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Barriers to Holistic Governance of Transboundary River Systems.

An Institutional Analysis of Blue and Green Governance in the Scheldt River Basin.

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Colophon

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Kind regards,

Jip Simonis

Abstract

Effective governance of transboundary river systems is becoming increasingly important as we face challenges brought on by climate change, including flooding, biodiversity loss, and droughts. This research examines the institutional barriers and enablers for integrating Blue and Green governance policies in the Scheldt River Basin, which is a complex transboundary river system shared by the Netherlands, Belgium, and France. Using the Politicised Institutional Analysis and Development (P-IAD) framework from Clement (2010), the study investigates how physical conditions, governance structures, political and economic contexts, community characteristics, and institutional discourses influence policy-making and implementation. The research highlights differences in flood risk management strategies, such as Flanders' approach using nature-based solutions compared to the Netherlands' dependence on grey infrastructure within the Western Scheldt. It also reveals significant differences in resources and knowledge between regions and structural inefficiencies in international coordination efforts, particularly within the International Scheldt Commission. By identifying key enablers, such as shared knowledge systems and strategies for linking issues, the findings provide insights into promoting more cohesive transboundary cooperation. Ultimately, this study contributes to the developing field of holistic water governance by proposing ways to align water and land policies across borders.

1. Introduction

1.1. Introduction to the research field

Climate change has emerged as a global crisis, leading to more severe weather events around the world. Its roots lie in greenhouse gas emissions, deforestation, and fossil fuel consumption, all of which accelerate warming and disrupt natural systems. As a result, extreme weather events, including heavy precipitation, floods, soil erosion and storms, have increased in frequency and intensity, posing increasing risks to communities and ecosystems (Van Aalst, 2006). These extremes are further aggravated by droughts and the rising incidence of forest fires, underscoring the critical environmental and societal threats we face (Van Aalst, 2006).

Europe is experiencing these changes firsthand, as highlighted by the European Environment Agency (EEA) (2024), which reports rising temperatures, recurrent extreme heat, and intensified rainfall across the continent. This volatility has already resulted in severe flooding events, highlighting the need for urgent action to mitigate future risks from both river (fluvial) and surface (pluvial) flooding. The EEA points to recent floods as stark evidence of the dangers: in 2021, the Limburg region faced devastating floods that inflicted damages amounting to 1.8 billion euros (NOS, 2023). More recently, catastrophic floods in Spain in October 2024 led to the tragic loss of 224 lives (NOS, 2024). According to the European Commission, nearly 1,500 floods have ravaged Europe since 1980, resulting in 4,300 casualties and over 170 billion euros in damages, making flooding the continent's most frequent and economically damaging natural disaster (European Commission, 2024).

The Netherlands is especially vulnerable to flooding due to its low-lying geography, with large portions of land below sea level (Klijn et al., 2011). Its high population density further exacerbates flood risks, elevating the likelihood of significant casualties and disruptions to critical services, including drinking water and electricity, during flood events (Planbureau voor de Leefomgeving, 2014). However, the impact of climate change is not limited to floods alone; droughts have also caused severe harm, ravaging natural habitats, damaging agriculture, and increasing the risk of wildfires and crop failures (NOS, 2021; Wageningen Universiteit, n.d.).

Given the interconnectedness of ecosystems, there is an urgent need to implement integrated land and water policies. Human activities on land, including agriculture, urban development, and waste management, have direct and often harmful effects on marine environments, leading to flooding, pollution, and habitat destruction (Wageningen Universiteit, n.d). A coordinated approach to managing both land and water would enhance conservation efforts, protect biodiversity, increase water quality, and sustain natural resources on land and in water. As we adapt to our changing climate, it is essential to implement holistic policies addressing land and water issues (Wageningen Universiteit, n.d.).

The BlueGreen Governance research project, funded by Horizon Europe (funding from 2024 until 2027), tackles significant land and sea management challenges by developing innovative governance strategies. This project integrates scientific approaches across eight case studies in Europe to promote reforms in marine governance (Ferraro, 2022). One of the case studies is the Scheldt Estuary, which stretches from Zeeland in the Netherlands to the Port of Antwerp in Flanders, Belgium. This region highlights the complexities of cross-border governance, underscoring the importance of balancing environmental preservation with economic activities. Policies implemented in the Netherlands directly affect the accessibility of Antwerp's port, demonstrating economic incentives for international collaboration (Meijerink, 2008).

As a Natura 2000 site, the estuary's habitats support various species, including birds, fish, and benthic organisms, all requiring careful protection. These ecosystems face threats like salinisation, turbidity, and changing water dynamics (VNSC, 2024). Relying solely on traditional grey infrastructure for flood protection risks a further loss of biodiversity. In contrast, nature-based solutions, such as the creation of floodplains, can simultaneously expand protected habitats and enhance flood safety (Wageningen University, n.d.).

In addition to its ecological significance, the Scheldt Estuary functions as an economic hub. It provides access to the Port of Antwerp, the second-largest port in Europe, where effective sediment management is crucial to maintaining navigability for large vessels (Amiens, 2023). Meanwhile, population growth in municipalities surrounding the Sea Scheldt in Belgium—home to 27.8% of the nation's population—fuels demand for housing, complicating land use planning and flood management (ADSEI, 2010). Approaches specific to individual sectors often lead to unintended consequences. For example, constructing housing in high flood-risk areas can create safety issues or widening the estuary to improve port access can damage biodiversity and degrade water quality, further exacerbating existing issues.

A holistic governance approach is essential to address these interconnected challenges effectively. This approach should integrate flood risk management, environmental conservation, port operations, and urban development to create sustainable solutions that support biodiversity, economic stability, and regional safety. However, effective governance must extend across the entire river basin rather than focusing solely on the estuary. The downstream estuary is influenced by upstream water flow, making actions taken upstream crucial for mitigating flood risks and managing water availability during droughts.

Within the Scheldt River Basin, France and Wallonia govern the upstream areas and significantly influence water flow into the estuary. These regions are vital for implementing measures that slow or retain water upstream, thereby impacting flood and drought risks downstream. Consequently, this research emphasises the importance of upstream-downstream coordination throughout the entire river basin.

Managing the Scheldt River Basin underscores the complexity of transboundary governance, which requires joint international efforts. Organisations like the Flemish-Dutch Scheldt Commission and the International Scheldt Commission facilitate cross-border cooperation. This case illustrates how a holistic approach to climate challenges—such as coastal and pluvial flooding, land subsidence, and rising temperatures—can enhance water governance.

1.2. Problem Statement

Holistic governance is advocated in the Scheldt Estuary, particularly regarding the importance of connecting various sectors. For the sake of this master thesis, research focuses on improving flood risk management in the transboundary estuary by integrating water strategies with nature and land policies, thereby promoting a Blue and Green integration.

Insufficient cross-border cooperation on flood risk management in the Scheldt Estuary poses severe risks to the effectiveness of flood risk policies in this region. Since water flows without regard to political boundaries, policies implemented in one country inevitably affect conditions downstream, making cross-border alignment and cooperation crucial. When national policies are uncoordinated, they may conflict or inadvertently worsen flood risks, resulting in unintended negative consequences (Wageningen Universiteit, n.d.). Recognising this, the European Union’s Flood Risk Directive

(2007/60/EC) mandates that flood management measures must be coordinated throughout river basins. In the Scheldt River basin, coordination requires unified action among France, Wallonia, Flanders, and the Netherlands.

While organisations like the International Scheldt Commission (ISC)[1] and the Flemish-Dutch Scheldt Commission (VNSC)[2] aim to facilitate this cross-border collaboration; their efforts have been limited. The ISC primarily focuses on information-sharing but lacks the authority to enforce coherent national policies (ISC, 2019). The VNSC, though active in project-based collaborations, has not harmonised long-term flood risk management strategies across the estuary (VNSC, 2022).

These divergent strategies reflect the contrasting priorities of Flanders and the Netherlands. Flanders utilises floodplains to manage water overflow, a strategy implemented through the Sigma Plan. Launched in 1977, this plan aims to improve water safety around the Scheldt River by promoting floodplain projects that mitigate tidal waves while preserving nature and promoting integrated land-water policies. Successful implementation of this plan requires the combination of water and land policies, as well as the integration of topics such as biodiversity and water safety (Vlaanderen, n.d.). The Netherlands has prioritised dikes and other grey infrastructure, as exemplified by the Delta Works under the Delta program. This Delta program is a yearly updated, nationwide initiative to protect the Netherlands from flooding through the coordinated dike and coastline management measures established after the 1953 floodings (Ministerie I en W, 2024). This approach, however, lacks the integration of land policies and focuses solely on water safety (Watersnoodmuseum, 2023). This discrepancy between the Sigma and the Delta program creates tensions. Allowing rivers to expand upstream in Flanders alters water flow patterns, affecting the volume and speed of water reaching Dutch barriers. These changes impact tidal dynamics and sediment transport, potentially raising water levels near Dutch dikes and increasing erosion risks. This complicates efforts to maintain safety in areas like the Western Scheldt.

These incompatible methods raise concerns about the region's preparedness towards the many problems connected to climate change. This shows that without an integrated strategy aligning land use, water safety, and climate adaptation, the Scheldt Estuary could remain vulnerable to flooding and ecological degradation.

1.3. Research Aim

This research explores the barriers to better integrating Blue and Green policies from an institutional perspective, specifically within the context of transboundary flood risk management. The Scheldt River basin serves as the case study. This leads to the following research question:

"What institutional barriers hinder the integration of Blue and Green governance concerning flood risk management in the Scheldt transboundary river system?"

To answer this question, the following sub-questions need to be answered:

[1] The ISC is an international organisation with the delegations from France, Belgium (split into Wallonia, Flanders and Brussels) and the Netherlands. Within the ISC the goal of the delegations is to create "a sustainable and holistic management of the Scheldt river basin" (ISC, 2024).

[2] The VNSC is an international organisation with the delegations of the Netherlands and Flanders in which they make policies for the management of the Scheldt Estuary, which starts around Antwerp (VNSC, 2023).

(1) “How is Transboundary Water Governance defined and what are the critical institutional barriers and enablers that influence it?”

(2) “Which Blue and Green policies already exist in the Scheldt River Basin?”

(3) “What are the current institutional arrangements for transboundary flood risk management in the Scheldt River Basin?”

(4) “How do exogenous factors impact transboundary flood risk management in the Scheldt River Basin?”

1.4. Scientific Relevance

Considerable research has been conducted on transboundary flood risk management, with particular emphasis on understanding the complex dynamics that arise from cross-border cooperation and conflict. For example, Taraky et al. (2021) examine the challenges of managing flood risk in regions impacted by geopolitical tensions, highlighting how such conflicts can complicate cooperative efforts. Heinrich and Penning-Rowsell (2020) provide a focused case study on Canada and the USA, which offers insights into flood risk management between two closely connected nations. Among the existing literature, the research by Van Eerd, Wiering, and Dieperink (2015) aligns most closely with the current study, as it addresses solidarity between European Member States in transboundary flood risk contexts. Their research investigates cooperation between Germany and the Netherlands within the Rhine River basin, illustrating how actions taken by one country can impact water safety in another. This study employs the politicised Institutional Analysis and Development Framework to identify obstacles to collaborative flood risk management based on mutual solidarity. While it shares similarities with this research in the Scheldt, Van Eerd et al. (2015) acknowledge the need to explore other river basins, thus underscoring the significance of this new research. Additionally, Van Eerd et al. (2015) lack a holistic approach to flood risk management, an aspect that this research uniquely addresses in combination with transboundary flood risk management.

In the still relatively underdeveloped field of holistic water management, the research conducted by Nordbeck et al. (2023) is one of the few extensive studies examining the challenges of cross-sectoral integration in Austria. It specifically focuses on the interactions among agriculture, hydropower, and spatial planning concerning water use and safety. The authors emphasise the importance of aligning policy goals across various sectors to achieve effective integration. However, they acknowledge the limitations of their study, which focused on only three sectors within a single national context. Nordbeck et al. (2023) suggest that integration challenges may differ across countries and sectors, underscoring the need for further cross-sectoral flood risk management research in different contexts. In response to this need, the current research examines Blue Green governance in a transboundary setting, contributing insights into the barriers to cross-sectoral flood risk management beyond Austria.

This research uses the Politicised Institutional Analysis and Development (P-IAD) framework developed by Clement (2010) to examine the institutional barriers in holistic flood risk management. The strength of this framework lies in its capacity to incorporate power dynamics and socio-political contexts into institutional analysis, making it particularly relevant for addressing complex cross-border water management challenges. Van Eerd et al. (2015) previously applied this framework and recommended its use in various river basins to enhance theoretical insights. By adopting the same

approach in a new case study, this research responds directly to that recommendation, providing a comparative perspective that enhances the framework's applicability. Additionally, it generates new data that contributes to the expanding international body of research on flood risk management, deepening our understanding of how institutional dynamics impact the effectiveness of integrated approaches across diverse contexts.

In the context of the Scheldt estuary, research by Doorn-Hoekveld (2017) provides the most relevant comparison. Doorn-Hoekveld (2017) examines institutional variations across countries in the Scheldt River basin, focusing primarily on legal frameworks and procedural differences. The current study expands on Doorn-Hoekveld's findings by incorporating a broader range of institutional differences, thus further developing an understanding of transboundary flood risk management.

1.5. Societal Relevance

With the rise of extreme weather events driven by climate change, flood risk is becoming an increasingly urgent concern for riverine and coastal areas. The Scheldt Estuary is particularly vulnerable due to its open connection to the sea, its funnel shape, and the surrounding low-lying land, all of which increase its susceptibility to flooding (European Environmental Agency, 2018). The increasing frequency of heavy rainfall events exacerbates the problem. In Belgium, the number of days with over 20 mm of rainfall has risen by approximately 30% since 1980, alongside an increase in winter rainfall from 175 mm to 230 mm per year, contributing to higher flood risks (Compendium voor de Leefomgeving, 2020; ISC, 2021). By 2100, Belgium is expected to experience a 22% increase in winter precipitation compared to 2022, escalating the risk of winter floodings (ISC, 2021). Similarly, the Netherlands anticipates more precipitation throughout the year—except in the summer—and a consistent rise in extreme rainfall events. Riverine flood risks are expected to worsen, with peak river flows in Belgium potentially increasing by 35% under pessimistic scenarios, significantly expanding flood zones (ISC, 2021).

This intensification could severely impact properties and infrastructure, particularly in Belgium, where an estimated 4.5% of buildings face the risk of water damage, and 0.7% are at risk of river flooding under current climate conditions. The risks are even more pronounced in Antwerp, where 14.3% of buildings are vulnerable to water damage and 5.7% to flooding. Without adequate climate adaptation measures, an estimated 6% of buildings in Antwerp could face severe flood damage (Vlaanderen, 2021).

Rising sea levels increase these risks even more. In the Netherlands, sea levels rise by 1.8 mm annually, while Oostende in Belgium experiences an even faster rate of 2.4 mm per year. Projections suggest that by 2085, the Netherlands could see a sea level rise between 25 and 80 cm, while Flanders uses a worst-case scenario of up to 200 cm (ISC, 2021). Without further action, a 1-meter rise could flood coastal areas, threatening the 400,000 residents living in low-lying polder regions of West Flanders (ISC, 2021).

The Scheldt River Basin faces additional interconnected challenges, such as biodiversity loss, housing shortages, and the need for sediment management to maintain port accessibility to Antwerp. Addressing these issues, alongside flood risk management, in a shared international basin requires an institutionalised, holistic approach that integrates land and water management policies. Sectoral approaches often result in unintended negative externalities, where the policies of one country or sector adversely affect others. For example, using traditional grey infrastructure to manage water safety can reduce natural areas, negatively impacting biodiversity and ecological health.

Strengthening the integration of Blue and Green policies across sectors and borders would help mitigate these externalities, creating a more resilient and sustainably managed Scheldt River Basin. This approach supports not only flood protection but also ecological conservation, sustainable land use, and enhanced safety for communities and economies along the estuary.

1.6. Outline of the thesis

The structure of this thesis is organised as follows. Chapter 2 introduces the key theoretical concepts of the research regarding international flood risks. Additionally, the IAD framework by Ostrom (2005) and the politicised version by Clement (2010) are explained; this framework forms the basis of the research. Chapter 3 discusses the methodology used, which is a qualitative case study based on data gathered through a policy document analysis and semi-structured interviews with policy-makers or experts. Chapter 4 provides information on the case and a structured overview of the research findings following the politicised IAD framework. In Chapter 5, findings from Chapter 4 are critically analysed and discussed. Chapter 6 provides answers to the sub- and main research questions. Finally, Chapter 7 discusses the reflections and limitations of the research and presents recommendations for further research and policymakers.

2. Theoretical Framework

This chapter discusses the main theoretical concepts of the research based on existing literature on these topics. The theoretical framework that will be used, the politicised IAD framework by Clement (2010), is explained later on in the chapter. The conceptual framework, filled in with research-specific variables, is discussed, forming the basis for this research.

2.1. Transboundary Water Governance

Transboundary water governance refers to the cooperative management of water resources across national borders (Moodie et al., 2019). It involves cooperation between neighbouring countries to address shared water challenges (Moodie et al., 2019). Effective transboundary water governance promotes diplomatic dialogue, data sharing, and joint decision-making to foster mutual benefits and prevent conflicts related to water access and management (Häbel, 2021). It recognises the interconnected nature of water systems and highlights the importance of international cooperation for the well-being of people and the environment.

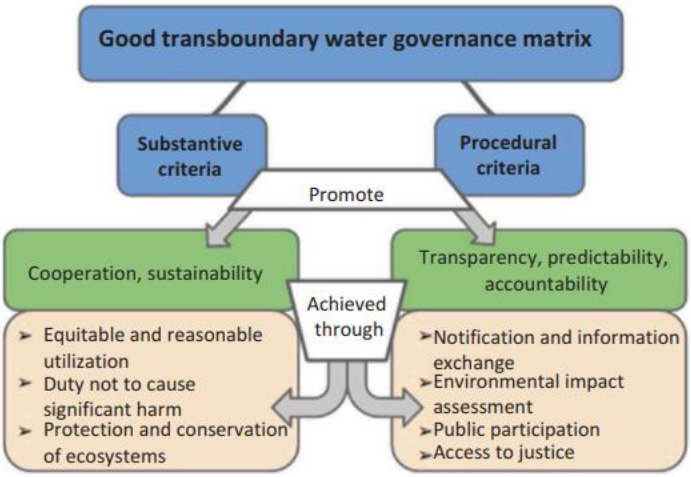
Orme et al. (2015) have tried to define what 'good' Transboundary Water Governance (TWG) entails. They researched this from a legal perspective, as sustainable water governance is part of the UN Sustainable Development Goals, which gives it legal importance to define what 'good' TWG is. According to Orme et al. (2015), TWG should promote cooperation for joint management and policy-making together with sustainability for a healthy and renewable environment. Furthermore, the process of developing policies should be transparent and predictable. This results in Figure 1. which shows a distinction between substantive and procedural criteria.

Substantive criteria focus on the content of policies, which are the actions that should be taken when managing shared waters. These criteria promote cooperation between parties and sustainability in using and managing the waters. Cooperation and sustainability can be achieved through a fair sharing of water resources without excessive use by one party at the expense of others. Furthermore, countries should avoid actions harming the other parties involved. Lastly, all parties should protect and conserve the ecosystems (Orme et al., 2015).

Procedural criteria focus on the policy-making process: how decision-making takes place, how information is shared, and the process's transparency. Parties can achieve this by informing each other of plans and actions that influence the waters. There should be continuous communication and data exchange. Furthermore, assessments should be made of the environmental impact of all projects or actions. Lastly, Orme et al. (2015) mention that mechanisms to resolve disputes and provide legal remedies should be in place.

Transboundary flood risk management can be regarded as a sub-field of transboundary water governance. Effective flood risk management necessitates cooperation between countries. It is essential to share information, maintain transparency, and ensure predictability in this context. Countries must understand how policies implemented across borders affect their territories' safety. The principle of "not causing significant harm", part of the good TWG principles, is particularly relevant, as one country's policies should not compromise the safety of another country (Orme et al., 2015). In the European Union, this principle is established in law through the European Flood Risk Directive (2007/60/EC).

Figure 1: Good Transboundary Water Governance Matrix (Orme et al., 2015)



2.1.1. Barriers and enablers to Transboundary Water Governance

The literature on transboundary water governance contains extensive knowledge about certain barriers and enablers that influence the success of the integration process between countries (Ward, 2013; Wiering & Verwijmeren, 2012; Zeitoun et al., 2013; Moodie et al., 2019). Ward (2013) has researched barriers and enablers for long-term water-sharing agreements. Wiering and Verwijmeren (2012) analysed multiple transboundary river systems to research how transboundary water management evolves and what influences its success or failure. Zeitoun et al.'s (2013) research presents future challenges for transboundary river basin management, focusing on climate change. Lastly, Moodie et al. (2019) focused more on transboundary enablers and challenges in the case of Maritime Spatial Planning. This paragraph combines these researches to create an overview of enablers and challenges for transboundary water governance found within the literature.

The most common barrier to TWG is a lack of support. As Ward (2013) and Wiering & Verwijmeren (2012) mention, every party should believe in the benefits of governing across borders instead of operating independently. If this belief is non-existent, stakeholders will not put in the effort to cooperate. Sometimes, the gains are unclear to every stakeholder, making them reluctant to cooperate. The chances of a lack of support increase in the implementation phase of the policies; during this phase, the range of actors involved typically expands; these actors did not take part in the earlier phase of determining the policy (Wiering & Verwijmeren, 2012). Wiering and Verwijmeren (2012) assert that defining problems and policies within smaller groups is more efficient. However, a downside of this approach is that during the implementation phase, the number of stakeholders tends to increase compared to the smaller groups that originally defined the problem. This growth in participants, along with the introduction of varying legislations, political cultures, and discourses, can create barriers that hinder effective policy implementation (Wiering & Verwijmeren, 2012).

Another barrier can be a state-centric focus from the stakeholders and countries involved. A focus on national sovereignty can stand in the way of creating new transboundary policies and institutions (Wiering & Verwijmeren, 2012; Zeitoun et al., 2013). This could lead to countries again not putting in the effort needed. An example of this is a common lack of information sharing. Information sharing emerges as a critical factor, with the reluctance to share information hindering institutional integration (Moodie et al., 2019). This unwillingness to share data and information does not only happen between countries but also between sectors. Sector experts do not always have a holistic view and can sometimes ignore the needs and relevance of the 'bigger picture' (Moodie et al., 2019).

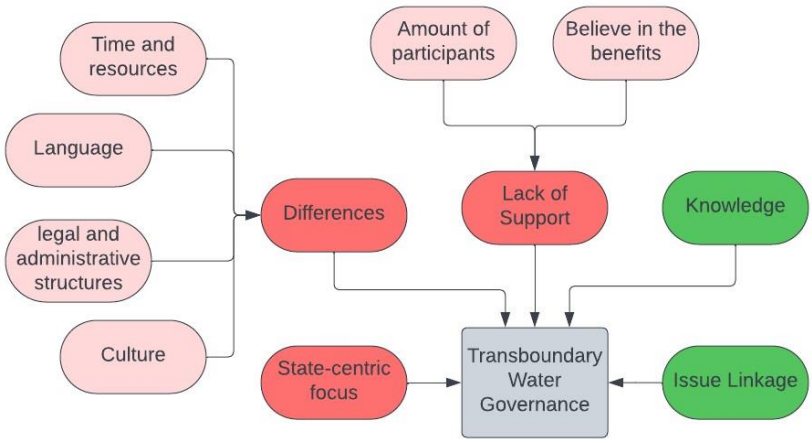
Lastly, differences in time and resources, language, cultural differences, and disparities in legal and administrative structures can also be obstacles to integrating water governance policies (Moodie et al., 2019; Wiering & Verwijmeren, 2013). Differences in time and resources can be a great barrier to international cooperation as these lead to the actions countries can take. If these differences are very big, the ambitions and goals of the cooperation can differ greatly. Language and cultural differences can form a barrier as it makes it harder for policymakers to understand each other and create relationships. Different legal and administrative structures refer to countries with diverse planning systems, norms, and political landscapes, creating difficulties in implementing policies (Moodie et al., 2019). Compounded by competing interests and varying levels of stakeholder engagement, these differences present formidable hurdles in formulating cohesive transboundary policies (Moodie et al., 2019; Talukder, 2020).

Despite these barriers, it is still very well possible to realise TWG. Creating shared knowledge about the transboundary river system can help transnational cooperation. Having the same knowledge and agreeing on the challenges within the transboundary waters creates a good base for international policies (Moodie et al., 2019). Besides a knowledge base about the river, knowledge and understanding of each other's interests plays a key role. Understanding the other party's interests creates opportunities to consider these while arguing for your interests. Furthermore, it is important to understand other national governance structures and planning approaches, as these form the basis of the decision-making processes (Moodie et al., 2019).

In response to the barrier mentioned earlier, the lack of support for certain international policies, issue linkage and redistribution of financial resources are mentioned as solutions. Issue linkage refers to combining policies on one issue or topic with policies on a different issue. This can create a give-and-take solution which can give the parties a policy they want on a topic they think is important. Which further emphasises the importance of understanding the priorities of the other parties. Instead of issue linkage, financial compensation can also be used in order to get a certain policy implemented. Both solutions ensure that the TWG creates a win-win situation for both, increasing support (Wiering & Verwijmere, 2012).

An overview of the barriers and enablers discussed above is shown in Figure 2. The three main barriers are 1) lack of support, 2) differences and 3) a state-centric focus. The main enablers are 1) issue linkage and 2) knowledge about the case.

Figure 2: Overview of enablers and barriers to TWG from literature (based on Ward, 2013; Wiering & Verwijmeren, 2012; Zeitound et al., 2013; Moodie et al., 2019)



The enablers and barriers of transboundary water governance show the importance of understanding the decision-making arena and the influences on this decision-making arena. The barriers and enablers mentioned are all exogenous variables which influence the action arena and the eventual outcome of the decision-making process. It is key to understand the institutions in place to understand which enablers and barriers play a role in the case and how to improve the policy-making process (Wiering & Verwijmeren, 2015). Therefore institutional theories are important within this research.

2.2. Institutionalism and institutions

Institutionalism contains a range of approaches that have an emphasis on institutions (Schmidt, 2014). According to Ostrom (2011), institutions are highly abstract and frequently invisible elements of the policy environment (Polski & Ostrom, 1999). Polski & Ostrom define institutions as “A widely understood rule, norm, or strategy that creates incentives for behaviour in repetitive situations” (Polski & Ostrom, 1999, p. 3). Within the existing wealth of literature on institutionalism, the commonly accepted shorter definition of institutions portrays institutions as "the rules of the game" within policy-making processes (Camilo et al., 2021; Hodgson, 2006; North, 1994). Rules in use and institutions can, therefore, be used interchangeably (Polski & Ostrom, 1999).

Institutionalism encompasses various streams that represent different types, with four main categories identified by Schmidt (2014):

1. Historical institutionalism examines the power dynamics within existing institutions. This leads to greater influence for certain actors or interests, hindering the establishment of new institutions and resulting in a form of path dependency (Hall & Taylor, 1996).
2. Rational choice institutionalism is based on the assumption that individuals have fixed preferences and complete information. Therefore, individuals can make rational decisions to maximise their position (Hall & Taylor, 1996; Schmidt, 2014).
3. Sociological institutionalism emphasizes the norms, values, and cognitive frames that guide human actions. In this framework, institutions are understood as comprising cultural values (Hall & Taylor, 1996; Schmidt, 2014).
4. Discursive institutionalism is a natural outgrowth of all the other three and focuses on discourses divided into coordinative discourses, through which actors construct their ideas and communicative discourses, through which actors make those ideas accessible to the public (Schmidt, 2014).

This research follows sociological and discursive institutionalism, acknowledging that institutions are embedded within discourse, norms and values. In this context, the ‘rules of the game’ denote humanly devised constraints shaping human interaction, constituting the most influential structures in the social realm (Hodgson, 2006; North, 1994). However, it is important to note that not all social structures qualify as institutions. Social structures must evolve into a discourse to be recognised as institutions (Hodgson, 2006). When a social structure transforms into a discourse, it becomes a socially transmitted "normative injunction or immanently normative disposition," commonly known as a social rule governing relationships between distinct social constituents (Hodgson, 2006; Camilo et al., 2021). In this context, a rule is a socially transmitted normative habit, dictating that an actor does Y in the circumstances X, with variations existing across cultural groups but not regularly across individuals of the same group (Hodgson, 2006). Recognising that institutions are predominantly structured within (systems of) social rules underscores the vital role of rules in comprehending and identifying institutional structures (Hodgson, 2006).

A distinction can be made between 'formal' and 'informal' institutions or rules (North, 1994; Polski & Ostrom, 1999). Formal institutions are laws, contracts, policies or procedures (Polski & Ostrom, 1999; Kaufmann, 2018). Governmental authorities enforce formal rules through sanctions such as fines and imprisonment (Pejovich, 1999). Informal rules encompass traditions, moral values, habits, religious beliefs, and societal norms. These elements connect to the past and reflect a community's prevailing perceptions, accumulated knowledge, and contemporary values (Pejovich, 1999; North, 1994). Such rules are passed down through generations through mechanisms like imitation, teaching, and oral traditions. While formal sanctions do not enforce these informal rules, they are reinforced through informal sanctions, such as ostracism and loss of reputation (Pejovich, 1999).

Ostrom (1999; 2005) determined seven types of rules. These rules represent the fundamental yet indispensable set required to explain actions, interactions, and outcomes related to policies. There are seven rules in use (Polski & Ostrom, 1999). Within Table 1, the seven types of rules-in-use are discussed (Polski & Ostrom, 1999; Ostrom, 2005).

Table 1: Seven types of Rules-in-Use (Polski & Ostrom, 1999; Ostrom, 2005)

Position Rules	Concerned about the roles and numbers of specific participants.
Boundary Rules	Identifying which participants are entering or leaving positions, as well as the methods they use to do so.
Authority Rules	Describing the actions that participants can take in specific situations.
Aggregation Rules	Explain how decisions are made.
Scope Rules	Show rules around jurisdiction and intended outcomes.
Information Rules	Show the amount and type of information available to participants.
Payoff Rules	Determine how costs and benefits are being measured and compared to each other.

Analysing these seven rules within an action situation will give a minimal but necessary basis to understand the context in which the policy-making occurs. The researcher should understand the rules, know their source, and how they are implemented in practice (Polski & Ostrom, 1999).

2.2.1. Institutions and organisations

Organisations ask for extra attention within the institutionalism theories as there is some debate within the scientific world about whether organisations are equivalent to institutions. Organisations can be all sorts of bodies: political bodies, social bodies, educational bodies, etc. (North, 1994). Organisations entail structures of networks that rely on rules governing communication, membership, and sovereignty (Hodgson, 2006). Polski & Ostrom define an organisation as follows: "An organisation can be seen as a set of institutional arrangements and participants who have a common set of goals and purposes, and who must interact across multiple action situations at different levels of activity" (Polski & Ostrom, 1999, p. 4).

Institutions serve as the rules of the game, an organisation is composed of multiple rules and actors that interact in various situations to achieve specific goals. For example, the Dutch Ministry of

Infrastructure and Water (Ministry of I and W) illustrates this concept. Within the ministry, there are aggregation rules that outline how decisions are made, authority rules that designate which actors can make decisions in specific policy areas, and position rules that establish the reporting structure among employees. All these rules are designed to support the ministry's goal of "building a beautiful, safe, and accessible country" (Ministerie van I en W, 2024).

Apart from being a collection of institutions to achieve a goal, an organisation is an entity (Polski & Ostrom, 1999). In this case, the organisation becomes an actor. When going back to the example of the Ministry, the Ministry is, for example, an actor in the International Scheldt Commission. Here, the Ministry acts for the same goal as the rules within the organisation are made for, but it is an actor in an action situation by himself. Therefore, within this research, following Polski & Ostrom (1999), an organisation as an entity is an actor, and organisations are not institutions themselves.

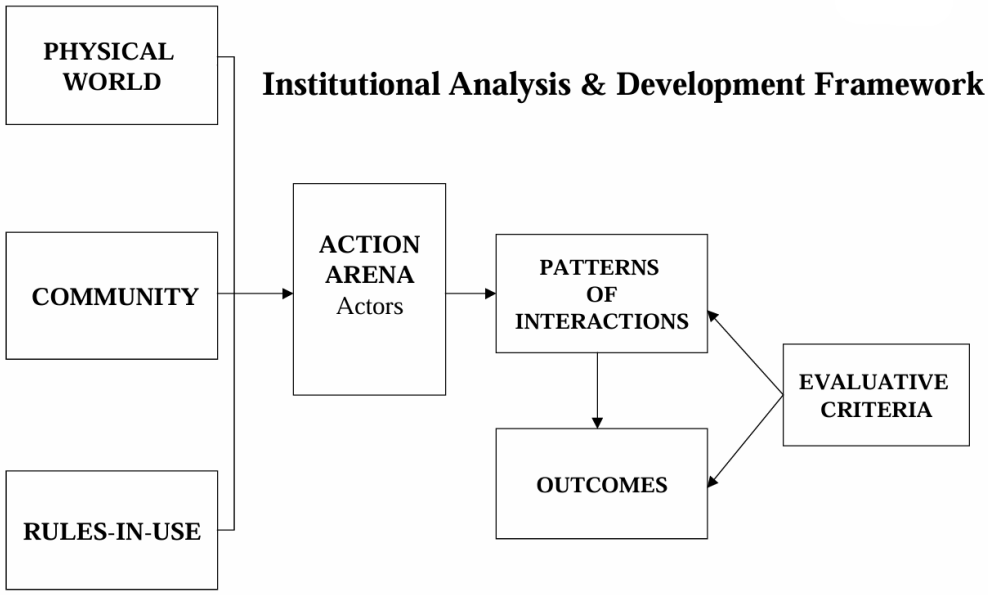
2.3. Institutional Analysis and Development Framework

The Institutional Analysis and Development (IAD) Framework, proposed by Ostrom (2011), serves as a systematic tool to analyse a certain institutional context. Because this framework is highly decomposable, it helps to analyse complex policy-making processes (Clement, 2010). In this research, an extended version of this commonly used IAD framework is used, namely the Politicized IAD framework by Clement (2010). Within this chapter, the 'original' IAD framework is first discussed, followed by the changes made by Clement (2010), making it the politicised IAD framework (P-IAD).

2.3.1. IAD Framework (Ostrom)

To begin with, the core of the IAD framework lies within the action arena. The action arena consists of the actors within the action situation and the action situation itself (Polski & Ostrom, 1999). The action situation is the social space where actors interact with each other, and outcomes are produced. In other words, it is where the policy action takes place (Polski & Ostrom, 1999). From the action arena, results and patterns of interaction can be found leading up to decisions and, eventually, outcomes. This can be seen in Figure 3.

Figure 3 Institutional Analysis and Development Framework (Polski & Ostrom, 1999)



The three exogenous variables influencing the action arena are the physical world, community and rules-in-use (Polski & Ostrom, 1999; Clement, 2010). 1. The physical world encompasses the physical and human characteristics, as well as the capabilities and resources involved in policy-making. This includes the landscape, such as the Scheldt Estuary, and the financial resources and knowledge of the stakeholders. 2. The community refers to individuals connected by shared norms, values, interests, or a common resource system. 3. The rules-in-use are the institutions in place. These rules can be of all the seven types discussed in Table 1. When analysing the action arena, it is important to rigorously analyse the decision-making capacity of the actors within the arena.

Actors aiming to influence behaviour need a significant institutional capacity. In this context, institutional capacity refers to the ability of actors to act upon and respond to changing institutions within the relevant context (Camilo et al., 2021). This institutional capacity is influenced by their specific positions, possible actions and outcomes, the level of control actors have over each other, available information, and the costs and benefits associated with certain actions (Ostrom, 2011). Once this is completed, patterns of interaction emerge logically from the behaviour of actors within the action arena. These patterns reflect the structural characteristics of a given action situation and the behaviour of participants within that structure. This information can be utilised to evaluate the performance of the policy system.

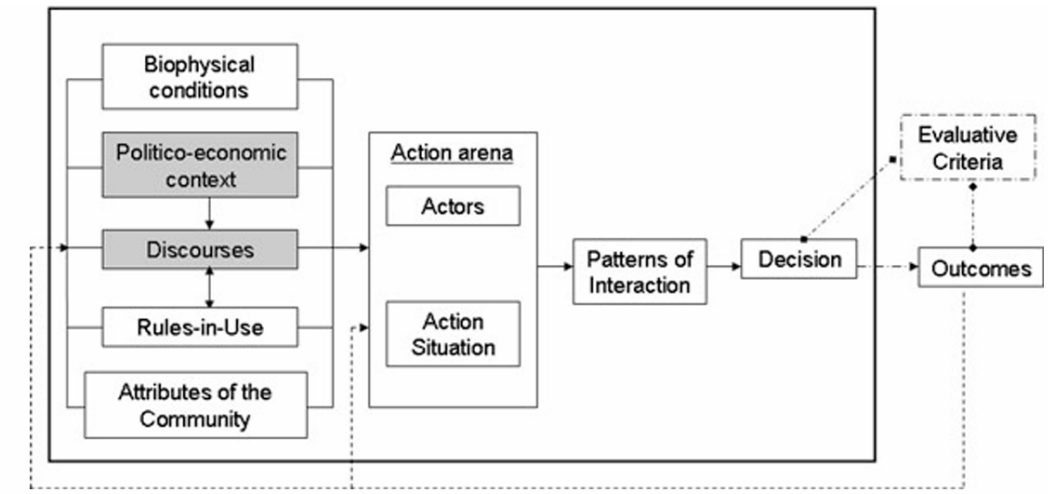
Evaluative criteria are needed to analyse the performance. These can be economic efficiency, accountability and adaptability (Polski & Ostrom, 1999). The researcher must determine what he wants to know and analyse.

2.3.2. Politicised IAD Framework (Clement)

As mentioned, Ostrom's IAD framework was expanded by Clement (2010), resulting in the Politicised IAD framework (P-IAD). The advantage of the P-IAD compared to the IAD is that it takes power dynamics and political values better into account (Clement, 2010). The P-IAD does this by adding two exogenous variables to the already existing three from the original IAD framework: 1. Politico-economic context is concerned with contextual political and economic factors that directly or indirectly influence participants in the action arena as well as understand events and processes in the past that resulted in the current power distribution (Clement, 2010). 2. Discourses are an ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena (Clement, 2010).

The politico-economic context and discourse are interrelated (Clement, 2010). The dominant economic and political structures influence the discourse. Political structures can, for example, influence the ideological framing used by actors. For example, a more right-wing political context can create a more economically focused frame towards water safety. On the other hand, discourse within a debate shapes the politico-economic context. The most prominent discourse can influence the political and economic context. For example, if the threat of global warming for biodiversity becomes the main discourse, it is likely to expect that the politico-economic context becomes more focused on biodiversity issues.

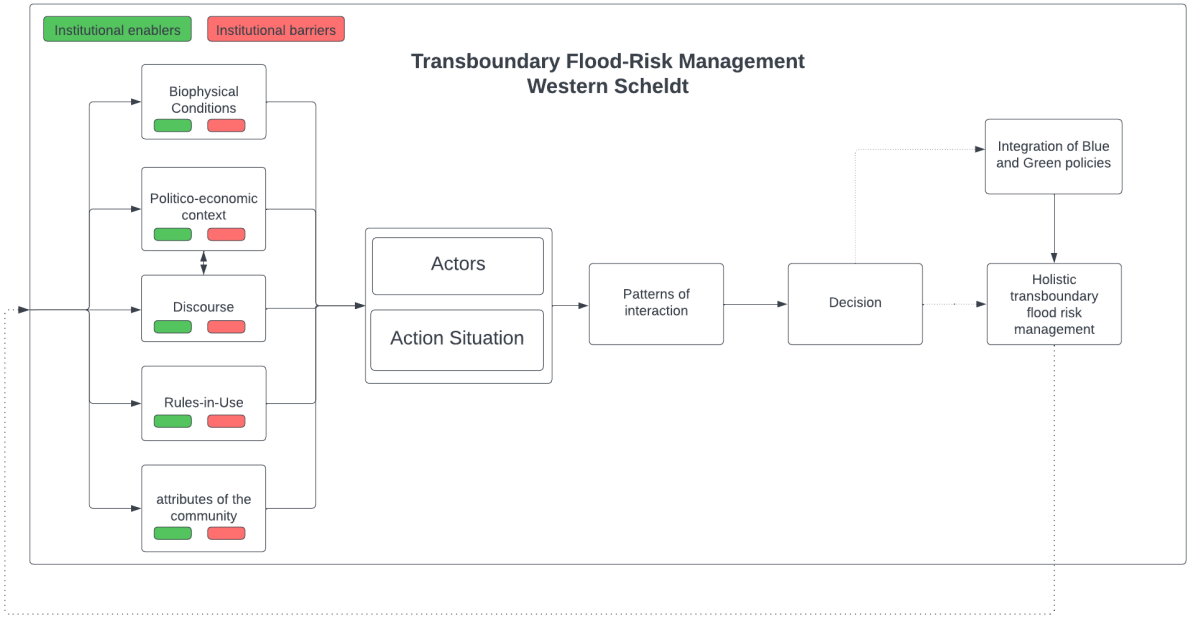
Figure 4 The Politicised IAD Framework (Clement, 2010)



2.4. Conceptual Framework

Using the Politicised IAD framework as the foundation for this research has resulted in the conceptual framework illustrated in Figure 4. This study aims to identify the institutional barriers and enablers that influence the development of holistic transboundary flood risk management. The barriers and enablers are illustrated as red and green boxes within the five exogenous variables. The barriers and enablers identified in the literature on Transboundary Water Governance, as depicted in Figure 2, will be placed in these red and green boxes if they are confirmed to exist in the Scheldt River basin during the empirical research. Additionally, the evaluation criteria focus on the integration of Blue and Green policies. This criterion reflects the extent to which land, nature, and water policies are aligned and reinforce one another. As previously mentioned, this alignment is currently lacking on a transboundary level. The goal is to enhance this integration to achieve a 'holistic transboundary flood risk management' outcome.

Figure 5: The Conceptual Framework



3. Methodology

Within this chapter, the methods used in the research will be discussed. First, the research paradigm connected to this research is discussed to comprehend the worldview with which this research has taken place and to connect this to the right methods. The methods used will be discussed in a more general way in the research strategy.

3.1. Research Paradigm

Before going deeper into the research methods used to answer the research question, it is important to understand the research paradigm. The research paradigm is a basic set of beliefs which form a worldview. This worldview determines the holders' nature of the world, the individual's place in it and to what extent this world can be explained (Guba & Lincoln, 1994). A research paradigm has three fundamental questions: 1. the ontological question, "What is the form and nature of reality? "; 2. The epistemological question is, "What is the nature of the relationship between the inquirer and what can be known?"; 3. The methodological question is, "How can the inquirer go about finding out whatever he or she believes can be known?" (Guba & Lincoln, 1994, p. 108). This research can be linked to the paradigm of critical realism. In the coming paragraphs, the ontology, epistemology, and methods used will be explained, as well as why they fit this paradigm and the research.

3.1.1. Ontology

As explained in the previous paragraph, the ontological question concerns the form and nature of reality. It is therefore concerned with what reality is, if there is such a thing as one reality and to what extent we can understand this reality (Guba & Lincoln, 1994).

As explained in paragraph 2.2.1, the politicised IAD framework forms the basis of the analysis conducted in this research. This framework relies on the fact that reality exists but is socially constructed (Clement, 2010; Whaley & Waterhead, 2016). This seemingly existing reality is shaped by social, political, economic and gender factors (Guba & Lincoln, 1994). This is linked to the politico-economic context wherein policy-making takes place (Clement, 2010)

Critical realism is the ontological approach that fits the politicised IAD framework, and thus, this research best (Clement, 2010). Critical realism is based on the idea that events we can observe are caused by entities with causal powers and liabilities (Sorrel, 2017). Here, Critical Realism distinguishes between the real, the actual and the empirical. The actual events are taking place in the world. The empirical are the events observed. These events are typically the result of the simultaneous operation of causal mechanisms (Sorrel, 2017). These mechanisms form the real and lay behind the events, and they might be physical, social, or cultural. Although these mechanisms might not be (directly) observed, their effects are (Sorrel, 2017).

Within the politicised IAD Framework, there is a focus on underlying factors of the events observed (the empirical). However, the reality behind these choices is not always observable; for example, they are embedded in discourse and politico-economic contexts.

3.1.2. Epistemology

The epistemology of research focuses on the "nature of knowledge," examining how we come to know and understand reality. While ontology addresses whether reality exists, epistemology investigates whether we can know that reality and how the extent of this knowledge may vary

among individuals (Van Thiel, 2014). Guba and Lincoln (1994) describe this as the relationship between the knower—and the object of knowledge.

In the context of this research, which is rooted in Critical Realism, the researcher acknowledges that reality cannot always be fully comprehended. Explaining empirical phenomena becomes challenging when aspects of reality are not directly observable (Sorrel, 2017). This research aims to gain insights into reality through interviews with policymakers. However, the researcher recognises that they cannot fully understand all entities with causal powers related to the subject; consequently, the complete reality may remain elusive.

The elements of reality that the researcher can access are mediated through the interviewees' perspectives, which are influenced by their cultural, historical, and social contexts. This understanding aligns with the epistemology of constructionism, which suggests that meaning is created through interactions with others (Moon & Blackman, 2014). Therefore, the 'real' in this research emerges as a co-constructed understanding shaped by the interaction between the researcher and the participants' perspectives.

3.1.3. Methodology

The methodology concerns how the researcher can acquire the data about what he or she believes can be known (Guba & Lincoln, 1994). Within this research, the methodology is dialogical. This means that in order to obtain the data needed to understand the real world, a dialogue has to take place between the investigator and the subjects (Guba & Lincoln, 1994). This dialogue should be open and able to discuss multiple perspectives, ideas and opinions. This way, the dialogue could lead to information on how the structures in which reality is embedded can be changed and which actions are needed to realise this (Guba & Lincoln, 1994). Resulting in interviews, facilitating open dialogue, as a suited methodology. In the case of this research, semi-structured interviews were used. A document analysis supports this method.

3.2. Research strategy

3.2.1. Qualitative research strategy

Qualitative research focuses on understanding a situation's ins and outs. It does this through in-depth research using non-numerical 'rich' data derived from methods like interviews, observations or texts (Hay & Cope, 2016). On the other hand, quantitative research focuses on numerical data, using this data to employ statistical methods to generalise findings and test hypotheses

As Ostrom and Crawford (1995) mention, research on institutions requires qualitative methods as they provide richer data, which is required to understand how institutions are developed and influence policy-making processes. Therefore, this research will also be conducted through qualitative methods.

Qualitative research can be done inductively and deductively. Within inductive research, the researcher observes the empirical world, describing the problem and trying to diagnose features or causes in the situation in which the problem occurs (Van Thiel, 2014). Within deductive research, the research derives from existing literature and theoretical frameworks (Van Thiel, 2014). This literature forms the basis of the empirical research and qualitative data collection. Within this research, a deductive approach is used, and the existing literature and theoretical framework are used as a basis for the empirical research and qualitative data collection.

3.2.2. Case study strategy

Within a case study, the researcher picks one or several cases and examines almost everything within this case (Van Thiel, 2014). This is called a holistic approach and usually leads to a large body of qualitative data on everything to do with the case (Van Thiel, 2014).

A definition of case study research is: “the study of a single instance or small number of instances of a phenomenon to explore in-depth nuances of the phenomenon and the contextual influences on and explanations of that phenomenon” (Hay & Cope, 2016, p. 109).

As this research aims to understand institutional barriers within transboundary flood risk management, a case study is a logical choice. Institutional analysis requires deep know-how of the whole policy-making process and its actors because it requires an understanding of complex variables like interactions and behavioural structures. Triangulation and the use of multiple data collection methods can be implemented to improve the reliability and validity of case-study research (Van Thiel, 2014). In paragraph 3.3, triangulation will be further elaborated on. The multiple data collection methods used in this research are interviews and document analysis.

3.2.2.1. Case study selection

Flood risk management in the Scheldt River Basin has been chosen as a case study for this research on integrating Blue and Green governance. The Scheldt case is one of the eight cases in the BlueGreen Governance Research Program. Within this program, multiple subjects are of interest, such as sea level rise, land subsidence, droughts, increased rainfall, etc. For the sake of feasibility and time, and because it is the most pressing issue, this research mainly focuses on the threat of flooding and, therefore, flood risk management.

The case of the Scheldt Estuary is particularly interesting because of its transboundary aspect. The Estuary of the Scheldt is situated within both Belgium and the Netherlands and is of great importance for the Port of Antwerp as it is the access route towards the port. Accessibility to the port happens through Dutch territory and has, therefore, always been a priority in the transboundary water governance of the area. This focus on accessibility has resulted in negative externalities, harming nature and biodiversity, as mentioned in Chapter 1. Furthermore, the Scheldt River Basin faces problems of increasing rainfall and rising sea levels, threatening safety while being a highly populated area, making this area specifically interesting for an increase in the integration of land and water policies to create a more holistic approach to flood risk management.

3.2.3. Data collection

3.2.3.1. Document analysis

Document analysis is a research method that examines data collected or produced by others, therefore making it secondary data collection. It is an example of desk research, which is seen as a cost-effective and efficient method that can provide valuable insights into the topic (Van Thiel, 2010). This made document analysis a very useful tool to start the data collection process as it formed the basis of the empirical research, based on semi-structured interviews, later on.

The document analysis is based on primary sources, also called original sources, like laws and policy documents. Legal documents ranging from national laws to European directives were used to create a legal understanding of the case. Furthermore, national policy documents were used to understand which policies were already in place in the countries researched and to get a grip on the visions and ambitions for the future. Lastly, the ISC and VNSC play a crucial role in the transboundary management of the Scheldt River Basin; therefore, policy documents from both Commissions were

analysed. This provided a good knowledge base for the case and great insights into the manner. During the interviews, the research could further develop on the basis created during the document analysis. In Table 2, an oversight of the analysed policy documents is given.

Table 2: Overview of the Analysed Policy Documents

Date	Source	Name	Topic
September 2023	Dutch Ministry of Infrastructure and Water Management	National Delta Programme 2024	The Dutch Delta programme protects the Netherlands from flooding. The 2024 version, stating the latest developments concerning Dutch Flood Risk Management.
March 2022	ISC	International Management Plan 3rd cycle (2022-2027)	The document is the international variant of the national Management Plans, focused on water quality.
December 2023	ISC	Year Report ISC 2022	Document mentions the topics discussed in the ISC during 2022 and an analyse how the cooperation went.
December 2015	ISC	Nota Climate Change adaptation	Agreement between the countries within the ISC concerning Climate Adaptation.
December 2017	ISC	Agreement concerning exchange of High- and Low water prospects	Agreement between the countries within the ISC concerning the exchange of data concerning high- and low water prospects.
December 2015	ISC	International Flood Risk Management Plan	The international variant of the national International Flood Risk Management plans.
December 2021	ISC	2nd International Flood Risk Management Plan	The international variant of the national International Flood Risk Management plans.
December 2000	France, Flanders, Wallonia, Netherlands, Brussels, Federal Belgium, EU	The Scheldt Treaty	A legal document in which the member states of the ISC agree on certain rules concerning the management of the Scheldt river basin and on how the ISC operates.
October 2007	European Union	European Framework Flood Risk	An EU Directive concerning agreements on flood risk management in the EU.
December 2021	ISC	Triannual reports ISC waters 2019	Presentation slides from the Secretary General of the ISC on the work of the ISC and reflection on the cooperation within the ISC.
April 2019	VNSC	Evaluation Agreement Policy and Management Scheldt Estuary 2014-2018	A document which evaluates the work of the VNSC from 2014 until 2018.
August 2017	Flemish Waterways	Sigmaplan	Description of the Sigmaplan which forms the basis of the management of the Scheldt in Flanders.

3.2.3.2. Semi-structured interviews

Interviewing is commonly used in case studies, and there are three types of interview formats: unstructured, semi-structured, and fully structured (Van Thiel, 2010). Fully structured interviews are similar to surveys, while unstructured interviews are completely open-ended. For this research, a semi-structured interview format was chosen.

A fully structured interview would limit the opportunity for follow-up questions, essential for understanding complex structures such as institutions and discourse (Van Thiel, 2010). On the other hand, It is crucial to cover all significant topics derived from the theoretical framework and findings from the document analysis to effectively answer the research question; therefore, an unstructured interview would not be suitable. The semi-structured interview format allows for follow-up questions while ensuring that all important topics are addressed during the interviews.

During the interviews, the interviewer allowed flexibility in adjusting both the questions and their order according to the specific respondent. Each interview guide was tailored to the interviewee's individual background, resulting in a unique guide for each interview. Given the diverse backgrounds of the interviewees, the guide was modified to align with their professional experiences. An example of an interview guide that was used can be found in Appendix 1. Additionally, the order of the questions was adjusted during the conversation, ensuring natural flow during the conversation.

The interviews were meant to create a deep understanding of the experiences of these stakeholders within the transboundary policy-making processes. Therefore, they were around 45 till 60 minutes long. This gave the interviewer enough time to elaborate on the interviewee's answers and go into further detail, creating a deep understanding of the interviewee's experiences.

The interviews were recorded and transcribed. All interviewees were asked consent to record the conversation, with the promise that their names would remain anonymous. The interviewees have all agreed with this. The records and transcriptions of the interviews will not be published and will remain solely in the hands of the researcher and his supervisor.

In this research, a total of 14 interviewees participated. Most of the interviews were conducted with policymakers from the International Scheldt Commission or other governmental organisations involved in managing the Scheldt River Basin. Since international cooperation primarily occurs at the national level, the majority of interviewees were employed by either the Dutch or Flemish Ministries. Given the high-politics nature of this political landscape, it was essential to interview individuals at this level.

Three of the interviews were conducted as duo interviews, where two interviewees were interviewed simultaneously. This format was suggested by the interviewees themselves, who believed it would yield more valuable data. Their insight proved to be correct; during the duo interviews, the interviewees were able to respond to each other's comments and explore each other's points in greater depth, leading to rich and informative discussions. The duo interviews were conducted only when the interviewees were colleagues working on the same themes. Generally, these duo interviews were longer compared to the solo interviews. In total, this resulted in 11 distinct interviews with 14 participants.

The interviews included participants from various organizations, such as the Dutch and Belgian ministries, Deltares, the Union of Dutch Waterboards, Goodplanet Belgium (the organization behind the Scheldt Youth Parliament), and the Waterboard Scheldestromen. This variety contributed to a

broader and more diverse perspective in the research. Engaging with a researcher from Deltares and representatives from relevant regional authorities enhanced the completeness of the findings.

Unfortunately, delegations from France and Wallonia did not respond to multiple invitations to participate, possibly due to a language barrier. Additionally, the research could have been enriched by an interview with someone from the secretariat of the International Scheldt Commission; however, they also did not respond to the invites. Nevertheless, the conducted interviews provided valuable insights into the case and yielded sufficient qualitative data. Table 3 shows an overview of all the interviewees.

Table 3: Overview of the Interviewees

	Date	Function	Employer
1	17-6-2024	Specialist advisor	Deltares (NL)
2	9-9-2024	Program Coordinator	Goodplanet Belgium
3	1-7-2024	Policy officer chemical water quality	Ministry Infrastructure and Water (NL)
4	1-7-2024	Senior policy advisor	Rijkswaterstaat (NL)
5	10-7-2024	Advisor Water management	Rijkswaterstaat (NL)
6	3-7-2024	Advisory Lobby European Affairs	Union of Waterboards (NL)
7	20-6-2024	Senior Policy Coordinator	Ministry of Infrastructure and Water (NL)
8	20-6-2024	Senior policy advisor	Rijkswaterstaat (NL)
9	2-7-2024	Senior Advisor Water quality and International coordination	Ministry of Infrastructure and Water (NL)
10	3-9-2024	Head of Management & Investments	Flemish Waterways (FL)
11	26-6-2024	Policy Officer Climate adaptation	Ministry of Infrastructure and Water (NL)
12	26-6-2024	Teamleader Climate adaptation	Ministry of Infrastructure and Water (NL)
13	12-9-2024	Flemish Delegation Secretary	Flanders Environment Agency (FL)
14	18-9-2024	Advisor Spatial planning & Water safety	Waterboard Scheldestromen

3.2.4. Data Analysis

The document analysis primarily yielded data from notes taken during readings and direct quotes from the documents. The data was structured according to the five exogenous variables from the P-IAD framework, which served as the foundation of the research. Once structured, the data was analysed for patterns and specific characteristics.

Since the document analysis was conducted before the interviews, the findings from this analysis were used to develop interview questions aimed at gathering more in-depth information on these topics. After the interviews were conducted, the documents were uploaded to Atlas.ti and coded.

All interviews were recorded and transcribed using an automated transcription program. These automatically generated transcripts were manually reviewed for errors and corrected if necessary. Given the volume of the data, coding the transcripts was essential for analysis. This coding process was carried out in Atlas.ti, which facilitated the categorisation and comparison of all the information. Codes were continuously refined, combined, or split as new patterns emerged.

In this research, axial coding was employed. This method organises codes hierarchically and helps to identify significant relationships between concepts, allowing for insights into cause-and-effect and the interconnections between issues. By ensuring that the document analysis was coded using the same codes as the interviews, the researcher was able to integrate data obtained through both methods more effectively. The codebook created from the analysis of the interviews can be found in Appendix 2.

3.3. Validity and Reliability

3.3.1. Validity

The validity of research is divided into internal and external validity. Internal validity concerns whether the researcher researched what he intended to do with operationalising theoretical constructs and whether this was done adequately as a key aspect (Van Thiel, 2014). Case studies usually have a high internal validity because of the holistic approach and qualitatively rich data (Van Thiel, 2014).

To make sure this internal validity is indeed high, multiple methods have been used to improve the validity. The research gathers as much information as possible using two different methods. Adding to that is the fact that the different methods ensure that the data collected are valid (Van Thiel, 2014). A downside to interviews is that the researcher plays a big role and intervenes in the situation, which can influence the data. However, this is not the case with document analysis. Making both methods supplementary to each other, increasing the internal validity.

External validity concerns the extent to which the research is generalisable. Where a case study has a high internal validity, the external validity is low, and thus, opportunities to generalise results are usually lower (Van Thiel, 2014). Because of the specific context in which this research takes place, the results will probably not be generalisable. However, they could be used to compare with similar research in the future and past and look for common results. Furthermore, the research can create useful insights for other cross-boundaries basins worldwide that most likely face similar issues.

3.3.2. Reliability

The reliability of research is concerned with accuracy and consistency (Van Thiel, 2014). Accuracy is particularly focused on the measurement instruments that are used, in order to determine if the variable was captured as correctly and precisely as possible (Van Thiel, 2014). To realise this, the interview questions were ensured to be clear and well-defined by testing them on relatives before the interviews started. Furthermore, a big part of the interview questions were based on existing literature and the document analysis to ensure the questions askwed during the interviews were relevant to the topic.

The second aspect of reliability is consistency. Consistency relies on repeatability, meaning that conducting the same research in the same context should yield the same results. To facilitate this, the various steps taken and methodological decisions made during the research are clearly described. The interview guide and codebook used in the study can be found in Appendix 1 and Appendix 2. Providing these documents enhances reliability, as they demonstrate to the reader how the interviews were conducted and analysed, thereby increasing the potential for repeatability.

4. Results

Within this chapter, the results from the research are presented in a structured manner following the politicised institutional and development framework from Clement (2010). The chapter will start with an introduction to the case, explaining the different international river commissions in the Scheldt River Basin, compare policies, and discuss the relevant European agreements. Afterwards, the data gathered during the interviews will be presented following the framework. The chapter will end with a short overview of the data. Within this chapter, the interviewees will be cited by the number from Table 3, when useful combined with their professional function, in order to increase readability. This is done using the following layout: (int. NUMBER) or (int. NUMBER, FUNCTION).

4.1. Introduction to the case

This research focuses on Blue and Green governance in the Scheldt River Basin. Two key organizations have been established to manage this river basin on an international level:

1. The International Scheldt Commission (ISC) oversees the entire Scheldt River Basin (as illustrated in Figure 6).

2. The Flemish-Dutch Scheldt Commission (VNSC) governs the Scheldt Estuary, extending from the port of Antwerp to the river's mouth at the North Sea in the Netherlands (VSNC, 2022). The Dutch portion of the estuary is referred to as the Western Scheldt, while the Flemish section is known as the Sea Scheldt (int. 4). A map of the estuary can be found in Figure 7..

Figure 6: The Scheldt River Basin (Demarée, 2006)

Flemish-Dutch Scheldt Commission and International Scheldt Commission

The VNSC was established in 1948 as the Technical Scheldt Commission. Its primary focus was on improving the accessibility of cargo ships to the Port of Antwerp, with Flanders and the Netherlands collaborating to achieve this goal (VNSC, 2022; Int 4). In 2005, the Commission's scope expanded after it became clear that efforts to enhance accessibility were negatively impacting nature and water safety (Int. 1; Int. 4). Deepening the Scheldt River to accommodate larger ships changed its discharge, resulting in the erosion of mudflats and destruction of bird habitats.

In 2008, the Commission was renamed the Flemish-Dutch Scheldt Commission and began focusing on three main objectives: accessibility, nature preservation, and safety (VNSC, 2022). It aims to formulate and manage policies that balance these three areas for the Scheldt Estuary. The VNSC develops and implements plans on a project-by-project basis. One notable project is the 'Nieuwe Sluis Terneuzen,' which enhances accessibility for large ships to Antwerp without compromising safety and environmental sustainability.

The ISC, originally named the International Scheldt Protection Commission, is a younger organisation established in 1994. Since 2002, following the Treaty of Ghent (Scheldt Treaty), it has been called the International Scheldt Commission (ISC, 2020). The ISC is described as an "intergovernmental organisation for the coordination of joint actions and monitoring water quality and quantity (surface and groundwater), aiming for sustainable and harmonised water management" (ISC, 2020, p. 8). Unlike the VNSC, the ISC includes delegations from France, Wallonia, and Brussels, in addition to those from Flanders and the Netherlands.

According to the Scheldt Treaty, the ISC aims to coordinate water management across the entire Scheldt River basin, striving for sustainable and comprehensive water management (Scheldeverdrag, 2005). Its focus areas include surface and coastal water, fish, groundwater issues, climate change, flood management, droughts, pollution emergencies, warning systems, inter-delegation coordination, and cartography (ISC, 2024). Thus, the ISC has a broader scope and more members compared to the VNSC. It's important to note that the ISC does not create and implement projects; rather, it focuses on policies which should be implemented by the Member States themselves (Int. 1).

Figure 7: The Scheldt River Estuary (VNSC, 2022)

Sigma Plan and Delta Program

Within the Scheldt Estuary, there are two major plans currently in effect: the Sigma Plan on the Flemish side of the border and the Delta Program on the Dutch side.

The Delta Program is a nationwide program meant to protect the Netherlands against flooding. After the floodings of 1953, the Netherlands implemented agreements on the height of the dikes and management of the coastline. Without going into the details of this program, the Delta Program is a yearly updated program consisting of multiple sub-programs (called Deltaplans or Deltabeslissingen) which give effect to the Delta program. The main goal of the Delta program is to create water safety, which is achieved through implementing long-term safety norms. The current norm is that “the chance of dying because of flooding should be 0,001% for everyone behind the dikes in 2050”

(Ministerie I en W, 2024). Examples of the Delta program are the Delta works, e.g. Eastern Scheldt Storm Surge Barrier, as shown in Figure 8.

The Sigma Plan is younger than the Delta Program; it was launched in 1977 and aims to increase water safety around the Scheldt River. The Sigma Plan is not based around one clear safety norm or a national program but is "a concatenation of projects that reduce the risk of floodings by creating flood plains that reduce the height of the tidal wave" (Int 10, Head of Management and Investments Flemish Waterways). This way of reducing flood risks also creates a place for natural areas and uses less 'grey infrastructure'. In the Scheldt Estuary is Flanders ahead of the Netherlands concerning nature preservation and integration of land and water policies (Int 7, Senior Policy Coordinator, Ministry I and W (NL); Int. 1, specialist advisor, Deltares). Figure 9 shows an example of a project that is part of the Sigma plan.

Figure 8: Eastern Scheldt Storm Surge barrier (Rijkswaterstaat, n.d.)

Figure 9: Eastern Scheldt Storm Surge Barrier (Sigmaplan.be, n.d.)

4.2. Five exogenous variables

The empirical findings concerning each of the dimensions of the theoretical framework, as introduced in Chapter 2, will be reported next.

4.2.1. Biophysical conditions

Environmental and physical conditions shape decision-making, and the Scheldt River basin is no exception (Clément, 2010). The Scheldt Estuary has a funnel-like shape, with a wide riverbed in the Dutch section, known as the Western Scheldt, and a narrower bed leading to the Port of Antwerp called the Sea Scheldt. This funnel shape can be seen in Figure 7.

This difference in riverbed width introduces significant variations in flood risks across the basin. In the Western Scheldt, where the estuary meets the sea, the primary flood threat arises from high storm waves. In the Sea Scheldt, however, flooding is mainly driven by high river flow and tidal surges. These differences necessitate distinct flood management approaches for each region. In the Belgian section, giving more space to the river and reducing water levels effectively manage flood risk (Int. 4). Expanding river space also allows for integrating natural areas, benefiting both ecological and safety objectives. Conversely, within the Dutch part of the estuary, where the flood threat is sea-based, increasing river space has limited impact. Instead, strengthening existing dikes and reinforcing water barriers, such as those in the Delta Works project, prove more effective against storm surges. As interviewees pointed out, the river-based flood risks in Flanders allow for a more holistic approach to water safety: "They can combine nature and land policies with safety [...] we need to convince our government to buy land for natural areas and nature conservation instead of using the argument

that the land is needed for water safety with nature as a positive side-effect. With that reasoning, it is impossible to obtain enough resources in the Netherlands" (Int. 4, senior policy advisor, Rijkswaterstaat (NL)). This combination of ecological and flood management measures gives Flanders greater leverage in securing government resources for land acquisition and nature preservation.

The geography of the Scheldt River basin also highlights upstream-downstream dynamics that impact decision-making, particularly within the International Scheldt Commission. France and Wallonia are geographically upstream, while Flanders and the Netherlands are downstream, and this positional difference influences actions and policies. Since water flows downstream from France and Wallonia, representatives from downstream regions, the Netherlands and Flanders, feel a stronger need for international cooperation than their upstream counterparts. Downstream regions rely more on upstream actions to manage water flow, with a stronger sense of urgency for collaborative flood risk management. In contrast, upstream regions, having fewer direct consequences from downstream conditions, tend not to share the same sense of dependency.

This downstream reliance on upstream management intensifies flood risks, as these areas bear the impact of cumulative water flow. Interviewee 6 explained this interdependency: "Everything that happens higher up influences what happens further down. This is very connected to Blue Green because the usage of your soil affects the speed of the water in the river and thus the speed with which water arrives at the border, potentially causing flooding" (Int. 6, Advisory Lobby European Affairs, Union of Waterboards (NL)). By implementing upstream measures to retain water or slow its flow, upstream regions can play a vital role in preventing or reducing flood risks downstream. For downstream areas like the Netherlands and Flanders, international cooperation is thus essential for ensuring flood safety. Through collaborative efforts, these regions can encourage upstream partners to adopt practices that benefit the entire river basin, reducing the overall flood risks by slowing down water flow and increasing natural retention measures.

4.2.2. Politico-economic context and discourse

The politico-economic context and discourse are interlinked and often overlap (Clement, 2010), so they are addressed together here for clarity.

A prominent theme from interviews was the level of autonomy experienced by members of the International Scheldt Commission. Although this autonomy was often seen as a cultural difference by the interviewees, it significantly impacts political power within the ISC and stems from the different political systems of each delegation. Therefore, it is discussed under the politico-economic context.

The primary distinction is the degree of decision-making power within each delegation. Dutch ISC members reported that they can make decisions on behalf of the Netherlands during ISC meetings without needing prior approval. In contrast, other delegations frequently need to consult their superiors before making decisions, which slows down the ISC's overall decision-making process. The French delegation, in particular, is cited as highly centralised, requiring national governmental approval, even for minor details. This top-down approach can be challenging for other delegations, as Interviewee 9 remarked, "Maybe I will be seen as a direct Dutchy, but I would just go to someone and talk with each other about it… With them, these things are often also brought back to the Delegation leaders' level. While I would think we can easily solve this in our working groups" (Int. 9).

Employees of the Dutch Ministry also described France and Wallonia as having strict hierarchical structures, where field-level decision-makers depend heavily on approvals from higher authorities. This dependence causes delays and can even prevent certain decisions from being addressed due to time constraints on those in authority. As a result, decision-making is sometimes not only delayed

but, in some cases, altogether halted, leading to friction between the more autonomous Dutch and Flemish delegations and the more centrally governed French-speaking delegations.

Despite these challenges, Interviewee 1 observed that cultural and procedural differences can diminish over time as delegations work together. Interviewee 4, from the Flemish-Dutch Scheldt Commission, noted that decision-making within the VNSC is often more efficient, attributing this to the longstanding relationship within the organisation and the substantial resources available to the Flemish delegation due to the Port of Antwerp's strategic importance.

Governance structure

The governance structure in the Scheldt's transboundary river basin reveals significant complexities due to differing political systems across regions and countries. As noted in the literature, differing political systems can create barriers to good transboundary water governance (Moodie et al., 2019). In Belgium, this fragmented governance challenges international collaboration, as its structure is seen as a known barrier (Mees et al., 2018). Within the International Scheldt Commission, Belgium is represented by separate delegations from Flanders, Wallonia, and Brussels. At the federal level, Belgium has no responsibilities for river management, only for maritime planning, meaning other countries must negotiate directly with individual Belgian regions. French delegations, in particular, find negotiating with provincial-level authorities uncomfortable, as they are perceived as "lower" authorities (Int. 10, Head of Management & Investments, Flemish Waterways).

The autonomy of Belgium's regions in river management leads to substantial policy differences within the country. Interviewees noted that Flanders works with Wallonia on water management like any other country, such as the Netherlands. Effectively, Belgium has no unified water policy; rather, each region operates independently, which increases the number of stakeholders and complicates consensus-building (Int. 9). Additionally, each region manages its own spatial planning, making Blue and Green governance integration fully their responsibility.

Flemish water management is extra complex, as it is divided between two organisations: Flanders Waterways, responsible for navigable waters, and the Flanders Environment Agency, managing non-navigable waters. Agreements with Flanders often require both agencies to participate, further adding to stakeholder numbers and decision-making challenges (Int. 8). The division of responsibilities between these agencies is sometimes unclear, complicating governance even within Flanders. Interviewee 14 noted this challenge, saying, "I was visiting the Flanders Waterway last summer, and we talked about government structure... They could not even figure it out themselves" (Int. 14, Advisor Spatial Planning and Water Safety, Scheldestromen).

Differing governance structures across countries also result in varying management competencies among their respective organisations. As interviewee 10 pointed out, aligned competencies are essential for effective decision-making in international contexts. However, these do not exist at equivalent levels across borders, leading to what he described as awkward negotiations (Int. 10). Interviewee 14 added that the lack of a single, comparable authority on the other side of the border complicates collaboration, explaining, "The fact that there is not a single party on the other side of the border with the same range of tasks makes it very difficult" (Int. 14).

International (flood risk) management plan

The Scheldt Treaty mandates that the International Scheldt Commission develop two international management plans (IMPs) for the entire river basin: one focused on water quality, based on the EU Water Framework Directive (2000/60/EC), and the other on flood risk, based on the EU Flood Risk

Directive (2007/60/EC) (Scheldeverdrag, 2005). These plans must be updated every six years. While these directives require EU Member States within international river commissions to create coordinated management plans, the IMPs produced by the ISC tend to be compilations of national plans rather than cohesive, internationally coordinated policies. All ISC interviewees confirmed this approach, acknowledging that the IMPs essentially summarise existing national plans rather than create new, integrated policies.

Although the Flood Risk Directive (2007/60/EC) aims to harmonise policies across the river basin, this alignment often does not materialise in the ISC's IMPs. Interviewee 3 highlighted this, saying, "that [national management plans] have just been collected, thrown on a pile, stapled through, sent to the EU. That's the only thing, literally the only" (Int. 3, Policy Officer Chemical Water Quality, Ministry of I and W (NL)). This comment underscores that the current IMPs serve more as administrative summaries than strategies to unify flood and water quality policies across borders.

Despite these limitations, interviewees emphasised the potential impact a truly integrated IMP could have. They suggested that a comprehensive international management plan, developed with the entire river basin in mind, could significantly improve water management by addressing challenges at the basin level rather than at the national level alone. According to interviewee 10, this approach "would lead to a completely different plan than what you have now" (Int. 10). However, the interviewees also noted that the ISC lacks the collaboration depth and resources necessary to achieve such a plan. They pointed out that both inter-delegation cooperation and the resources available within the ISC Secretariat are insufficient to support the development of a cohesive, cross-border management framework. This will further be elaborated on in the 'Attributes of the Community'.

Building on the challenges around integrating management plans in the Scheldt Estuary, the contrast in policy approaches between the Netherlands and its ISC counterparts reveals further complications. While the Netherlands emphasises long-term vision and comprehensive safety standards, other ISC members, like Flanders, often adopt a more reactive, project-based approach. Dutch water safety policies are underpinned by long-term objectives, such as the 2050 goal of maintaining a 0.001% flood-related fatality risk for those behind dikes (Ministerie I en W, 2024). This proactive stance contrasts with Flanders, which, according to Flemish interviewees, tends to address water safety needs as they arise, focusing on specific projects rather than broader standards.

The potential benefits of a long-term safety standard in Flanders have been acknowledged internally, especially after recent flood-related research highlighted its importance. Interviewee 10 from Flanders Waterway noted that if such a standard were implemented, it would likely mirror the Dutch norm, as "it should be aligned with each other; it would make no sense if the safety standard on one side of the border is different from the one on the other. Water does not stop at the border, so the standard should not either" (Int. 10). However, the French and Walloon regions have not shown strong interest in similar long-term standards, though Interviewee 13 from the Flemish Environment Agency suggested that differing national standards do not necessarily impede collaboration, stating, "if one country has a norm and the other does not, you follow the norm of the country that has one. It is not difficult" (Int. 13).

Differences in the interpretation of the Scheldt Treaty add another layer of complexity to ISC collaborations. The Treaty, which governs the ISC, intentionally aims to allow flexibility. This flexibility, however, results in varied interpretations that can impact policy execution. Interviewees noted that French-speaking delegations approach the Treaty conservatively, interpreting its requirements as

minimally as possible. In contrast, the Netherlands and Flanders take a broader view, seeing the Treaty as a framework for extensive cooperation.

One key example of this divergence involves the Treaty's term "coordinating" policies. For French and Walloon representatives, this means simply informing other ISC members of their intentions, while the Netherlands and Flanders interpret it as actively collaborating and aligning policies. Interviewee 3 and Interviewee 10 both highlighted that this difference in interpretation frequently stalls policymaking, with Interviewee 10 observing, "This discrepancy presents significant challenges for policymaking within the ISC" (Int. 10, Head of Management & Investments, Flemish Waterways).

Furthermore, the economic landscape shows significant disparities in the resources available across different regions. Disparities can be found in expertise, financial resources and time availability. Additionally, the Secretariat of the ISC faces insufficient financial resources, which hampers collaboration efforts. Further details on this economic context are provided in the section discussing the Attributes of the Community. Including this information as part of the community's attributes enhances the readability and comprehensibility of the analysis.

In short, efforts to integrate water and land policies across the Scheldt River Basin encounter significant challenges due to differences in governance structures, economic resources, and interpretations of treaties. One major obstacle is the varying levels of autonomy among delegations; Dutch representatives can make real-time decisions, while French and Walloon delegates must navigate centralised, hierarchical systems that require approvals from higher authorities, resulting in delays. Belgium's fragmented governance complicates matters further as each region pursues its policies, increasing stakeholder diversity and making coordination more difficult. Additionally, the ambiguity in the Scheldt Treaty allows for varied interpretations among delegations, often hindering joint policymaking.

4.2.3. Rules-in-use

Position and boundary rules

The Scheldt Treaty defines the structure and membership of the International Scheldt Commission, specifying which parties are eligible to participate. The ISC includes six delegations: France, Federal Belgium, Wallonia, Brussels, Flanders, and the Netherlands. Federal Belgium and Brussels play relatively minor roles; Federal Belgium's influence is limited to maritime planning, while Brussels, as a small urban area with distinct issues, has limited involvement compared to the other delegations. (International Scheldt Commission, 2020; Scheldeverdrag, 2005).

Each delegation has leaders who gather in plenary meetings to discuss and make decisions. Meetings in four specialised working groups complement these plenary sessions: (1) Coordination, (2) Surface Water Monitoring, (3) Groundwater, and (4) Hydrology. All delegations are represented within these working groups, which serve as the ISC's primary executive bodies. Although the plenary meetings are the primary venue for decision-making, the working groups handle the Commission's operational tasks (International Scheldt Commission, 2020).

Figure 8: International Scheldt Commission structure (ISC, 2020)

In addition to these core delegations, the ISC allows external observers (waarnemers) to participate in its meetings. Although they cannot vote, observers may share information and provide input on relevant topics. Eligible observers include the European Union, relevant intergovernmental organisations, topic-relevant NGOs, and EU member states not party to the Scheldt Treaty (Scheldeverdrag, 2005).

An interview with a representative from the Scheldt Youth Parliament, a recognised external observer, clarified that NGOs are allocated a 10-minute time slot during the plenary meetings. NGOs typically present their annual activities, plans, and priority issues during this time. Observers can also attend the entire plenary meeting and engage informally with the Commission members. The Scheldt Youth Parliament, for instance, has focused on advocating for action against microplastics and aims to highlight this issue in the coming years (Int. 2).

While ISC members generally welcome external observers' presence, they note that observers find it challenging to effect significant change. One interviewee highlighted that most decisions are pre-determined during a separate meeting of delegation leaders the day before the plenary, a meeting that observers cannot attend. Although the direct influence of observers is limited, they may still exert indirect influence by shaping perspectives or raising awareness on critical issues (Int. 13).

Discussions within the ISC are led by high-level ministerial representatives and delegations, with no formal role for regional authorities like waterboards or municipalities. Interviewees from Flanders and the Netherlands noted that, despite the regional authorities' important role in managing the river, they have no voice within the ISC. A representative from the Waterboard Scheldestromen noted that the ISC is "very far from our working field" and expressed concerns regarding the exclusion of regional stakeholders, despite their involvement in implementing river management policies. He noted the need for ISC support at the regional level but felt disconnected from the Commission's work (Int. 14, Advisor Spatial Planning & Water Safety, Waterboard Scheldestromen).

Regional authorities do, however, have a platform within the Flemish-Dutch Scheldt Commission. The VNSC established the Schelderaad, a consultative board with representatives from diverse local

authorities, such as the Farmers Union and Waterboard Scheldestromen. The Schelderaad can hold meetings, discuss issues, and vote to provide advisory recommendations to the VNSC. However, it lacks formal power, and some representatives feel that the diversity of backgrounds makes it challenging to reach a consensus on advice.

In short, the ISC's structure prioritises national delegations, excluding regional authorities like water boards and municipalities, which play critical roles in managing local water systems. External observers, including NGOs, can participate in plenary meetings but are excluded from pre-plenary decision-making sessions, limiting their influence. Regional authorities have some engagement through the VNSC through the consultative Schelderaad board. However, the Schelderaad's lack of formal authority and diverse composition make it challenging to produce unified recommendations.

Authority and aggregation rules

The governance of water safety and flood risk in the European Union is shaped by a complex interplay of legal mandates, principles of subsidiarity, and cooperative frameworks. Interviewee 6 pointed out that while numerous EU regulations address water quality, there are almost none concerning water quantity. This discrepancy arises because water quality falls under the EU's shared mandate on environmental regulations, enabling the European Commission to establish rules. In contrast, water quantity lies outside the EU's legislative authority, leaving regulations sparse and dependent on voluntary compliance by Member States.

The principle of subsidiarity plays a crucial role in shaping the EU's approach to water safety and flood risk management. This principle ensures that decisions are made at the level closest to the issue, favouring local or national authorities for issues deemed better managed at those levels. Flood risk management does not fall under the EU's direct legislative mandate since water safety is considered a local issue due to the diverse geographic, climatic, and hydrological conditions across the EU. As a result, the EU cannot enforce binding rules on water safety standards, dictate how Member States achieve water safety or penalise states for failing to manage water safety adequately.

In light of these limitations, the EU has adopted a procedural approach to flood risk management through the Flood Risk Directive (2007/60/EC). This directive operates within the EU's existing mandate, focusing on creating a framework for Member States to assess and manage flood risks without imposing concrete regulations or standards. The directive obliges the Member States to abstain from measures that could create flood risks for other Member States, develop flood risk management plans, create flood risk maps to identify high-risk areas, set goals for flood risk management, and coordinate within river commissions to develop international flood risk management plans. These procedural measures emphasise assessment, planning, and cooperation while leaving the specifics of implementation to the discretion of individual Member States.

However, the directive does not specify the quality or level of detail required in flood risk management plans or maps, nor does it impose penalties for failing to achieve flood risk goals. This leaves room for significant variation in how Member States address flood risks, particularly in cases of transboundary water governance. While the directive mandates that Member States avoid actions that exacerbate flood risks across borders and coordinate through river commissions, these international flood risk management plans in the Scheldt River basin, as mentioned before in the politico-economic context, are little more than summaries of national plans in the Scheldt River Basin, lacking cross-border coordination or cohesive strategies.

The ISC serves as an example of these challenges. The ISC provides a platform for Member State delegations to communicate, share information, and network, but its limited decision-making

authority and lack of enforcement mechanisms constrain its effectiveness. Its primary role is facilitating collaboration rather than imposing binding decisions or ensuring compliance. Although the ISC can issue recommendations and guidelines for flood management, the responsibility for implementation lies with national governments. The ISC's limited political power is underscored by the fact that ministers do not participate in its operations. Nonetheless, there have been instances where ISC recommendations were later adopted and made binding by ministers at the national level, demonstrating its potential to influence policy indirectly despite its lack of formal authority.

Noting that decisions made within the ISC can be important when implemented nationally, it is interesting to know how these decisions are made. According to the Scheldt Treaty, the voting system within the ISC allocates one vote to each delegation, with decisions made by majority rule. In maritime planning matters, Belgium's federal government votes, which results in Wallonia, Flanders, and Brussels losing their voting rights (Scheldeverdrag, 2005). In practice, however, the ISC operates under a model of unanimous decision-making. Delegation leaders finalise decisions at the annual plenary meeting after extensive discussions in preparatory meetings.

ISC discussions tend to be lengthy and largely focused on procedural matters. Interviewee 3 noted, "Within the Working Group Coordination, they almost exclusively discuss procedural topics because there is often a lack of agreement. For example, when the budget is on the agenda, they may spend an hour and a half discussing it in preparation for a meeting with the delegation leaders. As a result, important topics are frequently overlooked" (int. 3, Policy Officer, Chemical Water Quality, Ministry of Infrastructure and Water Management, Netherlands). This emphasis on procedures often restricts the attention given to significant issues.

Other working groups focus on topics proposed by members, leading to smaller actions such as creating better-organised files or deciding to hire an intern (int. 5). However, significant decisions are not made in these groups, reflecting the ISC's limited ability to address larger, more complex issues.

Scope rules

The Scheldt Treaty outlines the goal of the International Scheldt Commission as achieving sustainable and holistic management of the international Scheldt River basin, focusing on reducing flood risks, combating droughts, and addressing water pollution (Scheldeverdrag, 2005). However, the Commission's mandate is limited. It is only authorised to advise the delegations and facilitate information sharing between them (Scheldeverdrag, 2005).

This limited mandate is further confirmed by interviewees, who note that water policies remain a national responsibility. The Commission's role is primarily to provide a platform for delegations to share their experiences (interviews 5, 6, 10, & 9). As one interviewee stated, "The ISC just lacks power and mandate to encourage the Member States to create a holistic, sustainable management plan with each other […] As long as there is no clear European Framework, it is very hard to create an international collaboration with clear and binding agreements" (interview 10, Head of Management and Investments, Flemish Waterways).

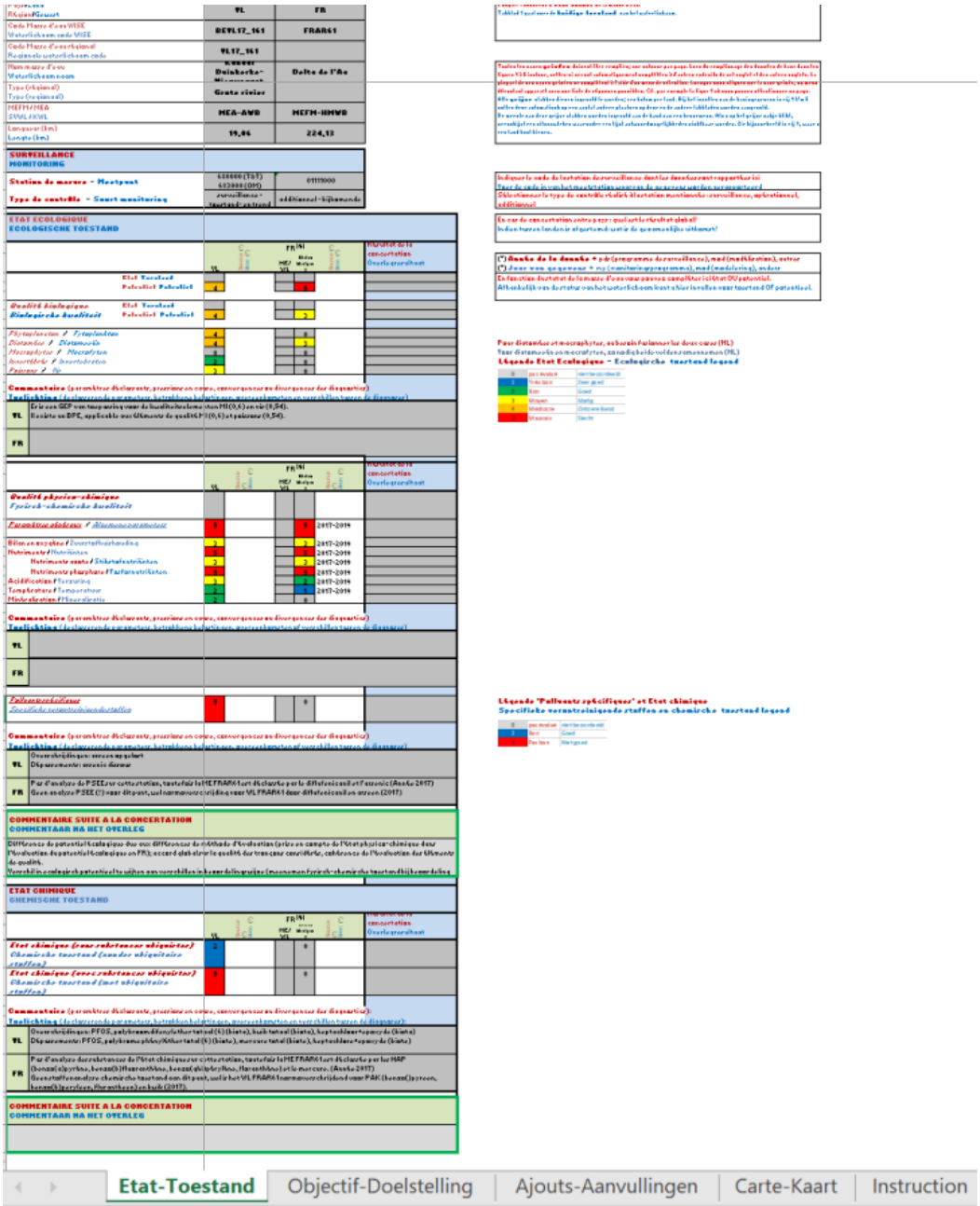
Two interviewees also compared the ISC with the Rhine Commission, which benefits from significantly more resources, both financial and human. This gives the Rhine Commission more influence, despite having the same legal mandate as the ISC (interviews 6 & 9). They highlighted that the Rhine Commission's success demonstrates that greater resources and willingness to cooperate can lead to meaningful outcomes.

Information rules

As mentioned, the ISC's primary task is to encourage information sharing among its members. Since 2017, a legally binding agreement has been implemented to ensure the sharing of real-time water level data and predictions for the Scheldt. Under this agreement, signed by all ISC members, parties are obligated to share their water level measurements and forecasts without incurring costs (ISC, 2017).

In addition to this agreement, the ISC promotes information sharing through various platforms. The International Flood Risk Management Plan describes the ISC as "an information-sharing platform" (ISC, 2021). A common tool for this is the 'Afstemmingsfiches,' these are shared Excel sheets where members upload their data about water levels, water quality, forecasts, etc. Figure 11 illustrates an example of such a file.

Figure 9: General overview of an 'afstemmingsfiche' (ISC, 2021)



However, some interviewees highlighted concerns regarding data quality and consistency among member states. One interviewee noted that not all countries have equally advanced data-gathering systems, leading to discrepancies in the quality of the shared information (Int. 5). This inequality, in turn, results in some countries adjusting their practices to align with the least sophisticated data, reducing the overall effectiveness of the information exchange. As one interviewee put it, “In the Netherlands, we have very sophisticated measurements, but we cannot compare them to simpler data from, for example, Wallonia. You cannot compare apples to oranges” (Int. 5, Advisor Water Management, Rijkswaterstaat).

Pay-off rules

The Scheldt Treaty states that when a dispute arises between members of the International Scheldt Commission regarding the interpretation or application of actions specified in the Treaty, the parties should first attempt to resolve the issue on their own. If they are unable to reach an agreement, an alternative solution may be sought, provided that all parties find this acceptable (Scheldeverdrag, 2005).

However, according to the interviewees, no sanctions are imposed in practice if a delegation fails to adhere to agreements made within the ISC. Throughout the years that the interviewees participated in the ISC, there has never been a sanction imposed on any country, and disputes are consistently resolved amicably. They did note that if members cannot reach an agreement at a lower level, the matter may be escalated to the delegation leader level or even to the ministerial level. Bringing such topics to a higher delegation level is one of the only measures taken in cases of a dispute. The solution is therefore always sought diplomatically.

The interviewees also expressed that the ISC does not require strict sanction rules. As one interviewee put it, “That [having strict sanction rules] cannot be right because we want to work together and get along” (Int. 3, Policy Officer Chemical Water Quality, Ministry Infrastructure and Water). Additionally, they mentioned that it would be too challenging to agree on legally binding directives.

4.2.4. Attributes of the Community

A community is defined as a group united by shared norms, values, interests, or a common resource system. The community within this research comprises the delegations of France, Wallonia, Flanders, and the Netherlands within the International Scheldt Commission. During ISC meetings, delegations communicate in their native languages—Dutch for Flanders and the Netherlands, and French for France and Wallonia—with simultaneous translation provided.

Despite these translation efforts, language differences create significant challenges within the ISC. During informal moments, often key to fostering cooperation, participants divide into two linguistic groups. French-speaking delegations naturally converse among themselves, while Dutch-speaking delegations do the same. This division complicates interactions, particularly for Flemish delegates, who report more difficulty communicating with their French-speaking Belgian colleagues than with the Dutch. Such barriers reflect and exacerbate Belgium’s already complex governance dynamics.

Simultaneous translation, currently essential within the ISC, has limitations. Translators are mentioned to struggle to convey emotional nuances or must simplify certain phrases to keep up, which can distort the intended meaning. As one participant observed, “During the translation, certain things get lost” (Int. 9). Another explained that while not fluent in French, they prefer listening directly to French speakers rather than relying on translation to retain the emotional tone:

“Certain word choices made by the translators can create misunderstandings. I speak a bit of French, and because of this, I tend to listen as much as possible to the original speaker instead of the translator” (Int. 13).

Some participants have suggested that adopting English as a common language could help address these challenges. However, the limited English proficiency of many French-speaking delegations may create new difficulties, making those less confident in expressing themselves in English at a disadvantage. This concern highlights the potential for inequalities in participation and effective communication.

Contrary to the normal ISC meetings, the ISC’s youth parliament does use English as the primary language to “keep the barrier for participating as low as possible” (Int. 2). This suggests that younger generations may find English a more accessible and inclusive option, hinting at possibilities for its adoption in ISC meetings in the future.

In addition to language disparities, differences in resources significantly impact the ISC. The resources available to the delegations are tied to both the Community Attributes and the politico-economic context. While this discussion has focused on the Attributes of the Community, it's important to note that these issues could also be viewed within the politico-economic framework. Interviews consistently reveal a notable imbalance in financial and time resources among the member regions: the Netherlands has far greater resources than the others, Flanders is positioned somewhere in the middle, while Wallonia and France lag significantly behind. One participant emphasized the importance of this difference stating that "the difference in resources trickles down into everything" (Int. 7, Senior Policy Coordinator, Ministry of Infrastructure and Water).

These disparities in resources are seen as a significant barrier to deeper integration among ISC members, aligning with the literature on TWG (Moodie et al., 2019; Wiering & Verwijmeren, 2013). While there is a broad willingness to cooperate more closely during working group meetings, the limited resources, particularly time and money, make it difficult to move forward. Interviewees noted that Wallonia, for instance, has focused nearly all its resources on addressing high-water issues since the 2021 floods, leaving little capacity for other critical topics necessary for a comprehensive approach to water management, like transboundary cooperation.

The workload of representatives further underscores this challenge. Delegates from Wallonia and France often juggle multiple working groups and topics, starkly contrasting to their Dutch counterparts who can dedicate specialised experts to single issues. One Dutch representative reflected, "You have to be aware that you are in a meeting with a completely different background; the person on the other side of the table has seven topics to deal with. I am completely focused on this one topic" (Int. 5). Another described the imbalance as follows: "If we do a project with Flanders, there are 17 Dutch people and one person from Flanders. That ratio, that is how you should look at it. A very small amount of people do the policy-making over there, with limited, very limited budgets" (Int. 8, senior policy Advisor, Rijkswaterstaat). This quote becomes more vivid when recognizing that Flanders has more resources for water management compared to Wallonia and France.

This resource gap extends to the ISC Secretariat itself, which lacks the capacity to adequately prepare for meetings, further slowing progress and hindering integration. Respondents attributed this deficiency to insufficient political support from national governments unwilling to invest in the ISC. This, in turn, creates a vicious cycle, as one interviewee explained: "People do not want to invest

more in a Commission which does not create any results, but because of that, no results are created" (Int. 10).

The disparity in resources among members was frequently emphasised. A Flemish delegate remarked, "As Flanders, we have a lot less resources than the NL, but Wallonia and France, that is just shocking" (Int. 13, Flemish delegation secretary, Flanders Environment Agency). These imbalances limit the ISC's ability to function effectively and pose a significant obstacle to achieving its goals of integrated water management.

4.3. Goal of the International Scheldt Commission

During the interviews, participants were asked about the ISC's core objective of creating a holistic and sustainable management system for the Scheldt River basin. The consensus among interviewees was that this goal is not currently being achieved, and several reasons were highlighted.

A key issue lies in the lack of a truly holistic approach. Many interviewees described the ISC's work as overly fragmented, focusing on individual aspects of water management rather than integrating them into a comprehensive strategy. One participant noted, "We work very sectoral […]. Yes, you work within one Commission on different aspects of water management, although not every aspect, but you do it all separately. There is no holistic approach" (Int. 9, Senior Advisor Water Quality and International Coordination, Ministry of Infrastructure and Water). Another pointed out the absence of spatial planners in the ISC's processes, leaving critical topics like the impact of water policies on land and nature unaddressed: "People work with their blinders on" (Int. 11).

The outcomes of the ISC were criticised as being insufficient by interviewees. Interviewees pointed to a lack of engagement, limited manpower and funding, and a slow pace of organisation as significant obstacles (Int. 3, 9, 10, & 13). Despite these shortcomings, many recognised the ISC's value as a networking platform. By bringing together representatives from different countries who face similar challenges, the ISC fosters mutual support and helps its members advance their national objectives. As one participant noted, while the ISC may not develop shared policies, it encourages collaboration that can indirectly benefit individual territories (Int. 5).

Some interviewees emphasised the lack of political power as a significant barrier to the implementation of an international coherent holistic water management. They suggested that achieving holistic management would require granting the ISC more political power. "I think that, for example, there should be more political representation within the ISC, because yeah, in the end, it is the politics who decide" (Int. 10). Suggestions included involving Brussels to provide the ISC with greater authority or inviting ministers to participate in ISC meetings to facilitate higher-level agreements.

The discussion also touched on potential ways to improve cooperation and effectiveness in the future. Some proposed starting with smaller, less contentious projects, such as co-developing knowledge products. This could create enthusiasm for broader collaboration (Int. 8 & 14). However, resource disparities among delegations remain challenging, making it difficult to fund even these modest initiatives.

Members of the Dutch delegation expressed a desire to craft a long-term vision for the Scheldt River basin. Such a document would provide a shared goal, fostering discussions on differing regional norms, objectives, and approaches. "What should you do in the present when you do not have a dot on the horizon? It would help if you wanted to go somewhere. You cannot just do project after project; then, you are walking like a headless chicken. This is something that you notice in the ISC"

(Int. 3). Flemish representatives also voiced a willingness to move beyond the EU's minimum requirements, suggesting that the ISC could be a platform for more ambitious cooperation. However, they echoed concerns about resource limitations: "We [Flanders] already notice that we have less resources than NL, France and Wallonia have even less" (Int. 13).

4.4. Barriers and enablers to holistic flood risk management

This research aims to identify the barriers and enablers of holistic water management within the transboundary river system of the Scheldt. The barriers and enablers discovered during the research will be organised and briefly explained in this paragraph.

Biophysical Conditions

Table 4: Overview of barriers and enablers Biophysical Conditions

Barrier	Explanation	Enabler	Explanation
Coastal flood risk	The Netherlands' flood risk comes mostly from the sea. Coastal flood risk management is harder to combine with nature.	Fluvial flood risk	The fluvial flood risk threats within the Sea Scheldt in Flanders have proven easy to combine with nature.
Downstream locations	Downstream locations from NL and FL encourage them to increase international cooperation. Increasing possibilities for international policies integrating blue and green.	Upstream locations	The upstream locations from France and Wallonia are less reliant on international cooperation. Decreasing possibilities for international policies integrating blue and green.

Politico-economic Context & Discourse

Table 5: Overview of barriers and enablers Politico-economic Context & Discourse

Barrier	Explanation	Enabler	Explanation
Lack of autonomy	A lack of autonomy by the delegations from France and Wallonia in the ISC slows decision-making or prevents topics such as biodiversity and land nature areas from being addressed.	Long cooperations	The long cooperation within the VNSC shows that cooperation increases effectiveness and possibilities for more holistic approaches over time.
The difficult governance structure of Belgium	The complex Governance structure within Belgium makes international cooperation on Blue Green more difficult.	-	
Lack of International Management Plans	Because IMPs are currently only collections of national plans, their goal of creating holistic international water management is not addressed, preventing them from leading	International Management Plans	If done correctly, the IMPs are mentioned as great instruments to improve international water management with a holistic approach.

	to good international governance.		
Lack of resources	See Table 7.	-	
Non-existing national holistic approaches	A lack of a holistic approach on a national level makes holistic approaches on an international level almost impossible.	Upcoming holistic approaches	Holistic approaches in FL and NL are getting more and more standardised.
Different interpretations of the Scheldt Treaty	The difference in interpretations (narrow or broad) stands in the way of international cooperation. In particular, the French-speaking delegations interpret the Treaty as narrow as possible, a barrier to a more holistic approach to international water management.	-	
Lack of long-term water safety standard	With only the Netherlands having a long-term norm on water safety, it is hard to make policy on a programmatic basis.	Project-based BlueGreen	Projects within the VNSC show that NL and FL can work together on a project basis, integrating blue and green. This could show potential for the whole river basin.
No attention to land within the ISC	It is mentioned that (green) nature and land policies play no role in the ISC nowadays. This makes holistic water management impossible on an international basis.	-	

Rules-in-Use

Table 6: Overview of barriers and enablers Rules-in-Use

Barrier	Explanation	Enabler	Explanation
-		External observers	Currently, external observers have minimal influence. However, there is significant potential in granting them a larger role. Involving these organizations could create a more comprehensive perspective as observers with diverse expertise join the ISC.
(Almost) no obligations	The ISC has almost no obligations as to what to accomplish—lacking legal enforcement to act on topics. Resulting in slow progress.	There are no restrictions on topics discussed in the ISC	There are no rules concerning the topics that can be discussed in the ISC. This makes it suitable for discussions around holistic

			approaches to water management
Lack of European rules on Water quantity	A lack of practical measures within European Directives on water quantity makes international policies on water safety more difficult.	-	
Lack of mandate for the ISC	The ISC has no legal mandate, which means that decisions made within the ISC are not legally binding. Making it hard to make binding agreements around the integration of Blue and Green	-	
Information quality	The quality of the shared data can be low, which makes the information sharing less useful.	Information Sharing	Information sharing forms the base of the ISC and happens regularly. This is crucial for developing a shared understanding of issues that need to be addressed to create a holistic flood risk management.
-		Shared knowledge	NL sees opportunities for creating shared knowledge products to increase the quality of the available information and bring delegations together.
-		EU	A stronger role for the EU is mentioned multiple times as a possible enabler of better cooperation. This can be difficult with the lack of a mandate on water quantity.

Attributes of the Community

Table 7: Overview of barriers and enablers Attributes of the Community

Barrier	Explanation	Enabler	Explanation
Language	A language barrier in the ISC makes it hard to build relationships and can lead to misunderstandings in the meetings.	English as Lingua Franca	Using English as a lingua franca is effective within the Youth Parliament of the Scheldt. Both FL and NL support implementing this in the ISC to address the language barrier. However, success is not guaranteed due to varying levels of English proficiency among the delegations.
Resources	The differences between available resources in the	-	

	Scheldt River Basin is immense. This leads to different approaches, ambitions, and abilities within the ISC. In particular, France and Wallonia lack time and money. A lack of resources results in a more sectoral and focused approach to water safety instead of a holistic approach.		

4.4.3. Comparing empirical research with theoretical framework

Within Figure 2, an overview of the barriers and enablers to transboundary water governance, as found in existing scientific literature, is presented. Tables 4 to 7 summarise the barriers and enablers identified in this research on transboundary holistic flood risk management. This paragraph compares both sources to highlight the differences and similarities between theoretical findings and empirical observations.

The barriers identified in the literature are categorised into three main groups in Chapter 2: a state-centric focus, differences, and a lack of support. The state-centric focus was the least prominent aspect observed in this research. The only relevant observation was that Wallonia is currently concentrating on improving water safety within its territory following the floods of 2021. However, this focus is also linked to differences in available resources. Due to limited resources, Wallonia cannot afford to prioritise multiple aspects of water governance simultaneously, leading to a reluctance to enhance transboundary cooperation. A similar situation can also be observed in France.

Other categories of differences that influence transboundary water governance include language, culture, and legal and administrative structures. This research highlighted these differences as well. Language plays a significant role in creating divides between French-speaking and Dutch-speaking delegations, particularly during more informal discussions when translators are not present. The administrative structure of Belgium is considered complex, and cultural differences regarding the autonomy of policymakers further contribute to these barriers. Therefore, all identified categories of differences from the literature have been found to hinder transboundary water governance in the Scheldt River Basin.

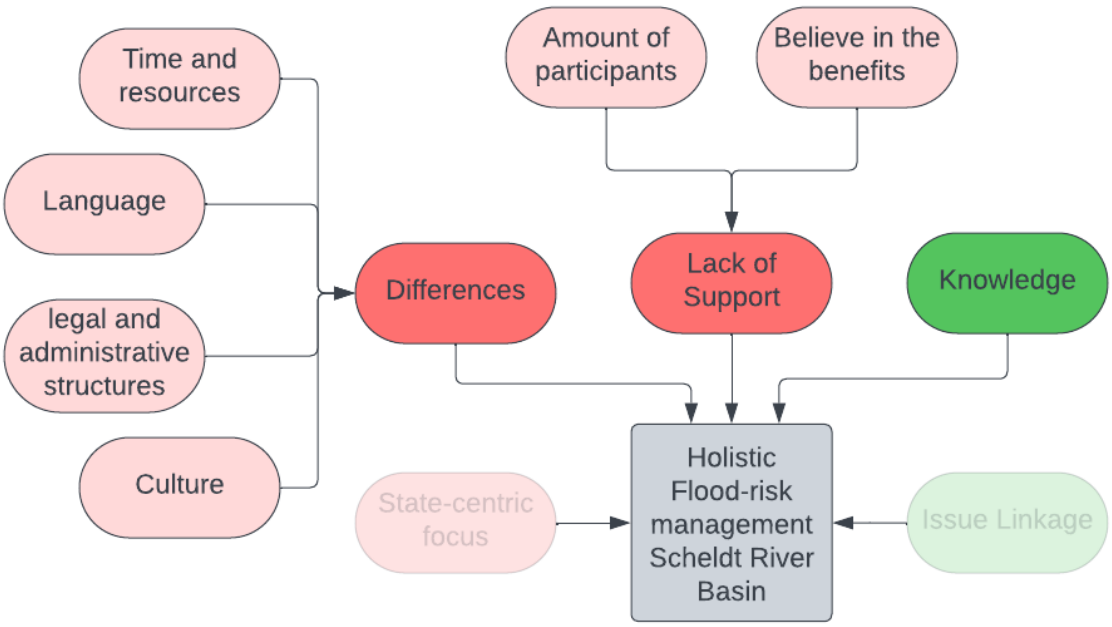
Regarding the lack of support, the literature indicates that a larger participant group makes the policy-making process more challenging. Within the case of the Scheldt River Basin, this is mostly connected to the government structure of Belgium, which results in more participants because of a divide in water governance to the regions. This divide was mentioned to slow down the decision-making process. There appears to be a lack of belief in the benefits of cooperative policy-making, particularly among stakeholders in France and Wallonia. These regions are hesitant to invest additional financial resources into cooperating within the ISC, which may also stem from a general scarcity of financial resources.

As for the enablers, sharing knowledge, mentioned in the literature as a significant factor in promoting transboundary governance, was indeed mentioned in this research. However, "issue

linkage," a frequently cited enabler in the literature, did not emerge during the interviews conducted for this study.

In conclusion, many barriers and enablers highlighted in the literature were also identified in this research. To provide an overview of which enablers and barriers from the literature correspond to the ones identified in this research, Figure 12, which mirrors Figure 2, displays the corresponding barriers and enablers. The factors that do not correspond have been made partially transparent, and the factors that do correspond have remained fully opaque.

Figure 10 Barriers and enablers from the literature corresponding with the empirical



5. Discussion

In this chapter, the results from Chapter 4 are critically discussed and organized into four key topics. These topics concern the EU's role in water safety policies, the objective of the ISC, a division within the ISC and Flanders holistic approach to water safety within the Scheldt Estuary.

5.1. Where is the EU legislation on water quantity?

Throughout the interviews, a predominant theme emerged: interviewees emphasised the need for more EU regulations concerning water quantity, drawing comparisons to the existing regulations on water quality. Unlike water quality, there are no practical EU water safety regulations or standards that member countries must comply with. This research indicates that clear rules are necessary for effective international flood risk management. However, establishing these European regulations is expected to be challenging, mainly due to the lack of an EU mandate on water safety measures.

A key distinction exists between water quality and quantity: water quality falls under the EU's shared environmental regulations mandate, enabling the European Commission to enforce related rules. In contrast, water quantity currently lies outside the EU's mandate because of the subsidiarity principle, which results in a scarcity of binding regulations. Current regulations are primarily concerned with procedural manners and rely heavily on voluntary adherence.

Within the International Scheldt Commission, it has become apparent that countries and regions, such as France and Wallonia, interpret the Scheldt Treaty as narrowly as possible. This approach means they are unwilling to extend their efforts beyond the strictly required tasks despite the Treaty allowing for broader engagement. Consequently, delegations from France and Wallonia are hesitant to collaborate on policies related to water safety, much less integrate these policies with other sectors, such as nature conservation and land management. This situation highlights the need for stricter regulations to promote international cooperation on comprehensive approaches to water management.

Vague treaties, like the Scheldt Treaty and the Flood Risk Directive, lack explicit obligations, goals, or required actions, which allows uncooperative countries to adopt minimal interpretations. For example, France and Wallonia may view coordination as merely informing one another of their actions, whereas true coordination should involve aligning policies and making joint decisions. It is important to note that this is not a critique of the delegations from France or Wallonia; the representatives involved in the ISC are doing their utmost. The core issue lies in the absence of clear European rules, which creates a 'grey area' that allows countries to evade responsibility if it does not meet their approval at that moment. This situation is particularly concerning in the context of potential international flooding that poses (inter)national safety risks.

Altering the EU's mandate is a significant challenge and not a viable solution to the absence of rules on water quantity. Instead, the European Union should explore alternatives. One potential solution is issue linkage, where the EU combines existing policies within its mandate to address water quantity. For instance, the mandate on environmental regulations could be used to connect ecosystem protection with flood damage, framing flood risk as a threat to the environment. Another potential solution would be to question if the subsidiarity principle, based on the idea that solutions should be based on the lowest level possible, is not applicable when discussing flood risk management in a transboundary River Basin as water safety downstream can be influenced by the actions of delegations upstream, resulting in the fact that creating water safety might not be something that is best governed on a lower level but should be addressed on an international level. Creating a

mandate for the EU and a stronger River Commission. Therefore, claiming that flood risk management is beyond the EU's mandate does not justify neglecting the importance of clear European regulations for flood risk management, which is vital for facilitating international cooperation.

5.2. Is the bar set too high?

The goal of the ISC is to "create sustainable and holistic management for the international Scheldt river basin by minimising the consequences of flooding, combating droughts, and addressing water pollution" (ISC, 2024). This goal implies that the ISC seeks to unite countries in developing long-term policies for the Scheldt River basin, integrating water quality, quantity, nature, and land policies to prepare the basin for future generations.

However, conversations with ISC members revealed a different reality. Participants emphasised that the ISC functions primarily as a networking organisation focused on sharing ideas and information regarding national policies related to the Scheldt. Thus, there is a significant gap between the official goal of the ISC and the reality of its current operations. While ISC documents and descriptions on their website create the impression of a robust international organisation where five different regions collaborate to manage the river holistically, interviews with ISC members indicate otherwise.

Characterising the ISC as a networking organisation with limited resources and a small secretariat with the goal of countries discussing their policies together is not a bad thing. The argument here does not imply that the ISC lacks value; on the contrary, the benefits of networking and discussing national policies should not be underestimated. However, at this moment, the ISC cannot achieve its stated goal.

The disconnect between the goal and the actual functioning of the ISC can lead to misplaced expectations from outsiders. When these individuals realise that the ISC does not meet their expectations, it results in disappointment. A comment from an interviewee underscores this sentiment: "People do not want to invest more in a Commission that does not yield results, but because of this, no results are produced" (int. 10, Head of Management and Investments, Flemish Waterways (FL)). If an investor expects to fund a commission capable of establishing holistic management but encounters a networking organisation instead, this disappointment can create reluctance to invest further as faith in the initiative wanes. Conversely, if investors understand that they are supporting a networking entity, they are less likely to feel disillusioned, as this aligns with their expectations.

Revising these expectations could enhance morale within the ISC, particularly as interviews revealed evident dissatisfaction with the current inability to meet goals. This adjustment could establish a stronger basis for collaboration, paving the way to discuss topics like "creating a holistic approach to water management" in the future.

5.3. Scheldt River Basin split in two

In pursuing a holistically governed Scheldt River basin that integrates Blue and Green policies, the divide between the Dutch-Flemish and French-speaking sides is one of the most significant barriers. This division impacts nearly every aspect of cooperation within the ISC and complicates the establishment of integrated water and land management strategies. The upstream position of the French-speaking regions, France and Wallonia, means their policies profoundly affect downstream areas, such as Flanders and the Netherlands. With significant differences in resources and priorities

and a lack of good collaboration, establishing a holistically governed river basin becomes very complex.

The Dutch and Flemish delegations bring substantial financial resources, advanced water safety infrastructure, extensive knowledge, and a strong commitment to international collaboration. In contrast, the French-speaking delegations face financial constraints and relatively limited expertise due to insufficient political support for water governance. As a result, they are less motivated to deepen cooperation, as this could strain their already limited resources. This disparity creates an uneven playing field and exacerbates the challenges of fostering integration across the river basin. Additionally, a language barrier further complicates the situation, reinforcing a sense of division and limiting opportunities for informal yet essential relationship-building among delegations.

Recognising that the ISC relies on voluntary cooperation and consensus-based decision-making, bridging these divides requires deliberate action. While it may not be feasible to fully resolve resource inequalities within the ISC, reducing knowledge disparities and fostering collaboration are achievable goals. With their substantial expertise and resources, the Dutch-speaking delegations should take the lead in promoting shared learning and capacity building. Collaborative knowledge creation through shared data-gathering initiatives and the exchange of best practices can help to level the playing field, establishing a stronger foundation for cooperation.

For example, collaborative data-gathering programs could integrate upstream and downstream perspectives, building a shared understanding of the river basin's challenges and opportunities. Sharing Dutch and Flemish expertise in integrating water safety and land management can demonstrate the tangible benefits of a holistic approach. Such initiatives would improve the French-speaking delegations' technical capacity and foster a shared commitment to integrating blue and green policies across borders.

Ultimately, closing the knowledge gap and building trust among delegations can lead to a more cohesive ISC. Achieving this will require an investment of time, resources, and goodwill from the Dutch-speaking delegations. These investments are essential for establishing a holistically governed river basin where water safety, land use, and environmental sustainability are unified under a shared vision for the Scheldt River, which the Dutch delegation has identified as a key objective.

5.4. Learning from the Flemish

This research indicates that Flanders has been more successful than the Netherlands in aligning nature and water policies within flood risk management in the Scheldt River basin. The Sigma plan, a Flemish initiative, shows a successful holistic approach by focusing on green flood risk solutions, such as room for the river measures, which mitigate flood risks while simultaneously enhancing natural habitats. This approach contrasts with the Dutch Delta plan, which relies more on grey infrastructure, partly due to the Netherlands' focus on coastal flood risks in the Western Scheldt.

However, the differences extend beyond risk factors. Flanders has achieved biodiversity gains and created natural spaces around the Scheldt River, providing valuable insights from which the Dutch approach could learn. The project-based culture in Flanders fosters more opportunities for a holistic approach by enabling integration within specific initiatives. In contrast, the Netherlands often experience fragmentation within their long-term policies and lacks such integration (Int. 11 & 12). Dutch professionals have acknowledged that Flanders' approach within the Scheldt Estuary is ahead in integrating blue and green as an example of effectively aligning ecological and water safety goals (Int. 8, Senior Policy Advisor, Rijkswaterstaat, NL).

Another significant challenge is the limited diversity of perspectives within Dutch water management discussions. Dutch participants noted that these dialogues often involve a fixed group of water-focused stakeholders, which overlooks contributions from spatial planners, ecologists, and other relevant experts (int. 11 & 12). Expanding this group to include diverse voices is essential for tackling the complex challenges of climate change. In contrast, Flemish interviewees have mentioned that this inclusivity is more commonly practised within projects of the Sigma plan, where they deliberately invite individuals with varying backgrounds. While this shift requires time and effort, it represents progress toward a more integrated water and land management approach.

Thus, the Netherlands could gain valuable insights by adopting Flanders' model of integrating nature and water policies to create a more holistic approach to managing the Scheldt River basin. By studying the successful inclusivity and project-oriented strategies of the Sigma plan, the Dutch approach could evolve to address fragmentation and bring in a variety of perspectives. Strengthening collaboration and knowledge-sharing between the two regions is essential for aligning Blue and Green policies, ensuring sustainable flood risk management while enhancing biodiversity and resilience to climate change.

6. Conclusion

This chapter outlines the key findings that answer both the sub-questions and the main research question. The main research question of this thesis is: "What institutional barriers hinder the integration of Blue and Green governance concerning flood risk management in the Scheldt transboundary river system?" To address this main question, the four sub-questions are answered first before tackling the main research question.

1) **“How is Transboundary Water Governance defined and what are the critical institutional barriers and enablers that influence it?”**

Transboundary water governance involves the collaborative management of shared water resources across national borders (Moodie et al., 2019). It encourages neighbouring countries to work together to tackle common water challenges through dialogue, data sharing, and joint decision-making. This cooperation helps prevent conflicts over water access and management (Häbel, 2021).

The literature highlights several institutional barriers that can hinder effective transboundary water governance. One major obstacle is the lack of support, particularly during policy implementation, when various stakeholders with conflicting priorities are involved (Ward, 2013; Wiering & Verwijmeren, 2012). Additionally, national sovereignty and state-centric policies often impede cooperation, as countries prioritise their own interests over collaborative, transboundary solutions (Zeitoun et al., 2013). Other challenges include reluctance to share information, cultural and linguistic differences, and disparities in legal- and administrative structures and resource capacities among nations, which further complicate the governance landscape (Moodie et al., 2019).

Key enablers of transboundary water governance include shared knowledge about river systems and a mutual understanding of stakeholders' interests, which help build trust and foster cooperation (Moodie et al., 2019). Strategies such as issue linkage, where concessions on one issue are directly tied to gains on another, and financial redistribution can promote cooperation by creating win-win scenarios (Wiering & Verwijmeren, 2012).

2) **Which Blue and Green governance policies already exist in the Scheldt River Basin?**

In the Scheldt River Basin, the integration of Blue and Green policies is most evident in Flanders, mainly through the Sigma Plan projects. These initiatives showcase a strong commitment to combining water management with ecological objectives. In contrast, the Netherlands faces more significant challenges integrating nature policies with water management. This is mainly due to the predominant flood threat from the sea, where grey infrastructure solutions, such as dikes and storm surge barriers, are more effective than green solutions. Green solutions like wetland restoration and floodplain creation are more efficient in managing fluvial flood risks, as demonstrated in areas like the Sea Scheldt in Flanders.

No significant policy integration between nature and water management has been identified in upstream regions, such as France and Wallonia. The reasons for this lack of integration are unclear, but it is important to note that upstream regions play a crucial role in influencing water safety downstream. Holistic water management practices, such as creating floodplains or wetlands, can help slow water flow, reducing the impact of heavy rainfall events downstream. Without such measures, increased runoff from upstream areas exacerbates the challenges that downstream regions like Flanders and the Netherlands face in maintaining water safety.

This situation underscores the importance of advocating for integrated water and land management throughout the basin. While Flanders has made progress in combining water and nature policies, their efforts can be undermined if upstream areas do not adopt similar practices. A basin-wide approach is essential for achieving sustainable and effective water management across the Scheldt River system.

3) **What are the current institutional arrangements for transboundary flood risk management in the Scheldt River Basin?**

The institutional framework for managing transboundary flood risk in the Scheldt River Basin is primarily organised by the International Scheldt Commission and the Flanders-Netherlands Scheldt Commission. These commissions facilitate cooperation among member states. The ISC operates under the guidance of the 2005 Scheldt Treaty and includes delegations from France, Wallonia, Brussels, Flanders, Federal Belgium (limited to maritime planning), and the Netherlands. Decisions within the ISC are made during plenary meetings, typically requiring unanimous agreement among delegation leaders. However, the ISC lacks political representation within its delegations, which means its decisions do not carry direct political authority. As a result, the implementation of ISC decisions depends on the voluntary commitment of member states, which must translate these decisions into national policies. The ISC focuses on collaboration, information exchange, and networking, with much of the work carried out in four specialised working groups consisting of experts from the participating regions. These groups are: 1. Coordination, 2. Monitoring surface water 3. Groundwater and 4. Hydrology.

Additionally, international agreements like the European Water Framework Directive (2000/60/EC) and the Floods Directive (2007/60/EC) provide overarching guidelines for water and flood risk management within the European Union. While these directives offer general frameworks, they are more detailed in terms of water quality and less specific regarding water quantity.

These institutional arrangements facilitate the cooperative management of the Scheldt River Basin, promoting shared knowledge and coordinated actions while relying on the voluntary commitment of all involved parties.

4) **How do exogenous factors impact transboundary flood risk management in the Scheldt River Basin?**

The management of transboundary flood risks in the Scheldt River Basin is influenced by a complex interplay of exogenous variables that shape decision-making. The politicized Institutional Analysis and Development Framework (Clement, 2010) identifies five key variables: biophysical conditions, discourse, politico-economic context, rules-in-use, and community attributes.

Biophysical conditions in the Scheldt River Basin are crucial in shaping flood risk management strategies. The estuary's funnel-like shape results in distinct risks across different regions. Upstream areas are more susceptible to river-induced flooding, whereas downstream regions within the estuary, particularly in the Netherlands, face tidal surges and storm waves. These differences require tailored responses: upstream regions can use floodplains to retain water and slow its flow, reducing risks downstream. In contrast, the Netherlands focuses on reinforcing dikes and barriers to mitigate the impact of storm surges. This evidence of interdependence highlights the need for cooperation between upstream and downstream areas, as actions in one region directly affect flood risks in another.

Discourse significantly influences the understanding and management of flood risks. In the Netherlands, there is a dominant narrative centred on long-term safety. Meanwhile, in Flanders, flood risk is managed on a project basis with a focus on ecological preservation, with floodplain creation integrating biodiversity objectives with flood risk management. These differing narratives affect national priorities, hindering the alignment of transboundary strategies.

The politico-economic context adds further complexity. Varied governance structures and economic priorities across the basin impact stakeholders' collaborative efforts. For instance, French members of the ISC often require national-level approval for decisions, which can delay the process. Similarly, Belgium's fragmented governance, where Flanders and Wallonia govern the rivers independently of each other, complicates negotiations with other countries.

The rules-in-use within the ISC significantly influence international cooperation. Without going into the details of these rules, a short sum-up of rules influencing international cooperation in flood risk management is shown: 1. The ISC excludes regional authorities, which are vital for local water management. 2. External observers, such as NGOs, can provide input during plenary meetings but are excluded from pre-decision discussions, limiting their impact. 3. The ISC relies on information-sharing agreements and voluntary collaboration, as it lacks enforcement authority. 4. The ISC's limited mandate and resources constrain its ability to foster holistic cross-border strategies, with decision-making often focused on procedural matters. 5. Cooperation remains largely diplomatic and non-binding.

Community attributes influence flood management priorities through disparities in resources, expertise, and ambitions. The Netherlands' substantial resources enable a holistic, long-term approach, while Flanders adopts a moderate strategy, and France and Wallonia focus on data exchange due to limited means. These discrepancies, along with a language barrier between French and Dutch delegations, complicate cooperation and hinder the alignment of transboundary strategies in the Scheldt River Basin.

Main question: What institutional barriers hinder the integration of Blue and Green governance concerning flood risk management in the Scheldt transboundary river system?

Integrating Blue and Green governance policies in flood risk management in the Scheldt River basin faces significant institutional barriers stemming from governance structures, resource disparities, and policy misalignments.

The International Scheldt Commission aspires to adopt a holistic approach to water and flood management. However, governance remains largely sectoral. Key policies related to land use and nature, vital for Green governance, are often excluded from discussions. Additionally, the fragmented governance system in Belgium, with separate responsibilities for Flanders, Wallonia, and Brussels, complicates cohesive collaboration. This fragmentation is further accentuated by differing interpretations of the Scheldt Treaty, where upstream regions like France and Wallonia often take a narrow view of their obligations, in contrast to the broader interpretations made by downstream regions like the Netherlands and Flanders.

Significant resource disparities across regions also hinder progress. For example, Wallonia, still recovering from the devastating floods of 2021, has redirected nearly all its resources towards flood prevention, leaving little capacity to develop integrated Blue and Green initiatives. In comparison, the Netherlands benefits from advanced infrastructure and substantial financial and technical resources, making it much better positioned to consider such measures. This imbalance results in asymmetrical starting points, complicating the formulation and implementation of cohesive policies.

While regions like Flanders have initiated projects to integrate Blue and Green governance, the overall governance approach remains project-based and reactive, especially in Flanders and Wallonia. Unlike the Netherlands, which has established long-term safety standards and comprehensive flood management plans, other regions lack similar frameworks, making cross-border policy alignment challenging. The International Management Plans required under the EU Flood Risk Directive (2007/60/EC) often represent compilations of national plans rather than cohesive strategies, further impeding international cooperation.

Institutional readiness to integrate Blue and Green governance remains low. Decision-making processes within the ISC are slow, with many delegations hampered by hierarchical structures and limited autonomy. Language barriers and inconsistent levels of expertise add to the complications in collaboration. Although the significance of Blue and Green integration is recognised, institutions are not yet equipped to advance it effectively.

The current state of governance in the Scheldt River basin highlights a difference in priorities, resources, and governance frameworks. While some progress has been made, particularly in downstream areas, the disparities in starting points and the lack of a holistic approach mean that integrating Blue and Green governance remains an aspiration rather than a reality. Overcoming these barriers will necessitate a concerted effort to align resources, standardise approaches, and promote deeper international cooperation.

7. Reflections and recommendations

7.1. Reflections

Reflection and limitations on the theory

This research utilised the Politicised Institutional Analysis and Development framework developed by Clement (2010) to explore the barriers and enablers within institutional frameworks, particularly in integrating Blue and Green governance in the Scheldt River Basin. The P-IAD framework builds upon the foundational institutional analysis and development framework by Ostrom (1999) and incorporates additional dimensions, such as the politico-economic context and discourse. This enhancement made the P-IAD framework especially suitable for this research, as it enabled a systematic analysis of governance structures while considering power dynamics and political influences crucial in transboundary governance.

The decision to adopt the P-IAD framework stemmed from the need to understand the complex interactions among various actors and institutions in the Scheldt River Basin. The five exogenous variables identified in the framework—biophysical conditions, community attributes, rules in use, politico-economic context, and discourse—played a crucial role in capturing the multifaceted nature of governance challenges. Additionally, its structured approach facilitated the organisation of data collected through interviews and document analysis, allowing for a coherent presentation of findings.

Despite its strengths, the P-IAD framework presented several challenges during its application. The overlap between discourse and the politico-economic context led to ambiguities in categorising data, highlighting the interconnectedness of these dimensions. Additionally, obtaining information about the discourse proved difficult during this research. Discourse is a conceptual factor that is harder to grasp than practical factors like the physical conditions in the Scheldt River Basin. Difficulties with understanding the current discourse on integrating Blue and Green governance within the Scheldt basin, along with its overlap with the politico-economic context, necessitated merging these categories in the analysis for this research.

The framework primarily emphasises institutional structures; however, exploring less institutionalised aspects could also be beneficial. Considering the dynamic processes and informal relationships between policymakers that influence governance outcomes is essential. In this context, informal relationships refer to conversations and connections that occur outside of formal meetings. While these informal aspects and the relationships among policymakers (particularly between delegations from different regions) have been acknowledged as important, they were not investigated in detail during this research. By integrating these elements into the framework, a better understanding of how these interactions occur and how informal networks influence decision-making could be gained.

Reflection and Limitation of the Research Method

This research involved conducting a case study using a qualitative research design. Two methods were employed: policy document analysis and semi-structured interviews with policymakers and experts involved in the Scheldt River's transboundary water management. Given the complexities of transboundary water governance, the qualitative approach was the most suitable choice. The interviews provided valuable insights, and the information gathered was relevant for addressing the research questions. Most interviews were conducted with individuals from ministries and high-level

policy-making positions, which was essential since international water governance is a high-politics topic.

Arranging these interviews presented challenges, as potential interviewees were either very busy or difficult to reach. After several months of effort, I successfully established a network within the ministries of Flanders and the Netherlands, enabling me to schedule the necessary interviews. The time spent arranging these interviews proved worthwhile, as the interviewees were well-suited to provide the insights I needed.

The interview guide was customised for each interview to ensure that the questions posed were relevant to the interviewee's expertise. For instance, someone from the Dutch Ministry involved with the ISC received questions specific to the ISC. At the same time, an interviewee from the VNSC was asked about the VNSC, and an expert in climate adaptation focused on climate adaptation-related topics. This tailored approach resulted in high-quality data.

I aimed to keep the interviews conversational while ensuring that all necessary topics were covered. This approach allowed interviewees to discuss aspects they deemed significant to the research, leading to insights I had not previously considered. Strictly adhering to the structure of the P-IAD framework—beginning with biophysical conditions and concluding with community attributes—often proved impractical. Interviewees would talk about information from multiple categories of the framework at once or link information from one question to data related to a different exogenous variable. In these instances, it made more sense to follow the flow of the conversation and adapt the interview structure accordingly.

A significant limitation of this research is the lack of interviewees from Wallonia and France. Despite numerous attempts to contact delegations from these regions, I received no responses, and my existing network did not facilitate contact with them either. The same is true for the Secretariat of the ISC. Engaging with French-speaking delegations would have been highly valuable, as this research presents a predominantly Dutch-Flemish perspective. Much of the data regarding governance structures, cultural aspects, and available resources in Wallonia and France is based on this perspective. As a researcher, I tried to be aware of this bias and recognised that it influences my data. Speaking with representatives from these French-speaking areas would have contributed to a more balanced understanding and could have revealed whether they acknowledged the differences described by Dutch and Flemish stakeholders. This lack of confirmation or contradiction may affect the reliability of the research.

7.2. Recommendations

Recommendations for further research

As mentioned before, the findings of this thesis are primarily based on a Dutch-Flemish perspective, as all interviewees were either Flemish or Dutch. Both delegations have significant resources for water management and tend to align on key issues, which may have introduced bias into the research. This bias could have influenced the research by limiting the diversity of perspectives considered in the analysis, potentially leading to an overrepresentation of Dutch and Flemish viewpoints. As a result, the findings may not fully capture the nuances of policy approaches from French-speaking regions. For instance, the study did not include policy documents from French-speaking regions or interviews with representatives from these areas. As a result, the viewpoints of France and Wallonia were interpreted solely through the lenses of Flemish and Dutch policymakers.

To address this gap, future research should actively engage with French-speaking delegations in the Scheldt River Basin to confirm or challenge the conclusions drawn in this thesis.

Within the Scheldt River Basin, two river commissions play crucial roles: the Flemish-Dutch Scheldt Commission and the International Scheldt Commission. This research emphasises the ISC because its goal of achieving holistic water management for the entire basin aligns with the study's objectives. However, the findings indicate that holistic water management is currently an unachievable goal within the ISC, mainly due to insufficient resources and decision-making power, as well as significant differences in flood risk management approaches, expertise and resources among the delegations.

The Flemish-Dutch Scheldt Commission focuses on creating a natural, safe, and accessible Scheldt Estuary through project-based collaboration rather than long-term policymaking. Several of its past projects have demonstrated a commitment to integrating Blue and Green initiatives, making the VNSC relevant to this research's theme. However, with only two VNSC members interviewed, the institutional barriers and enablers for better integrating Blue-Green governance within the VNSC remain insufficiently explored. Future research could apply a similar analytical approach to the VNSC as was used for the ISC in this study, and a comparative analysis of the two commissions could yield valuable insights into the institutional differences that act as barriers or enablers for effective Blue-Green governance in the Scheldt River Basin.

Furthermore, significant differences in effectiveness and resources exist among river commissions across the EU, as noted by ISC members. For example, it was mentioned that the Rhine and Meuse Commissions possess greater resources and demonstrate more decisiveness than the ISC. Investigating the reasons behind their success, including resource allocation and governance structures, could provide valuable insights into enhancing transboundary flood risk management across Europe. Understanding when and why river commissions succeed or fail in achieving their goals is crucial for improving water governance. Beyond the Rhine and Meuse, other commissions, such as those for the Danube, Elbe, Oder, and Tisza, operate under the European Water Framework Directive (2000/60/EC). A comparative analysis of these commissions could identify best practices and assess their effectiveness in achieving the Directive's objectives. Such research could inform strategies for improving river governance within transboundary water management frameworks.

Recommendations for policymakers

I recommend that policymakers within the International Scheldt Commission convene a meeting to discuss and align their objectives within the Commission. Currently, there are significant differences in how delegations interpret the Scheldt Treaty and what they hope to achieve. These discrepancies, in terms of ambitions, resources, and experience, have made the goal of attaining a holistic international approach to water management seem unattainable. Focusing on a seemingly unreachable objective has resulted in disappointment and a negative atmosphere within the ISC. Instead, delegations should shift their focus towards more achievable and concrete goals that all countries can work towards. Regular meetings should be organised where delegations can openly discuss their goals, challenges, and resources, allowing for more realistic planning. These discussions should encourage delegations to come well-prepared, knowing what is feasible for them and what is not, so that decisions can be made on the spot without the need for further internal consultations.

While setting these more achievable goals, delegations must still recognise the importance of a holistic approach, integrating both Blue and Green policies, to ensure effective water management. This integrated approach should be central to future planning within the ISC. Additionally, to

effectively pursue these goals, the ISC's secretariat must receive increased resources. This will ensure that the Commission can implement the plans effectively and manage its expanded responsibilities.

A significant barrier to cooperation within the ISC is the resource disparity between delegations. Instead of dwelling on these differences, the focus should shift to finding practical solutions to bridge the gap. One way to do this is by creating a shared platform for knowledge exchange, allowing delegations to contribute their expertise, research, and data on a joint platform. This would reduce disparities in knowledge and help build collective capacity for decision-making. Furthermore, a fund for integrated Blue and Green initiatives within the Scheldt Estuary should be established, with wealthier delegations contributing a higher share. This fund could support pilot projects aimed at holistically tackling water management challenges. By collaborating on such projects, delegations can work together to solve issues within the river basin, fostering a sense of shared responsibility and mutual support.

Lastly, many interviewees emphasised the EU's potential role in facilitating better transboundary flood risk management. There is a clear desire for the EU to provide political support through a more concrete Flood Risk Directive with practical instead of only procedural measures. While water safety does not currently fall within the EU's mandate, making implementing practical measures difficult, the EU could explore alternative solutions, such as issue linkage, where flood risk management is tied to broader environmental objectives. I recommend that the EU explore ways to implement practical rules for transboundary flood risk management. These could include establishing European-wide flood risk standards that set minimum protection levels for all Member States or mandating that nature-based flood risk solutions should be incorporated into water management policies. By establishing concrete rules, the EU can guarantee that minimum standards are upheld throughout the continent. This reduces disparities among countries and promotes better cooperation, leading to a more integrated approach to managing water resources and flood risks across borders.

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Appendix 1: Interview guide (in Dutch)

Onderwerp	Vragen
Introductie	Wie ben je, studie achtergrond, interesses
	Benoem je hoofdvraag en daarna het doel: obstakels en stimulanten van het integreren van Blue and Green Governance als oplossing voor overstromingen in een grensoverschrijdend gebied, in dit geval de Westerschelde
	ongeveer 45 minuten, opname, subtopics behandelen
	Vragen?
	Start opname
introductie respondent	Respondenten stellen zich voor, met name op proffesioneel gebied
ISC vs VNSC	Ik heb tot nu toe enigszins verschillende verhalen gehoord over de verschillen tussen de VNSC en de ISC. Als ik het zelf goed begrijp dan is het de rol van de VNSC om samen met Vlaanderen de uitvoering van het Verdrag inzake beleid en beheer van het Schelde-estuarium en is het orgaan waarin Vlaanderen en Nederland samenwerken om projecten te realiseren die bijdrage aan de doelen uit dit verdrag. Terwijl de ISC ook Frankrijk, Wallonië en Brussel bezit en meer gericht is op het maken van beleid en op het maken van nieuwe afspraken / verdragen voor de toekomst. Is dit beeld correct? Of zit het anders in elkaar?
Biophysical conditions	Hoe opereert jouw organisatie (het ministerie van IenW)? Hoe bepaal je een specifieke positie in een overleg? Wanneer het gaat over overstromingsrisico's wat is dan voor jouw organisatie de prioriteit binnen de ISC? Gezamenlijk beleid maken of het delen van informatie? En op welke manier wil je dit beleid vormgeven? Grijze infrastructuur of geïntegreerd met natuur en land beleid?
	Heb jij het gevoel dat je genoeg middelen hebt om dit doel te behalen binnen het ISC?
	In het jaarlijkse verslag van de ISC van 2022 wordt geschreven dat het soms een uitdaging kan zijn om genoeg tijd, betrokkenheid en middelen van de verschillende partijen te verkrijgen om echt stappen voorwaarts te maken in de samenwerking binnen de ISC. Herken jij je in dit beeld?
	In hoeverre zitten er verschillen in de middelen van verschillende partijen?
	Liggen de partijen op één lijn wat betreft de doelen die behaald moeten worden in de ISC?
Kenmerken van de community	De bestuursstructuren tussen de landen van het ISC verschillen. Met name de bestuursstructuur in België wordt in de literatuur vaker als een barriere voor internationale integratie gezien. Herken jij je in dit beeld?
	Wat zijn de verschillen in bestuurscultuur? Ik heb eerder vernomen dat België meer werkt vanuit een projectmatige-aanpak, waar Nederland meer op lange termijn beleid stuurt. Is dit herkenbaar? En zijn er nog andere cultuursverschillen waar je tegen aan loopt?
Politiek-economisch	In de Scheldt Treaty staat beschreven dat elke partij één stem heeft bij een stemmingsronde. De absolute macht binnen de ISC is daarmee gelijk. Is dit in praktijk ook zo? Of is er bijvoorbeeld tijdens vergaderingen of

	discussies te merken dat de ene partij meer invloed heeft dan een ander? Bijvoorbeeld door verschillen in middelen of kennis
Rules-in-use	In de Scheldt Treaty is beschreven dat externe partijen zoals NGO's als 'observer' kunnen acteren binnen het ISC maar niet kunnen stemmen. In hoeverre spelen partijen zoals NGO's een rol in de beslis procedure van de ISC?
	In hoeverre worden er externe partijen die meer gespecialiseerd zijn in land en/of natuur beleid 'uitgenodigd' of in hoeverre spelen zij een rol binnen de ISC?
	Veel afpsraken worden gemaakt omtrent het delen van informatie binnen het ISC. In hoeverre houden landen zich aan deze afspraken nadat ze gemaakt zijn?
	Mochten ze zich er niet aan houden.. Zijn er dan mogelijkheden om partijen te "dwingen" ?
	In de beleidsdocumenten (jaarlijkse verslagen & internationaal beheerplan) wordt nauwelijks gesproken over afspraken omtrent 'flood-risk management', toch wordt dit op de website benoemd als één van de pijlers van de ISC. Zou jij kunnen verklaren waarom dat onderwerp vaak minder aanbod komt in de documenten?
	Bij beleid in de Schelde spelen lagere overheden ook een rol. Hoe worden gemeentes, provincies, etc. meegenomen in de beslissingen van het ISC? Wordt dit door de verschillende landen apart gedaan of zijn hier bepaalde regels over?
Discourse	Verschillen in beheerplannen zijn soms aanzienlijk en blijven aanzienlijk, worden alleen benoemd. Is dit problematisch? Of een natuurlijk iets in een internationale context wat niet tot grote problemen zal leiden?
	In het jaarlijkse verslag van de ISC van 2022 is te zien dat resultaten die behaald zijn met name over het delen van informatie gaan. In hoeverre denk jij dat er draagvlak is voor meer concrete afspraken binnen het ISC omtrent bijvoorbeeld bepaalde grenswaarden waar alle partijen aan moeten voldoen. Zitten er grote verschillen op dit onderwerp tussen verschillende partijen?
	Geldt dit ook voor het instellen van normen met betrekking tot integratie van natuur en land beleid in overstromingsrisicol beleid?
	Is het verder integreren van water en land / natuur beleid een onderwerp dat speelt binnen jouw organisatie? En is het een onderwerp dat speelt binnen het ISC? Wordt hier over gesproken?
	Mocht dit NIET het geval zijn.. Er worden door meerdere adviesbureau's en rapporten, waaronder bijvoorbeeld het Rapport van de Raad voor de leefomgeving en infrastructuur van begin juni, die stellen dat klimaatverandering een betere samenwerking tussen land en water beleid vereist. Hoe zou je kunnen verklaren dat ondanks deze rapporten het toch geen onderwerp is binnen de Schelde?
	Mocht dit WEL het geval zijn.. In hoeverre lukt het om land beleid en beleidsmakers die zich meer met land beleid bezig houden mee te krijgen in het beleid voor de Schelde? Zou je hier een voorbeeld van kunnen noemen?
	In hoeverre liggen de landen wat dit betreft op één lijn, of zijn er verschillen in prioriteiten of manieren van waterveiligheid creëren ?
	Zou jij zelf stellen dat het integreren van land beleid al geïnstitutionaliseerd is / de standaard is?

	In hoeverre zorgt het grensoverschrijdende aspect van de Schelde voor extra uitdagingen om het water beleid met het land beleid te integreren?
	Waar zijn nog stappen te maken om deze integratie te verbeteren? Welke veranderingen zouden daar voor nodig zijn?
	Waar liggen in jouw ogen de grootste mogelijkheden om deze integratie te verbeteren?
Conclusie	Concluderend: In jouw eigen opinie, in hoeverre lukt het binnen het ISC om het doel van de commissie:"het komen tot duurzaam en integraal beheer van het internationaal Scheldestroomgebied" te behalen?
	Wat zijn volgens jouw de grootste obstakels voor het integreren van water en land beleid om overstromingsrisico's te beperken in de Schelde, een grensoverschrijdend rivier estuarium ?
	Welke adviezen zou jij hebben om in de toekomst de integratie van BlueGreen Governance verder te verbeteren in de Schelde?

Appendix 2: Codebook

Code

- Case description
- Introduction
  - BlueGreen
    - BlueGreen def
    - Existing BlueGreen
  - political history
    - accessibility
    - cooperation FL NL
    - Existing flood-risk management
    - ISC vs VNSC
  - sigma vs delta
  - Water and Nature
- Attributes of the Community
  - Norms
  - Priorities
  - Resources
    - financial
    - Knowledge
    - Language
    - time
- Biophysical condition
  - biophysical conditions
- Discourse
  - ad hoc vs long term
  - building connections
  - Holistic vs sectoral
  - Interpretation Treaties
- Politico-economic context
  - Governance culture
  - Governance structure
    - Differences governance structures ISC delegations
    - Governance structure Belgium
  - International flood risk management plan

- Political fluctuations

- Rules-in-use
  - aggregation rules (who decides)
  - authority rules (allowed, obliged, prohibited)
  - boundary rules (who participates)
  - External observator
  - information rules (which info available)
  - Lower authorities
  - Payoff rules (what awarded/sanctioned)
  - position rules
    - ambition
  - Scope (intended outcomes)
    - Domain
    - ISC secretariat
    - scheldeverdrag
  - Youth Parliament
- conclusions