

## Case study n°5

# National implementation of WSPs: A regulatory tool strengthening water resource management and surveying water quality

**Country:** Italy

**Level:** National

**SDG Addressed:** SDG 6 – Clean Water and Sanitation



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### Summary

The objective of the case study is to demonstrate how international standards such as the EN 15975-2 standard (Safety of drinking water supply - Guidelines for risk management and critical events) and ISO 14000 have been used to develop national regulations for mandatory Water Safety Plans to improve prevention and response to water quality and quantity issues.

This new approach built on a previous voluntary approach that had proved ineffective to concretely facilitate the achievement of SDGs 3 and 6. The national adoption of Water Safety Plans (WSPs) represent a fundamental tool to reach SDGs n.3 (Good health and well-being), n.6 (Clean Water and Sanitation) and n.13 (Climate Action).

Risk analysis in the water and sanitation sector, including the WSPs approach, is a key strategy to strengthen environmental health with focus on access and quality of drinking water. The actual Italian policy on WSP implementation started in 2014, when the first pilot led to the publication of the first national guidelines for WSPs implementation.

The Ministerial Decree of 14th June 2017, EU Directive 2015/1787, introduced the implementation of WSPs based on general principles established according to international standards such as the EN 15975-2 standard (Safety of drinking water supply - Guidelines

for risk management and critical events) and specifically on National Implementation Guidelines of WSPs.

The WSP implementation is mandatory for water suppliers through a seven-year regulatory process. The first phase (already started) is focused on training activities and the definition of procedures for WSP implementation and approval. The second five-years phase concerns application and approval of WSPs to Regional and National Authorities.

### Background

Availability of water resources of adequate quality, is a fragile issue due to ongoing climate changes and post-industrial developments in Italy. Despite a general compliance of water supply performance to EU rules, in the summer of 2017, 6/20 regions called for a “state of emergency” due to water scarcity, and health issues related to water quality in different Regions (e.g. thallium in Tuscany, perfluoroalkyl compounds in Veneto).

To cope with this scenario, Italy has strengthened and integrated strategic solutions for the water sector, including the compulsory implementation of WSPs.

## Strategy

The following standards were used to address the problem:

- The EN 15975-2 standard supports the integrated prevention and control approach, extended to the entire drinking water supply chain, proposed by the WHO with the introduction of WSPs. It includes 5 basic phases: description of the drinking water system, identification of all potential hazards and hazard events that affect the system, assessment of related risks, risk control and verification of the approach.
- The ISO 14000 series of standards are adopted as a basis for the management of environmental systems. It is important to identify the common points of the environmental and health risk assessment processes, to best optimize the application of the WSP approach to water systems.

## Results and impact

Until now, the development of water safety plans in Italy has been a voluntary choice of water suppliers. The various experimental application on national territory demonstrated the efficacy of WSP as the best effective tool assuring safety and clean drinking water distribution as well as better management of water catchment and supply. The mandatory application of WSPs results to:

- A higher level of health protection through: the prevention of water contamination, increase of tap water uses by consumer due to the increased level of assurance;
- Efficacy of adapting to climate change affects availability, quality of water resources and supply due to strengthening the resilience of water systems to extreme weather events – droughts and flooding;
- Improvement of long term tap water access due to rationalization of resources and interventions driven by risk assessment results.

## Challenges and lessons learned

The Italian panorama of drinking water suppliers is heterogeneous. There are many small and very small managers, to whom the application of water safety plans is a challenge in terms of human and economic resources. By voluntary application, the following lessons were learned:

- Systematize and integrate existing practices, experiences, procedures, because most of the WSP elements are already in place.
- The WSP must be system-specific to be effective.
- The implementation of WSP is a continuous, dynamic and incremental process.
- Risk analysis must be based on evidence.
- The WSP should be accepted and shared by all representatives of the management board and by all team members.

## Potential for Replication

Due to the flexibility of the WSP model we feel it is a universal approach for prevention and response to water quality and quantity issues. Indeed, WSP implementation is already spread worldwide, and its diffusion can concretely facilitate the achievement of SDGs 3 and 6.