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GLIMPSES OF RESILIENCE: WATER SERVICES UNDER LAW 241/2006 IN ROMANIA

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Abstract
This paper explores the concept of resilience within legal frameworks. By examining resilience within the water services sector, the paper clarifies the imperative of building flexible systems capable of withstanding shocks and adapting to changing circumstances while ensuring the sustainability of essential functions. Furthermore, the study investigates the presence of resilience or lack of it within Romanian Law No. 241/2006, discerning glimpses of resilience through an assessment of the legal framework's responsiveness to unforeseen challenges and its evolution over time. By highlighting the role of resilience within legal frameworks, this research aims to contribute to a deeper understanding of how legal mechanisms can effectively prepare for and mitigate future adversities.

Keywords: *resilience, sustainable development, Law No. 241/2006, water services*

1. Introduction

As a descriptive concept, resilience emphasizes that a system should maintain its core functions and identity in the face of external disturbances rather than transforming into something entirely different. In a way, this contrasts sustainable development, a normative concept rooted in justice and accountability across generations. Resilience extends beyond merely an idea; it serves as both a means and a goal within sustainable development. (Constantinescu et al., 2019, p.170) It offers a conceptual framework for risk management, highlighting the capacity for effective action. Thus, resilience can be positioned as a core goal of sustainable development.

A variety of legal principles and instruments can effectively foster resilience. Just as a complex adaptive system necessitates a sophisticated institutional framework, these instruments closely align with the basis of sustainable development. (Bándi, 2022, p.34) While their core attributes remain broadly consistent, the distinguishing factor lies in the nuanced emphasis on specific aspects.

Resilience as a concept emerged in other disciplines (Holling, 1973), but recently, it gained traction in law. (Sindico, 2021, pp. 2-14) (Pieraccini, 2019) When researching resilience, we could argue that ‘resilience’ is what ‘risk’ was a few years ago to today's scholars. (Pedersen, 2017)

At the core of most definitions of resilience, as Hutter explains, “is the ability of ecosystems, societies, cities, communities, organizations, and individuals to survive disturbances, shocks and surprises to reorganize and reassemble to persist and maintain core systems.” (Hutter, 2017, p.21.) Resilience research examines the dynamics of social-ecological systems, identifying factors that enhance or diminish resilience. The goal is to guide transformations toward new development pathways, intending to inform policies that promote greater resilience. (Ebbesson, 2013)

This concept helps us grasp the processes of destruction and reorganization of complex systems. It is a valuable instrument, whether applied independently or as part of broader development strategies. (Constantinescu et al., 2019, p.171) From the perspective of sustainable development, resilience is a crucial distinguishing factor at regional and sectoral levels and a functional tool for creating and maintaining prosperity in social, economic, and ecological systems affected by human activity. (Constantinescu et al., 2019, p.171)

Resilience in the water services sector centers on the system's ability to absorb shocks, adapt to changes, and maintain essential functions during and after disruptive events or stressors. Both resilience and sustainable development seek a balance between economic, social, and environmental elements over the long term.

Despite the pressing need for action, water services in Romania encounter obstacles when they try to adapt to the challenges posed by our present situation. In Europe and Romania, water services undergo regulatory scrutiny from diverse authorities operating at both national and regional levels. Regardless of this oversight, a noticeable gap exists in updated principles within the regulatory frameworks governing water services. This gap implies a need for water utilities to study and actively address future and already persistent risks. By integrating updated principles that account for the new reality, regulatory frameworks can compel water utilities to take proactive measures, preventing potential harm before it occurs. This harm can also be interpreted as environmental damage or human rights violations.

So, we can argue that a pressing necessity exists in Romania to enhance water and wastewater management infrastructure. This imperative calls for additional investments to fortify the country's capacity to address these critical environmental challenges effectively. (European Commission, 2021) Nevertheless, the question arises: Can we discern glimpses of resilience while exploring Romanian Law No. 241/2006? The need for resilience is evident in the legal framework, reflecting an awareness of the importance of robust mechanisms to withstand challenges and uncertainties. This recognition is crucial for adapting to changing circumstances and ensuring the continued effectiveness of the law. Assessing how the law responds to unforeseen circumstances or incorporates preventive measures can reveal the extent to which resilience has been integrated into its structure.

Moreover, this article can provide insights into the ongoing efforts to enhance resilience by examining any updates or amendments to the law over time. Legislation that evolves to address emerging challenges and align with contemporary needs signifies a commitment to fostering resilience within the legal framework. We must swiftly comprehend how the legal framework can address the concept of resilience as a method of preparing for future adversities. In the upcoming chapters, we argue that resilience could, and should, be an integral part of the discussion on sustainable development and water utility systems. Furthermore, we contend that laws, such as Law 241/2006, can reflect this shift and incorporate resilience into their framework. Additionally, we will highlight the lack of such incorporation in existing legislation, pinpointing areas where resilience is not adequately addressed.

1.1. The road to resilience

In a relatively short period, the concept of “sustainable development” has become firmly rooted in law. This shift began with the World Commission on Environment and Development, commonly known as the Brundtland Commission. It elevated sustainable development to a prominent position on the global agenda with its 1987 report, Our Common Future (Our Common Future, 1987). The Commission defined sustainable development as “development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.” (World Commission on Environment and Development, 1987)

The significance of sustainable development was further solidified at the 1992 UN Conference on Environment and Development in Rio de Janeiro, where 176 states agreed that sustainable development is a fundamental objective of the international community. (Biodiversity Convention, 1992) However, the concept's exact meaning and legal status remain somewhat ambiguous. (Schrijver, 2008, p. 23.) Often perceived as an all-encompassing principle that includes everything beneficial for the Earth and future generations, its broad and sometimes vague interpretation has allowed for the continuation of non-sustainable practices.

While the Brundtland Commission was crucial in promoting sustainable development, the relationship between the environment and development had been recognized much earlier. One of the earliest instances of this recognition was the Bering Fur Seal dispute in the late 19th century when the United States sought to impose conservation measures to prevent Great Britain's overexploitation of fur seals. (Schrijver, 2008, p. 33.)

Other authors trace the origins of the concept even further back. In his separate opinion in the 1997 case concerning the Gabčíkovo-Nagymaros Project, Vice-President Weeramantry derived the concept of sustainable development from the practice of ancient civilizations and traditional legal systems. (ICJ Reports 1997, pp. 110-111.)

The 2002 World Summit on Sustainable Development in Johannesburg aimed to assess the implementation of the Rio measures and reinvigorate the global commitment to sustainable development. While the Summit succeeded in setting targets for issues like drinking water and sustainable fishing, it fell short in other areas, such as sustainable energy. (Schrijver, 2008, p. 96.) The concept of sustainable development continued to be integrated into international agreements, such as the 1992 Helsinki Convention on Transboundary Watercourses and International Lakes and its 1999 Protocol on Water and Health, which emphasized sustainable water resources management and the protection of human health within a framework of sustainable development.

The concept of sustainable development also intersected with discussions on the right to development. (Schrijver, 2008, p. 96.) Although the 1948 Universal Declaration of Human Rights did not explicitly include this right, subsequent documents and international covenants, such as the 1966 International Covenant on Economic, Social, and Cultural Rights, began to recognize elements of it. The African Charter on Human and Peoples' Rights explicitly included the right to development, and the UN General Assembly adopted a Declaration on the Right to Development in 1986. Despite these advances, the right to development remains a contentious issue, with some scholars viewing it as an aspirational but empty concept. In contrast, others see it as a crucial framework for realizing all human rights and fundamental freedoms. This debate raises questions about whether resilience, like the right to development, might face challenges in gaining widespread acceptance and implementation. (UN doc. A/RES/41/128)

However, as Costanza and Patten have noted, the basic idea of sustainability is straightforward: "A sustainable system survives or persists." (Costanza, 1995, pp. 193-196.)

1.2. SDGs and Resilience

The concept of sustainability has long been more aspirational than actionable. Since the 1980s, when the IUCN introduced it in Caring for the Earth (IUCN, UNEP, FAO, 1991) and the UN World Commission on Environment and Development further developed it in Our Common Future, nations have struggled to give it substantive meaning. Despite this, sustainable development has been central to international policy since the 1992 Earth Summit in Rio de Janeiro.

In 2015, the United Nations General Assembly adopted the Sustainable Development Goals (SDGs) (Transforming Our World, n8) as the framework for global socio-economic development through 2030. This agenda includes 17 goals, 14 of which directly or indirectly include water. However, environmental conditions have deteriorated, highlighting the lack of political will to implement the necessary measures. (Schrijver, 2008, p. 96.) Progress has probably been too slow to ensure the goals will be met by 2030.

Environmental SDGs, like those related to water, energy, climate, oceans, and ecosystems, face significant challenges. Dr. Jean-Paul Moatti, a UN expert, noted that many SDGs are regressing, a situation worsened by the COVID-19 pandemic, as highlighted in the 2020 report. (Moatti, 2019)

A stronger legal foundation is needed to achieve the SDGs. While resilience is explicitly mentioned in Goal 9 (resilient infrastructure) and Goal 11 (resilient cities and human settlements), it is a crucial dimension across all SDGs. Resilience, as a legal principle, could guide governmental and institutional decision-making. Historically, emerging principles like the "polluter pays principle" gained acceptance through international organizations like the OECD. (Smets, 1989, p.10.) Similarly, the principle of resilience now demands formal recognition.

1.3. Resilience

There is an essential distinction between the resilience of law itself and the influence of law in achieving resilience. In our study, we will focus on the latter one.

Acknowledging that law influences the capacity of social-ecological systems to manage these challenges is only the first step. The following steps involve examining how the law affects these systems and identifying the legal characteristics that foster resilient structures. (Ebbesson, 2010) (Folke, 2006) Although resilience literature is not uniform, it highlights several key factors that enhance our ability to engage sustainably with social-ecological systems, such as:

- Flexibility in social systems and institutions to manage change,
- Openness of institutions to ensure broad participation,
- Effective multi-level governance, and
- Social frameworks that encourage learning and adaptability without limiting future development options. (Ebbesson, 2013)

One of the reasons resilience works well within the law is that it is not mistaken for an outcome, unlike sustainability. Adequately understood, resilience is a dynamic quality we must work with to achieve our social and environmental goals. A resilience-based approach that is common to all resilience literature is integrating strategies of enhancing resistance (i.e., survival and persistence), recovery (i.e., re-establishing previous conditions after disturbances), and reorganization. (Falk, 2016) The quicker legal institutions incorporate adaptive management practices, the more likely resilience will emerge.

However, this requires ongoing monitoring and flexibility to adjust to changes. Legal frameworks must evolve to require measurable objectives for actions and set clear thresholds that trigger specific responses when monitoring reveals deviations. (Doremus, 2001, p.50-53) Professor Camacho notes that "providing ad hoc, vague directives for experimental, collaborative regulatory processes invites delay and indecision to the detriment of those resources harmed by inaction." (Camacho, 2008, p. 953.) (Fischman, 2019, p.704.) This means that we need clear and efficient direct action.

1.4. Water governance, planning and resilience

Water governance, shaped by laws, regulations, and rights, is critical to any natural resource management system. However, while legal frameworks tend to be rigid and fragmented, the ecological

systems they regulate are complex, interconnected, and dynamic. (Hill Clarvis, 2014, p.99.) This mismatch has led to efforts to identify governance factors that enhance or diminish the resilience of these systems, especially their ability to adapt to pressures like exploitation, pollution, and climate change.

Adaptive governance and management are increasingly recognized as essential for coping with uncertainty in social-ecological systems. Key traits include flexibility to adjust to change, connectivity across sectors for effective collaboration, subsidiarity to ensure decisions are made at the appropriate level, and iteratively to promote ongoing learning and adaptability. (Cosens, 2013)

Some legal scholars argue that the unpredictability of future conditions might require legal systems that are both stable and flexible. This means balancing structured legal frameworks and adaptable policies that can respond to change. However, translating these broad principles into actionable policies is challenging due to policymakers and legislators' lack of detailed guidance.

Four guiding principles are identified: Iterativity, which promotes the continuous generation and application of knowledge; Flexibility, which ensures the ability to adjust to new conditions and information; Connectivity, which enhances collaboration across sectors and scales; and subsidiarity, which implements policies at the most appropriate level. (Hill Clarvis, 2014, p. 102.)

For example, in the European Union, the Water Framework Directive (WFD) requires regular revision of environmental measures every six years. This supports subsidiarity by allowing member states to adapt their frameworks while maintaining ecological standards. However, it could be more effective if the revisions were made regularly; it could aid in achieving resilience.

The connectivity element of water management underscores the need for horizontal coordination between different management authorities, a task that remains challenging worldwide. Legislators must carefully balance flexibility with the need for legal certainty, ensuring that laws remain relevant and effective in the face of unforeseen challenges. (Hill Clarvis, 2014, p.105.) In the name of iterative processes, success in this area also depends on accurate long-term planning and resource management data.

When we talk about water planning, we can conclude that this should embody resilience and justice. (Walker et al., 2006) A resilient urban water system can adjust to climate change, infrastructure failure, drought, pollution, and economic crises. (Leigh et al., 2019)

Urban water planning encompasses four fundamental dimensions: water supply, water demand, water quality, and water cost, intricately intertwined. (Daniels et al., 2003, p.75) Inadequate investment in infrastructure, for example, can adversely impact water quality and supply, prompting cost escalations. (Leigh et al., 2019) Unfortunately, resilience plans often neglect the social factor, especially within vulnerable communities dependent on these systems. (Arnold et al., 2022, p.1407) As another example, the structure and level of water rates that users pay can also influence water demand. (Daniels et al., 2003, p.75)

Water planners aspire to fortify systems across four crucial domains(Arnold et al., 2022, p.1407):

1) Ensuring ample and dependable water supply;
2) Maintaining water quality;
3) Managing costs; and
4) Sustaining the functionality of infrastructure and governance structures.

Instances of resilience injustice encompass contaminated drinking water and high costs for vulnerable and marginalized communities, illustrating the intersection of environmental, social, and economic factors. (Arnold et al., 2022, p.1407-1408) Our research investigates how legal mechanisms can impact resilience in water planning and management.

1.5. Water service legislation in Romania

Before tackling the law in question, we need to focus on water ownership. In Romania, the state generally owns both surface and underground water bodies. This ownership extends to lakes, rivers, and other natural water resources. The state holds the authority to regulate and manage these valuable resources.

"*1. Property may be public or private. 2. The law guarantees and protects public property and belongs to the State or territorial-administrative units. 3. The mineral resources that are of public interest, the airspace, water resources that can be used for power production in the public interest, beaches, the territorial sea, the natural resources of the economic zone and the continental shelf, as well as other assets defined by law constitute exclusive public property. 4. Public property is non-transferable. Under the terms of the organic law, public property can be managed by autonomous entities or public institutions or licensed or leased; it can also be transferred to public utility institutions for free use. 5. Private property is inviolable in accordance with the organic law."* (Constitution of Romania, 1991, §136) Point four specifies that waters with hydropower availabilities and other related elements such as beaches, territorial waters, and natural resources of the economic zone and continental shelf are considered exclusively public property. Also, based on law 107/1996, „Water is not just an ordinary commercial product; it is a natural heritage that must be protected, treated, and defended as such, being a strategic resource for national safety and security." Moving on to the water supply and sewerage services, the main actors in this market are the municipality, the operator, and the users across the municipality's administrative-territorial area. The local public administration authority has exclusive competencies in setting up and developing the water supply and sewerage service infrastructure, which is considered public infrastructure. However, the question arises: What laws regulate water utility services?

In Romania, water services are predominantly regulated under national legislation, which aligns with the European Union's Water Framework Directive. (European Commission, 2000) These services involve various activities related to surface or groundwater abstraction, impoundment, storage, treatment, and distribution. They are intended to benefit households, public entities, and economic activities. The central emphasis is on two main aspects: water supply, which encompasses tap water provision, and wastewater management and treatment. Further elaboration on this concept will be undertaken following Law No. 241/2006. (Law No. 241, 2006) It applies to services organized at the level of municipalities, towns, or inter-municipal development companies dedicated to water and sanitation.

The regulatory framework also includes the Order of the President of the National Authority for the Regulation of Community Services of Public Utilities No. 230/2022, which approves the tariff adjustment methodology for public water supply and sewerage services. This methodology is based on a pricing strategy linked to the business plan. Additionally, Order No. 231/2022, from the same authority, approves the Methodology for evaluating the implementation of pricing strategies under the Methodology for cost-benefit analysis of investments in hydraulic infrastructures, as sanctioned by Government Decision No. 677/2017. (Onillon et al., 2023, p.9)

Besides these, water supply and sewerage services are regulated by various laws designed to ensure consumer protection, service quality, and environmental compliance. Ordinance No. 21/1992 on consumer protection and Law No. 193/2000 address abusive contract clauses between merchants and consumers, while Law No. 148/2000 regulates advertising practices. Law No. 51/2006 on community services of public utilities. Drinking water quality is ensured through Law No. 458/2002, complemented

by Decision No. 974/2004, establishing norms for supervision, sanitary inspection, and sanitary authorization. Decision No. 188/2002 also regulates wastewater discharge into the aquatic environment.

Furthermore, Government Emergency Ordinance No. 144 of 2021 has introduced modifications and additions to the water supply and sanitation service Law No. 241 of 2006. However, our article will exclusively delve into the details of Law No. 241/2006, recognizing and emphasizing its significance and magnitude.

1.6. Some ideas about water management in Romania

The water management sector in Romania is undergoing a significant transformation towards regionalization. (Frone, 2019) This strategic shift aims to address the challenges of the water services sector's excessive fragmentation and achieve efficiencies. The water services sector in Romania has historically been highly fragmented, with many small, local providers. By reducing the number of service providers, regionalization helped to ensure a more consistent and reliable quality of service across different regions. Institutionally, regionalization has unfolded through reorganizing existing public services managed by municipalities. This involved consolidating the operation of services for a group of municipalities within a defined geographical area, often based on watershed boundaries or administrative divisions such as municipalities or departments. (Onillon et al., 2023, p.9) The ultimate goal was to establish approximately 50 large operators by merging local utilities into Regional Operating Companies (ROC). These ROCs serve as public service operators within Intermunicipal Development Associations, whose members are local authorities, including municipalities and communities. (Onillon et al., 2023, p.3-4)

The ongoing regionalization strategy has led to the creation of 43 Regional Operators (A.N.R.S.C., 2023a). These are structured as public, commercial companies owned by local authorities. To facilitate regionalization, cities and municipalities organize themselves into inter-municipal development associations and delegate drinking water supply and wastewater management services to these regional operators.

Notably, two major municipal utilities, Bucharest and Ploiesti, covering 9% of the Romanian population, have opted to delegate the management of their water and sanitation services to private operators with mixed capital (A.N.R.S.C., 2023a). In this case, subsidiaries of the Véolia group provide water services under a 25-year contractual arrangement. (Onillon et al., 2023, p.4)

Turning our focus on the legislation regarding water services, we can highlight that in 2021, the Romanian Government approved the Government Emergency Ordinance (Romania, Emergency Ordinance No. 144, 2021), marking a significant step in amending and supplementing the law on water supply and sewerage services (No. 241/2006). This legislative action represents the inaugural reform outlined in the National Recovery and Resilience Plan (PNRR) for the water and wastewater sector.
Key amendments proposed in the ordinance necessary in our case:

a) Water operators must establish tariff strategies based on efficiency plans for the public service over five years. (Romania, Emergency Ordinance No. 144, 2021, art. 36^1-36^7)
b) Local public administration authorities must keep records of natural and legal persons who do not discharge wastewater to the public sewerage network. (Romania, Emergency Ordinance No. 144, 2021, §14)
c) Users must connect to existing public sewerage systems if they lack a proper individual collection and treatment system. (Romania, Emergency Ordinance No. 144, 2021, §14)

d) Adequate individual systems are considered exceptional and should be utilized only when centralized systems are not technically and economically feasible. (Romania, Emergency Ordinance No. 144, 2021, §14^1-14^2)
e) Directly discharging untreated wastewater from appropriate individual systems into the environment is prohibited. (Romania, Emergency Ordinance No. 144, 2021, §14^2)

Between 2010 and 2020, several water and wastewater sector operational programs were initiated and implemented, providing access to European funds to expand water supply and sewerage systems. These programs, including the Sectoral Environmental Operational Program (2007-2014) and the Large Infrastructure Operational Program (2014-2020), aimed to improve the population's access to water and sewerage services.

Based on the A.N.R.S.C. report, water utility services face several key challenges. First, the country has a lower access rate to public water and wastewater services than other European nations, with significant disparities between rural and urban areas. Secondly, service delivery quality and consistency vary greatly between regional and local operators, with smaller, often unlicensed operators struggling to maintain standards. Third, concerns about the accuracy and reliability of data reported by local authorities, particularly in smaller towns, affect the validity of water access statistics. Finally, water resource management remains inefficient, with high water loss rates and insufficient efforts to conserve resources, further hindering sustainable water utility operations. (A.N.R.S.C, 2023b) Based on the World Bank Water diagnostic report, Romania is expected to be the most affected by climate change among Danube basin countries. While water supply and sanitation service reforms, such as commercialization and regionalization, have progressed, regionalization remains incomplete. (World Bank, 2018) There are also disparities in access between Roma and non-Roma populations, particularly in urban marginal areas.

In the next chapter, we explore Law No. 241/2006, its amendments, and the impact of recent legislative changes on water supply and sewerage services. For a Hungarian perspective, please refer to the works of Dr. Szilágyi for legal insights and Dr. Szűcs for a water and environmental management viewpoint. (Szilágyi, 2016; Szűcs, 2023)

2. Law No. 241/2006, regarding the water supply and sewerage service

Identifying glimpses of resilience in legislation requires recognizing provisions that contribute to the system's ability to maintain essential functions amid various challenges. The growing need for resilience is typically propelled by climate change, population growth, and the escalating frequency of extreme events that can impact water services. Analyzing the legislation, we anticipate identifying indicators of the need for resilience and the inherent push toward sustainable development.

We aim to find parts that comprehensively cover topics related to adaptability to changing circumstances, response mechanisms to disruptions, and measures ensuring the continuity of essential functions. Specifically, we are interested in parts that acknowledge the impact of change on water resources and infrastructure. Our focus includes examining whether the law incorporates provisions about maintaining, improving, or upgrading water infrastructure. Additionally, we seek sections that discuss risk management strategies, contingency planning, and mechanisms within the law that establish monitoring and evaluation processes for the effectiveness of water services and punishment of persons that limit or stop the good function of water services.

This law lays the foundations of the legal framework governing the establishment, organization, management, financing, exploitation, monitoring, and control of the regulated supply and performance

of public water supply and sewerage services in localities. It applies to public water supply and sewerage services organized at the communal, city, municipal, and county levels or, as the case may be, to inter-community development associations whose primary activity is providing water supply and sewerage services. The public water supply and sewerage service falls within the scope of community public utility services. (Law No. 241, §1(3))

The public water supply and sewerage service is established, organized, and managed under local public administration authorities' direction, coordination, control, and responsibility. Its purpose is to provide water, sewerage, and wastewater treatment for the people/users within the territories. (Law No. 241, §2, (1))

In administrative-territorial units, the organization of the water supply service alone may be permitted, provided that it ensures the collection of wastewater through individual systems suitable for wastewater processing. These systems must comply with hygiene standards, safeguard public health, and protect the environment at standards comparable to centralized sewage and treatment systems. (Law No. 241, §2, (4)) The last part was added in December 2021 (Romania, Emergency Ordinance No. 144, 2021, Article I, Point 1) by amending the law. The addition is well-needed and foreshadows the changing trends, sustainable development, and the need for resilience. Under the water supply and sewerage service, the law understands all activities of public utility and general economic and social interest conducted to capture, treat, transport, store, and distribute drinking or industrial water to all users within a locality. It also involves collecting, transporting, purifying, and evacuating wastewater, rainwater, and surface water from within the locality. (Law No. 241, §3, point a)

To understand water utility services, we have to clarify some notions beforehand: The public water supply system refers to the collective infrastructure, including buildings, land, technological installations, functional equipment, and specific equipment, through which the public water supply service is conducted. (Law No. 241, §3, point d) The public water transport network is part of the public water supply system and consists of a pipeline between the catchment and the distribution network. (Law No. 241, §3, point f) The public water distribution network is part of the public water supply system comprising pipes, fittings, and ancillary constructions ensuring water distribution to two or more independent users. (Law No. 241, §3, point g) Understanding these fundamental concepts is crucial from a resilience perspective because it provides a clear framework for identifying vulnerabilities and targeting specific components for improvement.

Potable water is also a key part of the legislation. The potable water distributed through water supply systems is designated to fulfill the domestic needs of the people, public institutions, economic entities, and, where applicable, for firefighting purposes without industrial water. (Law No. 241, §3, point 4(1))

The utilization of potable water for purposes beyond those enumerated is permissible only if availability exceeds the drinking water needs of localities determined by prevailing technical prescriptions. Other needs, such as irrigating streets and green spaces, cleansing markets and streets, periodic sewage system cleaning, washing vehicles, and industrial water consumption, will predominantly be addressed using industrial water. Any connection or interconnection between drinking water supply systems and industrial water supply systems is expressly prohibited. (Law No. 241, §4(8))

This emphasizes the allocation of potable water for firefighting purposes, highlighting a commitment to public safety and infrastructure resilience in emergencies. It also marks water's apparent importance and preservation by tracing boundaries for its use. The next chapter will explore the criteria and qualifications for entities and individuals to become operators or users within this system.

2.1. Who can be an operator or user?

Knowing who can operate a water service and who can benefit from it is essential from the standpoints of sustainability, adaptability, and efficiency of water management systems. It directly and indirectly impacts these. The operator/regional operator of the water supply and sewage service is systematically defined per Article 2 of Law No. 51/2006, specifically under subpoints g) and h). This designation refers to an operator of public utility services, also colloquially known as the operator. This entity, whether a legal entity under public or private law, possesses public, private, or mixed capital and is duly registered in Romania, a member state of the European Union, or another state.

In 2021, Emergency Ordinance No. 144 amended this article and included the notion of "appropriate individual wastewater collection and treatment systems"(Law No. 241, §3, point aj) is used. These systems are characterized by their capacity to ensure environmental protection comparable to centralized public sewage and treatment systems. Moreover, these individual systems must adhere to established technical and environmental standards and comply with regulations outlined in standardization practices and specific legislation in wastewater and water management. Including "appropriate individual wastewater collection and treatment systems" holds significant implications for resilience. The provision underscores the importance of integrating environmentally sound practices into wastewater management. The law encourages a more sustainable approach by promoting individual wastewater collection and treatment systems that mirror the environmental safeguards of centralized systems. This is crucial in mitigating the environmental impact of wastewater disposal, safeguarding water resources, and protecting ecosystems.

Additionally, the emphasis on adherence to technical standards, environmental conditions, and specific legislation contributes to wastewater management practices' overall resilience and effectiveness. Compliance with these parameters ensures that individual systems meet current environmental standards and contribute to ecosystems' long-term health and sustainability.

As the role and definition of water supply and sewage service operators continue to evolve, the next chapter will explore the foundational principles governing these services, highlighting the core values and regulatory frameworks that ensure resilience and environmental protection in wastewater management.

2.2. Principles

The principles of shaping water supply are as follows:

„ *a) Service security;*
b) Fair tariffing;
c) Profitability, quality, and efficiency of the service;
d) Solidarity among users reflected in the tariff strategy;
e) Transparency and public responsibility, including consultation with employers, trade unions, users, and their representative associations;
f) Continuity in both quantitative and qualitative aspects;
g) Adaptability to user requirements;
h) Equal accessibility of users to public service on a contractual basis;
i) Compliance with specific regulations in water management, environmental protection, and public health." (Law No. 241, §7)

„*The state supports the sustainable development of the water supply and sewage service through legislative, administrative, and economic measures, as well as the related water supply and sewage*

systems." (Law No. 241, §9(1)) The need for performance indicators aligns with resilience. Derived from specialized studies, these indicators consider user needs, infrastructure conditions, and efficiency. Public debate ensures transparency and community involvement in shaping these indicators.

These measures, orchestrated by competent central public administration authorities, are designed to achieve strategic objectives that include:

„ *a) The nationwide development and expansion of water supply and sewage services, aiming to enhance the living conditions of local communities.*

b) Establishing a service and modern technical-building infrastructure capable of bolstering localities' economic and social development, attracting private investments, and fostering sustainable community growth.

c) The preservation and protection of the environment and public health."

The principle of service security is designed to ensure that infrastructure meets the community's diverse needs. However, as aging infrastructure and climate change increase pressures on water systems, the question arises: Are these provisions enough? To meet resilience goals, ensuring robust infrastructure in rural or low-income areas may require additional financial support and strategic investment.

Fair tariffing aims to distribute costs equitably, but the implementation often fails to account for disparities in income levels. Although legal provisions allow for subsidies for low-income users, the effectiveness of these subsidies depends on local administrative capacities, and there is often a mismatch between policy intention and practical outcome. Moreover, principles like transparency and public responsibility, while vital, need to be bolstered by more precise mechanisms for enforcing public participation in decision-making processes, especially in traditionally underrepresented communities.

The deliberative authorities of administrative-territorial units hold exclusive competence, which can be exercised independently or through inter-community development associations with the objective of water supply and sewerage service, as stipulated by Law No. 51/2006, republished, with subsequent additions. (Law No. 241, §10(1)) Administrative-territorial units can form associations to jointly establish, organize, finance, monitor, and manage water supply and sewerage services and the related technical-building infrastructure. This collaboration is subject to the conditions stipulated by Law No. 51/2006, republished with subsequent additions. (Law No. 241, §10(2))

Local councils and inter-community development associations dedicated to water supply and sewerage services formulate distinct strategies aligned with county or zonal master plans(Law No. 241, §3 point y). These strategies consider urban and territorial planning and economic-social development programs within the administrative-territorial unit. Additionally, they align with Romania's environmental protection commitments. (Law No. 241, §11(2))

The objectives prioritized by the local public administration authorities include directing services toward users, ensuring non-discriminatory access for all community members, maintaining service quality in line with EU standards, enhancing environmental quality through responsible water resource use and wastewater treatment, minimizing water losses and energy consumption, reducing specific drinking water consumption, and promoting investment programs for system development and modernization. (Law No. 241, §11(3)) The insurance of non-discriminatory access for all community members promotes inclusivity and equity, key elements of a resilient system that considers the diverse needs and vulnerabilities within the community. This text is crucial from the perspective of sustainable development and resilience as it emphasizes the integration of environmental protection commitments and promoting equitable, high-quality water services. Aligning local strategies with broader planning and environmental goals ensures that water management practices are both sustainable and inclusive. However, we need to see the fact that discrimination is not just something of the past; multiple Roma

communities face disruption or non-access to water utility services. These numbers are alarming; based on the Fundamental Rights Agency, the gap between the Roma and the population in terms of clean water is the largest in Romania, where in 2016, 68% of Roma lived without tap water in their homes.(Institut für den Donauraum und Mitteleuropa, 2023) Environmental racism is still a pressure point for so many countries, and inclusion is still on the shorter end of the spectrum. The next chapter will tackle the responsibilities of various stakeholders in the water supply and sewerage services sector, outlining their roles in achieving these strategic objectives.

2.3. Responsibilities

Local public administration authorities in water supply and sewerage services are responsible for adopting resolutions or issuing orders as necessary.

From a resilience perspective, it is interesting to see that they have the control of approving the local strategies for water supply and sewerage services, along with multi-annual programs for the rehabilitation, expansion, and modernization of existing systems. This includes programs for establishing new water supply and sewerage systems, all in compliance with relevant laws. They can entrust the management or delegation of service management, along with the operation of public or private property associated with water supply and sewerage systems. (Law No. 241, §11, point e) Although the law allows for this delegation, it does not offer a detailed framework on how performance is monitored or what mechanisms are in place to ensure accountability. In theory, local authorities must adopt measures when operators fail to meet performance indicators, but in practice, how often are these measures enforced, and what are the consequences for non-compliance?Approval of prices and tariffs for water supply and sewerage services per the methodology established by the National Regulatory Authority for Public Utilities. (Law No. 241, §11, point i)

Local public administration authorities and inter-communities can also grant monthly assistance from the local budget to families and individuals with monthly net cash incomes below the guaranteed gross minimum wage per family member to pay for water supply and sewerage services. (Law No. 241, §11, point m) Furthermore, ensure funds from the local budget or other legally constituted funding sources are used to pay expenses incurred for connecting to the water supply and sewerage system for families and individuals with monthly net cash incomes below the guaranteed gross minimum wage per family member. (Law No. 241, §11, point n) From a resilience perspective, local authorities have significant influence by approving local water supply strategies and multi-annual programs for system rehabilitation, expansion, and modernization. However, the practical implementation of these strategies raises several questions. For instance, while authorities approve water tariffs per the methodology set by the National Regulatory Authority for Public Utilities, how transparent and participatory is this process? More importantly, how do these decisions impact the affordability of water services for vulnerable populations? While the law allows for financial assistance to low-income families, the adequacy and sustainability of this support remain uncertain, especially in the face of rising water costs and climate-related challenges.

A pivotal responsibility is to promote the development, modernization, and rehabilitation of the technical-building infrastructure associated with the service. Authorities are also mandated to monitor and control service provision activities. When the operator fails to meet the assumed performance indicators, the authorities must adopt measures outlined in the management delegation contract. To name a few:

1. These authorities are responsible for adopting local rules and management methods for the water supply and sewage service.

2. Authorities must inform and consult users and their associations regarding service development strategies. Additionally, they determine local fees for water supply and sewerage services.
3. Authorities are tasked with maintaining records of individuals and entities not connected to public sewage systems and collaborating with regional operators to inventory individual wastewater collection systems. Notifying the population of compliance is also a part of this responsibility. (Law No. 241, §14)

A critical issue in water governance is the balance between flexibility and regulation. Local authorities must establish local rules for water service management and consult with users. Yet, in many cases, this consultation process is limited, and there is little transparency regarding how local fees are determined. This raises concerns about how the governance framework genuinely empowers citizens and fosters participatory decision-making. Furthermore, the role of local authorities in monitoring and controlling service provision is pivotal to ensuring resilience. However, beyond the formal mandates, there is little evidence of systematic monitoring of non-compliance with public sewage system connections. The legal framework may prescribe a thorough process, but the real-world effectiveness of these measures hinges on the capacity and resources available to local governments. Additionally, maintaining records of individual wastewater collection systems presents a logistical challenge, especially in rural areas where such systems are widespread and often unregulated.

The legal framework grants authorities significant autonomy over water management. However, this autonomy also raises questions about the consistency and fairness of service provision across regions. While designed to pool resources and expertise, inter-community development associations may struggle to balance the diverse needs of associated administrative-territorial units, leading to disparities in service quality and access.

In alignment with legal mandates, local public administration authorities hold responsibilities toward operators to ensure fairness, transparency, and effective management of water supply and sewerage services. Authorities are also tasked with ensuring access to public information. (Law No. 241, §15) Moreover, they ensure compliance with contractual obligations, performance indicators, and environmental regulations. The regulatory oversight for public water supply and sewerage services is vested in the competent authority, A.N.R.S.C.(National Regulatory Authority for Community Services of Public Utilities) (Law No. 241, §16(1)) Nevertheless, how effectively this oversight is exercised remains an open question, particularly regarding ensuring compliance with performance indicators and environmental regulations.

As we already highlighted, local public administration authorities have exclusive competence in establishing, organizing, coordinating, managing, monitoring, and controlling water supply and sewerage services in communes, cities, municipalities, and counties. They are responsible for administering, operating, and ensuring the functionality of public water supply. These competencies may be exercised through inter-community development associations focused on water acting on behalf of associated administrative-territorial units.

The next section will follow how these responsibilities are operationalized in practice, providing a detailed framework for assessing the effectiveness and efficiency of Romania's water management practices. It will particularly focus on how these legal responsibilities translate into resilient, equitable service provision for all citizens.

2.4. Water Management based on Law No.241/2006

The management of water supply and sewerage services should meet the legislative conditions regarding water quality and wastewater treatment, considering the needs of local communities, the size and economic-social characteristics of localities, the state of existing systems, local financing capabilities, and the optimal cost-quality ratio. (Law No. 241, §17) These requirements are all aligned with the requirements of resilience. Despite the absence of an explicit endorsement for resilience in the text, identifiable elements suggest both its presence and the corresponding necessity within the framework of this legislation. The fact that the development of this system did not prioritize resilience within the new ideological framework should not be construed as an unwillingness to shape our system accordingly. While complex and underexplored in water services law. It implies a historical usage without a thorough examination of its deeper meaning. Yet, it is evident that certain aspects of resilience are already ingrained in some parts of our legislation.

Managing the water supply and sewage service can take two forms(Law No. 241, §18): direct or delegated management. The local public administration authorities manage the service directly, or the service is charged to external entities. The choice between direct and delegated management is determined by decisions made by the deliberative authorities of the respective administrative-territorial units. In the case of direct management(Law No. 241, §19) of water supply and sewerage services, the local public administration authorities assume full responsibility for organizing, managing, and operating the services. This management approach can only be executed through public operators, as Article 28(2)(c) defines. These public operators function based on a decision granting them the authority to manage and operate the water supply and sewerage systems, along with a license issued by the A.N.R.S.C. Additionally, funds from loans, external non-reimbursable grants, or transfers from the state budget aimed at co-financing investment projects must be managed according to the terms outlined in the financing agreements.

Under delegated management(Law No. 241, §20), local public administration authorities or inter-community development associations (ICDAs), acting on behalf of the administrative-territorial units (ATUs), delegate their responsibilities for managing water supply and sewerage services to one or more operators. This delegation includes the administration and operation of the infrastructure under the terms defined in Law No. 51/2006. The delegation is formalized through a management delegation contract.

Operators selected for delegated management operate based on this contract and the license issued by A.N.R.S.C., and they are responsible for managing the related technical infrastructure. These delegation contracts are approved by deliberative authorities (e.g., local or county councils). They are signed by the executive authorities or presidents of the ICDAs, acting on behalf of the associated ATUs. This delegation follows the procedures outlined in Law No. 51/2006 and is formalized through a mandate granted by the ATUs.

One exciting aspect of the delegation is the critical provisions concerning the management delegation contracts for water supply and sewage services. These contracts must delineate the specific responsibilities of local public administration authorities and the operator regarding the entire lifecycle of investments, encompassing initiation, substantiation, promotion, approval, financing, and realization. The investments are considered 'return goods,' subject to recovery from depreciation. The recovery mechanisms differ based on the funding source, with own funds and public funds following distinct legal provisions and royalty structures as per the delegation contract. (Law No. 241, §25(2)) So, it means it sets up a financial system that helps maintain and prolong the durability of water services. The differentiation in recovery mechanisms based on the funding source (own or public funds) reflects a resilient funding approach. When we decide on the amount to charge, we consider the value of publicly

owned assets and whether people can afford them. This shows our dedication to ensuring the community can economically and socially withstand challenges.

Water supply and sewage service providers operating with a license fall under the category of operators; the issuance of licenses is within the competence of A.N.R.S.C., governed by the provisions of Law No. 51/2006. Regardless of the management method, legal status, form of organization, capital nature, property type, or European Union origin, operators have the same rights and obligations concerning local public administration authorities and users. (Law No. 241, §26)

The obligations of operators emphasize the need to ensure the production, transport, storage, and distribution of drinking water, as well as the intake, sewerage, purification, and evacuation of wastewater. Other responsibilities include maintaining sanitary protection zones, monitoring water quality, complying with environmental agreements, and managing water supply and sewage systems efficiently. Operators are also tasked with implementing measures to reduce tariffs, improve system efficiency, and limit water consumption. (Law No. 241, §27) Damage control is an integral aspect of resilience, facilitated by explicitly delineating responsibility for the coverage of such damages.

It is essential to distinguish the various categories and rights of users within the water supply and sewerage service framework (Law No. 241, §28)

a) Individual users, whether natural or legal persons, who own a building with a dedicated drinking water connection acquire the status of individual users. This status is obtained through a supply or service contract with the operator, concluded in the individual user's name.
b) Individual users in condominium-type buildings are also recognized, particularly those who independently establish their potable water connections upstream of the condominium's connection.
c) Water supply and sewage service users include economic operators, public institutions, individual household users (natural persons), and collective household users (associations of owners/tenants with legal personality).

Further elaborating on the legal relationships between operators and users, delineating their respective rights and obligations are outlined in the service regulations and the service provision contract. The regulation governing the water supply and sewerage service must encompass specific provisions, including:

a) Access to information of public interest.
b) Conditions for access and use of the service, rehabilitation, expansion, modernization programs, and compliance with specific technical and commercial regulations.
c) Users can install a consumption measuring device on the connection serving them, positioned at the property limit.
d) The obligation of local councils, county councils, the General Council of the Municipality of Bucharest, community development associations, or the A.N.R.S.C. to publicize decisions concerning the water supply and sewerage service. (Law No. 241, §30)

Incorporating these provisions into the regulation acknowledges the dynamic nature of water supply. Resilience in this context involves the physical infrastructure, governance structures, and user involvement.

When we turn to the question of contracts, we see that the supply and provision of water and sewage services are exclusively conducted through individual or collective contracts. For individual contracts, the termination of the service contract with the collective user requires written consent from all owners, expressed through a unanimous decision in the association's general meeting, following the complete settlement of all outstanding debts to the operator. The responsibilities of operators in individual

contracts with condominium users include ensuring water quality parameters, distributing water consumption, issuing monthly invoices, and invoicing users not complying with meter installation or verification. (Law No. 241, §31(7)) Condominium users, in turn, are obligated to share common expenses, pay individual invoices promptly, cover meter-related costs, replace meters as required, and grant access to the operator for inspection when needed. (Law No. 241, §31(8))

The measures operators can take in case of non-payment by users have implications for the resilience and sustainability of the water supply and sewerage service. Operators are allowed to disconnect users who fail to pay within 30 days, which supports the financial resilience of the service. Through court action, the subsequent debt recovery mechanism ensures that operators can promptly address financial challenges. (Law No. 241, §32(1)) This is followed by prior notification to users before disconnection. While the law ensures that water users are held accountable for their consumption, provisions such as the disconnection of services for non-payment raise questions about equity. Resilience in water services should account for social vulnerabilities, offering protections or subsidies for low-income households. The challenge lies in balancing financial sustainability with equitable access, ensuring social inequities do not compromise resilience.

Allowing associations to assign debts older than 60 days to operators for recovery enhances financial stability. This is particularly relevant for condominium-type buildings and supports the resilience of the service by addressing collective debt issues. (Law No. 241, §32(5))

The rights, obligations, and principles that guide operators in their interactions with local public administration authorities and users underline the contractual balance among local public administration authorities, including collecting prices and tariffs based on established rules, which supports financial stability. (Law No. 241, §33) Periodic adjustments and the ability to change prices under specific conditions contribute to economic resilience. They have obligations toward users, including serving all users in their authorized coverage area and complying with performance indicators to ensure service reliability. Access to information and efficient management methods contribute to operational resilience.

Outlining the mechanisms for funding operational expenses and investment projects related to water infrastructure, we can identify critical elements, including public and private financing considerations, and establish and adjust prices and tariffs. The financing of operating expenses is primarily derived from users, reflecting a commitment to financial sustainability through user contributions. This approach ensures that the costs associated with providing water supply and sewage services are covered efficiently.

When investment projects receive public funds, a tariff strategy is employed. This strategy, aligned with a cost-benefit analysis methodology, aims to secure financial support from the state budget and non-reimbursable funds. (Law No. 241, §35(2)) This approach promotes financial stability while aligning with sustainable development and resilience principles. The administrative-territorial unit or inter-community development association is responsible for formulating a tariff strategy spanning at least five years. This strategy, updated as necessary, plays a pivotal role in securing funding for investment projects. It underscores a commitment to long-term planning and resilience in water supply and sewage services. However, to truly align with resilience principles, this planning should be expanded to include specific environmental resilience metrics. For example, infrastructure projects should consider cost-efficiency and their ability to withstand extreme weather events or changing water availability due to climate change.

The pricing structure is designed to discourage excessive consumption while encouraging capital investment. (Law No. 241, §35(6), point c) This dual approach promotes resource conservation and infrastructure development, aligning with sustainable and resilient water management principles. The

structure and level of prices and tariffs aim to guarantee the financial autonomy of operators and ensure the continuity of services. This commitment to economic independence enhances the resilience of water supply and sewage services, fostering stability and adaptability. (Law No. 241, §35(6), point d-e)

The regulatory authority is crucial in approving prices and tariffs, ensuring oversight and adherence to established rules and formulas. This regulatory framework adds an extra layer of accountability and supports the sustainable and resilient functioning of water supply and sewerage services. (Law No. 241, §35(7)) These legislative conditions underscore the necessity of integrating resilience elements, such as financial stability, environmental protection, and social equity, into water management practices.

Governance structures, particularly the role of the A.N.R.S.C. in licensing and regulation, are crucial for ensuring the resilience of water services. However, the existing regulatory framework could benefit from more robust oversight mechanisms, particularly in delegated management scenarios. Ensuring that private operators adhere to resilience benchmarks would enhance the long-term sustainability of water services.

The resilience of water utilities depends not just on physical infrastructure but also on the effectiveness of legal and institutional frameworks. In the case Butane and Dragomir v. Romania, the judgment of the European Court of Human Rights. (Butane and Dragomir v. Romania, Application no. 40067/06) In this case, the applicants were denied access to drinking water for several years after their neighbors cut off the supply. On top of that, the water utility company, Apanova SA, refused to provide a separate connection. Despite the court rulings in their favor, Apanova SA failed to comply, and the state did not enforce the judgments, leaving the applicants without drinking water and sanitation. The European Court of Human Rights found Romania violating Article 6 of the Convention, citing the state's failure to enforce a final legal ruling and protect the applicants' access to water. In this case, the resilience of water utilities depended not just on physical infrastructure but also on the effectiveness of legal and institutional frameworks. (Petrescu, 2014, p.12.) This is why tackling the resilience problem from different angles is so important. Moving forward, ensuring that liability and penalties are aligned with these objectives will be critical in maintaining a water system that is not only sustainable but adaptable to the diverse challenges ahead.

2.5. Liability and penalties

For resilience, it is unimaginable not to discuss the liability and penalties. Violations of the law concerning water and sewage services may result in disciplinary, civil, contraventional, or criminal liability, depending on the nature and severity of the offense. (Law No. 241, §38(1))

Local public administration authorities or inter-community development associations can sanction operators for failure to meet approved performance indicators or other commitments. Sanctions may include penalties reflecting damages caused to users, license withdrawal or suspension by A.N.R.S.C., and even termination of the service management delegation contract. (Law No. 241, §38(2))

Criminal acts in the water supply and sewage service sector include serious water supply and sewage systems pollution and non-compliance with protection zones, punishable by imprisonment or fines. The severity of the punishment reflects the significant impact of these offenses. (Law No. 241, §39(1), point a-b)

Damaging or unauthorized handling of infrastructure affecting service safety and preventing access to key facilities are criminal offenses with intermediate severity, attracting imprisonment or fines. (Law No. 241, §39(2)) Acts constituting contraventions, such as providing the service without approval, improper awarding of management delegation contracts, or unauthorized administration by unlicensed suppliers, result in fines.

Users failing to comply with specific prohibitions as the obligation of users, individuals, and legal entities to connect to existing or newly established public sewerage systems and directly discharge untreated wastewater from adequate individual collection and wastewater treatment systems into surface waters, groundwater, or land, as outlined in Article 31 point(14), face fines. (Law No. 241, §39(5)) Local public administration authorities failing to adhere to specified provisions also face penalties.

3. De lege ferenda

We discussed that resilience can be seen between the lines of the law, as mentioned above. However, we would argue that the explicit integration of resilience into the law would be more productive for durability, adaptability to climate change, and environmental sustainability. We need such provisions; however, we also need to remember that a law that is too rigorous would hinder the scope of resilience altogether. We need to balance the need to incorporate resilience into water services law and the means and how the incorporation is made. We need to maintain a certain level of flexibility in law as well.

Another proposal would be to implement more robust measures for equitable access to water services. We do not deny the fact that the current law provides some aid for financial assistance. However, we argue that we need to target low-income and vulnerable populations more and facilitate anti-discriminatory measures. These measures could be introduced to prevent service disconnections and ensure that all community members, regardless of income or race, have access to water.

Another more tangible de lege ferenda argument would be to assess water pipes more often and thoroughly. This would directly respond to the ongoing monitoring and flexibility argument. This would give an edge to the problem and make it easier to maintain the durability and resilience of water utility services. The data collected when assessing the water systems and pipes would help prioritize problems and fix them quickly, aiding in water security.

A centralized approach from the European Union would be preferable. As we skimmed through the law regarding water utility services in Romania, we noticed that all the amendments regarding sustainability or some aspects of resilience directly responded to EU laws, decrees, and directives, which present the problem of influence. If the EU has such influence over the countries, it should use this to move toward the resilience of the water sector.

The law should establish clear thresholds for water systems and services as a final proposal to ensure better responsiveness and resilience. Doing so can create a more sustainable and adaptable framework for managing these critical resources.

4. Conclusion

The ongoing evolution and adaptation of laws to address unforeseen circumstances demonstrate a commitment to fostering resilience, which is essential for navigating a changing world and ensuring the continued effectiveness of legal mechanisms. But is this too little too late?

In Romania, The Strategy for Sustainable Development reflects a consensus-driven approach to integrating policies, local governments, and stakeholders to implement the 2030 Agenda. One of its key messages is the importance of SDG 6, ensuring the availability and sustainable management of water and sanitation for all. This human-rights-based approach reinforces the need to prioritize resilience in water and sanitation services to ensure equitable access for all citizens. Law 241/2006 establishes a comprehensive framework for water management in Romania, but its effectiveness in ensuring resilient water services remains debatable.

The legal framework governing water supply and sewerage services, as outlined, offers a structure to ensure the efficient management, sustainability, and resilience of these essential services. However, while elements of resilience are evident throughout the legislation, there are areas where its explicit incorporation and prioritization could be improved.

Moreover, the law's framework includes measures for monitoring, control, and penalties for non-compliance. Still, it lacks sufficient focus on proactive risk management and adaptability to future challenges such as climate change and infrastructure degradation.

Furthermore, while the framework promotes economic sustainability, more explicit consideration of resilience's environmental and social dimensions is needed. For example, the text could include provisions for sustainable water resource management, ecosystem protection, and community engagement to enhance the long-term resilience of water services. This requires a holistic approach that considers economic factors, environmental sustainability, social equity, and adaptive capacity to ensure the long-term availability and reliability of essential water resources.

As trends shift from sustainable development to other areas of law, it is crucial to underline the importance of achieving sustainable development goals, building resilient systems with the help of law, and not losing focus even after so many years of research in this field. This topic was, is, and will continue to be one of the most important parts of law today.

Nevertheless, we must remember that the law is just a crutch, not the solution. We need far more than this to keep humanity afloat and ensure that our natural resources are sufficient for us and future generations.

Maintaining a man-made system sustainably is inherently challenging, further highlighting the need to integrate resilience into legal frameworks. Man-made systems are generally complex and difficult to maintain on their own. However, when it comes to water systems, the challenges are even more significant due to the complexity of managing resources, infrastructure, and environmental factors. (Sangmin, 2018)

Finding resilience in water utility services is challenging but not futile. Every instance of resilience underscores the need for further action and exposes the inconsistencies that hinder progress toward sustainability and survival. While it is difficult, it emphasizes a crucial point: After decades of research and trial and error, we struggle to achieve sustainable development. However, with the help of law, we can prepare for the inevitable disturbances we face and make our systems, cities, and ourselves more resilient. Like other countries, Romania is running out of time to address and resolve sustainable development issues. As a final thought, the words of United Nations Secretary-General Kofi Annan from 2001 remain as relevant today as they were then: "Today, the time for a well-planned transition to a sustainable system is running out. We may be running in the right direction, but we are moving too slowly. We are failing in our responsibility to future generations and even to the present one." (Speech delivered in Dhaka, 2001)

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