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THESIS OF THE PhD DISSERTATION

Water Utility Services in Transition:

Legal Perspectives on Ownership, Governance, and Regulation in Hungary and Romania

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DOKTORI (PhD) ÉRTEKEZÉS TÉZISEI

Water Utility Services in Transition: Legal Perspectives on Ownership, Governance, and Regulation in Hungary and Romania

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A DOKTORI ÉRTEKEZÉS TÉZISEINEK RÖVID MAGYAR NYELVŰ ÖSSZEFOGLALÁSA

A doktori értekezés a víziközmű-szolgáltatások tulajdonosi, irányítási és finanszírozási struktúráit vizsgálja, elsősorban Magyarország és Románia összehasonlító elemzésén keresztül. A kutatás abból indul ki, hogy a víziközmű-szolgáltatások működése egyszerre környezetvédelmi, emberi jogi, közszolgáltatási és gazdasági kérdés. A klímaváltozás, az elöregedő infrastruktúra, a megfizethetőség és a növekvő beruházási igények miatt egyre nagyobb jelentősége van annak, hogy a jogi és intézményi rendszerek hosszú távon miként képesek biztosítani a szolgáltatások folyamatosságát és rezilienciáját.

Az európai víziközmű-szolgáltatások szervezése az elmúlt évtizedekben jelentős változásokon ment keresztül. Az államosítás, a decentralizáció, a privatizáció, a remunicipalizáció, a regionalizáció és a recentralizáció különböző formái egyaránt megjelentek. Az értekezés egyik alapvető feltevése ezért az, hogy a tulajdon önmagában nem ad megfelelő magyarázatot a víziközmű-szolgáltatások hosszú távú rezilienciájára. A kutatás a „ki a tulajdonos?” kérdésén túl arra keresi a választ, hogy „hogyan irányítják és szabályozzák a szolgáltatást?”

A kutatás három fő pillérre épül: a tulajdonra, az irányításra és a finanszírozásra. Összehasonlító jogi módszert alkalmaz, amely a dogmatikai és funkcionális elemzést történeti és interdiszciplináris szempontokkal egészíti ki. A vizsgálat középpontjában Magyarország és Románia áll. A két ország hasonló posztszocialista

háttérrel rendelkezik, és ugyanazon európai uniós jogi keret részét képezi, víziközmű-rendszereik azonban eltérő fejlődési irányt követtek. Magyarországon a korábbi fragmentációt és magántőke-részvételt remunicipalizáció, majd fokozódó állami centralizáció követte, míg Romániában elsősorban regionalizációra, önkormányzatok közötti együttműködésre és regionális szolgáltatókra épülő rendszer alakult ki. Az összehasonlító vizsgálatot Franciaország, Németország, Portugália, Olaszország, valamint Anglia és Wales példái egészítik ki.

A kutatás egyik legfontosabb eredménye annak megállapítása, hogy a víziközmű-szolgáltatások tulajdonosi és szervezeti struktúrája hullámszerű, egyes esetekben szinte ciklikus fejlődést mutat. A tulajdonosi formák politikai, gazdasági és társadalmi körülmények hatására változhatnak, ezért a tulajdon nem tekinthető a víziközmű-rendszerek rezilienciáját önmagában meghatározó tényezőnek.

Az értekezés központi eredménye, hogy az irányítás és szabályozás minősége stabilabb magyarázatot ad a víziközmű-szolgáltatások rezilienciájára, mint önmagában a tulajdonforma. Sem a köztulajdon, sem a magántulajdon nem garantál automatikusan reziliens, megfizethető és környezeti szempontból fenntartható szolgáltatást. Ennek vizsgálatára az értekezés hat minőségi mutatót alkalmaz: a szabályozói függetlenséget; a szolgáltatási követelmények kikényszeríthetőségét; a társadalmi részvételt és átláthatóságot; a megfizethetőséget és szociális védelmet; a környezetvédelmi garanciákat; valamint a rezilienciával

és a szolgáltatás folyamatosságával kapcsolatos kötelezettségeket.
A magyar és román rendszer összehasonlítása azt mutatja, hogy eltérő intézményi fejlődési utak hasonló problémákhoz vezethetnek. Magyarországon az állami tulajdon és centralizáció önmagában nem oldja meg az infrastruktúra-finanszírozás, a részvétel, a megfizethetőség és a hosszú távú reziliencia kérdéseit. Romániában a regionalizáció és az európai uniós finanszírozás jelentős infrastruktúra-fejlesztést tett lehetővé, ugyanakkor ezek sem szüntették meg automatikusan a megfizethetőséggel, részvétellel és a jogi követelmények érvényesítésével kapcsolatos hiányosságokat.
A kutatás további eredménye, hogy a finanszírozás az irányítási és szabályozási rendszer szerves részét képezi. A víziközmű-infrastruktúra fenntartása, megújítása, a környezetvédelmi követelmények teljesítése és a klímaadaptáció megfelelő pénzügyi háttér nélkül nem biztosítható. A hosszú távú pénzügyi fenntarthatóság ugyanakkor egyensúlyt követel a költségmegtérülés, a beruházási szükségletek, a környezetvédelmi kötelezettségek és a szolgáltatások megfizethetősége között.
Az összehasonlító elemzés alapján három különösen fontos terület emelhető ki: a reziliencia, a megfizethetőség és a társadalmi részvétel. Az értekezés szerint ezek olyan közös irányítási és szabályozási követelmények alapját képezhetik, amelyek európai szinten is alkalmazhatók anélkül, hogy az Európai Unió egységes tulajdonosi vagy szervezeti modellt írna elő.

Az értekezés végső következtetése szerint a tulajdon változhat, de a megfelelő irányítás és szabályozás iránti igény állandó marad. A víziközmű-szolgáltatások hosszú távú rezilienciájához ezért olyan jogi, intézményi és finanszírozási keretre van szükség, amely a tulajdonosi formától függetlenül képes biztosítani a szolgáltatás folyamatosságát, megfizethetőségét, elszámoltathatóságát, környezeti fenntarthatóságát és a jövőbeli kihívásokhoz való alkalmazkodását.

THESES OF THE DOCTORAL (PHD) DISSERTATION

I. Research Objectives and Research Questions

Water utility services stand at the intersection of environmental protection, human rights, public service regulation and economic governance. Their organisation is increasingly affected by climate change, ageing infrastructure, affordability concerns and growing financing needs. At the same time, European water services have undergone repeated institutional transformations, including nationalisation, decentralisation, privatisation, public–private partnerships, remunicipalisation and recentralisation.

These developments have kept ownership at the centre of the debate. However, the starting point of this dissertation is that the traditional public–private divide does not sufficiently explain the long-term resilience of water utility services. Ownership matters, but it does not operate independently from the legal and institutional framework surrounding it. Ownership structures may change, while the fundamental obligations of water services remain: continuity and quality of supply must be ensured, environmental requirements must be met, infrastructure must be maintained and financed, and access must remain affordable. The dissertation therefore moves beyond the question of who owns the water utility towards the broader question of how the service is governed.

The central objective of the research is to examine the relationship between ownership, governance and financing in determining the resilience of water utility

services. Ownership provides the institutional setting in which services are organised, governance determines the legal and regulatory mechanisms through which they operate, and financing determines whether the obligations imposed on water utilities can be sustained in practice. These three elements are therefore examined as interconnected parts of the same regulatory structure.

A central argument of the dissertation is that ownership in the water sector develops in waves and, in certain cases, almost cyclically. Hungary and Romania provide particularly useful examples. Both share post-socialist legal and institutional backgrounds and operate within the framework of EU law, but their water sectors have followed different trajectories. Hungary moved from fragmentation and private involvement towards remunicipalisation and stronger state centralisation, while Romania developed a regionalised model based on inter-municipal cooperation and strongly supported by EU infrastructure funding.

The research does not seek to determine whether public or private ownership is inherently superior. Instead, it examines whether resilience can be better explained by the quality of the governance framework surrounding the ownership model. In this sense, ownership may change over time, while governance represents the deeper structure through which continuity, accountability and adaptation must be secured.

Resilience is understood not only in environmental terms, but also as a legal and institutional concept. A resilient water utility system must maintain continuity and quality of service, respond to environmental and economic pressures, protect users, support long-term infrastructure

needs and adapt to climate-related risks. The dissertation therefore examines six governance dimensions: regulatory independence; enforceability of service standards; public participation and transparency; affordability and social protection; environmental safeguards; and legal duties concerning adaptation and continuity.

Hungary and Romania constitute the principal case studies. France, Germany, Portugal, Italy and the United Kingdom, particularly England and Wales, provide comparative contrasts representing different configurations of ownership and governance. This broader comparison makes it possible to assess whether similar governance challenges arise under different ownership structures and to place the Hungarian and Romanian developments within wider European trends.

The European legal dimension is also considered. Although Member States retain considerable discretion in organising water utility services, national choices operate within the framework of EU water and environmental law and are complemented by human rights considerations. The dissertation therefore examines the influence of EU law and the European Convention on Human Rights on national water service regulation.

Finally, financing constitutes the third pillar of the analysis. Infrastructure renewal, environmental compliance, climate adaptation and affordability all depend on adequate and sustainable financing. The research therefore examines the relationship between cost recovery and affordability, as well as the role of tariffs, public resources and EU funding. Financing is consequently treated not simply as an economic issue, but

as part of the legal and governance structure of water utility services.

The overall objective is to determine whether a governance-centred approach provides a more durable framework for evaluating European water utility services than an ownership-centred approach alone, and to identify legal mechanisms that can strengthen resilient, affordable, participatory and environmentally sustainable water services.

Against this background, the dissertation addresses the following research questions:

1. What explains the resilience of water utility services in Europe: the legal form of ownership or the quality of governance?
2. How do Hungary and Romania reflect broader European waves of water service organisation from nationalisation to privatisation, remunicipalisation and beyond, and what can be learned from their trajectories in comparison with Western European developments?
3. Which governance mechanisms, including regulatory independence, enforceability of service standards, public participation, affordability measures and environmental safeguards, are most strongly associated with resilient and equitable service delivery?
4. To what extent do the experiences of France, Germany, Portugal, Italy and the United Kingdom confirm or challenge the Hungarian and Romanian trajectories?
5. How, and to what extent, do European Union law and the European Convention on Human Rights

shape national discretion in organising and regulating water utilities?

These questions are connected by one central concern: if ownership structures continue to change, which elements of law and governance can provide continuity and resilience despite those changes? The dissertation addresses this question through the interaction of ownership, governance and financing, moving beyond the traditional public–private divide towards the legal conditions necessary for resilient water utility services.

II. Research Methodology

The methodology of the dissertation was designed to reflect the hybrid nature of water utility services. Water services cannot be examined exclusively through environmental law, public law or economic regulation, as their organisation combines elements of all these fields. The research therefore adopts a comparative legal methodology, combining doctrinal and functional analysis with contextual and interdisciplinary elements. This approach makes it possible to examine not only the formal content of legal rules, but also how different regulatory frameworks respond to comparable problems of service provision, affordability, environmental protection, financing and resilience.

The comparative analysis is structured around the three main pillars of the dissertation: ownership, governance and financing. These pillars provide the framework through which the evolution and current organisation of water utility services are examined. Particular emphasis is placed on governance, since the central hypothesis of the

research is that long-term resilience cannot be explained by ownership structure alone. The methodological framework therefore seeks to identify the legal and institutional mechanisms that continue to influence service performance even when ownership structures change.

1. Functional Comparative Method

The dissertation applies the functional method of comparative law, complemented by doctrinal, historical and contextual analysis. Rather than identifying an abstract "best" ownership model, the research examines how different legal systems respond to common challenges in water utility services, including continuity and quality of supply, affordability, infrastructure financing, environmental compliance and resilience.

Hungary and Romania constitute the two core jurisdictions. Both belong to the continental European legal tradition, underwent significant post-socialist transformations and operate within the common framework of EU law. At the same time, their water sectors developed along considerably different institutional, ownership and financing paths. This combination of common characteristics and divergent development provides the basis for examining both the wave-like evolution of ownership and the relationship between governance and resilience.

The analysis is supplemented by comparative examples from France, Germany, Portugal, Italy and the United Kingdom, particularly England and Wales. These jurisdictions were selected because they represent

different configurations of public and private ownership, regulation and institutional organisation. Their purpose is not to provide an exhaustive overview of European water law, but to place the Hungarian and Romanian developments within a broader European context and test the findings against different institutional models.

The functional comparison is supported by doctrinal legal analysis of EU and national legislation, regulatory instruments and relevant legal frameworks in the fields of water and environmental law, public services, economic regulation and human rights. A historical perspective is also applied to reconstruct the development of water utility systems through periods of fragmentation, private participation, regionalisation, remunicipalisation and centralisation. This allows current structures to be understood as the result of institutional transformation rather than as static legal models.

To provide a systematic basis for comparison, the dissertation develops six qualitative governance indicators: regulatory independence; enforceability of service standards; public participation and transparency; affordability and social protection; environmental safeguards; and resilience duties concerning adaptation and continuity. Each indicator is assessed on a three-point scale from 0 to 2, reflecting its legal development, enforceability and practical implementation. The purpose is not to rank national systems, but to compare different legal arrangements according to the functions they are expected to perform.

The legal analysis is complemented by policy materials from national and international organisations, regulatory authorities and EU institutions. These sources help

connect formal legal rules with their practical operation, particularly in relation to infrastructure investment, affordability, regulatory capacity and environmental compliance.
Finally, the methodology has a normative dimension. The comparative findings provide the basis for *de lege ferenda* proposals and recommendations at national and European level. The objective is not to identify a single ideal ownership model, but to determine which legal and institutional characteristics can support resilient, equitable and environmentally sustainable water utility services across different ownership structures.

III. Scientific Results of the Dissertation

The comparative analysis confirms the central proposition of the dissertation: the resilience of water utility services cannot be adequately explained by the distinction between public and private ownership alone. Ownership remains relevant, but its effects depend on the governance and financing structures within which it operates. The main scientific results can therefore be formulated as follows.

1. Ownership develops in waves and is not a stable determinant of resilience

The research identifies a wave-like, and in some cases almost cyclical, development of ownership and organisational structures in European water services. Hungary moved from public provision through fragmentation and private participation towards remunicipalisation and stronger state centralisation. Romania followed a different path towards

regionalisation, inter-municipal cooperation and regional operators, strongly influenced by EU accession and funding.
The comparative cases confirm that there is no single European direction: different forms of public and private involvement continue to coexist and change over time. Ownership should therefore be understood as a variable rather than a permanent determinant of resilience.

2. Governance provides a more stable explanation of resilience than ownership alone

Neither public nor private ownership automatically produces resilient, equitable or environmentally sustainable water services. Public ownership may support public-interest objectives but cannot compensate for inadequate financing, weak accountability or insufficient infrastructure investment. Private participation may contribute investment and expertise, while creating tensions between profitability, affordability and universal access.
The dissertation therefore identifies governance as the framework through which the advantages and risks of different ownership structures are mediated. Strong governance can provide continuity even when ownership structures change.

3. Resilience can be translated into identifiable legal and governance indicators

The dissertation develops six qualitative indicators for assessing water utility governance: regulatory independence; enforceability of service standards; public

participation and transparency; affordability and social protection; environmental safeguards; and resilience duties concerning adaptation and continuity.
These indicators demonstrate that resilience is not merely an environmental or abstract concept. It can be translated into concrete legal and institutional requirements and used to compare different water-service systems beyond formal ownership categories.

4. Hungary and Romania follow different institutional paths but reveal similar governance weaknesses

Hungary has developed an increasingly centralised and state-led model, while Romania has relied more strongly on regionalisation, inter-municipal cooperation and EU-supported infrastructure investment. Despite these different trajectories, both systems continue to face challenges concerning financing, affordability, participation, enforcement and long-term resilience.
The comparison therefore demonstrates that different ownership and organisational structures can produce similar governance vulnerabilities. Institutional form matters, but does not predetermine outcomes.

5. Financing constitutes a structural condition of water governance

Water infrastructure requires continuous maintenance, long-term investment and sufficient resources for environmental compliance and climate adaptation. Financing can therefore not be separated from the legal and institutional organisation of water services.

Hungary illustrates the pressures created by affordability-oriented tariff policy and insufficient infrastructure investment, while Romania demonstrates both the benefits and limitations of strong reliance on EU funding. The research concludes that financial resilience requires a balance between cost recovery, investment, environmental obligations and affordability.

6. Resilience, affordability and participation are interconnected dimensions of effective water governance

The comparative findings identify resilience, affordability and participation as three particularly important dimensions. Resilience requires enforceable obligations concerning infrastructure, continuity, risk management and adaptation. Affordability requires balancing cost recovery with equitable access, while participation requires more than transparency and formal consultation. These dimensions are interconnected. Long-term resilience cannot be achieved without sustainable financing and affordable access, while both objectives require adequate accountability and meaningful participation.

7. EU water law would benefit from common governance benchmarks while preserving diversity in ownership

The comparative analysis does not support the identification of a single ownership model capable of guaranteeing resilient water services. The dissertation therefore argues for common governance benchmarks

applicable across different ownership structures, particularly in relation to resilience, affordability and participation.

Such an approach could provide a common basis for evaluating national water-service systems without requiring harmonisation of ownership structures. The dissertation accordingly proposes a European governance-based evaluation framework focused on the outcomes that national systems should be capable of securing.

The central conclusion of the research is therefore that ownership may change, but the need for effective governance remains. Rather than choosing between public and private water services, the dissertation reframes the debate around the legal, institutional and financial conditions necessary to ensure continuity, affordability, environmental sustainability, participation and long-term resilience.

IV. Possible Application and Significance of the Results

The results of the dissertation have both scientific and practical significance. Scientifically, the research shifts the focus from the traditional public–private ownership debate towards the interaction between ownership, governance and financing. Practically, it provides a framework for identifying legal and institutional mechanisms capable of strengthening water utility resilience across different ownership structures.

The six governance indicators developed in the dissertation—regulatory independence; enforceability of

service standards; participation and transparency; affordability and social protection; environmental safeguards; and resilience duties—can provide a common basis for comparing national water utility systems. This is particularly relevant within the European Union, where ownership and organisational structures remain diverse. Rather than harmonising ownership, common governance criteria could support national assessment, comparative monitoring and the exchange of regulatory practices.

A further application concerns the legal conceptualisation of resilience. The research demonstrates that resilience can be translated into concrete legal obligations concerning continuity of service, infrastructure maintenance, risk assessment, climate adaptation and long-term planning. This could support the further development of resilience requirements in national legislation and EU water law.

The findings also highlight the importance of affordability and social protection. Cost recovery is necessary for infrastructure investment and environmental compliance, but must be balanced with equitable access to an essential service. More structured affordability mechanisms, including targeted support for vulnerable consumers and systematic monitoring of water expenditure, could contribute to achieving this balance.

Similarly, the research identifies public participation as an area requiring further development. Access to information and formal consultation alone do not necessarily ensure meaningful participation. More institutionalised mechanisms, such as user councils, transparent consultations and requirements to respond to consumer input, could strengthen accountability in decisions

concerning tariffs, infrastructure and long-term service planning.

The dissertation also demonstrates that financing forms part of the governance structure itself. Sustainable water services require a stronger connection between tariff policy, infrastructure investment, environmental obligations and climate adaptation. Long-term financing strategies are therefore necessary to ensure that affordability measures and individual investment programmes do not undermine infrastructure renewal and service continuity.

At the European level, these findings support a governance-centred framework focused particularly on resilience, affordability and participation. Common assessment criteria could allow Member States to evaluate and compare their water utility systems without prescribing whether services should be organised through public, private, municipal, regional or hybrid structures.

The broader significance of the research lies in approaching water utility law as a field in which environmental protection, human rights, public-service regulation and economic sustainability are interconnected. Its practical conclusion follows the central argument of the dissertation: regardless of ownership, the legal framework must ensure continuity, affordability, accountability, environmental protection and adaptation to future pressures.

V. Publications Related to the Dissertation

1. Scientific Publications

Szekeres, Á. (2023), ‘Legal Aspects of the Right to Clean Water and Sanitation Based on Recent ECtHR Cases’, in *XXV. Jogász Doktoranduszok Országos Találkozója*.

Szekeres, Á. (2024), ‘Glimpses of Resilience: Water Services under Law 241/2006 in Romania’, *Multidisciplinary Sciences*. https://doi.org/10.35925/j.multi.2024.2.21.

Szekeres, Á. (2025), ‘From Privatisation to Remunicipalisation: How Returning to Public Control of Water Services Benefits Hungarian Society’, *Journal of Agricultural and Environmental Law*, No. 38.

Szekeres, Á. (2026), ‘The Scope and Limits of Article 9 of the Water Framework Directive: Cost Recovery, Affordability and Water Governance’, *Paneurópske právnické listy / Paneuropean Law Journal*, Vol. IX, No. 1.

Szekeres, Á. (2026), ‘Governing Water after Remunicipalisation: Centralisation and Public Control in Hungary’, *Essays of Faculty of Law University of Pécs. Yearbook of 2025*.

Szekeres, Á. (2026), ‘Administrative Governance of Water Utility Services in the European Union: Between Public Control, Cost Recovery, and Environmental

Obligations', *Perspectives of Law and Public Administration*, Vol. 15, No. 3, December 2026.

Szekeres, Á. (2026), 'Water Services and Environmental Protection: Human Rights and Sustainable Regulation in the EU', in Rakoczy, B. (ed.), *The Interdisciplinary Nature of Environmental Law*.

2. Other Publications Related to the Research Topic

Szekeres, Á. (2025), 'Sustainable Development without Illusions: What Water Law Reveals About the SDGs', Central European Association for Comparative Law, DOI: 10.63189/DKAN4507.

Szekeres, Á. (2025), 'What Water Law Gets Wrong When It Stands Alone', Institutul de Cercetări Biologice Cluj, INCDSB Bucharest.

Szekeres, Á. (2025), 'Water Under Pressure: Why Romanian Water Law Struggles with Resilience', Institutul de Cercetări Biologice Cluj, INCDSB Bucharest.