

Water demand management in the Mediterranean, progress and policies

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PAPER

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*Meeting users' expectations in drinking water services.
The ISO 24510 standard*

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Introduction

Drinking water services have evolved quite significantly in the past few decades. In many parts of the world, the problem of availability of the service, quantity (availability of enough resources to satisfy the demand), and even the problem of quality (quality of the supplied water and quality of the service) have given way to more sophisticated problems. In developed countries, excellence in the service provided, meeting and exceeding environmental regulations and the sustainability of the service are becoming some of the new goals for management.

However, in other parts of the world, water services are still in their early stages. Developing countries often present water services which are not accessible to everyone, cities where the coverage of the service is reduced, or the conditions of the service are far from satisfactory.

The task of developing an ISO standard to cover all those situations and reflect what water services should be from the users point of view was consequently not an easy one. Despite the difficulties, ISO24510 will be published in 2007 if most countries members of ISO Technical Committee 224 give green light to the project (an expected outcome, since the document in its previous stage gathered 96% of positive votes). A document that precisely aims to provide guidelines on how to identify, fulfil and assess the fulfilment of users' needs and expectations throughout the planet.

The ISO 24500 series of standards

ISO24510 is not the only document that will result from the work of the TC224. Along with the document (entitled “Activities relating to drinking water and wastewater services — Guidelines for the assessment and the improvement of the service to users”) two other standards are likely to be published. ISO24511 will focus on the management of wastewater services and ISO24512 will be the counterpart for drinking water services. However, and despite sharing the series number, and the fact that all standards should be used simultaneously in many occasions, the nature of the ISO24510 is quite different from the characteristics of the other two standards. Written from a users' perspective, ISO24510 is an objectives and assessment document rather than a management guidance document.

The 24500 series can be used for several purposes, although the most important one would be the management of water services. The relevant stakeholders for these services will find in these documents guidelines to establish management tools following the “Plan-Do-Check-Act” (PDCA) methodology already presented in other ISO standards. The strategic planning of the utility should be done in accordance with the objectives presented in the standards, and achieved following the guidance that the documents provide. All documents offer also assessment criteria that will allow evaluating the success of the process and depending on the results of that assessment act in consequence.

ISO 24500 standards as a technical tool

The new ISO standards may become a relevant technical tool in the management of water services. The methodology presented in the standards is general and will be applicable to any management objective set beforehand. The advantage lies in the fact that this methodology will be compatible with other management tools and will be shared by all users of the standards.

More specifically, the ISO 24500 series standards provide:

- **A standardized terminology:** The clause on terminology, which is included in all international standards, provides a comprehensive list of terms which are precisely defined. Such a list will improve the communication between the different stakeholders of the service.

The value of such a common vocabulary is greater than it the initially expected one. During the process of developing the standards, the international experts present soon found out that similar or even identical terms are used with different meanings all around the world, depending on the local conditions and characteristics of the water services. Drinking water and wastewater services are provided in a vast array of institutional and commercial arrangements, and it is quite common to find that that the concept is defined by different terms, or quite the opposite, that the same word is used for different concepts.

This terminology has consequently been carefully elaborated to accommodate all these different circumstances and organizational schemes. For instance, water quality may be the responsibility of a national or a regional authority, a regulator or even the supplier of the service. And even when the responsibility is clear, there are differences in establishing the extent of such responsibility (and whether the water quality needs to be guaranteed at the tap or at the connection).

By using the terms and definitions included in all three standards the communication between the different stakeholders of any given service, and even between services, will be more precise and efficient.

- **A list of objectives:** Due to the nature of guidelines of the standards, no requirements are presented in the documents. However, the standards do make recommendations and provide guidance on how to manage drinking water and wastewater services and provide a good service to users for both of them.

Every document presents a list of objectives to be fulfilled according to the corresponding scope. These targets, which are relevant on a global basis, are complemented with guidelines on how they can be achieved. Additionally the standards present a methodology with tools to assess the degree of success of the actions undertaken.

Additionally, the structure provided by the standards can be used to define further objectives which are relevant on a local basis and correspond to the specific needs of a stakeholder of the service.

- **Guidelines:** In order to fulfill the objectives presented in the standards, each document gives recommendations on how to achieve them. It is important to point out once again the voluntary nature of the documents and that these guidelines are not requirements.

The included guidelines are of a general nature, as could not be otherwise. They have been drafted to be relevant for services of very different sizes, environments and conditions around the world. For instance, one of the main goals of the standards is to include on-site and decentralized systems which are not based on networks to deliver the service. Consequently, some of the recommendations provided in the standards may be vague enough to accommodate all these circumstances or may not even be applicable in some parts of the world.

However, users of the standards should strive to follow the applicable guidelines in order to achieve the previously established objectives. Additionally, this should not preclude the users of the standards from adapting further actions to the structure provided in the documents in order to achieve the objectives that have been previously established.

- **Assessment criteria and examples of performance indicators:** Any management system requires checking whether the policies implemented have been successful in achieving the objectives and targets established beforehand. The ISO 24500 present a methodology based on the use of performance indicators which will allow users to set up a system to assess the degree of success in the application of the guidelines and achievement of the objectives presented in the standards.

The methodology included in the ISO 24500 series is fully consistent with the one proposed by the International Water Association (Alegre et al., 2006) although it leaves to the user's discretion the selection of the actual performance indicators.

As a matter of fact, for instance ISO24510 provides a list of so called "assessment criteria" which are nothing but a list of concepts that could be checked in order to assess the fulfillment of the objectives presented in the standard. Additionally, an informative annex contains examples of performance indicators that have been developed in accordance with the proposed methodology and that correspond to the aforementioned assessment criteria.

Consequently, the ISO 24500 series standards should be understood as a framework to improve and assess the management of drinking water and wastewater services, as well as the service to their users. Any technical objective (such as those related with efficiency issues, and for instance solved by the management of the demand) can be incorporated into such a framework and be assessed using the tools provided in the standards.

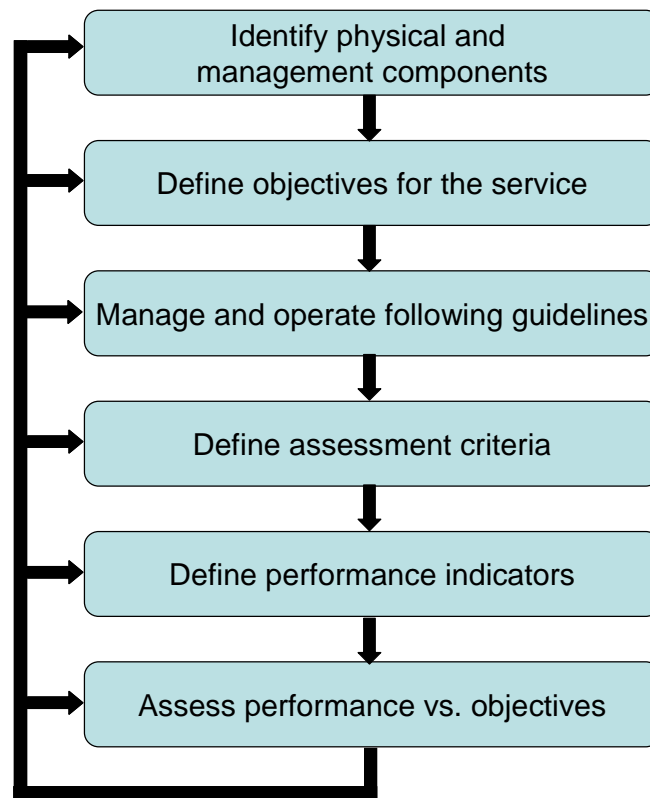


Figure 1: Contents and application of the standards (adapted)

ISO 24500 standards as a vehicle to promote efficiency

There is no special emphasis or specific mechanisms in the standards to put in place water demand policies. However, some of the necessary drivers for such policies are present throughout the documents, from the introduction to the annexes. As a matter of fact, all three standards provide both as objectives and guidance items related with environmental matters, sustainability and the need to strive for efficiency in the processes and the use of all natural resources, and above all, water.

However, it should be understood that the recommendations for specific actions (such as water demand management policies) are closely related to the specific conditions and situations of every particular utility. Demand management programs may be suitable under certain situations but not appropriate in other cases (for instance, in some situations a leakage reduction program may deliver much better results in terms of saved cubic meters per Euro invested).

In any case, users of the standards should apply the presented methodology to their particular objectives, including demand management programs. Consequently, if an objective of the water utility is to reduce demand in a certain quantity, the standard should be used to find guidelines which are appropriate to that goal. Regardless of the contents of the standard, utility managers should develop the strategies necessary to reach the established objectives.

Once the objectives and the way to achieve them have been set, the criteria necessary to assess the success in reaching those goals should be specified, and following the structure presented in the ISO 24500 series, a set of performance indicators should be developed to reflect the effectiveness and efficiency of the implemented management strategies.

Users of the ISO 24500 standards will find plenty of reasons to reduce demand and promote an efficient use of water in drinking water services. In order to illustrate this, one of the objectives in the ISO24510 standard (service to users) is included, along with some of the guidelines and assessment criteria that are included in the standard.

Objective (user expectation):

- *The user expects that the operator, responsible body and relevant authorities promote and apply a sustainable use of the water resources, as well as other natural resources.*

Guidance

- *The water utility should strive for efficiency and sustainability in the use of water and other resources (e.g. energy).*
The water utility should also undertake actions such as: (...)
 - *providing education and general information to users about efficient use of water and other natural resources;*
 - *setting tariffs and/or taking measures which promote efficient water use.*

Assessment criteria

- *Water losses;*
- *Efficiency in energy consumption;*
- *Efficiency of use of water by domestic and non domestic users.*

At least a performance indicator for each of the selected assessment criteria should be created according to the local conditions. The informative annex of the standard provides examples of these indicators. The standard itself provides information on the structure and requirements of a performance indicators' system.

Conclusions

The ISO 24500 series provide a common framework to manage and assess drinking water and wastewater services. Additionally they provide guidance on how to provide sound management of the services and how to correctly assess the results of the management actions.

Due to the global nature of an International Standard, the ISO24500 series does not provide detailed guidance to achieve some of the suggested goals. However, amongst these objectives it is clearly stated that the concept of sustainability, both in the use of the resources and of the service itself, is a key one.

Water demand management policies consequently are more than appropriate and fully consistent with the application of the ISO 24500 standards. These policies should be applied following a general plan-do-check-act approach and, in particular, the methodology described in the standards.

References

FDIS ISO24510. “Activities relating to drinking water and wastewater services — Guidelines for the assessment and for the improvement of the service to users”.

FDIS ISO24511. “Activities relating to drinking water and wastewater services — Guidelines for the management and for the assessment of wastewater services”

FDIS ISO24512. “Activities relating to drinking water and wastewater services — Guidelines for the management and for the assessment of drinking water services.”

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