International Journal of Sustainable Studies, Technologies, and Assessments

IJSSTA

Review Article

Water Ministries: A Comparative Analysis and the Prospects for an Italian Water Ministry

Martina Scarponi
LUMSA University
martinascarponi00@gmail.com

Received: 26 Feb 2026 / Revised: 30 March 2026 / Accepted: 10 April 2026 / Published online: 12 April 2026
https://doi.org/10.5281/zenodo.19525721

Abstract: This article examines the creation of an integrated governance framework in Italy by comparing three international case studies: Kenya, the Netherlands, and India. Each of these countries has established a Water Ministry or a centralized authority to address urgent challenges caused by climate change and demographic growth. The decision to establish a central authority is driven by the need to overcome the "siloed" management of water resources. The focus of this article is to demonstrate how better, integrated governance of water resources can build a more robust, agile decision-making system to face crises more efficiently. In contrast, the Italian regulatory landscape and institutional framework remain characterized by overlapping responsibilities across multiple ministries and bodies, leading to investment delays and inefficient crisis management. By analyzing the institutional structures and strategic missions of international cases, this article argues that a unified Water Ministry in Italy is a strategic necessity to ensure national water security and infrastructural resilience.

Keywords: *Water Governance, Italy, Water Ministry, Comparative Analysis, Environmental Policy*

1. Introduction

The development, conservation, and proper governance of water are key to ensuring sustainable growth. Water, the most important resource on our planet, has long been considered an inexhaustible resource, contributing to the underestimation of the importance of creating robust governance. This kind of approach today has come to a breakpoint; climate change, the rise of water demand, and demographic growth clearly show how the water problem cannot be faced sectorally, but it must be considered a priority in the environmental, economic, and political plan. The latest United Nations report shows that the average annual increase in global freshwater withdrawals was 0.7%, rising by 14% between 2000 and 2021. The increase in consumption, however, is not accompanied by parallel growth in resource availability, leaving countries with faster population growth, in particular, under severe water stress. Moreover, climate change exacerbates the water crisis by altering seasonal water variability and affecting ecosystems, ground conditions, and climate events, which are becoming increasingly extreme.

To contrast adverse climate effects, scientists have long focused on the crucial role of water across disciplines, including agriculture, energy, and geopolitical security, leading to the creation of important engineering projects. Since the 21st century, water has become an important indicator of nations' climate vulnerability. However, to address the water

crisis, in addition to physical interventions, effective governance is fundamental to coordinate decision-making across multiple levels, to avoid overlapping jurisdiction, and to define strategies. The lack of effective governance leads to fragmented water resource management and the absence of a unified strategic policy, resulting in obstacles to proper resource management.

In this context, the United Nations Environment Program has developed a model known as Integrated Water Resources Management (IWRM). This model promotes the coordinated development of water, land, and related resources management in order to maximize economic and social well-being in a sustainable way. IWRM proposes to overcome siloed management models through an integrated governance, reflected in the creation of national and international bodies dedicated to the protection of water resources. Integrated Water Resources Management entails a holistic framework that considers the entire water cycle, from supply and distribution to wastewater reuse and environmental protection. The core of this approach can so be articulated through the establishment of water ministries or central authorities capable of acting as unique guardians of the whole water cycle.

Thus far, several countries have adopted this governance system by establishing water ministries. The countries covered in this study are the Netherlands, India, and Kenya, which have adopted this model in different forms and with different stories, but with the same goal of ensuring equitable access to safe water for all citizens.

In Italy, this concept is still a long way off. The country has indeed an extraordinary water potential, yet this is not fully harnessed due to the organizational fragmentation of water resource management, which is divided among the The Ministry of the Environment and Energy Security (MASE), the Ministry of Infrastructure and Transport (MIT), the Ministry of Agriculture, Food Sovereignty, and Forestry (MASAF), as well as district authorities, regional administrations, and a multitude of operators. This article examines the possibility of bringing water resource governance under a more unified institutional framework by examining foreign models that feature well-developed forms of coordination.

2. Methodology

To ensure a rigorous analysis, each international case study (The Netherlands, Kenya, and India) is examined through a three-parameter framework, which is mirrored against the Italian institutional landscape. The methodology is structured as follows:

- **Institutional Architecture**: The first level of analysis focuses on the structure of the water authorities. This involves describing the ministries or bodies that manage water resources and mapping the hierarchy of the decision-making process.
- **Strategic Mission**: The second level examines the mission and the specific objective of each body. The article identifies whether the mission is focused on flood safety, universal access or environmental sustainability or economic growth.
- **Holistic Evaluation**: The third level provides an evaluation of the country's model, identifying successful outputs.

These parameters are then compared with the current Italian situation, characterized by institutional fragmentation and a lack of unified strategic governance.

3. International Case Studies

3.1. Kenya

The right to access to clean water is enshrined in Kenya's Constitution. Kenya succeeded in establishing the Ministry of Water Resources in 2003 after years of mergers with different departments and ministries. In 2004 , it was then renamed as the Ministry of Water and Irrigation.

Kenya represents a case of progressive centralization of water governance, moving from a "siloed" model, in which responsibilities were assimilated in different departments, to the creation of a dedicated ministerial body, consolidating responsibility for the management and development of water resources, irrigation, drainage, and land recovery into a single portfolio. The objective and vision that guided the creation of this body are to guarantee availability and accessibility for all citizens, contributing to national development.

- **Institutional Structure:**

  Today, this institutional framework is able to coordinate a complex system, aided by a state technical body, which is seen as the Ministry right-hand man. This body is WASREB (Water Services Regulatory Board), established in 2002 and strengthened in 2016 thanks to the 2016 Water Act[1]. Its mission, integrated to the ministry's one, is to ensure universal water access at equitable prices and to maintain an informative system and a national database in developments and challenges of the sector.

- **Strategic Mission**

  Wasreb sets standards and enforces regulations that guide the sector in not only ensuring that consumers are protected and have access to efficient, affordable and sustainable services, but also, provide for financial sustainability of Water Service Providers (WSPs), by allowing financing of operations, capital cost recovery and a return on capital that sustains ser-vices through ongoing investments.[2]

  The Kenyan Ministry succeeds in imposing high technical standards, largely thanks to legal changes and the regulatory framework. One of the changes is the recent Water Amendment Act (WEA), which in 2024 allowed the strengthening of the cooperation between the public and private sectors, enabling state and county authorities to establish public-private partnerships (PPPs) to finance and improve water infrastructure. Furthermore, the WEA broadens the definition of Bulk Water Service Providers to include additional licensed water service providers, under the supervision of WASREB. More recently, in 2025, the Water Services Regulations

[1] An Act of Parliament to provide for the regulation, management and development of water resources, water and sewerage services; and for other connected purposes.

[2] WASREB, Background Information https://wasreb.go.ke/who-we-are/

consolidated the changes made in 2024 by introducing key reforms to improve governance, accountability and service delivery in Kenya's water sector.

The most significant developments to note are the implementation of minimum qualification requirements for WASREB staff, the Conditional Liquidity Support Grant (CLSG) funding programme to improve the coverage of operating costs through structured financial recovery plans, and the strengthening of the national NAWASIP[3] programme, which aims to achieve universal access to water and sanitation services by 2030, which has unfortunately been compromised by high levels of debt due to missed payments of many operators. Despite the challenges, it is clear that the Ministry and WASREB are carrying out policies and strategies aimed at resolving issues in the country's water sector, equipping governance with operational and financial capacity.

- **Holistic Evaluation**

Progress can be seen in the statistics that WASREB publishes annually as a tool for transparency. Kenya has shown positive results, particularly regarding community participation and water quality monitoring compared to the global average. In fact, by 2022, the country had achieved 63% of the population with access to water, a figure that was around 48% [4] in 2000.

However, there are still challenges in sanitation services, wastewater management and funding to meet the goals set for 2030. With its governance model, Kenya demonstrates how the creation of a dedicated ministry, supported by a regulatory body as WASREB, can strengthen the sector coordination and progressively improve the access to the service. The results appear to be improving, but they remain weak, with significant inequalities still persisting between urban and rural areas.

3.2. The Netherlands

The Netherlands is a particularly advanced model in water resource management.

The issue of water is not treated as an isolated sector, but as a structural component of the country's institutional organization, strictly linked to territorial security, spatial planning, mobility, environment, and climate resilience.

- **Institutional Structure**

The organisational structure for water resources is highly developed; it is headed by the Ministry of Infrastructure and Water Management, which focuses on three main areas: policy, implementation and inspection.

In addition to this, the Ministry has various support agencies to ensure efficiency and operational effectiveness at both the political and civil levels. In particular, water resource management is entrusted to Rijkswaterstaat (RWS), the Ministry's executive agency responsible for national waters, whose objective is to prevent flooding.

In addition to the above-mentioned agency, there are other Water Authorities responsible for water management

[3] National Water and Sanitation Investment

[4] https://www.sdg6data.org/en/country-or-area/kenya#anchor_6.1.1

in their respective districts, particularly for maintenance and ensuring clean water, fish stocks and plentiful water for harvests.

- **Strategic Mission**

The country's main objective in the field of water security is to prevent flooding, whilst ensuring full access to clean water for the entire population. Therefore, the Dutch system serves as a model to be adopted to ensure efficiency and a clear separation of functions. The Ministry is the apex of the system, which elaborates national plans and strategies. Right after the Ministry, there come the provinces, which implement the general guidelines drawn up by the Ministry within their respective areas of responsibility.

In the Netherlands, the most interesting aspect is the harmonisation of water management with soil planning, mobility, environment, aviation and maritime affairs. Each of these areas is organised around a Directorate. The Dutch Ministry does not limit itself to passive management of the resource, but has established the National Water Programme (NWP), a programme started in 2022 and which aims to achieve its objectives by 2027. The programme aims to fight climate change by working to ensure the supply of fresh water in the context of increasing droughts, and by improving the care of good water quality and the sustainable supply of drinking water. Key components of the NWP are the river basin management plans, the flood risk management plan and the North Sea programme. The real strength of the Dutch model lies in the structure of Rijkswaterstaat, which has over 10,000 employees and directly manages national waters and critical infrastructures.
Within RWS, there are other specialist agencies dealing with meteorology, an inspectorate responsible of guaranteeing the respect for sustainability and physical security regulations in the Netherlands, a national institute for the strategic analysis of environmental, nature and territorial planning policies. The Ministry also invests in knowledge, innovation and strategy through a dedicated agenda and conducts independent research on mobility to support the formulation of transport policies through the Netherlands Institute for Transport Policy Analysis (KiM), whilst providing legal and administrative support to the Ministry via the Administrative and Legal Affairs Department (HBJZ).

- **Holistic Evaluation**

The Netherlands therefore presents a very strong centralised structure that distributes responsibilities across multiple bodies such as Rijkswaterstaat for implementation, in addition to the water authorities. The coordination provided by the NWP is also very robust and well-structured, able to rely on significant investment capacity, thanks to a stable political centre, a strong operational arm and medium-term planning.

3.3. India

Finally, the case of India highlights just how essential multi-level governance is for effectively addressing the key challenges facing any country. In particular, in a country as vast as India, with a steadily growing population and a

consequent need for water, clear and efficient governance is fundamental to trying to resolve, or at least mitigate water related challenges.

Institutional Structure : The authority responsible for water resources is the Department of Water Resources, River Development and Ganga Rejuvenation, under the auspices of the Ministry of Jal Shakti. The department plays a key role in shaping water policies and development programmes.

Strategic Mission: India's objective is very broad; the Department aims to develop efficient water resource management to support agriculture, poverty reduction, environmental sustainability and long-term economic development. Among its key functions are the management of inter-state water-related issues, the coordination of international cooperation on shared rivers, the monitoring of water quality, and support for the conservation and restoration of major rivers, particularly the Ganges. The issue of water has always been central in India, taking its place within the institutions as early as the mid-19th century with the creation of a section dedicated to irrigation within the Department of Public Works. As needs evolved and the issue gained importance, in 2019 was established the framework we know today. The policy is structured around the principles of the National Water Policy, which promotes integrated water resources management and the sustainable use of water across various sectors.

India is facing numerous challenges, such as rapid urbanisation, which has led to massive pollution damaging rivers and reducing their operational capacity. In particular, India is one of the countries that relies on groundwater as its primary water source, which presents numerous critical issues. The project highlights how excessive withdrawal, particularly for agricultural irrigation, has led to a drastic reduction in groundwater levels in various regions, making governance capable of combining development, environmental protection and regulation of water use even more urgent.

To promote and improve access to water, efficient irrigation and the protection of ecosystems, India's governance is manifested through numerous large-scale, high-impact projects and strategic funding. Among the most significant are the Jal Shakti Abhiyan, which promotes water conservation and rainwater harvesting in regions experiencing severe water stress; the Pradhan Mantri Krishi Sinchayee Yojana, which aims to expand irrigation coverage and improve the efficiency of water used for agriculture; inf

As needs evolved and the issue gained importance, in 2019 was established the framework we know today. The policy is structured around the principles of the National Water Policy, which promotes integrated water resources management and the sustainable use of water across various sectors. In terms of transparency, the Ministry of Jal Shakti publishes an annual report detailing the progress of ongoing projects, enabling the public to consult updates on these projects as well as the status of funding and policies.

Holistic Evaluation: In conclusion, India demonstrates that even within a context of constant territorial and demographic growth, the existence of a dedicated ministry responsible for managing water resources strengthens the capacity to implement large-scale programmes. Despite the difficulties associated with coordination, India can serve as a useful example of how more unified governance can act as a factor of resilience within a broad and complex context.

Overall, based on the analysis of the cases of Kenya, the Netherlands and India, it can be stated that clearer, more structured governance, supported by dedicated technical structures, enables the challenges related to access to clean water to be addressed more efficiently, allows for the coordination of technical and regulatory structures to improve management, and also increases investment capacity. Although the contexts differ, the value of a less fragmented institutional framework emerges.

In light of these experiences, the relevance of the Italian case becomes clear, as it is still characterised by a complex and fragmented institutional structure.

4. The Italian Case

The changing climate is having an increasingly evident impact on water availability, exposing even the least vulnerable areas to its effects. In this context, it is imperative to establish interconnections between water systems from a structural, governance and regulatory perspective. In Italy's case, one of the main critical issues is, in fact, the way in which water resources are governed.

Structural Analysis: Institutional fragmentation: In Italy, water governance is fragmented and represents the main obstacle to the efficient management of this resource. Responsibilities are divided between three ministries; the Ministry of the Environment and Energy Security, the Ministry of Infrastructure and Transport, and the Ministry of Agriculture, Food Sovereignty and Forestry; each dealing with different areas of responsibility, and among some 1,200 operators, according to Confindustria data. Furthermore, the existence of laws, regulations and directives makes the Italian regulatory framework even more complex.

Over the years, attempts have been made to improve the Italian regulatory framework; however, many issues remain today, linked to delays in investment and regulatory uncertainty. The current framework is based on Legislative Decree 152/2006, known as the *Testo Unico Ambientale* which replaced the previous 'Galli Law', which aimed to improve water resource management. The current decree defines the Integrated Water Service (SII)[5] as the set of activities comprising the abstraction and distribution of drinking water, sewerage and wastewater treatment. Furthermore, it establishes the division of responsibilities between different institutional levels, including central government, regions, local authorities and river basin authorities. The SII is in turn organised on the basis of Optimal Territorial Areas (ATO)[6], which are portions of territory whose limits are defined by the Regions in accordance with the principle of the indivisibility of the river basin or sub-basin or contiguous river basins, the indivisibility of management, and the appropriateness of the management scale, defined on the basis of physical, demographic and technical parameters.

Critical issues of the system: Furthermore, in recent years, new regulatory measures have been introduced to address the challenges posed by climate change and the growing water crisis. One of these is the 2023 Drought Decree, which has introduced measures to strengthen the resilience of water systems to climate change and reduce water wastage,

[5] Servizio Idrico Integrato
[6] Ambiti Territoriali Ottimali

providing, amongst other things, for centralised governance and simplified procedures for the design and construction of water infrastructure, which refers to the PNRR model. This is an important signal demonstrating growing awareness of the issue, even if these measures have not yet overcome the complexity of the Italian system.

Overall, the Italian water regulatory system appears complex and multi-layered, with responsibilities shared between the State, regions and local authorities. The complexity of the regulations, the lack of coordination between the various institutional levels and the stratification of legislation represent a challenge for the efficient and sustainable management of water resources. For this reason, unified governance and the entry of more structured industrial operators would be an essential condition for Italy to achieve better service quality and address water sustainability more efficiently.

Investment and infrastructure: The issue of investment serves to highlight this critical situation even further. In Italy, investment in water infrastructure remains insufficient by European standards, and one reason for this lies in the political decision to keep water charges low; these charges do not reflect the true value of this resource and encourage citizens to use it irresponsibly. The consequences of this decision are clear: an inefficient water network with losses amounting to 42% of the water distributed, well above the European average of 25%, and an estimated per capita investment of €56, compared to €82 across Europe, placing the country among the lowest investors in Europe. It should be noted, however, that in Italy this figure has risen by 17% between 2019 and 2021, and by as much as 70% when looking at the period between 2012 and 2021, with estimates suggesting that annual per capita expenditure will reach €94[7] in the period 2024–2029. Such a significant increase is the result of the strong regulatory push by ARERA, which, since 2012, has progressively introduced indicators relating to service quality obligations.

Despite this progress, the sector continues to face a significant infrastructure gap compared to actual needs, as well as urgent regional disparities in investment, with higher levels in the centre and north than in the south.

Added to this is the slowness of the authorisation processes, which varies considerably from region to region but has a negative impact on investment and project delivery. This factor directly affects the ability to convert available funding into functioning infrastructure. The issue is therefore not only the capacity to invest but also, and above all, the administrative capacity to facilitate such investments in a timely manner.

In this context, the National Plan for Infrastructure and Safety in the Water Sector, one of the main planning instruments, with approximately €2 billion in national funding planned between 2018 and 2033, and the resources of the National Recovery and Resilience Plan (PNRR), which from 2025 allocates €4.3 billion to the water sector, have given the sector a new boost. The investments envisaged by the two plans relate in particular to new primary water infrastructure across the whole country; the repair, digitalisation and integrated monitoring of water networks in order to substantially reduce water losses; the upgrading and modernisation of the irrigation system in the agricultural sector; and the treatment of wastewater for reuse in agriculture and manufacturing[8]. These resources are complemented by other national and European financial instruments, including cohesion funds, infrastructure programmes and investments in dam maintenance. However, despite the increase in funding, critical issues remain in this area too, linked to the complexity of

[7] https://www.arera.it/comunicati-stampa/dettaglio/arera-numeri-servizi-pubblici-25
[8] https://www.italiadomani.gov.it/it/news/dal-pnrr-4-3-miliardi-di-euro-per-il-settore-idrico.html

authorisation procedures and the slow pace of project implementation, with average lead times that can exceed three years between design, authorisation and implementation.

The case of Sardinia:

Sardinia presents an interesting example of centralised governance in Italy, as it demonstrates how a more centralised and coordinated approach can provide more effective tools for managing water resources, particularly in a region historically prone to drought. Since the 1980s, the region has faced significant challenges in water resource management due to drought, which have made it necessary to rethink the entire governance structure for water. In 2006, a significant step was taken with Regional Law No. 19, which established a Regional Basin Authority responsible for planning, coordination and defining the economic criteria for determining the charges that the domestic, agricultural and industrial sectors must pay for the wholesale use of water. These criteria take into account various factors, such as the need to promote the sustainable use of water resources, investment in infrastructure, and the social and economic impacts on different users.

The Agency determines the volumes allocable for various uses based on the quantity of water stored in reservoirs and develops a plan for the recovery of costs for wholesale water supply services, based on the criteria established by the Basin Authority.

This system is accompanied by the completion and the securing of major infrastructure works, although it requires constant improvement measures, particularly in the restoration and replacement of old pipes.

The Sardinian case does not eliminate all the issues relating to water resources; however, it serves as a useful example of how greater coordination can help to improve the management of the resource and make the response capacity more stable in situations of water stress.

5. Conclusions

The analysis of the cases of Kenya, the Netherlands and India reveals a common theme: water management improves when it transcends the boundaries of administrative fragmentation and is based on a single institutional centre capable of guiding policy, coordinating the various levels of government and planning long-term interventions. Italy has a highly structured regulatory framework and significant funding instruments; however, it continues to suffer from overlapping responsibilities, slow procedures and the difficulty of establishing unified management of the resource. In this context, the creation of a Ministry of Water could be seen as a potential strategy to strengthen the country's water security. Such a body would be able to bring greater coherence to the responsibilities currently divided among various bodies and institutions, promoting integrated water resource planning and building a timely and effective response to crises linked to drought, water wastage and regional inequalities. Of course, the mere establishment of a new body would not eliminate existing critical issues. For such a reform to be effective, it must be accompanied by a clear definition of responsibilities, a direct relationship with the regions and operators, and, above all, a competent and specialised committee. The case studies analysed highlight how unified governance is not an abstract concept, but a practical solution that can help make water management more stable and sustainable. In the Italian context, the idea of establishing a Ministry of

Water or a dedicated central authority therefore appears to be one of the possible avenues for rethinking the future governance of water resources.

References:

[1] Argento, D., & Van Helden, G. J. (2010). La réforme du secteur de l'eau en Italie et aux Pays-Bas : un changement ambitieux à l'issue incertaine fait place à un changement modéré axé sur le consensus. *Revue Internationale Des Sciences Administratives*, Vol. 76(4), 827–846. https://doi.org/10.3917/risa.764.0827.

[2] Autorità di Gestione PSRN. *Sintesi non tecnica del Rapporto Ambientale – Programma Sviluppo Rurale Nazionale*.

[3] Ballabio, A., Berardi, D., Mazzarella, F., Mocella, M. G., & Valle, N. (2021). Acqua e rifiuti nel Piano Nazionale di Ripresa e Resilienza. ECONOMIA PUBBLICA, 1, 77–103. https://doi.org/10.3280/ep2021-001005.

[4] Confindustria (2024). *Dall'emergenza all'efficienza idrica*. Rapporto di settore, 22 marzo 2024.

[5] Government of India | Ministry of Jal Shakti (2026). *Annual Report 2025-26*. Department of Water Resources, River Development and Ganga Rejuvenation. Disponibile su: jalshakti-dowr.gov.in.

[6] Government of the Netherlands. *Water Management in the Netherlands*. Ministry of Infrastructure and Water Management. Disponibile su: government.nl.

[7] Kenya Water Security and Climate Resilience Project (KWSCRP). Documentazione e progetti. Disponibile su: kwscrp.org.

[8] Meola, F. (2024). Sul fondamento di legittimitá della gestione pubblica del servizio idrico. Università Degli Studi Di Napoli Federico II. https://doi.org/10.6093/2421-0528/10874.

[9] Ministero dell'Ambiente e della Sicurezza Energetica (MASE). *Osservatori permanenti sugli utilizzi idrici*. Disponibile su: mase.gov.it.

[10] Ministry of Water, Sanitation and Irrigation (Kenya). *About the Ministry: Mandate and Vision*. Disponibile su: water.go.ke.

[11] Novaro, P., & Bercelli, J. (2016). Water Services are the Bridgehead for a Return to Publicly Owned Utilities in Europe. A Comparative Analysis. *Water Resources Management*, 31(8), 2375–2387. https://doi.org/10.1007/s11269-016-1535-z.

[12] Rijkswaterstaat (Netherlands). *Onze organisatie en missie: Bereikbaarheid en waterveiligheid*. Disponibile su: rijkswaterstaat.nl.

[13] Romano, E., & Portoghese, I. (a cura di). *Siccità, scarsità e crisi idriche: Il contributo della ricerca a supporto della definizione del bilancio idrico*. Consiglio Nazionale delle Ricerche (CNR).

[14] Santato, S., Mysiak, J., & Pérez-Blanco, C. (2016). The water Abstraction License regime in Italy: a case for reform? *Water*, 8(3), 103. https://doi.org/10.3390/w8030103.

[15] UN-Water (2024). *Progress on Implementation of Integrated Water Resources Management (IWRM) – 2024 Update*. United Nations Publications.

[16] Verre, F. (2021). Hydro-Diplomacy in Southeast Asia: the Taiwanese case. *Journal of Management Policy and*

Practice, 22(1). https://doi.org/10.33423/jmpp.v22i1.4177.

[17] Verre, F. (2024b). Rethinking the Mosul Dam: a reassessment of its impact beyond the traditional narratives. *Journal of Political Science Bulletin of Yerevan University*, 3(2(8)), 99–121. https://doi.org/10.46991/jops/2024.3.8.099.

[18] Verre, F. (2025b). Water insecurity in the South Caucasus: A Hydro-Strategic Assessment of the Nagorno-Karabakh conflict. *Journal of Political Science Bulletin of Yerevan University*, 4(2(11)), 58–77. https://doi.org/10.46991/jops/2025.4.11.058.

[19] WASREB. *Who we are: Regulatory Mandate*. Disponibile su: wasreb.go.ke.

[20] Water Services Regulatory Board (WASREB) (2024). *Impact: A Performance Report of Kenya's Water Services Sector – 2023/24*. Nairobi, Kenya.

[21] Zazzi, M. (2010). Prospettive per il governo dei bacini idrografici. ARCHIVIO DI STUDI URBANI E REGIONALI, 96, 71–91. https://doi.org/10.3280/asur2009-096003.