

# The Case of a “Weak Water” Governance Model: Athens - Greece

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*Abstract:* - This paper combines the work from two European research projects (“Achieving Sustainable and Innovative Policies through Participatory Governance in a Multi-Level Context” and “New Intermediary Services and the Transformation of Urban Water Supply and Wastewater Disposal Systems in Europe”). Together with conclusions and findings taken from the author’s PhD thesis the basic characteristics of a weak water governance model under change, the Greek model, are outlined.

*Key-Words:* Water Governance, Water Resource Management, Water Governance Models

## 1 Introduction

Nowadays, an increasing number of pressures are applied on water resources, including those arising from agriculture, industry, urban areas, household and tourism. These driving forces are generally linked with national and international social and economic policies. Additional pressures arise from the natural variability in water availability and climatic changes. Recent history has demonstrated that extreme hydrological events (such as floods and droughts) can create additional stress on water supplies, essential for human and ecosystem health [1]. The problem of water shortage is particularly remarkable in the Southern European regions, where some semi-arid zones are located in contrast to Northern European regions where water is abundant but quality problems are more intense [2]. Thus, the efficient use of water is an important issue in Europe and a number of policies and mechanisms are being used or being formulated to ensure sustainable use of water in the long term. According to various organizations like ICTAF [3], the use of water, in order to be sustainable, requires efficient water utilisation, water conservation, wastewater reclamation and wherever possible reuse, environmental conservation and application of alternative water resources to the benefit of our and future generations. The European Union has introduced water-related Directives and action programmes and has outlined policies, measures and regulatory frameworks as essential guidelines, for the sustainable use of water in the member states. However in order to efficiently utilize such mechanisms, efficient water governance arrangements are required, something that often is not the case.

## 2 Water Governance

One of the fundamental roots of the problems in the water sector as identified by various organizations (for example [4] and [5]) is poor governance. Providers of centralized water and wastewater services are monopolists by nature, and therefore require careful regulation. The information asymmetry between governments and water utilities, and the political sensitivity of water pricing, leaves the sector vulnerable to ad-hoc politics and social criticism.

As a result, the sector often suffers from a high level of political interference, and a confusion of its social, environmental and commercial aims. Decentralization often leads to devolution of responsibilities for service to lower levels of governance, without a commensurate allocation of the required financial means. Moreover, water utilities often lack operational autonomy, and their relationship with the government is unclear and ambiguous. They often have a poor management structure and find it difficult to maintain highly-trained and specialized staff. They are frequently in a poor financial condition because they are unable, unwilling or not allowed to charge customers the full rate for their services. Politicians often burden the sector with financial arrangements that are ad hoc, unpredictable and not sustainable (especially in countries where political clientism and corruption are common).

This makes it very difficult for water utilities to perform a series of actions, most importantly to properly maintain their assets, attract necessary finance. This way they are left dependent on the governments to fund their new investments and make their long-term plans. To add to the problem, a

lack of clarity about ownership of assets is often an additional obstacle to all water policies.

Effective water governance is necessary to create the sound basis where specific policies and measures will solve the water crisis. Water governance determines the roles and responsibilities of the different interests – public, civil and private - in water resource management and development. Resolving the challenges in this area is necessary if sustainable water resources development and management is to be achieved. Effective water governance is essential to secure access to water for all, maintain vital ecosystems and produce economic development out of water management.

Governance looks at the *balance of power* and the balance of actions at *different levels of authority*. It translates into political systems, laws, regulations, institutions, financial mechanisms and civil society development and consumer rights – essentially the rules of the game. Usually improving governance means reform in order to include the basic principles of the effective water governance: participation by all stakeholders, transparency, equity, accountability, coherence, responsiveness, integration and ethical issues

A governance model refers to these principles of good governance, and of the allocation of responsibilities and relationships between stakeholders for tasks and practices required for good governance. Governance models will vary between different business models (where the way the utility is operated is determined), and even between two communities using the same business model [6].

A governance model is a functional description of the principles of good governance, and of the allocation of responsibilities and relationships between stakeholders for tasks and practices required for good governance. A governance model usually describes a set of structures, functions and practices that define who does what, and how they do it [6]. In organizations, these attributes typically relate to the role and relationships of stakeholders, including the water utility staff and the users.

More or less, all the “idealized” proposed models of water governance are focused on how control should be shared among citizens, the state and the private sector. Bakker [6] defines these models of resource management as the planning model, the market model, and the community model, based on who is the main responsible in the sector.

In practice, of course, many public services have elements of more than one model. In practice, there is a great deal of variation in the stakeholder governance models associated with different

business models. There are also hybrid models: municipal service boards or commissions, delegated management contracts, and corporatized utilities adopt elements of both the planning and market models.

Ballabh [7], describes the water governance models focusing on how they enlist greater participation of people in the management of public affairs and development process focusing on a matrix of relationships between the state, the market, the civil society, the NGOs, under a globalize economy.

Regarding the search of political measures on the European scale it is supplementary difficult that planned measures have to be implemented in countries with different political regimes. Referring to this it is possible to distinguish roughly three types of “regimes” or “models” in the frame of water supply: The ‘regime of market economy’ (for example in the United Kingdom), the ‘communal regime’ (dominant in Germany) and the ‘state-oriented regime’ (in Greece). This causes different legislative frames and different institutions regarding water supply what again influences intensively the management options of the concerned stakeholders [8].

Unfortunately the Greek water governance model presents a series of individualities and characteristics that makes it a particularly “weak” model. However a series of changes in the water sector indicates a slow but nevertheless apparent reform of the governance arrangement in a pursuit of a new, more effective form of water governance in Greece.

### **3 Characteristics of the Water Governance in Greece - Athens**

The agricultural demand for water in is well above the European average, while the industrial demand is below the European average. Athens and its suburbs forms the largest unit of demand for water. Around 58% of the national total urban water demand comes from Athens and projections anticipate that water demand will grow over the next thirty years. Today, Greeks consume more water per head than most other European citizens. Between 1989 and 1993 average demand fell as a result of public awareness campaigns and strict regulations. Since then demand has risen again and has surpassed 1989 levels. Water demand in Greece has a pronounced seasonal character relating to tourism, one of the country’s key industries

Traditional forms of direct public management of water supply remain the norm in Greece. However, water related policies in Greece have entered a stage of transition, reflecting the European scale move away from the 'command and control' policies of the 1970's and 1980's towards more mediating and procedural forms of regulation in the 1990's. Nevertheless water management is still dominated by the institutions (Ministries) of the central state. However an important shift has recently occurred with the establishment of the water utility in the metropolitan area of Athens (EYDAP S.A.) in 1999. This is a joint stock company with shares held both by the government and by private investors. It is now responsible for the operation and maintenance of water supplies in Athens, though it does not own the infrastructure. The water utility of Thessaloniki soon followed EYDAP's pattern while in towns with populations above 10,000 the water is supplied by institutions, which take the form of independent companies but which, are wholly publicly owned. In smaller cities local municipalities are directly responsible for providing water supplies. In few cases though there are private companies involved in the water sector where delegated management has been adopted by the municipal water utilities.

For most of the century rapid urbanization in Attica meant that demand for water outstripped supply. Since the construction of the Mornos and Evinos dams and reservoirs, however, the reverse is true. However, this is a question of technical capacity rather than environmental sustainability. In the case of Athens surface water supplies are used. The construction of reservoirs has meant that such deficits do not interrupt Athens' water supply but this does not imply sustainability. In recent years extractions have been below inflows, which have risen considerably.

Although systematic sampling suggests that there is no major problem with drinking water quality, there is a growing concern over the quality of wastewater emissions and especially run offs from agricultural areas and risks to groundwater aquifers. Additionally the majority of sewage works do not conform to the EC urban wastewater directive, as there is no secondary treatment.

The price of water in Athens is meant to take into account the cost of water comprising both operation and investment costs, but excluding environmental costs, opportunity costs and scarcity costs. However, in reality investment costs have not been included either, and the price charged did not cover operating costs until 1992. The deficits and the costs of major construction work have rarely been included in the water price since they are generally

paid by the central state. In the case of some specific government investments (for example the Mornos dam) the water company charges the end user a supplement, in order to pay the government back for the investment. However, the water company only ever transferred part of this money to the government. The water company may be able to pay for smaller investments through its revenues and end users pay for new pipes at the street level. The cost of environmental impacts have always been considered negligible and have not been included. Nor is there any consideration of the opportunity cost of water or the scarcity cost of water. Since these costs are not included water is underpriced. This induces water consumption beyond the optimum social level. Additionally there is not a plan for incentives to introduce innovative water saving methods. Because the water used by government is, in effect, free they are particularly extravagant consumers. The use of 'price' as a mechanism for disciplining consumption is likely to become more important in the near future, particularly if the EU Directive which advocates full cost pricing of water is adopted into Greek law, however, many questions about the practicality of such pricing have not as yet been addressed. The current price is a trade-off between running costs, investment needs and what is socially acceptable. As a result investment capital is more often derived from grants from central government than through revenue from water levies.

The tariff structure is based on the assumption that water is a 'public good'. To this end an increasing-block tariff structure is used (wherever the volume of water sold can be effectively measured) to subsidise low volume users. The price of water triples if a domestic user consumes more than 20m<sup>3</sup>/month. It ought to be possible for a family of five to stay in the lowest two bands. An upper limit to water bills is applied for families with three or more children. Industrial users are charged at a higher rate than low volume domestic users. Government users are officially charged for water, but in practice do not pay. Water prices are fixed in each municipality and can vary greatly. A supplementary charge for wastewater disposal is calculated as a percentage of the bill for water consumption. Before 1970 the price was not expected to cover the full operation costs of the water system. Since the mid seventies however, the emphasis has moved towards cost-recover. Since 1992 revenues have exceeded the operating costs. The recent partial privatisation of water supplies in Athens may mark a significant shift away from the idea of social water pricing. Though the prices will

continue to be set by the administration in the near future there are plans to increase further the cost of water.

Whilst the abstraction, treatment and storage infrastructure is working well, the distribution network in Athens is less effective. Water losses due to leakages and faulty water meters are still considerable.

#### 4 The Reform of the Water Sector

Since 1999 a process of reform has been initiated in Greece and is reflected mainly on changes that are taking place in the capital, and by far larger urban agglomeration, Athens.

The new developments on the water supply sector have differentiated the role of the key actors and/or their level and type of involvement in the decision making process. Different actors have different opinions on exploitation of new or alternative water sources. Accordingly, new actors have emerged because of the liberalization of the water sector. Accordingly, policies such as the water pricing and water resource management are not regarded anymore, as an exclusively state's affair. Additionally, the total area covered by EYDAP will be expanded and the infrastructure will be improved allowing new players to enter the water sector. Demand side management will likely and gradually replace traditional supply oriented policies, changing the traditional role of the state and of the relevant actors. Consequently, the power relation between the key actors has been changed considerably. Co-operation and collaboration are much more desirable than in the past, although conflicts and disputes in the decision making process are not rare.

The fragmentation and lack of coordination of policies among the involved actors, especially at the central state level, in the decision making process remain an important characteristic of the Greek case. However, an undergoing process of co-ordinated efforts emerged, aiming to reduce such phenomena and facilitate different types participation and collaboration. The requirements for legal compliance with EU Directives and especially with the Water Framework Directive have enhanced to a certain point elements of sustainability and participation regarding the water policies.

In general, the *exploitation of surface waters* through the construction of big dams which is extensively used as primary source of drinking water, is considered from many actors (especially NGOs and Knowledge holders) a non-sustainable

policy with serious environmental impact. However, it should be noted that in Greece there are still quite a few unexploited surface waters. Municipalities nearby the reservoirs claim water for domestic and agricultural use and in some cases some conflicts still exist. Evinos Dam constitutes the most recent example of a new, more "sensitive" approach. As some water is allowed to flow from the dam, the downstream ecosystem and agricultural activity is preserved, while the social acceptance of the whole effort is achieved eliminating any potential conflicts.

*Groundwater use* allows municipalities and other major water users to be based on their own water resources. Some involvement of private companies and associations also occur. However, ground waters have already been overexploited. Salinity problems and lowering of water tables are apparent. This was mainly the outcome of fragmented competencies, unrealistic permit system, uncontrolled illegal abstractions of unknown number and conventional policies. Although groundwater abstractions are still extensively used (mainly by municipalities and agricultural users), there is a growing concern for the issue. Knowledge holders and Associations are particularly active in the area and some innovative schemes to recharge aquifers have taken place.

*The Inter-basin transfer*, common practice in Greece and Athens, is sustainable only as a cost-effective measure and does not include any important elements of participation or innovation. Moreover, its long-term economic and environmental viability can be questioned. However, spatial disperse and seasonal variations of water quantity makes the inter-basin transfer the only applicable solution. Civil society and other water users (mainly agriculture) used not to be taken into account. However, there is now a trend for more compromising approaches.

The *water quality* in Athens was always good. However, that was rather an outcome of the raw water quality than the result of policies with sustainable objectives. However, Ministries, municipalities, associations, public bodies and private firms, collaborated in harmony. Although the basic infrastructure is adequate, traditional methods of treatment still exist (chlorination). The recent involvement of associations and knowledge holders has considerably enhanced the monitoring and sampling of water. The technological innovations are important, while some new treatment methods have been tested (UV Treatment). The social acceptance of the water sampling and monitoring is extremely high.

In past decades, the Water Company opposed the numerous unknown and uncontrolled water losses with slow responses, inaccurate detection systems, old pipes and unorganised efforts. However, the minor interest to reduce water losses during the pre-drought period, has been reversed, leading to more organised efforts afterwards. Recently, the losses were reduced to acceptable levels mainly because of the highly sophisticated monitoring, detection and repairing systems, which were introduced by Universities and other Knowledge holders.

Concerning the *organisational structure* of EYDAP, the central state still keeps a decisive – though informal- role in all stages of water management, influencing directly or indirectly most decisions. During the last years, more procedural approaches have been adopted enhancing the role of actors, previously excluded. Moreover, there is an effort to co-ordinate the actors and reduce fragmentation of responsibilities. In general, the organisational structure has been improved and the whole water supply system is more efficient, while more developments are expected. Although the partition of the Water Company to EYDAP Assets and EYDAP SA was decided in order to increase the total efficiency of the system, the roles of the two companies are in conflict and a more integrated approach is needed. The partial privatisation of the latter induced an increase of investments of the company. However, the shareholders don't hold real power, while the civil society is excluded. Free market mechanisms are likely to increase influence from other actors although the exact type is yet unpredicted. There is a growing concern on environmental aspects and "sustainable" water management.

After the recent developments in EYDAPs organisational structure, there is an effort to shift from supply-oriented to *demand side management*. However, the main instruments to achieve the new objectives are rather simplistic; increased prices and more efficient tariff structures and public awareness campaigns. More integrated approaches are needed.

EYDAP's new profile is more market oriented. As a result an *expansion of services* in other than Attica areas, has been scheduled. The water company, using the same limited resources, offer already some services in Saronikos Gulf Islands and Cyclades. The sustainability of such schemes has been questioned. Moreover, the expansions of service area might cause conflicts between different users of water (e.g agricultural communities near the reservoirs' sites and urban areas in other prefectures).

Ministries and EYDAP decided in common the *price of water* based on the "public good" character of the resource. The pricing system aimed to sustain social acceptable price levels, through a tariff structure. As a result, the under priced water was wastefully used. The pricing system, based on perceptions rather than reality, led to considerable financial losses. Recently, the water prices were increased, in order to cover operational costs. In future, other costs (e.g environmental) might be included as well. Although, the financial status of the company has been improved, the new tariffs could be proved socially unsustainable.

The effective *use of water in competitive sectors* (Urban, Agriculture, Industry, Tourism) was never seriously planned. While domestic and municipal use dominated EYDAP's policy, sectors like agriculture was excluded. Municipalities used to buy water from EYDAP without paying, using wastefully the under-priced water. The weak institutional configuration did not support any realistic plans. Recently there is a growing concern on the potential conflicts and certain developments are expected. Projections suggest that the new pricing policy won't have significant impact on the uses of water. However, EYDAP S.A will gradually take under control municipal networks eliminating the problems of the past.

The lack of *wastewater treatment* for many years caused, significant pollution of ground waters and receivers (Saronikos Gulf, streams and groundwater in Attica). Such problems triggered the reaction of local communities, which was met by indifference by Ministries and EYDAP. Recently, the operation of two treatment plants contributed to the considerable reduction of all pollutants relevant to waste waters. There have been some innovative initiatives by municipalities, associations, individuals, research institutes and other knowledge holders but none was implemented. As a result new problems emerged (like the excessive sludge). Moreover the secondary treatment is yet to be completed.

## 5 Conclusions

Some major driving forces, like supra-national legislation, liberalization of the economy, increased public awareness etc induced the above changes and evolutions regarding aspects which constitute fundamental elements of effective water governance practices.

In practice, most of the policy changes that have taken place in Greece and Athens have been

influenced by more than one driving force. It could be said that the WFD initiated the procedure, while individual forces accelerated more or less, the elements of policy respectively. That means, that ecological concerns and sustainability issues for example, were expressed and materialised through the opinions of experts who participated in the procedure of change *because* of the WFD. Additionally, the general restructure of the public sector took this particular form in the water case, to facilitate various European Directives' objectives. Under this framework of interacted driving forces, the whole choreography of actors has been changed. New players have entered the scene, influencing, often considerably, the decision-making and altering the existing attitudes towards specific issues, indicating a general shift to a new –not yet clearly defined- form of water governance.

Summarising, we notice that within the existing forms of governance in water policy, the traditional inflexible structure remains dominant, despite recent developments and changes, which encourage some private initiatives (shareholding of EYDAP). The deficiency of the structure is reflected at all water governance, where participation, decentralisation, democratic decision making, networking and integrative approaches, are still limited. However, there is an ongoing process of increased participation, particularly from knowledge holders, private firms, municipalities and partnerships between them. It is remarkable though, that this trend excludes important aspects of water management like pricing and allocation of resources.

Until today, the conflicts between the interested actors have been rare and not particularly intense. However, potential conflicts are likely to emerge, because of limited water resources and its conflicting uses (agriculture, industry, domestic, tourism). This problem may become intensive in the near future, as EYDAP has decided to expand its services in terms of both population and geographical coverage, without taking into account –at least seriously- different and often conflicting interests of municipalities, associations, major water users and civil society.

The recent effort to transfer competencies from the state to the utility and to other actors indicates a move -induced by the Water Framework Directive-towards the co-operation of the actors at central level. Additionally, environmental parameters are now included in construction plans and, most importantly, the key actors seem to be aware of the water resources' sensitive nature in environmental, social and economic terms and the problems which short-sighted management can cause.

Although the Water framework Directive has already played an important role concerning the emerging policies and the general reform of the sector, the influence of knowledge holders has been increased considerably. As the majority of new scientists and experts are particularly sensitive in environmental issues, the notion of sustainability and socio-ecological balance has become an area of great importance in policy making. Additionally, the environmental awareness and sensitisation of the general public has contributed towards this direction.

Nevertheless, the reform of the water governance in Greece is a well –established fact. What remains to be seen now is if the new form will keep the deficits of the past, no matter if the state, the market or the civil society will undertake the most important role in the new environment.

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