

# Report on measures to cope with over-fragmentation in the water supply and sanitation sector

Final report

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## **Abstract/Introduction**

In the 1990s political systems in central and eastern Europe underwent major changes affecting the whole economy, including the water sector. In particular the decentralisation process led to major modifications in how the water sector was managed and operated, as decentralisation involved changes in the competences of local communities when they took over responsibility for the provision of public services. The focus of this work lies on the changes that have taken place in the water supply and wastewater services.

There is an ongoing discussion about the consequences of the decentralisation process in the water sector, as this process is rather complex due to the many different factors involved when decision-making authority is transferred or re-assigned from central government to sub-national bodies, such as municipalities. In general, the process does not only affect delegation of powers but also involves transference of physical assets. This latter aspect is of central significance in the water sector.

The concept of decentralisation is often seen as a universal good and is promoted worldwide. Proponents of decentralisation argue that it can lead to more efficient allocation and use of resources, i.e. the economic justification of this process is based on reasons of 'allocative efficiency' as well as the lowest level of government being considered to be able to perform functions more effectively. Furthermore, decentralisation integrates local people in the decision-making process and therefore creates a higher degree of transparency and ownership, i.e. follows the principle of subsidiarity.

But decentralisation may also be called into question as its implementation can lead to problems, in particular if the process takes place in haste and the legal, economic and institutional frameworks do not function properly or are not in place at all. In this case the arguments of potential opponents of decentralisation must be taken into account quite sound and should be taken seriously, as the allocation of responsibilities to municipal level can overburden the capacity of the municipalities and complicate access to capital markets, making it more difficult to raise funds for further investment in water infrastructure.

Furthermore, decentralisation is regularly associated with fragmentation of the structure of the water service industry, i.e. small water utilities providing public services to a relatively small number of consumers, leading to the above-mentioned problems and challenges faced by political decision-makers, such as access to financing. This criticism can be valid but should not be overstated as several western European countries, such as France, Austria and the southern part of Germany, display a rather fragmented water supply and wastewater sector with infrastructure that only services a relatively small number of customers compared to other countries. However, it should be kept in mind that the structure of the water sector in these countries developed over a long period of time and therefore experience here cannot necessarily be directly transferred to central and eastern European countries.

The focus of the paper is an analysis of the water sector and the experience gained with inter-municipal cooperation<sup>1</sup> in the water sector in European countries. The background and rationale for undertaking this analysis is the question of whether the problems and challenges associated with the process of decentralisation in the water sector could – at least partly – be overcome with the formation of larger water utilities.

It must be stated right from the start that it will not be possible to come to a simple and clear conclusion in this regard due to the many factors (economic, social, political, legal, institutional, geographical, hydrographical, etc) influencing the water sector. For instance, decentralisation involves a wide range of different dimensions, including political, legal, institutional and financial aspects. Political decentralisation, i.e. transferral of the responsibility of water service provision to the local level, cannot work properly without financial decentralisation, where there must be a guarantee at local level that the municipalities have the

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<sup>1</sup> The term inter-municipal cooperation is used rather loosely throughout the report. A unique and widely accepted definition of this term cannot be found in the literature. The term inter-municipal cooperation – as used in the report – describes a situation when the provision of public water services in a municipality is not provided by an individual municipality. Instead a single water operator formed by more than one municipality provides water supply and wastewater treatment services to the water consumers located in these municipalities.

right to raise the funds and/or generate the revenues required to make the necessary investments in the water infrastructure.

The report is structured as follows: The chapter to follow discusses the issues to be analysed in more detail by identifying and assessing the main topics covered in the report. Chapters 2 to 6 discuss the current state of affairs in the water sector in Austria, France, Poland, Romania and the Ukraine<sup>2</sup>. The focus of these country-based case studies is to highlight the current situation in the water sector in these countries, concentrating mainly on issues linked to the questions of whether inter-municipal cooperation exists in these countries and, if so, how has this developed over time<sup>3</sup>.

Chapter 7 summarises the findings of the country-specific case studies, focusing on discussion of the potential of inter-municipal cooperation in the water sector. It has to be stated that the country-based experiences are unique and therefore cannot simply be compared and/or transferred between countries. Additionally, it is impossible to draw generally accepted recommendations with regard to issues relating to decentralisation. For instance, the situation in the water sector in Austria is stable and therefore differs completely from that in Romania where the legal framework and institutional set-up still regularly face major revision. The issue of time is also of great significance as the water sector in older EU member states has developed over quite a long time horizon as opposed to in new EU member states. This aspect is of especial interest and concern as all EU member states are required to fulfil the same EU water policies objectives and regulations, and the new EU member states must comply both within a relatively short timeframe and from a different starting point. The focus of the final chapter is on discussion of the findings with regard to developments in the water sector, particularly with reference to the decentralisation and fragmentation in the sector. In addition, the chapter reveals the factors driving the process of the formation of inter-municipal cooperations as identified in the individual country case studies and in the literature. The report ends with a typology highlighting some of the dimensions of inter-municipal cooperation.

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<sup>2</sup> The country case study Ukraine has been prepared by the Municipal Development Institute, Kyiv, Ukraine. The part presented in this section of the report has been edited by KPC. A copy of the Ukrainian case study can be obtained from the OECD – contact person: Tatiana Efimova.

<sup>3</sup> It has to be mentioned that the case studies do not cover all aspects of inter-municipal cooperation in the water sector due to a number of constraints.

# 1 Conceptual Introduction

## 1.1 Current topics and political issues in the water sector

The European water sector is currently facing considerable challenges due to a whole range of different issues and policies. For example, municipalities in different countries are selling publicly owned water companies to the private sector – as part of a process of privatisation. This trend is at different stages in different EU member states. Moreover the EU is aiming to increase the efficiency of the internal market by forcing the liberalisation process by means of opening previously closed markets, including the water market. However, it has to be stated that not only the water industry in Europe is confronted with challenges but also the water sector in Eastern Europe, Caucasus and Central Asia (EECCA); the water sector here in particular is faced with having to secure reliable and sustainable financing models to improve and expand the water infrastructure guaranteeing adequate water supply and sanitation service.

One of the issues often quoted as a stumbling block with regard to achieving a sustainable financing mechanism is the high degree of fragmentation of the water sector in many countries, as here in the words of the European Investment Bank (EIB): ‘The difficulties faced by fragmented or small water service providers, particularly in the new Member States and Candidate Countries, to fulfil their public service obligations, have increasingly put consolidation of the water sector on the political agenda. It is a process whereby smaller water service providers cooperate or are replaced by or associated with larger and stronger providers (EIB, 2008, p.7)’.

Before discussing the issue of fragmentation, sometimes called over-fragmentation, of the water sector including its associated difficulties and possible solutions, it is useful to clarify other topics currently high on the political agenda in the water sector. These topics are decentralisation, privatisation and liberalisation – often linked but not really correlated.

As mentioned above liberalisation of the provision of public services is currently at the fore at EU level, but also worldwide. This process can be described as a change in the basic regulatory constraints as it aims to cease the limitation of competition leading to open competition between several suppliers.

Privatisation on the other hand relates to the ownership structure of water providers, and involves the outsourcing of public services managed and operated by public authorities to privately organised companies. In addition, physical assets can be transferred from the public sector to a private company – and it cannot be ruled out that this process ends with the establishment of a private monopoly instead of a public monopoly. Although the processes linked to liberalisation and privatisation in the water sector are significant when discussing the future direction of the water sector, they are not the focus of this report.

However, the topic of decentralisation is of greater interest here as the process of decentralisation may be described in terms of how service responsibilities are assigned between different administrative entities. Decentralisation is used as a synonym for the principle of subsidiarity, thereby tackling the issue of how a state may be structured, i.e. which issues and services should be provided by the central/national government and which policy areas should be dealt with at the sub-national level, i.e. carried out by institutions at the regional, municipal/local level.

There is no correct division of the duties and tasks allocated between different entities and institutions, as decentralisation crucially depends on many factors, i.e. a standard model of decentralisation does not exist. This is also reflected in the literature, which regularly distinguishes between the following key aspects in the decentralisation process:

- Administrative decentralisation: a process of redistributing authority and responsibility for providing public services from the central or national level of government to a sub-national and/or local level

- Fiscal decentralisation: decentralisation of government expenditure and revenue-raising authority to sub-national government structures in line with their allocated functional responsibilities
- Political decentralisation: a process whereby the voice of citizens is integrated into policy decisions at a sub-national level and civil society can hold the associated authorities and officials accountable

The success of a process of decentralisation is decisively influenced by whether all these different aspects have been or are being considered in the decentralisation process. For instance, administrative decentralisation may be limited if there is no fiscal decentralisation at the local level. If this is the case municipalities may not be able to receive resources from the national government, i.e. transfers from the national budget, or not be allowed to raise funds with the introduction of local taxes.

## 1.2 A literature overview: decentralisation and fragmentation of the water sector

The focus of this report – as stated in the ‘Terms of Reference’ – is to ‘look into possible reform measures that can help to overcome the fragmentation effects of decentralisation’. Thereby special attention is given to the topic of how funds for the necessary investments in water infrastructure can be generated, considering that many small municipalities currently face an uphill struggle in accessing the capital market.

The water sector in many European countries can be described as fragmented in the sense that water services are provided by relatively small water utilities. For example, there is a clear north-south divide in Germany, as small water utilities prevail in the southern part of Germany whereas the water utilities in the northern part service more water consumers. However, the German water sector developed over a long period of time and is therefore contrasts sharply with the situation in some of the new EU member states where fragmentation of the water sector came with the process of decentralisation that started with the political changes in the 1990s.

The reasons for fragmentation of a water sector are manifold, ranging from how the sector was managed in the past, to geographic and hydrographical conditions, but also political will and delegation of responsibilities to regional and municipal level (i.e. principle of subsidiarity) are factors. However, the current state of the water sector is often linked to inefficiencies in water provision and problems associated with raising the necessary funds for investment on the capital markets. Therefore a trend of consolidation is discernible, at least in some European countries, based partly on economic considerations. Here, it is expected that larger water companies can achieve economies of scale<sup>4</sup> leading to efficiency gains, potentially simultaneously improving access to the capital markets. In other words the relevant issue is the question of the optimal size of a water utility, as it is anticipated that larger units would have lower operation costs; therefore a merger of smaller units (i.e. forming inter-municipal cooperation) would lead to economies of scale and facilitate access to the capital markets. Re-direction of the water sector towards more consolidation, i.e. the formation of utilities providing services to a greater number of water consumers, appears in the discussion on water supply.

However, it must not be forgotten in this whole discussion that determination of a universal ‘optimal size’ for the water utility is not possible as a large number of country-specific factors play a crucial role. Furthermore, potential achievement of scale economies must be assessed in a broader economic context as economies of scope and economies of density can also emerge<sup>5</sup>. For instance, a study analysing the trend towards greater consolidation in the water industry in England and Wales concludes ‘that economies

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<sup>4</sup> Economies of scale exist when an increase in production is associated with a less than proportionate increase in costs (Stone & Webster Consultants, 2004).

<sup>5</sup> See for a more detailed discussion on these issues: Nauges and van der Berg, 2007, and Stone & Webster, 2004. The ‘economies of scope’ concept assesses whether the provision of water supply and wastewater services are provided most efficiently by a single firm or by separate firms.

of density must be considered simultaneously with economies of scale otherwise any analysis could give the impression of economies of scale when in fact large companies have lower unit costs due to greater consumer density rather than any inherent scale benefit (Stone&Webster, 2004, p.10)<sup>6</sup>.

Assessment of the existence of economies of scale in the water sector is far from trivial as the possibilities of achieving economies of scale in the operation of water supply and wastewater treatment plants should be weighed against the existence of diseconomies of scale with regard to the operation of the total network. When both factors are taken into account, it is concluded that the diseconomies of scale of the operation of the water network often at least match the economies of scale in the system operation, and sometimes outweigh them<sup>7</sup>. It is also clear that economics of density should be considered in an economic assessment regarding the optimal size of a water utility as the concentration of population in a specific geographical area is very significant. The construction of the network infrastructure with regard to the provision of water services entails high costs, i.e. sunk investments<sup>8</sup>, in particular in rural areas, implying that density economies are more relevant in the water sector than in the case of waste collection because of the higher investment costs involved in water provision (Bel and Fageda, 2006).

Several studies can be found in the literature all addressing the question of the optimal size of a water utility. The findings of the studies cannot be directly compared as the approaches and methodologies differ as well as the countries. This latter point is of central significance as, for instance, Nauges and van der Berg (2007, p.18) summarise: 'not only the size of the utilities but also the country's level of economic development, may explain that water and sewerage services do not necessarily operate under increasing returns to scale'. Furthermore, the study by Nauges and van der Berg reveals that an increase in the connection rate can lead to diseconomies, in particular in those countries where the connection rate is already high. Another study concludes that economies of scale can be generated when the water utilities increase their production, as they then are able to reduce unit operating costs (Tynan and Kingdom, 2005). The findings of this last study conclude that neighbouring small water utilities can reduce water tariffs if they operate as one utility, i.e. economies of scale can be achieved. However, the authors make it clear that this result has to be interpreted with some care as the approach is based on a number of 'pre-determined facts'. For instance, the analysis assumes that all the individual utilities face the same settlement parameters, i.e. that the same geographic and hydrographical conditions are valid for all service providers.

An English study assesses whether economies of scope can be reached in the water industry. In other words the study reviewed whether integrated water utilities, i.e. providing both water and sewerage services, have lower costs than the sum of the costs of two separate, specialised businesses. The findings of the study suggest that efficiency gains, i.e. in the sense of positive economies of scope, can be achieved through a vertical integration of water production and distribution to connected properties. In other words vertical integration can lower overall water supply costs. However, the evidence of this study shows that precisely the opposite holds true in the case of horizontal integration of water and sewerage services in a single company, as in this case diseconomies of scope are found (Stone&Webster, 2004).

Some calculations of the 'optimal size of utilities' can be found in the literature. For example, the English study above concluded 'that *technical* economies of scale are exhausted at about 400,000 connected properties (Stone&Webster, 2004, p.24)'. At the lower end of the scale, however, a German study estimates that the optimal size of a water supply utility is about 66,000 inhabitants (18,500 connections), whereas a Japanese study determines that an optimally sized water supply company would service as

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<sup>6</sup> A comparable concept of consumer density is used in a study carried out by Nauges and van der Berg (2007), who estimated measures of density and scale economies in the water industry in Brazil, Colombia, Moldova and Vietnam. These authors included economies of customer density in their analysis which 'measures how cost changes if total water produced, total volume of treated wastewater and the number of customers increase, under the assumption that the network length is constant (Nauges and van der Berg, 2007, p.5)'.

<sup>7</sup> The original wording is: 'Das Zusammenwirken der beiden Bereiche führt letztendlich dazu, dass in den meisten Fällen die negativen Skaleneffekte des Netzbetriebs die Größenvorteile des Anlagenbetriebs kompensieren oder übertreffen (Graetz, 2009, p.63)'.

<sup>8</sup> Because of the high fixed costs the water sector is often described as an example of a 'natural monopoly', as the building of a parallel network by a potential competitor, i.e. incumbent, is not profitable.

many as 766,000 inhabitants (Graetz, 2008). The wide divergence of these studies can be partly explained by a number of factors, such as whether the water utility services consumers live in rural or urban areas. This implies that optimal size depends on case- and country-specific characteristics and arrival at a general definition is not really feasible. Furthermore, Graetz (2008) comments that average unit costs of water supply and wastewater plants are similar in the sense that they reveal a decreasing trend up to a certain level of demand. However, there is increased interest in assessing so called 'financial economies of scale' in that it can make sense and be efficient to combine the planning and financing of investment activities of different water utilities. Another possibility of overcoming the situation where rather small water utilities service a small number of water consumers is to establish water utilities managed as inter-municipal corporations, discussed in more detail below.

A consolidation process involving the formation of larger water utilities as compared to the common situation of rather small units is regularly advocated as a measure to become more efficient by means of the reduction in transaction costs and the achievement of economies of scale. The reduction in transaction costs is in particular of great relevance in the context where high fixed costs can be found, which is the case in the water sector where the fixed costs can be up to 80 per cent of the total costs. However, the short literature review undertaken here clarifies that many factors must be taken into account in this context. These factors range from the question of the degree of decentralisation in a country (but as mentioned above all dimensions of decentralisation have to be taken into account) to the institutional, legal and regulatory framework as well as geographic issues, such as size, topography and hydrographical features, all of which play a key role.

Privatisation of water utilities is often seen – in particular by small municipalities – as another way to achieve efficiency gains and to raise funds for necessary investments in the water infrastructure. Although this policy approach seems to be sound from a theoretical perspective, the reality is somewhat different as private firms do not show great interest in investing in small municipalities (Warner and Hefetz, 2002).

### **1.3 Inter-municipal cooperation – an alternative for the delivery of public services**

Throughout Europe municipalities are faced with increased pressure with regard to provision of public services, not only in the field of water services. These tasks were granted to them as part of the decentralisation process. A possible strategy to handle these pressures and obstacles is formation of an inter-municipal cooperation, providing the services jointly. There is a whole range of possible forms which inter-municipal cooperation can take, and also the institutional setting can be differ significantly between countries and also policy sectors<sup>9</sup>. The heterogeneity of these forms of cooperation is striking and many attempts have been made to cluster the different types. Two basic concepts of inter-municipal cooperation are regularly identified in the literature (Hulst and van Montfort, 2007):

- as interactions between local governments, i.e. municipalities, that concern a common task or goal and enjoy some degree of institutionalisation. However, inter-municipal cooperation can therefore imply that a local government interacts only with other municipalities, but this is not exclusively the case as local governments can also form some kind of relationship with public authorities as well as with private organisations.
- as the relationship between the institutions of cooperation and the constituting municipalities.

Analysis of inter-municipal cooperation reveals that cooperative arrangements can be implemented as purely inter-municipal, i.e. only between municipalities, but also between institutions of mixed (public or public-private) character, i.e. private entities and municipalities. In addition, these arrangements can be further distinguished between single-purpose and multipurpose inter-municipal cooperation.

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<sup>9</sup> See for a comparative study on the topic of inter-municipal cooperation: Hulst and van Montfort, 2006. Further information on best practices of inter-municipal cooperation can be found in Council of Europe, 2007.

The final dimension of inter-municipal cooperation mentioned in this report concerns the distinction between operational and coordination tasks: the former refers to the 'joint production of public services: municipalities strive to overcome the limitations or inefficiencies of small-scale government (Hulst and van Montfort, 2007, p.11)'. In other words the aim of inter-municipal cooperation is to achieve scale economies. Inter-municipal cooperation can also be a useful political means to coordinate joint activities of municipalities aiming to influence other levels of the national or European administration.

In a report from the European Committee on Local and Regional Democracy the authors reveal some common trends which can be classified into three models (Council of Europe, 2007). The analysis is based on the situation in and experience gained in 22 countries:

- A highly integrated, mainly public-law model, with specific inter-municipal entities: the key functions of this type are predetermined and are aimed to provide basic public services, such as water and waste services. Furthermore, state supervision, in both financial and legal matters, is well developed and the legal framework may be developed in great detail as is in France, for instance.
- A more flexible model, based on the freedom of lower-tier authorities to opt pragmatically for joint delivery of public services of varying technicality. This model is based on existing entities such as associations, unions or enterprises – or even on informal cooperation arrangements – and comes under ordinary law; the law applicable is not specific and supervision is limited. Most of the rules applying to contractual procedure are laid down in the statutes.
- An intermediate model, adopted by the majority of countries and borrowing from the two preceding models.

Inter-municipal cooperation is clearly too diverse to be able to discuss all of the various types in detail in this report. For instance, at least three different types can be found in Austria alone<sup>10</sup>:

- The first type of inter-municipal cooperation in Austria is also known under the label of 'water association' (sometimes also called a special purpose association in the field of water services) and its main characteristic is that a range of municipalities jointly use one water utility, i.e. one utility provides services of public interest for several municipalities – either water supply services or wastewater services or both are provided by a single water utility for all municipalities. This type of inter-municipal cooperation definitely represents an approach to overcome a potentially fragmented structure of a water sector, as each community is not required to have its own water utility.
- Inter-municipal cooperation can also be formed under the framework of a country-wide or a national association of utilities. This does not address the issue of fragmentation as the aim is to provide a common platform for water utilities, provide lobbying and training, i.e. capacity development (coordination task). Furthermore, this type of inter-municipal cooperation can reduce costs, as procurement can be made jointly, but there are no repercussions with regard to the actual number of water utilities in a country, i.e. again, it does not address fragmentation of the water sector.
- The last type involves inter-municipal service provision based on contracts. The purpose of this cooperation is to provide a more efficient service, as the operation and maintenance of water utilities can be transferred and combined to a larger unit, i.e. municipalities with their own water utilities make contracts with other municipalities, and also with their own water utilities, to operate and manage the water utilities simultaneously. This approach does not address the possible problem of an over-fragmented water sector, but it may guarantee achievement of financial economies of scale; though definitely not technical economies of scale.

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<sup>10</sup> For a more detailed discussion see the Austria case study (chapter 2) below.

Although all of the above three types of inter-municipal cooperation can entail a reduction in costs, the main focus of the report is directed to the first type as it is the farthest reaching approach, in particular when taking into account the decentralisation process, as the individual municipality transfers competences to a company which is jointly owned by different municipalities. The result of this process is the joint provision of public services from a single plant to a range of communities.

Inter-municipal cooperation is widespread in Europe. However, a detailed analysis or comparative and systematic research of how inter-municipal cooperation is working in European countries does not exist. Based on the findings of several country analyses assessing the state-of-art of inter-municipal cooperation the authors Hulst and van Montfort (2007) conclude:

Reliable data on the performance of the different forms of inter-municipal performance are scarce, and the research that has been done only allows for tentative conclusions about the relation between different forms of cooperation and performance. Therefore, it is not yet possible to make positive statements about the relation between the institutional design of cooperation and the quality and efficiency of service delivery, or the democratic quality of decision-making.

This finding is in itself interesting as it seems that there is widespread consent that inter-municipal cooperation is a useful construct with regard to the provision of public services.

As mentioned above, the current study attempts to provide some insights into how municipalities, in particular those located in EECCA countries, may cope with the current pressures and challenges in the water sector. These pressures and challenges are partly the consequence of the process of decentralisation which started in the 1990s, where responsibilities regarding the provision of public services were transferred from the national level to sub-national (regional and local) level. Transfer of assets also formed part of the decentralisation process implying that municipalities as the new owners are now also responsible for the maintenance and extension of the water infrastructure. In addition, the new EU member states are confronted with additional challenges as they are obliged to comply with EU regulations, directives and standards in the water sector. Compliance has to be achieved within a relatively short timeframe and substantial investments in water infrastructure are therefore required. This situation can present a great challenge for municipalities, as experience shows that access to the capital market for municipalities, in particular those located in rural areas, is difficult and at times practically impossible. However, municipalities need to raise funds for the required investments and therefore face a severe obstacle. Formation of inter-municipal cooperation can at least partly relieve municipalities of some of the pressure, as banks may grant loans to inter-municipal cooperations more easily and under more favourable terms than an individual municipality. It is argued in the literature and in practice that 'it is often considered more efficient to provide a larger long-term loan to a single entity than smaller loans to a higher number of entities since thus the single loan is subscribed by several entities who can implicitly guarantee each other in the event of default' (Frone, 2008).

## **2 Case Study Austria**

### **2.1 General information**

Austria is a small, high-income, industrialised European country divided into nine federal states. With a population of around 8 million inhabitants and a GDP in 2006 of 258 billion Euro, the average income is more than 30,000 Euro per capita.

Austria is located in the eastern part of central Europe and is dominated by the mountainous areas of the Alps, forests and rural areas. Receiving an average rainfall of around 1,170 mm p.a., with an annual sustainable resource potential of about 84 billion m<sup>3</sup> (10,000 m<sup>3</sup> per capita), availability of water has never been a significant issue. Only 2.6 billion m<sup>3</sup> water are actually used; 60 per cent by industry, 35 per cent as water supply and 5 per cent in agriculture.

The dominance of rural areas is reflected in the distribution of the population between various size settlements, as more than half of the population live in settlements of less than 10,000 inhabitants and the average population of municipalities is about 3,273. The administrative structure of Austria is a three-tiered system distinguishing between the nation, the nine federal states and the municipalities and communities.

Concerning modern water supply and sanitation, Austria has almost reached the practically achievable maximum of coverage for centralised facilities. Approx. 90 per cent of the total population is connected to public water supply networks and 91 per cent are serviced by public sewer networks and modern treatment plants. Due to the relatively low population density, individual solutions will continue to play a major role, for which alternative, appropriate technologies are continuously being further developed.

Already in 1980 the connection rate to public water supply facilities in the region of 80 per cent was rather high, so the incentive of a support system was not as necessary as in the wastewater sector. Therefore, the infrastructure for water supply has traditionally been supported to a lesser degree than that in the sanitation sector.

### **2.2 Regulatory and legal background**

#### **2.2.1 Water legislation**

The major roots of the Austrian water legislation date back to the 19th century, the period of the Austro-Hungarian Empire. Following World War I and the decline of the Austro-Hungarian Empire, the constitution of the newly founded Austrian Republic of 1925 granted competences for all water affairs to the central government. The first national Water Act was passed in 1934 and formed the basis of today's regulations.

After World War II and the fall of the Nazi regime the Austrian Water Act ('Wasserrechtsgesetz' WRG) was revised in 1959, and since has been continuously updated according to changing requirements. One of the major changes was caused by the Austrian accession to the European Union and resulted in the amendment of 1990. Since then, state-of-the-art solutions for sewage treatment have also been obligatory for rural areas and small treatment plants. Additionally, criteria for river pollution have been tightened in accordance with EU requirements.

The major, general characteristics of the Austrian Water Act are that:

- it is part of the national administration but is executed through the nine federal states
- the responsibility for water supply and sewage disposal lies with the communities and municipalities

- it clearly defines the rights and obligations of user cooperatives (Genossenschaft)<sup>11</sup> for owning and managing water supply or wastewater treatment systems for their own demand. According to the act, communities and municipalities can transfer their responsibilities to user cooperatives.
- the usage of water resources (abstraction or emission) is subject to individual legal acts which lie under the responsibility of the provincial water authorities. Beside the usage of groundwater for private water supply, potential users do not have *a priori* rights with regard to any activity, regardless of its nature (water supply, sewage disposal, agricultural use, etc.).
- thus the overall resource management is automatically put in the hands of the water authority<sup>12</sup>, which is obliged to strive for optimisation with regard to the various interests involved in the use of the natural resource – an important basis for practical integrated water and resource management (IWRM).

### 2.2.2 Legal framework for water support system

In addition to the Water Act, regulations concerning financial support for water-related activities have also been in place for a considerable length of time. The respective acts date as far back as early-1830. Already in 1949 the Austrian 'Wasserbautenförderungsgesetz' (WBFG) replaced former laws and regulated potential financial support from the newly established national government for all kinds of measures in the water sector (agricultural use, flood protection, water supply, sewerage treatment, etc).

In 1958 the WBFG was revised. The major amendment was the establishment of the 'Wasserwirtschaftsfonds' (WWF, Water Management Fund) within the Ministry of Trade, which was responsible for the distribution of national grants and soft loans. The law regulated the composition of the commission dealing with applications to the fund, the general financial management of the fund and the sources of finance feeding the fund. The WWF started its work on 1 January 1959 and ceased funding requests in 1993. However, the WWF still exists; although now its main objective is to fund the investments approved before 1993; therefore its workload is decreasing over time. One of the main policy objectives of the fund was to increase the connection rate as quickly as possible. The policy instrument aimed at achieving this objective was differentiation of the support schemes in a way so that those municipalities and communities establishing some form of inter-municipal association were eligible for higher support rates. The underlying argument behind this policy was the achievement of cost-efficient solutions by realising economies of scale, as larger water infrastructure units were established rather than separate investments in water infrastructure by each individual municipality. In 1993 the WWF was replaced by a new act, the UFG (Umweltförderungsgesetz; environmental support act), which is still in force today.

### 2.2.3 Federal regulatory framework for water tariffs

The federal regulatory framework in Austria for the setting of water tariffs is based on two national laws: 1. 'Finanzverfassungsgesetz' (F-VG) and 2. 'Finanzausgleichsgesetz' (FAG). The former law gives the municipalities the right to set water tariffs using their own discretion, although the legislators do specify a maximum chargeable amount. Municipalities are authorised to cover all investment and operational costs of municipal facilities that are operated for purposes of the public administration. However, the total annual amount paid by water users must not exceed an amount equivalent to double the yearly requirement for maintenance and operation of the water infrastructure as well as for the interest charges and repayment of the capital costs. There is no formal regulator to monitor water tariffs in Austria.

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<sup>11</sup> User cooperatives are generally associations of private persons who organise their water supply or wastewater treatment themselves. According to water law they have the same rights and duties as municipalities. In general user cooperatives are very small units serving only a small part of a municipality, especially in rural areas.

<sup>12</sup> For a more detailed discussion regarding the role of a water authority, see the section 'Responsibilities of authorities' below.

## 2.3 Institutional set-up in the water sector

### 2.3.1 Asset ownership

In all of the Austria's federal states water supply and sewage disposal services are mainly performed by public utilities (e. g. municipalities or associations of municipalities or public enterprises) and partly by publicly owned companies. Traditionally, user cooperatives play an important role in some parts of Austria, in particular in rural areas, mainly concerning water supply. Their number has been increasing over time. The number of private companies providing water services (water supply and/or sanitation) is negligible and is listed in Table 2.1.

Table 2.1: Numbers of different types of institutions

Type of Utility / Owner	Water Supply		Waste Water Treatment	
	number of water suppliers	connected inhabitants [%] – based on a WIFO study	number of sanitation companies	connected inhabitants [%] – based on a WIFO study
Provincial enterprise (state-run, public enterprise)	2	6%	-	-
Associations of municipalities (publicly owned)	125	21%	330	51%
Municipalities - publicly owned	1,900	59%	1,100	38%
User Cooperatives (cooperation of private persons)	3,300	4%	650	1%
Private wells / cesspits *	250,000	10%	250,000	10%

Note: Some of the population in rural areas are still not connected to public water supply and sanitation. About 10 % of the Austrian population have their own wells for the extraction of the drinking water and they use cesspits for wastewater disposal, especially in rural areas.

Source: Kommunalkredit Public Consulting GmbH, database 2007 and WIFO 2002<sup>13</sup>

In Austria local authorities are free to decide whether to provide water supply and wastewater treatment services themselves or to contract them out. Despite a longstanding debate on the matter, most services are still provided by the public sector. Private sector companies only figure as minority shareholders in two water companies, which together serve 6 per cent of the population. There are private holdings in a few pilot wastewater projects to which less than 1 per cent of the population are connected (Austrian Federal Chamber of Labour, 2003).

Austria can be described as relatively fragmented considering that around 90 per cent of all municipalities have a population of less than 10,000 inhabitants and that the average population of a municipality is about 3,273. Therefore, considering the high level of access to water services, it is not surprising that public water supply and sanitation is rather small-scale and fragmented in structure (Price Waterhouse Coopers, 2001). As shown in Table 2.1 different organisational forms exist in Austria, with a considerable number of inter-municipal cooperations, in particular with regard to the provision of wastewater services. The increase in the number of inter-municipal cooperations in the water sector has been promoted by the Austrian support mechanism. Inter-municipal cooperation is regulated by the Austrian Water Act.

Another specific organisational form can be found in the two federal states Lower Austria (Niederösterreich) and Upper Austria (Oberösterreich), as here the two federal states own the water

<sup>13</sup> The WIFO study is based on a questionnaire which was sent out to about 1,600 water utilities. The rate of return was around 41% meaning that these data are indicative and used only as a proxy for revealing the share of the population served by different types of utilities (see also Kletzan and Url, 2003).

service companies, supplying more than 200 municipalities with drinking water. Besides this there are also around 125 associations of municipalities for water supply and around 330 associations of municipalities for wastewater services, with at least 3 municipalities connected. According to the Water Act (WRG 1959 §87) associations have the same rights and duties as municipalities. The law also regulates their establishment, statutes and membership.

### 2.3.2 Responsibilities of authorities

In Austria, the enforcement of the water law (WRG) is carried out in a three-tiered structure. The Ministry of Agriculture, Forestry, Environment and Water Management makes up the first tier, and the provinces and district authorities (Bezirkshauptmannschaften) constitute the second and the third levels, respectively.

Enforcement of the Water Act takes place under the control of the federal administration (Art. 102 B-VG), meaning that besides the federal ministry, the province, governor and district administration (Bezirksverwaltungsbehörde), respectively, act as functional organs of the federal administration, are responsible for enforcement of the act. The actual division of responsibilities for issuing and amending permits for municipal water supply and wastewater treatment plants, as well as for water utilities and water installations (e.g. protective and regulatory constructions), is set down in the act (Art 98 ff WRG). With regard to environmental impact assessment, the legislative competences remain with the federal state and the nine states are in charge of enforcement. The actual division of responsibilities for enactment of the regional programmes (ordinances) issues from the Water Act as well. Ordinances are enacted by the governor (water law authority) or the Minister of Agriculture, Forestry, Environment and Water Management.

## 2.4 Economics of the sector

### 2.4.1 Water tariffs

Water tariff levels are set at the discretion of the municipality (owner of the utility) but have to be in accordance with the legal framework. The 'user pays' principle and the 'polluter pays' principle, respectively, should be adhered to when setting water tariffs for water supply and sanitation. Furthermore, cost-recovery is the guiding principle to be used by the municipalities.

In general, the annual water bill paid by water users is composed of an annual fixed fee and a single water tariff rate independent of actual water consumption (i.e. no increasing block water tariff or similar tariffication schemes exist in Austria). In addition to these recurrent charges, a one-off charge (i.e. connection fee) is applied in the Austrian water sector.

In 2006 the average water tariff in Austria was approx. 1.15 Euro/m<sup>3</sup> and the average wastewater price approx. 1.90 Euro/m<sup>3</sup> (median 2.40 Euro/m<sup>3</sup>). However, regional differences between the water tariffs levied by municipalities exist<sup>14</sup> and tariffs depend on the size of the municipality, as shown in Table 2.2.

Table 2.2: Water tariffs in Austria (2006)

Size of municipality	Wastewater tariff [€/m <sup>3</sup> ]	Water tariff [€/m <sup>3</sup> ]
< 1,000 inhab.	2.21	0.99
1,000 inhab. - 2,500 inhab.	2.25	1.11
2,501 inhab. - 10,000 inhab.	2.25	1.13
10,001 inhab. -50,000 inhab.	1.91	1.08

<sup>14</sup> Data compiled by Statistics Austria providing some insights into the water tariffs set by Austrian municipalities reveals that the water tariffs for water supply are in the range between 0.77 euro per m<sup>3</sup> and 1.55 euro per m<sup>3</sup> and for wastewater treatment between 1.50 euro per m<sup>3</sup> and 3.47 euro per m<sup>3</sup> in 2007 (Statistik Austria, 2008). The above-mentioned fixed fee which is part of the annual water bill paid by water users is also differentiated between the municipalities.

> 50,000 inhab.	1.76	1.27
Vienna (>1,000,000 inhab.)	1.43	1.19
<b>Austria (average)</b>	<b>1.90</b>	<b>1.15</b>

Note: inhab. – inhabitants

Source: Kommunalkredit Public Consulting GmbH, database 2006

Table 2.2 clearly shows that there were large differences in water tariffs for wastewater between municipalities. The wastewater tariff in Vienna is the lowest of the tariffs presented in Table 2.2, but the same is not the case for the water tariff as the water tariff average for small communities was the lowest.

It is worth discussing the tariffs in more detail as the tariff charged for wastewater may indicate the presence of economies of scale, as the tariff paid by inhabitants of small communities in general is much higher than that paid by inhabitants of larger cities. However, the situation regarding the tariffs for the supply of water differs in that no economies of scale can be identified, as for instance the inhabitants of the smallest communities are subject to the lowest tariff. This result is, however, not too surprising as size of municipality is only one of many factors influencing the level of water tariffs set. For instance, geographic and hydrological factors are significant, in particular in rural, mountainous regions. Another reason for the differences in the tariffs is the distance between water extraction (spring, wells) and water users, and it can therefore be expected that cities generally need longer distribution pipes than communities in rural areas. Furthermore, the water supply for cities is frequently secured several times by additional facilities that further increase operating and maintenance costs, which in turn lead to higher water tariffs as these higher costs must be recouped by the water tariffs under the cost recovery principle.

Table 2.3: Median of water tariffs according to organisational in Austria (2006)

Water tariffs charged by	Wastewater tariff [€per m <sup>3</sup> ]	Water tariff [€per m <sup>3</sup> ]
provincial enterprise	-----	1.40
association	2.40	1.20
only own Facilities	2.40	1.10

Source: Kommunalkredit Public Consulting GmbH, database

There is no significant difference in the wastewater tariffs between municipalities working in association (e.g. intermunicipal cooperations) and municipalities treating their own wastewater individually. The median of the wastewater tariffs amounted to 2.40 Euro per m<sup>3</sup> (see Table 2.3).

However, differences between the tariffs levied on water supply can be found in Austria, as the lowest water tariffs were reported in municipalities which provided their own water services. A detailed analysis of the reasons for the differences in the water tariffs is, however, highly complicated as many factors clearly influence the setting of water tariffs. However, it can be stated that water tariffs are in general higher in dry areas where the water resources must be transported over longer distances and must be stored for security reasons. Interestingly, inter-municipal cooperations have been established in dry areas in Austria, in particular in the south-east as revealed in Figure 2.6 below.

## 2.5 Support scheme in the Austrian water sector

The WBF, which set the legal framework of the support scheme in the water sector, was revised in 1958. The major amendment was establishment of the 'Wasserwirtschaftsfonds' (WWF, Water Management

Fund) within the Ministry of Trade which took over the task of allocating national grants and soft loans in the water supply and sanitation sector. Soft loans were provided with favourable conditions with rather low interest rates (1-3 per cent) and long payback periods of up to 50 years.

During the period between 1959 and 1993 the intention of the support scheme (WBFG) was to extend the water supply and sanitation infrastructure in cities and urban areas. As mentioned before, inter-municipal cooperations such as municipal associations were privileged as they were eligible for higher support than municipalities operating utilities which only delivered water services to their own respective municipality. The political aim of increasing the number of people connected to the public water supply and sanitation as rapidly as possible was clearly reflected in this policy. This has to be seen in the context of that prior to 1970 only urban areas were connected to public facilities. In order to extend connection quickly, larger units were established by means of inter-municipal cooperation, and other urban as well as suburban areas were connected. The majority of the municipal associations were founded at this time.

In 1993 the national support system for the protection of the environment (WBFG) was revised substantially and the UFG came into force. The reasons for the changes made at this time were many, probably one of the most significant being a rising problem of financial difficulties experienced by municipalities and communities located in rural areas in repaying the loans they had received. Furthermore, the budget allocation to the WBFG was not sufficient, which moreover has to be seen in the context of the repayment problems. Therefore, the support scheme was finally revised and the funds were no longer granted in the form of soft loans but in the form of grants. The revision also affected other areas:

- Strengthening rural areas

While the policy intention was to connect cities and urban areas, the WBFG originally focused on larger settlements. The UFG on contrary offered much higher support rates (i.e. grants) for rural areas and small communities in order to secure affordable investment costs there.

- Adopting the nature of subsidies

Until 1993, the water management fund (WWF) offered soft loans for investments in the water sector. This resulted from the lack of private money for investment in the water sector during this period. Banks also developed special long-term loan products for environmental investments of communities. Therefore, the governmental subsidy system has been changed to a system of annual grants, aiming to reduce the annual repayments of the loans and leaving the decision of where to seek the loan up to the applicant.

- Institutional set-up

Originally the WWF was operated under the Ministry of Trade. With the reform of 1993 management of the fund was transferred to a bank specialising in the financial needs of communities, Kommunalkredit AG. Since this time, the bank staff have been responsible both for processing the contractual and financial aspects of the loans as well as the technical approval of plans for which support is requested.

In 2001 the latest changes were adopted.

- Sources of capital

It is now possible to claim annual subsidies without proving actual loan costs, thus leaving it up to the applicant to make the division between equity and external capital.

- Economic aspects

To promote economic solutions an additional lump-sum support scheme has been introduced offering the applicant the possibility of achieving higher percentages of support when aiming at the most economically efficient solution. The support scheme aligns with the overall water policy; in particular with regard to the guarantee that the water tariffs should not be too high, implying that the water bill should be affordable for each water user. This is reflected in the support scheme for wastewater infrastructure as the support rate increases with the investment costs, normalised by the number of water users: a subsidy rate of 8 per cent is provided if the investment costs are less than 5,500 Euro per household. If the investment costs per household are between 5,500 and 15,000 Euro, the subsidy ranges from 8 per cent to 50 per cent of the

investment costs. If investment per household exceeds 15,000 Euro, the subsidy rate is 50 per cent. In contrast to these variable support schemes concerning investment in wastewater infrastructure, a fixed support rate of 15 per cent of the investment costs is provided for investments into the water supply.

The establishment of municipal associations in Austria was and is still influenced and promoted by the past and existing support schemes. Until 1993 the WBFG support scheme was particularly aimed at water infrastructure investments in cities and urban areas. According to this act, inter-municipal cooperation, such as municipal associations, received higher support in order to connect as many people as possible to public facilities as quickly as possible. As mentioned above, the financial support scheme was revised in 1993 and currently municipalities are obliged to submit an economic analysis when requesting financial support from the national government for any investment in the water sector. This economic assessment (the so called 'Variantenuntersuchung') comprises a cash value comparison of different investment options by taking into account the potential investment costs, operating expenses and re-investment costs for a period of 50 years. The different investment options to be studied do not only include the analysis of different technologies but must also assess the possibility of constructing water plants in association with other municipalities. This latter point is in particular of interest in the context of wastewater treatment plants. The study then identifies the investment which is the most economically efficient and the funding body can force municipalities to join forces and work together.

In addition to the national subsidy system discussed above, different subsidy schemes at the level of the federal states exist. The role of these in financing the sector varies according to individual regulations, depending on the circumstances in the different states.

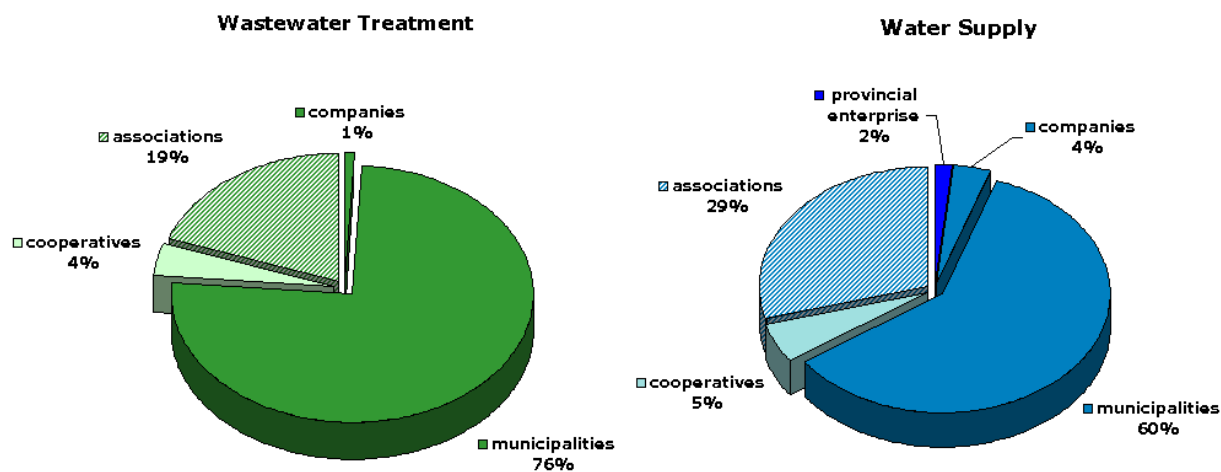
## **2.6 Investment in the water sector**

Since 1959 around 40 billion Euro has been invested into the communal water services and approximately 77 per cent of the total amount (i.e. 31 billion Euro) has been used for improving the wastewater treatment infrastructure. As mentioned above, investments in wastewater treatment received a boost with the 1993 amendment of the Water Act. In contrast to this development, investment in the water supply system has been continually decreasing due to the high degree of coverage already attained. In the period between 1993 and 2007 around 2 billion Euro (water supply) and around 11 billion Euro (sewage disposal) were invested into communal water services to conform to water quality and quantity standards mainly derived from EU regulations and which have been transposed into Austrian water legislation. During this period subsidies in the range of about 0.4 billion Euro for water supply services and of 3.6 billion Euro for sewage treatment disposal services have been spent. The average support rate is therefore around 20 per cent for water supply investment and 33 per cent for investment in the sanitation sector.

Investment is still currently taking place and is expected to continue in future. At present, rehabilitation of the water supply system is normally not eligible for investment support; although in earlier years it was. Current investments in the water supply sector regularly aim to secure the current service levels by diversifying the water resources by increasing storage capacity but also aim to reduce the still large number of private wells in rural areas by linking them to the public water network. With regard to wastewater systems, these are still in the process of reaching state-of-the-art requirements and facilities are still under construction in remote settlements located in rural areas. Actual figures in 2007 show that around 840 investments took place in the wastewater sector and almost 400 in water supply.

The distribution of investments in different forms of organisations in 2007 is shown in the figure below.

Figure 2.1: WSS investments in 2007 - according to various utility types



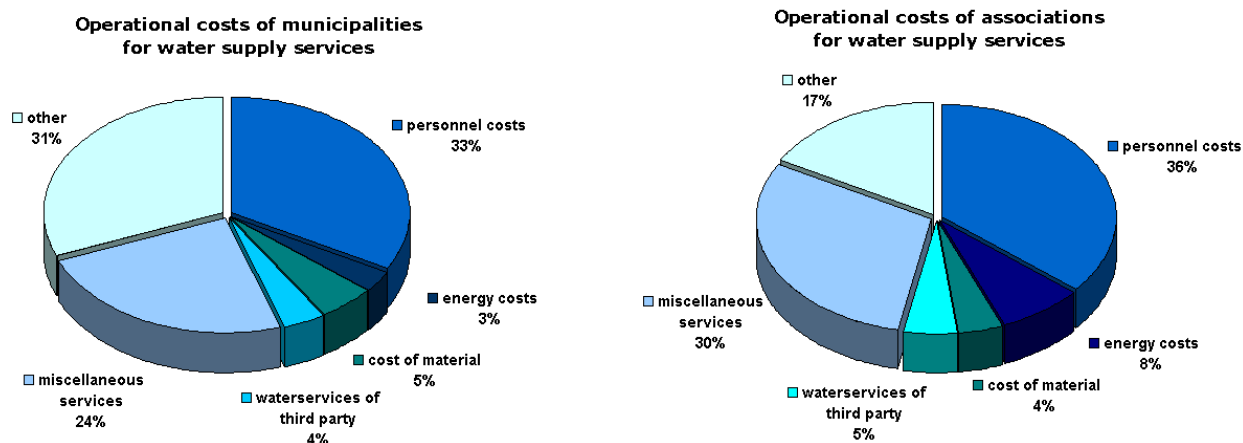
Source: Kommunalkredit Public Consulting GmbH, database 2007

Figure 2.1 reveals that municipalities were the main investor in water supply and sanitation service facilities in 2007. However, it has to be stated that this overview may be biased. For instance, several municipalities are part of an inter-municipal cooperation. Inter-municipal cooperations are only responsible for the sewage network linking the communal sewage network to the central wastewater treatment plant. The sewage networks within the borders of the municipalities are still under the control of the respective municipality. But this implies that investments in the municipally owned network are reported as an investment of the municipality and not of the association. This differentiation should be kept in mind as it was shown in Table 2.1 that wastewater treatment plants managed by inter-municipal associations provide services to a very large share of the population. This fact is not obvious when looking at the figures shown in Figure 2.1 above. The subsidies provided by the national government are part of the national budget.

## 2.7 Annual costs of water services

Annual costs are composed mainly of capital costs and operational costs, where capital costs are defined as the total of cost-accounting depreciation and imputed interest, and operational costs are composed of personnel costs, energy costs, costs of material, residue disposal, etc. The average structure of annual costs is shown in the following figures, distinguishing between whether the operator is a municipality or an association. It has to be stated that these overviews are based on a representative sample of 205 municipalities and 41 associations and provide a guiding indication of the cost structure of the Austrian water sector. In Figure 2.2 the distribution of the operating cost for water supply services is presented according to the individual cost categories.

Figure 2.2: Comparison of operational costs for water supply services

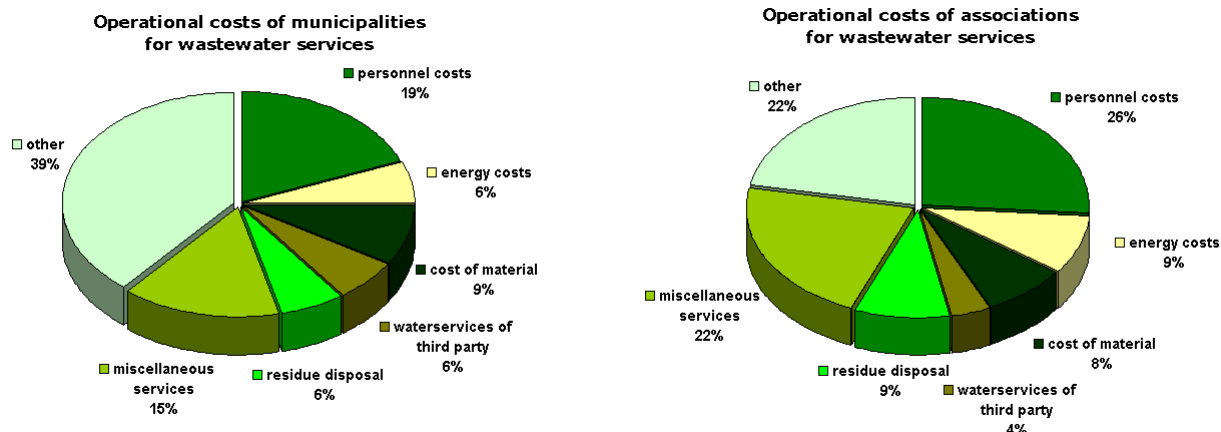


Source: WIFO, 2002

Operational costs for water supply are divided into the following categories: personnel costs, energy costs, cost of materials, third party water services, miscellaneous services and other. On average personnel costs account for the largest share of the costs of water supply services in municipalities (33 per cent), followed by other (31 per cent) and miscellaneous services (24 per cent). Likewise personnel costs represent the largest share of operational costs of associations (36 per cent), but here followed by miscellaneous services (30 per cent). The share accounted for by the category 'other' is smaller (17 per cent) than in the case of individual municipalities. Interestingly, the share of energy costs is much higher in the case of associations at 8 per cent compared to just 3 per cent in the case of municipalities. Although the allocation of the costs to the different categories is rather similar between municipalities and associations some differences do exist and can probably be explained by municipalities often not being able to assign their costs precisely, particularly if water supply services are part of the general administration (WIFO, 2002). An interesting exercise is to assess the total average expenditure per capita supplied as this comparison shows that expenditure of water supply companies operated by municipalities was 58 Euro compared to 60 Euro per capita per year in those operated by associations (WIFO, 2002). This result may be interpreted as a contradiction of the idea of economies of scale, i.e. larger units having lower costs than smaller units. However, other factors, such as topography and/or hydrological conditions, can have a decisive effect when discussing inter-municipal associations, rendering financial considerations secondary.

Differentiation of the operational costs of wastewater treatment plants was carried out in the same way as in the case of water supply services and divided into the following categories: personnel costs, energy costs, cost of materials, wastewater services from third parties, residue disposal, miscellaneous services and other. The values are based on a representative sample of 128 municipalities and 122 associations (WIFO, 2002).

Figure 2.3: Comparison of operational costs for wastewater services



Source: WIFO, 2002

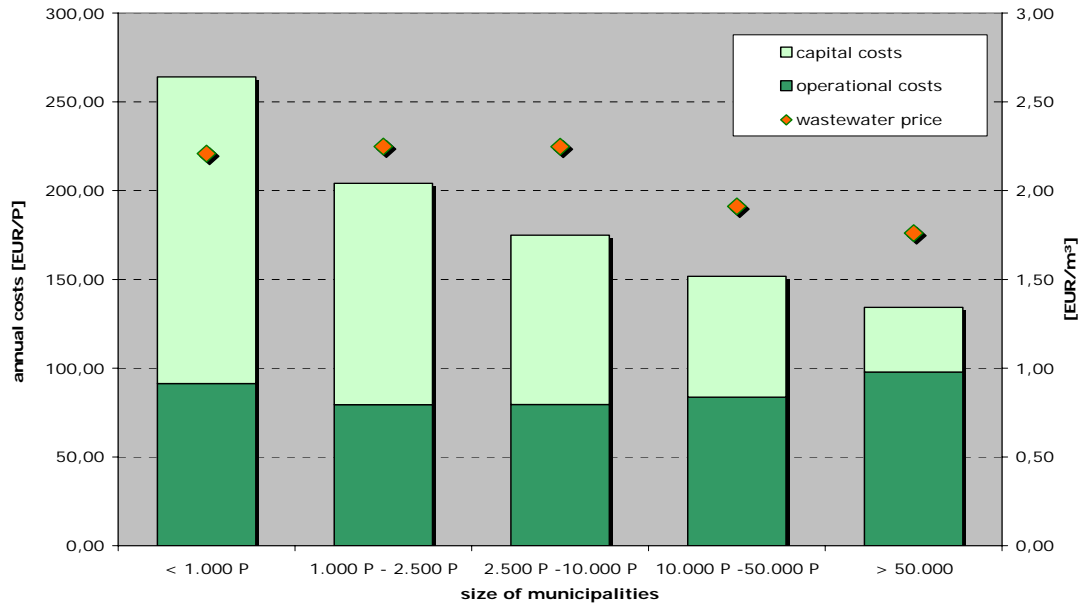
On average the cost category 'other' (39 per cent) accounts for the largest share of the operational costs of wastewater disposal in municipalities, followed by personnel costs at 19 per cent and miscellaneous services at 15 per cent. Smaller shares are allotted again to the categories material (9 per cent), energy, residue disposal as well as third party wastewater services (6 per cent each). Operational costs of associations are mainly composed of personnel costs (26 per cent), followed by miscellaneous services and other expenditure (each 22 per cent). Similarly to municipalities, smaller shares are accounted for by the energy (9 per cent), residue disposal (9 per cent), materials (8 per cent) and third party water services (4 per cent) categories. The differences in the shares of the individual cost categories (e.g. personnel, miscellaneous services and other expenditures) between municipalities and associations could again arise from different accounting systems and/or problems of cost assignment.

However, the data revealing annual average expenditure of wastewater services show a wide difference between municipalities on the one hand and associations on the other, at 114 Euro per capita and 49 Euro for the latter, respectively (WIFO, 2002). It has again to be stated that this data is based on a sample/questionnaire, implying that the figures are only indicative and that they cannot be generalised. Nevertheless it is worth noting that these per capita expenditure figures would demonstrate economies of scale, i.e. suggesting that wastewater treatment plants operated by associations are more cost-effective than those operated by municipalities.

In general, revenues generated from water tariffs contribute to between 74 and 85 per cent of the total annual revenues of water utilities in Austria. As mentioned earlier, water tariffs are generally set by municipalities and even if the municipality is part of an association, fee sovereignty remains in the hands of the respective municipality, i.e. there is no uniform water tariff within an association and water tariffs of municipalities belonging to the same association can diverge. Therefore, any comparison of revenues of municipalities and associations is not straightforward as associations cover their costs by subsidies and contributions from members (municipalities). Furthermore, associations may only be responsible for the sewer system outside of the municipalities resulting in the municipalities which are part of the association having the responsibility of covering all the costs of the intra-urban sewer system.

Comparison of the annual costs for wastewater and water supply services in municipalities of different sizes reveals some interesting results. Total annual costs for wastewater services per capita are presented in Figure 2.4 below and are differentiated between capital and operational costs. Average water tariffs for the different types of municipalities are also listed.

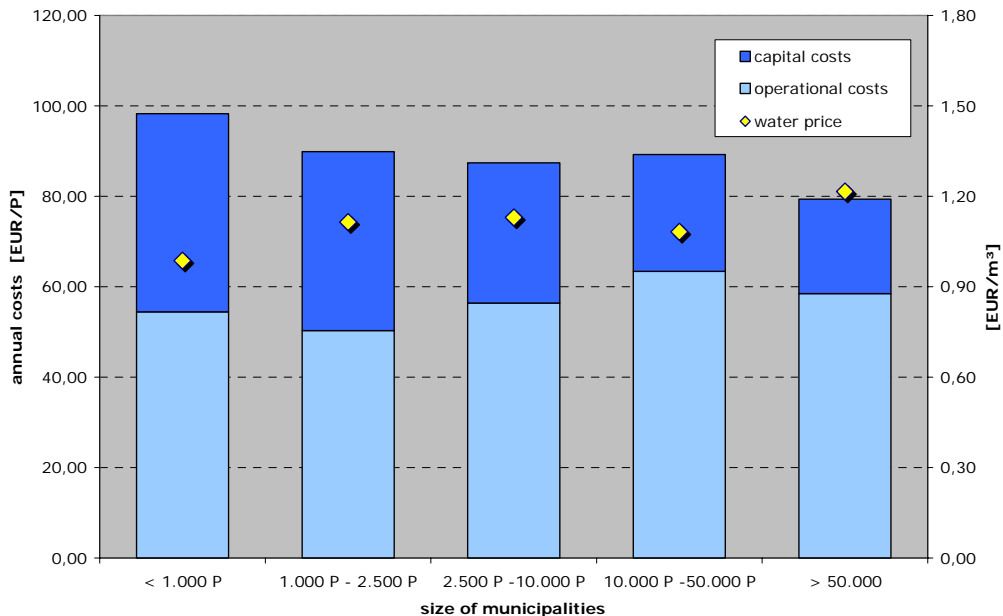
Figure 2.4: Annual costs for wastewater services per person connected to the public utility



Source: Kommunalkredit Public Consulting GmbH, database 2006

It is of no surprise that capital costs decrease in relation to an increase in the number of inhabitants in the various municipalities. Operational costs per capita, however, do not show the same trend as the highest costs per capita are reported for the largest municipalities. A similar result, namely that municipalities with a larger population have higher operational costs – expressed on a per capita basis – can also be seen for water supply services, as shown in Figure 2.5 below.

Figure 2.5: Annual costs for water supply services per person connected to the public utility



Source: Kommunalkredit Public Consulting GmbH, database 2006

## 2.8 Forms of inter-municipal cooperation in Austria

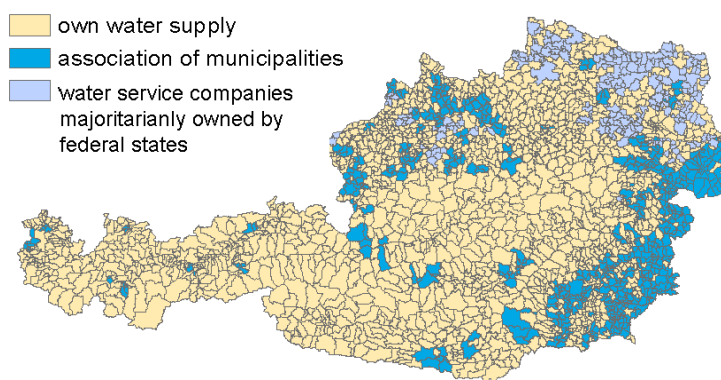
### 2.8.1 Inter-municipal cooperation within the framework of county-wide or national associations of utilities

When discussing the role of associations, i.e. inter-municipal cooperation, in the provision of water services it is worth highlighting the fact that water services can be divided into different categories. For instance, water supply services include water extraction, water transportation with distribution pipes, supply of users with local pipes and accounting (billing of users). Similarly, the relevant services for wastewater treatment include wastewater collection with local sewers (i.e. intra-urban sewers), sewage transport between settlements/municipalities and treatment plants, waste water purification and accounting in relation to billing of the connected households and enterprises (Kletzan and Url, 2003). This differentiation is significant as the different services can be allocated between municipalities and associations in any combination..

### 2.8.2 By (water) law – associations of municipalities and provincial enterprises

A direct correlation between the availability of water and the tendency to affiliate in collective organisational forms exists. Municipalities in the rather dry and flat areas in Austria's east tend to form a greater number of inter-municipal cooperations than those in the alpine and rather wet areas in the west. Also in urban agglomerations municipal associations are common. For water supply, approx. 590 of the 2,357 municipalities are members of municipal associations, mostly situated in the east and south-east of Austria.

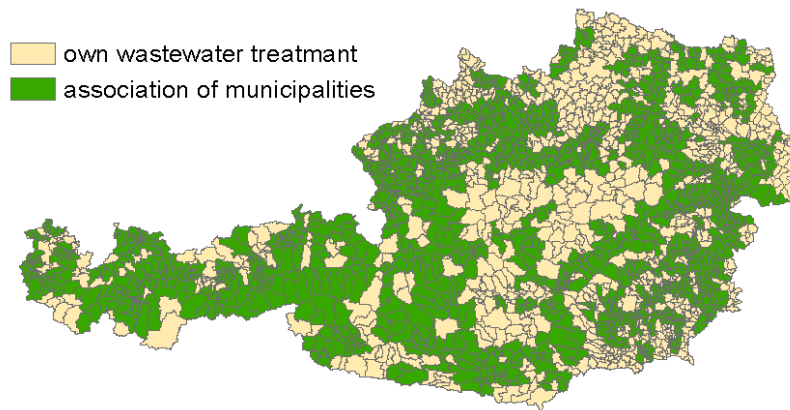
Figure 2.6: Associations of municipalities and provincial enterprises for water supply services



Source: Kommunalkredit Public Consulting GmbH, database 2007

Analysis of the provision of water supply services shows that the majority of municipalities (60 per cent) carry out all four services (water extraction, water transportation, supply of users with local pipes and accounting) in the area of water supply themselves, i.e. a high degree of vertical integration is apparent. The remaining municipalities outsource at least one of the four above-mentioned services to other players in the water sector, such as associations or other municipalities. Cooperation between municipalities can primarily be found in the provision of services relating to water extraction and water transport.

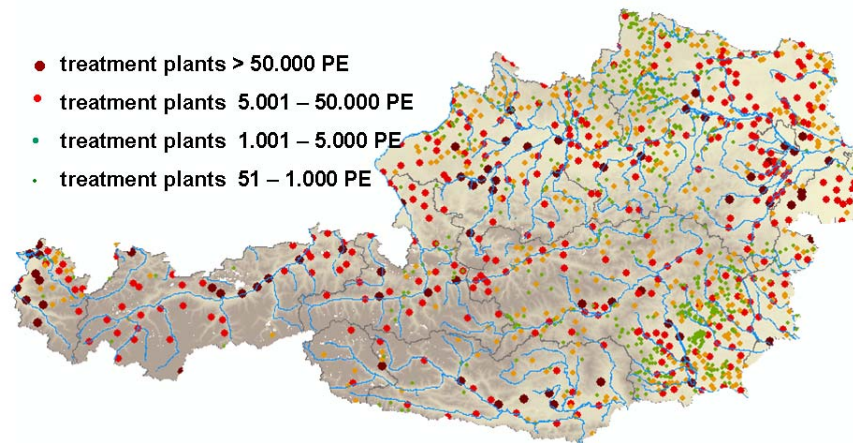
Figure 2.7: Associations of municipalities for wastewater services



Source: Kommunalkredit Public Consulting GmbH, database 2007

The situation is rather different when assessing the work of associations, as about 1,690 municipalities are part of associations of municipalities in the field of wastewater disposal services, i.e. more than half of all of the 2,357 Austrian municipalities. In the sanitation sector the formation of municipal associations is observable throughout Austria and also in the mountainous region of western Austria. One of the reasons for this development is the topography, as wastewater treatment plants have been built in longitudinally obstructed alpine valleys (see Figure 2.8 below). In addition, a large number of small plants can be found in far-scattered areas of the Styrian upland (south east of Austria) or the sparsely populated Waldviertel and Mostviertel in Lower Austria (north Austria).

Figure 2.8: Location of wastewater treatment plans



Source: Kommunalkredit Public Consulting GmbH, database 2007

As is the case in the water supply sector not all municipalities carry out the four different services, as defined above, under their own management. Quite a large number of municipalities cooperate with other municipalities or associations in the sewer system and wastewater treatment where they themselves have no wastewater purification facility of their own. Even in these cases of inter-municipal cooperation, the municipalities operating the local wastewater sewers as well as the billing predominantly themselves (WIFO, 2003)

This rather brief and by far non exhaustive discussion sheds some light on the fact that inter-municipal cooperation can form part of the value chain, as the delivery of water or of wastewater services can be

divided in different stages. In summary, in Austria these services are subdivided into four different sub-services and the delivery of each of these sub-services can be carried out by the individual municipality or by a municipal association or by both.

### **2.8.3 Austrian Water and Waste Management Association (ÖWAV) and Austrian Association for Gas and Water (ÖVGW)**

The Austrian Association for Gas and Water (ÖVGW) and the Austrian Water and Waste Management Association (ÖWAV) are the two main institutions at the national level in the water sector. Both of these not-for-profit organisations are based upon voluntary membership but each represent different stakeholders. The ÖVGW is the special interest group for water utilities and companies, but not public institutions, working in the water sector and thereby protects the interests of their members. The membership structure of the ÖWAV differs slightly different as not only water utilities but also representatives of public institutions can be members of this organisation.

The objectives of these two organisations overlap to a certain degree, which is in particular visible in their aims:

- Representing members' interests *vis-à-vis* public authorities, corporations and other institutions
- Advising members in business and technical matters, and especially in legal matters
- Networking with other professionals in the field and maintaining intensive contact with decision makers, legislators and public officials
- Organising lectures, vocational training, conferences, exhibitions and professional experience exchange events
- Public relations work

In general it can be said that both organisations work to promote Austrian water and wastewater management in all matters of scientific research technology, business and legislation. However, each has a slightly different starting point as the ÖVGW represents the interest of the water industry whereas the ÖWAV which has a much broader membership representing all stakeholders in the water sector. These organisations can be characterised as a form of association/inter-municipal cooperation; although they do not play any role in the actual provision of water supply and wastewater services.

### **2.8.4 Cooperation of wastewater treatment plant operators ('Kläranlagennachbarschaft')**

An even looser association is the 'Kläranlagennachbarschaft', which can be characterised as a network of operators of wastewater treatment plants throughout Austria. Currently, 900 sewage treatment plants participate, pooled into 57 different cooperations. And recently, sewage system operators have also formed a network of this type, i.e. the 'Kanalnachbarschaften' (cooperation of sewer systems operators).

These types of cooperation have no specific legal form and therefore differ from inter-municipal cooperations and user-cooperatives, which both are based on legal acts. Participation in these cooperations is free and organised by the Austrian Water and Waste Management Association (ÖWAV) in cooperation with the federal states. The objectives of this type of cooperation mainly relate to exchange of information, expertise and knowledge.

### **2.8.5 Inter-municipal service provision based on contracts**

A wide variety of inter-municipal cooperations are also entered into on the basis of commercial contracts. Organisational form ranges from complete take-overs of supply and disposal by one municipality for others to supply and maintenance contracts.

There are further forms of private cooperation e.g. for procurement and maintenance. The Styria federations and municipalities have founded their own community to obtain better prices for materials for maintenance activities.

## 2.9 Summary

The Austrian water sector does not display much consistency as the connection rates for water supply and sanitation differ between cities and urban areas on the one hand and rural areas on the other. On average, the connection rate is around 90 per cent. The reasons for this development are many, one of them clearly being the topographic situation in Austria, but also the average size of municipality is rather small at the European level. This has led to a fragmented water structure, considering that there are more than 2,000 water suppliers and around 1,500 wastewater treatment plants. This excludes privately operated facilities, such as user cooperatives or privately run wells and cesspits, often found in many rural areas, which provide water services to about 10 per cent of the population.

One of the objectives of Austrian water policy was to extend the water systems, thereby increasing the number of inhabitants connected to the public water and sewer system. This policy can be described as having been rather successful. The financial support scheme at the national level was and still is one of the main driving forces for this development. Of interest in the context of this study is very much the Austrian policy approach which favours inter-municipal cooperation or associations in the water sector. In the past (i.e. before 1993), investments undertaken by inter-municipal cooperations or associations were eligible for a higher support rate compared with water infrastructure investment undertaken by an individual municipality. This policy approach was revised during the 1990s and today municipalities requesting national support when extending or reconstructing water infrastructure are obliged to carry out an economic analysis. Among other things the economic analysis has to assess whether water investments are more cost-efficient if carried out by an individual municipality or whether the investment is economically more efficient if municipalities join forces to carry out the investment scheme. The significance of the economic analysis is also reflected in the support rate as this is determined based on the outcome of the analysis. Although this approach seems to be logical and efficient, in particular as scarce funds may be saved, it regularly occurs that municipalities favour carrying out the infrastructure investments themselves, without another municipality. It can only be assumed that one of the reasons for this economically inefficient approach is the fact that local politicians favour having full discretion as the single operator of the water infrastructure.

But as discussed above inter-municipal cooperation is present in the Austrian water sector. It should be highlighted that inter-municipal cooperation in the water supply sector can primarily be found in rather dry and rural areas. Inter-municipal cooperation in the sanitation sector on the other hand is found throughout Austria. The situation in the western, mountainous part of Austria deserves some attention as many wastewater treatment facilities operated by inter-municipal cooperations can be found in the longitudinally obstructed alpine valleys. This approach is often driven by cost considerations.

The assumption of increased efficiency (i.e. economies of scale) has often been an argument in support of inter-municipal cooperation. This issue is assessed in this study but – based on two different data sources – no unequivocal result can be derived. This is not too surprising considering the influence of many different contributing factors. In this context it is decisive to keep in mind that several factors, such as topography and the hydrological situation, are given and can significantly influence the costs of water services.

## **2.10 References**

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## **3 Case Study France**

### **3.1 General Information**

In 2008, 64 million people lived in the Republic of France (including overseas territories). France's total land area is about 675,000 km<sup>2</sup>. The average population density is 95 inhabitants per km<sup>2</sup> (INSEE, 2008). France has three territorial levels of administration: 26 administrative regions (22 in Metropolitan/Mainland France and four overseas regions), 100 departments and 36,681 municipalities (communes).

Compared to other European nations, the number of municipalities, i.e. communes, is very high, amounting to about 36,000 communes. The average size of the municipalities (number of inhabitants per municipality) is approx. 1,700 people per municipality. Approximately 98 per cent of municipalities (representing around 50 per cent of the inhabitants of France) have a population of fewer than 10,000 inhabitants and almost 10 per cent of the municipalities have a population of fewer than 100 inhabitants (Ministère de l'intérieur, 2008).

Almost 100 per cent of the population is connected to a water distribution system. A slightly lower percentage of around 80 per cent of the total population is connected to a wastewater collection system (Barraqué and Le Bris, 2007). The large number of municipalities combined with the fact that since the 1789 Revolution French municipalities – irrespective of the size of the municipality – are responsible for the provision of water and sanitation services, the water sector is classified as rather fragmented. However, inter-municipal cooperation is widespread in France, considering that approximately 23,000 municipalities have merged their water services into joint service operators (Barraqué, 2007). Nevertheless there exist more than 16,200 water utilities and 16,750 sewerage utilities (with 17,000 sewage treatment plants) in France.

### **3.2 Regulatory and legal framework**

#### **3.2.1 Constitutional law**

The present French Constitution of 4 October 1958 entitles territorial communities to take decisions in all matters that can best be exercised at their respective level (Article 72). Each municipality has the same legal status and the same structure (organs, elections, etc). This enables local municipalities to be free to choose the management style for public services.

#### **3.2.2 Inter-municipal cooperation**

In France, there is a long tradition of inter-municipal cooperation as municipalities have long been able to transfer the competency in providing water services to structures called *syndicate intercommunaux* (joint boards of several municipalities). The act of 22 March 1890 first institutionalised the cooperation of municipalities by providing a legal scheme for the creation of single-purpose inter-municipal associations (*SIVU, syndicat intercommunal à vocation unique*), a legal structure that links two or more municipalities for a single purpose. The SIVUs were created on an entirely voluntary initiative of the municipalities concerned and funded from members' budgets. They spread rapidly, particularly in rural areas, and typically applied to the provision of public services and utilities (Wollmann, 2008). At this time the driving force for the creation of inter-municipal cooperation was to realise economies of scale in the provision of public services, i.e. to achieve efficiency gains.

The legal basis for municipal cooperation was extended by later legislation, particularly by the decree of 5 January 1959 which introduced multiple-purpose inter-municipal associations (*SIVOM, syndicats à vocation multiple*). As of 2008, there were approximately 16,000 associations throughout France with a

slight decreasing tendency. Almost 12,000 of these associations were SIVUs (Ministere de l'interieur, 2008).

Among some other legal acts concerning inter-municipal cooperation, the Chevènement law of 12 July, 1999 has to be highlighted as it established new types of inter-municipal public bodies and also abolished some structures of intercommunality. Depending on the number of inhabitants of an agglomeration, three new types of body may be distinguished (*communauté urbaine* for agglomerations >500,000 people, *communauté d'agglomeration* for middle-sized agglomerations with more than 50,000 inhabitants, and the *communauté de communes* for small, mainly rural agglomerations) These public bodies differ in terms of their compulsory and optional competences, decision-making rules and funding. Besides delivering collective local public services (e.g. water supply, sanitation, waste management), the communities were established to manage more complex issues such as spatial planning, economic development or city management. An overview of the three different types of inter-municipal institutions is given in Table 3.1.

Table 3.1: Forms of intermunicipal institution in France and their main characteristics

<p><b>Communauté urbaine (CU)</b></p>	<p>Established in 1966. Extensive compulsory competencies in areas of urban services, infrastructure, planning and economic development. No possibility of withdrawal. Compulsory for Bordeaux, Strasbourg, Lyon and Lille and voluntarily adopted by further 10 municipalities, i.e. a total of 14 CU in 2006. Compulsory single business tax as a source of local fiscal resources.</p> <p>Management of public services, such as the provision of water, is compulsory under this form of inter-municipal institution.</p>
<p><b>Communauté d'agglomeration (CA)</b></p>	<p>Established by the Chevènement law in 1999. Intended for contiguous urban areas of more than 50,000 inhabitants with a central municipality of more than 15,000. Compulsory competences for urban planning and development. Compulsory single business tax as a source for local fiscal resources. In 2004, 155 inter-municipal cooperations of this type existed, covering around 38 million French citizens. The number of CA increased to 164 in 2006.</p> <p>Member municipalities must transfer three of the following five blocks to the inter-municipal institution: (i) creation, planning and maintenance of highways and car parks; (ii) environmental protection and use; (iii) construction, planning and maintenance of cultural and sports facilities; (iv) water treatment; (v) water distribution. The provision of water services is described as a semi-optional function under this form of inter-municipal cooperation.</p>
<p><b>Communauté de communes (CC)</b></p>	<p>Rules about competences and mode of funding depend on the size of the Communauté – 2,286 existed in 2004 and in 2006 2,389 CC were recorded.</p> <p>The transfer of responsibilities regarding the provision of water services is optional and can be transferred to inter-municipal cooperation.</p>

Source: West, 2007 and Pezon, 2006

Under later legislation, the formation of *communautés* was encouraged by financial incentives, particularly the right to levy taxes and a temporary state contribution (Wollmann, 2008). The success of *communautés*

is evident, both in rural areas and in urban areas. Between 1999 and 2006 the number of CCs increased by 77 per cent to 2,389 and the number of CAs rose from zero to 164 within the same period (Pezon, 2006). As of 2008, there were approximately 2,600 *communautés* throughout France.

The significance of inter-municipal cooperation in the French water sector is evident, as shown in Table 3.2. Although the competency in the provision of water services lies with the municipalities, they have the right to transfer the competency for organising water supply and sanitation services to inter-municipal cooperations (*syndicats intercommunaux*). The majority of French communes, i.e. around 70 percent of all municipalities, exercise this right, in particular with regard to water production and distribution. The share is much lower in the context of the provision of services regarding the collection and treatment of wastewater.

Table 3.2: Organisation of the French water sector (in % of municipalities)

	<b>Municipal</b>	<b>Inter-municipal</b>
<b>Water production</b>	28	72
<b>Water distribution</b>	32	68
<b>Sewage collection</b>	70	30
<b>Sewage treatment</b>	61	39

Source: Barraque and Le Bris, 2007

Since the early 1990s a shift in French politics and attitude towards inter-municipal cooperation has been evident. This in particular is observable with regard to the funding of inter-municipal cooperations, as they now can be financed directly via local taxes compared to in the past when they were financed via municipal budgets. Realising economies of scale must still be seen as an argument for inter-municipal cooperation, but the tasks under the responsibility of municipalities are now broader, often implying that there is a need for new municipal organisational forms in order to deal with often complex urban policy questions such as economic development, health and education, rather than simply provision of public services such as water supply. Inter-municipal cooperation today is seen as an important instrument of French State policy on territorial administration (West, 2007).

When discussing inter-municipal cooperation it is important to highlight some of the recently adopted administrative and institutional changes. For example, the decision-making process has undergone a number of changes. It is no longer the case that each member municipality has one vote. The vote of member municipalities is now weighted and decisions are no longer made by unanimity but based on majority voting. The funding of inter-municipal cooperations underwent some important changes too. In the past inter-municipal cooperations were funded from the budgets of the member municipalities. Today the revenues from local taxes are earmarked for the budgets of inter-municipal cooperations, i.e. inter-municipal cooperations have their own revenue raising capability. Two different fiscal schemes are available and which scheme is applicable depends on the different form of inter-municipal institution as listed in Table 3.1. The most interesting schemes are *communautés urbaines* and for *communautés d'agglomération* as they give the right to inter-municipal cooperations to raise revenues by levying a single business tax that is not set by the member municipalities but by the inter-municipal cooperation itself.

These two forms of inter-municipal cooperation have not only the fiscal power described above but communes also receive financial support from the government based on their population. This latter aspect is an incentive for municipalities to team up and form inter-municipal cooperations.

### **3.2.3 Water law**

The roots of French water law date mainly back to the beginning of the 19th century even though the first legal sources dealing with the use of water and rivers date from some hundred years earlier. The legal framework is established at national level.

The 1964 Water Act (Law 64-1245 of 16 December 1964 on regime, distribution and pollution control of waters), the first comprehensive water policy in France, created the organisational and structural basis of the French water sector. Six hydrographic basins representing the major river basins in France were defined as main water management territories. Six Water Agencies were established to operate a financial scheme which applies to all basins. Basin Committees (also called 'Water Parliaments') were set up to provide the democratic basis for debate and consultation.

The 1992 Water Act (Law 92-3 of 3 January 1992 on water) introduces water management plans at basin and sub-basin level as basis for further development and put into force some rules relating to tariffication, licensing and public participation.

The following laws aim to strengthen transparency and public procurement: The 'Sapin law' (Law 93-122 of 23 January 1993) is not specific to the water sector but provides a regulatory framework that applies to the delegation of services to private operators, which is widespread in the water sector. The 'Barnier law' (Law 95-101 of February 2nd 1995) focuses on reinforcement of the protection of the environment and involves among others the limitation of the duration of delegation contracts and the duty to publish annual reports by the municipality. The 'Mazeaud law' (Law 95-127 of February 8th 1995) on public procurement and delegation of public services ensures more transparency from the operator (e.g. annual reports, controls, etc.).

The 2006 law on water and wetlands (Law 2006-1772 of 30 December 2006) transposes the European Water Framework Directive and applies, for instance, the 'polluter pays' principle in order to avoid cross-subsidisation, and the principle of cost recovery of water services.

### **3.3 Institutional set-up**

In the water sector, three institutional levels have to be distinguished between: state level (including local administration), regional level (river basin level) and municipal level: The state exercises authority in relation water availability, provides the water police, carries out control of the enforcement of legal requirements and sets out the main national water policy guidelines. State activities are coordinated by the Ministry of Ecology and Sustainable Development in collaboration with several other ministries (e.g. Ministry of Finance, Ministry of Interior).

State administration is also carried out by local entities. At the regional level, the Regional Departments for the Environment (DIREN), in total 26 decentralised administrative departments of the Ministry of Ecology and Sustainable Development, ensure the implementation of water policy. At the department level, the government's devolved departments apply the regulatory and technical parts of water policy.

On a river basin level, there are two bodies for each basin:

- The Water Agencies play a key role in the French water sector. The agencies are financially autonomous public bodies under the supervision of the Ministry of Environment and are responsible for consultation, promotion and financing. The agencies are in charge of establishing a Master Plan for water management at basin level. They collect revenues (charges) from water users according to water pollution and water abstraction. In return, the agencies provide technical and financial assistance to municipalities.
- The Basin Committee is a body that supports consultations among regional, departmental and municipal politicians, user representatives, organisations (e.g. NGOs) and state representatives in the respective river basin. The role of the committee is both political and administrative.

The municipalities are responsible for operational organisation of drinking water supply and sanitation services involving investment, operation and maintenance. Municipalities are entitled to choose freely the most appropriate management methods for these services. Services are organised by the municipality

itself, by an inter-municipal cooperation (SIVU, SIVOM, Communautés, etc), by a public operator or delegated to a private company. As a considerable number of municipalities as well as inter-municipal cooperations have been making use of the option of outsourcing water services, private enterprises have become very important players in the French water sector. In this context it is important to point out that the organising authority (commune) remains the owner of the assets regardless of the mode of operation, i.e. direct management or delegated management.

That private operators play a key role is further illustrated in that they serve 71 per cent of the population (26 per cent in towns and 45 per cent in inter-municipal cooperations) and provide around 80 per cent of the total water volume sold. The remaining population is served either by small water utilities run by single municipalities (serving 12.5 per cent of the population) or by publicly operated inter-municipal cooperations serving the remaining 16.5 per cent of the population (Barraque, 2007). As mentioned above, irrespective of the mode of operation selected the organising authority still remains the owner of the assets.

There are several types of management by private operators. The most frequent type is the leasing model, followed by the concession model. The leasing model solely includes operation of the facilities. The lessee collects the water tariffs and must return a portion of the revenue to the municipality to cover maintenance and financing costs. The concessionaire constructs and exploits the facilities at their own expenses and risk, but keeps all water tariffs collected from the consumer.

The private water market is dominated by three companies which cover 98 per cent of the contracts with local authorities. In terms of the population, private operators manage 72 per cent of the water services and 55 per cent of the wastewater services (BIPE/FP2E, 2008).

Municipalities or inter-municipal utilities determine the tariffs and remain the owner of the infrastructure. Municipalities do not have any authority over the taxes and service charges which are set by the state and the water agencies. The duration of the leasing contract is between 5 and 12 years, whilst a concession contract may last up to 20 years.

The 'water pays for water' or the 'polluter pays' principle is generally recognised. The user bears most of the costs of managing the water they consume through their water bills. The municipal budget for water and sanitation services must be self-supporting, with income covering expenditure. Only small municipalities with fewer than 3,000 inhabitants are entitled to transfer money within their municipal budget lines. Despite this, some cross subsidies e.g. from domestic consumers to industrial and agricultural consumers, have been identified (Lamothe, 2003).

### **3.4 Economics of the sector**

#### **3.4.1 General figures**

Average extraction of water from surface and groundwater resources was 33 billion m<sup>3</sup> in 2006, of which only 18 per cent (6 billion m<sup>3</sup>) was used as drinking water. The billable portion was only 4.4 billion m<sup>3</sup>, mainly due to leakage losses. The total number of abstraction points for drinking water is about 35,000 units, a number which corresponds to the number of municipalities in France (BIPE/FP2E, 2008 and IFEN, 2007).

The wastewater volume entering treatment plants was more than 7 billion m<sup>3</sup> (including stormwater effluent) in 2006, the billable portion was 3 billion m<sup>3</sup>. The total number of treatment plants comes to more than 17,000 units, which is less than 50 per cent of the number of municipalities in France. 75 per cent of wastewater treatment plants are small with a population equivalent (PE) of less than 2,000 PE. Only 2 per cent of the plants are larger than 50,000 PE (see: BIPE/FP2E 2008, IFEN 2008). Overall, the water sector remains highly fragmented as there are over 34,300 water services (drinking water supply and wastewater treatment) (Lamothe, 2003).

### 3.4.2 Inter-municipal cooperation

The following tables clarify the importance of inter-municipal cooperation for water service provision. The tables present the connection rates according to the size of municipality. As for water supply (Table 3.3), 73 per cent of municipalities manage their facilities using a cooperation model.

Table 3.3: Number of municipalities in 2004 by form of organisation and population (inhabitants) (drinking water supply)

<i>Water supply</i>	Inhabitants								
Organisation	<400	400 - 1,000	1,000 - 2,000	2,000 - 3,500	3,500 – 10,000	10,000 – 20,000	20,000 – 50,000	> 50,000	Total number of municipalities
Without service	77								77 (0.2%)
Municipal	5,381	2,085	1,027	581	601	177	96	35	9,983 (27%)
Inter-municipal and mixed	13,613	6,818	3,070	1,282	1,214	293	220	76	26,586 (73%)
<b>Total number of municipalities</b>	19,070	8,903	4,098	1,863	1,814	470	316	111	36,646 (100%)

Source: IFEN, 2007

Concerning sanitation (Table 3.4), only 22 per cent of all communes take advantage of inter-municipal cooperation. Disregarding communes with no service, the proportion of inter-municipal cooperation rises to 34 per cent. Compared to the water supply rate, inter-municipal cooperation in the field of sanitation is less widespread. Table 3.2 also shows the increasing importance of inter-municipal cooperation in communes with a higher number of inhabitants. While less than 10 per cent of the communes with < 400 inhabitants manage sanitation within inter-municipal cooperation, more than 50 per cent of communes larger than 10,000 inhabitants are members of a cooperation.

Table 3.4: Number of municipalities in 2004 by form of organisation and population (inhabitants) - (sanitation)

<i>Sanitation</i>	Inhabitants						
Organisation	<400	400 - 1,000	1,000 - 2,000	2,000 – 3,500	3,500 - 10,000	> 10,000	Total number of municipalities
Without service	10,972	1,874	167	12	6	1	13,032 (35%)
Municipal	6,400	4,086	1,999	910	622	183	14,200 (39%)
Inter-municipal	1,633	2,581	1,644	761	941	494	8,054 (22%)
Mixed	65	362	287	180	246	219	1,360 (4%)
<b>Total number of municipalities</b>	19,070	8,903	4,098	1,863	1,814	897	36,646 (100%)

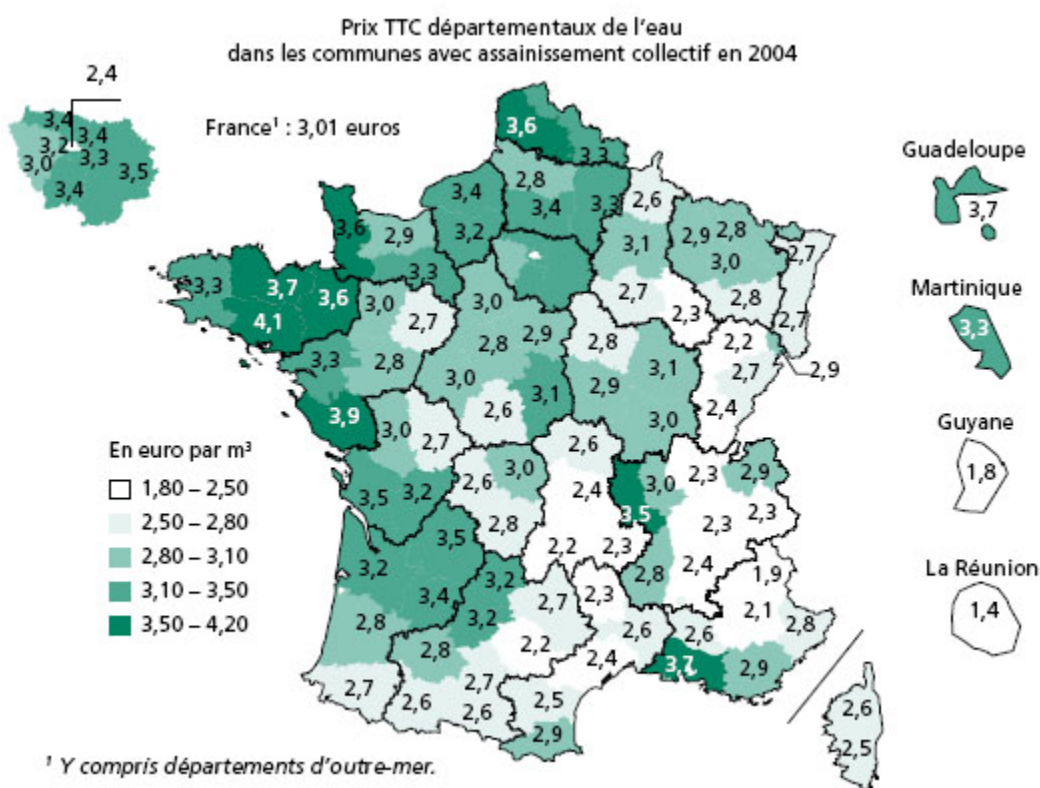
Source: IFEN, 2008

### 3.4.3 Water pricing

In 2006, the total water bill in the water sector amounted to approx. 12 billion Euro (including all taxes and charges) of which 59 per cent was invoiced for water services and 41 per cent for wastewater services. 40 per cent of the sum billed was destined for local authorities, 18 per cent for the state and Water Agencies and 42 per cent for private operators (BIPE/FP2E, 2008).

The average total water tariff (water supply and sanitation) is 3 Euro per m<sup>3</sup>. The share of drinking water supply is just below 50 per cent of the total cost, the share of sanitation just above 50 per cent. Within Metropolitan France, the price ranges from 1.9 Euro/m<sup>3</sup> in the south-east to 3.9 Euro/m<sup>3</sup> in the west. This indicates a wide range of more than 100 per cent, caused by economic, geographic, technical and sociological factors. The price of water in France is in line with the European average (UN CSD-16/17 National Reports).

Figure 3.1: Overview of water tariffs in France



Source: IFEN, 2007a

Table 3.5 shows the average water tariff for water services (water supply and sanitation) according to the organisational structure and the management system selected (i.e. in municipalities with a sewerage system) in 2004. A comparison between municipal services and inter-municipal services reveals that municipal services are priced lower. An explanation may be that inter-municipal facilities involve a higher degree of technical complexity, in particular they require large interconnected networks (Barraque and Le Bris, 2007). The vertical axis shows a significantly lower price in the case of public management compared with management by private enterprises. The differences in water tariffs may be explained by the attractiveness of delegation in the case of difficult (i.e. rather expensive) local conditions (IFEN, 2007a).

Table 3.5: Water tariff in Euro/m<sup>3</sup> depending on the organisational structure and the management system in 2004

Management regime	Organisation			
	Municipal	Inter-municipal	Mixed	Total
Public	2.19	2.85	2.48	2.54
Delegation (Private)	2.93	3.44	3.25	3.28
Mixed	2.60	3.04	2.97	2.97
<b>Total</b>	<b>2.59</b>	<b>3.19</b>	<b>2.99</b>	<b>3.01</b>

Source: IFEN, 2007a

#### 3.4.4 Investments for rehabilitation and extension of water infrastructure

Water and wastewater services are among local authorities' major investment priorities. Public investment amounted to 5.6 billion Euro in 2004 including the construction of new facilities and the upgrade of existing plants (BIPE/SPDE, 2005). Financial means are needed to maintain water infrastructure and the network of water mains. Steel and asbestos mains need to be replaced as well as lead connections. The investment volume for these purposes is estimated to reach 2.5 billion Euro per year (Bauby and Lupton, 2004).

#### 3.4.5 Financing of water infrastructure

The following table (Table 3.6) shows the fund flow to local authorities in 2006. The main portion of revenue comes directly or indirectly from consumers. Subsidies from Water Agencies also stem from service charges paid by consumers. The effluent from the 'system' to the state (via taxes) was 629 million Euro in 2006. The input via subsidies from departments and regions was 586 million Euro (BIPE/FP2E, 2008).

Table 3.6: Funds to local authorities in million Euro

Sources of Funding	Public water service	Wastewater service	Total
Subsidies (from Departments, Regions)	163	423	586
Subsidies (from Water Agencies)	107	1,027	1,135
Water tariff (directly from consumers)	1,571	1,422	2,993
Water tariff (indirectly via private operators)	1,399	623	2,022
<b>Total</b>	<b>3,240</b>	<b>3,495</b>	<b>6,736</b>

Source: BIPE/FP2E, 2008

#### 3.4.6 Subsidy System

Subsidies are financed via water charges levied by the Water Agencies which are determined by the volume of pollution discharged and the volume of water abstraction applied to water users. The funds collected are subsequently reallocated by means of financial assistance. The subsidy system is managed mainly by the Water Agencies and assumes adherence to the agencies' policies (Management Plans, etc).

Subsidies can be allocated to private and public persons who contribute to the achievement of goals of common interest by implementing projects in line with the Water Agencies' investment programmes. The

Water Agencies provide subsidies in the form of low interest loans and grants. The subsidy may amount to 40 per cent of the installation cost accompanied by an additional loan up to 20 per cent (OECD, 2006).

Another financial source is the National Fund for Development of Water Supply and Sanitation (FNDAE), which is dedicated to rural areas to enable them to invest in water supply and wastewater disposal. The fund is managed by the Ministry of Agriculture. The financial means of the fund are raised from an additional charge to the water bill. The fund therefore contains a cross-subsidising element. The annual budget is about 145 million Euro (Bauby and Lupton, 2004). Subsidies also come from the departmental local authorities and in certain cases from municipalities with fewer than 3,000 inhabitants.

### 3.5 Summary and concluding remarks

The French water sector has a long history. Inter-municipal cooperation in the water sector dates back to at least the 19th century and must also be seen in the context of political movement between centralisation and decentralisation. Inter-municipal cooperation in France has not only been an economic necessity but also a political challenge and has frequently met with some kind of resistance to change and subsequent loss of influence and competences.

Inter-municipal cooperation in France may be considered as a means to align the administrative structure with the geographic reality and functional conditions without questioning existing political structures.

In France, there is a sound and comprehensive legal basis for institutionalisation, decentralisation, inter-municipal cooperation and delegation. The water sector shows a complex institutional set-up, including additional institutions at the river basin level as a distinctive feature. This set-up leads to complex mechanisms of finance, administration and management. The density of public actors, over-institutionalisation and overlapping responsibilities in France's administrative system in general have given rise to criticism (Wollmann, 2008), which, to a certain extent, can also be applied to the water sector.

In terms of inter-municipal cooperation at the regional level (in the water sector), two major types of institutionalised, voluntary cooperation may be distinguished: the *syndicat* and the *communauté*. The associative *syndicat* represents a simple and flexible model which to a high degree meets requirements in terms of service provision. The considerably younger *communauté* model, which exceeds the needs of mere service provision by far, has certain advantages, for instance in terms of funding (due to the right to levy taxes) and transparency. Furthermore, a rising trend in establishment of inter-municipal cooperation is recognisable which can also be traced to recent laws which grant financial incentives.

The traditionally strong involvement of private enterprises (as water service providers) is a striking feature of the French water sector. The French water industry is active throughout France and in many countries worldwide. The number of private companies has decreased and the remaining companies have grown in size. The reduced competition in the water market in France can be considered critically. In any case, fragmentation and cooperation in France should not be assessed without taking into account the massive technical assistance provided to municipalities by private companies.

The French water sector is highly fragmented as there are almost 35,000 water service providers (in drinking water supply and wastewater treatment). In terms of pricing, inter-municipal cooperation does not seem to be advantageous. Municipal water service providers charge a considerably lower price than inter-municipal cooperations. Due to the large number of factors which influence pricing (particularly local circumstances), implications in terms of efficiency and economy of scale should be drawn only with care.

The analysis of the scheme of inter-municipal cooperation must be made in the broader context of French politics of institutional and administrative development concerning inter-municipal institutions in general. Since the early 1990s the underlying policies regarding inter-municipal cooperation have undergone a number of changes, which has also had consequences regarding the provision of public services in the water sector. One of the goals of these policy changes was to strengthen inter-municipal cooperation by promoting direct funding by giving cooperations the capability of generating revenues by establishing their

own taxes, unlike in the past when inter-municipal cooperation relied on budget allocations from member municipalities.

In 2005 the Court of Accounts (*Cour des Comptes*) published a report to the French president addressing the performance of inter-municipal cooperation. The assessment of public service delivery, among other things water distribution and treatment and waste handling, revealed that the schemes were potentially still not large enough for the effective delivery of public services. Furthermore, the policies adopted in the early 1990s were found to have led to an improvement in the quality of public services. However, this improvement was regularly associated with an increase in water tariffs and as it is almost impossible to make any judgements with regard to value for money in this respect (West, 2007). This finding must also be seen in the context of the higher average water tariffs in inter-municipal cooperations as compared to municipal organisations as shown in Table 3.5.

The above report also stated that water tariffs are not always harmonised, in contradiction of the issue of equality among service users within a single inter-municipal cooperation. This policy of differentiating water tariffs can be intentional as it is the case in the Service des Eaux de Strasbourg-Campagne (Bas-Rhin water and sanitation syndicate (SDEA)). This inter-municipal cooperation was already created in 1939 but has changed to a *communauté urbaine*. The water tariffs are set by SDEA according to the quality of service provision in each municipality. One of the objectives of the SDEA was to make investments that aimed to improve the weaker portions of the network over past decades. Now the water tariffs have become more harmonised as service quality has become more uniform within the service area (World Bank, 2005).

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## 4 Case Study Poland

### 4.1 General information

Poland is a unitary country located in central Europe, has a population of about 40 million people and covers an area of 312,679 km<sup>2</sup>. The administrative reform of 1999 established a three-tier system in Poland. The present system distinguishes between the regional level consisting of 16 regional governments (*voivodships*), an intermediate county tier (*poivat*) including 60 towns/cities with a county status and 308 counties<sup>15</sup> covering a capital city and municipalities surrounding the capital city, and 2,489 municipalities (*gminas*). Until 1999 there was only one tier of local self-governments – the *gminas*.

In 2007, the Gross Domestic Product of Poland was 309 billion Euro (GDP per capita 13,300 Euro/ PPS per inhabitant). Poland cannot be characterised a water rich country and has only little water storage infrastructure. During recent periods of lower rainfall implementation of voluntary restrictions on water use was required.

When the economy was centrally planned all decisions relating to water supply and sanitation fell to the discretion of state enterprises. Change in the water sector and policies started alongside with the fall of the Communist system. Since 1990 municipal authorities have been responsible for water supply and water supply schemes as well as the sewerage networks. Major water infrastructure investments were carried between 1990 and 2005. In 2005, 86.1 per cent of the Polish population was connected to the water supply network and 59.1 per cent to the sewerage network. However large discrepancies in the connection rate between urban and rural areas exist as in the case of water supply 94.9 per cent of the urban population is connected as compared to 84.5 per cent of the rural population. An even greater difference is reported with regard to the sanitation sector, with a connection rate of 72.1 per cent in urban areas as opposed to just 17.9 per cent in rural areas (Bartczak et al., 2007).

### 4.2 The legal and regulatory framework

After the fall of Communism in 1989 a gradual process of denationalisation and decentralisation began in Poland. In 1990, the Act on Municipal Self-government was introduced, marking the formal start of administrative and local government reform by establishing self-governing municipalities (the *gminas*). However, even prior to 1990 municipalities existed and had relative autonomy, but they acted as local branches of the central government. According to the Act of Municipal Self-Governance municipalities – amongst other duties – are responsible for the provision of water and sewerage services. In addition, the Local Government Act of 1990 handed over the ownership rights of municipal properties, including the water supply and sanitation network, to local self-government. In 1999, the administrative reform continued and established a three-tier system by introducing counties (*poivats*) and regions (*voivodships*).

At the end of 2007 there were 2,478 municipalities, 314 counties (including 65 cities with county status) and 16 voivodships<sup>16</sup> in Poland. The municipalities can further be subdivided in urban (307), rural (1,599) and mixed (572) municipalities. The average population per municipality in Poland is 15,500, well above the European average of 5,100<sup>17</sup>. The structure of the municipalities is presented in Table 4.1.

Table 4.1: Structure of municipality

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<sup>15</sup> Since 2002 the number of counties increases to 315 as seven new counties were established (Swianiewicz and Herbst, 2002).

<sup>16</sup> Central Statistical Office, 2008

<sup>17</sup> See for more information: Dexia, 2004

Population of Municipality	Number of Municipalities
< 4,999	624
5,000 - 14,999	1,360
15,000 - 99,999	455
>100,000	39
Total	2,478

Source: Central Statistical Office, 2008

However, the relatively high average population of Polish municipalities must be seen in the context that municipalities located in rural areas, which on average have a population of between 8,000 and 9,000 inhabitants, often consist of several settlement units (villages<sup>18</sup>), with typically between 11 and 20 villages belonging to a rural municipality.

### 4.3 Legal issues

The Polish constitution defines the legal scope of the public finance sector and public finance institutions, and their general responsibilities and rights. The constitution establishes that local governments have legal personality and ownership as well as other property rights. They also have to be assured adequate revenue.

In 2001 a new Water Law was introduced, replacing the former Water Law of 1974 and the Act on Environmental Protection and Development, in order to approximate the Polish legislation with EU legislation. The Water Law regulates the management and use of water resources and protection of the water bodies in line with the principles of sustainable development. The law also states that each municipality must define its water and wastewater tariffs. The law also foresees new mechanisms to improve water quality, including new rules on permits for effluent discharge.

There are two specific acts defining and regulating the functions of municipalities: the Act on Municipal Self-Government and the Act on Municipal Management. The Act on Municipal Self-Government from 8 March 1990 is the fundamental legal act governing the operations of municipalities. According to the act, the municipality is responsible for all public services of local interest which have not already been assigned by law to other entities. Provision of water and wastewater services is one of those fundamental 'own responsibilities' of the municipality. Municipalities can choose various legal and organisational forms for how it carries out these responsibilities, including budgetary entities, private and commercial partnerships, foundations and limited liability or joint stock companies. The Act on Municipal Self-Government does not prescribe any specific legal form. The municipalities can own up to 100 per cent of the enterprises and have some autonomy in the setting of water tariffs.

The Act on Municipal Management from December 1996 defines the rules and forms of municipal management available to municipalities. This act – as opposed to the Act on Municipal Self-Government – mentions 'budgetary undertakings' and 'commercial companies' as possible legal forms at the disposal of municipalities to provide their own responsibilities. Furthermore, the act regulates that municipalities may assign some of their municipal management tasks to natural persons, commercial companies or other organisational units by way of a contract (within the limits of the public finance and public procurement regulations). This implies that the formation of inter-municipal cooperation is an option for the provision of water supply and sanitation services.

<sup>18</sup> More than 40,000 villages (*solectwa*) exist in Poland (Swianiewicz and Herbst, 2002, p.229)

In 2001, an act on collective water supply and sewage collection was introduced defining the rights and responsibilities of municipalities and public water utilities as well as the general tariff setting procedure based on full cost recovery. The act also requires municipalities and water companies to develop long-term development and modernisation plans. When discussing infrastructure investment plans it is evident that the question arises of how these investments can be funded. The Public Finance Act provides rules and regulations for federal and sub-national borrowing which covers water infrastructure investments. The act regulates the public debt, debt servicing and restricts the level of debt and guarantees which may be granted. According to the act, the total amount of public debt of any local government may not exceed 60 per cent of its total budgetary revenue. Furthermore, the debt servicing expenditure may not exceed 15 per cent of a local authority's total revenue. This includes debt repayment plus interest paid and guarantees due in a current year. Sub-national entities need to create provisions to cover their obligations from guarantees issued but the guarantees may not exceed 5 per cent of their total budgetary revenue. The value of guarantees due in the current year is to be included in operating expenditure for that particular year.

#### **4.4 The regulatory framework of the water sector**

At the national level a whole range of various stakeholders and institutions share different roles and obligations within the water sector, which are not always clearly defined:

- The Ministry of Environment is the main authority responsible for environmental management, environmental policy and water quality monitoring. It is also the Intermediate Body for the priority axes, water and sewage management, and of the Operational Programme for Infrastructure and Environment. This programme is particularly significant in the context of financing environmental protection areas as it represents the largest source of funding for infrastructure investments.
- The Ministry of Infrastructure is mainly responsible for inland water navigation and marine administration. However, the ministry closely cooperates with the Ministry of Environment within the framework of the National Fund for Environmental Protection and Water Management. The Ministry of Environment in general has further responsibilities relating to the water sector, especially at the policy and planning level. Nevertheless, it was the Ministry of Infrastructure that issued secondary legislation for the tariff setting procedure.
- The National Fund for Environmental Protection and Water Management is the most important national funding institution for environmental projects, granting subsidised loans to municipalities and public utility companies. The main source of income for the fund is revenues generated from pollution charges.
- In 2002 a State Council for Water Management was created, with the task of developing policy options with regard to matters of water management, flood and drought control.
- The Environmental Protection Inspectorate is responsible for environmental monitoring. It is a body of the central government and is supported by the Voivodship Inspectorates for Environmental Protection.
- At the regional level the seven River Basin Authorities (also called Regional Water Management Authorities – RWMA) are responsible for the management of the hydro-engineering structures and waterways as well as planning and implementation of rational water management at the river-basin level. But in some cases the River Basin Management Authorities are also involved in the planning of water and wastewater facilities.

In general, both the Constitution (Article 172.1) and the Act of Municipal Self-Governance give municipalities the right to enter into inter-municipal associations in the form of associations or joint communal enterprises. During recent years there has been an upward trend in the number of inter-

municipal cooperations in Poland. Their number grew from 50 in 1991 to 191 in 2001<sup>19</sup>. A further increase has been recorded by the Ministry of Interior and Administration, which keeps a register of the number, purpose and liquidation of municipal associations, with 238 municipal associations as per 30 September 2008.

#### 4.5 Institutional set-up

Prior to 1990, local services (including water and wastewater services) were delivered by around 800 state-owned enterprises. Local authorities had no ownership rights with regard to the enterprises or the assets and had no influence over service provision or over the setting of water tariffs. 27 per cent of all state-owned enterprises in the water sector served more than one municipality at that time.

During the process of decentralisation in the early 1990s the Polish water sector was restructured by transferring the responsibility and ownership of water and sewerage schemes from the central state to the municipalities. In general, Polish municipalities as well as inter-municipal cooperations/associations, which have the same rights to ownership, have different legal options for organising their task of providing public services<sup>20</sup>. When the restructuring of the water sector took place, local governments were able to choose between the following three legal entities regarding the operation of water utilities<sup>21</sup> (Stanek, 2002):

- Budgetary units: a budgetary unit is part of the municipal (gmina) financed directly from the municipal budget but is not a separate legal entity
- Budgetary enterprise: a budgetary enterprise again is not a separate legal entity, but in contrast to a budgetary unit it is not financed from the municipal budget.
- Limited or joint-stock companies (with 100 per cent or less of shares owned by the municipality (gmina)): this entity differs from the two others as the limited or joint-stock company is a separate legal entity providing municipal services, including investment and operation.

The different organisational forms have implications for financing. While budgetary enterprises are not directly financed from the gmina budget and are meant to cover all costs from their revenues, local authorities are still involved. Surpluses from revenues are transferred to the gmina budget, and in the case of losses subsidies are paid from the budget. Moreover, all investment costs are covered from gmina budgets.

The task of a limited or joint-stock company is to organise and provide municipal services. The main sources of funding are commercial or soft loans. In some cases municipalities being shareholders invest in these companies to enable them to commence operations. The shareholder structure in these companies is not particularly diverse; principally it is the respective municipality or association that founded the enterprise that holds the majority of shares. This procedure gives them influence with regard to the development and operations of the company; for example, the shareholders are entitled to select or recall an executive or supervisory board.

The gminas are in charge of setting the tariffs for utilities and therefore it is often the case that they influence the operations of the water utilities irrespective of organisational form. Because of political pressure local authorities choose to set very low water tariffs which are not sufficient to cover the actual costs (operation and maintenance) of providing the municipal services. To cope with this problem operation and maintenance costs are covered partly by subsidies from local budgets. Any analysis of the poor economic performance and financial situation of municipal companies must factor in the role of local

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<sup>19</sup> Swianiewicz and Herbst, 2002, p.272

<sup>20</sup> See Regulski, 2002 and Stanek 2002

<sup>21</sup> It is worthy of note that gminas that did not change the organisational form until 1997 were obliged to transform their utilities to limited stock companies and automatically became their owners

governments<sup>22</sup>. The most current data (2005) reveals about 1,400 registered water and wastewater utilities in Poland, of which 41 per cent were budgetary organisations and 32 per cent 'commercial code' enterprises<sup>23</sup>.

#### 4.6 Inter-municipal cooperation

Polish municipalities are responsible for the provision of water services within the municipal territory but, as discussed above, also have some freedom in the organisation of this service provision as this can be carried out as a municipal company. Additionally, they are legally entitled to transfer this task to external providers including other municipality or municipalities, thereby forming inter-municipal cooperations. Considering that municipalities in rural areas often consist of a larger city and several rather small settlement units (villages), it may be argued that the structure and organisation of water service providers in these areas follows the principle of an inter-municipal cooperation, particularly when compared to other European countries.

At the beginning of the 1990s, inter-municipal cooperations/associations existed and dealt with infrastructure assets and provisions of common services such as those in the water, transportation and energy sectors, thereby servicing the populations of several different municipalities. Most of inter-municipal cooperations were founded as a direct consequence of the decentralisation process and administrative reform, as formerly state-owned utilities often served more than one municipality – the transfer of ownership to inter-municipal associations was therefore an obvious option.

The aim of a study carried out by the National Council of Regional Auditing Authorities (Krajowa Rada Regionalnych Izb Obrachunkowych) in 2006 was to analyse the performance of 55 inter-municipal associations by evaluating their operations. Inter-municipal associations set their activities themselves and define these in their statutes; most are active in regional development, development and provision of municipal infrastructure, environmental protection and education; 25 of the evaluated municipal associations were active in the field of water supply and sanitation. The findings show that the majority of problems occur in the following areas:

- disbursement of funds by the municipal association
- public procurement
- non-conformity with bylaws

Non-conformity with bylaws seems to occur quite often in practice, in the sense that municipal associations carry out functions and activities which are not (clearly) defined in their statutes, thus giving rise to legal uncertainty about the contracts the associations enter into. Furthermore the evaluation showed that relatively often individual municipalities use inter-municipal associations to attract funding, but then subsequently try to implement projects from these funds solely in their own interest. Two examples of successful inter-municipal cooperation are shown in Box 4.1 below.

Box 4.1: Examples of inter-municipal cooperation in Poland

##### Example 1

The municipalities Karpacz, Kowary, Mysłakowice, Piechowice, Podgórzyn and Szklarska Poręba located in the highlands of south-western Poland close to the Czech border set up the 'Municipal Cooperation Giant Mountains' in 1992. The scope of the cooperation was to improve living standards and achieve sustainable regional

<sup>22</sup> Aziewicz, Tadeusz: Transformacja gospodarki komunalnej w Polsce. In: Program Prywatyzacji Podmiotów Komunalnych. Phare PL0101.07.01. Conference working paper, Gdynia, 2004.

<sup>23</sup> Central Statistical Office, 2008

development. This 'multi-purpose' inter-municipal cooperation covers various areas such as environmental protection, economic development, inter-municipal cooperation based on best practice, joint lobbying, implementation of communal investments, and provision of business-enabling services. For carrying out these tasks the municipal association is entitled to set up separate organisational units or enterprises. Over the last 15 years joint investments in infrastructure and environment have been implemented, resulting, for example, in a modern landfill and an improved communications network. The single-purpose enterprise 'Karkonosze Water Supply and Sewerage System Ltd' was set up in 2007 with the objective of improving the water supply and sewerage system. To achieve this objective, the inter-municipal cooperation submitted a Cohesion Fund application for co-financing a major water and sewerage investment projects with total estimated costs of 38 million Euro.

See for more information: <http://www.kswik.eu> and <http://www.zgk-karkonosze.pl>

#### Example 2

The municipalities of Gdynia, Reda, Rumia, Wejherowo and Sopot, Kosakowo and Wejherowo are situated above an extensive groundwater reservoir that serves as the main source of water for the region. The inter-municipal association 'Reda and Chylonika Valley', which encompasses all seven municipalities, was founded in 1990 and since then has acted as a municipal utility. The activities of the cooperation cover water supply and sanitation, central heating, waste management, as well as environmental protection, environmental education and advocacy. The 'Reda and Chylonika Valley' enterprise finances its activities with fees from its members (proportional to the population of the respective municipality), revenues from its operations as well as subsidies from government institutions and non-state bodies. The general assembly of 'Reda and Chylonika Valley' develops the programme of the association, draws up its budget and also sets the tariffs for water supply and sewage disposal. For carrying out the assigned tasks the municipal association has set up three enterprises organised as limited liability companies; one of them is PEWIK Ltd which was set up in 1992, and all assets of the former state-owned water utility were transferred to this newly established inter-municipal cooperation.

A rather interesting situation can be found in the city of Gdynia as four different utilities are involved in providing water services in this city. Among the providers are the above-mentioned inter-municipal cooperation and a utility partly owned by a private company (see for more information below). PEWIK Ltd charges users in all the municipalities serviced by the cooperation a uniform tariff (2.93 PLN/m<sup>3</sup> or 0.65 Euro/m<sup>3</sup> for water supply and 3.74 PLN/m<sup>3</sup> or 0.83 Euro/m<sup>3</sup> for sewage services). In the city of Gdynia these tariffs are lower than those of Saur Neptun Gdansk Inc but higher than those of Zarzad Morskiego Portu Gdynia Inc for the same services. Two of the utilities focus their services on commercial users.

See for more information: <http://www.kzg.pl/index.php> and <http://www.pewik.gdynia.pl/>

## **4.7 Economics of the sector**

### **4.7.1 Water tariffs**

Until 1990 water tariffs were set centrally and at a very low level (Bartczak et al., 2007). The situation changed when the municipalities took over the responsibility for water service delivery and the setting of tariffs. The 2002 act on collective water supply and sewage collection can be described as establishing the national framework for calculating the water tariff: tariffs are to be set by individual companies based on the necessary revenues<sup>24</sup>. The tariff setting procedure is also covered by secondary legislation. The Ministry of Infrastructure issued an ordinance<sup>25</sup> which covers the tariff setting procedures and the methodology for tariff calculation in detail. The general procedure is that each water company prepares an annual tariff request (including a long-term development plan) according to a prescribed tariff methodology and submits

<sup>24</sup> Necessary revenues should cover: operation and maintenance costs, environmental usage fees, repayments of capital instalments exceeding amortisation value, interest charges on credits and loans, reserves for irregular receivables and profit margins. This approach is in line with the guidelines established in the EC Directive 2000/60/EU (Bartczak et al., 2007).

<sup>25</sup> Ordinance on the establishment of tariffs, standard applications of tariff approval and conditions for settling accounts for collective water supply and sewage disposal, J.L. 02.26.257

it to the Municipal Council at the latest 70 days before the new tariff is to come into effect. Then the council has 45 days to approve the tariff proposal. However, even if the council does not approve it, the new tariff comes into effect automatically 70 days after the submission of the request. Table 4.2 provides an overview of tariffs for different water consumers for the first quarter of 2008.

Table 4.2: Average water tariffs in 2008

	<b>Average tariffs for water and sewerage in the year 2008 (1<sup>st</sup> quarter, PLN/m<sup>3</sup>)</b>					
	<b>Households</b>		<b>Industry</b>		<b>Public Sector Entities</b>	
	<b>Water</b>	<b>Sewerage</b>	<b>Water</b>	<b>Sewerage</b>	<b>Water</b>	<b>Sewerage</b>
Average	2.79 (0.62 € <sup>26</sup> )	3.60 (0.80 €)	2.94 (0.65 €)	4.11 (0.91 €)	2.91 (0.64 €)	3.84 (0.85 €)

Source: Polish Chamber for Water Economy, 2008.

In the first quarter of 2008, the average household tariff for water supply was 2.79 PLN per m<sup>3</sup> (0.62 Euro) and 3.60 PLN per m<sup>3</sup> (0.80 Euro) for wastewater, i.e. a combined water tariff of 6.39 PLN per m<sup>3</sup> (1.42 Euro). The table below provides an overview of the development in water tariffs in Poland, revealing a rather large increase in the tariffs but also large differences between municipalities, as the highest tariffs have been up to 100 per cent higher than the lowest tariffs charged in Poland.

Table 4.3: Development of water and waste water tariffs for households (in 2005 prices)

	<b>Water and wastewater tariffs (PLN per m<sup>3</sup>)</b>			<b>Water and wastewater tariffs (Euro per m<sup>3</sup>)</b>		
	<b>average</b>	<b>min.</b>	<b>max.</b>	<b>average</b>	<b>min.</b>	<b>max.</b>
2001	4.14	2.52	5.96	1.13	0.69	1.62
2002	4.84	3.13	6.92	1.32	0.85	1.88
2003	5.27	3.11	7.76	1.44	0.85	2.11
2004	5.34	3.59	7.53	1.45	0.98	2.05
2005	5.62	3.9	7.97	1.53	1.06	2.17

Source: Bartczak et al., 2007 and authors' own calculation

A reduced<sup>27</sup> VAT rate of 7 per cent is levied on water and wastewater services in Poland. At household level, expenditure on these services amounts up to 1.5 per cent of household expenditure and affordability is comparable to other new EU member states (Bebeka, 2003)<sup>28</sup>.

Nevertheless if prices increase as forecasts predict affordability might become an issue, especially for households with low incomes, mainly found in rural areas. As the connection rates in rural areas are very low, investment in the water sector is required. Setting water tariffs according to the full cost recovery principle might lead to extraordinary increases in water tariffs, which would also be reflected in increased affordability ratios<sup>29</sup>.

<sup>26</sup> Conversion of PLN to € is based on interbank exchange rates of 10 February 2009.

<sup>27</sup> The regular VAT rate in Poland is 22%.

<sup>28</sup> It has to be noted that the determination of the affordability rate is not trivial. For instance, a study carried out by the EBRD determined an affordability ratio of 2 per cent for the average Polish household (Fankhauser and Tepic, 2005).

<sup>29</sup> See for a more detailed discussion: Bebek, 2003 and Fankhauser and Tepic, 2005.

#### 4.7.2 Investments in the water sector

It can be argued that the driving force behind water sector investment is the guidelines set out in the EU *acquis* in the water sector. For instance, Poland must comply with the requirements of the Urban Wastewater Treatment Directive in 2015. This constituted a powerful engine of reform in the water and wastewater sector considering that every agglomeration in Poland with more than 2,000 population equivalents will need to collect and treat wastewater in accordance with standards set out in the relevant EU directives in the near future. Estimations indicate that total investment needs amount to 18,549 million Euro to 2015<sup>30</sup>.

As highlighted above there are large differences in connection rates between urban and rural areas. In particular, infrastructure lags behind in rural areas and disparities in the sewage sector are enormous. For instance, latest figures reveal that in 2008 wastewater treatment plants serviced only 62 per cent of the population. The connection rate is 87 per cent in urban areas as opposed to 24 per cent in rural areas where about 39 per cent of the population lives. The connection rate in water supply is higher (95 per cent) and disparities between areas are lower<sup>31</sup>.

Significant funds for investments in the water sector are provided by the European Union in the form of grants from the Structural Funds and the Cohesion Fund. The relevant program is the 'Operational Programme Environment and Infrastructure 2007-2013' with a total budget of 37.5 billion Euro for the period. Priority Axes one is devoted to the water and wastewater sector, especially the construction of sewage systems and wastewater treatment plants in municipalities above 15,000 inhabitants by the year 2015. A total of 2,784 million Euro is earmarked for water and sewage management.

This is in line with the National Programme for Municipal Sewage Treatment, which states that Poland must construct and modernise wastewater treatment plants in 318 agglomerations above 15,000 inhabitants and expand and modernise the sewerage network in 459 agglomerations.

As European Union Funds only finance up to 85 per cent of the eligible investment costs, the need for co-financing arises. National co-financing for environmental projects in Poland is provided by the National Fund for Environmental Protection and Water Management in the form of loans and subsidies. The fund was established in 1989 and its main objective is to provide financing to investment projects that serve the protection of the environment. However, these funding sources in general do not cover full investment costs and therefore municipalities have to co-finance investments themselves. It makes no difference whether the required investment in the water infrastructure is made by an individual municipality or by an inter-municipal cooperation. In both cases municipalities have to contribute. The main source of co-financing for municipalities is in the form of bank loans. Municipalities are also increasingly tapping funds directly from the capital markets via the issuance of municipal bonds (see for a discussion Box 4.2).

##### Box 4.2: Municipal bonds in Poland

A relatively new and innovative way to obtain long-term finance for infrastructure investments in Poland is through the issuance of Revenue Bonds on the capital market. Such bonds allow issuers to obtain long-term funding of up to 20-25 years and are excluded from the debt limit of the local government. The bonds can be seen as an alternative to bank loans.

The difference between Revenue Bonds and 'standard' bonds (so-called General Obligation Bonds) is that the repayment of Revenue Bonds is only secured by a specific revenue stream attached to specific assets, and not by all assets of the issuer as in case of a General Obligation Bond. The difference is similar to the distinction between 'corporate finance' and 'project finance' in the case of bank lending<sup>32</sup>.

<sup>30</sup> See Berbeka, 2003. Some caution has to be taken when assessing the figures indicating the investment needs in the new EU member states as Berbeka clearly stated. The reason is that these figures are constantly being updated.

<sup>31</sup> See: Główny Urząd Statystyczny: Ochrona Środowiska. Informacje i opracowania statystyczne. Warsaw, 2008.

<sup>32</sup> In the international lending market some key concepts are distinguished. 'Corporate finance' denotes financing transactions in which lenders base their credit decisions on the general financial position of the borrower, and not on specific assets or income streams. In 'Asset Finance' transactions the future value of already existing assets is the key factor. 'Project Finance' transactions denote a financing structure in which the repayment of the loan

Bonds can either be issued via 'private offer' (sale directly to a specific investor, also called 'private placement' or via 'public offer'. In Poland, 85 per cent of all municipal bond issues are private offers and 15 per cent are public offers, reflecting the lower issuance costs and lower administrative burdens in the case of private offers. The main difference between the two methods is that under a public offer bonds are subsequently traded on the regulated market of the Stock Exchange, which adds to their transparency and liquidity. However, a public offer leads to additional costs (e.g. 0.25-0.40 per cent placement costs to be paid to the arranger, fees for registration, etc). It is worth noting that approx. 75 per cent of all municipal bonds are held by banks. This means that even if municipalities issue bonds instead of borrowing from banks, banks remain the main – although indirect – financiers of local authorities. One reason for the attraction of bonds could be the need for local authorities to apply the Public Procurement Law when borrowing from banks, which is not required in the issue of bonds.

In Poland the issuance of Revenue Bonds is regulated by the Bond Act 1995. To date, only two major revenue bond issues have take place in Poland, by the water company Miejskie Wodociagi I Kanalizacja w Bydgoszczy (MWiK) at 400 million PLN and the transport company Miejskie Przedsiębiorstwo Komunikacyjne (MPK) at 166 million PLN. The Revenue Bond issue of MWiK has also been supported by EBRD which purchased parts of the issue.

In the case of the issue of the Bydgoszcz water company, the city concluded a Municipal Support Agreement to enhance the creditworthiness of the issue. The agreement regulates the following, i.e. that:

- the tariff setting procedure shall be based on a full cost-recovery basis
- the company shall not pay any dividends to the city during the term of the bond
- there shall be no change in the ownership structure of the company
- the city should not interfere with the company management
- the city shall make capital injections if the financial performance of the company falls below certain thresholds
- the city shall support the investment programme by issuing building and other permits in a timely manner

Although bonds are less flexible than bank loans in terms of repayment and disbursement, they allow the funding of large amounts at interest rate margins comparable to that of bank loans, but generally with longer maturities. Furthermore, through a bond issue the issuer enjoys a higher degree of visibility, not only among financial market participants but also among the general public. However, in the case of public issues, a minimum size of 100 million PLN should be envisaged to utilise the full benefits of a bond issue.

#### **4.8 Private sector participation**

The inclusion of the private sector is commonly seen as an option to raise the funds for water infrastructure investments. Furthermore, it is often expected that the involvement of the private sector will secure efficiency gains in the provision of water services. However, there has been little recent activity in increasing private sector participation in the Polish water sector, mainly for political reasons. One of the reasons may be a fear on the part of municipalities that they would lose ownership of their infrastructure.

The private sector tends to become involved when necessary investments are beyond the financial capabilities of the municipality<sup>33</sup>. A new Public-Private Partnership (PPP) law that was introduced in 2005

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depends on the financial sustainability of a specific investment project. Often, this is associated with 'limited recourse', meaning that the project promoters limit their guarantees to repay the loan, e.g. by setting up a special purpose company.

<sup>33</sup> See for example: <https://www.uktradeinvest.gov.uk/ukti/ShowDoc/BEA+Repository/345/418714> and World Bank, 2007.

(details see Box 4.3 below) was intended to change this situation. At present, four smaller municipalities are seeking Public-Private Partnerships to improve their water sector infrastructure.

#### Box 4.3: Polish Public-Private Partnership (PPP) legislation

In 2005 the Act on Public-Private Partnership was introduced, in line with some other Central European Countries such as the Czech Republic, Hungary and Slovenia. The act defines a PPP quite generally as a 'cooperation between a public body and a private partner, based on a public-private partnership agreement and serving the performance of a public task'. In Poland, the Ministry of Economy is the driving force behind the PPP Act.

Any one of the following activities can be regarded as a specific PPP:

- designing and execution of an investment project necessary for the performance of a public task
- provision of public services
- activities aimed at economic and social development (e.g. revitalisation of a city area)
- pilot, promotional, scientific and educational schemes supporting the performance of a public task

According to law, a public authority may only then carry out a project using the PPP approach if a mandatory 'analysis' of the risks, the economic and financial aspects and a comparison between 'traditional' and 'PPP' procurement demonstrates that a PPP is the most favourable solution.

To date, based on general information available, not a single PPP project has been procured in Poland since the act was introduced. One reason for this failure often cited is the 'excessive' requirements in relation to the scope of the necessary risk analysis, which is considered to be too demanding both for the public and private sector.

Most recently, in December 2008, several amendments to the PPP Act were introduced. The most important amendment was that several administrative burdens, especially those connected with the "analysis", were deleted.

For further information see: Wiercinski/Kwiecinski/Baehr, 2008.

As mentioned above, private sector participation in the water sector is not very apparent in Poland, which contrasts to the situation in other new EU member states, such as the Czech Republic. One example of private participation in the water sector can be found in Gdansk, which was already established in the early 1990s. Gdansk has about 450,000 inhabitants and is the sixth largest city in Poland, and a fast-growing industrial and tourism centre. A 30-year concession was awarded to the French operator SAUR. Subsequently, a joint venture with the name 'Saur Neptun Gdansk' (SNG) was established between Saur and the City of Gdansk with the majority share (51 per cent) held by Saur. It is a typical French 'affermage' model, where the private operator leases the facilities from the city and is only responsible for operation and maintenance as well as collecting the tariffs from the users. The assets are still owned by the municipality, in this case by the City of Gdansk.

Starting in 2004, the city set up a new, entirely municipally owned Asset Holding Company (Gdansk Water Infrastructure Company – GIWK), to which all water and wastewater assets were transferred. In order to comply with EU Directives GIWK has to upgrade its water and wastewater system. Total project costs are estimated to be 133 million Euro. 75 per cent of the investment costs will be covered by a Cohesion Fund Grant, the remainder by an EBRD-loan. GIWK will repay the EBRD loan by the leasing charges payable by Saur. The main reason for setting up this holding company is to avoid potential problems of state aid when applying for EU grants from the Cohesion Fund. This policy of establishing municipally-owned Water Infrastructure Owning Companies is a recent development in Poland. The reason for their establishment – apart from the above-mentioned state aid related issues – is to avoid VAT on EU-funded projects<sup>34</sup>.

<sup>34</sup> See for example: <https://www.uktradeinvest.gov.uk/ukti/ShowDoc/BEA+Repository/345/418714>

Additionally, these companies are assumed to be able to raise finance at more beneficial rates than the municipality plus be able to build up capacity for preparing and managing projects as well as managing water utilities more efficiently.

Besides the early examples of private participation in Gdansk only three further projects have been reported:

- PWiK Dabrowa Gornicza (35% RWE Group, 66% Dabrowa Gornicza Municipality)
- AQUA S.A. Bielsko-Biala (Bielsko-Biala Municipality 51%, United Utilities Poland BV 33%, other private shareholders 16%)
- PWiK Tarnowskie Gory (63.5% Compagnie Generale des Eaux Societe en Commandite par Actions Paris, 25.1% Tarnowskie Gory Municipality, 3.1% Miasteczko Slaskie Municipality, 8.3% employees)

The last example is of some interest in the context of inter-municipal cooperation as this enterprise includes a private company and two municipalities. It could be the case that formation of this form of inter-municipal cooperation represents the way forward in Poland, as at least it would overcome some of the problems in the Polish water sector highlighted in a report commissioned by the World Bank and OECD: 'The small scale of the majority of Polish water companies is an obstacle in the way of further private involvement. There were 4,700 water and wastewater companies in Poland in 2002. About 75 per cent of these companies are too small to attract foreign investment by themselves. Amalgamation of these water companies is a political question and cannot be resolved easily (Maslyukivska et al., 2003, p.41)'.

#### 4.9 Conclusion

The structure of the Polish water supply and wastewater sector is currently facing severe challenges, in particular in the context of fulfilling the EU requirements laid down in the environmental acquis. Additionally, the political, legal and institutional frameworks have been revised as part of the decentralisation process relatively often since the early 1990s.

It can be noted that inter-municipal cooperation has a role in the water sector in Poland and it can be assumed that formation of further inter-municipal cooperation would be desirable. This would provide a number of favourable conditions, in particular in rural areas, as it would require the current small-scale units in the water sector to join forces and establish larger units, providing water services not only to a single municipality but to several municipalities. Examples of inter-municipal cooperation can be found throughout Poland and may be linked to a model of private sector participation as in the case of PWiK Tarnowskie Gory, composed of two municipalities and a private company.

However, the formation of inter-municipal cooperation is not straightforward as municipalities' expectations may diverge, as highlighted in Box 4.4 describing the situation in the municipal association 'Union of Upper Raba Communities and Kraków'.

Box 4.4: The situation in the municipal association 'Union of Upper Raba Communities and Kraków'

In order to stop water degradation in the Raba river basin and to promote regional development the municipalities located in the Upper Raba River basin and the city of Krakow founded the municipal association 'Union of Upper Raba Communities and Kraków' in 1994. The association currently has 14 members which work on implementation of the 'Comprehensive Program to Maintain Water Purity in the Raba River Basin Area - from the Sources to the Dobczyce Dam', a plan that aims to provide a comprehensive solution to the problems connected with the collection and treatment of sewerage in the entire area of the Upper Raba Basin.

The costs of the programme are approx. 100 million Euro and co-funded from different sources: 50 per cent from the central government budget, 25 per cent from various environmental protection funds (the National Fund for the Protection of the Environment and Water Management, Małopolska Fund for the Protection of the

Environment and the EcoFund), a 20 per cent contribution from the members of the association, with the remaining 5 per cent coming from donations from the Municipal Water and Sewage Company in Krakow.

The programme was to be completed by 2005, but several problems occurred during its implementation. Due to disputes over the priorities of the association, one member (the city of Myslenice) has left the association and the city of Krakow is considering making the same move. The basic problem was that historically demand for water has been rising in Krakow, and in the 1970s it became necessary to draw clean water from the Raba river and construct an equalising reservoir. Unfortunately, the second phase of the reservoir project, consisting of the revision of water and sewage management in the Upper Raba basin region, was never realised. As a result the quality of the drinking water suffers, and the municipal association of the Union of Upper Raba Communities and Kraków was founded with the goal to deal with this problem.

Disputes emerged within the association about who is polluting the water (it is claimed the city of Myslenice is the main polluter), where investments in sewage treatment plants are made and contributions to the association's budget (every member contributes to the budget proportionally to its population, consequently Krakow invests most). Power relations in the association's board, which was mainly composed of the mayors from smaller villages, did not always accord with Krakow's requests, leading to a situation where investment decisions did not always meet the city's needs. Hence to avoid rising water prices, Krakow is now considering leaving the municipal association and investing in adopting new technologies in the city's own wastewater treatment facility for its own benefit.

Sources: Bartosik, 2008 Pelowski, 2007, and <http://www.gornaraba.krakow.pl/>

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## 5 Case Study Romania

### 5.1 General information

In 2007 Romania joined the European Union (EU) and, with a population of approx. 21.6 million, becomes the seventh largest member. EU accession means that Romania now faces the challenges this imposes and must transpose EU directives into domestic legislation as is the case for all new EU member states. Furthermore the transformation of the country's infrastructure, including that in the field of water supply and sanitation, will require significant investment in order to comply with the requirements laid down in the environmental acquis.

Romania's GDP was approx. 124 billion Euro (2007) and when expressed on a per capita basis is the second lowest in the EU 27, amounting to 10,500 Euro per capita<sup>35</sup> (based on the purchasing power standard (PPS)) as compared to the EU-27 average of 24,900 Euro PPS.

Since the collapse of Communism, political life and the institutional profile of Romania have undergone major changes, as in other eastern European countries driven by a process of decentralisation involving the transference of power and ownership rights to local governments, i.e. municipalities and communities. This process represents a clear turn away from the centralised structure of the country. Today the Romanian water sector is still confronted with ongoing change. After a period where efforts were directed towards decentralisation in the water sector, Romania has changed course in recent years, starting with a process of regionalisation.

Romania is endowed with all types of freshwater resources (rivers, natural and artificial lakes and groundwaters). The largest water sources are the rivers, and especially the Danube, whereas lakes make an insignificant contribution to water resource volume despite their high number. The usable water resource is 2,660 m<sup>3</sup>/inhabitant p.a., compared with the Europe-wide average of 4,000 m<sup>3</sup>/inhabitant p.a. This figure reflects contamination of the water reserves, and if only surface water sources are considered the figure shrinks to approx. 1,770 m<sup>3</sup>/inhabitant p.a. This indicates a comparatively small water resource, with Romania being ranked ninth among the EU-27 (Ministry of Environment and Sustainable Development, 2006).

Recent figures reveal rather low connection rates with regard to water supply and sanitation as around 52 per cent of Romania's population is connected to both services. A staggering 70 per cent of wastewater is either untreated or insufficiently treated (Frone, 2008).

The administrative structure of Romania is based on a three-tier system distinguishing between the central/national level, county/regional level and communal level covering different municipalities.

### 5.2 Regulatory and legal framework

#### 5.2.1 Water law

In Romania, the first nationwide provision regarding water protection was outlined in the 'Law for Festering' from 1891 and was followed by the Law of Water Regime which came into effect in 1927. After 1950 the legislative framework was changed and several regulations were promulgated: Decree 143 regarding rational water use, development and protection in 1953; the Water Law (Law No. 8), a specific law derived from Law No. 9/1973 concerning environmental protection in 1974; and Law No. 1 in 1976. The law approved a national programme for the development of river basins in Romania which was based on frameworks, schemes and development plans drawn up by the National Water Council. Law No. 8/1974 was later completed with Law No. 5/1989 concerning rational water management, water quality protection and control (UNEP, 1999).

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<sup>35</sup> GDP per capita was 5,800 Euro in 2007 (Eurostat).

Today, the basic legislation incorporating all legal and regulatory measures for water quality, water management and water works, is represented by the following documents, whereas the Water Law 107/96 and the Environmental Protection Law 137/95 together constitute the regulatory and legal framework for water management.

- Water Law 107/96
- Environmental Law 137/95
- Environmental Strategy
- Strategic Action Plan
- National Environmental Action Plan

The Water Law 107/96 is the fundamental legal act on water management in Romania as it applies to all water bodies and declares them to be part of the Romanian public patrimony, which makes protection, re-evaluation and the sustainable development of water resources actions of general interest. The Water Law also established the river basin management of water resources concept (surface and groundwater); in practice it regulates the ownership of water and foresees the major water assets to be public.

Obtainment of a permit for any kind of water use is necessary, and licences are also needed for wastewater discharges to water bodies as well as drainage water from landfill and mines. Referring to latter, the law states that water supply for the civil population prevails over the use of water for other purposes. The responsibility for drinking water supply, wastewater disposal and treatment belongs to local authorities, whereas the water users are obliged to prepare and apply their own plans for prevention and control of accidental pollution that might occur as the result of their activities. The law provides for the establishment of River Basin Committees and protection zones where necessary.

Romania arranged a transitional period for the implementation of the EU Directive on the quality of drinking water (98/83/EC) with the European Commission to the end of 2015. The Urban Wastewater Treatment Directive (91/271/EEC) has to be implemented in Romania by the end of 2018.

Table 5.1: Sector ‘water/sewage disposal’ – timeline of implementation of EU regulations

Council Directive 98/83/EC on the quality of water intended for human consumption	2015
Council Directive 91/271/EEC concerning urban waste water treatment	2018

Furthermore, the Romanian government plans to have wastewater sewer and wastewater treatment schemes in place for 263 municipalities with more than 10,000 population equivalents (p.e.) by 2015, and for 2,346 municipalities with between 2,000 and 10,000 p.e. by 2018.

The above-mentioned Environmental Protection Law is not discussed in detail here; it has general provisions relating to water resource protection and, moreover, regulates and issues permits for economic and social activities with environmental impacts.

### 5.3 Institutional set-up

#### 5.3.1 Responsibilities of authorities

The responsibility for drinking water supply, wastewater disposal and treatment belongs to the local authorities and comprises the management of these duties, whereas water users are obliged to prepare and apply their own plans for prevention and control of accidental pollution that might occur as the result of their activities. The points below have been summarised from Water Time (2005).

The Environmental Protection Law and the Water Law form the basis of the Romanian water management system, which is made up of three main institutions:

a) Ministry of Environment and Sustainable Development

The sphere of authority of the Ministry Environment and Sustainable Development includes drawing up the national strategy and policies in water resource management and protection. Among other competences the ministry, together with the State Water Inspectorate, is responsible for the inspection and control of implementation of legal provisions.

b) National Water Authority 'Apele Romane' and its river basin branches and provincial offices

Apele Romane, a state-owned joint-stock company, is in charge of implementation of the national water management strategy set by the Ministry of Environment and Sustainable Development. It is split into local offices and eleven river basin branches and is mainly assigned with management tasks. The cost of its operations is passed on to the users through the water fees and charges.

c) local Environmental Protection Inspectorates (EPIs)

The responsibilities of the Romanian Environmental Protection Inspectorates (EPI) are general environmental monitoring and the issuing of environmental permits. To be able to handle issues which arise from the management of waste and wastewater at a regional or river basin level, the EPIs are arranged in 41 local EPIs, including one for the City of Bucharest. Eight of the 42 EPIs (in Bucharest, Constanta, Giurgiu, Baia Mare, Drobeta Turnu Severin, Targu Mures, Piatra Neamt and Timisoara) are established as Regional EPIs. This structure makes closer cooperation with other local inspectorates and the provision of high quality laboratory services possible.

In addition to the above mentioned governmental institutions, other ministries may exercise powers, e.g. the Ministry of Public Health controls drinking water quality.

Further stakeholders are the national company 'Romanian Waters', the national authority for water resources management, which is responsible for implementation of the environmental and water strategies, policies and regulations (set by the Ministry of Environment and Sustainable Development), as well as local Environmental Protection Agencies and other scientific institutions with environmental concerns as well as NGOs.

The National Regulatory Authority for Public Utilities (Autoritatea Nationala de Reglementare pentru Serviciile Publice de Gospodarie Comunala - ANRSC) is supervised by the Ministry of Public Administration and organised as a public institution of national interest and is a separate legal entity. The scope of ANRSC includes the issuing of licences to all operators of city and town management services and approving the prices and tariffs.

### **5.3.2 Water service utilities**

The Romanian water sector is currently in the process of major change and revision, which is in particular evident in relation to operation of the water and wastewater systems. The newly adopted policy implies major institutional change and is part of a regionalisation strategy culminating in the merger of individual/municipal water operators to create larger regional operators. This policy-driven regionalisation process aims to improve the efficiency of the water and wastewater sector. However, it is worth discussing the political and historical development of the water sector as a background against which the regionalisation process can be understood.

In the early 1990s and after decades of centralised water management, Romania started the process of decentralisation by transferring responsibilities to the local administration, i.e. municipalities. Water supply and wastewater disposal are now mainly carried out by the municipalities themselves but changes have been apparent in the context of the regionalisation process. In Romania only a few utilities are run by private companies; in 2006 four public private partnerships existed or were under implementation and another four municipalities where about to adapt this corporate form.

The legal and institutional system foresees that municipalities have the right to form inter-municipal cooperations. However, the Romanian water sector is facing a considerable challenge with regard to the investment in water infrastructure required for compliance with the above-mentioned EU directives. Only a small number of large municipalities were able to raise the necessary funds for rehabilitation and extension of their water and wastewater infrastructure.

### 5.3.3 Water supply

The drinking water supply network has been extended continually over recent years, with the increase in network length of 20.1 per cent from 1995 to 2002 serving as an indicator in this regard. The network's total length is approx. 40,269 km and provides service to 71 per cent of the total length of streets in the urban area. 86 per cent of the residential population of 256 urban settlements (with approx. 11.5 million inhabitants) has access to drinking water through the public network. In 55 urban settlements the entire population is connected to the public water supply system.

### 5.3.4 Sanitation

In urban settlements 83 per cent of the population and in rural settlements only 11 per cent is connected to sanitary sewage networks. Out of the total of 2,609 urban settlements with more than 2,000 population equivalents, 340 agglomerations have wastewater treatment plants at their disposal. The type of wastewater treatment plants are shown in Table 5.2 and an overview of all municipalities is presented in Table 5.3. The following tables are based on Romanian Ministry of Environment and Sustainable Development's 'Sectoral Operational Programme: Environment'.

Table 5.2: Existing wastewater treatment plants

Mechanical wastewater treatment plants	Mechanical-biological wastewater treatment plants	Mechanical-biological-chemical wastewater treatment plants	Mechanical-chemical wastewater treatment plants	Total wastewater treatment plants (in settlements)
112	212	10	6	340

Source: Romanian Ministry of Environment and Sustainable Development

Table 5.3: Total number of municipalities

	Municipalities	Total population equivalent	% out of the total population equivalent
2,000 – 10,000 p.e.	2,346	10,192,131	39
10,000 - 150,000 p.e.	241	7,012,655	27
> 150,000 p.e.	22	9,562,512	34
Total	2,609	26,767,308	100

Source: Romanian Ministry Environment and Sustainable Development

Many of Romania's settlements are quite small. 92 per cent of local administrative units have fewer than 10,000 inhabitants and 71 per cent have fewer than 5,000. The average population of municipalities (excluding Bucharest municipality) is 6,900, which is comparable to Italy or Germany.

The range of service covered by the water utilities is as follows:

- 52% of the population benefit from both water supply services and sewerage system
- 16% of the population benefit from water supply services but not the sewerage system
- 32% of the population do not benefit either from water supply services or the sewerage system

#### **5.4 Regionalisation of water services**

As mentioned above the most recent development in the Romanian water sector – regionalisation – is of particular interest in the context of inter-municipal cooperation. The process of forming regional water supply and wastewater utilities through the combination or merger of several local utilities can be described as a form of inter-municipal cooperation. The focus of the regionalisation process in the Romanian water sector is ‘to optimize the performance of the operations and the quality of supplied services, by using joint resources and facilities’ (Frone, 2008). The concentration process applied to utilities aims to provide services to a range of municipalities within a geographical area, based either on hydrographical considerations or administrative boundaries (municipalities, county). The process aims to overcome the fragmented structure of the administrative units in the water sector and also to achieve economies of scale.

One of the often stated problems and challenges in the water sector is the excessive number of small municipalities (see Table 5.3), in particular in the context of efficient management of utilities and, even more importantly, the inability of these municipalities to raise the necessary funds for the required investment in water infrastructure. Although local representation is a desirable feature of these communities (since decision power is close to the citizen), they tend to become inefficient, as small communities are unable to retain the minimum managerial, technical and financial capacities required. Consequently, small municipalities tend not to have a sufficient, minimum local economic basis for reasonable revenue collection. Population size is not large enough to be able to benefit from economies of scale or scope in production and consumption of public goods that could justify their separate existence.

Currently water and wastewater services are provided by some 950 regional and local utility companies. All these utilities function under the oversight of the regulatory agency ANRSC. The solution adopted by the Central Authorities responsible is to concentrate the management of the approx. 950 water and wastewater services into around 40-50 stronger operators, established and developed by merging the existing local utilities into so-called Regional Operating Companies (ROC). This development facilitates access to the EC Structural and Cohesion Funds in the water and wastewater sector.

The institutional framework of the process of regionalisation in the water and wastewater sector and utilities is based on three key elements (Boer, 2007):

- The Regional Operating Company (ROC): this company, owned by the municipalities, is responsible for the management and operation of water service delivery in the region.
- The Intercommunity Development Association (IDA): a collaborative structure of the municipalities (i.e. an association of municipalities) owning the ROC. The municipalities delegate their rights to IDA. IDA acts therefore as a contact representative to the ROC and represents the interests of the municipalities (shareholders) in all questions relating to service delivery, tariffication and investment.
- The Contract of Delegation of Services’ Management: the core of the operational and institutional organisation of the regionalised water and wastewater service management. The contract has a validity of 25 years. The contract is assigned directly to the ROC by IDA in the name of the ROC’s members, i.e. the municipalities. It is a unique contract for the entire project area, covering the entire territories of the municipalities that delegate water and sewage services to the ROC.

As common shareholders the individual local authorities (municipalities) form Regional Operating Companies (ROC) and set up Intercommunity Development Associations (IDA) to which they delegate their shareholder rights. IDAs, representing the local administrations involved, enter into service delegation contracts either with experienced utilities operators that have a proven record of capacity to prepare and implement investments of the size proposed in the programme, or with new regional operators formed by groupings of existing operators (Frone, 2008).

Accessing EU funds for investment needs will represent one of the incentives to move from a large number of weak and small service providers to a limited number of larger and strong operators, capable of providing better services at affordable tariffs which ensure full cost recovery and loan reimbursement for the local authorities.

The legal framework for the regionalisation process is Law No. 215/2001 (legislative framework for public utility services) and Law No. 241/2006 (legislative framework for water and sewerage services). The regionalisation process has begun in Romania and IDAs and ROCs have already established in several regions<sup>36</sup>.

When discussing this development it should be noted that the process of regionalisation of water services was initiated by the Romanian authorities and supported by EC pre-accession programmes. This process does not lead to major changes with regard to institutional arrangement as ownership of public assets as well as the responsibility for service provision at affordable cost lie with the local authorities, i.e. municipalities. The above-mentioned delegation contract does not affect the ownership of the assets as they remain public property. The setting of water tariffs is carried out by the ROC but the regulations established by ANRSC must be adhered to, including the principle of full cost recovery.

## **5.5 Sector economics**

### **5.5.1 Water tariffication**

Water tariffication policy has undergone several revisions over the past 10 to 15 years in Romania. The most recent policy adopting the latest methodology for setting, adjusting and changing the tariffs for water and wastewater services was published in March 2007<sup>37</sup>.

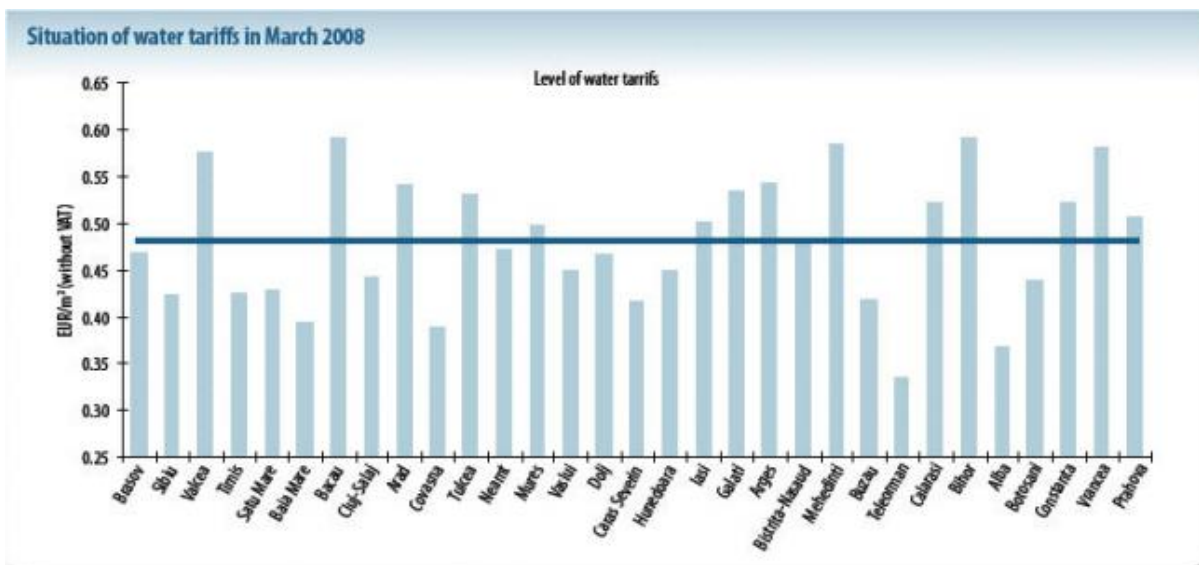
The tariffs for drinking water supply and sewerage applicable in early 2008 show some differences between the counties covered in this overview (see Figures 5.1 and 5.2). The data presented reveal the tariff in the largest city in one of the 31 counties. Differences between the cities/counties exist, and probably one of the most interesting aspects is that on average the drinking water tariffs (approx. 0.48 Euro per m<sup>3</sup>) are on average higher than the sewerage tariffs (approx. 0.23 Euro per m<sup>3</sup>). Unfortunately the data does not reveal whether the tariffs are levied by ROCs or by municipal water operators.

Figure 5.1: Situation of water supply tariffs in selected counties in Romania (2008)

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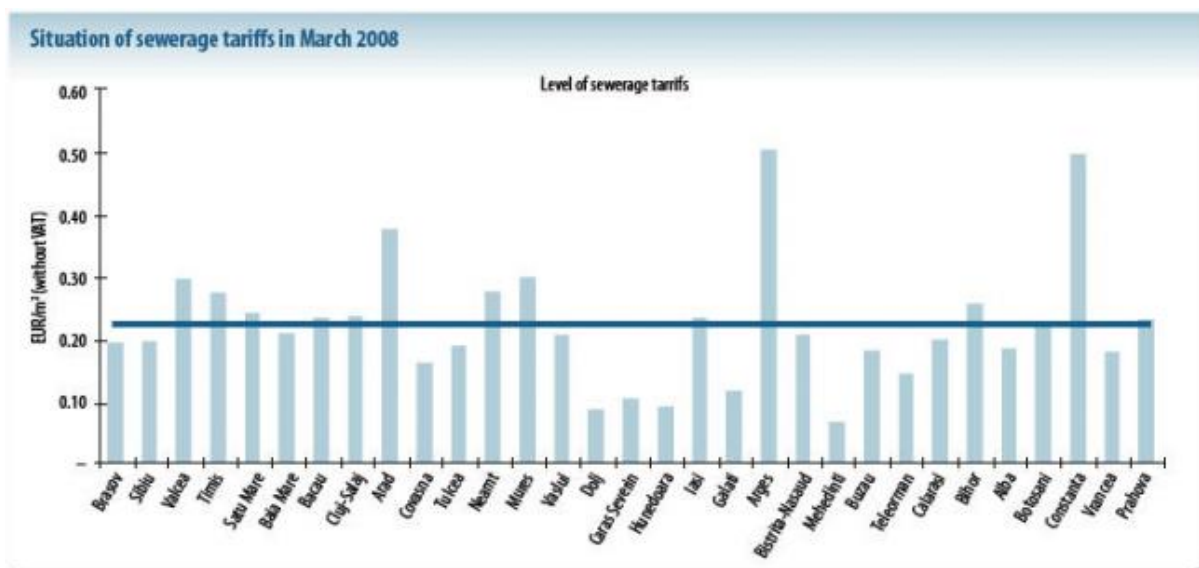
<sup>36</sup> In 2008 22 regional companies have already been established and 15 are nearing completion, whereas another six are in various stages of development. At the end of 2009 the regionalisation process of all 42 counties should be completed (Frone, 2008).

<sup>37</sup> See for a detailed discussion of the past water tariff policy: Platon and Dulcu, 2004



Source: Boer, no date given

Figure 5.2: Situation of wastewater tariffs in selected counties in Romania (2008)



Source: Boer, no date given

As mentioned above a new methodology for establishing water tariffs came into force in 2007, involving the following key elements (Boer, no date given):

'The tariffs should assure the economic viability of the operators, should meet the interest of the customers including the issues related to affordability and should create the premises for environment protection and conservation of water resources ...

The tariffs set should consider the following elements: production and operating expenses; maintenance expenses; depreciation; costs for environmental protection; financial costs; costs related to concession contract; development costs (financial resources for development and investments); profit share.'

A specific clause for ROCs forms part of the methodology in that ROCs are required to unify the tariffs for the entire area of operation according to the concession contract. This rule is taken into account in all cohesion fund applications and is also one of the requirements laid down by the Ministry of Environment and Sustainable Development and by the European Commission to ensure that the solidarity principle is applied in the water sector (Boer, no date given). However, it has to be questioned whether tariff unification is in accordance with the 'user pays' principle.

### **5.5.2 Investment in the water sector and its financing**

According to the commitments made in the negotiation process, Romania must comply with relevant environmental EU standards, such as those laid down in Directive No 91/271/EC on urban wastewater treatment which must be met by the end of 2018. The cost assessment for the implementation of these provisions amounts to approx. 19 billion Euro in the period up to 2018, and to approx. 9.5 billion Euro up to 2013 (5.7 billion Euro for wastewater treatment and 3.8 billion Euro for sewerage systems). Romania like all new EU member states is eligible for financial support from the EC for environmental infrastructure. However, the total funds provided by the EC are limited to around 3 billion Euro for the period 2007-2013. This clearly shows that co-financing of the investments is one of the greatest challenges Romania has to face. The formation of ROCs, i.e. the regionalisation process, should make it easier for municipalities and counties to raise the additional funds, e.g. the co-financing.

On the basis of the outlined legislation, environmental infrastructure projects in Romania can be financed by various mechanisms: (i) the national budget, (ii) local budgets, (iii) commercial funding or loans, (iv) payments by international financial institutions (IFIs), or the (v) National Environmental Fund (Platon and Dulcu, 2004):

(i) From the national budget only investments for managing raw water sources, flood protection, reservoirs, hydro dams and other water works are financed. According to the law on local administration of 1999 no funding from the national budget of local water and wastewater works is foreseen, since local governments have financial autonomy and are in charge of municipal infrastructure. This lack of support from the central government led to a lack of sovereign guarantees for municipally raised loans. Hence the Ministry of Finance established a guarantee fund specifically for the EU funds.

(ii) Local budgets are the main source of finance for water infrastructure; however, most municipalities lack the resources to finance environmental infrastructure projects. This extends also to limiting the possibility of international co-financing of projects as these often require a contribution (e.g. 25 per cent of the overall amount in the case of EU financing) that is still beyond the direct funding capacity of local budgets. The EBRD or EIB, however, usually provide loans to cover the gap.

(iii) Commercial bank loans could be another funding option, but this is problematic for municipalities. To obtain the loans However, municipalities can issue Municipal Bonds on the international market. This mechanism is becoming more and more widely used, but private capital involvement is still in its infancy. In principle, water utilities of all organisational forms can borrow via commercial loans, but as most of the utilities are incurring losses banks are reluctant to make these loans. Only few have occurred in practice due to the costs and the bureaucracy involved.

(iv) Besides national mechanisms, international donors such as international finance institutions and particularly the EU play a crucial role in financing the Romanian water sector. The European Commission approved the European Regional Development Fund (ERDF) and Cohesion Fund (CF) operational programme for Romania for the period 2007-2013, entitled 'Operational Programme Environment' (SOP ENV) (Ministry of Environment and Sustainable Development, 2007). As mentioned above the funds earmarked for the Romanian programme of 'extension and modernisation of water and wastewater infrastructure' are capped at 2.44 million Euro; it is therefore quite evident that the EU contribution can only co-finance a limited number of infrastructure projects, also when taking into consideration that the co-financing rate amounts to 85 per cent of the eligible investment costs. The managing authority is the Ministry of Environment and Sustainable Development.

(v) In 2000 the Romanian Environmental Fund was set up as a special fund separated from the overall national budget (Law 73/00) and is foreseen to support and achieve the priority objectives of public interest from the National Action Plan for environmental protection. National and international environmental norms and standards are to be observed. The fund receives financing from the central budget, from local budgets as well as from environmental fees and fines. Based on the European principles where the 'polluter pays' and the 'producer is responsible', the Environmental Fund has been created by setting up a system of taxes based on the polluting activities of individuals and companies. The sums collected are to finance environment protection projects as grants (subsidies) or loans. In 2006, the fund's budget amounted to approx. 55 million Euro of which almost 3.9 million Euro was used directly for water or sanitation measures (Danuletiu and Teiusan, 2007). But it has to be stated clearly that the contribution of the fund to alleviating the considerable challenges Romania is facing in the water sector will be almost negligible.

### **5.5.3 Affordability and cost recovery**

Water tariffs should be set based on the principle of full cost recovery, but due to low economic performance and low GDP per capita it may be rather difficult to adhere to this principle. The Romanian authorities and utilities are faced with the dilemma that water tariffs are too low, i.e. do not comply with full cost recovery, but at the same time rather high in relation to affordability. Affordability studies assess household share of income or expenditure on utility services, such as water. Although there is no generally accepted benchmark of an acceptable level of utility expenditure many studies estimate this to be between 3 and 5 per cent of total household income/expenditure<sup>38</sup>. Studies assessing the situation in Romania obtain different results. For instance, Berbeka (2003) found that Romanian households spend around 7 per cent of household income on water and wastewater services, which is above average in the central eastern European region. This figure is very high and another study came to a ratio of 3.1 per cent of total household expenditure (Fankhauser and Tepic, 2005). As this paper does not explicitly address the issue of affordability the precise ratio is not decisive, but the affordability issue may be an issue of considerable concern in future, in particular when water tariffs are set to comply with full cost recovery.

The formation of ROCs as a type of an inter-municipal cooperation aiming to improve the performance of water operators may also be of great significance as water tariffs must not be raised over those under the municipal operators because efficiency gains resulting from economies of scale may be achieved. But in general it is clear that water tariffs will have to be increased over time in Romania as well as in the other new EU member states as a consequence of the considerable investment activity these countries will be required to implement in coming years.

When assessing cost recovery issues the aspect of non-revenue water (unaccounted water) is also of relevance in Romania. Over the last 10 to 15 years investment in the water network has taken place. However, the investments have not always been shown in the data, revealed in the development of the share of non-revenue water in an analysis of several Romanian water operators (Boer, 2007). For instance, the share of non-revenue water increased in the municipality of Bistrita between 1997 and 2006 from 33 per cent to 47 per cent. However, this data is somewhat misleading, as the following table reveals. Non-revenue water is evidently highly significant when assessing financial issues as the water utility faces high operation costs of water production but can only recoup these costs on the water that is actually consumed. As a consequence, requests may be made to increase water tariffs even further to be able to cover operation costs; with negative implications however for the issue of affordability.

The table below shows that the relative share of water losses increased over the period, whereas absolute figures clearly decreased. However, the decrease in water losses was lower than the decrease in water production and water consumption resulting in a relative increase in the share of non-revenue water.

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<sup>38</sup> See for a more detailed discussion: Fankhauser and Tepic, 2005.

Table 5.4: Evolution of water production and consumption in Bistrita

	Water production (in million m <sup>3</sup> per annum)		Water consumption (million m <sup>3</sup> per annum)		Water losses (million m <sup>3</sup> per annum). Figures in brackets – relative share of non-revenue water: water loss/water production <sup>39</sup>	
	1997	2006	1997	2006	1997	2006
Bistrita	33.6	12.6	22.5	6.7	11.2 (33%)	5.9 (47%)

Source: Boer, 2007

The issue of non-revenue water is not closely connected to the main focus of the project, namely to study the current situation of the water sector and the development of inter-municipal cooperation in Romania. But the formation of ROCs aims to increase the efficiency of water operators as well as to improve their funding conditions, which is of significance as it may lead to a reduction in the total amount of non-revenue water. This in turn would alleviate the pressure of increasing water tariffs, enabling operation costs to be covered and achievement of the full cost recovery principle.

## 5.6 Summary and conclusion

The regionalisation process in the institutional arrangement of the Romanian water sector only began quite recently and is not yet complete. The process represents a clear renunciation of the decentralisation process that commenced in the 1990s whereby the responsibilities of the provision of water services were handed over to the municipalities. The process of regionalisation stands in clear contrast to that of decentralisation as it 'consists in concentrating and integrating the services rendered by a group of administrative-territorial units (Frone, 2008)'. Formation of the regional operating companies (ROCs) is based on the merger of two or more local water utilities. The basic idea behind the process follows the principle of intra-municipal cooperation as it is anticipated that that larger units, e.g. a regional operating company, can optimise the economic performance of all operations linked to the provision of water services as well as improve the financial position so that more external funding can be attracted. This latter point is significant and may be seen as one of the key policy drivers in Romania in relation to starting the process of regionalisation seen in the light of the considerable investment requirements for water infrastructure the country faces. It became obvious in the past that smaller water utilities operated by individual municipalities were not able to attract the required funds for investments.

The Romanian approach does not only focus on the operational side of water utilities, e.g. formation of ROCs, but it also includes the intercommunity development associations (IDAs), e.g. associations of the municipalities involved. Here, municipalities transfer their rights and obligations to the IDA so that the latter takes responsibility for provision of water services in the region. The working relationship between the two players, the ROCs and IDAs, is formally defined by the management declaration contract, which can be characterised as the core of the operational and institutional organisation.

At present, it would seem to be too early to assess whether the regionalisation process in the water sector is a success in terms of achieving the anticipated efficiency gains and attracting the required financial resources for water investments. However, this policy must clearly be described as a highly useful approach, as EU funding requirements only allow the co-financing of investment projects where investment exceeds 25 million Euro, which may exceed the investment requirements of smaller water operators. Moreover, it is often discussed that appropriation of a larger loan to a single entity is more efficient and

<sup>39</sup> Other municipalities covered in the paper of Boer (2007) reveal a rate of non-revenue water in the range of 39 to 44% in 2006.

preferable than several smaller loans to many independent units as in the former case the loan may be subscribed by several entities, guaranteeing each other in the event of default.

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## 6 Case Study Ukraine

### 6.1 Introduction<sup>40</sup>

The objective of this chapter is to look into the impact of the decentralisation process on the provision of water services in Ukraine by identifying the problems and challenges faced by the country. The topic of inter-municipal cooperation is also addressed, but not in any great detail as the decentralisation process itself deserves more attention. As per 1 January 2007, there were 458 cities, 886 settlements of other urban type, and 28,540 rural settlements in Ukraine<sup>41</sup>.

Table 6.1 indicates the level of connection to water supply and wastewater services by settlement type in 2007. Centralised water supply was provided to all cities, 86.7 per cent of settlements of other urban type and 22.1 per cent of rural settlements in 2007 and centralised wastewater services were provided to 95.9 per cent of all cities, 55.9 per cent of settlements of other urban type and 2.6 per cent of rural settlements. In 2006, 68.1 per cent of the Ukrainian population (or 31,777 thousand residents) lived in the cities and 31.9 per cent (or 14,868 thousand residents) in villages<sup>42</sup>. Based on the data available in Table 6.1, a rough estimate would indicate that around 70-73 per cent of the population of Ukraine has access to centralised water supply services and around 50-60 per cent to centralised wastewater services.

Table 6.1: The level of centralised water supply and wastewater services provision in the settlements of Ukraine, 2007

Type of Settlement	Total in Ukraine	Water supply service		Wastewater service	
		Number	% of the total	number	% of the total
<b>Cities</b>	458	458	100	439	95.9
<b>Settlements of other urban type</b>	886	768	86.7	495	55.9
<b>Rural settlements</b>	28,540	6,305	22.1	744	2.6

Source: Information and analytical data prepared for the meeting of the collegium of the Ministry of housing and communal economy of Ukraine 'The Summary of work of housing and communal economy for 2007', February 22, 2008

There has been a gradual rising trend in connection to water supply services in the three settlement types; however, the level of centralised water supply service provision in rural areas on average remains very low (22.1 per cent, see Table 6.1), indicative of very slow investment activity in village self-governments (small rural municipalities) and lack of private investment in rural areas. The level of rural connection to centralised wastewater systems is even lower. In some provinces (oblasts) the level of centralised water supply is critically low. In the Vinnitska oblast, for instance, only 70 rural populated areas (around 5 per cent of the total number in the oblast) have centralised water supply systems. Residents in settlements with no water supply systems are highly dependent on the policies of their local self-governments with regard to regional cooperation with the other local self-governments to solve water supply service provision issues.

<sup>40</sup> This is an abridged version of the country case study Ukraine prepared by the Municipal Development Institute, Kyiv, Ukraine.

<sup>41</sup> Annual Statistics of Ukraine, 2006; State Committee of Statistics of Ukraine, 2007; as of 1/01/2007 all settlements have budgetary authority; 10,276 village councils have budgetary authority out of the total number of rural settlements.

<sup>42</sup> Annual Statistics of Ukraine, 2006; State Committee of Statistics of Ukraine, 2007.

## **6.2 Regulatory and legal background**

### **6.2.1 The legal framework and a general overview of the roles and responsibilities of different institutions in the water sector**

In Ukraine, the roles and responsibilities for water supply and wastewater sector management are split between national government, regional state authorities (oblast (province), rayon (district) and, in the case of the Autonomous Republic of Crimea, republic), as well as local self-governments (i.e. municipalities). The division of responsibilities between the authorities at the various levels is defined primarily in the following laws:

- Law of Ukraine 'On Housing and Communal Services'
- Law of Ukraine 'On Drinking Water and Drinking Water Supply'
- Law of Ukraine 'On Natural Monopolies'
- Law of Ukraine 'On Antimonopoly Committee of Ukraine'
- Law of Ukraine 'On Licensing of Certain Types of Economic Activities'
- Law of Ukraine 'On Local Self-Government in Ukraine'
- Law of Ukraine 'On Local State Administrations'
- Law of Ukraine 'On Ensuring Sanitary and Epidemic Well-being of the Population'

At the national level the Cabinet of Ministers of Ukraine coordinates the activities in the water sector and implements national policy in collaboration with the Ministry of Housing and Communal Economy and several other ministries.

At the regional level the functions of the state are carried out by local state administrations (in 24 oblast centres, in each rayon within the oblast, as well as in the two cities with special status, Kyiv and Sevastopol) and by the Council of Ministers of the Autonomous Republic of Crimea. In each oblast there is a Department of Housing and Communal Services which is administratively subordinated to the Ministry of Housing and Communal Economy of Ukraine and integrated in the oblast state administration. The rayon administration in each oblast has its own Department of Housing and Communal Economy that oversees the activities in the water supply and wastewater sector. In the case of the Autonomous Republic of Crimea (ARC), the Council of Ministers of the ARC and ARC's own Ministry of Housing and Communal Services are the key administrative bodies overseeing municipal and rural water supply in the region. The rayon state administrations in the ARC support the activity of the Ministry of Housing and Communal Services of ARC. According to law, oblast state administrations in Ukraine have the authority to issue licences required for water supply and wastewater activities of enterprises exceeding a certain size. The local self-governments of city, rayon and village level are responsible for investment in and management of drinking water supply and wastewater services.

For many reasons one could argue that water supply and wastewater disposal activities are fully decentralised in Ukraine, since the state sets the regulatory framework for the sector, ensures its implementation through its oblast/republic (ARC) and rayon state administrations, while the local self-governments ensure implementation of these regulatory requirements and have the power to make all decisions, including those with regard to investment in and management of drinking water supply and wastewater services.

According to the constitution of Ukraine each local self-government, irrespective of its size, has complete autonomy within the limits of the relevant legislation. It is obvious that staffing, technical and financial capacities of the municipalities differ significantly, thereby influencing the quality of the public services and potentially causing difficulties in the process of decentralisation.

Small communities (primarily rural municipalities) have limited capability with regard to fulfilling a number of functional duties in relation to the management and provision of water services. These problems result from the lack of capacity and expertise in village councils with regard to legal interpretation, contractual arrangements, interactions between utility providers, tariff procedures, regulatory impact assessment as well as raising external financing for infrastructure development. At the same time, the number of staff in the local state administrative bodies (at oblast/republic, rayon level) responsible for coordination and control of the water supply sector is insufficient, leading to a lack of coordination and support from the rayon (oblast, republic) state administrations.

Moreover, the smaller, rural water service providers operate in isolation from the wider water supply sector. Skills (in particular among the staff of small publicly owned enterprises) are inadequate to raise external financing on the basis of quality investment projects/business plans. Lack of experience in proactive maintenance practices results in inefficient operation and maintenance of water supply systems, poor service provision to customers (in the handling of accounts, repairs, reading and calibration of meters, customer relations). In addition, no external funds are attracted for the required capital investment.

This discussion reveals some of the challenges and problems faced by the Ukrainian water sector. The legal authority to perform water supply and wastewater service provision obligations has been transferred from the state government to the local self-governments as part of the decentralisation process. However, not all features of the decentralisation process have been adequately implemented. A comprehensive strategy that is aimed at removing the existing obstacles and supports decentralisation in Ukraine in a highly fragmented environment is therefore necessary.

### 6.2.2 Regulation of the operators providing centralised water supply and wastewater services

Regulatory authority in the water supply and wastewater sector has mostly been delegated by the state to the level of oblast state administrations (or republican level (ARC)) as well as to the level of local self-government. Regulation of water supply and wastewater operators in Ukraine is specified in numerous legislative and regulatory documents.

The set of regulatory measures and the distribution of regulatory responsibilities among the various state, regional and local bodies is presented in Table 6.2.

Table 6.2: Distribution of responsibilities relating to the regulation of water and wastewater sector

Administrative units/ Regulatory function	Ministry of Housing and Communal Economy	Ministry of Environmental Protection	Ministry of Economy (State Price Control Inspection)	Oblast State Administration/CMoARC	Local Self-Governments
Licensing of water supply and wastewater activity;	X			X	
Issuing of special water use permits				X	
Issuing of special permit for use of earth's interior		X			

<b>Tariff setting</b>			X	X	X
<b>Setting of water and wastewater consumption norms for non-metered consumption of residential customers<sup>43</sup></b>					X
<b>Setting of technological water losses norms in water and wastewater systems</b>					X
<b>Setting of pollutant discharge limits</b>					X

### 6.2.3 The institutional and regulatory framework regarding water tariffication

The Cabinet of Ministers delegated the powers to set tariffs for communal services (including for water supply services) to the Crimean Council of Ministers, the oblast state administrations, and the Kyiv and Sevastopol city state administrations<sup>44</sup>. The transfer of responsibilities for tariff regulation from the state to the local governments (oblast administrations and local-self governments) envisaged termination of subsidies from the state to the water supply utilities which covered the difference between approved tariffs and actual cost of service provision. These subsidies were paid to the operators from the state budget in order to reduce tariffs for residential customers<sup>45</sup>. No funds have been budgeted by the state to compensate the losses of water operators since the second half of 1998. However, in 2006 the state renewed the subsidy practice in order to compensate the losses to utilities because water tariffs are too low, i.e. not recovering the service provision costs..

Currently, regulatory powers are divided among the national and local governments (oblast state administration and local self-governments) in the following way:

- The Cabinet of Ministers of Ukraine sets rules for tariff setting (general requirements related to identification of the costs which can be recovered through water and wastewater tariffs)<sup>46</sup>. These requirements are spelled out in decrees and passed to the local level as a mandatory regulatory framework for tariff setting. The State Inspection for Price Control reviews tariff calculations prior to tariff approval.
- Local self-governments bodies set tariffs for the services of the water operators of any form of ownership on their territories<sup>47</sup>.

The tariff setting process is carried out in several stages as shown in Diagram 6.1.

<sup>43</sup> This means that the regulator approves the volume of water to be billed by the water operator per customer without a meter per month.

<sup>44</sup> CM Decree # 1168 dated 28 October, 1997 'On Improvement of the State Tariff Regulation System for Housing and Communal Services'.

<sup>45</sup> Supreme Rada Law # 776-XIV dated 29 June, 1999 'On the State Budget of Ukraine for 1999' did not envisage any subsidies to communal utilities to cover the losses resulting from the differences in actual and approved tariffs for residential customers.

<sup>46</sup> Article 31 the Law of Ukraine 'On Housing and Communal Services', No. 1874-IV of 24.06.2004

<sup>47</sup> Article 14 the Law of Ukraine 'On Housing and Communal Services', No. 1874-IV of 24.06.2004

Diagram 6.1: Tariff Setting Procedure



However, there is still a lack of clarity on the regulatory authority of oblasts and local self-governments in the cases where several water and wastewater utilities serve more than one municipality; where the facilities of the utilities are located in different cities; where a communally owned utility is operated by a leasing company or a concessionaire which by definition is not owned by a territorial community.

Pursuant to the Law of Ukraine ‘On Housing and Communal Services’ (Law No. 1874-IV), local governments at all levels are authorised to set tariffs for communal services (including water and wastewater) for utilities of all types and ownership forms. However, there are some discrepancies in relation to other laws:

- Law of Ukraine ‘On Local Self-Government in Ukraine’, No. 280/97-SC (21 May, 1997): the Law does not allow local governments to set tariffs for services that are provided by non-communally owned utilities. Article 28 of the law specifies that local governments only agree on the level of tariffs for services that are provided by non communally owned utilities.
- Law of Ukraine ‘On Local State Administrations’, No. 280/97-SC (21 May, 1997): the Law allows oblast state administrations to set tariffs for non-communally owned utilities. These two laws – ‘On Housing and Communal Services’ and ‘On Local State Administrations’ – allocate similar functions with regard to the setting of tariffs to two different administrative levels (local governments and local state administrations respectively), which creates regulatory conflict in the parts of Ukraine where services are provided by non-communally owned utilities or by utilities that service several residential settlements (i.e. inter-municipal cooperations).

A clear and straightforward regulatory framework and adequate distribution of regulatory powers among various authorities can be seen to be a key condition for securing an effective water supply and wastewater sector. However, the sector, especially with regard to rural water supply and sanitation, currently suffers numerous difficulties resulting from regulatory constraints.

Tariffs are not adjusted to increases in costs in time, and water supply operators incur losses from their operating activities. Private operators are not accountable to local government on the issues of tariff setting, which leads to the absence of transparency for customers in the setting of tariffs. The documents prepared by the water suppliers for submission to the regulatory bodies for economic justification of the planned costs involved in tariff calculation are not prepared according to the required standards due to capacity constraints. The absence of an independent regulatory body leads to a conflict of interests between water suppliers who need to cover their costs through their tariffs and local self-governments who wish to approve the lowest possible tariffs for the population (their electorate). Customers do not trust the water suppliers. And this results in a chain of problems expressing ineffectiveness in the water supply system: tariffs not fully recovering the costs, collections not being achieved, consumption not being metered, high unaccounted water losses and unaffordable tariffs.

Small, rural water suppliers often operate without the necessary licences and permits due to inadequate enforcement of the regulatory requirements for these. Water quality is poorly controlled by the respective state controlling bodies in rural communities.

In summary, the regulatory system in the water and wastewater sector in Ukraine is in a process of revision and reform, and requires additional efforts by the state government in order to make the clarify and simplify the system for the water operators, irrespective of type of ownership or service area. A draft law establishing the National Regulatory Commission, aimed at supporting the decentralisation process and the work of utilities, has been prepared was scheduled for submission to the Supreme Rada in November 2008.

### **6.3 Asset ownership and operational arrangements**

In Ukraine, the process of decentralisation of responsibilities for water supply began in 1994 when the state commenced the transfer of state-owned water supply infrastructure to local self-governments. Currently, pursuant to the Law of Ukraine 'On Local Self-Government in Ukraine', local governments are held responsible for providing high-quality water supply services. In this context, local governments are authorised to select the service providers, enter into contractual relationships with service providers of various forms of ownership for water service provision to consumers, and have primary responsibility for setting tariffs for communally-owned enterprises and negotiate tariffs with non-communally owned companies.

The legal framework allows operation of water infrastructure assets by the private sector in the form of managerial contract, lease and concession. Privatisation of water and wastewater infrastructure is prohibited by the Law of Ukraine 'On Privatization of State Property' №2163-XII (4 March 1992).

Despite the existing prohibition on privatisation of infrastructure, the entities that operate water supply and wastewater services can function under all forms of ownership:

- private companies (or individual entrepreneurs), operating under private ownership of individuals and legal entities
- communally (publicly) owned utilities, owned by the territorial community of cities, villages and residential settlements
- state utilities, owned by the state
- utilities which are formed and operating under mixed forms of ownership

The most typical organisational forms of the utilities providing centralised water supply services are:

- communal unitary enterprises
- lease companies
- stockholding, limited liabilities companies

Currently, operation of the water supply and wastewater infrastructure by a communal unitary enterprise is typically the most commonly used organisational form in the Ukraine. A publicly owned communal unitary enterprise is an individual commercial entity that is fully owned by a respective local self-government body and operates based on a charter. No contractual relationship typically exists between the publicly owned utility and the local self-government body.

The number of contracts between local self-governments and private operators is very low. Private operators and lease companies can operate the water supply and wastewater systems based on lease or concession contracts concluded with the respective local self-governments. In both cases, the local self-governments determine the tariffs and remain the owner of the infrastructure. Table 6.3 shows the dynamics in the structure of the water supply market 2002-2007.

Table 6.3: Number of water supply entities by form of ownership, 2002-2007

Form of ownership of the enterprises operating water supply systems	Year					
	2002	2003	2004	2005	2006	2007
<b>Total</b>	6,509	6,401	6,238	6,139	6,109	6,087
<b>Private</b>	3,862	3,396	3,046	2,760	na	na
<b>State</b>	635	561	501	476	na	na
<b>Communal</b>	2,008	2,438	2,691	2,903	na	na
<b>Owned by foreign countries</b>	4	6	na	na	na	na

Source: Statistical Bulletin on Key Indicators of Ukrainian Water Supply Industry Operations for 2002, 2003, 2004, 2005, 2006, 2007

In 2007, a total of 356 water utilities (out of the total of 6,087 water utilities) provided water supply and wastewater services to consumers<sup>48</sup>.

Water supply utilities of all ownership forms (including public ownership) are economically independent entities that operate as businesses (with their own bank accounts, financial reporting, etc) and most of them are subject to enterprise/corporate profit tax. The utilities are responsible for ensuring sufficient and safe supply of water to all customer groups.

In 2003, for the first time in the history of the water supply and wastewater sector in Ukraine a long-term lease agreement was concluded between the city of Odessa and the privately owned company 'Infoxvodokanal', to run for 49 years. Several concessions with small private entrepreneurs for water, heat and housing exist in rural areas in Crimea. Private sector participation is not common, except in the case of several utilities operating as stockholding companies (e.g. in the city of Kyiv) and a number of limited

<sup>48</sup> Information and analytical data/ Prepared for the meeting of the collegium of the Ministry of housing and communal economy of Ukraine 'The Summary of work of housing and communal economy for 2007', 22 February, 2008.

liabilities companies (in Vinnitska, Kirovohradka, Kharkivska and Khersonska oblasts). At the same time, 21 March 2008, the first large-scale concession contract, for a period of 25 years, was concluded between a Russian private operator 'Rosvodokanal' and Luhansk oblast council for service provision in Luhansk oblast. In September 2008, another concession contract was concluded between the city of Berdyansk and a private Ukrainian holding company 'Clean Water' for the period of 30 years.

To the knowledge of the authors, two more concession contracts are in the process of negotiation between the municipality of Artemovsk (Donetsk oblast) and private operators. On 10 September 2008, Kharkiv City Council decided to start the process of inviting the sector to operate the three companies Kharkiv Water, Kharkiv Wastewater and Kharkiv District Heating Company. Tender documentation was scheduled to have been prepared by the authorised city commission by 10 November 2008.

As a result of the administrative decentralisation process it became feasible, in particular in large cities, to select service providers from the private sector to aim to improve the effectiveness of the service provision at community level.

However, village local governments suffer from challenges posed by decentralisation, since their service provision duties cannot be accomplished due to the lack of access to the financial resources required to finance infrastructure. Furthermore, the size of many rural communities is not sufficient to attract external services of private operators and village councils are not permitted to borrow by law. In addition, the local population often lacks the initiative and technical or financial capacity to solve water supply problems on its own. This situation is typical for small villages throughout Ukraine, where local self-governments inherited water systems from the old (state-owned) regional water supply operators and were left without organisational or financial support from the regional (rayon or oblast) level.

To solve maintenance needs a significant number of the village local municipalities (e.g. in Crimea) are currently trying to enter into contractual arrangements with individual entrepreneurs to hand over the responsibility for maintaining small water systems (supplying water to 200-3,000 residents), in order to decrease the cost of maintenance of these systems and increase the affordability of service. Such types of institutional and organisational arrangements of water supply, however, are not self-sustainable in the long run, because individual entrepreneurs cannot ensure the capital needs of the water supply systems are met. In a very few cases rural residents have taken over the responsibility for service provision, establishing multi-service cooperatives<sup>49</sup> and co-financing water supply projects by contributing with labour or financially.

#### **6.4 Challenges of the decentralisation process**

The decentralisation process in Ukraine has been implemented by transferring the responsibilities and ownership of the infrastructure for public service provision from the state to the level of local-self governments. But this process has not always been effective as, for instance, local self-governments in rural areas have not been ensured the necessary resources to assume such functions.

Local self-governments and water operators in rural areas have been left by the central government without the reliable legal support necessary to carry out the state regulatory functions; or adequate technical and staffing capacity at regional state administration level required to be able to carry out the coordination functions of the sector effectively; or state funding of infrastructure improvements and enforcement of regulatory requirements and water quality control.

In addition, no effective mechanisms of inter-community/municipal cooperation have been defined in the legislation. Inefficiencies involved in the administrative and fiscal decentralisation have created major difficulties for medium-size and small local self-governments.

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<sup>49</sup> There are few examples in Crimea, Vinnytska oblast, Kyivska oblast.

Fiscal decentralisation as declared by the constitution of Ukraine has not taken place despite being essential for successful implementation of decentralisation. Among the challenges associated with the lack of fiscal decentralisation the following can be named:

- The capacity of rural local self-governments is extremely limited in terms of raising local taxes and fees. The share of revenues from local taxes in the general fund of the local budgets constituted less than 2 per cent in 2007, and this share is decreasing<sup>50</sup>.
- Major parts of the revenues collected locally do not accrue to local budgets but are channelled to the state budget (e.g. the share of the revenues of the local budgets in the consolidated budget of Ukraine in 2007 was only 26.5 per cent<sup>51</sup>).
- Since declaration of fiscal decentralisation envisaged by the Budgetary Code of Ukraine in 2001, state funding of capital investment in water supply has been unpredictable and has never reached the amounts declared in the various state programmes. For a number of years (1994-2006), with few exceptions (e.g. in ARC<sup>52</sup>), the rural water supply sector has been practically excluded from state funding.
- Rural local self-governments are not allowed to borrow.
- Furthermore, other factors enhancing the negative impact on the fiscal position of the local self-governments and water operators (in terms of achieving costs recovery of service provision) in rural areas are the poor economic condition of the settlements and their size and demographic structure, which is inadequate to secure economic sustainability. Fiscal decentralisation measures, even if improved, would not be able to solve these problems. Systemic measures aimed at administrative and territorial reform would be required.

Chronic losses have actually been a feature of water supply and wastewater operators in Ukraine since the outset of Ukrainian independence, and until 2007 regular state funding for their investment needs was non-existent<sup>53</sup>. This has resulted in worn out infrastructure facilities and low quality water service provision.

## 6.5 Existing solutions and development path

Currently there is no adequate legal framework in place to ensure the provision of the necessary resources for local authorities to assume all decentralised functions. Furthermore, there is insufficient political will to carry out fiscal reforms aimed at strengthening local budgets. Ignoring the rather difficult situation, a number of water supply and wastewater service provision projects have been carried out in various regions of the country – a number of which have been quite successful due to donor support and others are still evolving with the support of private partners in order to achieve the goals initially set by local self-governments.

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<sup>50</sup> Budgetary monitoring/Analyses on budgetary implementation for 2007/RTi International/USAID funded Reform of the Local Budgets in Ukraine Project

<sup>51</sup> Budgetary monitoring/Analyses on budgetary implementation for 2007/RTi International/USAID funded Reform of the Local Budgets in Ukraine Project

<sup>52</sup> In 2007, a total of UAH 91,610.6 thousand of budget financing for the Crimean water supply sector, the rural water supply sector received UAH 22,020 thousand, or 24% of total financing for this sector.

<sup>53</sup> This development is due to the implementation of the National Program of WWS Reform and Development approved by the Law of Ukraine for the years 2004-2010. The 2007 State Budget of Ukraine envisages the allocation of UAH 270 million for the program implementation. The funds under this program are administered by the Ministry of Construction, Architecture and Housing and Utility Sector of Ukraine.

A regional water supply model is one of the two different institutional models of water supply within the decentralisation framework currently being tested in Ukraine<sup>54</sup>. There are several cases of regional water supply in Ukraine, which is organised through the following institutional arrangements:

- regional water operator and regional authority
- regional water operator and individual local self-governments

### **6.5.1 Regional water operator and regional authority**

An example of arranging regional water supply under a regional authority can be found in Luhansk oblast. In 2003 Luhansk oblast council (a regional local self-government body) established a regional water company Oblast Communal Enterprise 'The Company "Luhansk Voda"' to serve the local communities in the entire oblast. This approach can be seen as a form of inter-municipal cooperation, as discussed in chapter 1 of the report, as the regional water operator covers a service area of 26 cities, 66 settlements of other urban type and 81 villages, servicing a total of 1.6 million people. After one year of operation, the company's losses fell by half, electricity consumption decreased considerably and, as a consequence, the company was in a better position to attract investors.

The uncertainties with respect to the powers of regulatory bodies within an oblast with regard to price setting and the absence of an adequate investment component in the water supply tariff have negatively affected economic and financial indicators of the utility. It took almost a year to negotiate tariff levels with all the local governments serviced by the company. The absence of an effective regulation system linked to the decentralisation process as well as the absence of measures for local self-governments to solve the existing water supply problems jointly can be stated as recent challenges encountered by the water companies in their operations.

#### *Lessons learnt*

Historically, Luhansk oblast council has had full responsibility as the owner of the water supply and distribution infrastructure in most settlements in the oblast. Consequently, the council did not require the approval of the individual local self governments to establish a regional water operator and could decide to tender out the assets of the regional publicly owned company for concession.

As such, the local governments of the communities in the oblast have not formally authorised Luhansk oblast council to enter into a concession contract with the regional operator and have not transferred their responsibility to the oblast council regarding:

- a) selection of the service supply scheme in multi-apartment buildings (to individual apartments or to the building owner) on their respective territories
- b) setting of the service consumption norms
- c) approving losses of water in the water supply systems in their territories
- d) setting of pollutant discharge limits in their territories
- e) approving capital investment programmes

Since local self-governments have not formally transferred the above-mentioned tasks and responsibilities to the oblast council, delays are to be expected in the tariff setting process that depends directly on the availability of service consumption and water loss indicators.

The Luhansk oblast case study can be described as a project for demonstrating how an oblast level local government body can organise water supply in a region and attract private investment through a

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<sup>54</sup> The other model is a community-based model - see the full version of the case study for a full discussion behind these models.

concession arrangement. However, the case study cannot serve as an example for further dissemination since there are very few similar situations where the infrastructure belongs to an oblast (e.g. Donetsk oblast, Rivne oblast, Poltava oblast, Vinnytsya oblast) (or rayon) or local self-government body. The general case in the Ukraine is that the infrastructure is in the ownership of the individual local self-government of towns or villages.

At the same time the lessons learnt from the Luhansk experience can be taken into account by political decision-makers in relation to the establishment of regional water supply companies as a form of inter-municipal cooperation.

### **6.5.2 Regional water operator and individual local self-governments**

A model whereby individual local self-governments have attracted a regional water operator has recently been adopted as a solution to overcome water supply problems in rural communities in the Sakski rayon of the Autonomous Republic of Crimea, where two regional water operators provide services to these communities:

- a privately owned regional water operator
- a publicly owned regional water operator (founded by the Sakski rayon council)

The private water company maintains public water supply and wastewater infrastructure in a number of villages in the territory of the rayon and operates based on direct lease contracts with individual village councils. It serves about 90 per cent of the district's territory and has about 14,000 customer accounts. The public regional water company, on the other hand, supplies water services to the few village communities in the rayon not served by the private regional water company.

#### *Lessons learnt*

A recent study<sup>55</sup> conducted in the Autonomous Republic of Crimea within the framework of a UNDP programme proved that the cost per cubic meter of water supplied by the private regional water company in the Sakski rayon (serving a very large territory compared to the publicly owned regional water operator) was at the same level as that of a community-based enterprise (CBE)<sup>56</sup> that served one community elsewhere in ARC.

From an institutional point of view, the Sakski rayon experience reveals a loophole in the legal framework concerning institutional forms of cooperation between local self-governments. Legally, local self-governments seeking the services of a regional operator have to conclude individual contracts with the operator, negotiate tariffs, etc.; otherwise they must delegate all their authorities on water supply to the rayon or oblast council. However, the model above presents an option to solve regional public service provision issues and facilitate joint decision-making.

## **6.6 National initiatives aiming to improve service provision**

The Ukrainian government carries out implementation of a whole range of initiatives that can improve the process of decentralisation of water supply and wastewater services. Currently, a policy dialogue is taking place at the national level on different policy options to address fragmentation and other decentralisation challenges. Among the issues extensively debated are:

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<sup>55</sup> 'Cost-Benefit Analysis of Rural Water Suppliers in AR Crimea. Summary and Recommendations' (September 2007), the report prepared for the United Nations Development Programme by Gonay & Partners Consulting Ltd

<sup>56</sup> Community Based Enterprise (CBE) is a model of rural water supply comprising of a 'Community Organization' and a 'Community Based Enterprise' that has been developed and implemented within the UNDP CIDP. In this model, the 'Community Organization' (CO) is a community self-organisation body in its organisational and legal form. The CBE is in most cases one of the members of a CO, i.e. an individual who has been elected by this organisation specifically for the purpose of operating and maintaining the water supply system and who is legally registered as an entrepreneur (physical person).

1. Administrative reform and reform of local self-governments
2. Improved regulation of natural monopolists (in the water supply, wastewater and district heating sectors)
3. Public-private partnerships (PPP) in the water supply and wastewater sector

#### **6.6.1 Administrative reform measures**

A debate on different policy options to address fragmentation and identify possible policy options is currently taking place in the Ministry of Regional Development and Construction of Ukraine. The fragmentation aspect of local communities is addressed in the context of the administrative reform<sup>57</sup> that has taken place and the reform of local self-governments<sup>58</sup>. The Government of Ukraine recognises the existence of an excessive number of administrative and territorial units at the community level (over 12,000 in total) and at rayon level (488 in total) where inadequate budgetary power impedes the effectiveness of managing the respective areas and carrying out control functions.

The concept document on reforming local self-governments recognises the following challenges to which the local governments are exposed:

- Economic inability of the majority of local communities and local governments to perform their own and delegated responsibilities
- Inadequacy of resources in the development budgets of communities for investment into infrastructure
- Crises relating to communal infrastructure; critical deterioration of heat, water and wastewater networks as well as housing
- Absence of a clear distribution of responsibility between state and local governmental bodies
- Deterioration of the professional capacity of the local councils due to the introduction of a proportional election system that uses closed party lists
- Alienation of local government bodies from residents, no transparency in their activities, ineffective use of land resources, corruption
- Staffing crises, and crises with regard to training as well as re-qualification of local government staff and deputies
- Underdeveloped independent non-governmental sector as well as social initiatives and social economy in relation to the provision of social, cultural, informational and other services
- Underdeveloped form of direct democracy, absence of skills in local communities with regard to participation in solving issues of local importance
- Social disintegration of territorial communities and an inability of people to take part in action requiring solidarity in defending their rights in communication with local governments
- A difficult demographic situation in many communities

All measures on reform of local governments and the administrative and territorial structure of Ukraine aim to overcome the challenges identified. The reform is based on implementation of the following principles:

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<sup>57</sup> The concept paper on reform of the administrative setting of Ukraine is available at the official site of the Ministry of Regional Development and Construction of Ukraine, <http://www.minregionbud.gov.ua/index.php?id=1086>.

<sup>58</sup> The concept paper on reform of the administrative setting of Ukraine is available at the official site of the Ministry of Regional Development and Construction of Ukraine, <http://www.minregionbud.gov.ua/index.php?id=1087>

- Provision of adequate financial resources to enable local self-governments to fulfil their responsibilities
- Aggregation of very small communities into one local self-government body to allow economies of scale
- Establishment of a system including a direct financial relationship of the local self-government budget with the state budget by excluding the existing intermediary link that currently exists between local self-government councils at village or town level and the rayon level

The above reforms may create stronger communities that are more economically and financially sound. However, the reforms are dramatic and may require a significant period of time and considerable resources for successful completion.

### **6.6.2 Regulatory reform**

To overcome regulatory challenges in the water supply sector, several legislative initiatives have been carried out by the national government and have been supported by the national deputies of the Ukrainian Parliament (Supreme Rada). In 2007, two draft laws were prepared by the Ministry of Housing and Communal Services of Ukraine aimed at establishing a National Regulatory Commission to regulate the activities (such as tariff setting and issuing activity licences) of water supply, wastewater and districts heating and hot water supply enterprises.

On 17 June 2008, one of the draft laws of Ukraine 'On State regulation in the sphere of housing and communal services', which had earlier been prepared by the Ministry of Housing and Communal Services of Ukraine, was revised and registered by the national deputies at the Supreme Rada. The draft law assumes establishment of the National Commission on Regulating Housing and Communal Services in Ukraine (including water supply and wastewater). The draft law that has been submitted to the Supreme Rada envisages:

- founding of a multi-sector national regulatory commission (to regulate water, wastewater, district heating companies)
- that the national commission will function via its territorial commissions in all oblasts of Ukraine and the central commission for regulating the utilities in the city of Kyiv
- the functions of the national commission to include setting of tariffs and issuing of licences for water operators of all forms of ownership and legal and organisational form
- the ability of local governments in exceptional cases to set tariffs below cost recovery levels, if the local self-government body can provide adequate compensation to the operator
- no delegation of ownership or management of water supply functions of local self-governments to the state

The purpose of establishing a national regulatory body is to:

- implement unified regulatory approaches (including price-setting methods) for the setting of tariffs for natural monopolists throughout Ukraine
- create an independent (i.e. from the elections process) professional regulatory body
- overcome problems resulting from administrative over-fragmentation of the sector
- eliminate existing legislative inadequacies, inconsistencies and unclear legislative provisions regarding the distribution of regulatory functions among governments at different levels

Establishment of the National Regulatory Commission has its advantages and disadvantages. Some argue that Ukraine does not need the commission as it represents a costly solution to regulatory problems and it will not promote the concept of decentralisation. In contrast others believe that the commission should be able to remove regulatory constraints by setting clear rules for regulating water supply and wastewater operators, irrespective of the form of ownership, which will promote PPP in this sector, which in turn will lead to investment activity.

Another regulatory model which combines external and internal regulatory approaches has also been a topic of discussion recently, including<sup>59</sup>:

- implementation of the National Regulatory Commission with the territorial commissions (for regulation of private operators)
- establishment of Supervisory Boards (for corporatised utility regulatory bodies) for regulating activities of the publicly owned corporatised water operators

This approach is proposed for policy dialogue at the national level as an option, defining rules for regulating privately owned operators while preserving the regulatory functions of the local self-government bodies with respect to the publicly owned corporative utilities.

### **6.6.3 Public-Private Partnerships (PPPs) in the water sector**

Several draft laws regulating private sector participation in the water supply and wastewater sector have recently been prepared by the Ministry of Housing and Communal Economy of Ukraine and by the national deputies of the Supreme Rada of Ukraine. These focus on:

- the specifics with regard to concession and lease of water supply, wastewater and district heating utilities
- corporatisation of communally owned unitary water supply, wastewater and district heating utilities

These draft laws aim to improve the process of involving the private sector in water supply and wastewater service provision by defining clear rules and procedures that are not specified in current legislation on lease, concession and corporatisation.

Implementation of the draft law of Ukraine for streamlining the process of reorganisation of the communal unitary enterprises into corporations may also provide the building blocks for improvements in the regulatory system in the water sector. If a communally owned unitary enterprise reorganises into a corporation, it will have a supervisory board to oversee and approve strategic planning of the corporative company as required by corporate law. It is possible to authorise these supervisory boards with the functions to regulate tariffs of the publicly owned corporatised water operators. An internal regulation model of this type would align with the decentralisation process framework.

## **6.7 Conclusions**

The process of decentralisation in Ukraine is still unfolding. Some of the problems of its implementation to date have resulted in inefficient and ineffective water supply and wastewater disposal service provision in small and medium-size communities.

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<sup>59</sup> Final report (Draft) 'Assessment on the Status of Decentralisation and Services Provision in the Water Supply Sector in Selected Locations in Ukraine', prepared by Aquapro and MDI, DesPro project in Ukraine

Institutionally Ukraine is not ready for the decentralisation of water supply to the level of village local self-government. Under the present Ukrainian legal framework, local self-governments at the village level are not permitted to delegate their responsibilities as owner of water infrastructure to any other entity (with the exception of the oblast council). Furthermore, there is no organisational form of legal entity that can formally act on behalf of several local governments on the issues relating to choosing a water supply model in the region. This also impedes the more widespread establishment of inter-municipal cooperation which may be seen as an alternative in the improvement of water service provision.

From a regulatory point of view, the sector requires improvement of the regulation what has not been effectively performed by the local governments since the time this function was delegated to them by the state. Local communities of small size are constrained by fiscal limitations and cannot raise funding to improve and extend the water infrastructure.

An option to overcome this situation is to follow a strategy of regionalisation (including forming inter-municipal cooperation), thereby increasing the attractiveness of further investment. Regional operators' activities require professional regulation, which often cannot be ensured by individual local self-governments. Either an internal regulatory approach (through a supervisory board of a corporatised publicly owned regional operator) or an external regulatory approach (through a regulatory commission) for regulating privately owned regional operators can be offered as a viable regulatory option.

Lack of financing for the operating and investment activities of water service suppliers in rural areas as well as in urban areas is one of the major constraints for decentralisation of water supply and wastewater services in the country. To facilitate the financing of local services four major options (and their combination) for financing water supply and wastewater projects can be considered:

- (i) pooling of investment projects
- (ii) pooling of financing
- (iii) establishment of private sector partnerships
- (iv) financing of investments in infrastructure through resources which are generated by achieving efficiency gains, in particular via energy efficiency measures

Moreover, further fiscal reform is required to ensure that complete fiscal decentralisation is in place. These reform measures have to provide local self-governments with the adequate financial resources with which to fulfil their responsibilities and tasks. The measures should also allow aggregation of very small communities into one local self-governing body, thereby allowing economies of scale in the provision of public service functions. Finally, a system comprising a direct financial relationship between the local government unit and the state budget should be established, thereby excluding the current intermediary link between local self-governments at village and town level and the rayon level.

## **7. Summary and conclusion**

### **7.1 The background and objective of the report**

Recent political development in new EU member states and EECCA countries has led to a transfer of responsibilities for water supply and sanitation to sub-national (state, provincial, district or local) levels of government as part of a process of decentralisation. This development can present a severe challenge as it can make it hard for municipalities and water utilities to exploit economies of scale and generate the necessary resources to finance the required capital investments.

This report addresses the difficulties involved and focuses on inter-municipal cooperation as a potential mitigation measure. The findings are based on country-based case studies analysing the water management set-up in Austria, France, Poland, Romania and the Ukraine, in particular with regard to inter-municipal cooperation. This final chapter of the report extracts the main lessons from the country case studies and combines these with results and findings from a brief literature review on the advantages and disadvantages of inter-municipal cooperation.

### **7.2 The current situation**

The water sector in general is currently facing considerable challenges due to changes in policies and other matters – among these are the implications of climate change for the water sector and water service provision as well as ways to deal with increased competition for water. One of the means to address these challenges is the question of how to increase efficiency in the provision of water services. However, this question is a complex question to address as policies as well as the underlying conditions are currently undergoing major changes, in particular in the new EU member states but equally in countries of the EECCA region. The framework conditions affected by these changes involve a wide range of factors, such as political, institutional, legal and financial features, to name just a few. Changes in these conditions can be triggered either by domestic or foreign policies. The latter aspect is of crucial significance in particular in the context of EU membership as, for example, EU policies have to be transposed into national legislation, which in turn leads to modification of domestic water policies. Allied to the question of improving efficiency in the water sector is also the issue of how countries can secure reliable and sustainable financing for improving and expanding the water infrastructure, thereby guaranteeing adequate water supply and sanitation services at affordable prices.

Challenges in the water sector came to the fore during the 1990s. The new EU member states as well as EECCA countries at that time commenced a process of decentralisation involving transference of responsibilities and tasks from central government to local governments. This development is especially important in the water sector in these countries as the responsibility of the provision of water supply and sanitation services as well as the ownership of the water infrastructure assets were transferred to local governments over a rather short time period. These changes in policy follow the principle of subsidiarity. Decentralisation and the principle of subsidiarity are closely associated and can be used as complements to describe the process of transferring a range of powers (decision-making, revenue-raising, etc), responsibilities (service delivery) and resources (financial, human and administrative) from higher levels in political systems (central governments) to elected authorities at lower levels (regions, municipalities, communities, villages).

The case studies undertaken as part of this project reveal the water sector to be at a different stage of economic development and decentralisation in each of the five countries. The only aspect common to all five countries studied is the role of local government, as in all countries local government is now responsible for the provision of water services. However, the wide variation in how the decentralisation process has been implemented reveals that direct comparison of the experiences gained in each country is

problematic. As discussed above, decentralisation not only involves the transference of powers and physical assets to local governments but also how these local government are financed (fiscal decentralisation) and questions addressing the transfer of institutional and legal powers and tasks. Differences in these areas are underlined in the individual country case studies.

One of the most visible outcomes of the decentralisation process in the new EU member states and EECCA countries was fragmentation of the water sector, as a large number of water utilities, newly owned and operated by municipalities, were given the responsibility of providing water services often to rather small numbers of water consumers, in particular in rural areas. The transfer of responsibilities was often linked with simultaneous transfer of the physical assets, such as water supply and wastewater treatment facilities, to local governments. However, the assets were often in dismal condition as the necessary investments had not been undertaken in the past, often due to financial constraints.

Transfer of responsibilities as part of decentralisation may also give rise to problems where it is not guaranteed that municipalities have the required human and financial capacity to deal with the new tasks and that all aspects of the decentralisation process (administrative, fiscal and political decentralisation) are implemented. The Ukrainian case study discusses this issue in detail, as, for example, fiscal decentralisation has not been achieved and municipalities in rural areas face an uphill struggle in generating funds for maintenance and improvement of the water infrastructure. This contrasts to the situation in France. The Chevènement law of 1992 aimed to strengthen and simplify cooperation between communes, thereby establishing different types of inter-municipal structures of cooperation. The law also concerned the provision of fiscal powers to municipalities, as this was considered to be the basis for creating inter-municipal cooperation. This is reflected in the right to levy a local business tax in France in the name of the inter-municipal cooperation rather than the individual municipalities.

In the context of decentralisation and fragmentation in the water sector it is worth discussing the structures of sub-national authorities of the four EU member states in the present study, i.e. the territorial layers of administration (see Table 7.1), as well as the situation in Ukraine. The table reveals wide differences, as France and Poland have a three-tiered system whereas Austria and Romania have only two tiers. Furthermore, the last column is particularly interesting as it illustrates wide variation in the average population size of municipalities. Based on these figures, i.e. considering the relatively large number of municipalities (1st tier) and the relatively small average number of inhabitants, it is not surprising that the water sector in Austria and France is rather fragmented. The situation in Ukraine with regard to the absolute number of villages reveals some similarities to France.

Table 7.1: Sub-national authorities (situation in 2006)

	<b>Total population (in million)</b>	<b>1st tier (municipalities)</b>	<b>2nd tier (districts)</b>	<b>3rd tier (regions)</b>	<b>Average population of municipalities</b>
<b>Austria</b>	8.3	2,537		9	3,272
<b>France</b>	63	36,683	100	26	1,728
<b>Poland</b>	38.2	2,478	314	16	15,375
<b>Romania</b>	21.6	3,173	42		6,807
<b>Ukraine</b>	46.2 (2009)	457 cities 886 towns 28,552 villages and municipalities of Kiev and Sevastopol	490 rayons	24 oblast plus Crimea autonomous republic of Ukraine	94,285 (based on rayons)

Note: France – includes overseas departments and regions; Poland – the figure presenting the average population of municipalities cannot be directly compared with the other countries as municipalities located in rural areas consist of between 11 and 20 villages.

Source: EU sub-national governments: an overview 2007 edition, CEMR (Council of European Municipalities and Regions)-Dexia [http://www.ccre.org/docs/nuancier\\_2006\\_en.pdf](http://www.ccre.org/docs/nuancier_2006_en.pdf) and own calculation based on Eurostat, data related to the Ukraine: <http://en.wikipedia.org/>

One of the principal reasons for the different developments between European countries concerning public service provision has to be the political and historical context. Decentralisation has always been part of the institutional, political and administrative framework in western Europe, but not in eastern Europe. The role of local authorities was already established in the constitutions of some western European countries, such as France, as far back as the nineteenth century. Today all western European countries follow the principle of self-government for local municipalities; however, the principle is not protected by constitution in all of them (Hulst and van Montfort, 2007).

### **7.3 The issue – potential implications of the decentralisation process**

Today, local governments, i.e. municipalities, play the principal role in the delivery of public services, including the provision of water supply and wastewater services, throughout Europe. This development is frequently portrayed as an obstacle for the efficient provision of water services as it may impede exploitation of scale economies, i.e. efficiency gains, as well as generation of the necessary resources to obtain the required capital funds for water infrastructure investments. However, the situation in countries such as Austria reveals that a fragmented water sector, i.e. a large number of water utilities servicing small communities, can work, i.e. in Austria good quality water supply and wastewater sanitation services are provided at affordable prices. A similar situation can be found with regard to the French water sector. The sector also shows aspects of fragmentation as revealed by the large number of water and sewerage utilities, implying also that a fragmented water sector is not necessarily inferior to a situation where each water utility provides services to a large number of water consumers. However, in France around 70 per cent of all French municipalities make use of the option of transferring the competency for organising water supply to inter-municipal cooperations.

New EU member states on the other hand are facing another reality in that they are confronted with the need to improve water service provision under framework conditions that are changing relatively rapidly and in a short time period. This challenge combines with the required transposition of EU directives into domestic policies that imposes predetermined water quality and quantity standards. Municipalities in these countries are therefore posed with a considerable challenge concerning provision of water services. They must satisfy the demands of their water consumers – provide water services at affordable water tariffs, but also fulfil political demands – maintain and extend the water infrastructure and thereby realise policy objectives laid down in the relevant EC directives<sup>60</sup>. Investments made in water infrastructure in various countries have to comply with the water quality objectives and standards as laid down in EU directives which are legally binding for all EU member states. Raising funds for the required investments is difficult, in particular in rural areas, as highlighted in the Romanian and Ukrainian country studies.

### **7.4 Policy options to overcome the problems and challenges**

There are several options to overcome the problem of a fragmented water sector. One of them is to establish inter-municipal cooperation, which is a policy tool used throughout the world. Political reality and experience show that the creation of inter-municipal cooperation is a preferred option for overcoming the problems and challenges of a fragmented water sector, not only in the field of water services but also in other policy areas of joint provision of public services, ranging from waste collection and treatment to

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<sup>60</sup> See for example the requirements of the Urban Waste Water Directive (Council Directive 91/271/EEC concerning urban waste-water treatment).

economic planning and issues related to health and schooling (Hulst and van Montfort, 2007). However, assessing the performance of inter-municipal cooperation in terms of more efficient provision of water services is a highly complex and difficult task.

An alternative to inter-municipal cooperation is the regionalisation of water services, which is currently being implemented in Romania. This process can also be described as a form of inter-municipal cooperation but at the regional rather than the municipal level.

## **7.5 Driving forces with respect to the formation of inter-municipal cooperation**

The term inter-municipal cooperation as used throughout this report describes the grouping of some or all water utility functions of several municipalities into a common administrative structure. The basic idea and rationale behind this reform process is to realise economies of scale by providing water services to a larger customer base, thereby providing services more efficiently and at lower cost (World Bank, 2005).

The situation of a specific water sector can only be assessed adequately when the prevailing economic, fiscal, political, legal and institutional conditions are taken into account. It is therefore difficult to transfer the experiences gained in one country to another. The argument that small water utilities may face severe problems in raising funds for investments or may have a cost structure that leads to high water tariffs must be taken seriously; in particular in the context of the necessary investment required to comply with the given EU regulations and standards in new EU member states.

The case studies and the findings of the literature review reveal the existence of several factors driving the formation of inter-municipal cooperation. The main driving forces identified in the country studies are:

- **Political aspects – achieving policy objectives**

Political reasons for establishing inter-municipal cooperation must be seen in the context of which territorial unit (i.e. national, regional or local) is perceived as the most relevant to provide the public service in question. The choice depends on and is a response to the prevalent subsidiarity requirements of the individual state (CDLR, 2008). These political aspects are interlinked with financial and administrative factors. However, politics must establish the basic principles for the formation of inter-municipal cooperation to be secured legally. Moreover, politics may play a fundamental role in initiating the process of building up different forms of cooperation between municipalities.

Also worth mentioning here is a study that analyses the current situation of the water sector in Spain as its findings are interesting and empirically tested. The aim of the study was to identify factors explaining local governments' public service delivery options (Bel and Fageda, 2008). The results of the study are significant in the present context as the study considers the influence of politics and ideology on local government choices, i.e. factors which are often not analysed in detail but regularly discussed as important in the political reality surrounding the transfer of tasks and responsibilities surrounding service provision. The authors summarise that there is 'evidence that politics and ideology are relevant explanatory factors' for the service delivery choices of local governments. They also find that the effect of political interest is more important than the effect of ideological attitudes. 'Conservative mayors' use private provision more often, regardless of the ideological position of their constituencies' (Bel and Fageda, 2008, p.16).

- **Economics – achieving efficiency gains**

A common principle and underlying rationale for establishing inter-municipal cooperation is the policy goal of achieving efficiency gains, in particular through the realisation of economies of scales. This policy aim can be found in all countries covered in the project. It is a rather complex task to prove whether economies of scale are achieved, as a whole range of rather diverse endogenous and exogenous factors must be considered in the analysis, as discussed in chapter 1.

The question of which factors and features determine the optimal size of a water utility is evidently important in relation to the aim of achieving efficiency gains. Recent studies demonstrate that there is no generally defined optimal size for a water utility as too many other diverging factors have to be taken into account in the analysis.

The country case studies did not aim to assess whether inter-municipal cooperation is more efficient in water service provision than utilities operated by an individual municipality. The country case studies (Austria and France) do however offer some insights into how water tariffs vary between these two types of providers. This finding may be used as an indication of efficiency, but only in the widest sense and only with reservations. Of interest in these two countries is that the water and wastewater tariffs levied by inter-municipal cooperations or associations on average are higher, or at least the same, as those levied by non inter-municipal cooperations. At first glance this finding seems to contradict the hypothesis that larger water units, i.e. units servicing water consumers in more than one municipality, can provide an inexpensive and more economical service than smaller units.

When the various aspects are taken into account, however, it is obvious that a simple comparison of tariffs is not a constructive indicator for assessing the effectiveness and efficiency of inter-municipal cooperation. For example, the Austrian case study highlights the fact that inter-municipal cooperation with regard to water supply is often established in problematic regions in terms of geography and hydrology. The costs of providing water services are crucially dependent on these conditions, and it is regularly the case that water tariffs are not set to reflect the costs in these areas. Therefore, water tariffs can be seen not to be a general, useful indicator in assessing the efficiency of water service provisions and to be only of limited use in measuring the performance of inter-municipal cooperation.

Even more significant in this context is that water tariffs can vary due to differences in the water tariff structure (fixed and variable elements of water tariffs, block tariffs, etc.) and depending on whether or not they are set in accordance with the principle of full cost recovery. The 'sustainable cost recovery principle' is discussed in a recent OECD report as a more realistic and practical policy alternative of setting water tariffs to the principle of full cost recovery (OECD, 2009). The water tariffs presented in the country case studies reveal wide differences between countries, as well as between regions in the Romanian case. It becomes even more apparent that discussion and comparison of water tariffs within a country and between countries should only be carried out with great caution.

The discussion surrounding the question of whether inter-municipal cooperation may achieve efficiency gains is specifically dealt with in the Austrian case study. All municipalities are eligible for financial support from the national government when undertaking water infrastructure investments. However, they are obliged to submit an economic analysis when applying for such funds for any investment in the water sector. This economic study includes a cash value comparison of different investment options by taking into account the potential investment costs, operating expenses and re-investment costs for a period of 50 years. The different investment options required to be studied not only consist of an analysis of the different technologies but must also assess the possibility of constructing water plants in cooperation with other municipalities. This latter point is in particular of interest in the context of wastewater treatment plants. The underlying assumption of this approach is that municipalities would not alone systematically consider the inter-municipal cooperation option (i.e. because it is time consuming, or because municipalities may prefer to be in full control).

- **Finance – securing sustainable financing for extending and upgrading water infrastructure**

Formation of inter-municipal cooperation can be associated with financial issues as it is assumed that larger units may have easier access to funds – provided either by governments, international donors or private banks and investors. This aspect was important in the context of Romanian politics when replacing the decentralisation process of the 1990s with the process of regionalisation by forming regional operating companies that could service a number of different municipalities with at least 100,000 population equivalents (Frone, 2008). A driving force behind this development was access to EU funds. This issue is of specific relevance for all new EU member states as a co-financing rate of up to 85 per cent of eligible

investment costs can be granted from EU funds. However, to be eligible for financial support from EU funds the investments must exceed a specific threshold value<sup>61</sup>. Frequently, investment projects implemented in small municipalities, most notably in rural areas, are below this threshold and therefore not eligible for EU funding. The eligibility criterion, i.e. investment projects with investment costs exceeding the threshold, can be seen as a clear incentive to aggregate a large number of small water service providers into larger operators, i.e. to form inter-municipal cooperation, or as in Romanian case – regional operating companies.

Problems associated with inter-municipal cooperation can also arise, for example regarding investment decisions, as the question of where scarce financial sources are being invested may lead to disputes between the individual stakeholders, i.e. municipalities, in the inter-municipal cooperation, as highlighted in the Polish case. Here, there was a dispute between the different stakeholders of a water association over priorities and investment decisions with the result that one of the members has left the inter-municipal cooperation and another is considering leaving.

- **Geographic and hydrological conditions**

Another important driver highlighted in the Austrian case study deserves additional attention when assessing the significance of potential drivers. The geographic and/or hydrological conditions are key features when establishing inter-municipal cooperation. This is in particular the case with the provision of drinking water in areas of relative water shortage. A similar finding affects wastewater treatment facilities in the mountainous regions as inter-municipal cooperations are beginning to appear here too. The communities are in general quite small and the construction of a sewer network along a valley floor is straightforward and economically viable.

It can be concluded that geographic and hydrological conditions are of significance when forming inter-municipal cooperation, as achieving efficiency gains may be hampered when ignoring these given physical conditions. It can therefore be stated that topographic conditions, and possibly river basin levels, should guide the creation of inter-municipal cooperation, and not administrative boundaries, in order to promote efficiency gains.

- **Capacity development**

The decentralisation process led to a situation whereby often small municipalities are now in charge of the provision of water services. This development was intended as part of the process of transferring responsibilities from higher levels to elected authorities at lower levels. This process also led to serious challenges as specific skills and professional capacities are required to cope with provision of these services. It is not always the case that these skills are available in all municipalities, as decentralised systems do not have a continuous demand for such skills and often do not have the financial resources to support building these professional skills and capacities. This problem may be overcome when forming inter-municipal cooperation, as larger units display the need for these skills more frequently (World Bank, 2005).

All of the above driving forces have in common that they support the formation of inter-municipal cooperation in one way or another. However, it is already clear from this discussion that there are many different forms of inter-municipal cooperation conceivable – and that many different types exist in practice, as demonstrated by the country case studies.

## **7.6 Typology of inter-municipal cooperation**

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<sup>61</sup> Under EU Structural and Cohesion Funds regulations only 'major' environmental projects could be funded if the investment value was in excess of 25 million euro.


Developing a typology of inter-municipal cooperation can provide some interesting insights into the complexity and diversity of inter-municipal cooperation, but more importantly provides an overview of the different policy options that are available. The country case studies disclose the heterogeneity of existing inter-municipal cooperation and the difficulty associated with the task of assessing and comparing their performance. Establishing a typology of inter-municipal cooperation allows this to be analysed by arranging the different types of cooperation into clusters according to various dimensions.

The World Bank undertook a benchmarking exercise of inter-municipal cooperation recently, using the three dimensions of 'scale, scope and process' (World Bank, 2005). These dimensions are described as follows (World Bank, 2005, p.v.):

- **Scale:** Aggregated structures can group two neighbouring municipalities, or several municipalities in a single region or across a broader territory.
- **Scope:** Aggregated structures can provide a single service (for example, bulk water supply) or all services, from raw water abstraction to sewerage treatment. For each of these services, they may carry out certain functions only (such as procurement) or be responsible for all functions, from operations and maintenance to investment and financing.
- **Process:** Municipalities may form aggregated structures voluntarily based on mutual interests, or, alternatively, a higher level of government, driven by the overall public interest, may impose or incentivise the aggregation process. The aggregation may be temporary (for a short-term specific purpose) or permanent.

Table 7.2 presents an alternative typology that stresses some of the dimensions of inter-municipal cooperation. These dimensions/categories reveal some of the many facets which should be considered when discussing inter-municipal cooperation. The dimensions are subdivided into objectives and drivers behind formation of inter-municipal cooperation, respectively, as compared to the degree of cooperation/transference of responsibilities. Commonalities between the typology established by the World Bank and the one developed in this paper are undoubtedly apparent as, for example, the dimensions of 'scope' and 'process' can well be linked to the dimension of 'degree of cooperation'.

Table 7.2: Typology of inter-municipal cooperation (IMC)

	<b>Degree of cooperation/transfer of responsibilities</b> 			
<b>Objectives / drivers of IMC</b>				
	<b>IMC at national level</b> (water association – voluntary participation)		<b>IMC formed by individual communities</b> (voluntary participation)	<b>Regionalisation of the water sector</b> (IMC at the regional level – mandatory participation)
<b>Policy (driver):</b> decision to achieve pre-defined objectives	<b>Drivers:</b> identification why to form IMC? What are the reasons?			
<b>Geography/Environment (driver):</b> access to water in water scarce areas, etc.	<b>Objectives:</b> IMC to set up with the clearly defined objective to achieve pre-defined objectives!			
	<b>Drivers and objectives</b> may overlap – they crucially depend on the prevailing			

<b>Capacity development</b> (driver): professional staff, etc	conditions (institutional, legal, economic, political, etc.) of the respective country!
<b>Finance</b> (driver/objective): access to capital market, EU funds, participation of private operators in service provision, etc.	
<b>Economics</b> (driver): efficiency / economies of scale – (objective) cost reduction	

As shown in Table 7.2 the respective drivers and the underlying objectives for establishing inter-municipal cooperation often overlap or are mutually dependent, implying that the differentiation is rather rudimentary.

The dimension of the degree of cooperation/transfer of responsibilities, i.e. the tasks and rights that have been transferred to the inter-municipal cooperation, used in Table 7.2 is one of the crucial features of inter-municipal cooperation. Important questions are, for example, whether the inter-municipal cooperation is the owner of the physical assets and whether it can set the water tariffs independently of the municipalities.

It would seem reasonable to study this aspect in connection with how an inter-municipal cooperation has been established, i.e. whether formation was carried out on a voluntary basis or was forced by the national government. These two options probably represent the extremes and many different forms between these options can be anticipated and are actually in place.

Different degrees of cooperation are presented in Table 7.3 below. It again has to be stressed that this overview is not exhaustive and can only be used as an indication of options with regard to how responsibilities and tasks, which must be provided by individual municipalities as the responsible entity with regard to service provision, may be transferred to a new inter-municipal institution.

Table 7.3: Degree of cooperation/transfer of responsibilities

	<b>Purpose and aim</b>	<b>Examples</b>	↓
<b>IMC at national level</b> (voluntary membership)	Capacity building, training, information exchange, lobbying,	Water association	
<b>IMC at regional community level</b>	Sharing of tools and experiences → economies of scale in operation	Cooperation of utility operators	
<b>IMC – service provision based on contracts</b>	Wide range of options between municipalities: ranging from procurement up to complete take-over service provision		
<b>IMC of individual communities</b>	Setting up an IMC – municipalities are transferring responsibilities to this new institution		
<b>Regionalisation of the water sector</b> (mandatory approach)	Municipalities of a whole region are encouraged to join an IMC (on a voluntary or on a mandatory basis)	IMC in Upper Austria, situation in Romania	


The current Romanian approach of establishing regional public water supply and wastewater utilities can also be described as a form of inter-municipal cooperation. A difference in the formation of regional water utilities – as apparent in the Romanian case – is that it is the unambiguous result of a political process, i.e.

mandatory integration, as compared to the inter-municipal cooperation in other countries which can result from the voluntary merger of previously independent water utilities and municipalities.

It should not be concealed that there can be some political pressure to establish inter-municipal cooperation. A common tool for exerting this pressure was – and still is – linked with the granting of more preferable financial support conditions in particular in the context of large-scale capital infrastructure investments. For example, in the past an inter-municipal cooperation was eligible for a higher investment grant in Austria. The same policy approach of providing financial incentives for aggregation of municipalities is still used in Hungary, as the national government awards higher grants for municipalities applying as a group rather than as individual municipalities (Frone, 2008 and World Bank, 2005).

Table 7.4 provides examples of inter-municipal cooperation as an indication of how the developed typology can be applied. However, the reality is more complex as the underlying rationale for forming of inter-municipal cooperation may address different policy objectives simultaneously. The Romanian case of regionalisation of the water sector is a prime example of this as the intention of this process is to achieve several objectives.

Table 7.4: Typology of IMC – country examples

	Degree of cooperation / transfer of responsibilities 				
Objectives / drivers of IMC					
	IMC at national level (water association – voluntary participation)		IMC formed by individual communities (voluntary participation)		Regionalisation of the water sector (IMC at the regional level – mandatory participation)
<b>Policy</b> decision to achieve pre-defined objectives	Austria – national water association (lobby, PR, training programme)				Romania – regionalisation of the water sector
<b>Geography/Environment</b> access to water in water scarce areas, etc.			Austria – water dry areas in the South-East		
<b>Capacity development</b> professional staff, etc			Austria – cooperation of water utilities		
<b>Finance</b> access to capital market, EU funds, participation of private operators in service provision, etc.					Romania – regionalisation of the water sector
<b>Economics</b> efficiency / economies of scale – cost reduction			France - Communauté d'agglomération		Romania – regionalisation of the water sector France - Communauté urbaine (not at the

					regional level but compulsory for some of the larger French cities)
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The French country case study provides some very interesting political insights with regard to the formation of inter-municipal cooperation. As Table 7.4 reveals, the setting up of inter-municipal cooperations (i.e. Communauté urbaine) is mandatory for some large cities (Bordeaux, Strasbourg, Lyon and Lille). In contrast it is voluntary for contiguous urban areas of more than 50,000 inhabitants with a central municipality of more than 15,000 (i.e. Communauté d'agglomeration).

### 7.7 Why form inter-municipal cooperations? Potential advantages and disadvantages of inter-municipal cooperations

When discussing the rationale for establishing inter-municipal cooperation the recent World Bank report may be quoted (World Bank, 2005, p.11):

*The main factor driving aggregation is the need to improve efficiency of service provision.*

This statement emphasises the economic dimension of inter-municipal cooperation. But it can also be concluded that benefits in other areas can be achieved, as revealed in the country case studies. However, the fact must not be suppressed that also potential disadvantages and constraints exist which may impede the creation of inter-municipal cooperation and are often independent of the type of inter-municipal cooperation. These constraints have to be taken seriously when discussing the topic.

#### 7.7.1 An overview of the advantages and disadvantages of inter-municipal cooperation

The table below provides an overview of potential benefits and constraints that arise when establishing inter-municipal cooperation among regional water operators. This overview undoubtedly reveals the complexity associated with inter-municipal cooperation. Potential benefits and constraints are numerous and must be seen and assessed in conjunction with the prevailing conditions (economic, legal, institutional, etc). It seems obvious that multi-criteria analysis is an appropriate tool and should be applied when making a decision to promote the establishment of inter-municipal cooperation. The list of potential benefits and constraints are subdivided into three different categories (political and institutional; environmental, geographic and hydrological; and financial).

Table 7.5: An overview of potential benefits and constraints with regard to the formation of inter-municipal cooperation and/or regionalisation of water services

Category	Potential benefits/advantages	Potential constraints/disadvantages
<b>Political/ institutional features</b>	Increased cooperation between municipalities can lead to cooperation for other public services or projects	Participation of the private sector for the provision of utilities may generate popular and political resistance
	Improvement in the coordination management of water utilities due to alleviation of the lack of capacity and expertise at the local level	Resistance of communities with lower costs to subsidising those with higher costs
	Can raise interest in Private Sector Participation – but attractiveness decreases if rural areas are included	Loss of democratic accountability; limited potential for direct comparative competition between service providers

		Existing installations may limit potential for efficiency gains as they cannot be redesigned; resistance from labour against staff reductions
		Political will required at all levels (central, regional and local)
<b>Environmental/ geographic/ hydrological features</b>	Improved access to water resources in water scarce areas	Administrative boundaries are often not aligned with river basin boundaries; conflicts and lack of coordination between water users
	More integrated approach to water resource management	
	More effective approach to environmental protection and sustainable development in the water sector for the region served	
<b>Financial features</b>	Access to banking finance and international donors	Lack of incentive to share water; sharing of water access can lead to tariff increases for water-rich municipalities
	Access to private sector participation; can be combined with economies of scale to dramatically improve efficiency of operations	Lack of local recognition of a need for support and potentially higher cost from external support; distance between population centres
	Cost sharing between high- and low-cost service areas	Higher risk for municipalities due to joint liabilities for the loans
	Enhanced professional capacity through transfer of management, technical know-how and expertise	
	Economies of scale in procurement and support functions; economies of scale in designing works for neighbouring towns	

Source: based on World Bank, 2005 and Frone, 2008

Although this overview is not exhaustive it indicates the potential benefits and constraints of inter-municipal cooperation. The complexity and heterogeneity of inter-municipal cooperation becomes visible as the advantages and disadvantages are to a certain degree balanced. It is interesting to highlight that there are recognisable differences between the three categories. The list reveals the existence of a larger number of potential constraints with regard to the political/institutional dimension compared with benefits. Precisely the opposite is however true for the two other dimensions, the environmental and the financial features. Here, the number of potential benefits exceeds the number of constraints.

Taking into account these findings it can be argued that when the given geographic and hydrological conditions are given due consideration, there are obvious advantages of inter-municipal cooperation in relation to financial and environmental dimensions. The prevailing geographic and hydrological conditions are also connected to the political/institutional dimension in the sense that the potential constraint of

forming an inter-municipal cooperation along administrative boundaries may contradict with the established geographic borders. Administrative boundaries have been established by a political decision-making process implemented in the past. The situation therefore can arise where political must be present to agree to re-demarcation of the existing boundaries of a region in the context of establishing a new inter-municipal cooperation. This illustrates that political interests and ideologies must not take a front seat when decisions regarding formation of inter-municipal cooperations are on the political agenda.

- The role of politics

As highlighted in the table above potential constraints exceeding potential benefits in relation to political and institutional features. This finding is in itself of great interest as it clarifies the complex role of politicians in the process of establishing inter-municipal cooperation. On the one hand there are clear benefits when water utilities in the form of inter-municipal cooperations provide water services to the electorate. On the other hand disadvantages in terms of the role of local politicians are apparent as local politicians are often forced to give up some of their powers and responsibilities.

- The setting of water tariffs

It can be argued that the setting of water tariffs represents one of the main factors limiting the formation of inter-municipal cooperations, as municipalities may have to give up some of their influence in this respect as part of the cooperation. This aspect can be described as a loss of democratic accountability as local communities can lose their power to represent the interest of their electorates. This process is rather institutionalised in the case of Romania as here municipalities delegate their rate setting to the newly created Intercommunity Development Associations (IDAs), and the latter should now represent the interests of the communities and their inhabitants respectively.

Furthermore, the Romanian approach anticipates unification of water tariffs for the entire area of operation, which is described as a sign of applying the solidarity principle in the water sector (i.e. an approach of sharing the costs between high and low cost services). It would be interesting to assess whether this approach is in line with the 'user pays' principle, which represents an alternative pricing approach.

The Austrian water tariffication scheme is more flexible than the Romanian as the right to set water tariffs still lies with the individual municipality, even where the municipality is part of an inter-municipal cooperation. The Ukrainian case study highlights a practical problem concerning the setting the water tariffs in discussion of the situation with the regional water company in Luhansk where it took almost a year to negotiate the tariff level with all the local governments. When assessing this example it should be kept in mind that the decentralisation process as well as many institutional and legal issues are still under discussion in Ukraine and regularly revised, leading to a number of different uncertainties in the water sector. Uncertainty with regard to development in the political, institutional and legal framework of countries deflects the interest of the private sector in investing into the water sector. The French case study alludes to the issue of tariff harmonisation as one of the long-term objectives of inter-municipal cooperation. However, this objective is often not implemented in practice when an inter-municipal cooperation is created, and water tariffs differ between municipalities. It is worth repeating the case of one of the large inter-municipal cooperations (Bas-Rhin water and sanitation syndicate) as tariff harmonisation can be closely associated with improvements in service quality. Water tariffs within the syndicate are set in accordance with the quality of service in each commune. The quality of service provision is evening out throughout the area over time in line with the investments made by the syndicate aiming to improve the weaker portions of its network. As a result, the water tariffs are becoming more uniform (World Bank, 2005).

### 7.7.3 Transfer of experience

Considering these different aspects of the benefits and constraints of inter-municipal cooperation and the associated trade-offs it is clear that transferring experiences of inter-municipal cooperation between countries is complex. Experiences gained in Austria and France are based and crucially dependent on country-specific features and historical evolution. Therefore, it is difficult to transfer these to the new EU member states and EECCA countries; however, it can be recorded that inter-municipal cooperation has played an important role in the provision of water services in Austria and France for many decades. Apart from factors which can change over time, other factors, such as geographic and hydrological conditions, are given and represent the most significant criteria for consideration when addressing the general question of managing a water sector. These criteria also play a role in assessing the optimal size of a water utility.

Based on the sometimes century-old experience with inter-municipal cooperation – not only in the field of water service provision but also in other fields, such as waste disposal services or health and education – ‘old’ EU member states can provide some lessons for the decentralisation process, which in some countries is still in progress; in particular, how fiscal autonomy of municipalities has been established as part of fiscal decentralisation. It is not possible to provide a blueprint for decentralisation, however, as country-specific conditions, such as the overall fiscal system, have to be considered, i.e. whether local communities have the right to impose local taxes or whether they depend entirely on financial transfers from the national government. Experience may also be shared between old EU member states and new EU member states and EECCA countries regarding the question of how an inter-municipal cooperation may be established without transferring all responsibilities to this new organisation, allowing local politicians to retain control of some aspects of water service delivery, such as the setting of water tariffs. For instance, the Austrian practice shows that the individual communities that form part of an inter-municipal cooperation still set the water tariffs, but have to pay a part of the revenues accrued to the inter-municipal cooperation, which may solely be responsible for the operation of the wastewater treatment facility or water supply network.

It can be stated that inter-municipal cooperation in the water sector can represent an approach for the efficient provision of water services at affordable cost for the water consumers. Furthermore, the formation of an inter-municipal cooperation can ease the financial constraints of individual local governments. However, inter-municipal cooperation is far from being a panacea for solving all the problems and challenges countries are facing in the water sector. As highlighted in the country case studies a proper functioning institutional and legal framework at the national and sub-national level is of central significance. In addition, it should be ensured that during establishment of an association between municipalities the inter-municipal cooperation set up must align with the given geographic and hydrological conditions of the area. This implies that when selecting the municipalities to join the cooperation other factors should only play a marginal role in comparison.

## **7.8 Concluding remarks**

The aim of the study and in particular of the country case studies is to reveal some of the most decisive aspects and dimensions of inter-municipal cooperation in the water sector. Analysis of the potential for economies of scale and improvements in the financial position of the water sector is given a prominent position in the report. Other features of aggregation have not been analysed in detail; although they do seem to have some relevance in an overall evaluation of the performance of inter-municipal cooperation. For example, the issue of scope, namely the question of which public services can be aggregated, is of some relevance as it can be differentiated between single-purpose associations (i.e. only focusing on the provision of a single public service – for example water services) and multi-purpose associations. The latter form has become more common in recent years. Another interesting aspect may be the type of operating functions that are aggregated, i.e. transferred to the inter-municipal institutions.

This report presents the wide variety and complexity associated with inter-municipal cooperation but also the extensive and abundant experiences gained with this institutional form, in particular in countries such

as France and Austria. These countries have applied inter-municipal cooperation in the water sector for many decades as this organisational form can lead to improvements in the provision of water services as a result of efficiency gains. The situation in the new EU member states and EECCA countries is different as the process of decentralisation, leading to the transfer of responsibilities from the central to local governments, only commenced in the 1990s. Decentralisation in these countries brought with it fragmentation of the water supply and sanitation sector. Here, therefore, it can be stated that the creation of inter-municipal cooperation must be seen as a consequence of the process of decentralisation.

Recent experiences as well as the majority of studies assessing the performance of inter-municipal cooperation reveal that water service provision can be improved by means of economies of scale. However, a blueprint of how these efficiency gains can be attained is not available as country-specific features, such as the prevailing legal and institutional framework, have to be adhered to. Another of the key difficulties in assessing the performance of inter-municipal cooperation versus other forms of service provision is the lack of reliable data which is a prerequisite for undertaking these analyses. Nevertheless, despite the apparent complexity of comparison and lack of data, experience gained in countries with a long tradition of inter-municipal cooperation can in some measure be used in other countries that face considerable challenges in improving the quality and efficiency of water service provision..

When analysing inter-municipal cooperation it is imperative that exogenously given conditions (i.e. geographic and hydrological) are considered. As briefly addressed above, political, legal and institutional conditions can influence the existence and frequency of inter-municipal cooperation. But what is important in this context is a guarantee that river basin boundaries are respected and not administrative boundaries, as efficiency gains can be realised easier in the case of the former.

Based on the findings of this study and other reports as well as the experiences gained with inter-municipal cooperation in many European countries it may be asked why there is not more inter-municipal cooperation in the joint provision of public services including water supply and sanitation. Probably the most important factor opposing the formation of inter-municipal cooperation is the risk of failure, which detracts from the political will and support to promote this organisational form. Further research activities should therefore determine factors which are responsible for the success or failure of inter-municipal cooperation.

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