

# Chronotope, Water Law and Rurality. Unraveling the challenges of implementing the Chilean Rural Sanitation Services Law

Cronotopos, derecho de aguas y ruralidad. Descifrar los desafíos de la implementación de la Ley de Servicios Sanitarios Rurales en Chile

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## Keywords

Chile, drinking water supply, legal geography, rural geography, transition

## ABSTRACT

This study analyzes the regulatory shift that has occurred due to the implementation of the Chilean Rural Sanitation Services Law from a legal geographic perspective. How do the protagonists of the law's relationship with time and space affect the speed of such regulatory transition? This paper, based on a mixed methodology proposed to analyze law in action, demonstrates how the conflicting temporalities of lawmakers, officials from the Superintendence of Sanitation Services (SISS), and leaders of Rural Sanitation Services (RSS) impede this regulatory transition and alter its objectives by (re)producing heterogeneous ways of distributing drinking water.

## Palabras clave

Chile, servicio de agua potable, geografía legal, geografía rural, transición

## RESUMEN

Este artículo analiza el cambio regulatorio que ha ocurrido con la implementación de la Ley de Servicios Sanitarios Rurales en Chile desde una perspectiva de geografía legal. ¿Cómo afecta la relación de los protagonistas de la ley con el tiempo y el espacio al ritmo esta transición normativa? Este artículo, basado en una metodología mixta para analizar la ley en acción, demuestra cómo las temporalidades conflictivas entre los legisladores, los funcionarios de la Superintendencia de Servicios Sanitarios (SISS) y los líderes de los Servicios Sanitarios Rurales (SSR) impiden esta transición normativa y alteran sus objetivos al (re)producir formas heterogéneas de distribución del agua potable.

## Introduction

This study examines the regulatory transformation that has taken place due to the enactment of the Chilean Rural Sanitation Services Law, from a legal geographic viewpoint. Few studies have examined the rates of environmental change; therefore, it is necessary to provide empirical understanding and evidence on the speed of the various stages (Commaille et al., 2014; Turnheim et al., 2020). Our study offers insights into the pace at which transitions occur. We explore the speed of the water regulatory transition in Chile by examining the connection between the actors involved in its implementation over time and space, using the Rural Sanitation Services Law as the foundation for this analysis.

Chile is experiencing major political, social, and ecological changes. President Gabriel Boric, who took office in March 2022, portrayed his administration as the first ecological government of the country's history. One of his administration's goals is to implement a "fair water transition" whose cornerstone is the application of the Rural Sanitation Services Law (No. 20,998). His aim was to make the supply of drinking water in rural areas more efficient, as access to such resources is highly uneven (Nicolas-Artero et al., 2022), partly due to the lack of a regulatory framework. The regulation of water services at the local level is governed by various laws, such as the Neighbourhood Council Law, Cooperatives Law, and Condominium Law. We refer to this phenomenon as legal spatialities in water distribution, which are spatial distribution areas that have a particular legal framework and management regulations. This paper demonstrates that despite the law's aim to equalize drinking water distribution in rural areas, the temporal and spatial aspects of its implementation result in the (re)production of diverse legal spatialities.

Water transition aims to bolster operators responsible for drinking water distribution in rural areas facing extreme water scarcity (Garreaud et al., 2020). Since 1989, the Urban Sanitation Services Law (Decree-Law No. 82) has left drinking water provision in rural areas in a legal limbo. Since then, the State has continued to carry out the Rural Drinking Water Program, which was established in 1964 and funded by the Inter-American Development Bank (Nelson-Núñez et al., 2019). Through this Program, the State provides financial support for basic social and technical supply systems (pits, ponds, and the network) and entrusts its management to committees and cooperatives created by the residents. Some of these organizations are regulated by either the 1973 Cooperatives Law (No.

20,337) or the 1995 Neighbourhood Council Law (No. 19,418). At the same time, many of these organizations are not regulated by any laws and operate at the city or neighborhood level without any financial assistance or instruction. This diversity has resulted in disparities in service quality (Fuster & Donoso, 2018).

Starting in 2010, representatives of rural water organizations at the national and regional levels collaborated with political leaders and experts to draft a law governing the sector. The aim was to assist any organizations that requested it and to recognize the uniqueness of non-profit community water management (Dupuits, 2020; Nicolas Artero, 2016). The Rural Sanitation Services Law was not passed until 2017, and only took effect after the regulations were published in 2021. Additionally, representatives of rural water organizations have asked for a report on its utilization by 2022. The discussion surrounding this report is intriguing because it examines the elements that shape the speed of regulatory changes. This study draws on the theoretical and conceptual frameworks of legal geography to emphasize the spatial and temporal aspects of the law's implementation (Blomley, 1994).

This study contributes to legal geography by examining the links between time, space, and law, as proposed by Valverde (2014, 2015), using the concept of chronotope. We show that the connections between time and the key players involved in the implementation of the law and the remoteness of rural areas impede regulatory change and (re)produce diverse legal spatialities. The timeline set by legislators follows a linear progression in time that is disconnected from the local conditions. Legislators' goals and prescriptions reveal ignorance of the material conditions under which the superintendence of sanitation service (SISS) officials and rural sanitation service (RSS) leaders live and work. Denying these realities reveals a contraction in the thickness of time according to the law. However, this thickness reemerges in the law's application processes with a surge of tensions, contradictions, and conflicts that slow down its application.

These findings contribute to the existing body of knowledge on water policies and the neoliberalization of drinking water management. Research has demonstrated that the power dynamics or alliances of stakeholders and the knowledge they bring to the table shape the implementation of water policy. Our findings suggest that the connections among the law's protagonists, time, and space determine its implementation. The speed of regulatory transition is affected not only by the distance between rural water organizations and SISS representatives, but also by the

territorial dynamics of rural regions. Moreover, this study demonstrates that the law could not only be detrimental to water community management but the state also lacks the necessary resources to enforce it. Furthermore, we demonstrate that high-ranking officials—cognizant of the social and spatial difficulties in enforcing the law—make decisions to fulfill the mandate of the law, which results in dividing public action and altering the original intent of the law, thus perpetuating a diversity of legal spatialities.

In the first section, we introduce the conceptual approach used to map water regulatory transitions. We present debates around the regulatory policies governing water distribution services and place our analysis in the literature that has studied the space-time dimension of legal proceedings. The second section describes the methodology used to map the law of action. The third section reveals the main results obtained, and in the fourth section, we discuss our findings. Finally, the fifth section concludes the study.

## The geography of water transitions

### Legal spatialities in drinking water distribution

Water policies have been addressed in many studies from various disciplines in the social sciences. In most southern countries, state entities or state-owned companies supply drinking water distribution services (Schneier-Madanes, 2010). Since the 1980s, with the implementation of neoliberal thinking in public policies based on French or English models, services have been delegated or given under a concession to private companies (Barraqué, 2014; Jaglin & Zérah 2010). However, while the dissemination of a privatization model of public drinking water services can be observed, these services have been regulated in diverse ways (Bakker, 2003). Services have been delegated or given under a concession to private parties as part of processes with a local touch, thus creating hybrid regulatory models (Baron, 2005; Baron & Bonnassieux, 2013). Service privatization has followed multiple roads, revealing local adaptations based on national institutional knowledge and tradition, the relations of power between the different main players of the water industry (Poupeau, 2019), and movements resisting privatization (Mayaux, 2017) so much so that, in some cities, these services have been renationalized or retaken by municipal governments (Buenos Aires, Uruguay, Cochabamba) (Taks, 2008; Uhel, 2019).

Criticism of service operations by transnational private companies has delegitimized privatization processes across several cities in the world, particularly in Latin America. Currently, the scope and limits of this renationalization

and remunicipalization are the subject of much research (Bel, 2020; McDonald, 2018; McDonald & Swyngedouw, 2019; Warner, 2021). Such criticism has confirmed the need to overcome the division between public and private, as the operator's legal status does not ensure affordable or universal access to distribution services (Poupeau & Lorrain, 2019). The management practices set in place by operators are what matters (Barone & Mayaux, 2019). Neo-managerial practices seeking profitability and efficiency in production processes, inherent in private companies, have gradually become a part of the practices of community or public operators (Barone et al., 2018; Dupuits, 2020). In this regard, the evolution of community organizations entrusted with service provision in rural areas illustrates these transitions toward neo-management (Nicolas-Artero, 2016). Additionally, when infrastructure is neglected or economic issues arise, the tendency is to evaluate the bureaucratization of community management and implement a tariff increase to finance new investments, using urban management and businesses as examples (Swyngedouw, 2004).

Chile has not been exempt from these changes in water and water service management. In the early 1990s, the privatization of the services managed by the National Sanitation Works Service (SENDOS) across the (at that time) 11 regions of the country was driven by the World Bank with the purpose of improving drinking water and sanitation coverage and splitting the roles of policy regulation, on the one hand, and management, on the other (Pflieger & Matthieussent, 2008). Law No. 18,902 of 1990 created the Superintendence of Sanitation Services (SISS), a new independent authority entrusted with technical, economic, and tariff regulations. Additionally, the 11 regional offices of the SENDOS have been replaced by public and autonomous regional companies (Pflieger, 2008). SENDOS's capital stock was eventually sold to foreign companies from 1995. Since then, the SISS has set tariffs to secure an adequate amount that covers management expenses (Molinos-Senante & González, 2019).

One of the effects of these urban and rural water policies was that the distribution service shattered, and that multiple ways of accessing water arose across the national territory (Nicolas-Artero et al., 2022). On the one hand, in peri-urban areas, real estate agencies created private sanitation companies to ensure the profitability of their projects, in the context of liberalization of soil use (Lukas et al., 2020; Pflieger, 2008). On the other hand, in the same urban concession area, inequalities have arisen in terms of service quality and water consumption rooted in sharp tariff increases (Durán, 2015). Meanwhile, by applying the Rural Drinking Water Program (APR, for

its Spanish acronym) implemented by the Ministry of Health, the Ministry of Public Works funded drinking water systems in the most densely populated cities. In many other towns, residents organize themselves to install a distribution network among neighbors from a collective water collection point. Only some of these organizations received support from municipalities or regional funds. All of them funded the infrastructure installation costs collectively, but only some of them were regulated under the Neighborhood Law or the Cooperatives Law (Nicolas-Artero et al., 2022). In parallel, in urban condominiums and rural residential properties, residents hired an administrator who managed collective services, including water distribution, under Law No. 21,442 on Co-Ownership of Real Property (Lukas et al., 2020).

From the 2010s onwards, the regulatory framework governing sanitation service management began to be put into question. Supply issues (water outages, lack of pressure, scarcity, and cloudiness) have skyrocketed in rural areas (Budds, 2012; Delgado et al., 2020; Panez-Pinto et al., 2017). The lack of knowledge and state support explains the fragility of the services operated by organizations under the APR Program (Fuster & Donoso, 2018). For many leaders, this *patchwork*—that is, the improvisation resulting from having only their resources to provide the service—guarantees the survival of the distribution service (Pineda et al., 2022). Water scarcity, resulting in water hoarding by some users and the impact of climate change, has exhausted water sources in rural organizations (Barria et al., 2021; Bravo et al., 2019). Water distribution through trucks serves as a solution and is part of the daily lives of many organizations and residents (Fragkou et al., 2022). Faced with these difficulties, national and regional representatives of rural water organizations requested the enactment of a law that would regulate the sector. After ten years of negotiations, the Rural Sanitation Services Law was published. Its official purpose is to set a regulatory framework for all operators in rural areas and foster rural sanitation in the most densely populated towns. In theory, the law is supposed to restrict service fragmentation and treatment inequalities by the state by subjecting all operators to the same law, thereby providing indiscriminate treatment. However, our research reveals that social and spatial hurdles in the application of the law deviate from their purpose.

### The paces of water transitions

Public decision makers are increasingly utilizing the concept of the “transition”. Social sciences uses the concept of environmental transitions to explain or analyze current

political and social transformations. The speeds of these transitions may differ; however, in general, their outlines and goals are established, and they are malleable and predictable. Much research has assessed whether they achieve their goals from the viewpoint of the institutions entrusted with the application of new environmental regulations. The relations of power between players and institutions account for the redirection of the purposes pursued with those initially intended (Smith & Kern, 2009). The coalitions and knowledge set into motion by the protagonists of the transitions also influence the selection and application of the public action instruments necessary to carry them out (Poupeau, 2019; Poupeau et al., 2020). Several studies have challenged the idea of justice based on the understanding of the justice that players possess (Heffron & McCauley, 2018; Luke, 2022). However, few studies have addressed the speed at which these transitions occur (Commaille et al., 2014). Furthermore, several authors have underscored the need to provide empirical evidence on the pace of their different stages (Turnheim et al., 2020). Our study contributes to the literature on transitions by providing a reflection on the time at which transitions move forward. Based on empirical research, we unearth the pace of the water regulatory transition in Chile from an analysis of the relationship between the players involved in their application with time and space, using the case of the Rural Sanitation Services Law as the basis for such analysis.

We used the methodological and theoretical tools of legal geography to analyze regulatory transition processes (Bridge et al., 2013; Heffron & McCauley, 2018). This line of thought analyzes the relations between society, space, and law (Blomley, 1994; Braverman et al., 2014), and it is structured around two primary hypotheses: first, that the law has an impact on the production of space; and second, that space plays a central role in the construction and application of legal rules (Robinson & Graham, 2018). This makes it possible to avoid all legal formalities—understood as the fact of conceiving law as something independent from the social world—or all legal instrumentality, construed as the act of assuming that law is an instrument used by ruling groups to assert their dominance (Bourdieu, 1986). The literature on drinking water service privatization tends to reproduce one of these two viewpoints. This article contributes to legal geography and studies on drinking water services by analyzing the spatial dimension of the application process of the Rural Sanitation Services Law. Based on this approach, this study portrays the roles of the different players involved and their relationship with law and space in the troublesome application of such law.

In this regard, legal geography has gained interest in interweaving between time, space, and law. From this standpoint, Valverde has analyzed the spatio-temporal pluralism of legal proceedings and legal thought (Benda-Beckmann & Turner, 2018; Beynon-Jones & Grabham, 2019; Delaney, 2015; Fisher et al., 2022). Valverde contributes to the concept of the “chronotope of law” to legal geography. This concept allows us to understand the space-time combinations created by the application of the law that defines distinguished systems of jurisdiction and governance. The notion of chronotope comes from thinker Mikhaïl Bakhtin, who implemented it in his classification of literary genre with the purpose of “analyzing how the temporal and the spatial dimensions of life and governance affect each other” (Valverde, 2014, p.61).

This notion is not new in geographical studies but has been used in several contexts (Osman & Muliček, 2017). Mariana Valverde (2015) engages in a dialogue between this concept and legal geography to explore how spatiality impacts the temporalization of legal proceedings and how the relationship between time and participants shapes legal spatialities. While Valverde elaborates on two examples—the Canadian Supreme Court appealing to the “honor of the Crown” to acknowledge territorial rights to the indigenous population and the legal formula of the “single family detached” which presupposes the preeminence of nuclear families in urban law—her proposal is more of a theoretical sort. This article builds on the reflection of the spatiotemporal dimension of governance from an empirical investigation focused on studying law-in-action based on a case, that is, the enforcement of Rural Sanitation Services Law.

The RSS Law’s regulatory transition set up changes and stages to govern water distribution service operators in rural areas, thereby limiting the diversity of legal spatialities in water distribution. This article dives into the pace of regulatory transition; in other words, the progress, halts, and setbacks involved in the application of the law. It analyzes the way in which space and the relation of players with time influence such pace and shows how the temporalities of the protagonists of its application and spatial localization impact the regulatory transition and (re)produce legal spatialities in connection with water distribution.

## Materials and methods

The research methodology was based on the collection and analysis of qualitative data. A multiscale approach was adopted to study the historical, geographical, and legal

processes involved in the application of the RSS Law to explore how relations with time have participated in the joint production of law and space. To do so, a regulatory corpus was created and combined with interviews carried out with a representative sample of protagonists involved in the application of the SSR Law.

The regulatory corpus is composed of three texts: Law No. 20,998, which governs rural sanitation services (dated 14 February 2017); Decree No. 50, which includes the laws’ regulations (dated 19 October 2020); and Law No. 21,401 (dated 28 December 2021), which amends Law No. 20,998—governing rural sanitation services—to improve its application and enforcement considering the effects of the COVID-19 pandemic. Furthermore, five manuals on the application of the law drafted by the SISS and addressed to rural drinking water operators were consulted.

The representative sample of key players in the enforcement of the law included officials entrusted with the administration of the law at the Superintendence of Sanitation Services at the national level (2), regional SISS officials (14), and leaders of ten rural water organizations (20). These organizations were selected to represent the heterogeneity of service management models in rural Chile. Representatives of rural water organizations that played a central role in the drafting of Law No. 20,998 and in requesting a report on its application were interviewed (2).

This methodology served two purposes: to identify the relationship between time and space with such players, and to understand the spatial dimensions influencing its enforcement. On the one hand, the interviews sought to identify mentions by players to “temporality” and then, intertwine the different temporalities with one another. On the other hand, interviewees were broadly asked about the difficulties in enforcing the law to later identify the spatial elements influencing such difficulties. The semi-directive interviews were open: while they guided the discussions about the weight of time and space implementing the law, interviewees always had some degree of freedom to emphasize any aspect they considered relevant.

Next, a discourse analysis was performed on *ATLAS.ti* software using the following codes: “changes produced by the law,” “temporality set for the SISS,” “modernization of organizations,” “institutional means for its application.” The coding system was defined following the first reading of the interviews. Mentions of law by the players were confronted with an analysis of the contents of the legal texts mentioned above. The focus was placed on the contents of the legal rules and on the stages set by lawmakers to

enforce the law. Based on this analysis, a chronology was created, and the weight of temporal and spatial dimensions on the progress, halts, and setbacks involved in the application of the RSS Law was assessed.

## Results

### The time thickness of regulatory transition

The results show that the regulatory transition is formed by three overlapping and simultaneous temporalities. The stages in which to enforce the law, defined by lawmakers, sought to change the practices of SISS officials and rural organizations. These two players started two transitions, the purpose of which was to take on new positions and modernize their service management.

#### a. The milestones of the law's application as defined by the lawmakers

The regulatory transition was structured around the relation with the time of the lawmakers entrusted with the definition of the stages in which to implement the law. Their perception of time was crystallized in the dates set to carry out the regulatory transition, which was written in the law. In this transition, it is important to distinguish the stages of law drafting and enforcement, on the one hand, and the social change pursued, on the other.

As for the stages, the law was published in 2017 after ten years of making. Promoted by the first administration of Michelle Bachelet, the administration that followed—that of Sebastián Piñera—introduced fundamental changes that did not secure the consensus of lawmakers and representatives of rural water organizations. These disagreements account for the lengthy drafting process and the ensuing debate around the wording of regulations and their eventual and current enforcement. The law was ineffective until two years after its creation, with the publication of regulations on 19 October 2021. Such regulations provide rules that guide the transition from one legal system to another and provisions to implement the law.

The entry into force of the law triggered two transitions, which defined the goals and processes necessary to achieve them for two categories of players: the leaders of rural water organizations and the SISS. From 19 October 2021 all rural water organizations known to the state became, by operation of law, Rural Sanitation Services. Those that had been previously in charge of those services would automatically hold a license to formally become service “operators”. Furthermore, the regulations provided that

two years after their publications, the SRRs had two years to become operators recognized by the state. For them to have such authorization, they were required to secure legal status, define their concession area, and observe several formal requirements, including the application of the tariff set by the SISS. As for the SISS itself, from this date onwards, it was granted oversight and sanctioning powers vis-à-vis rural water organizations. In addition, it had one year to set drinking water tariffs, which was the same term granted to urban operators.

#### b. The stages to prepare oversight activities by the SISS

The RSS Law sets the dates and new powers for SISS officials. From the publication of the regulations, such institutions, with representatives at the regional level, have been in charge of overseeing and setting tariffs not only for Urban Sanitation Services but also for Rural Sanitation Services. Amidst the transition in which it operates, different stages are observed to organize these new powers.

In the first stage, the SISS was supposed to issue—a year after the publication of the regulations—manuals to convey the law requirements to the RSS. In these manuals, the SISS also informs rural operators about the criteria to be evaluated and supervised. The five manuals encompassed the following subjects: service continuity, water pressure, sewer drainage continuity, customer service, and rural sanitation service billing. In the second stage, SISS officials were supposed to organize dissemination and socialization activities to deliver manuals to all the RSS identified within its region.

Moreover, the SISS had one year to set the tariffs applicable to each RSS, considering their unique technical and geographical features. Sometimes, SISS is allowed to group services based on similar conditions such as size. As with urban sanitation services, tariffs should always allow operators to recover at least operation costs and, eventually, maintenance costs.

Finally, officials are supposed to oversee the RSS, that is, supervise compliance with regulatory requirements and issue sanctions upon a breach. The RSS should maintain a detailed record of service outages and let users know of any scheduled service interruptions. In this case, control by SISS is exercised by requesting a copy of the full record and a copy of the documents warning users against service interruption.

### c. The modernization of community organizations

This Law prompts a change in the management practices of RSS leaders. From 19 October 2021 the organizations that were in charge of those services automatically got a license to formally become “operators”. However, after two years, the RSS must meet the requirements set out in the law to become operators recognized by the state.

Meeting these new requirements entails modernizing management practices through new technologies. An RSS should ensure service continuity and minimum pressure levels<sup>1</sup>. To achieve this, they must maintain a record of service interruptions and water production. Upon any low-pressure complaint, the RSS is supposed to enable a pressure control point and submit the record of this data to the SISS. Furthermore, in most densely populated areas, RSS is bound to ensure sewer drainage continuity, except upon *force majeure*, unforeseen, or scheduled events, and to keep a record of obstructions. The RSS must apply tariffs set by the SISS and install meters to assess the level of consumption per connection. It also involves issuing and delivering bills or invoices to collect payments through an Online Billing System.

In this regard, RSS is required to install IT systems and have internet connections. Computerizing management practices is also a requirement for improving user relationships. For example, the law requires that a customer service office or address be set with office hours, that information and communication are set in place to receive requests, and that remote customer service is also available through email. The time to reply to each complaint or request was set at 20 business days. For the SISS to control these requirements, RSS leaders should create a record for each case whether digitally or manually. Computerization also enables fluent communication between SISS and RSS.

#### Rural isolation: a halt to regulatory transition

Faced with all these new requirements, in August 2021, the national representatives of rural water organizations requested a report on the application of the law. Three months later, Law No. 21,401 was passed on, reporting its application for one year. It is worth noting that only the application of articles related to oversight, sanctioning, and tariff setting activities by the SISS was reported, which began on 20 November 2022. In addition, the RSS was given one more year to become an operator, extending the deadline to October 2026.

### Difficulties faced by RSS

Representatives of rural water organizations requested the rescheduling of the stages in which to apply the law as set out by the lawmakers to have time to adapt to the new rules. Three arguments were put forward to ground the request: the isolation of the leaders of rural towns being a key element in the three grounds submitted. First, they criticized the lack of information about the contents of the law and the new legal requirements. This lack of information is explained by the distance between rural areas and the regional capital cities where SISS offices are located. This lack of information coupled with a lack of communication between organizational leaders and the SISS due to their mutual ignorance, a digital gap between rural and urban spaces, and poor telecommunication means in some areas. Many organizations did not receive information about the law or consult manuals prepared by the SISS when the law was about to be enforced.

- And have they come to talk to you about the new law and its implementation?

-At least not to me, and as far as I know, not before either. I intend to request an appointment with the DOH sometime next week to introduce myself and get a lot of documentation because I do not know if they are aware that there has been a change of directive. I need them to give me information that I can't find on the website and that I don't have access to. I do not see many manuals and protocols. (SSR, Chaihuín, Región de los Ríos)

When the organizations received information, they were not given much consideration by the leaders:

-And have people from the MOP or anyone else come to explain the law?

-Yes, they come, but they leave us with tasks. They are in charge of the transition to applying the law. They tell you... The law is this... White, blue, and red, and you have to do yellow, green, or blue. But that's it. They could not impose anything because of their technical assistance. (SSR, Petorca, Región de Valparaíso)

The second argument presented by the organizations was that amidst the pandemic, it was impossible for them to hold in-person assemblies and meetings to collectively come up with a way to adapt and respond to the new requirements. The difficulties in holding meetings were

<sup>1</sup> Services built before 2020 are to have a minimum pressure of 15 water column meters (1.5 bar) and a maximum pressure of 70 wcm.

greater in rural spaces where collective transport services were suspended. Moreover, their suspension lingered because of the lengthy restrictions imposed by the pandemic in the country until March 2022.

Yes, the last assembly meeting, held once a year, was before the pandemic. After the pandemic, we could not hold an assembly because the state of catastrophe did not allow it because of high crowds. (SSR, Chicureo, Región Metropolitana)

The changes in the type of participation since the pandemic, such as via WhatsApp, have made it difficult to return to in-person meetings and have sometimes led to the exclusion of non-connected populations from community discussions:

Due to the pandemic, a meeting was held in September. Almost 200 members were referred to these meetings. At the first meeting, 40 people attended, the second had 30 attendees, and the last had 15 attendees. I'm not sure if it was because of the timing, but I believe it's because people are not interested. This is about how we communicate about the situation. People prefer to receive a physical notice for meetings rather than through WhatsApp. I will have to reactivate this method because not all neighbours have WhatsApp. Besides, the signal here is poor, and most of the residents are elderly. (SSR, Chaihuín, Región de los Ríos)

Finally, the representatives underscored the difficulties involved in introducing the requested changes, such as computerizing and digitalizing processes, and using new technology (water pressure, meters). These difficulties worsen in the case of organizations whose leaders have lower levels of education, are poorly trained, or have scarce economic resources.

The law is devastating for small APRs, given all the requirements and constructions that we will demand. For example, the issue of pricing is complex for people. Even the issue of electronic billing was complex for people without the Internet. Fortunately, we did the training and bought the software. Not everyone is so lucky, and a certain level of knowledge is required to take that technological step. (SSR, Ranquil, Región de Ñuble)

Thus, rural isolation and geographical distance slow the modernisation expected from management practices because of a lack of information, communication, education, means, and resources.

### An opportunity for SISS officials

While the request to put off the application of the law was submitted by organisation representatives, such postponement swiftly presents itself as an opportunity for SISS officials: they buy time to take on their new responsibilities. The location of these officials in regional capitals away from rural organizations has hindered both the sharing of information (dissemination of manuals and on-site meetings) and the commencement of oversight activities (visits) and tariff setting, which depend on securing service data (number of connections, water production, consumption levels, losses, and state of the infrastructure, among others). In this context, the report of the law, which interrupted regulatory transition, allowed the SISS to devote time to share manuals with different RSS and gather information on them.

Furthermore, regional SISS officials are unaware of all the RSS present in their region; they do not have contact details or their geographical location. They only had information about the organizations created under the APR Program. To solve this, the national SISS hired a consulting firm to identify the different distribution services across rural areas within each region of the country. Thus, the report of the law gave the firm more time to create an RSS cadaster.

Regarding the survey, we identified approximately 3,400 services between the MOP and basic services. This differs from the 2,200 that the MOP has, and there are 1,200 that must be licenced and identified. We do not have resources for comprehensive oversight, so we will focus our inspections on those with water issues and those with service quality problems. (SSR Director at the National SISS)

In addition, the regional divisions of the SISS do not have sufficient human and technical resources to visit all organizations in their region. While new officials have been hired, they are not enough against the number of new services that require oversight. This couples with how scattered and remotely located RSS are: on-site visits in automobiles that take more than a day are hard and difficult to implement. Moreover, in some regions, access by SISS officials is hindered by conflicts with indigenous people. This is also the case in the La Araucanía Region, where state vans have been the target of aggression. The interviewed SISS officials refused to enter these territories without a protocol that ensured their safety.

There are minimal situations. For example, in Araucanía, I have four inspectors. Until last year, I had 3, and



one additional inspector was incorporated due to the SSR issue. There are 350 APRs to inspect, and they assign one person per 100 km, so we are already overwhelmed in the urban area. Now, the problem is that we need to operate in rural areas and go to complex sectors. There is a complex triangle among Malleco, Los Sauces, and Victoria, where practically no one goes. We are being asked to inspect the sewage discharge from the Malleco treatment area. I don't have any protocol that allows me to refuse, but we are not going to conduct that inspection because it is too risky. This situation, at least in Araucanía, has prevented us from entering the field. We have been solving this with the support of other agencies that have been present because the DOH has a historical presence. (SISS Director, Región de La Araucanía)

Thus, the physical and social distance between SISS officials and the rural population, and the political relations between urban and rural spaces have become obstacles to regulatory transitions.

The reality on the ground is that you often find an operator with secondary education, who usually does not have knowledge of water management. Resources are extremely scarce and the vast majority do not have computers. Of the 150 APRs, we conducted a survey and identified 80 that were the most at-risk. Of those 80, 30 have problems with chlorine levels, where chlorination is precarious. It is an unknown world that we are entering, where major conflicts up to today are more social than technical. We encountered several social issues. (SISS Director, Región de Los Ríos)

### Toward the (re)production of legal spatialities

Distance and the large number of Rural Sanitation Services not only make oversight more difficult, slowing regulatory transition, but also shift the purpose of the law. If the RSS Law was created to set a regulatory framework that would bring all rural water organizations together, in practice, such a law has not achieved such integration due to SISS officials' inability to get to know and reach all RSS (Table 1).

Paradoxically, the strategies implemented by the SISS to enforce the law despite socio-spatial difficulties would be (re)producing a multiplicity of legal spatialities (Figure 1) in drinking water distribution. The application process under study shows that the RSS governed by law and others that are not governed by law coexist and will continue to do so.

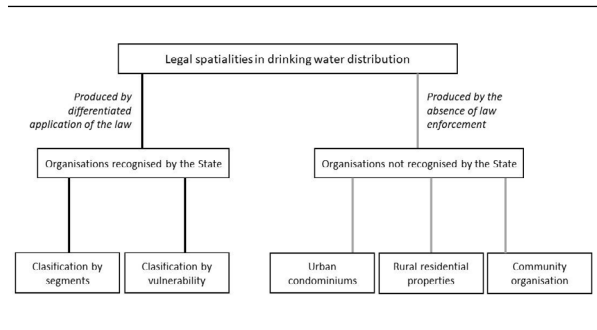
**Table 1**  
Number of RSS by region

Region	Number of RSS				Total*
	Without classification	Small	Medium	Large	
Arica et Parinacota	1	25	5	1	32
Tarapacá	1	20	2	1	25
Antofagasta	1	13	1	2	18
Atacama	2	39	6		48
Coquimbo	9	41	148	13	216
Valparaíso	3	141	32	27	212
Metropolitana	1	46	28	33	114
O'Higgins	0	81	76	61	220
Maule	2	194	82	54	303
Ñuble	7	186	34	15	237
Biobío	9	126	32	16	185
Araucanía	25	262	30	16	285
Los Ríos	15	104	22	11	151
Los Lagos	31	184	36	18	265
Aysén	4	37	5	1	46
Magallanes	11	0	0	0	11

Source: Visualizador de Servicios Sanitarios Rurales and Informe de gestión de la SISS 2022.

While the law expressly states that from its effective date, and by operation of law, every organization becomes a Rural Sanitation Service and obtains a licence, the law applies only to organizations known to the SISS. In other words, such mention is restricted, in practice, to organizations that are part of the SISS database, mostly those that received somestate support (APR Program, regional funds), which amounted to approximately 2368 organizations (SISS, 2022). Furthermore, upon defining the goals of the consulting firm, its client, the SISS, decided not to include organizations in private condominiums or rural residential plots of land (*parcelas de agrado*) because of the difficulty involved in securing information and data on them. With this decision, condominiums and rural residential plots of land were excluded from the law.

Figure 1. Production of legal spatialities



To some extent, the lawmakers anticipated the difficulties involved in overseeing all the organizations and consequently adapted the regulations, such as grouping regulatory requirements according to the size of the organizations, defined based on the number of residential connections they have. The law and its regulations<sup>2</sup> classify services into three segments: small (up to 300 connections), medium (between 301 and 600), and large (601 or more) (Table 1). The control and number of requirements demanded by the SISS are different for each organization, and it is assumed that the largest services will require less follow-up, control, and support by the state. Thus, by including segmentation in the regulations, lawmakers reproduced fragmentation in public action.

This fragmentation worsens with strategies unfolded by SISS officials faced with the spatial difficulties involved in their oversight duties. The national SISS has decided to focus on oversight activities based on rural sanitation services. Specifically, it prioritizes its intervention when organizations are more vulnerable and therefore require more support and attention. To do this, the SISS carried out a vulnerability diagnosis that sets some criteria to classify known RSS and select those that will be visited earlier. The SISS official in charge of applying the law at the national level explained the methodology used as follows:

Could you please explain the work being done to identify the most vulnerable?

The vulnerability diagnosis is based on the following criteria: water scarcity, quality, contributions by water trucks, and the presence of operational issues. These criteria are used with the available information, which is not as robust as is desired. They are then brought together and weighed, assigning a higher score to the services featuring water scarcity, so they come up as

a priority. The idea of the diagnosis is to prioritize the services we will oversee in the first stage and to supervise those with water issues and other types of problems, such as quality or water truck supply.

The solution to prioritize the most vulnerable RSS in oversight activities means that state presence will be restricted to certain territories and rural areas. Since the SISS is entrusted with such oversight, its regional officials ultimately represent the visible face of state and legal applications. By restricting their presence to certain areas, SISS officials are producers of state absence in many spaces where, consequently, the law will not be applied. This builds on the reproduction of heterogeneous legal spatialities in water distribution: in the national territory, “operator” RSS will coexist with those unable to become operators, services unidentified by the SISS and those operating in condominiums and rural residential plots of land.

## Discussion

The analysis of the overlap between space, time, and law applied to the study of the enforcement of the RSS Law makes it possible to observe the coexistence of three players whose actions influence the pace of the regulatory transition. The discourses of lawmakers, SISS officials, and RSS leaders reveal three relationships with time and space. Referring to the notion of the Mariana Valverde, three chronotopes of law coexist in the legal application process. The analysis of the relationships between the three players sheds light on the fact that the three chronotopes do not share the same degree of influence on the legal process. The timeline defined by lawmakers imposes on the practices of SISS officials and RSS leaders. They define their roles in the transition by setting the goals and stages to be observed. In this regard, the imposition of the timeline defined by lawmakers produced a “downward”, following a linear development detached from institutional and local realities.

The purposes and prescriptions anchored in that timeline shows lawmakers’ ignorance of the material realities experienced by both SISS officials and RSS leaders. The requirement to oversee around 3,000 new RSS by regional SISS officials reveals ignorance of the human, material, and economic resources available to such institutions at the regional level. It also shows a complete disregard for the distance separating SISS offices from RSS offices in rural areas and for the territorial and political dynamics

<sup>2</sup> Article 70, Chapter 2 of the Law, and Article 106 of the Regulations.

present in the rural regions. This is coupled with a lack of knowledge about the human, economic, and technical resources available to rural areas, where the poorest families in the country live. Demands for modernization in the management practices of residents working voluntarily without education, training, or financial support leads to inconformity among many leaders. The lawmakers' denial of these social and political realities leads to contracting the thickness of time in the law. This thickness reappears and takes its proper course in the processes of law enforcement, where tensions, contradictions, and conflicts arise, slowing it down.

Our case study shows that it is not the relations of power between players, the traditions of institutions, the coalitions of players, or the knowledge setting all them into motion that influences and guides the application of water policies, but rather the relations of their protagonists with time and space. The pace of the regulatory transition is influenced by space: the location of the RSS *vis-à-vis* that of SISS officials, and the territorial dynamics of those areas. The halts and setbacks of the regulatory transition associated with the enforcement of the Rural Sanitation Services Law put into question the government's political will to implement fair water transition. The intended purpose is nothing but words when the spatial aspects influencing the law and state in action are analyzed. The conflicting views regarding time, space, and law between lawmakers, SISS officials, and RSS leaders make it impossible to apply the law effectively.

Our findings ground certain criticisms against the legal formalism sometimes present in studies analyzing the privatization of drinking water services. According to legal formalism, the sole approval of new water rules has a direct influence on the social world and results in water privatization. The methodology used, based on semi-structured interviews with senior officials, makes it possible to use this idea through the analysis of law in action. From this work, it follows that besides how objectionable and harmful the provisions of the law might be for water community management—this would be the object of further research (Ahlers et al., 2014; Cawood et al., 2022); the SISS does not have sufficient means to apply the law in rural spaces, leaving a broad range of action for community organization leaders and their *patchworks* (Pineda et al., 2022). At the same time, the approach taken in this study is to deprive the investigation of all legal functionalism, which would see in the laws a tool of the state to favor dominant groups. However, the State is not a homogeneous entity with a single rationality seeking its purpose (Bourdieu, 2015). In this case, we

observe a contradiction between the representations that lawmakers have about time and what rural means and those of SISS officials. Such contradictory surfaces exist in decisions, negotiations, and tensions between different fractions and institutions (Molle et al., 2009). In this case, SISS officials—dissatisfied with the provisions of the law—search for a solution to obey the mandate established in such law, despite the lack of means, and their only choice, segmenting oversight, ends up shifting the initial purpose of the law, which was securing equal treatment of RSS by the State and before the law.

## Conclusion

This article builds on geographical studies on the space-time pluralism of legal proceedings. To do so, we studied the spatial dimension of the application of the Sanitation Services Law in Chile, one of the pillars of the so-called fair water transition implemented by the progressive administration of President Gabriel Boric. We explored the feedback between space and time, which influences this regulatory transition. A qualitative methodology was used to map the law of action. To do this, we analysed a legal corpus and the discourses produced by the protagonists of the law: lawmakers, SISS officials, and RSS leaders. The social change required by the law impacts both public officials entrusted with its administration and rural water operators forced to change their practices to obey the law. SISS officials embody oversight of new rural sanitation services. Rural water organisations are supposed to start the process of modernising their distribution services.

We have shown how the conflicting temporalities of these three players and the urban-rural distance have slowed the regulatory transition and redirected the purposes of the law, (re)producing a heterogeneity of ways to access water. Indeed, despite the objective of the law being to homogenise the distribution of drinking water in rural areas, the spatial and temporal dimensions of its application lead to the (re)production of heterogeneous legal spatialities, which we have defined as the spatial areas of distribution over which a specific legal framework and management rules are applied. This occurs because of two processes. First, the SISS fails to meet its objectives. Therefore, to prioritise oversight, organisations are classified by size and vulnerability, generating a differentiation in the application of the law to organisations recognised by the state. The second process is related to the lack of means for the SISS to identify organisations in urban condominiums, recreational plots, and isolated communities. The law will not apply to these services, reproducing the heterogeneity of access to water modes not regulated by the state.

The scale of identification of the legal spatialities we propose is at the national level, which may lead to some homogenisation of organisations within each of the identified categories. Future research could, based on the latter, delve into the specific challenges of each, identifying more specifically the role of the territory in these challenges or, on another scale, propose a quantitative mapping of the actors in each category across the country.

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The author has no conflicts of interest to declare.

### Authorship statement

Chloé Nicolas-Artero: Conceptualization, Research, Methodology, Writing - original draft, Writing - review and editing.

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