

IN BETWEEN THE LINES OF RIVER CONTRACTS

Analysing a water governance tool through the lens of the Rooted
Water Collectives framework

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ABSTRACT: The article, based on action-research, analyses the water management tool known as a ‘River Contract’ (RC) – as conceptualised and implemented in Italy – through a lens of political ecology. The objective is to understand whether, and under what conditions, RCs can be conceived as an example of societal response and as a potential form of ‘river defense movement’ for the care of water bodies, rather than as a mainstream participatory water management tool. The Rooted Water Collectives’ (RWCs’) analytical framework (Vos et al., 2020) is applied to investigate the case of RCs implemented in the Friuli Venezia Giulia Region (Northeast Italy). The framework allows for a clearer examination of the inconsistencies between what RCs should be, considering the official principles and guidelines, and what they are in their reality, identifying some ‘gray zones’ in their implementation, their criticalities and weaknesses, as well as their potentialities. Furthermore, the article suggests some possible improvements and aspects that could be integrated into the RWC framework.

KEYWORDS: River Contracts; Water management; Political Ecology; Water Justice; River Movements

Introduction

The article presents a study aimed at analysing the water management tool known as a ‘River Contract’ (RC), as conceptualised and implemented in Italy, through the lens of political ecology. The objective is to understand whether, and under what conditions, it can be conceived as an example of societal response and grassroots mobilisation for the care of water bodies (Boelens et al., 2023), rather than as a mainstream participatory water management tool, or an expression of “hydrocracy” (hydraulic-bureaucratic administration) (Molle et al., 2009), merely rhetorically grounded in participation and local river knowledge.

RCs are voluntary agreements between territorial stakeholders (municipalities and other local authorities, civil society organisations, reclamation consortia, private companies, professional associations, water utilities and others) for managing water bodies at the basin or sub-basin level. The concept was developed in France in the 1980s as “mid- or long-term requalification programs for rivers, lakes, aquifers and river mouths, based on the consultation among stakeholders” (Scaduto, 2016, p. 15). It later spread across Europe, starting in the 2000s.

The RCs' direct objectives, which focus on the effective management of water bodies, relate to mitigating and preventing hydrogeological risks, improving water quality, restoring ecosystems, and enhancing waterscapes for sustainable local development. However, their implementation can also contribute to reaching indirect objectives pertaining to the development of the process. These objectives include promoting a new culture of water¹ and recreating the link between human communities and their waterscapes. Additionally, they can support the recognition of inland waterscapes as common goods with both material and intangible values. The process can also foster a culture of shared decision-making, encouraging integration between different visions and needs. Furthermore, it can help bridge scientific/technical and vernacular knowledge. Lastly, these initiatives can aid in facing conflicts over the use of water bodies (Scaduto, 2016, p. 109; Brusarosco & Visentin, 2023). To date, however, RCs have been framed 'apolitically' around the notion of participatory management and governance (Vos et al., 2020, p. 1), rather than as examples of river movements or river defense initiatives that could contribute not only to democratic governance in general, but specifically to environmental justice (Vos, 2024). This is not only specific to the Italian RCs.

French experiences "demonstrate a strong institutional driving force, and the participatory process of a River Contract is channelled into highly structured decision-making arenas" (translated from Bastiani, 2024, p. 30). Indeed, they are envisioned as technical and financial agreements among partners for sustainable water management at the scale of a hydrographic unit. Furthermore, the River Committee, which is responsible for developing the Contract, is established by the Department Prefect. The prefect also has the duty of ensuring balanced stakeholders representation on the committee (Testa, 2024). In Wallonia (in southern Belgium), consultation and the extensive involvement of non-institutional stakeholders is more significant. As in Italy, alongside public entities (primarily municipalities), associations or groups of stakeholders not only participate, but can also propose starting the processes (Fanetti, 2024, p. 134). In Belgium, RCs seem to have become:

a place for democratic expression, where citizens and associations engage with operators and institutions, developing relationships based on a collaborative - rather than oppositional - logic, and paving the way for negotiated management instead of the traditional top-down decision-making process. (Fanetti, 2024, p. 140).

Nevertheless, even in this case, it does not seem that the processes have been specifically considered in their potential value for promoting water justice.

This article is based on ongoing action-research² conducted by geographers at the University of Udine (Northeast Italy), which began in late 2019 with an initial phase dedicated to understanding the state of the art of RCs in the Friuli Venezia Giulia (FVG) region.³ This phase also focused on the relationship between participation, place-making, and sense of place, analysing emerging themes such as project, process, and time (Venturini & Visentin, 2024).

¹ The New Water Culture is meant as a cultural change related to water issues. It is "a New Culture that must adopt a holistic approach and recognise this multiple dimension of ethical, environmental, social, economic, and emotional values embodied within aquatic ecosystems, in order to build a new collective intelligence and respond to the challenges of the 21st century" (FNCA, 2005, p. 12; Arrojo, 2006).

² A process of research, intervention and assessment that aims to provide benefit to the situation and/or community involved.

³ Where the University of Udine is located.

Since December 2021, the research has entered a more applied phase, due to the rapid diffusion of RCs in the region, which in turn helped to increase their visibility. Thanks to an agreement signed between the University of Udine and the FVG Autonomous Region, the research group was tasked with supporting existing and emerging regional RC processes. This included coordinating the FVG regional River Contracts Board (Figure 1), facilitating the establishment of a multiscale network, identifying critical issues and needs in order to provide training and technical advice, and organising awareness-raising and communication initiatives to promote the tool within the regional territory.



Figure 1 – The 4th meeting of the Regional River Contracts Board
(November 13, 2024 – Corno di Rosazzo)

This operative role is providing scholars with the opportunity to directly observe and actively participate in the development of RCs with very different characteristics⁴. This involvement has highlighted that RCs are increasingly becoming a political issue. As the process expands in FVG and across Italy, interest in the tool is growing among local, regional, and national administrations, as well as within civil society. This trend could be interpreted as a positive sign of a renewed interest in water bodies, reflecting an assumption of responsibility by citizens for waterscape care. It may also suggest an intention to transition river management from a purely top-down, technical, and bureaucratic approach to a more horizontal, democratic, and equitable one. However, this interest often aligns more closely with territorial power dynamics and the pursuit of visibility. As a result, there is a risk that RCs may be used as a tool to make people accept pre-determined decisions, territorialise public works (Parisio, 2023, p. 189), or facilitate easier access to funding for infrastructure projects because:

⁴ In terms of the level of implementation and duration of the process, who started the process (local authorities or local associations and committees), who is leading it, the territorial coverage of the Contract, the number and variety of involved stakeholders, the level and quality of participation, how the process is managed, depending on the objectives, approaches, visions, and expectations of the various actors involved, and how they interact.

Water bureaucrats, state-level and local politicians, water business companies, and development banks are often tightly associated in 'synergetic relationships' whereby the ways the flows of water are created or modified by water infrastructure are intertwined with flows of power and influence, often manifested in the form of political or financial benefits, whether private or collective (Molle et al., 2009, p. 336).

These reflections stimulated the adoption of a more critical approach, one that allows for a shift in both the researchers' theoretical interest and their operative role toward a deeper focus on the role of RCs in improving collective management, care and protection of water bodies. This approach highlights both the effectiveness and the criticalities, the 'pros and cons', as well as the 'gray zones' in the actual application of the tool, while questioning whether or not RCs can be configured as innovative grassroots water governance practices with a stronger link to environmental justice issues. In this sense, the research group found consonance with the work developed by Jeroen Vos, Rutgerd Boelens, Jean Philippe Venot, and Marcel Kuper on what they call Rooted Water Collectives, as they propose using this notion as a:

conceptual lens and as an object and subject of 'engaged research' to further our understanding of social mobilization in relation to water management. In the latter sense, rooted water collectives are actors and manifestations of grounded water governance with whom researchers can proactively engage in efforts of empowerment and democratization. (Vos et al., 2020, p. 1.)

In the following section, the article will present a critical review of the literature on RCs developed in Italy, along with the analytical framework and theoretical background adopted. This will be followed by an overview of RCs in Italy and in the FVG region, leading to their analysis applying the Rooted Water Collective (RWC) framework, and concluding with some final reflections.

River Contracts: between participatory planning tool and river movement

As previously stated, RCs in Italy have primarily been considered as a participatory planning tool, as "one of the outcomes of the decentralisation process at the institutional and bargaining policy levels, launched by the European Community" (Scaduto, 2016, p. 15), and as a way to align with the innovations introduced by the EU Water Framework Directive⁵ (Scaduto, 2016, pp. 16-21). Although they widely involve grassroots associations and committees, and municipalities as the closest local authority level rooted in the territory, they are generally not seen – even by the stakeholders themselves – as an opportunity to integrate sustainability and ecological integrity in water governance with issues of fairness, solidarity, and justice. That is, as a vehicle to promote water justice (Boelens, 2020, p. 208).

⁵ The innovative points referred to are: 1. the coordination of policies and strategies for water management; 2. the organisation of water management based on river basins rather than on administrative boundaries; 3. the introduction of a combined approach to emissions' control and environmental quality standards; 4. the introduction of quantitative criteria in the environmental protection action planning; 5. the redefinition of good water status and the list of hazardous substances; 6. the introduction of full cost pricing and environmental cost recovery into water pricing; 7. the improvement of involvement and participation of local communities (Kaika & Page, 2003, cited in Scaduto, 2016, p. 18).

To date, scholars have dedicated relatively limited attention to RCs in Italy⁶ and most of the contributions come from architecture and planning. While dealing with participation and governance – often adopting a critical perspective – they mainly describe specific cases of RCs under construction, in which scholars managed participatory activities and processes (Altamore & De Leo, 2023; Calace et al., 2023; Caruso, 2020; Galassi et al., 2020; Pisano & Lingua, 2021; Taccone, 2019). Additionally, some studies have focused on specific aspects, such as landscape or climate change adaptation, in relation to RCs (Cialdea & Cacucci, 2017; Cialdea & Pompei, 2018, 2021; Rossi, 2022). Only legal disciplines have partially addressed RCs as a model of co-administration, “where the subsidiarity principle is established, as public entities, private individuals and (environmental protection) associations work ‘side by side’ to preserve river areas” (Parisio, 2023, p. 162). However, this approach does not explicitly reference the concepts of water or environmental justice.

In the Italian geographical context, despite an established tradition of political ecology studies dedicated to water (Menga & Swyngedouw, 2018; Di Quarto & Zinzani, 2022), the topic of RCs has received limited attention. At present, only Di Quarto (2020) has explicitly framed his study within a political ecology approach, focusing, in particular, on the conflict/consensus dynamics that emerged in the management of the Seveso RC, one of the first to be activated in Italy. Considering the first three processes developed in FVG, Venturini & Visentin (2024) highlighted the potential of RC not only as a tool for managing water resources, but also as an opportunity to reconstruct a sense of ‘river’ place and to promote “moments of perceptible awareness of feeling connected through water” (Kitson et al., 2021, p. 15). However, they emphasised that this potential can be realised as long as the RC is developed as a process rather than a project, and is based on a high level of participation, in terms of its quality rather than its quantity. More recently, Petino (2024) proposed a reflection on the role of RCs in facilitating the conservation, valourisation, and transmission of cultural heritage, while Albanese (2024) discussed a possible role of geography in the study of RCs, adopting the conceptual categories of place, territory, and territorialisation.

Adopting a participant observation method,⁷ the action-research implemented in FVG is providing a unique opportunity to investigate the dynamics of several RCs at a regional scale as they unfold over time, with their similarities and differences, from an external perspective. The research team is not directly involved in the daily activities of each RC, nor does the University sign the agreements. At the same time, the observations provide insights that are leveraged by the scholars to influence a more effective, fair, and coherent development of the processes. This guidance aims to achieve the indirect objectives of transversal participation and the building of shared responsibility in the care of waterscapes (Pierce, Martin & Murphy, 2011).

The observations have led to the question of whether or not RCs – despite their stated intention to be a participatory and integrated tool – are merely an expression of mainstream policies and approaches. They also raised the question of whether and how RCs could become an alternative way of relating to and caring for water bodies by stakeholders who can be (also)

⁶ Only academic literature in Italian and English published from 2016 onwards was considered, i.e. following the formal recognition of RCs in Italian legislation and the publication of the document *Definitions and Basic Quality Requirements for River Contracts* (2015) which made the processes relatively more homogeneous. Gray literature has not been considered in this review.

⁷ Through direct involvement of scholars in organising and conducting training meetings and public events, informal conversations with stakeholder representatives and monitoring and update meetings, and participation in Contracts assemblies and other initiatives.

defined as grassroots and social movements. Indeed, while the state of water bodies is an increasing concern at all levels (Visentin & Kaaristo, 2024), current water governance approaches – even when labelled as participatory, integrated, or nature-based – fail to account for, and can even undermine, the complexities of socio-ecological river systems. As a consequence, they have fallen short of fostering a transition toward just, equitable, and sustainable socio-ecological relationships (Hommes et al., 2023, p. 1).

The main theoretical reference for these reflections comes from a recent article by Boelens et al. (2023) that sets up the analytical framework for two large transcontinental research projects – Riverhood and River Commons – that focus on river co-governance initiatives, revitalising rivers, and New Water Justice Movements (NWJMs)⁸. The latter are understood as a wide range of initiatives that “engage in radical collective practices of place and community making, wresting rivers away from influences that enclose, commodify, or pollute” (Boelens et al., 2023, p. 1127). NWJMs can take various forms: e.g., grassroots groups and initiatives, regional networks, or nongovernmental alliances involved in the protection and restoration of water bodies. They can undertake diverse activities, ranging from protests, litigation, and advocacy to river clean-ups, citizen science initiatives, proposing alternative project designs, and advocating for co-governance of inland waterscapes. NWJMs also challenge prevailing perceptions, management practices, and exploitative approaches toward waterscapes and their inhabitants. They can operate across different geographic, institutional, and temporal scales, often bridging these boundaries (Hommes et al., 2023, p. 1).

The hypothesis under discussion is that, to some extent, this definition of NWJMs also fits the concept of RCs, and vice versa, thus allowing the analytical frameworks developed to study NWJMs to be applied to RCs as well. Among the diverse initiatives considered under the term NWJM, those defined as ‘Rooted Water Collectives’ (RWCs) (Boelens et al., 2023, p. 1127), and the related analytical framework developed to study them (Vos et al., 2020 - see Figure 2), seem particularly appropriate for application to the case of RCs. RWCs are defined as “instances of collective action, coordination and shared governance arrangements that either engage in communal management of water systems (and may have second or more tier federations) or form a social movement that advocates for local common property resources management” (Vos et al., 2020, p. 1).

Drawing on the above, the authors propose a framework that allows for the analysis of:

- a. The extent to which RWCs address locally perceived water control problems and are based on water-context embedded meanings, values, identities, belonging, and vernacular knowledge.
- b. Their internal structural dynamics of decision-making and capacities.
- c. Their effectiveness in achieving impacts at different scales.

The framework also considers five contextual factors that could enable or constrain the development of RWCs: 1. the strength and involvement of the State; 2. the strength of civil society and the allowance for room for manoeuvre; 3. the functioning of the economic environment of the water sector; 4. the academic and epistemological environment; 5. the techno-physical and agro-ecological environment.

⁸ For more information, see the projects website: <https://movingrivers.org/>

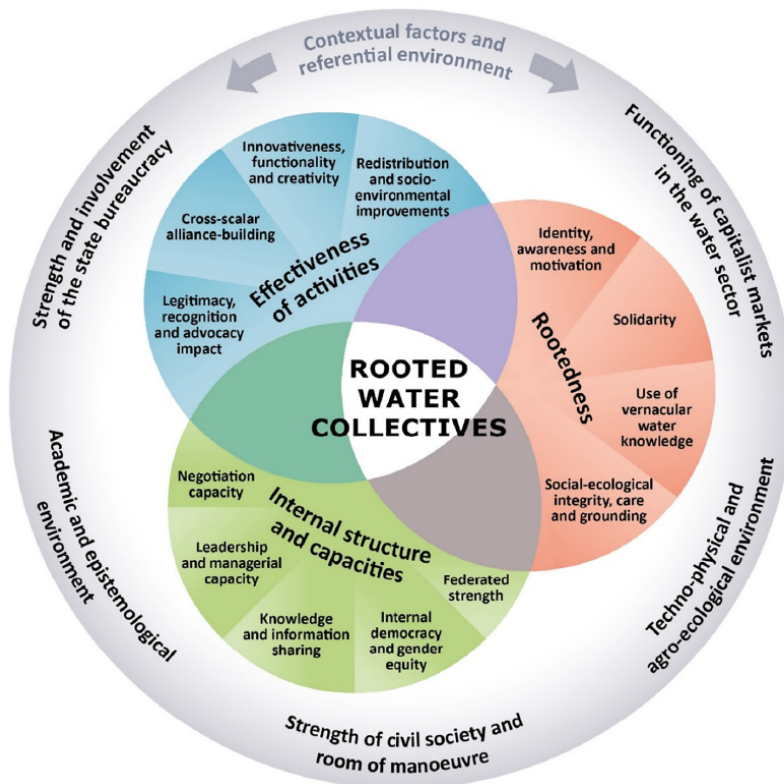


Figure 2 – The dimensions of Rooted Water Collectives (Vos et al., 2020, p. 5).

The interest in applying this framework to the study of RCs stems from its aim of analysing how these initiatives are built on context-specific local knowledge and water cultures, and on collective decision-making. It also provides a means of exploring how water collectives experiment with innovative water governance principles and develop tools that empower local organisations through multi-scalar federations, interacting with the state and markets institutions. By adopting this perspective, the study of RCs can extend beyond evaluating the achievement of their direct objectives, enabling a deeper examination of their effectiveness in promoting just and fair water management and influencing policy, thus achieving their indirect goals. This investigation is not merely an academic or speculative exercise. It is aimed at providing valuable insights to scholars to steer RCs, contributing to empowering and democratising them, strengthening their role as river movements, and advocating for water justice.

River Contracts in Italy and in Friuli Venezia Giulia

In Italy, RCs have been implemented since 2004. In 2010, the *Carta Nazionale dei Contratti di Fiume* ('River Contracts National Charter') was launched,⁹ established the guiding principles of horizontal and vertical subsidiarity, participatory local development, and sustainability.

⁹ Thanks to the work of the Tavolo Nazionale dei Contratti di fiume ('National River Contracts Board'), established in 2007.

RCs were legally recognised at the national level in 2015 when they were included in the national Legislative Decree No. 152 'Environmental Regulations' (originally passed in April 3, 2006). From a legal standpoint, although referred to as 'contracts', they take the form of 'negotiated strategic programming agreements'. These agreements are regulations established between public entities or between the competent public entities and public or private entities for implementing interventions related to a common development objective. Essentially, RCs represent a voluntary process of negotiation between public and private actors. They are not legally binding: signatories take responsibility for carrying out the proposed activities, but if they fail to do so, there is no penalty mechanism. The process should consider the specific characteristics of the basins and the expectations of citizens, resulting in multi-sectoral and multi-scalar agreements based on an Action Program shared by all signatories. RCs can be initiated and promoted by local authorities, civil society organisations, grassroots movements, and water management bodies such as reclamation consortia.

After a decade of experimentation with the tool, without any standardised or formalised procedures for its implementation, the 2015 document *Definizioni e requisiti qualitativi di base dei contratti di fiume* ('Definitions and basic quality requirements of river contracts'), published by the Ministero dell' Ambiente¹⁰ introduced fixed procedural steps that contracts should complete before the final agreement is signed. These steps include: a Memorandum of Understanding (MoU),¹¹ a territorial analysis¹², a strategic document outlining a medium-to-long-term vision for the water body and a program of concrete actions¹³ that the contract's signatories commit to implementing in the short term (usually 3 to 5 years). All these steps should be grounded in stakeholder involvement and participation and ratified by an assembly of stakeholders. Therefore, RCs are not an additional planning tool. Instead, they seek to harmonise and implement existing plans and programs at the basin and sub-basin scale. They should foster open and inclusive participatory processes, sharing intentions, commitments, and responsibilities among the adhering parties. Currently, there are more than 200 ongoing RC processes in Italy at various stages of implementation, and over 80 signed Contracts.

In FVG, RCs were officially introduced in 2016 by the regional government (Figure 3), though an initial experience had already begun two years earlier for the Natisone River. At the beginning of the research-action, three processes were ongoing (Natisone, Roiello and Marano Lagoon) and three additional RCs (concerning the Judrio, Cormor and Upper Livenza rivers) were in the initial stages of development (Venturini & Visentin, 2024, p. 5). Currently, four RCs have been signed and two processes are still ongoing¹⁴ (Figure 3). The MoU for the

¹⁰ Elaborated by the Ministero dell' Ambiente, the Tavolo Nazionale dei Contratti di fiume and the Istituto Superiore per la Protezione e la Ricerca Ambientale ('Higher Institute for Environmental Protection and Research').

¹¹ Containing the motivations and general objectives, the specific challenges addressed by the RC, and the work methodology shared among the stakeholders involved in the process.

¹² Including a description of the environmental, social, and economic aspects of the area covered by the RCs, the collection of relevant plans and programs, and a preliminary analysis of stakeholders and of the existing networks among them.

¹³ These may range from infrastructure and maintenance works to biodiversity protection initiatives, educational activities, awareness and communication campaigns, studies and research, water quality monitoring, and more.

¹⁴ The signed RCs are: the Rio Roiello RC (November 2022), the Natisone RC (September 2023), the Cormor RC (May 2024), and the Upper Livenza RC (July 2024). The Marano Lagoon Wetland Contract, developed within an EU-funded project (Interreg Italy-Croatia CREW - Coordinated Wetland Management in Italy-Croatia Cross-Border Region) that ran from December 2018 to August 2021, was partially signed in July 2021. However, after some stakeholders signed, activities slowed down to the

Torre RC and the Isonzo RC are expected to be signed soon. Additionally, new potential processes are regularly being announced, e.g., for the Corno, Ledra and Fella rivers. The processes have been initiated and promoted by both municipalities and civil society organisations, such as associations and citizen committees, and are led by municipalities or reclamation consortia. Currently, approximately one-third of the region's municipalities (70 out of a total of 215) are involved in RCs, and this number is expected to further increase. Additionally, two municipalities from the neighboring Veneto region participate in the Upper Livenza RC, making it an inter-regional Contract.

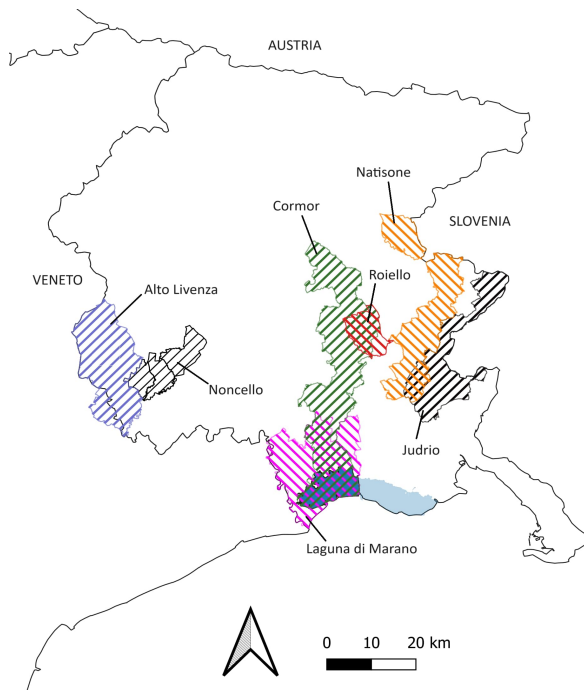


Figure 3 – The current RCs in Friuli Venezia Giulia (Brusarosco, 2024, p. 173).

The support provided through the action-research for promoting the tool has undoubtedly contributed to its diffusion and reinforcement. In agreement with the relevant regional offices, the research team has carried out a wide range of activities, including organising four meetings of the Regional RCs Board¹⁵, providing consultancy to ongoing and new RCs, and collaborating on drafting documents. Their efforts also included supporting the organisation of and participation in dissemination events during festivals, seminars, and other public initiatives; activating and regularly updating a dedicated Facebook page; and structuring educational activities (Brusarosco, 2024, p. 175). However, one of the most impactful actions

point of completely ceasing, and the Contract is currently at a standstill. The Judrio RC is still ongoing, and the process for the Noncello River officially began in November 2023 and is progressing swiftly. They both should be signed by the end of 2025.

¹⁵ In February 2022, June 2022, June 2023, and November 2024.

to date has been the establishment of the “Thematic Community on FVG RCs”¹⁶ which consisted of two cycles of meetings (held from October 2022 to March 2023, and from December 2023 to November 2024)¹⁷, envisioned to support the effective implementation of the tool. The meetings involved representatives of municipalities, associations, and reclamation consortia participating in the regional RCs¹⁸. The aims were to provide training on specific issues in a horizontal and participatory manner, to promote knowledge transfer and the exchange of experiences and practices among RCs. The Thematic Community (TC) also aimed to coordinate the development of common proposals and requests to be submitted to the FVG Autonomous Region during Regional Board meetings (Figure 4). To design the agenda and the contents of the meetings, each cycle was preceded by an additional preparatory meeting conducted in the World Café format¹⁹.

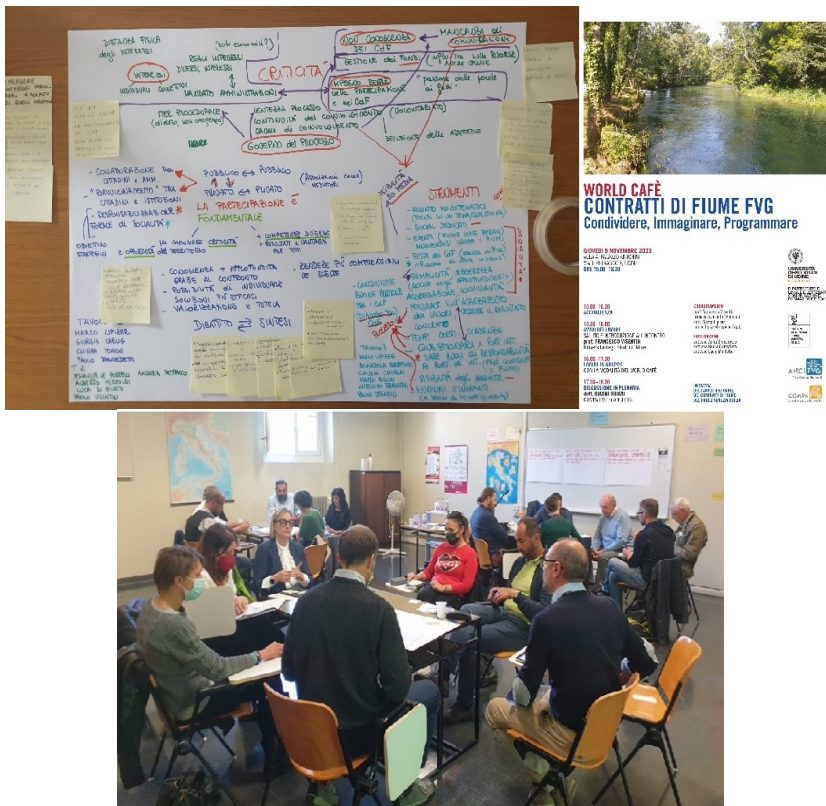


Figure 4 – The Thematic Community of FVG RCs at work.

¹⁶ Organised and managed in collaboration with COMPA-FVG, public Foundation aimed at providing training and support to local public authorities.

¹⁷ A third cycle of meetings is being held in 2025.

¹⁸ For the 1st iteration, around thirty representatives were invited, with an average attendance of 15 people at each meeting. For the 2nd, approximately 40 representatives were invited, with an average of 20 people attending each meeting.

¹⁹ The World Café is a method that facilitates lively and constructive discussion groups within a short timeframe on topics of interest to actors with common goals (Brown, 2002).

Beyond its initial objectives, the TC – effectively acting as an inter-scalar mediating body between the local level of each RC and the regional level – significantly strengthened the connections among RCs. Before the Community's activation, each RC in FVG worked autonomously within its territory, with limited interaction with the other processes. The meetings provided opportunities for representatives to collaborate and share challenges and good practices. In this sense, the activity went beyond expectations, contributing to the up-scaling (Dupuits and Bernal, 2015; Hoogesteger et al., 2023) of the RCs from a strictly local to a regional dimension. This process effectively formed a sort of 'federation' of RCs, enhancing their capacity "to access political, institutional, logistical, and/or other support, as well as to decision-making spaces and processes" (Hoogesteger et al., 2023, p. 282).

River Contracts as Rooted Water Collectives

RCs can be considered to conform to the definition of RWCs (Vos et al., 2020, p. 1), in that they they represent "instances of collective action, coordination, and shared governance arrangements" for the joint management of a water body. RCs can be analysed at a first level by examining what they are theoretically intended to be, according to the guiding principles outlined in the *River Contracts National Charter* (2010) and the document *Definitions and Basic Quality Requirements for River Contracts* (2015), which provides national guidelines for the implementation of the tool:

1. They can be defined as 'Rooted' because they are based on shared objectives and motivations collectively defined by local stakeholders at the beginning of the process and formalised in the MoU. These objectives address both ecological integrity issues and socio-economic aspects of territorial governance. Furthermore, according to the second inspiring principle of the *National Charter*, a governance process aimed at transforming river basin territories, one that adopts an ecosystem approach, should depend on the responsibility of local communities that view the river basin as the foundation of their cultural identity. RCs should also be grounded in a territorial analysis co-developed by stakeholders, drawing on both technical and scientific knowledge as well as vernacular water knowledge.
2. RCs identify their foundation on internal democracy. The document *Definitions and Basic Quality Requirements for River Contracts* emphasises that participation should not be treated as a mere bureaucratic formality. It specifies that participatory processes must be structured to ensure equitable decision-making and choices oriented toward the collective good through deliberations, avoiding imbalances that favor actors with greater political or economic power. RCs should establish a clear governance structure from the very beginning of the process, with one actor²⁰ taking a leading role and an assembly of stakeholders responsible for discussing and ratifying each step and decision. The document also asserts that knowledge and information must be shared and made available to the public, as required by EU directives on public access to information (Regulation EC no. 1049/2001) and on public participation in decision-making regarding environmental plans and programs (2003/4/EC, implementing the Aarhus Convention).
3. Thanks to the involvement of multiple actors, RCs could represent an innovative water governance tool, enabling the integration of diverse voices and perspectives.

²⁰ According to the FVG regional law, a Municipality or a reclamation consortium.

This integration helps build a multi-sectoral understanding of the complexities of territories and fosters cross-scalar alliances between different territorial levels (e.g., municipalities and regions). RCs thus promote 'win-win thinking' (Bastiani et al., 2022) by integrating multiple dimensions – not only environmental and technical, but also social – thereby facilitating the achievement of various objectives. Furthermore, as previously highlighted, both at the national level in Italy and the regional level in FVG, RCs are attracting growing interest and are increasingly recognised and legitimised.

Beyond the theoretical guidelines and intentions expressed in official documents and statements, participant observation of RCs in Friuli Venezia Giulia over three years revealed that the practical application of the tool can vary significantly. These variations depend largely on specific territorial features, particularly in terms of power dynamics and social context. As Vos et al. emphasise in their work, the empirical manifestations of Rooted Water Collectives:

present their own inequities and internal injustices; they do not represent a 'utopia', but rather evolve from dynamic and complex interactions among different stakeholders with different values, interests, and knowledge backgrounds. As all management and governance collectives, they do not guarantee positive outcomes for all beforehand, but are the vibrant arena of power plays, 'governmentalities' and counter-strategies (Vos et al., 2020, p. 3).

An initial analysis based on the first three RCs launched in FVG (Venturini & Visentin, 2024) highlighted that RCs can sometimes develop as mere territorial management projects rather than genuine participatory and rooted processes. This occurs when a top-down approach is adopted, driven by weak motivations, often economic and political. Such an approach leads to very limited impacts, in terms of achieving both direct and indirect objectives.

This observation is further confirmed when the investigation sample is expanded. The top-down approach often manifests as a broad involvement of institutional actors (primarily municipalities) at the expense of participation by other stakeholders. In this sense, even if the RC is in some way 'rooted' in the territory at the municipal level, it appears more as a tool for local political and administrative actors to consolidate or maintain their power through water management (Boelens, 2014), rather than as a genuine shared decision-making mechanism. Local administrators are still often unfamiliar with the tool, lack proper understanding of its scope and objectives, and consider it primarily as a way to access funding, particularly for infrastructure projects. Considering the contextual factors defined by the RWC framework, the establishment of the TC, along with the guidance and support activities provided by researchers, was specifically aimed at raising administrators' awareness of the tool's limitations and its true potential.

Going beyond a simple binary approach, where RCs are considered either as 'virtuous' processes or as sterile power and technical projects, there are also 'gray zones' to interpret, where situations are less clearly defined. For instance, some RCs may appear to involve a large number of local associations and grassroots collectives, which could suggest, from an analysis of official documents, that they represent effective participatory and rooted processes. However, a closer look reveals that the quality of participation and the real decision-making power of these actors remains weak, and the process is still led mostly by experts and technicians.

Almost all RCs in FVG have relied on the support of technical experts in implementing the process (e.g., for preparing activities and documentation, coordinating actors, facilitating participatory processes, etc.). Their involvement is not necessarily a critical issue: technical experts can be a vital resource in ensuring the efficient development of the process. The critical aspect arises when the role of technicians – often highly skilled in the formal aspects of the process, but external to the territory and unfamiliar with local actors, power dynamics, and territorial features – combined with a top-down approach, transforms the process into a project, or a mere collection of isolated projects, mostly of an infrastructural nature. This situation can be further aggravated by the weak involvement of civil society, particularly in contracts developed and signed only (or mostly) by municipalities, as in the case of the Cormor RC. In such cases, the RC may be effective from a technical perspective and may achieve some direct objectives, but it is likely to fail in achieving indirect ones. It would lack the vision of those who live with and on the waterscapes, and it would have no impact on promoting a culture of water based on shared decision-making and the recognition of the intangible values of waterscapes.

On the contrary, there are cases – as the Judrio RC and the upcoming Torre RC – where the process is led by a civil society organisation deeply rooted in the local context and actively engaged in raising awareness about new water culture. This is achieved through a wide range of activities, including organising seminars specifically dedicated to RCs to enhance citizens' knowledge (often involving researchers), river-cleaning initiatives, festivals that use various forms of art to foster a renewed connection with the local river and rediscover vernacular water knowledge, and educational activities in schools. However, in these cases, local authorities remain reluctant to engage with the process, primarily due to a lack of knowledge about the tool and a general suspicion toward its participatory dimension. This inertia on the part of local authorities slows down the process, creating a broader risk that the RC becomes less effective due to weak legitimacy and the lack of political and administrative support essential for successfully implementing its actions. Another example of a 'gray zone' is the involvement of very small municipalities or associations in the process, which may face significant difficulties in participating due to a lack of sufficient human resources,²¹ time, knowledge, financial resources allowing them to implement activities, and negotiation or managerial capacity. Without adequate support and the development of forms of solidarity among the stakeholders involved in the RC to address the weaknesses of some participants,²² these actors risk participating only 'on paper', without a real opportunity to have a voice in the process.

The creation of the TC as an intermediate body and a platform for knowledge transfer – and, more generally, the advice provided by the research team – was specifically designed to address some of these weaknesses and criticalities. The implementation of the TC, functioning as a sort of multi-scalar federation, facilitated the up-scaling of RCs (Hoogesteger et al., 2023) in FVG. Additionally, it provided scholars with the opportunity to engage with all ongoing RCs in a cross-cutting manner.

Together, these factors enable the application of the RWC framework to regional RCs as a whole:

²¹ As also noted by Altamore & De Leo (2023, p. 7), the technical and administrative staff show “a low level of participation due to being understaffed in most municipalities”.

²² For example, by collecting funding to support the process from all municipalities involved, but proportionally to their size.

1. Even though the Community extends beyond a strictly local dimension, involving representatives from all the RCs in the region, it can still be interpreted as rooted, as it has fostered a deeper sense of identity, awareness, and self-recognition as a real 'community', with shared objectives and common challenges. By fostering more direct relationships among RCs representatives, the TC has created an opportunity to strengthen solidarity through the exchange of good practices, knowledge, and collaboration in implementing activities across territories.
2. The internal structure of the community is highly horizontal: while coordination is managed by the University of Udine and COMPA-FVG, meetings are conducted using participatory methods without a central leadership. This approach provides ample space for discussion and dialogue, allowing each actor to contribute their experiences. Decisions, such as which proposals to submit during regional board meetings, are made collectively. Both already-signed RCs, including long-standing processes, and new ones in the early stages of development are involved equally. Likewise, representatives of all types of stakeholders (municipalities, associations, reclamation consortia) and technicians are involved.
3. The TC is regarded as an innovative experience, even at the national level. It has had particularly effective impacts in terms of strengthening the legitimacy, recognition, and advocacy of RCs in their relationship with the FVG Autonomous Region. It has facilitated a shift from a juxtaposition of locally implemented processes to a more synergetic network, where different river territories and actors collaborate to pursue common objectives. This alliance has strengthened their ability to advocate for greater support and recognition from the authorities.

This transformation has positively influenced contextual factors and the referential environment, generating greater interest in the tool among regional political representative and increasing funding opportunities from the Region for RC activities. Furthermore, it has enhanced the room for maneuver of civil society actors involved in the processes.

Other significant impacts have also emerged, fostering a deeper awareness of the indirect objectives of RCs, such as enhancing social-ecological integrity, understanding the true meaning of participation, restoring the connection between local communities and 'their' rivers, and reinforcing the sense of responsibility among territorial actors for the care of waterscapes. This shift has allowed the trajectories of regional contracts to evolve, increasingly moving from a top-down, project-oriented approach to a bottom-up, process-driven one (Venturini & Visentin, 2024, p. 11). In some RCs, such as the Natisone RC, this has resulted in greater openness to the meaningful participation of civil society organisations, and the overcoming of the perception of RCs solely as tools for accessing funding or resolving purely technical and infrastructural issues. Additionally, other civil society actors, such as eco-museums, are engaging with this tool, which is now spreading not only in spatial and quantitative terms but also in territorial and qualitative dimensions.

The same languages and narratives of the actors involved in RCs are evolving. Increasingly, the focus is on water culture, the care and sense of responsibility for waterscapes, and the perception of rivers not merely as 'resources' but as integral elements of the identity of human communities, their history, memories, and values (Strang, 2023), to some extent, thereby, starting to explore a more hydroperspectivist viewpoint (Krause, 2019; Visentin & Kaaristo, 2024). This shift is evident not only among the civil society organisations participating in the RCs, but also among some representatives of local authorities, including

municipalities and the Region. However, it is important to note that the discourse has yet to develop to address issues explicitly related to water justice. The collaboration with the National RCs Board has recently been reinforced, expanding cross-scalar alliances and federated strength, and beginning to address new issues (such as gender equity).²³ However, the awareness regarding the role of RCs within the broader context of international river defense mobilisation is still lacking. The associations involved in the RCs operate almost solely on a local/regional dimension, focusing in 'their' rivers rather than on global water justice issues, without any connection with supra-local movements. Their narratives are still mainly framed in the concept of 'sustainable development', without questioning it, as is done by more radical approaches (Kothari et al., 2019). So far, in the territories covered by RCs in FVG, these associations are the unique form of local responses to top-down management of water bodies and of engagement of local communities. Furthermore, they adopt 'soft activism' practices, avoiding subversive public collective actions (street protests, mobilisations, or other resistance tactics) to force openings for dialogue or political attention,²⁴ but working within existing systems and institutions rather than challenging them.

Conclusions

The main aim of this article was to apply the analytical approaches of political ecology to a water governance tool, the RC, which has not yet been studied from this perspective or interpreted as a potential form of 'river defense movement'. The view through this lens has made it possible to highlight, at least in the case of RCs in FVG, some progress toward a deeper understanding and implementation of the tool as a societal response to the care of water bodies, rather than merely as a mainstream tool for technical river management. The fruitful collaboration between scholars, the regional administration, COMPA-FVG and the representatives of the stakeholders involved in RCs has fostered knowledge transfer and circulation (both vertically and horizontally), as well as raised awareness and sensitivity toward a new water culture. Nevertheless, we can argue that there is still no explicit self-awareness or self-representation of the actors involved in RCs as part of a NWJM, even though the RC itself seems to have the potential to fit the definition of a NWJM. Awareness of the political significance of RCs – particularly regarding issues of representation and political justice – is increasing, but it remains limited to the local and regional levels, with no connections to higher levels (national, or even less, to international water movements).

In particular, this work sought to apply one of the possible political ecology analytical frameworks – the Rooted Water Collectives framework – to the case of RCs, "to exhibit their existence and functioning, and scrutinise their effectiveness in defending and promoting just water management and influencing policies" (Vos et al., 2020, p. 9). The framework has allowed for a clearer examination of the inconsistencies between what RCs should be, considering the official principles and guidelines, and what they are in their reality, identifying some 'gray zones' in their implementation, their criticalities and weaknesses, as

²³ On November 13, 2024, the University of Udine, the Friuli Venezia Giulia Autonomous Region, the Association Judrio (promoter of the Judrio RC), and the Tavolo Nazionale dei Contratti di fiume jointly organised a meeting of the Regional Board, along with an event included in the 'Water Women' campaign promoted by the national board, aimed at enhancing women's presence in the water sector and related issues.

²⁴ According to Hoogesteger et al. (2023, p. 287), the engagement in subversive actions, in many cases of water related citizen-led initiatives, proved to be a successful strategy.

well as their potentialities. It has highlighted both the results already achieved and the work still required. In this sense, the analysis is particularly relevant for the action-research, helping scholars to better identify the criticalities of the RC tool's mechanisms and, in turn, further improve their proactive engagement in its empowerment and democratisation.

The particular attention given in the framework to issues such as federating strength, cross-scalar alliance building, advocacy impact and negotiation capacity is especially relevant in the context of RCs in FVG, where the creation of the 'Thematic Community' has enabled the up-scaling of these processes, at least regionally. This feature of the framework has made it possible to overcome an analysis based solely on single case studies or a mere comparison of a few. However, a more in-depth future analysis of individual RC experiences (as well as their comparison with other experiences and tools),²⁵ using the RWC framework, could broaden the investigation and provide additional insights.

Considering the RWC framework, its application has highlighted some possible improvements and aspects that could be integrated. The framework allows for movement between different scales and emphasises the relevance of contextual factors and the referential environment. However, these factors seem to be viewed mostly as one-directional constraints, where external (political, economic, epistemological, technical, and environmental) factors influence the internal structures, dynamics, and processes of RWCs. In contrast, the case of RCs in FVG shows a bi-directional flow of mutual influences over time. The academic environment is guiding processes toward more effective implementation of principles, while conveying new meanings, languages, and narratives. Thus, it is contributing to changes in approaches and practices, as well as in perceptions and mindsets. In turn, these changes are strengthening the advocacy capacities, recognition, and legitimacy of the actors, helping to modify the contextual factors. For instance, they are improving the room for manoeuvre of some associations and substantially increasing the attention given to RCs by the FVG regional administration, both in its political and bureaucratic components. Thus, the RWC framework should give more consideration to the mutual influences between the internal components of the RWCs and the contextual factors, also in a diachronic dimension. Furthermore, the framework seems to focus more on the importance of networking and multiscale alliance-building with a gaze directed 'upwards'. Considering the objective of NWJMs (and of RCs among them) to promote a new water culture, based on the integration of environmental and ecological aspects with issues of fairness, solidarity, and justice, we might wonder how to direct the gaze 'downwards'. A question to be further investigated and integrated into the analysis is how to move beyond the concept of 'stakeholder', which generally implies a certain level of awareness, motivation and self-recognition. The challenge is how to engage not only those who already feel legitimised, but also the 'bearers of disinterest' – those who are still indifferent and do not feel involved in the fundamental issue of caring for our water bodies. This is a crucial step toward truly promoting water justice.

²⁵ For example, the RWC framework has been recently applied for the study of the association I Guardiani del Torre (which is promoting the emerging Torre RC) in a Bachelor's degree thesis entitled 'Partecipazione attiva dei cittadini e nuovi movimenti di difesa dell'acqua: I Guardiani del Torre per il Contratto di Fiume' ('Active citizen participation and new water movements: The Guardians of River Torre for the River Contract'), by Elsa Merlino (Bachelor of Science in Environmental and Nature Sciences of the University of Udine, Supervisor Francesco Visentin, Co-supervisor Anna Brusarosco).

REFERENCES:

- Albanese, V.E. (2024). Contratti di Fiume: una via sostenibile per le comunità locali. In C. Leone (Ed.) *I Contratti di Fiume. Riflessioni interdisciplinari* (pp. 145-162). Mimesis Edizioni.
- Altamore, S. & De Leo, D. (2023). Towards a cooperative governance. Lessons learned from the only Italian 'River, Lake, and Coastal' Contract". *City, Territory and Architecture*, 10(19), 1-12.
- Arrojo, P. (2006). *El reto ético de la nueva cultura del agua: Funciones, valores y derechos en juego*. Paidós.
- Bastiani, M. (2024). L'evoluzione dei Contratti di Fiume in Europa e il loro ruolo nell'attuazione e miglioramento delle politiche pubbliche. In C. Leone (Ed.), *I Contratti di Fiume. Riflessioni interdisciplinari* (pp. 21-46). Mimesis Edizioni.
- Bastiani, M., Bianco, A., Conte, G. & Gusmaroli, G. (Eds.) (2022), *L'approccio win-win nei Contratti di Fiume. Integrazione a scala locale delle politiche di gestione dei corpi idrici attraverso la partecipazione*. River Contracts National Observatory.
- Boelens, R. (2014). Cultural politics and the hydrosocial cycle: Water, power and identity in the Andean highlands. *Geoforum*, 57, 234-247.
- Boelens, R. (2020). Water justice: Blatant grabbing practices, subtle recognition politics and the struggle for fair water worlds. In B. Coolsaet (Ed.) *Environmental Justice* (pp. 207-221). Routledge.
- Boelens, R., Escobar, A., Bakker, K. et al. (2023). Riverhood: political ecologies of socionature commoning and translocal struggles for water justice, *The Journal of Peasant Studies*, 50(3), 1125-1156.
- Brown, J. (2002). *The world café: A resource guide for hosting conversations that matter*. https://www.betterevaluation.org/sites/default/files/world_cafe_resource_guide.pdf
- Brusarosco, A. (2024). Un percorso di ricerca-azione per la gestione partecipata e collaborativa dei corpi idrici: i Contratti di Fiume in Friuli Venezia Giulia. *Documenti Geografici*, 1, 167-189.
- Brusarosco, A. & Visentin, F. (2023). *Costruire Contratti di Fiume. Riflessioni, percorsi, pratiche*. Forum.
- Calace, F., Paparusso, O.G. & Angelastro, C. (2023). Praticare la governance nei territori dell'acqua: operatività e attuazione di Contratti di Fiume, *BDC. Bollettino Del Centro Calza Bini*, 23(1), 177-190.
- Carta Nazionale dei Contratti di Fiume (2010). <http://www.a21fiumi.eu/LinkClick.aspx?fileticket=oSFgVVaQyXY%3d&tabid=36&mid=374>
- Caruso E. (2020). Costruire una comunità organizzata nelle pratiche 'in azione': il ruolo degli attori coinvolti, *Tracce Urbane. Rivista Italiana Transdisciplinare di Studi Urbani*, 4(8), 327-338.
- Cialdea, D. & Cacucci, S. (2017). The River's Contract: an opportunity for new landscape planning activities, *International Journal of Design & Nature and Ecodynamics*, 12, (3), 314-323.
- Cialdea, D. & Pompei, C. (2018). Paesaggio e spazio pubblico: una proposta per il nuovo Contratto di Fiume Medio-Basso Tevere, *Urbanistica Dossier*, 015, 185-189.
- Cialdea, D. & Pompei, C. (2021). An overview of the River Contract tool: new aims in planning and protected areas issues. *European Planning Studies*, 30 (4), 684-704.

- Tavolo Nazionale dei Contratti di Fiume, Ministero dell'Ambiente (2015). *Definizioni e requisiti qualitativi di base dei contratti di fiume*.
<http://www.a21fiumi.eu/LinkClick.aspx?fileticket=IW1a1b8MdEs%3d&tabid=36&mid=374>
- Di Quarto, F. (2020). La gestione delle risorse naturali nell'Antropocene: Il caso del fiume Seveso nell'area metropolitana milanese. In J. Gómez Cantero, C. Morán Martínez, J. Losada Gómez & F. Carnelli (Eds.), *The climate crisis in mediterranean Europe: Cross-border and multidisciplinary issues on climate change* (pp. 97-124). Il Sileno.
- Di Quarto, F. & Zinzani, A. (2022). European environmental governance and the post-ecology perspective: a critical analysis of the Water Framework Directive. *GeoJournal*, 87, 2849-2861.
- Dupuits, E. & Bernal, A. (2015). Scaling-up water community organizations: the role of inter-communities networks in multi-level water governance. *FLUX*, 1 (99), 19-31.
- Fanetti, S. (2024). I Contratti di Fiume nel diritto comparato - L'esempio della Vallonia. In C. Leone (Ed.), *I Contratti di Fiume. Riflessioni interdisciplinari* (pp. 127-143). Mimesis Edizioni.
- FNCA (2005). *European Declaration for a New Water Culture*. Fundación Nueva Cultura del Agua.
- Galassi, A., Cattaruzza, M.E., Clerici, L., et al. (2020). The River Contract of the Tiber from Castel Giubileo to the Foce: An innovative practice for a relationship between Tiber and Rome. *Italian Journal of Planning Practice*, X (1), 49-68
- Hommes, L., Vos, J. & Boelens, R. (2023). The need to acknowledge, study and engage with new water justice movements. *PLOS Water*, 2(5), 1-4.
- Hoogesteger, J., Suhardiman, D., Boelens, R. et al. (2023). River commoning and the state: A cross-country analysis of river defense collectives. *Politics and Governance*, 11, (2), 280-292.
- Kaika, M. & Page, B. (2003). The EU water framework Directive: part 2. European policy-making and policy shifting choreography of governance. *European Environment*, 13, 328-343.
- Kitson, J., Bucknum, M., & Meenar, M. (2021). Staging hydrophilic encounters – experiential methods for creating dialogic listening space. *Social & Cultural Geography*, 24(5), 778-795.
- Kothari, A., Salleh, A., Escobar, A. et al. (Eds.) (2019). *Pluriverse. A post-development dictionary*. Tulika Books.
- Krause, F. (2019). Hydro-perspectivism: Terrestrial life from a watery angle. *Anthropological Notebooks*, 25(2), 93-101.
- Menga, F. & Swyngedouw, E. (Eds.) (2018). *Water, technology and the nation-state*. Routledge.
- Molle, F., Mollinga, P.P. & Wester, P. (2009). Hydraulic bureaucracies and the hydraulic mission: Flows of water, flows of power. *Water Alternatives* 2(3), 328-349.
- Parisio, V. (2023). Risorse idriche, contratti di fiume e amministrazione condivisa. *Federalismi.it Rivista di diritto pubblico italiano, comparato, europeo*, 23, 162-190.
- Petino G. (2024). Accordi sull'uso dell'acqua, cooperazione, politiche e conflitti: i Contratti di Fiume in Italia e il ruolo del geomediato. *Documenti Geografici*, 1, 145-166.
- Pierce, J., Martin, D.G. & Murphy, J.T. (2011). Relational place-making: The networked politics of place. *Transactions of the Institute of British Geographers*, 3 (1), 54-70.
- Pisano, C. & Lingua, V. (2024). The impact of regional design on river agreements: the case of the Ombrone river in Tuscany. *Planning Practice & Research*, 39 (1), 32-53.
- Rossi, F. (2022). Method and practice for integrated water landscapes management: River contracts for resilient territories and communities facing climate change, *Urban Science*, 6 (83), 1-18.
- Scaduto, M.L. (2016). *River Contracts and integrated water management in Europe*. Springer.
- Strang, V. (2023). *Water beings: From nature worship to the environmental crisis*. Reaktion Books.

- Taccone, A. (2019). I Contratti di Fiume nella Città Metropolitana. Una esperienza in corso, *ArchistoR EXTRA*, 6, 531-541.
- Testa, L. (2024). In C. Leone (Ed.), *I Contratti di Fiume. Riflessioni interdisciplinari* (pp. 111-125). Mimesis Edizioni.
- Venturini, F. & Visentin, F. (2024). River contracts in north-east Italy: Water management or participatory processes? *The Geographical Journal*, 190, e12473.
- Visentin, F. & Kaaristo, M. (2024). Geographies of inland waterscapes: Thinking with watery places. *The Geographical Journal*, 190, e12579.
- Vos, J. (2024). River defence and restoration movements: A literature review. *Water Alternatives* 17(2), 239-265.
- Vos, J., Boelens, R., Venot, J. & Kuper, M. (2020). Rooted water collectives: Towards an analytical framework. *Ecological Economics*, 173, 106651, 1-11.