 40%. These changes took place without deep social conflicts, which indirectly supports the hypothesis that decentralization spreads over the political cost of the structural changes.
2. Water prices have increased but price increases were under certain institutional control. We argued that local governments were politically interested to resist the attempt of the water companies to increase water tariffs. This resistance forced the water companies to economize on their cost and rationalize their production. We can advance a hypothesis that the large service providers have more negotiation power to increase their prices in the public service sector where decentralization has not taken place. (E.g. in the energy sector.)
3. Decentralization has led to a fragmentation, which was caused by the interest of the local governments to enjoy more power over water services – over prices, investments and personnel. Nearly 400 companies were founded in place of the 33 companies to provide water and sewage services, which inevitably had consequences for the effectiveness and equity of the water sector.
4. Because of the economy of scale, the new fragmented structure caused serious problems regarding not only the cost of services, but the professional and safe operation as well. Small municipalities have generally no financial capacities either to employ professional experts or to invest into new technologies, know-how etc. The merger of small companies into larger service providers would increase efficiency and raise the technical level of the service in the long term, if right financial incentives are provided.
5. In spite of the extreme decentralization of the water sector, water investments were highly controlled by the central government. However, the decision making process at central level was fragmented as well. Different ministries, regional agencies and international donors all had a stake in the process, and their strategies were not coordinated properly. Financial incentives were not in place, and no efficient monitoring of the use of the central government grant was implemented. We can conclude: centralization does not guarantee efficiency.
6. Decentralization in Hungary has led to an equity issue. The differences in the production cost of the water services caused by different factors (geography, population density, etc.) were expressed in the water tariff, which caused a substantial inequality in water prices. There is no analysis how the water sector inequality is related to the regional inequalities.
7. The grant program managed by the central government to help local governments in high production cost region is a very badly designed deficit grant, which typically gives negative incentives to the actors: the higher your deficit is, the

- larger your grant is. But this grant program has to be abolished according to the EU regulations.
8. Water affordability is an important social issue in regions with high production cost. Local government housing allowance programs can ease the hardship of low income households, but the efficiency of the programs varies very much according to local governments. Though there is no research evidence available how efficient these programs are.
  9. Strong local government control (decentralization) tends to downsize the investments and reconstruction needs of the water sector assets. A general complaint of the professional association is that the water tariffs do not include depreciation, and local governments (the owners of the assets) do not spend the leasing fee on reconstruction.
  10. The rent-seeking attitude of decentralized local governments without proper central government control tends to make a special arrangement with the developers/operators to maximize the state support at the expense of efficiency (over-investment). These are short-term strategies, which become easily a target of attack in case of political changes, and could lead to a court case or re-negotiation of the contracts.

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