



Master's Thesis

MSc Sustainable Development (ESG track)

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A temporal perspective on area-oriented processes in the Netherlands

Identifying temporal action perspectives for water managers in the context of the water and land system as a steering concept



Summary

Date: 18-08-2023

Author: Jelmer Kootstra (0537020)

Supervisor: Dr. ir. Dries Hegger

Internship organization: Hoogheemraadschap De Stichtse Rijnlanden

Internship supervisors: Susanne Vermeulen & Dries Schuwer

Abstract

In November 2022, the Dutch Ministry of Infrastructure and Water Management sent a letter to parliament proposing a new policy principle to make the water and land system a steering concept in spatial decision-making. Even though it merely constitutes a proposal for the moment, subordinate government bodies such as provinces, municipalities and regional water authorities need to explore what it entails for them and how they could implement it in their functioning. To contribute to the latter, this research addresses the academically underexposed temporal challenge to reconcile the short-term with the long-term in area-oriented processes. This research uses five newly identified temporal strategies in the field of time and governance as means to address this challenge and, in-doing so, puts these temporal strategies to a first reality check. Taking the perspective of water managers, the area-oriented processes Hollandse IJssel Oost, Blauwe Agenda and Toekomstbestendige Polder Lange Weide are first analyzed using the PAA framework. Hereafter, the use of the temporal strategies “Timing”, “Crafting time horizons”, “Pacing”, “Futuring” and “Cyclical adaptation” is evaluated. Based on this evaluation, this research identifies promising action perspectives to connect the short-term to long-term in area-oriented processes. Subsequently, this research highlights that, while some further conceptual development is necessary, the temporal strategies provide an useful critical lens that can help contribute to making the water and land system a steering concept.

Key words: area-oriented processes, temporal strategies, the water and land system as a steering concept, water managers

Preface

In this preface, I want to express my gratitude to the people who have made this Master thesis possible and briefly outline the context in which this Master thesis was conducted.

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I would like to express my gratitude to my supervisor Dr. ir. Dries Hegger for his constructive feedback and his pleasant guidance. His valuable insights have helped me enormously to navigate the complexities of writing a master thesis and to come to this end result.

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The context of this Master's Thesis

I would also like to briefly outline the context in which this research was conducted. This research was conducted at the regional water authority Hoogheemraadschap De Stichtse Rijnlanden. At the moment, the regional water authorities as an institute are experiencing a resurgence in attention and importance in the light of climate change. Each regional water authority (the Netherlands has 21 in total) seeks its own path in this, but this comes with challenges. A current and important challenge that Hoogheemraadschap De Stichtse Rijnlanden has to deal with is to give substance to a recent parliamentary letter which has set out that the water and land system has to become a steering concept in spatial planning. This issue encapsulates a myriad of other issues, such as what are the implications of the letter? How to address long-term problems? What role should you take as a regional water authority? This challenge is not isolated or unique to Hoogheemraadschap De Stichtse Rijnlanden. Rather, it poses a more general challenge in the Netherlands.

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1 Introduction

1.1 Problem definition

1.1.1 The instigation: the water and land system as a steering concept and the need for action perspectives

On the world map, the Netherlands is sometimes referred to as a postal stamp. Even so, almost 18 million (as of 2023) call this delta their home, making the country belong to the most densely populated places on the globe. To accommodate the development of the country, the Netherlands knows a long tradition of changing its biophysical characteristics to fit the needs and wants of the Dutch inhabitants. Dykes were built to keep out the water and polders were drained to make the land suitable for agriculture, whilst major cities were built on the soft soils in the west. However, recent developments are putting strains on the engineerability of the country. A plethora of threats have arisen, both from global origins (e.g. climate change) and locally from the intense use of the delta (e.g. land subsidence), that challenge the continuation of this approach (Deltares et al., 2021). Increasingly, the realization is settling in that this approach in the Netherlands is running into its limits. This has accumulated into a recent letter to parliament in which the Minister of Infrastructure and Water Management expressed the principle that **biophysical characteristics - specifically those of the water and land¹ system - need to become leading in spatial planning to secure a sustainable future of the Dutch delta** (Ministry of Infrastructure and Water Management, 2022b).

The letter has far-reaching consequences. With this parliamentary letter the national government not merely communicates that they are going to undertake this action. Rather, the policy set out in the letter affects the whole government apparatus as subordinate government bodies have to follow suit. The regional and local governmental bodies that are involved in spatial policymaking, i.e. the individual municipalities, provinces and regional water authorities, also have to adopt the centrality of the water and land system in their decision-making. To provide a guideline for the coming decade, the national government intends to streamline these efforts in the form of policy principles, measures, and structuring choices (in Dutch referred to as *structurerende keuzes*) (Deltares, 2022; Ministry of Infrastructure and Water Management, 2022a, 2022b; Rijkswaterstaat, 2022). However, much remains unclear about how this should be translated to the regional context and what the implications of this will be. Provinces, municipalities and regional water authorities are to a large extent left to explore themselves how to give substance to the principle in their functioning. Consequently, making the water and land system a steering concept brings challenges for these individual actors. **It is thus important to provide these individual actors with action perspectives** (*handelingsperspectieven* in Dutch) **that can help contribute to making the water and land system a steering concept in spatial-decision making.**

¹ The term “land” instead of “soil” is used as the translation of the Dutch term *bodem* because in this context *bodem* also concerns deeper layers of the sub-surface and not only the upper layer which “soil” typically refers to.

1.1.2 Zooming in: area-oriented processes and the inherent temporal challenge

To contribute to above-mentioned action perspectives **this research zooms in on area-oriented processes** (*gebiedsprocessen* in Dutch). Area-oriented processes are the conventional policy practice in which spatial issues and concerns are linked together in decision-making by integrating them on an area-specific basis. By way of illustration, this includes processes such as the Noordelijke Vechtstreek in which local stakeholders are brought together to better adjust agriculture in the area to the biophysical characteristics of the area (Province of Noord-Holland, 2023). But also processes like Het Binnenveld in which many regional and local actors are involved to work towards a future-proof spatial planning of the area (Projectteam Binnenveld, 2021) are a good example of area-oriented processes. An area-oriented process is initiated to address an issue or multi-fold of issues in an area. These area-oriented processes can take many shapes and forms but fundamentally they are a process in which issues are dealt with on an area-specific basis. What an area-oriented process entails is as a result always context-specific; the content may differ based on the area-specific problem context; different actors may be involved; the scale of the process may differ and so on. This diversity is also reflected in the earlier mentioned examples. The outcomes of these area-oriented processes also vary greatly both in terms of concrete measures that are realized and the extent to which certain concerns prevail over others.

While the water and land system as a steering concept policy principle has to land in various places within spatial decision-making, area-oriented processes stand out. Firstly, they have a central role in the letter of the Ministry (the term is used 23 times in the letter)(Ministry of Infrastructure and Water Management, 2022b). Secondly, a steering function of the water and land system in spatial decisions is closely connected to, and inseparable from, a wide range of concerns and issues (Deltares 2022, p. 6-7; Rittel & Weber, 1973). This wicked nature can be framed in a negative and positive manner. In a negative sense, this means that land use functions may conflict with the limits of the water and land system (Head, 2022; Rittel & Webber, 1973). From a more positive perspective, the interconnected nature creates opportunities to create synergies, i.e. address multiple issues simultaneously (Runhaar et al., 2012; Veraart et al., 2014). The challenge here is to foster as much synergy as possible and balance conflicts. Therefore, an important factor in achieving a steering function of the water and land system in spatial decisions is bringing together the different challenges and interests that lie behind the water and land system as a steering concept (Deltares, 2022). In this regard, area-oriented processes might be a promising policy practice for giving substance to the water and land system as a steering concept in regional context.

However, **reconciling the long-term with the short-term poses a crucial challenge**. Importantly, linking various issues and concerns also has a – often overlooked - temporal dimension. Issues and concerns each play out on different time scales or have a distinct temporal orientation (i.e. more geared towards the short-term or the long-term), which can underlie mismatches and conflicts. In practice, short-term interests often prevail over the long-term interests (Deltares, 2022, p.5). This can in part be explained by the fact that biophysical concerns are linked to natural systems which operate on a longer-term time scale relative to social systems such as the political and economic system (Cumming et al., 2006). But also, actors have varying vested interests in areas and often what is done in the short-term clashes with what is to be achieved on the long-term (Caney, 2019; Deltares et al., 2021; Pelzer, 2021; Pelzer et al., 2021). On the whole, the long-term is often not acknowledged in the

issues of environmental land-use problems (van den Ende et al., 2023) that the principle in essence is about. Taking an *explicit* temporal perspective in area-oriented processes, i.e. to take into account and reconcile the short-term and long-term, is thus a crucial condition for making the water and land system a steering concept in area-oriented processes.

1.1.3 Bringing it together: the thrust of this research

In sum, this research addresses the problem that clear action perspectives for provinces, municipalities and regional water authorities are missing on how make the water and land system a steering concept in their functioning. The water and land system as a steering concept can thus be seen as the instigation and is therefore explicitly referred to. However, the main focus of this research is addressing the inherent temporal challenge in area-oriented processes. The underlying logic is that this is a crucial step for making the water and land system a steering concept in spatial decision-making.

1.2 Embedment in the literature and the knowledge gap

Having set out the problem that this research addresses, it is now important to embed it in the literature and highlight the knowledge gap. For this, literature on time and governance is first turned to before considering the literature on area-oriented processes to highlight the knowledge gap. But before embarking on this, it will briefly be clarified what is meant with the term temporal action perspectives that will be used in this section. From the problem definition it can be deduced that it is necessary to *explicitly* connect the long term to the short term and thus to have information on how this can be done. In this project, action perspectives related to this will be referred to as temporal action perspectives.

An important assertion for temporal action perspectives is that time is not a neutral variable against the backdrop of which everything unfolds. However, the study of time has only recently become a point of reference in academic work on governance and in practice (Howlett & Goetz, 2014). The impact of time on governance has been studied from both a more passive and a more active role of time. The concept of “timescapes” as coined by Adam (1998) is illustrative for the distinction of the role of time in governance. “Timescapes” essentially describe a cluster of temporal features distinguishing between features related to historical or political time. Here, historical time refers to the temporal location in which a phenomenon exists and the accompanying characteristics of this temporal location under which it operates. In this understanding, time assumes a more passive role and time and its influences are seen as an external given. Political time concerns the more active role of time and it encompasses temporal features, in for example rules and norms, that serve as resource and constraint for political institutions and actors (Goetz & Meyer-Sahling, 2009; Howlett & Goetz, 2014). In the latter conception, time then is something that can be used in governance.

In a more recent article, Bornemann & Strassheim (2019) add to how then time can be strategically used in governance by exemplifying the relationship time has with sustainability governance. In their article, they highlight that time in relation to sustainability governance can be used as a tool to organize collective action by the use of it, and as an object of governance which sets, shapes and transforms

temporal orders. This provides the next step in understanding the potential role of time in linking different issues in area-oriented processes, but does not provide concrete strategies yet. This next piece of the puzzle can be provided by Pot et al. (2022). Pot et al. (2022) have synthesized academic work on time and governance and from this they have distilled temporal strategies that can be used to link acute crises, i.e. the short term, to creeping crises, i.e. the long term, for robust governance. This marks an important step towards clear temporal action perspectives for linking the short-term to the long-term. Therefore, the work by Pot et al. (2022) and especially the temporal strategies will be central to this project. These temporal strategies include:

- Timing: Strategic coupling of short-term shocks and creeping crises.
- Crafting time horizons: The crafting of time horizons.
- Pacing: Molding the pace of public problem-solving.
- Futuring: Mobilizing anticipatory capacity through futuring techniques.
- Cyclical adaptation: Adaptive iteration of policy decisions.

These research makes use of these temporal strategies as a means to address the temporal challenge inherent to area-oriented processes. **However, the article by Pot et al. 2022 is very recent and, as reflected by the citation below, still needs to be worked out further.**

“This paper constitutes but a first attempt to take a temporal lens to understanding political robustness. Future researchers may well see fit to expand and fine-tune this set of strategies, or to probe the connections between them more deeply. Especially in contexts of crisis-induced turbulence, we need to expand our understanding of time-sensitive governance.” (Pot et al. 2022, p.12)

Then, turning to literature on area-oriented processes. In both in Dutch and English, area-oriented processes have been extensively studied in literature in various contexts (also in terms of disciplines) and under a variety of different headings. As hinted at in section 1.2, the term area-oriented process is an umbrella term for a wide variety of decision-making processes that can differ a lot from one another (van Straalen, 2012). The heterogeneity of the concept is also reflected in the terms under which area-oriented processes have been studied. To highlight a few², these headings include among others: area process (Kuindersma et al., 2022); area-oriented approach (Heeres et al., 2012; Simeonova, 2006; Weber & Driessen, 2010), integrated area approach (Dieperink et al., 2012; Kuindersma, 2008; 2010; Runhaar et al., 2009) and regional (environmental) planning (de Roo, 2017; Padt, 2007). On a higher level of abstraction, also, for example, integrated coastal zone management (van der Meulen & de Haes, 1996), interactive policy making (Driessen et al., 2001), Environmental Policy Integration (EPI)(Simeonova & van der Valk, 2010) and, related to EPI, mainstreaming climate adaptation (Runhaar et al., 2018) overlap with the subject. To highlight a few key papers. In their article Dieperink et al. (2012) have already identified critical success conditions for area-oriented processes. This could be relevant for distilling temporal action perspectives. For example, the success condition “important stakeholders perceive a situation as undesirable; there should be a shared sense of urgency in society to improve the quality of an area” (Dieperink et al., 2012, p.66) shows that there should be a sense of urgency (related to the short-term) to address the problem of improving the quality of an

² See Appendix B for a description of the Scopus search

area (related to the long-term). But the paper mainly focusses on transferring lessons about area-processes to emerging democracies and the focus is not explicitly on the medium and the long term. This is similar for the work by Simeonova & van der Valk (2010), who have had a similar starting point but they put their findings in the larger context of EPI. In a more recent article, Kuindersma et al. (2022) identify relevant barriers for area-oriented processes in the context of agricultural extensification and identify concrete lessons based on these barriers. Next to that, Kuindersma et al. (2008) and Kuindersma (2010) provide clear action perspectives on how to make an area-oriented process “work” but in all three articles the temporal perspective is again not explicitly addressed.

A temporal perspective in which the short-term is explicitly linked to the long-term is lacking in the literature related to area-oriented processes. A specific Scopus search on such a temporal perspective on area-oriented processes also yielded no significant results³. The temporal link is made implicitly, which in part is related to the fact that the short-term is linked to the long-term on a substantive rather than an explicit temporal basis. In other words, the short-term and long-term are linked indirectly by linking issues together with different temporal orientations (similar to what was mentioned in 1.2). So far this has not yet led to clear temporal action perspectives. So, after 30 years of work on area-oriented processes, taking an explicit temporal perspective might turn out to be a fresh and promising approach that could be a valuable addition for area-oriented processes.

In sum, literature related to area-oriented processes does not address explicitly linking the short-term to the long-term. Literature on time and governance does emphasize the importance of this temporal dimension and Pot et al. (2022) provide a first attempt to develop a temporal lens for explicitly linking the short-term to the long-term. However, this temporal lens has to be worked out further. Notwithstanding this fact, the temporal strategies that they propose are a good point of departure. So the knowledge gap is that while there are insights in the literature relevant to linking the long to the short-term in area-oriented processes, this link is implicit and indirect. Furthermore, the insights are fragmented and have so far not yet led to the identification of clear action perspectives for linking the short-term to the long-term in area-oriented processes. Explicitly taking a temporal perspective in this regard is relatively new and could help to force a breakthrough but needs to be developed further and translated into practice.

1.3 Research aim

Closely considering the problem definition and the knowledge gap, the core is to look at how to connect the short-term to the long-term and how individual actors can apply this in practice as a means to give substance to making the water and land system a steering concept. Here, the practice refers to area-oriented processes. Therefore, the research aim is as follows:

“The research aim is to contribute to insights for individual actors that want to address the tension between the short-term and the long-term in decision-making to help make the water and land system a steering concept in decision-making. This is done by analyzing and evaluating three area-oriented processes in the Netherlands.”

³ See Appendix B for specific search terms

1.4 Research questions

Following up on the research aim, a few steps were made to further specify the scope of this research. Out of the subordinate government bodies named in section 1.1, the regional water authorities make a particularly relevant case in the specific context of the letter. In the Netherlands, the regional water authorities are a unique level of administration that are tasked with water management (Havekes et al., 2015). For the regional water authorities it is thus important to give proper substance to the letter, given that making the water and land system leading in spatial decision-making helps them perform their duties. At the same time, the letter is also relevant in the case of the provinces and municipalities as they are in the lead in spatial decision-making. However, what makes the letter particularly relevant for the case of the regional water authorities is the fact that the boundaries of the latter's jurisdictions are, to a large extent, determined by factors related to land and water systems (Havekes et al., 2015, p.12). This sets them apart from provinces and municipalities whose jurisdictions' boundaries are more politically shaped. Consequently, the regional water authorities will most likely be the first to embrace this new approach in decision-making. Furthermore, there is currently an ongoing debate in the Netherlands about how far the responsibility of water authorities should extend, given the political choices that regional water authorities must make in their water management in the face of a changing climate (Borst, 2019). It is therefore an important question of how the regional water authorities in particular are going to implement the water and land system as a steering concept in their functioning. Moreover, as introduced earlier, this research will be conducted as a research on location at the regional water authority Hoogheemraadschap De Stichtse Rijnlanden. For these reasons, this project will take water managers as its explicit focal point. Area-oriented processes in which they are involved will therefore serve as the unit of analysis, as this ensures a good access to the area-oriented processes. For this, the area-oriented processes Hollandse IJssel Oost (Bureau Buiten, 2022) Blauwe Agenda (Nationaal Park Utrechtse Heuvelrug, 2020) and Toekomstbestemde Polder Lange Weide (HDSR, n.d.) have been selected. In section 3.2, this choice and the cases are discussed more extensively. Lastly, as introduced in section 1.3, the temporal strategies by Pot et al. (2022) are the point of departure for connecting the short-term with the long-term.

The above considerations have led to the formulation of the following main research question and accompanying sub-questions:

Main research question:

“What are promising temporal action perspectives for water managers to connect short-term to long-term considerations in area-oriented processes?”

Sub-questions:

1. Which analytical categories to systematically describe and map area-oriented processes can be derived from literature on environmental governance? (*Conceptual question*)
2. Which evaluation criteria to assess area-oriented long-term planning processes can be derived from the temporal strategies by Pot et al. (2022) and form a framework of temporal action perspectives? (*Conceptual question*)
3. What is the current content and organization of three area-oriented processes under the jurisdiction of the regional water authority Hoogheemraadschap De Stichtse Rijnlanden? (*Empirical question*)

4. To what extent are the short-term and the long term adequately linked through temporal strategies, either explicitly or implicitly, in these three area-oriented processes? (*Empirical question*)

5. To what extent can linking the long term to the short term in decision-making be employed more extensively, or better, to connect the short term to the long term considerations in the area-oriented processes? (*Integrated question*)

Following Robeyns (2022), this research is prescriptive based on descriptive and evaluative parts. It essentially “takes evaluative research one step further, by telling us what needs to be done” (Robeyns, 2022, p.18). It assumes that the theory (in particular Pot et al. (2022)) provides a good way to link the short-term to the long-term and that applying it in area-oriented processes can help to make the water and land system a steering concept. This project evaluates if, and how, these insights from theory manifest themselves in practice. On the basis of the discrepancy between the theory and practice recommendations are made. Based on this research it is thus not possible to say whether the temporal strategies by Pot et al. (2022) and actually work, since this can only be assessed afterwards, so in the very long term. But it is able to say if they are applied in practice and how this can be done more extensively or better. Applying the framework in practice also yielded insights that sharpens the framework and contributed to a better understanding of how they are reflected in practice. Related to this, the main question refers to “promising” temporal action perspectives. What is meant with promising was left as an open question at the start of this research with the expectation that this research would help to define what this entails, this will touched upon again in the discussion.

The line of inquiry of this project starts by posing **two conceptual questions** that needed to be answered to be able to analyze and evaluate the area-oriented processes. Question 1 is dedicated to the analysis, while question 2 is steering towards the evaluation. The answers to the conceptual questions formed the basis for answering the **two empirical questions**. Question 1 provided the means for answering question 3. The underlying reasoning for this strategy and number are explained in sections 3.1 and 3.2. Similarly, the answer to question 2 provided the means for answering question 4. Additionally, the output of question 3 provided input for the evaluation. Question 4 accounts for both implicitly and explicitly employed strategies as Pot et al. (2022) emphasize that all temporal strategies, which serve as the starting point of the evaluation, are always present but not always consciously applied, which can even lead to counterproductive outcomes. The authors did not extensively expand on this in their article, but this research also gives some further substance to this. The output of question 4 is an evaluation of whether the insights and strategies from the theory are present in the cases, and applied in the “right” way. In turn, the insights derived from the empirical questions provided input for the **integrated question**. The latter based itself on any discrepancies between the theory and practice, which were used to base recommendations on to better and more extensively link the short-term and the long-term. Next to that, based on the whole, temporal action perspectives that can be used in general were identified. Due to the scope and the unit of analysis of this research, this is tailored to Hoogheemraadschap De Stichtse Rijnlanden but, as will be discussed in the discussion, these insights are also relevant for other actors.

1.5 Research framework

Conducting the outlined line of inquiry in the previous section involved several steps. **Step 1 and 2** were to review the literature on environmental governance to identify analytical categories and to discern evaluation criteria based on Pot et al. (2022) for analytical frameworks. Since the evaluation builds on the analysis of the area-oriented processes, and they are thus two different analytical steps, this project makes use of two analytical frameworks. One is dedicated to systematically describing and mapping area-oriented processes and the other is used to evaluate whether the long and the short term are linked adequately in these processes. For the latter, the temporal strategies by Pot et al. (2022) are thus used as a basis. These steps answer questions 1 and 2. Hereafter, **step 3** was to first apply the analytical framework to describe and map the area-oriented processes and secondly use this analysis for **step 4** to evaluate these processes using the second analytical framework. This essentially entailed evaluating the way the theory manifest itself in practice and put the temporal strategies by Pot et al. (2022) to a first reality check. For these steps, desk research and interviews were conducted and questions 3 and 4 will be answered respectively. Lastly, **step 5** answered the 5th question and it entailed analyzing and learning from the findings to identify temporal action perspectives. The steps are visualized in the research framework below (Figure 1).

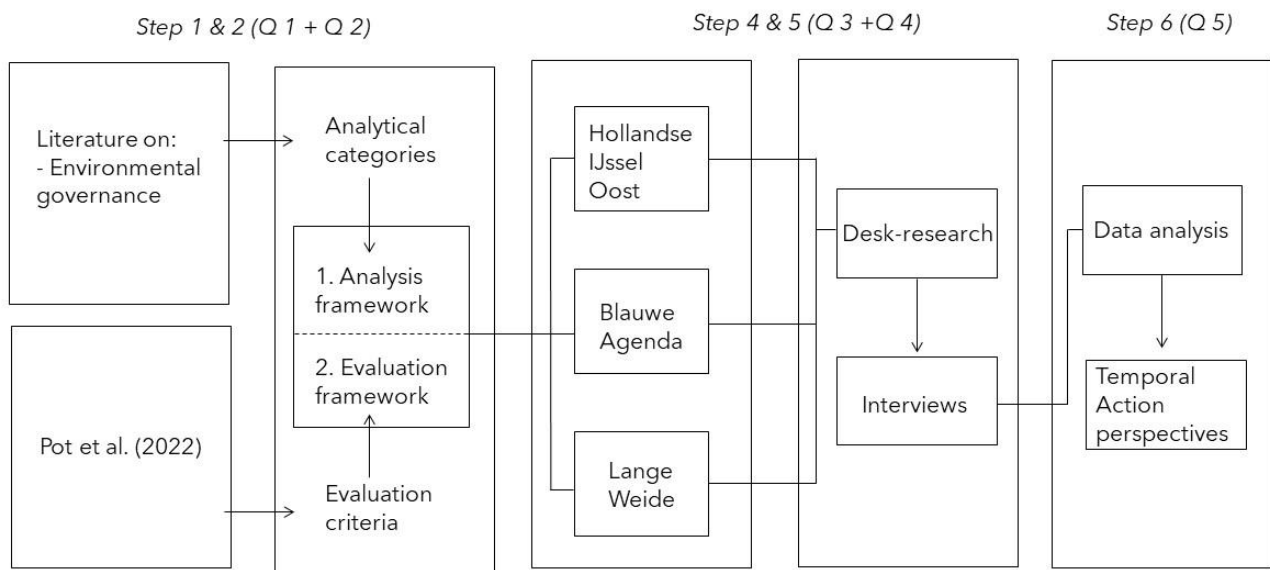


Figure 1: Research framework visualizing the steps and answers to the sub-questions. *Toekomstbestendige Polder Lange Weide has been abbreviated as Lange Weide in this figure.*

1.6 Societal and scientific relevance

This research is both societally and scientifically highly relevant. As illustrated in section 1.1, making the water and land system a steering concept is a timely and important problem with which practitioners are faced. More generally, dealing with how to incorporate the long-term in decision-making is something that resonates not only strongly at Hoogheemraadschap De Stichtse Rijnlanden but also more generally in the field of sustainable development. This project ties well into all this, providing insights tailored to Hoogheemraadschap De Stichtse Rijnlanden but which are also relevant for other actors. In academic terms, this research presents a novel approach to the temporal strategies by Pot et al. (2022). The temporal strategies by Pot et al. (2022) are put to a first reality check. This enhances our understanding of how individual actors may link the short-term to the long-term in decision-making. Additionally, the use of this temporal lens provides a new perspective to the study of area-oriented processes.

2 Theory

In this chapter the conceptual and analytical frameworks will be presented. In doing so, sub-questions 1 and 2 are answered.

2.1 Conceptual framework

This research involves some concepts that need further clarification. These concepts will be discussed in section 2.1.1. Furthermore, this section already in part answers the conceptual sub-questions 1 and 2. In section 2.1.2. and 2.1.3., the conceptual frameworks that form the basis of the analytical frameworks will be explained. Hereafter, in section 2.1.4. the relationship between the concepts is discussed and visualized (see Figure 3).

2.1.1 Important concepts underlying this research

In the table below (Table 1), the concepts that are important for this research are explained. Some of these explanations are reiterations of what has been discussed earlier, but these are included nonetheless to provide a clear overview.

Table 1: Description of the important concepts.

Concept	Description
Area-oriented processes	<p>Area-oriented processes are a conventional policy practice in the Netherlands. The term essentially is an umbrella term for integral decision-making processes in which issues are dealt with on an area-specific basis. Literature on area-oriented processes has already been discussed in section 1.3 and has made it apparent that area-oriented processes can differ significantly from one another. Correspondingly, there is no single, conclusive definition of the concept both in academic and grey literature (van Straalen, 2012). Even so, for the purpose of this project, these processes are understood as being characterized by the involvement of a wide variety of stakeholders and concerns and having the underlying aim to link the various concerns and parties in an area for a properly balanced outcome of the decision-making process.</p> <p>Moreover, as mentioned in section 1.1, area-oriented processes are always context dependent. To still give some guidance about the ways in which area-oriented processes can differ from one another, six defining characteristics of area-oriented processes were identified in consultation with practitioners of HDSR. These characteristics were also used for the case selection and they are described in section 3.2.</p>
Water and land system	<p>As mentioned in section 1.1, biophysical characteristics in the context of this project specifically refer to those of the water and land system. However, The work by Bazilian et al. (2011) and Staupe-Delgado (2020) on the energy-water-food-(ecosystem) nexus has illustrated that biophysical characteristics are all related to each other. For this reason, this project understands the characteristics of the water and land system in a broad sense and thus extends beyond merely the land and water system.</p>
Short-term and long-term	<p>A recurring theme in this proposal is the tension between the short-term and the-long term. To distinguish between the two, inspiration is drawn from the work of Garri (2010) on political short-termism. Here the distinction is made between short-term visible gains and long-term invisible gains of policy (Garri, 2010, p. 199). This project considers the short-term to be related to the period in which the gains and costs are visible and the long-term to the period in which the gains and costs are invisible. This bears similarities to the distinction between acute and creeping crises that Pot et al. (2022) make. Acute crises demand action as the threat is visible while the threat posed by creeping crises is more invisible and thus lacks attention and action (Pot et al., 2022, p. 2). As the work by Pot et al. (2022) is integral to this research, short-term considerations are used a synonymous to acute threats and long-term considerations as synonymous to creeping threats.</p>
Temporal action perspectives	<p>“Action perspective” is used as the English counterpart of the Dutch <i>handelingsperspectief</i>, which refers to the available opportunities to act in a given situation (Rijkswaterstaat, 2017). In the context of this project, action perspectives are understood as information on how to act in a given situation. Subsequently, with temporal action perspectives is referred to insights that provide information on how to act to link the short-term to the long-term. These action perspectives are based on the strategies by Pot et al., 2022.</p>

2.1.2 Basis for analyzing the area-oriented processes: The Policy Arrangement Approach framework by Arts et al. (2006)

In answer to the first sub-question on how to systematically describe area-oriented processes, the Policy Arrangement Approach (PAA) framework as proposed by Arts et al. (2006) forms a suitable basis on which to build the analytical framework for analyzing the content and organization of the area-oriented processes. Originating from the environmental policy field, this framework can be used to map and

understand policy processes. Similar to other policy analysis approaches, the framework is concerned with analyzing stability and change in the “policy arrangements”. Here “policy arrangements” refer to the “temporary stabilization of the content and organization of a policy domain” (Arts et al., 2006, p. 96). The PAA framework is a broad framework, encompassing many different dimensions of governance arrangements. This makes it particularly suitable for the analysis of area-oriented processes as each process is context dependent and it is therefore important to use a framework that captures this diversity. The policy arrangement of area-oriented processes is in this research referred to as area-oriented process arrangement.

The PAA framework identifies four dimensions which are used to describe the content and organization of a policy domain. Firstly, the relevant actors and coalitions. This generally varies significantly in each area-oriented process and may include both public and private actors. Secondly, the subsequent division of power and influence between the respective actors. Each actor has different resources to its disposal. In the PAA framework this is captured under “power” which refers to the mobilization, division and deployment of resources. The extent to which the actors can influence the policy outcomes also differs. Which actors can influence the policy outcome and how subsequently is considered under “influence”. Thirdly, the current rules of the game. This concerns both the actual rules for the interactions and the formal procedures applicable for policy and decision-making. Fourthly, and lastly, the PAA framework includes the policy discourses and programs as a separate dimension. “Policy discourses” capture the views and narratives of the involved actors and includes norms and values, definitions of problems and approaches to solutions. “Policy programs” cover the content of policy documents and measures (Arts et al., 2006).

The four dimensions are intrinsically linked to one another, so a change in one entails changes to other dimensions as well (Arts et al., 2006). In this way, the PAA framework accounts for the interconnected nature of policy arrangements (see Figure 2). Using the PAA framework therefore provided an integrated representation of area-oriented approaches, which is crucial due to the messy nature of area-oriented approaches. This integral representation then served as a strong basis for the further evaluation of the use of temporal strategies. How the PAA framework will be used as an analytical framework will be discussed in section 2.2.

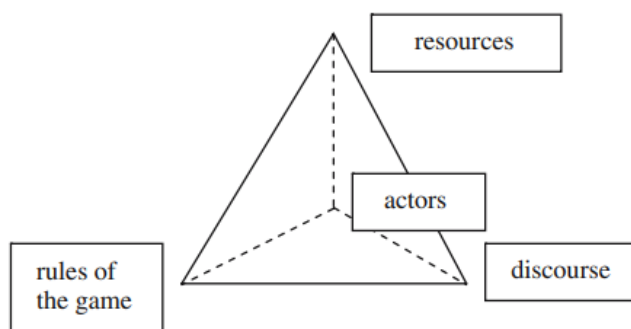


Figure 2: Visualization of the interconnected dimensions of the PAA framework (Arts et al., 2006, p.99).

2.1.3 Basis for evaluating the area-oriented processes: The temporal strategies by Pot et al. (2022)

In answer to the second sub-question, and as already hinted at in chapter 1, the framework of strategies by Pot et al. (2022) is the basis on which the analytical framework to assess the area-oriented processes is based. The temporal strategies in this framework can be used to link acute crises to creeping crises with the goal of leading to more robust governance. In their article, Pot et al. (2022) refer to acute and creeping crises rather than long-term and short-term issues or concerns. This study adopts this perspective and wording. In this research, the short-term thus refers to acute threats and the long-term to creeping threats and are used as synonymous throughout this research.

In short, Pot et al. (2022) propose the following five strategies as a first attempt to provide a temporal lens to understanding political robustness:

1. “Timing”; refers to consciously choosing the moment when to act.
2. “Crafting time horizons”; concerns the time period in the past and in the future that are taken into account by policy actors when considering issues.
3. “Pacing”; is related to modulating the speed of policy responses.
4. “Futuring”; is about exploring the alternative scenarios for the future and determining which one would be preferable to help to prepare for the unknown.
5. “Cyclical adaptation”; refers to adaptive iteration of policy decisions.

The strategies can be used differently depending on what temporal lens is taken. The strategies can be used to address short-term, acute crises, and long-term, creeping crises individually. But also to address *dual crises* in which both crises are coupled. Here, the strategies are essentially geared towards linking the short-term to the long-term. This manifestation of the strategies will be central to this research (in bold). To highlight the differences and the relationships between the strategies, Pot et al. (2022) provide an instructive table with an overview. This table is included below (see Table 2).

Table 2: Overview of the temporal strategies by Pot et al. (2022, p.11).

Strategy	Acute crises	Creeping crises	Dual crises
Timing	Stepping in, responding in time to evolving crisis	Awaiting and exploiting the opportunities for policy persistence or change	Using the acute crisis momentum to benefit from the increased sense of urgency to break through deadlocks in policy paths
Crafting time horizons	Focusing on the here and now, narrow time horizons for quick and firm crisis mitigation actions	Creating long time horizons for policy goals and long-term scenarios to explore future crisis consequences	Locking-in political commitments to longer time horizons to create and keep a momentum which is less dependent on the occurrence of acute crises
Pacing	Exploiting crisis-induced windows of opportunity for accelerated consideration of hitherto politically infeasible reforms & innovation proposals	Finding “accelerators” to push in overcoming institutional inertia and agenda denial	Leveraging crisis-induced inquiries and reform packages to bring forward consideration of underlying risks and “creeping” vulnerabilities
Futuring	Creating crisis evacuation and response plans and training	Assessing different crisis response options against broad ranges of future scenarios	Using both stress-tests and scenarios for exploring strategies in response to alternative histories as well as possible futures with acute and creeping crises impacts
Cyclical Adaptation	Adjusting or switching between crisis response strategies in response to the evolving crisis	Creating alternative pathways of actions, monitoring creeping crisis manifestations and policy responses, creating multiple decision trajectories for adjustment of policies	Applying alternative pathways to the dual crises context to adjust policies based on an appraisal of changing circumstances and acute shocks

2.1.4 Relationship between the concepts

Based on the steps in the research framework (section 1.5), the relation between the concepts and frameworks are understood as visualized in Figure 3. Figure 3 highlights that area-oriented processes are described and mapped on the basis of the actors present and the resources that these actors have at their disposal. Moreover, there are certain rules of the game and discourses that characterizes the process. Within these area-oriented processes the water and land system ought to become a steering concept (based on the parliamentary letter). However, this involves addressing the inherent tension between the short-term and the long-term. This relationship is visualized by the dashed line and this is the phenomenon that this research is concerned with. This is where the temporal action perspectives based

on the five temporal strategies by Pot et al. (2022) come into play and that form the basis of the conceptual approach for assessing the area-oriented processes. Utilizing and developing these strategies helps link the short-term to the long-term in area-oriented processes and, consequently, can contribute to making the water and land system a steering concept.

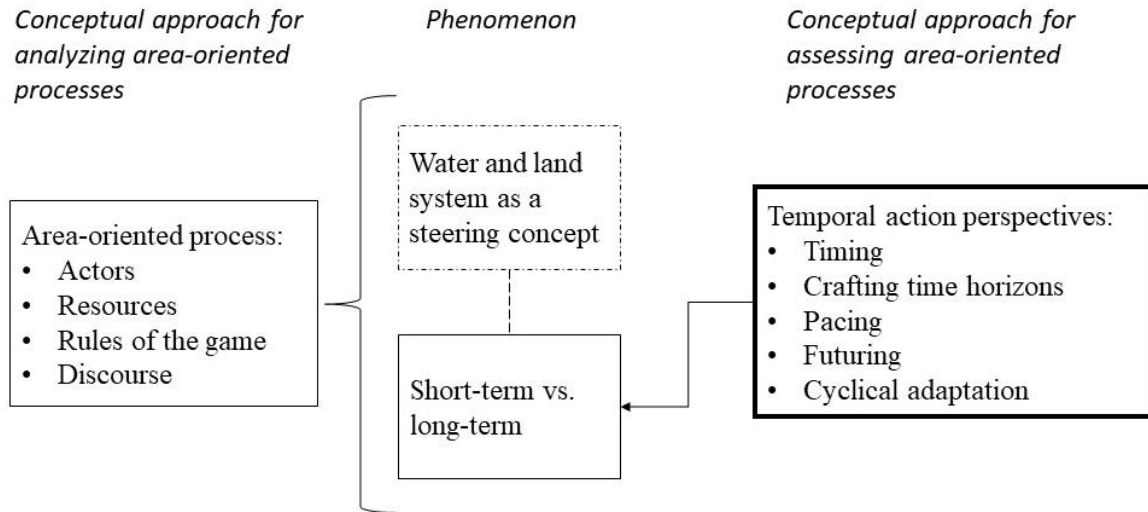


Figure 3: Integrated conceptual framework to study area-oriented processes from a temporal perspective. The arrow highlights that the temporal action perspectives are used to address the tension between the short-term and the long-term in area-oriented processes as a means to give substance to the water and land system as a steering concept.

2.2 Analytical frameworks

In the previous section, a first step was made towards answering questions 1 and 2 by introducing and setting out the PAA framework by Arts et al. (2006) and the temporal strategies by Pot et al. (2022). This section now explains how these conceptual frameworks were translated into analytical frameworks. As explained in section 1.5, this project makes use of two analytical frameworks as they are considered to be two separate steps.

2.2.1 Step 1: Systematically describing area-oriented approaches using the Policy Arrangement Approach framework

The first step is to systematically describe and map the area-oriented processes. In this regard, the PAA framework was used to guide my data collection and as a medium to code my data. To reiterate, the

broadness of the framework ensured that my analysis was able to capture the elements that are important for assessing the area-oriented processes. In essence, the PAA framework is used as a heuristic for the purpose of describing the area-oriented processes. For this purpose, the PAA framework did not need to be adapted other than operationalizing it. An example of such a use of the framework by Hegger et al. (2014) is included in Appendix C (Table C1) and this was used as a guideline in this research.

2.2.2 Step 2: Evaluating the area-oriented processes using the framework of temporal action perspectives based on Pot et al. (2022)

The second step is to assess the extent in which the short-term is adequately linked to the long-term in the area-oriented processes on the basis of insights from the theory. For this, a framework of temporal action perspectives is drafted based on the temporal strategies by Pot et al. (2022).

First, it is important to explain how the strategies are used as a basis. This research focusses on the “dual crisis application” of the temporal strategies (see Table 2). As this study constitutes a first attempt to apply the strategies in practice, these descriptions were used to translate into analytical questions to allow a broad inquiry (third column, Table 3). To further supplement these analytical questions, potential indicators were identified in the work by Pot et al. (2022). Pot et al. (2022, p. 4-6) provide descriptions of the strategies. By going through the article in detail, manifestations of what the strategy entails and how it can be applied to explicitly link the short-term to the long-term were identified (see last column of Table 3). These manifestations are literally taken from the article and denoted in the tables and they are seen as potential indicators of the use of the strategy to help steer the inquiry. Even so, the analytical questions are leading as Pot et al. (2022) do not provide an exhaustive list of manifestations. Next to that, some manifestations are rather situated and are not an indispensable element of the strategy (e.g. Initiatives have already been prepared for opportunities opening up by crises).

Secondly, an additional step was added before the analytical questions and the indicators. Pot et al. (2022) refer to the application of the strategies in a *dual crisis* context, i.e. an interconnected acute and creeping crises. However, they do not provide elaborated instructions on what constitutes dual crises in practice. Herein is especially lacking when the crises can be considered connected and thus when an acute threat can be linked through the temporal strategies to creeping threats. To bridge this gap, a step is added before considering the analytical questions and indicators. This first step is to identify the acute and creeping threats based on the societal challenges of the process without identifying them as dual crises yet (the dual crises in each case will be touched upon again in the discussion). Pot et al. (2022) refer to acute threats as instances in which urgency and surprise characterize the threat with the need to act now. On the other hand, creeping crises are defined as having a slow pace (both in term of the threat and attention to it) and a defining character is the fact that prolonged absence of attention and action. These definitions are adopted and used to identify acute and creeping threats. Importantly, identifying the acute and creeping threats provides the input for the analytical questions. In this way, the inquiry using the analytical questions and the indicators is not predisposed towards certain dual crises while at the same time providing leads for identifying the use of temporal strategies.

Table 3: *The analytical framework of temporal action perspectives: assessing the use of the temporal strategies in practice.*

Temporal strategy	Indications that the strategy is reflected in practice (to what extent...)	Potential manifestations of the strategy based on instructions by Pot et al. (2022)
Timing	...do we see indications in the content and organization of the area-oriented process that the acute crisis momentum is used to benefit from the increased sense of urgency to break through deadlocks in policy paths?	Linkages are construed between acute crises responses
		The present-day event is framed as symptomatic for larger issues
		Coalitions are welded at the right time
Crafting time horizons	...do we see indications in the content and organization of the area-oriented process that political commitments are locked-in to longer time horizons to create and keep a momentum which is less dependent on the occurrence of acute crises?	Longer-term perspectives are considered when high-stake decisions are taken in response to acute manifestations of creeping crises
Pace	...do we see indications in the content and organization of the area-oriented process that crisis-induced inquiries and reform packages are being leveraged to bring forward consideration of underlying risks and “creeping” vulnerabilities?	Initiatives have already been prepared for opportunities opening up by crises
		Moments at which acute crises give rise to wide-ranging independent inquiries are leveraged
Futuring	...do we see indications in the content and organization of the area-oriented process that both stress-tests and scenarios for exploring strategies are used in response to alternative histories as well as possible futures with acute and creeping crises impacts?	Foresight techniques that are well-suited to conditions of deep uncertainty are used
		Alternative histories to anticipate different types of risks are explored
		Different possible chains of events that could have occurred to learn about future risks are studied
Adaptive Iteration	..do we see indications in the content and organization of the area-oriented process that alternative pathways are applied to the dual crises context to adjust policies based on an appraisal of changing circumstances and acute shocks?	Incorporating the ability to switch policy strategies or goals by designing alternative response strategies and allowing for flexibility to switch paths
		Adaptation pathways are regularly explored and powerfully visualized
		Continuously monitored and broad-based collaboration with extensive stakeholders is stimulated

3 Methods

In this chapter the research strategy, the case selection and operationalization of the variables are discussed. Moreover, this chapter highlights what research materials were used and how the data was collected and analyzed.

3.1 Research strategy

The research conducted for this project was qualitative in nature as this is the most suitable approach for the types of research questions that are posed. The questions are geared towards an thorough examination of complex cases. Opting for depth rather than breadth therefore made sense for this project (Verschuren & Doorewaard, 2010). To achieve the research aim, governance arrangements were analyzed using the PAA framework and subsequently evaluated with the use of an analytical framework based on the temporal strategies of Pot et al (2022). In turn, these steps serve the identification of temporal action perspectives for individual actors. Consequently, this research generated both descriptive and evaluative knowledge as an impetus to prescriptive knowledge. Realizing all this required in-depth inquiry into area-oriented processes. Case study analysis offers this capacity (Gerring, 2004), which made it a suitable research strategy for this project. Since area-oriented processes can differ greatly from each other, this research conducted a multiple case study analysis. Multiple case study analysis is defined by Stewart (2012, p.69) as “an investigation of a particular phenomenon at a number of different sites”. By looking at multiple cases, action perspectives for individual actors could be identified on the basis of a greater variety of types of area-oriented processes. The benefit is that this yielded more insights into what action perspectives can be identified for individual actors under different conditions. Moreover, multiple case study analysis aligns well with the research goal of this project as Stewart (2012, p.77) emphasizes that multiple case study analysis is a suitable strategy for lesson drawing.

Multiple case study analysis can be conducted in different ways and for different purposes (Stewart, 2012; Ridder, 2017). The point of departure of this research were the theoretical propositions derived from the work by Pot et al. (2022). In this regard, the case study design’s theoretical contribution rests in further developing the insights from theory by specifying the strategies by Pot et al. (2022) through applying them to multiple cases (Ridder, 2017). Therefore, this project concerned theory-testing and theory-developing research. It thus aimed at exploring how the theory manifests itself in practice in area-oriented processes and evaluating how insights from theory can be used better in practice. Accordingly, the multiple case study analysis in this research was partly exploratory and partly evaluative, as classified by Stewart (2012). The criteria for this evaluation were the extent to which the insights from theory recur in practice, as captured by the analytical questions found in section 2.2.

For this research three cases were studied on the basis of primary information. Considering the time consuming processes of applying both the PAA framework and the integrated framework, studying three cases was considered to be a suitable and realistic number. Extensive research for each case was necessary to be able to apply the analytical frameworks as the selected area-oriented processes needed

to be mapped and described on four elaborate dimensions and an answer needed to be provided to a significant amount of analytical questions. This research included both desk research and interviews, the latter being particularly time consuming. Moreover, selecting three cases made it possible to examine these area-oriented processes in detail while still allowing for the inclusion of different types of area-oriented processes.

3.2 Case selection

As illustrated earlier, no area-oriented processes are alike and they can differ from each other in many ways. It was thus important to carefully select the cases that were going to be studied. The main choice to be made was between selecting cases which are similar or different from one another, which for this project is the later. By selecting cases which are different from one another a greater variety of area-oriented processes could be studied. Moreover, selecting cases with different contexts, i.e. the different characteristics in Table 4, supports the generation of diverse outputs (Ridder, 2017), which is useful for lesson drawing. In this way, the amount of temporal action perspectives that this project could potentially yield was maximized. In consultation with practitioners of Hoogheemraadschap De Stichtse Rijnlanden, six key defining characteristics of area-oriented processes were identified (see Table 4) to distinguish between different types of area-oriented processes. Since there was no academic literature to conclusively base the characteristics on (see section 1.3), these characteristics were based on the experience and insights of the practitioners and what was reflected in (grey) literature on area-oriented processes. In that sense, something is considered to be an area-oriented process if people refer to it as an area-oriented process.

Table 4: Descriptions of key defining characteristics of area-oriented processes.

Key defining characteristics of area-oriented processes	Description
1. Scale	The scope of the area-oriented process, both in terms of the area that is considered and the actors that are involved.
2. Degree of abstraction	The extent in which the process is made concrete, this includes the division of responsibilities, the binding nature, the agreements, the functioning of the process itself etc.
3. Top-down or bottom-up	The type of actors that are in the lead of the area-oriented process. Also relates to how the area-oriented process came into being.
4. Area type	The type of area that is concerned in the process. This is based on the <i>Waterbeheerprogramma 2022-2027</i> (Water management program 2022-2027) of HDSR in which a distinction is made between <i>Veenweide gebied</i> (Peat meadow area), <i>Stedelijk midden gebied</i> (Urban central area) and <i>Kromme Rijngebied en Utrechtse Heuvelrug</i> . Each type represents a different part of the jurisdiction of HDSR and each area type comes with its own challenges (HDSR, 2021)
5. Urban or rural focus	The focus of the area-oriented process. An urban or rural focus brings with it specific content and challenges.
6. Duration	The planned duration of the area-oriented process.

These characteristics were turned into selection criteria for selecting cases that differ significantly from each other. Additionally, one extra criteria was included based on the focus of this research and two extra criteria were formulated for practical reasons. Concerning the former, related to the instigation of this process, the area-oriented processes need to address issues concerning the water or land system. Concerning the practical reasons, since Hoogheemraadschap De Stichtse Rijnlanden played a vital role in providing access to the area-oriented processes, an additional criteria was that Hoogheemraadschap De Stichtse Rijnlanden needed to be actively involved in the process. An added benefit is that Hoogheemraadschap De Stichtse Rijnlanden can directly make use of the insights generated by this project and they could help validate the lessons on action perspectives. Secondly, the area-oriented processes needed to be ongoing. This criteria was formulated for data availability reasons; it ensured that the involved actors were still reachable. Furthermore, selecting ongoing processes increases the relevance of this project since the insights from this project can be directly applied in the studied processes. Based on these criteria, **policy practitioners of Hoogheemraadschap De Stichtse Rijnlanden were asked to identify area-oriented processes that met these criteria.** This led to the identification of the area-oriented processes Hollandse IJssel Oost, Blauwe Agenda and Toekomstbestendige Polder Lange Weide. The cases are briefly introduced below (see Table 5). This is followed up by Table 6, which highlights how these cases meet the criteria. For the first six criteria the criteria was considered to be satisfied if the three cases differed from one another on these elements. The last three criteria were considered to be satisfied if all the cases individually met the criteria.

Table 5: Description of the (selected) area-oriented processes.

Area-oriented process	Description
Hollandse IJssel Oost	<p>Hollandse IJssel Oost is an area-oriented process in an area surrounding the river Gekanaliseerde Hollandse IJssel. In this process, the relocation of a water barrier is used to bring together varying concerns (i.a. biodiversity, water and sustainable energy) in the new spatial plan of the area (Bureau Buiten, 2022). The process is an example area for the overarching area-oriented process Groen Groeit Mee (Dutch for green grows along) that covers the whole province of Utrecht. In Groen Groeit Mee, the province of Utrecht together with its municipalities and regional water authorities, and various governmental partnerships, have made the agreement that all spatial plans and area developments will take green development into account in a balanced and comprehensive way. Here, green refers to different values that are related to nature and landscape, and to accomplish this other stakeholders are also involved depending on the context (Groen Groeit Mee, 2023b). Hollandse IJssel Oost is thus area-oriented process by itself but the process is also one of the four example areas to give substance to Groen Groeit Mee.</p>
Blauwe Agenda	<p>Blauwe Agenda (Dutch for blue agenda) is an extensive area-oriented process covering the area of the Utrechtse Heuvelrug in the east of the province of Utrecht. The process concerns agreements that have been made to tackle problems of water shortage and nuisance in and around the Utrechtse Heuvelrug National Park. The process involves many actors: the province of Utrecht, National Park Utrechtse Heuvelrug, Vitens (drinking water company), regional water authorities, municipalities, land management organisations, private owners and nature organisations. Blauwe Agenda is an overarching process under which other projects and area-oriented processes (Nationaal Park Utrechtse Heuvelrug, 2020).</p>
Toekomstbestendige Polder Lange Weide	<p>Toekomstbestendige Polder Lange Weide is an area-oriented process in the polder Lange Weide in the rural peat area in the west of the jurisdiction of Hoogheemraadschap De Stichtse Rijnlanden. The process concerns the realization of infiltration tubes in the polder. The tubes have already been placed a few years ago but there is still ongoing monitoring and evaluation. Notably, this project was initiated by local farmers which are united in a nature-agricultural association. Which is generally speaking an uncommon phenomenon and makes it a very good example of a bottom-up process. Next to local farmers and other land owners in the polder, the process involves the actors: Stichting Rijn & Gouwe Wiericke (agricultural nature association), municipality Bodegraven & Reeuwijk, Veenweiden Innovatie Centrum, regional water authority Hoogheemraadschap De Stichtse Rijnlanden (HDSR, n.d.).</p>

Table 6: Applying the selection criteria to the cases.

Selection criteria*	Groen Groeit Mee	Blauwe Agenda	Lange Weide	Satisfied
1. Scale	Area size: Gekanaliseerde Hollandse IJssel Actors: Mostly government institutions in the lead, other actors context dependent	Area size: The national park Utrechtse Heuvelrug and its surroundings Actors: Wide variety of types of actors	Area size: Polder Lange Weide Actors: Main role of private actors, mainly farmers	Yes
2. Degree of abstraction	Concrete agreement but project/focus area dependent	Loose agreements on water nuisance and retention	Very clear agreements and demarcations	Yes
3. Top-down or bottom-up	Top-down	Top-down	Bottom-up	Yes
4. Area type	Stedelijk midden gebied	Kromme Rijngebied en Utrechtse Heuvelrug	Veenweide gebied	Yes
5. Urban or rural focus	Urban focus	Urban/rural focus	Rural	Yes
6. Duration	No end date	No end date	Specified and limited duration	Yes
7. Active role HDSR	Yes	Yes	Yes	Yes
8. Ongoing process	Yes	Yes	Yes	Yes
9. Concerns water or land system (or both)**	Both	Both	Both	Yes

*The selection criteria were applied in a broad sense, area-oriented processes can reflect multiple different elements for the same characteristic. However, the elements that seem to be predominant were used to characterise the processes e.g. *Hollandse IJssel* also partly falls under Veenweide gebied but predominantly concerns Stedelijk midden gebied.

**In appendix D, the way in which the area-oriented process involves the water and land system as a steering concept is shown on the basis of the extent in which they involved “structuring choices” that were included in letter to streamline the implementation of the principle.

3.3 Operationalization of variables

The dimensions and the analytical questions constitute the variables of the analytical frameworks but they still had to be operationalized (see section 2.2). For operationalizing the dimensions, the work by Hegger et al. (2014) served as a guideline (see Appendix C). They provide a suitable overview of categories that fits the purpose for which the PAA framework is used in this research. Furthermore, the analytical questions are by themselves already quite instructive but they still had to be contextualized. During the data collection it was not possible to pursue the analytical questions literally. Instead, a set of main questions were formulated that steered towards discussing the content of the analytical questions in the data collection. The final basis of the interview scheme that was used can be found in Appendix E (some

adaptations were made depending on the interview and the progress of the research). In this way, it was ensured that in the end the collective of all gathered data provided the answers to the individual analytical questions. Conducting the research thus also gave substance to the operationalization of the analytical framework.

For the subsequent evaluation, this research made use of a traffic light system (see Figure 4). The use of the temporal strategies was graded on a scale from reflected to a limited extent (red), moderately reflected (yellow) and substantially reflected (green). The grading was based on the extent in which the analytical answer can positively be answered and to a lesser extent the extent in which the indicators were reflected. A red score thus entails that key elements of the analytical question and were missing. A yellow score signifies that some elements of the analytical question are present but not too its fullest extent. Lastly, a green score entailed that the analytical question in its entirety could positively be answered. Here, it is opted to use the wording “the extent in which the use is reflected” rather than terms as adequate or inadequate use of the strategy after feedback from practitioners of Hoogheemraadschap De Stichtse Rijnlanden. The reason for this is that the evaluation is based on the perspective of the temporal strategies and not on the opinion of individual interviewees, using adequate and inadequate might wrongly induce an all-encompassing value judgement of the area-oriented process.

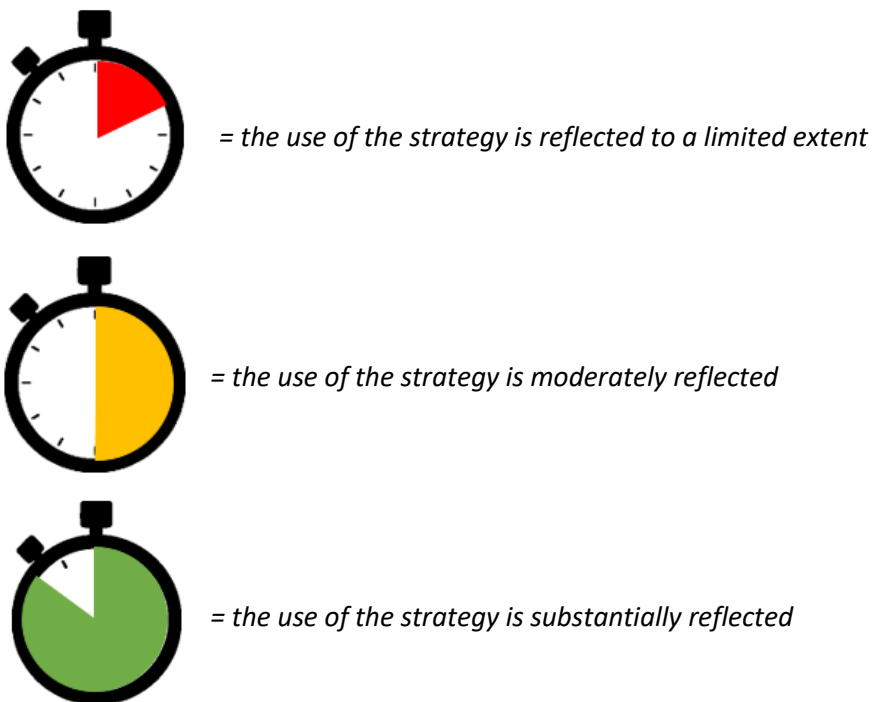


Figure 4: *The traffic light system used for the data analysis.*

3.4 Research materials, data collection & data analysis

3.4.1 Data types

This research made use of different data types. Scientific literature was used to substantiate the theoretical base of this research. For the empirical research was relied upon interviews and grey literature. Here, the grey literature was used for contextual purposes and mostly include policy documents, websites and news articles. Interviews were subsequently used to gain an in-depth understanding.

3.4.2 Data collection

Desk research was used in this project to identify scientific literature and to identify the context of the area-oriented processes from grey literature. Conducting interviews are the second main way of collecting data for this research. Considering the exploratory nature of this research, the interviews were conducted in a semi-structured manner to leave room for the interviewees' perspective while still being able to steer towards the dimensions and the answers for the analytical questions (see Appendix E for interview scheme). To get a thorough description and evaluation, the most important actors in consultation with practitioners from Hoogheemraadschap De Stichtse Rijnlanden were represented in the interviews. In total 15 interviews were conducted (five per case). An overview of interviewed actors is provided in Appendix A. Additionally, making use of doing research on location, two interim presentations were given to an audience of around 8 policy practitioners (involved the development of strategy and advice) to check the preliminary findings with a larger public

3.4.3 Data analysis

For the data analysis, inductive qualitative analysis was used to condense the information in the interviews and grey literature (Thomas, 2006). For this, the interviews were recorded. This is a fitting approach considering the qualitative and exploratory nature of this research. Furthermore, the dimensions of the PAA framework and the analytical questions were used to code the gathered data (see Appendix F for the codes that were used). To do so the coding software NVIVO was used.

3.4.4 Ethical considerations

Since many interviews were done for this research and potentially sensitive processes were studied where many different interests are involved, it is very important to handle data and personal information with care. Therefore, this project made use of an informed-consent form and information document (see Appendix G) for the interviews and the privacy regulations as set by Utrecht University were adhered to. In line with this, the interviews were anonymized (see Appendix A).

4 Context: The water and land system as a steering concept

This is a short chapter and it is meant to provide additional context of the water and land system as a steering concept policy principle in spatial planning. This chapter will discuss (1) the concept of the principle, (2) the policies that are related to the policy principle, (3) the Dutch system concerning spatial planning, and (4) the role of the water authorities in the Netherlands. This chapter is meant for readers that are less familiar with this context, if you - the reader - are already versed in these subjects then it would be possible to skip this chapter and move on to chapter 5.

4.1 Content of the water and land system as a steering concept policy principle

On November 25, 2023, the minister of Infrastructure and Water Management, Mark Harbers, and secretary of state, Vivianne Heijnen, addressed a letter to the Dutch Parliament on behalf of the ministry of Infrastructure and Water Management. The letter concerned the initiation of a new policy principle that aims to make the water and land system a steering concept in spatial planning. Bluntly put, the new principle stipulates that the limits of the water and land system have to be respected in spatial decision-making. This marks an impactful turn in the approach to the engineerability (*maakbaarheid* in Dutch) of the Dutch landscape. Even so, the principle did not appear out of thin air. The principle, or some elements of it, were already reflected in earlier policies on all levels of government, something which is also acknowledged in the letter itself (Ministry of Infrastructure and Water Management, 2022b, p. 2).

The letter itself consist of seven starting points (*uitgangspunten* in Dutch), 33 structuring choices (in Dutch referred to as *structureerende keuzes*) and a wide array of related measures. The structuring choices form the bulk of the letter and are discussed and organized according to theme or area. The seven starting points are meant to give substance to the water and land system as a steering concept. These starting points are (1) no passing on (*niet afwentelen* in Dutch), (2) take extremes into account (*meer rekening houden met extremen* in Dutch), (3) dealing with flooding, drought and land in a coherent way (*in samenhang omgaan met wateroverlast, droogte en de bodem* in Dutch), (4) multilayer safety (*meerlaagsveiligheid* in Dutch), (5) less covering, less digging, no contamination (*minder afdekken, minder vergraven, niet verontreinigen* in Dutch), (6) integrated approach in the living environment (*integrale aanpak in de leefomgeving* in Dutch), (7) comply or explain (same term used in Dutch) (Ministry of Infrastructure and Water Management, 2022b, p. 3-4). Most starting points are relatively self-explanatory and taken together these starting points capture a new approach which puts emphasis on integrality, uncertainty and robustness. The first and the seventh starting point do warrant some more explanation. The first starting point captures the idea that problems should not be passed on to others. Here, it is specifically specified that problems should not be passed on to future generations, to other areas or functions or from the private sector to the public sector. Moreover, comply or explain provides the opportunity to derogate from the principle if a well-enough explanation is provided and thus the principle still allows for derogation in certain cases.

The structuring choices provide input for solving complicated issues related to spatial planning in the Netherlands. The structuring choices are divided under the theme's (1) water and land (in Dutch *water en bodem*), (2) built-up area (in Dutch *bebouwd gebied*) and the areas (3) low-lying peat areas (in Dutch *het laagveengebied*), (4) salinizing coastal areas (in Dutch *de verziltende kustgebieden*) and (5) high sandy grounds (in Dutch *de hoge zandgronden*). In the letter it is explained that these areas are selected since in these areas the limits of the water and land system are approached or have been reached. There are too many structuring choices to describe here. To name two illustrative ones, structuring choices can range from more abstract notions such as the ambition to realize a resilient water system that can deal with droughts (to more concrete choices such as the raising of the water level in peat areas. In turn, subdivided under the same headings, specific measures are provided that further support the structuring choices (Ministry of Infrastructure and Water Management, 2022b).

By standardizing the principle, the national government takes the lead and makes choices that otherwise would be left to lower levels of government. Notably, these are provinces, municipalities and water authorities. The policy principle impacts national policy but also results in challenges for subordinate government bodies as they have to implement it in their functioning. On the other hand, from a more positive perspective, the principle provides regional and local governments with an instrument to back up otherwise controversial and contested decisions (interview 1). Next to that, it can also be considered an incentive for regional and local governments to accelerate painful decisions that lurk behind the problems related to making the water and land system a steering concept (interview 6). Even though the national government took the lead, the principle is subject to an interplay between all these actors (Ministry of Infrastructure and Water Management, 2022b, p. 2). The letter itself is not legally binding as of yet and at the moment the subordinate levels of government are evaluating what the implementation of the principles would entail for them. During these run-throughs the bottlenecks and inconsistencies become apparent. For example, for *Hoogheemraadschap De Stichtse Rijnlanden* it already has become clear that it would not be possible to raise the water levels (structuring choice 25) without using area foreign water ("gebiedsvreemd water" in Dutch) (structuring choice 26). This would entail the need for an unrealizable amount of water storage in the management area of *Hoogheemraadschap De Stichtse Rijnlanden*. (interview 13). Thus, the policy principle has yet to crystallize. Even so, it has already been an important driver of the dialogue on a new approach to the engineerability of the Dutch landscape (interview 13).

4.2 Policy programs that are related to the policy principle

The letter emphasizes that there is strong interdependence with other programs, namely the national program on the arrangement of the rural area, NOVEX program, Agricultural Agreement, housing program, Water Framework Directive and Delta program (Ministry of Infrastructure and Water Management, 2022, p. 5). The programs that are made reference to in the analysis and evaluation are very briefly outlined below.

- Under the policies on the arrangement of the rural area (*Nationaal Programma Landelijk Gebied* in Dutch) the Dutch government attempts to address issues with nature and water quality (related to nitrogen deposition) via an area-based and coherent approach. Via so-called area programs (regional versions of the policy), the provinces work on solutions per area. For the policy program a large fund, the “Transition fund” (*transitiefonds* in Dutch) is set up to finance these processes (Ministry of General Affairs, 2023).
- In the NOVEX program all government authorities work together on a plan for the spatial organization of the Netherlands. Firstly, the national government determines the national goal and provinces determine the regional goal. Then each separate province tries to bring together the national and regional goals optimally. The national government steps in when this cannot be accomplished. In some places this is challenging, here governments and societal parties work together to create an action plan to reach as many goals as possible. Part of the NOVEX program are also 16 specific areas of interest, NOVEX-areas, with each their individual vision. These areas are part of the spatial plan of the province (NOVEX, n.d.).
- The Water Framework Directive (*Kaderrichtlijn Water* in Dutch) is an European directive set in 2000 that aims to safeguard the quality of surface and groundwater in Europe. The Dutch National Institute for Public Health and the Environment utilizes this framework to advise the Dutch government on making national policy, by advising on possible measures and setting standards for substances. For this, provinces, regional water authorities, municipalities, and stakeholders such as water extraction companies and research institutes are consulted as well. The deadline to adhere to the goals of the European directive is 2027 (National Institute for Public Health and the Environment, 2019).

4.3 Spatial planning in the Netherlands and the role of the regional water authority

The Dutch spatial planning system operates through national, provincial, and municipal levels. In short, national governments sets goals, provinces create plans aligned with these, and municipalities devise local development plans (Ministry of General Affairs, 2022). Regional water authorities do collaborate to integrate water management with land-use plans through the so-called water test (*watertoets* in Dutch)(Havekes et al., 2015). In this regard, provinces and municipalities play a bigger role in spatial planning on the regional level compared to the regional water authorities. However, their role may become bigger due to the important role that regional water authorities play in climate adaptation. Combined with upcoming legislative changes under the new the Environment and Planning Act (*omgevingswet* in Dutch) that stress integrated approaches, the regional water authorities are seen as being in a strategic repositioning process in which the relation to the spatial planning domain is central (van den Brink & Restemeyer, 2021). Based on these developments, the role of the regional water authorities can change in the future to encompass more than merely a facilitating role in water management (de Vet et al., 2021).

Results

5 Hollandse IJssel Oost

In this chapter the area-oriented process Hollandse IJssel Oost will be discussed. The chapter will start by setting out the characteristics of the area to add to the introduction of the process in the methods section. This will be followed up by an analysis of the process and, subsequently, an evaluation of the use of the temporal strategies by Pot et al. (2022) in Hollandse IJssel Oost. At the end of both the analysis and the evaluation, a short recap is provided of the respective sections (Table 8 and Table 10).

5.1 Characteristics of the area

The area-oriented process Hollandse IJssel Oost concerns the eastern part of the Gekanaliseerde Hollandse IJssel area (approximately 400 hectares), encompassing the river Gekanaliseerde Hollandse IJssel (which has been canalized) and its surroundings from the edge of the village of IJsselstein until the Knollemankshoek (Hoogeboomsbrug N228) as can be seen in Figure 5. The river plays an important role in providing fresh water to the Westland (a neighboring region with a lot of greenhouse farming) during dry periods and for water drainage during wet periods. Concerning the latter, in order to reduce the pressure for water drainage on the connecting Amsterdam-Rijnkanaal, water storage must be realized in the area around the Gekanaliseerde Hollandse IJssel. Furthermore, the Gekanaliseerde Hollandse IJssel is a minor shipping and recreational navigation route (HDSR, 2023b) and it falls under one water-level section (referred to as *peilvak* in Dutch, concerns an area between locks, weirs or pumping stations where water is kept at the same elevation). The river has a northern and a southern barrier. These are categorized as so-called regional flood defenses. Based on this categorization, the water barriers need to contend with specific safety norms and it makes Hoogheemraadschap De Stichtse Rijnlanden responsible for the barrier. In some places these barriers are made up out of two parallel dikes, which facilitates the relocation of the water barrier. However, the water barriers do not meet the safety requirements anymore.

The land in the area is partly owned by public actors and partly by private actors and there have been plans for the area for years. These plans were mainly focused on realizing recreational opportunities and nature and forest development. Nowadays, the area is also a search area (*zoekgebied* in Dutch, which refers to an area that is seen to have potential for realizing a certain function) for solar fields and temporary housing and the area is sandwiched between several urban areas from which further urban expansion is expected in the near future (notably, city of Utrecht in the Rijnburgpolder, IJsselstein, Nieuwegein and Montfoort)(interview 1).

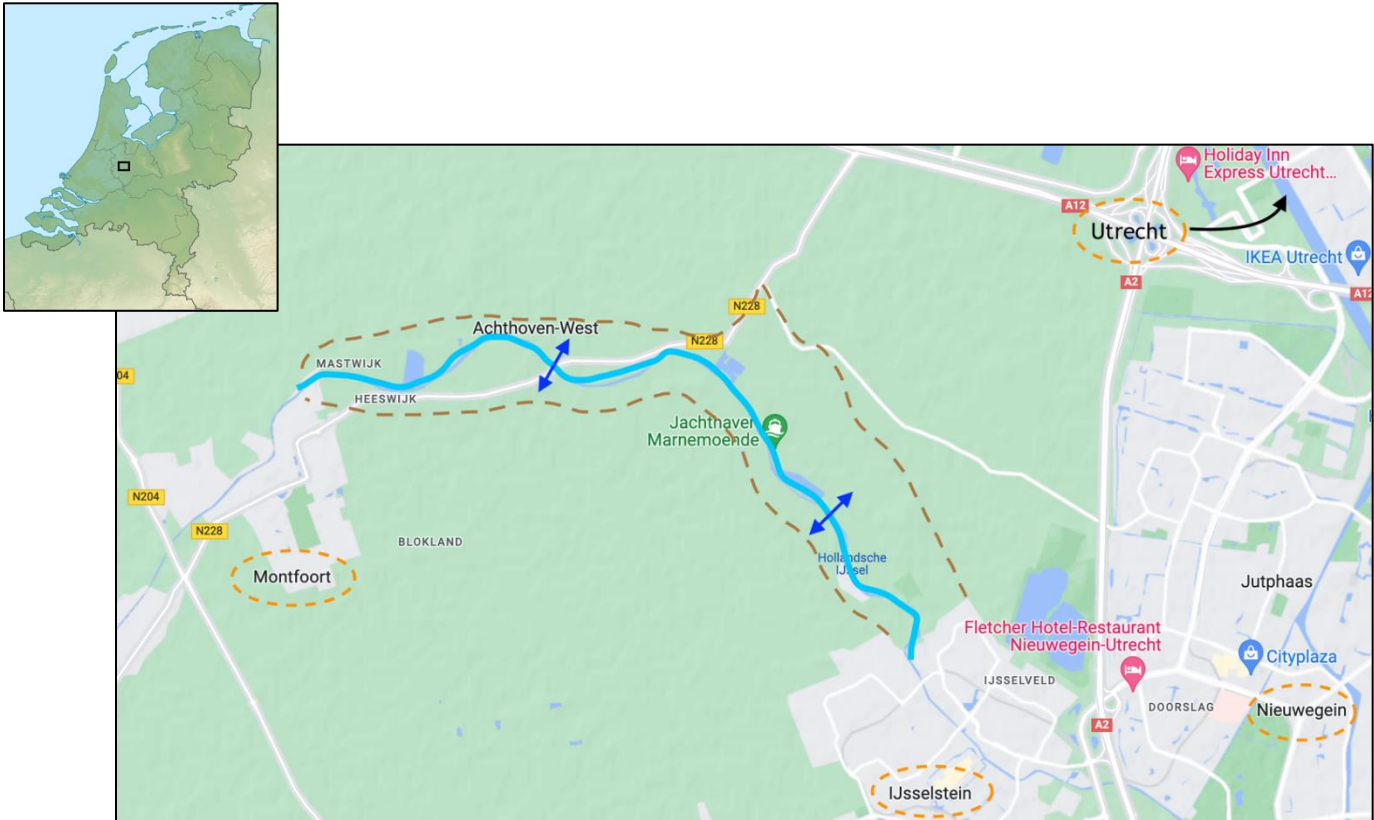


Figure 5: The process area of Hollandse IJssel Oost marked by the brown dotted line. The light blue line is the Gekanaliseerde Hollandse IJssel and the blue arrows represent the moving of the embankments. The main urban areas are highlighted in orange.

5.2 Analysis of the area-oriented process governance arrangement Hollandse IJssel Oost

This section covers the analysis of Hollandse IJssel Oost based on the four dimensions of the PAA framework. But before doing so, the development of the process over time will be briefly highlighted in the form of a timeline to provide a first impression of how the process came to be and how it is expected to further develop in the future. Hereafter, the dimensions of the PAA framework will be discussed starting with discourses, followed up by actors and resources, and finishing with rules of the game before summarizing the findings in Table 8.

5.2.1 Timeline

The current form of Hollandse IJssel Oost is a sum of various preceding and contemporary developments. Only the most important events that are key to the development of Hollandse IJssel Oost are included in this timeline (Figure 6) with the purpose of giving a general impression of how the process developed over time. In that sense, it is not exhaustive and there are many more relevant events that could have been included (e.g. impactful national/regional policy developments or benchmarks such as the adjustment of the zoning plan).

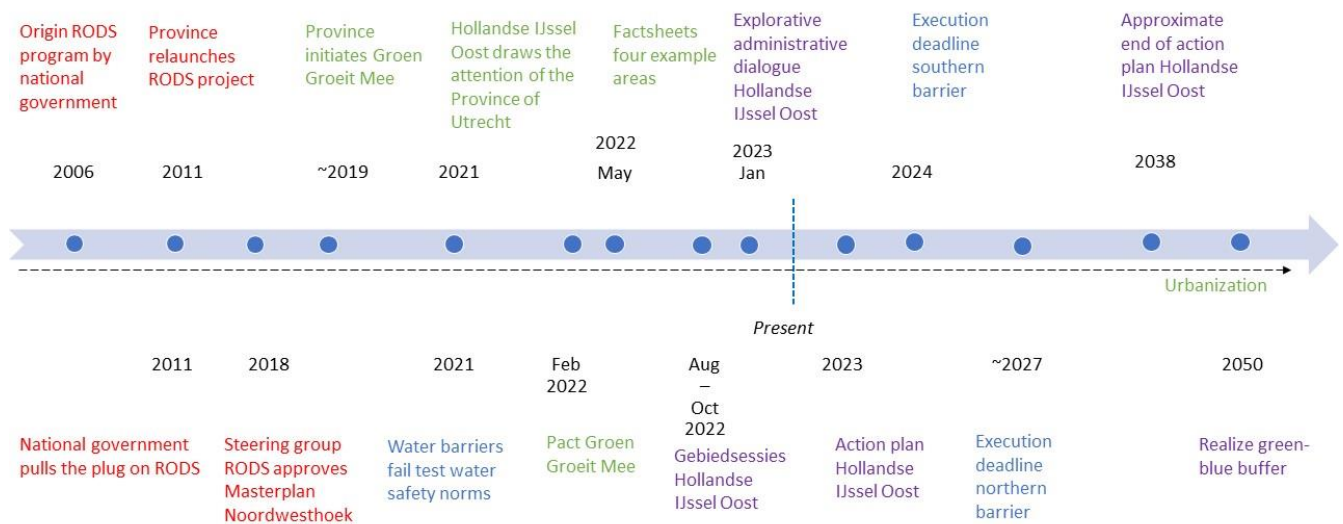


Figure 6: Timeline of the development of Hollandse IJssel Oost over time. The colors highlight separate developments, while the dashed arrow emphasizes that in the background urbanization lingers on.

The timeline essentially captures four developments that together underlie the current form of Hollandse IJssel Oost. These four developments are:

- (1) The earlier plans for green and leisure in the Hollandse IJssel Oost area captured under “leisure around the city” projects (*recreatie om de stad* in Dutch and referred to as RODS in the timeline). This development is colored red in the timeline.
- (2) The setting up of Groen Groeit Mee area-oriented process and the inclusion of Hollandse IJssel Oost as an example area. This development is colored green in the timeline.
- (3) The development of the “blue challenge” in the area, which is colored blue in the timeline.
- (4) The shaping of the process itself, colored purple on the timeline.

These developments will be discussed in the coming sections based on the dimensions of the PAA framework: discourses, actors and resources and rules of the game.

5.2.2 Discourses

Hollandse IJssel Oost falls under the overarching area-oriented process Groen Groeit Mee as one out of four “example areas”. These example areas serve as pilot cases for Groen Groeit Mee. In Groen Groeit Mee, the province of Utrecht together with its municipalities, regional water authorities, various governmental partnerships, nature organizations and land-management organizations have made the agreement that all spatial plans and area developments will take green (nature, landscape etc.) development into account with urban developments in a balanced and comprehensive way. Green in this case also concerns “blue” (water) concerns (GGM, 2022). By making Hollandse IJssel Oost an example area for Groen Groeit Mee, it developed from being a project - only about addressing the water barrier - into an area-oriented process by involving other actors and challenges (interview 5).

A direct cause for initiating the process is the need to reinforce the water barriers of the river as it did no longer meet the water safety standards of the province after the standards had been tightened and testing the barriers in 2021 (HDSR, 2023a; interview 5; Province of Utrecht, 2021;). In this case, the competent regional water authority Hoogheemraadschap De Stichtse Rijnlanden is using the opportunity to relocate the southern barrier land inward rather than merely strengthening the current water barrier (interview 1 and 5). In this way, space can be created for a variety of other functions and interests (i.e. water storage, wet forest and leisure). Next to the need to strengthen the dike, there is also a concrete task to develop forest and nature areas in the area. These developments are taken to a higher level by making the process in the broader sense about area development with the goal to make the area a green-blue buffer as a counterpart to the expected urban development that is creeping towards the Hollandse IJssel Oost area from the surrounding areas. The underlying idea is to form a green corridor and protect it for the future, in this way creating a robust nature system that connects the nature in the urban area to the rural area. In doing-so, the water challenges are linked to the urbanization challenges (Bureau Buiten, 2022). For now, the southern barrier is the focus of the process, and the relocation is to be realized by 2024. However, it is also seen as very promising to do the same with the northern barrier. This is also under investigation, but the relocation of the northern barrier is set for a later point in time (interview 1 and 5). So, while Hollandse IJssel Oost had a blue impetus (i.e., the need to strengthen the dike), the process has been brought to a higher level with the aim to develop the overall “green and blue” in the area in conjunction with a variety of other interests.

There were already plans in the Hollandse IJssel Oost area preceding the current form of Hollandse IJssel Oost. Hollandse IJssel Oost can be traced back to an earlier policy program which was initiated at the time by the national government. This program was called “leisure around the city” (*recreatie om de stad* in Dutch). The program focused on creating additional green areas around major cities, but the national government pulled the plug on the program in 2011. However, the Province of Utrecht considered it so important to realize leisure and green in the area that they went ahead with the program anyway and “the leisure around the city” program was relaunched as “leisure around the city” projects (interview 2,3 and 4). As part of this, agreements for the Hollandse IJssel Oost area were made about leisure projects and nature projects, mostly focusing on the northern side of the Gekanaliseerde Hollandse IJssel. Moreover, a “steering committee” (*stuurgroep* in Dutch) was set up under the responsibility of the

municipality of IJsselstein. Under this committee, a Masterplan Noordwesthoek had been developed by 2018, for which 56 hectares of land has been purchased to develop for leisure and green (forest). This plan can be seen as one of the triggers of the process (next to the need to strengthen the water barriers) and the implementation of this plan is also included in Hollandse IJssel Oost (Bureau Buiten, 2022; interview 3 and 4).

In a broader national context, Hollandse IJssel Oost is unfolding in a period in which a new approach to spatial planning and the engineerability of the Netherlands system is being developed to address the way in which the Dutch strain the biophysical systems of their country. The most recent attempt is the policy principle on making the water and land system a steering concept but also policies on the regulation on water quality (*Kader Richtlijn Water* in Dutch), arrangement of the rural area (*Nationaal Programma Landelijk Gebied* in Dutch), national environmental vision (*Nationale Omgevingsvisie* in Dutch), and the translation of the latter two at the regional and local levels will all need to be given a place in Hollandse IJssel Oost (interview 5)(see chapter 4 for short descriptions of the policies).

To sum up, in the context of Groen Groeit Mee, Hollandse IJssel Oost is considered to be an example area which is already relatively advanced and moving towards execution helped by the concrete causes (i.e. the earlier policies and the need to address the water barrier)(interview 3). In essence, Hollandse IJssel Oost is a means to deal with the intense competition for space that is needed for addressing various challenges in this area - a phenomenon which is not unique in the Netherlands - by bringing together the different parties and interests to come to an integral outcome. In the process, the actors refer to this as “piggyback opportunities” (*meekoppelkansen* in Dutch).

5.2.3 Actors and resources

As of yet, Hollandse IJssel Oost mostly involves public actors. Between these actors there are significant differences in the extent to which, and how, they are involved in the process. The most involved actors are Hoogheemraadschap De Stichtse Rijnlanden, the Province of Utrecht, Staatsbosbeheer and municipality of IJsselstein and they provide most of the capacity in terms of personnel to execute the process (interview 1).

Hoogheemraadschap De Stichtse Rijnlanden has been in the lead and this entails that they draft the action plan and have an employee dedicated as a kind of “projectleader”. Their leading role is based on the fact that they have the most concrete task in the area (strengthening the water barrier by 2024, which they will finance themselves) and their initiative to explore opportunities for linking up their task with other challenges in the area (interview 1, 3 and 5). However, formally Hoogheemraadschap De Stichtse Rijnlanden’s tasks only concerns matters of water management. In this case, Hoogheemraadschap De Stichtse Rijnlanden assumes the role of directing the way an area is shaped (*gebiedsregisseur* in Dutch) which transcends their customary role. Generally, this role is reserved for provinces such as the Province of Utrecht. Even so, in Hollandse IJssel Oost, the Province of Utrecht took the conscious decision to take a step back and assume a more facilitating role; providing financial support and focusing on coordination with other relevant policies in the context of Groen Groeit Mee (interview 3). This flexible attitude towards

roles and responsibilities can in part be traced back to the pro-active attitude of Hoogheemraadschap De Stichtse Rijnlanden to look further than their direct responsibilities, as captured by their water management program “Upstream, climate-proof and sustainable” (*Stroomopwaarts, klimaatbestendig en duurzaam* in Dutch) that describes their ambitions and commitments for the period 2022-2027 (HDSR, 2021; interview 5). But also, the Province of Utrecht holds the view that the processes under Groen Groeit Mee have to be done together and, therefore, it is important to have other organizations in the lead as well (interview 3). This is further supported by the fact that there is clear ownership of challenges in Hollandse IJssel Oost, as reflected by the following quote during one interview:

“A lot of projects in Hollandse IJssel Oost can be traced back to one or two organizations, in this sense it does make sense that the province is not in the lead in those cases.” (interview 3)

However, it is important to note that all actors acknowledge that the division of roles might change in future phases of the process (interview 1-5).

Staatsbosbeheer (roughly translates to state forest authority) is another actor with a concrete, albeit less urgent, task in the area. Staatsbosbeheer is an independent administrative body of the central government and is considered a legal entity with a statutory duty to manage the “green heritage” of the Netherlands. In other words, they protect 270,000 hectares of nature and make sure it can be sustainably utilized by society. In the area of Hollandse IJssel Oost, they have the task to develop forest area (56 hectares) dating back from earlier policy decisions making Staatsbosbeheer also an important actor in the process. For this purpose, the Province has transferred the ownership of land - after acquiring it in an earlier stage - to Staatsbosbeheer to make this happen (interview 4). The last “core actor” is the municipality of IJsselstein. Large parts of the Hollandse IJssel Oost process area falls under the jurisdiction of the municipality of IJsselstein. So, even though the municipality does not have any concrete and pressing tasks in the area, it is an important actor that thinks along with the aim to bring about beneficial developments for its residents, mostly in the recreational sphere (interview 2). So far, there has not been a lot of disagreement on the content, so it is mostly about how it is going to be done with all the actors (interviews 1-5).

Next to these “core” actors, the municipalities of Montfoort, Nieuwegein and Utrecht are also involved in the discussions since the area will be an important place for leisure for their residents, especially since their urban areas are expanding in the direction of the Hollandse IJssel. However, these actors take a more reserved position as they do not have any concrete tasks or challenges in the area (interview 2 and 5). In the future there are also plans to involve private actors in the process. These include a yacht club, camping, and other landowners. These actors will be involved through a participation process that has yet to be set up by Hoogheemraadschap De Stichtse Rijnlanden. Some of these actors will be involved more than others depending on their stake in the specific project. For the broader process of Hollandse IJssel Oost, it is the intention to create guidance teams with representatives of agriculture, recreation and other landowners (Bureau Buiten, 2022; interview 1).

Concerning the finances, actors provide funds for their own regular tasks (e.g. the strengthening of the dike and forest realization). Additionally, the Province provides further financial support as part of the process being an example area of Groen Groeit Mee. Furthermore, attempts are made to generate funds

becoming available under public financing opportunities (Bureau Buiten, 2022), such as the “Region deal” (*Regio deal* in Dutch) and the “Transition fund” (*Transitiefonds* in Dutch)(interview 1 and 5). The former is part of a regional partnership between region and national government to work towards a better living environment and the latter is part of the policies on the rearrangement of the rural area (see chapter 4).

An overview of the involved actors is provided in the table below. The actors have been subdivided under first-, second- and third-shell actors⁴ to give an impression of the relative involvement of the actors. Here, involvement refers to the role the actors assume, ranging from leading and active (first-shell), to thinking along and passive (second-shell), and to yet to be involved (third-shell). Even so, in both the interviews and policy documents it is emphasized that all the involved actors and their interest are considered equal and thus that they are considered equal in that sense (Bureau Buiten, 2022; interviews 1 and 3). This is also reflected by the flexible attitude towards roles and responsibilities and the emphasis on participation.

Table 7: Overview of the involved actors in *Hollandse IJssel Oost*.

“First-shell” actors	“Second-shell” actors	“Third-shell” actors
Hoogheemraadschap De Stichtse Rijnlanden	Municipality of Montfoort	Private actors: land owners, yacht club, camping.
Province of Utrecht	Municipality of Nieuwegein	
Municipality of IJsselstein	Municipality of Utrecht	
Staatsbosbeheer		

5.2.4 Rules of the game

The Province of Utrecht has already formalized the Groen Groeit Mee principle and implemented it in their regulations. The Province of Utrecht works with a “red contour”, which is a demarcation around urban centers within which it is allowed to built. Outside of this demarcation it was already necessary to provide substantiation for why it is necessary to build there. In the context of Groen Groeit Mee, this has been expanded and it is has been laid out in the environmental regulation of the province (*omgevingsverordening* in Dutch) that the “green” has to increase in relation to the “red” (urbanization tasks: infrastructure, housing, work sites, energy) for projects bigger than 50 houses in areas outside of this “red contour”. The rhetoric is that green has to be added on all system levels to ensure a robust system (street, neighborhood, district, sub-urbs and outside of the city) so there are requirements for realizing green in the urban area as well as in the rural area. The exact specifications for this are laid down in a manual (*handreiking* in Dutch) which is part of the provincial regulation (*provinciale verordening* in Dutch)(interview 3). *Hollandse IJssel Oost* thus gives substance to this in the rural area.

The course of action of *Hollandse IJssel Oost* is going to be laid out in the - yet to be determined - action plan. This document will encompass the most important rules and agreements between the involved actors for the process *Hollandse IJssel Oost* (e.g. content of the process, the responsibilities of different actors, finances etc.). The first groundwork for this document has been laid down, but the action plan still

⁴ “shell” (*schil* in Dutch) has been chosen as it was the word that was used by various interviewees to describe the level of involvement of different actors.

has to be formally approved before it becomes effective (interview 1). For this, the administrators (*bestuurders* in Dutch) of all included actors must formally approve the plan. This highlights an important distinction between the administrative part (*bestuurlijk deel* in Dutch) of the process and the civil service part (*ambtelijk deel* in Dutch) of the process. The execution of the process is done by the civil servants but when political choices (e.g., allocating resources or signing documents) have to be made the administrators have to give the green light (interview 5). In any case, informally, the participating actors keep each other up to date when undertaking action in the process area (interview 1).

Some important external rules that Hollandse IJssel Oost must contend with are of course the rules concerning spatial planning in the Netherlands. Specifically, the zoning plan is an important instrument to assign functions to areas (interview 4). Moreover, in terms of water management, there is one water level maintained in the process area and the requirements for the water barriers are derived from the provincial vision and regulation (*provinciale visie en verordening* in Dutch)(interview 5). A final important rule is the fact that land can be privately owned in the Netherlands, there are instruments for the government to expropriate private landowners but this is only done in special circumstances and under strict conditions as it is a controversial instrument. Therefore, it is generally speaking not-done and, thus, it is important to get all the actors on board via participation and communication (interview 1).

Table 8: Overview of the analysis of Hollandse IJssel Oost based on the four dimensions of the PAA framework.

Key discourses	Key actors	Key resources	Key rules of the game
Goal to realize a green blue buffer zone	Hoogheemraadschap De Stichtse Rijnlanden	Task-related funds	Environmental regulation Province
Example area of overarching Groen Groeit Mee	Province of Utrecht	Public financing opportunities	Provincial vision and regulation
Concrete short term challenges	Staatsbosbeheer	Personnel of involved actors	Zoning plan
Piggy back opportunities	Municipality of IJsselstein		
Cooperation and participation			

5.3 Evaluation of the use of the temporal strategies in Hollandse IJssel Oost

This section covers the evaluation of the use of the temporal strategies by Pot et al. (2022) in Hollandse IJssel Oost. The first step is to identify acute and creeping threats based on the societal challenges as referred to in the interviews and the policy documents. Subsequently, the identified acute and creeping threats will form the basis for the evaluation of the use of the temporal strategies. Each temporal strategy will be discussed separately in the order: “Timing”, “Crafting time horizons”, “Pacing”, “Futuring” and “Cyclical adaptation”. To provide a short reminder, each section is preceded by a visual reiterating the definition of the strategy and its indicators. At the end of this section, the findings are briefly summarized in Table 10.

5.3.1 Societal challenges: Identifying the acute and creeping threats

As was already hinted at in the previous sections, Hollandse IJssel Oost taps into a variety of societal challenges. The most direct tasks concern the strengthening of the water barriers and the development of nature and forest in the area (interview 1 and 4). The former clearly relates to the challenge of water safety, whereas the latter can be categorized under a variety of challenges such as biodiversity and climate change but also the livability of the area and the nitrogen crisis. Next to that, the relocation of the water barrier provides opportunities for water storage, recreation and the realization of unique wet forest area and nature- friendly embankments. Additionally, the possibilities for realizing temporary housing and solar fields are explored in the process. All this takes into account further urbanization in the surrounding area (e.g. the Rijnenburgpolder) and thus the need to maintain a green-blue buffer for the future (Bureau Buiten, 2022).

To provide an overview, the following challenges have been named in the interviews and policy documents (see first column, Table 9). To provide a complete overview, this first table includes all separately named challenges even though there might be some overlap or connections between them. For example, recreation opportunities can be a means to improve livability, but recreation is also named as a separate challenge. The second column briefly sets out the context of the challenges based on what has been said in the interviews and the third column includes the instances in which a challenge is named. As can be seen, some challenges are named more often than others in the interviews. While it may give the impression that it says something about the amount of attention that is paid to the challenge in the process, this cannot be said with certainty as there could be more reasons for why some challenges are named more often than others with such a small sample size. Especially, since almost all the challenges are included in the policy documents that are supported by all. Therefore, it is rather more likely that it shows that - even though it is an integral process - the relative importance of each challenge differs depending on which actor is concerned. For example, based on their role and responsibilities, interviewees of Hoogheemraadschap De Stichtse Rijnlanden prioritized water challenges such as water safety, water quality and water storage (interview 1 and 5) while Staatsbosbeheer was more concerned with nature and forest development and biodiversity (interview 4). Therefore, for the purpose of identifying acute and creeping threats, all named societal challenges are considered potentially relevant. For this reason, the challenges are listed in alphabetical order.

Table 9: Overview of societal challenges involved in Hollandse IJssel Oost based on the interviews and policy documents in alphabetical order and categorized as an acute (red), creeping (orange), or unclear (purple) threat.

Challenge	Context	Categorization	Referred to in
Biodiversity	The biodiversity in the Netherlands is in a slow decline due to a variety of circumstances, improving biodiversity is therefore a generic challenge.	Creeping	Interviews (2/5), Fact sheet
Climate change	Climate change poses a variety of challenges in the Netherlands which demand climate adaptation measures.	Creeping	Interviews (5/5), Fact sheet
Energy transition	The area is under investigation for realizing solar fields to help in the transition towards sustainable energy production.		Interviews (5/5), Fact sheet
Forest development	There is a concrete task in the area to develop forest area, dating back from earlier plans.		Interviews (5/5), Fact sheet
Housing	In the Netherlands there is a nationwide shortage of houses. To deal with this, the national government has come up with a policy program, based on this the Province of Utrecht has to realize 165.000 additional houses (MIKR, 2022). Specifically, the opportunity for temporary housing in the area is explored.	Acute	Interviews (5/5), Fact sheet
Livability	With more extreme weather patterns, phenomena such as heat stress in cities put more pressure on the livability in the area and so possibilities are needed to compensate for this. For example, by creating green areas around cities where people can cool down during hot periods.	Creeping	Interviews (4/5)
Nature development	There is a concrete task to improve the nature in the area. This concerns improvement in terms of both quality and quantity.		Interviews (5/5), Fact sheet
Nitrogen	Nationwide challenge to reduce nitrogen in the natural environment. Nitrogen poses an urgent societal challenge as it threatens protected nature areas based on the Birds directive and Habitats directive. This threatens to put a halt to the prolongation of permits for nitrogen emitting activities (agriculture, industry etc.) which has led to civil unrest (Remkes, 2022).	Acute	Interviews (2/5), Fact sheet
Recreation	The Province of Utrecht is known to be a province which severely lacks “green” areas and areas for leisure.	Acute	Interviews (5/5), Fact sheet
Urbanization	The urban areas of the city of Utrecht (Notably, the Rijnenburgpolder and Merwedekanaalzone to the Northeast of Hollandse IJssel Oost), the village of Nieuwegein (to the east of Hollandse IJssel Oost), IJsselstein (to the east of Hollandse IJssel Oost) and Montfoort (to the west of Hollandse IJssel Oost) are expected to expand in the future, threatening to absorb the Hollandse IJssel Oost area.	Creeping	Interviews (4/5), Fact sheet
Water safety	More extreme weather patterns increases the chance on fluvial and pluvial flooding.	Acute	Interviews (5/5), Fact sheet
Water storage	There is a need to create room for water storage to alleviate the pressure on the Amsterdam Rijnkanaal to discharge the water during wet periods. The water storage can also be used to store water for dry periods.		Interviews,(5/5) Fact sheet
Water quality	In general, the water quality in the Netherlands is poor and much needs to be done to comply with the Water Framework Directive (<i>Kaderrichtlijn Water</i> in Dutch).	Acute	Interviews (2/5), Fact sheet

In terms of crises, some challenges in Table 9 are more intuitively understood as a crisis, e.g. climate change and biodiversity, than others. On the one hand, case-specific challenges such as forest development and water storage are considered to be tasks (*opgaves* in Dutch), i.e. policy topics that require attention but do not necessarily constitute a crisis in itself (interview 5). On the other hand, these tasks can be related to overarching more general challenges that are considered to be a crisis. For example, forest development itself is not a crisis in the area but it does contribute to addressing climate change, the nitrogen crisis and biodiversity collapse. Societal challenges such as recreation are not as straightforward either. However, in the context of livability and the lack of recreational opportunities in the province of Utrecht, realizing recreational opportunities can arguably constitute a crisis. Similarly, water safety becomes a “crisis” in the case of a flooding, but does it still qualify as a crisis if the safety standards are not met? The crisis has in those cases not transpired yet, but action is necessary nonetheless. In this respect, the above two examples do correspond to the use of the term by Pot et al. (2022) in the sense that crisis create turbulent conditions (p. 222). Applying the (dual) crisis concept thus does require some interpretation.

To identify the acute and creeping threats, the societal challenges need to be demarcated and defined (e.g. qualify water safety or more extreme weather patterns as the threat) and the threat needs to be categorized as more acute or creeping. Both elements are challenging, as clear instructions are not yet provided and it may vary depending on the perspective that is taken. Concerning the former element, some challenges in the table can have a more acute and a more creeping element, e.g. nitrogen deposition on the long term threatens biodiversity, whereas on the short term it threatens to lock down Dutch society. And some challenges in the table are an acute manifestation of a creeping crisis (e.g. water safety, related to more extreme weather patterns, as an acute manifestation of climate change). However, to stay close to the output of the interviews and the policy documents, the definitions and demarcations in the table are adhered to, and where necessary it is elaborated upon in the evaluation of the individual strategies. Then, concerning the categorization, based on the characterization of crises in section 2.2.2 and the analysis of the area-oriented process, the societal challenges are categorized in the table. Societal challenges that are clearly characterized by surprise and urgency in the context of the process are highlighted in red in the table. Challenges that are clearly characterized by a lack of action and attention in the context of the process are highlighted in orange. Challenges that do not clearly align with either the acute or creeping crises concept are highlighted in purple. Reasons for this are that they only play a minor role in the process (energy transition) or they do not directly align with the crises concept (water storage and forest and nature development). However, when relevant, they are considered in the evaluation of the individual strategies.

5.3.2 Timing

The main analytical question to be answered for the evaluation of the use of the strategy in Hollandse IJssel Oost is:

“To what extent do we see indications in the content and organization of Hollandse IJssel Oost that the acute crisis momentum is used to benefit from the increased sense of urgency to break through deadlocks in policy paths?”

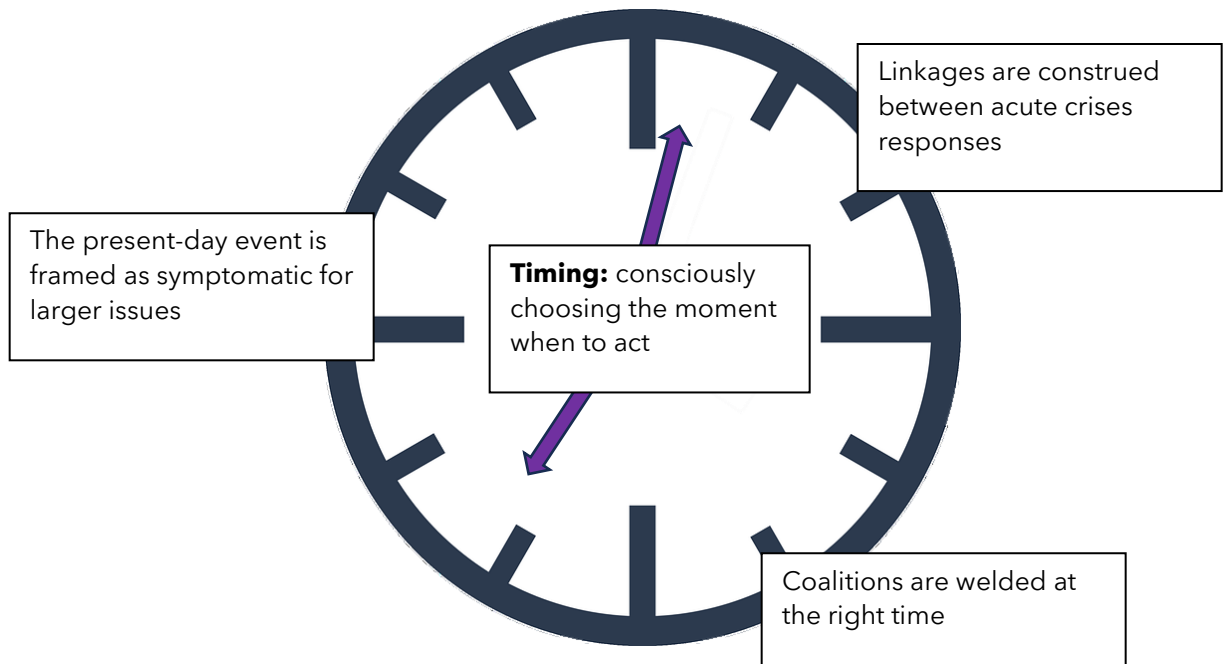


Figure 7: Reiteration of the strategy “Timing” (center) and its indicators (sides).



The use of the temporal strategy “Timing” is substantially reflected (green) in the case of Hollandse IJssel Oost because (1) measures addressing the creeping crisis (e.g. climate change through realizing water storage) are included in measures in response to acute crisis (e.g. water safety), and (2) measures addressing the acute nitrogen, housing and recreation crises are used to generate resources that are used for addressing the creeping urbanization, climate change and biodiversity collapse crises.

It is important to emphasize that Hollandse IJssel Oost is not the product of a single moment during which action was undertaken. Rather, the process is a result of consecutive moments during which varying actors undertook action. For example, the decision of the Province of Utrecht to relaunch the “leisure around the city” projects or Staatsbosbeheer committing to realizing forest area in the area. However, in light of the main research question, and to keep it manageable, only the crucial moments during which

Hoogheemraadschap De Stichtse Rijnlanden undertook action in Hollandse IJssel Oost are considered. Based on the analysis, these moments were (1) the decision to explore the relocation of the water barrier rather than merely strengthening it, and (2) to propose Hollandse IJssel Oost as an example area under Groen Groeit Mee.

To begin with the analytical question, both instances reflect the use of an acute threat to break through policy deadlocks. Policy deadlocks are in this case not necessarily about a lack of willingness as became clear during one of the interviews:

“So far, there has not been a lot of disagreement on the content, so it is mostly about how it is going to be done with all the actors” (interview 3).

Rather, policy deadlocks in this case are more a question of whether there are enough resources and capacity available. For the strengthening, or in this case relocation, of the water barrier this is the case since resources and capacity are available as it is one of the customary tasks of Hoogheemraadschap De Stichtse Rijnlanden (interview 1). Even so, Hoogheemraadschap De Stichtse Rijnlanden efficiently makes use of these resources. Opting for the relocation of the dike provides opportunities to realize water storage (which is another task of the water authority) that is necessary to alleviate the pressure on the Amsterdam Rijnkanaal during peak rainfall (Bureau Buiten, 2022; interview 5). Furthermore, the decision to propose Hollandse IJssel Oost as an example area of Groen Groeit Mee has been crucial for generating political commitment, resources and capacity as shown by the following quote:

“I think you can get political commitment in particular, but also civil servant capacity and resources are released faster because it falls under the Groen Groeit Mee program.” (interview 5)

Therefore, both moments reflect the use of the acute threat (i.e. water safety for moment one, and housing and recreation for moment two) to break through deadlocks in policy paths.

Moreover, concerning the generation of resources and capacity, this case also highlights that connections are made between different challenges. Attempting to utilize the funds becoming available under the “Region deal” (*Regio deal* in Dutch) and the “Transition fund” (*Transitiefonds* in Dutch) shows how the acute crises, for example nitrogen, are used to generate resources for the underlying creeping crises of climate change, urbanization and biodiversity collapse that Hollandse IJssel Oost also addresses. This reflects the indicator that linkages are construed between acute crises responses and strategic measures for creeping crises. Moreover, both the coupling of the water challenges to the other challenges in the area by opting for relocating the water barrier and making Hollandse IJssel Oost an example area under Groen Groeit Mee highlights that coalitions are formed by involving other actors.

When asked about “Timing”, the interviewees considered the current circumstances to be opportune and, generally speaking, the right moment to undertake action in the form of Hollandse IJssel Oost. The only critical note that was made was that the parties could have gotten together at an earlier point of time as some budget procedures only are scheduled for after the realization of the southern water barrier. This could have been better coordinated if the parties got together at an earlier point in time (interview 2). Even so, it was mentioned that there are a lot of funds becoming available at the moment related to the

NPLG which could be made use of (interview 1, 4 and 5). Additionally, it has been said that there are a lot of urgent tasks at the moment which help to give momentum:

“I do think that we need those urgent tasks in the short term to really get to the implementation stage. And, I think that that is the great advantage of the Hollandse IJssel, that you have several short-term tasks together, creating a kind of urgency and hopefully also making financial resources available to implement this.” (interview 5)

To sum up, based on the fact that there are indications that the acute crisis momentum is used to benefit from the increased sense of urgency to break through deadlocks in policy paths, and that there are indications that this is a right time to undertake action in Hollandse IJssel Oost, the strategy “Timing” is considered to be substantially reflected.

5.3.3 Crafting time horizons

The main analytical question to be answered for the evaluation of the use of the strategy in Hollandse IJssel Oost is:

“To what extent do we see indications in the content and organization of Hollandse IJssel Oost that political commitments are locked-in to longer time horizons to create and keep a momentum which is less dependent on the occurrence of acute crises?”

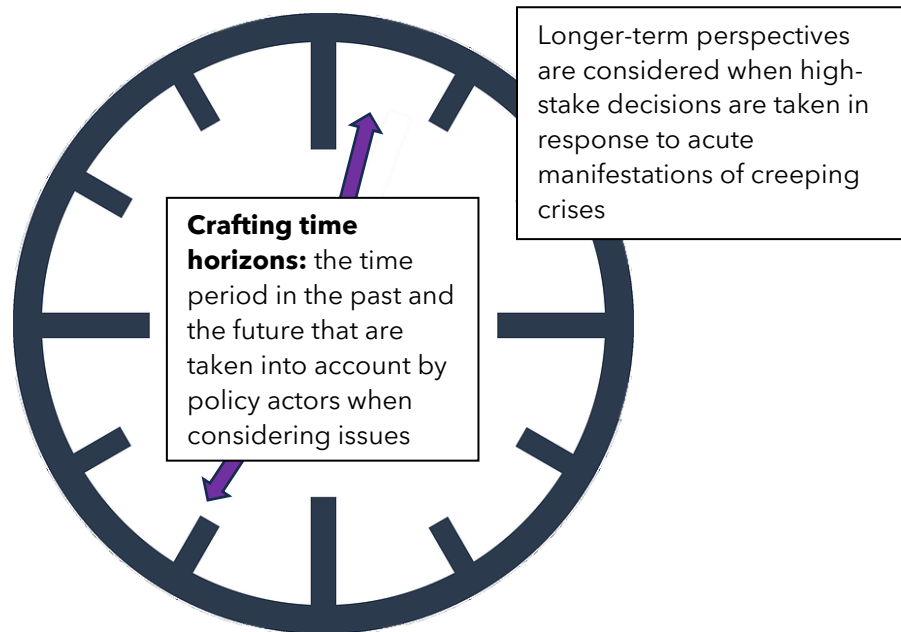


Figure 8: Reiteration of the strategy “Crafting time horizons” (center) and its indicators (sides).



The use of the temporal strategy “Crafting time horizons” is moderately reflected (yellow) in the case of Hollandse IJssel Oost because (1) there are indications that political commitments are locked-in to longer time horizons as Hoogheemraadschap De Stichtse Rijnlanden politically commits to longer-time horizons than their urgent tasks, but (2) considering the overarching aim of Hollandse IJssel Oost to realize a green-blue buffer (or *groene scheg* in Dutch) the time horizon falls short.

Multiple time horizons can be observed in Hollandse IJssel Oost. The most important time horizon is anchored in the action plan and currently the intention is to set it on 15 years:

“I believe that in the concept action plan we talk about 15 years. The phasing of this is also becoming clearer, in 2024 we will start with the embankment, and we hope that we can include the forest at that point as well. All the other ideas, like the swimming water and a cycle bridge have a time horizon of 15 years.” (interview 1)

This time horizon is based on the varying challenges that are to be addressed, and consequently also encompasses different phases. For Hoogheemraadschap De Stichtse Rijnlanden, three important time horizons are 2024 (by which the execution of the strengthening of the southern water barrier must be underway), the deadline by which the execution of the strengthening of the northern barrier must be underway, and 2027 (by which the measures of the Water Framework Directive (*Kaderrichtlijn Water* in Dutch) must be realized). These are the legal time horizons with which Hoogheemraadschap De Stichtse Rijnlanden must contend and therefore have the most priority for them (interview 5). A similar phenomenon can be observed for other involved parties with concrete challenges or tasks in the area; even though all actors share a time horizon as laid out in the action plan, within this each actor has specific time horizons that they focus on. For example, Staatsbosbeheer has 10 years to realize the establishment of the forest area (interview 4) and the municipality of IJsselstein needs to realize housing and sustainable energy production on the short-term (working towards 2030) for which the area has potential (interview 7). Next to that, the Province of Utrecht values Hollandse IJssel Oost as a means to contribute to the green buffer zone as a counterpart to further urbanization in the area (referred to as *groene scheg* in Dutch)(interview 3). From the interviews, it became clear that 2050 would be the earliest date possible to realize the green buffer zone and thus concerns a longer time horizon (interviews 3 and 5).

Similar to the evaluation of “Timing”, the time horizons that are relevant for Hoogheemraadschap De Stichtse Rijnlanden will be considered. These are the legal time horizons and the shared time horizon as set out in the action plan. Concerning the former, these time horizons are all more geared towards the relatively short term, but this is to be expected as they are derived from legislation that caters to acute threats (i.e. water safety and water quality). In that sense, Hoogheemraadschap De Stichtse Rijnlanden does not have a lot of room to maneuver and it is logical to maintain more short-term oriented time horizons. So, even though these time horizons do not quite line up with the analytical question above, it would also not per se be a reason for a negative assessment. Then, concerning the shared time horizon, an expected time horizon of 15 years would mean an end date around 2038. This would not be long enough for completely realizing the green buffer zone, but it is longer than the time horizons of the urgent tasks of the water authority. In this regard, it can be argued that longer-time horizons are considered.

Concerning time horizons, the interviewees yielded interesting notions. A relevant sidenote was made that it is of course possible to go back to the area after this area-oriented process has been completed (interview 5). However, this would require a new impulse and, for example, maintenance costs of maintaining the forest and recreational area after realization are considered to be not anchored enough in the action plan (interview 2). Such political commitments are essential for maintaining the gains made by the process for longer periods of time. Next to that, it still remains to be merely an intention to move the northern barrier and not a commitment (Bureau Buiten, 2022; interview 1). To put the time horizon in perspective, an interesting comparison was made to another nature and leisure area, Amelisweerd, to the east of the city of Utrecht.

“A great example is that for example Amelisweerd, that was planted 100 years ago and now the benefit is being taken from that.” (interview 4)

Therefore, when taking into account the aim to realize a green-blue buffer, the time horizon can be considered to be too close. For these reasons, the use of the strategy “Crafting time horizons” is considered to be moderately reflected as it does suffice to address the current challenges, but improvements could be made.

5.3.4 Pacing

The main analytical question to be answered for the evaluation of the use of the strategy in Hollandse IJssel Oost is:

“To what extent do we see indications in the content and organization of Hollandse IJssel Oost that crisis-induced inquiries and reform packages are being leveraged to bring forward consideration of underlying risks and “creeping” vulnerabilities?”

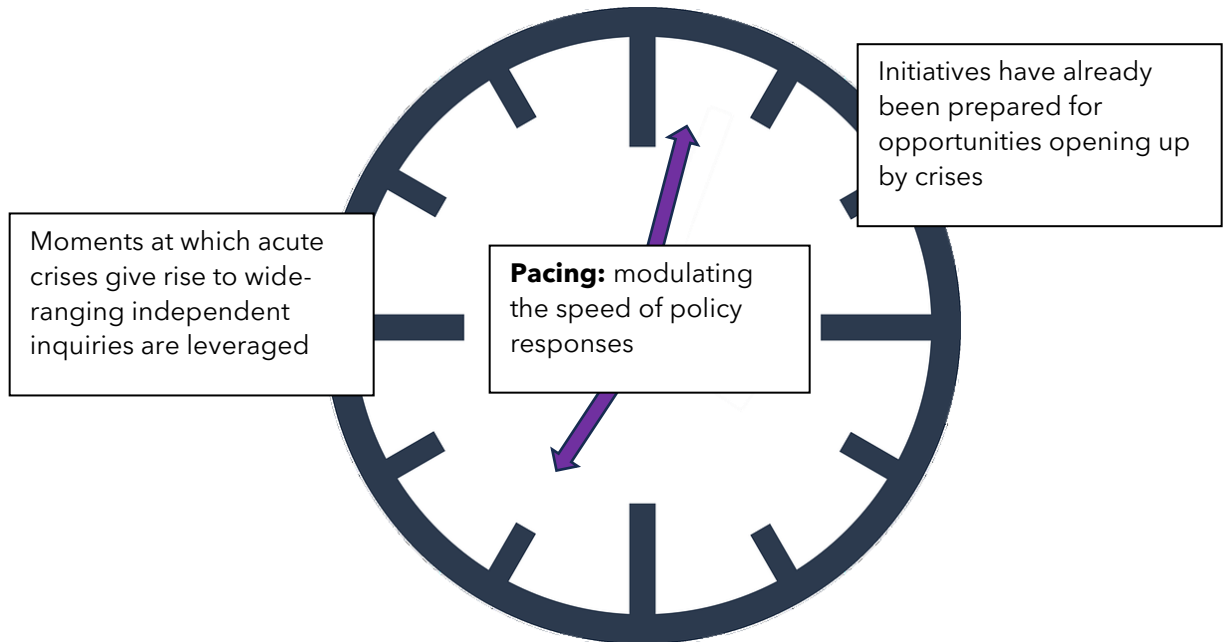


Figure 9: Reiteration of the strategy “Pacing” (center) and its indicators (sides).



The use of the strategy “Pacing” is substantially reflected (green) because of (1) the emphasis on piggy back opportunities which are leveraged to bring forward measures that address creeping crises and (2), at the same time, this is backed up with clear deadlines to prevent the process from bogging down (i.e. water barrier deadlines).

Hollandse IJssel Oost’s emphasis on making use of piggy back opportunities (*meekoppelkansen* in Dutch)(interviews 1-5) reflects that acute threats are being leveraged to bring forward considerations of underlying risks and “creeping” vulnerabilities. By piggy backing, issues that would not have been dealt with yet are brought forward to fit in with the development of the area under Hollandse IJssel Oost. Moreover, this also speeds up the tackling of these issues (interview 5). The deadlines for the realization of the dikes are seen as the premise for realizing other objectives as trying to fit in piggy back opportunities should not bog down the process (interview 5). This is also an important side note, there is a risk of dropping piggy back opportunities if it is not possible to fit them in the time scheme (Bureau Buiten, 2022).

Even so, the commitment to move the southern barrier already ensures the inclusion of creeping crises such as climate adaptation (water storage) and biodiversity (wet forest).

In general, the interviewees are satisfied with the pace of the process so far, pointing out that within a year all actors, both civil servants as administrators, have been involved, an action plan and a participation plan is being drawn up (interview 1-5). There are some synchronicity problems however with internal processes, for example budget procedures (interview 2). Furthermore, it became clear that various, oftentimes conflicting, pressures influence the pace of the process. Diligence and participation are seen as vital and therefore enough time for this is put aside (interview 3). On the other hand, since Hollandse IJssel Oost is an example area of Groen Groeit Mee, there is pressure to make progress (interview 3) which is further catalyzed by the deadlines of 2024 and 2027 by which the execution of the strengthening of the dikes has to be underway (interview 5).

5.3.5 Futuring

The main analytical question to be answered for the evaluation of the use of the temporal strategy in Hollandse IJssel Oost is:

“To what extent do we see indications in the content and organization of Hollandse IJssel Oost that both stress-tests and scenarios for exploring strategies are used in response to alternative histories as well as possible futures with acute and creeping crises impacts?”

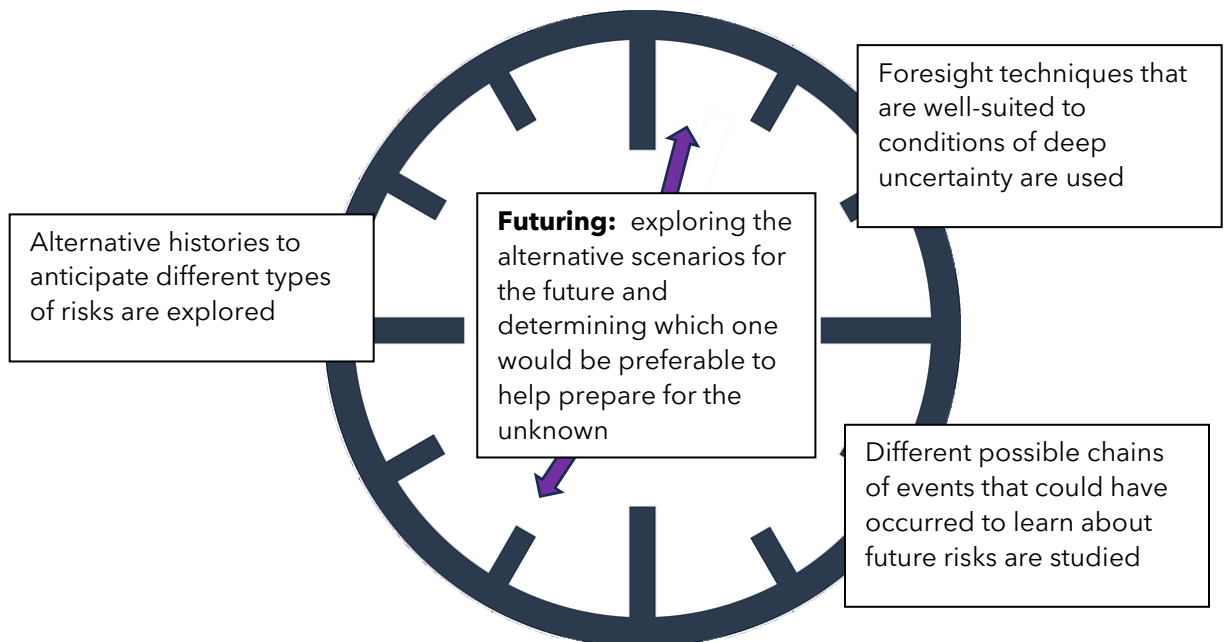


Figure 10: Reiteration of the strategy “Futuring” (center) and its indicators (sides).



The use of the strategy “Futuring” is reflected to a limited extent (red) because (1) no stress-tests or scenarios for exploring strategies are used and (2) none of the indicators are reflected in Hollandse IJssel Oost.

In Hollandse IJssel Oost sessions (referred to as *gebiedsessies* in Dutch) have been organized in 2022 in which each actor's tasks and challenges were named and the area was analyzed. This was synthesized into one shared future and, subsequently, this will serve as a basis for the action plan (interview 1). While it can be considered that this creates a spot on the horizon (i.e. the green-blue buffer zone), the interviews indicated that the interpretation of what this entails differs. The interviewees tended to relate it back to their own specific challenge within the process, naming a vital forest area or robust water system as the main goal rather than referring to the green-blue buffer (interview 4 and 5). In that sense, the sessions reflect some concurrence with a simple form of “Visioning”, which is understood as creating images of future that are used for planning decisions as goals or guides (Shiple, 2002). However, as the above shows, it is not a clearly demarcated spot on the horizon which is shared by all. Moreover, it does not account for different circumstances that may apply in the future (i.e. how much urbanization will take place, how much water storage is needed etc.). Furthermore, none of the indicators mentioned above are reflected in the content and organization of Hollandse IJssel Oost. So, for these reasons, the use of “Futuring” is reflected to a limited extent.

5.3.6 Cyclical adaptation

The main analytical question to be answered for the evaluation of the use of the temporal strategy in Hollandse IJssel Oost is:

“To what extent do we see indications in the content and organization of Hollandse IJssel Oost that alternative pathways are applied to the dual crises context to adjust policies based on an appraisal of changing circumstances and acute shocks?”

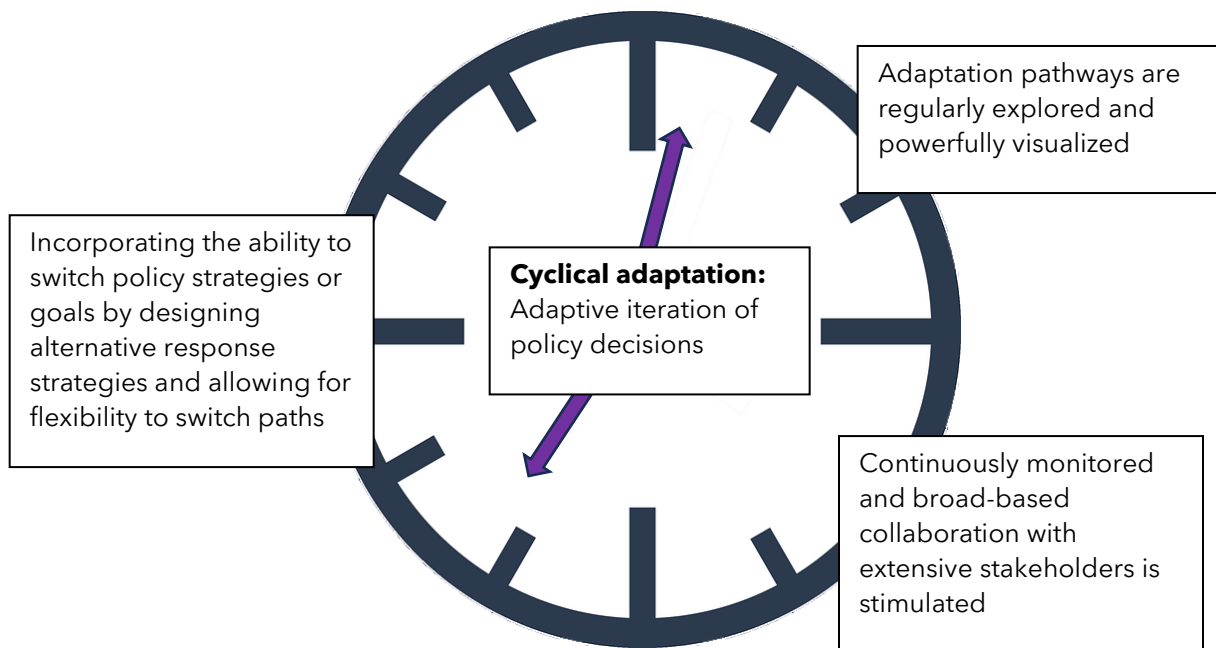


Figure 11: Reiteration of the strategy “Cyclical adaptation” (center) and its indicators (sides).



The use of the strategy “Cyclical adaptation” is moderately reflected (yellow) because (1) there is room to adjust the amount of projects that are incorporated in the process and there is some flexibility in what area exactly it covered, while simultaneously the premises have been set out. However, (2) it is unclear on what these adjustments would be based and how they would be made.

During the interviews it has become clear that there is some room for adjustments to the process with regard to what piggy back opportunities are made use of and which will not. An important benchmark that was named for this is whether it is possible to make use of the piggy back opportunities before the execution of the water barriers are underway (interview 5). It was, however, also mentioned that this works the other way around and that there is consciously kept room for coupling other tasks and

challenges in the future (if the opportunity presents itself), both in terms of the challenges as the process area (interview 4). It is acknowledged though that it is not clear yet what this would like:






“It has been expressed that this is a dynamic process and that new opportunities may be capitalized on in the future. In that sense, it is not a plan set in stone. But there are no concrete ways set out about how to do this.” (interview 1)

At the same time, it seems that overall the premises are clear, so in that sense the process seems not to be too erratic while participation is guaranteed:

“I do not see so much that the policy is going to change with respect to that barrier or climate adaptation or the Water Framework Directive that that is going to produce very different outcomes. I think those are all pretty clear and it is more something from the participatory process with organizations and landowners, which might lead to different choices; so the starting points are clear I think” (interview 5)

Therefore, the use of “Cyclical adaptation” is considered to be moderately reflected as there are indications that the strategy is reflected but some improvements can be made, especially concerning how to adjust the process if need be.

Table 10: Overview of the evaluation of Hollandse IJssel Oost based on the use of the five temporal strategies by Pot et al. (2022).

Temporal strategy	Evaluation
Timing	
Crafting time horizons	
Pacing	
Futuring	
Cyclical adaptation	

6 Blauwe Agenda

In this chapter the area-oriented process Blauwe Agenda will be discussed. The chapter starts by setting out the characteristics of the area by way of introduction. This is followed up by an analysis of Blauwe Agenda and, subsequently, an evaluation of the use of the temporal strategies by Pot et al. (2022) in the process. At the end of both the analysis and the evaluation, a short recap is provided of the respective sections (Table 12 and Table 14).

6.1 Characteristics of the area

Blauwe Agenda concerns an area with many urgent water challenges, which in recent years have been exacerbated by more extreme weather patterns that lead to droughts and water nuisance. Therefore, the goal of Blauwe Agenda is to help realize a robust and future-proof water system which provides sufficient water for all water functions of the right quality and with little water nuisance (Blauwe Agenda, 2022). Hence, the process is named the Blauwe Agenda (translates to blue agenda in English).

The process concerns the area of the Utrechtse Heuvelrug and its surroundings (see Figure 12). The area is important place for leisure and it has a long history of occupation, therefore cultural heritage of the landscape (e.g. position and shape of water ways and tree rows) plays an important role in the area (interview 6 and 8). The Utrechtse Heuvelrug is a centuries old sand ridge that in the northern part reaches heights 20 to 30 meters, in the middle part between 30 to 50 meters, and in the southern part 50 to 70 meters relative to the predominantly flat surrounding landscape. This creates a complex and diversified water system that can be subdivided in three zones; the plateau (top of the ridge), the flank (side of the ridge) and the foot (foot of the ridge). Importantly, there is no water supply other than rainfall and groundwater on the Utrechtse Heuvelrug. Water that infiltrates on the plateau Utrechtse Heuvelrug resurfaces on the flanks, foot and surrounding areas as seepage (*kweel* in Dutch). The area-oriented process is not limited to the sand ridge itself but also includes a variety of different types of areas that surround the sand ridge such as peat areas, a polder and a clay and sand areas. The demarcation of the process area is largely based on the related groundwater system, including the infiltration and the seepage areas. Some areas are excluded as these fall outside of the Province of Utrecht (Blauwe Agenda, 2022). The resulting process areas encompasses different urban areas and the jurisdictions of two regional water authorities (Hoogheemraadschap De Stichtse Rijnlanden and Vallei en Veluwe) and multiple municipalities.

The problems with the water balance differ depending on the specific location in the area, in some places desiccation is the main problem whereas in others the problem is too much water, but also water quality is an issue. Nature, agriculture and urban areas dot the Utrechtse Heuvelrug. On top of the ridge is mostly nature, but otherwise the varying functions are fragmented and crisscross one another (Blauwe Agenda, 2022). In hydrological terms, to accommodate the different functions there are a lot of smaller water-level sections (referred to as *peilvak* in Dutch, concerns an area between locks, weirs or pumping stations where water is kept at the same elevation). As the functions require different hydrological circumstances

these functions conflict with one another (e.g. nature often requires a higher water-level than what is desirable for agriculture) (Blauwe Agenda, 2022; interview 6). Moreover, the Utrechtse Heuvelrug is an important source for extracting groundwater of high drinking water quality. All these different functions rely on the water system and more extreme weather patterns has caused the area to be plagued by problems with its water balance. To name a few examples: droughts lead to desiccation of nature, agriculture is struggling with the balance between too much and too little water, an increase in drinking water demand necessitates additional drinking water extraction, leaching of manure and pesticides reduces water quality and peak rainfall leads to water nuisance in urban areas (Blauwe Agenda, 2022).

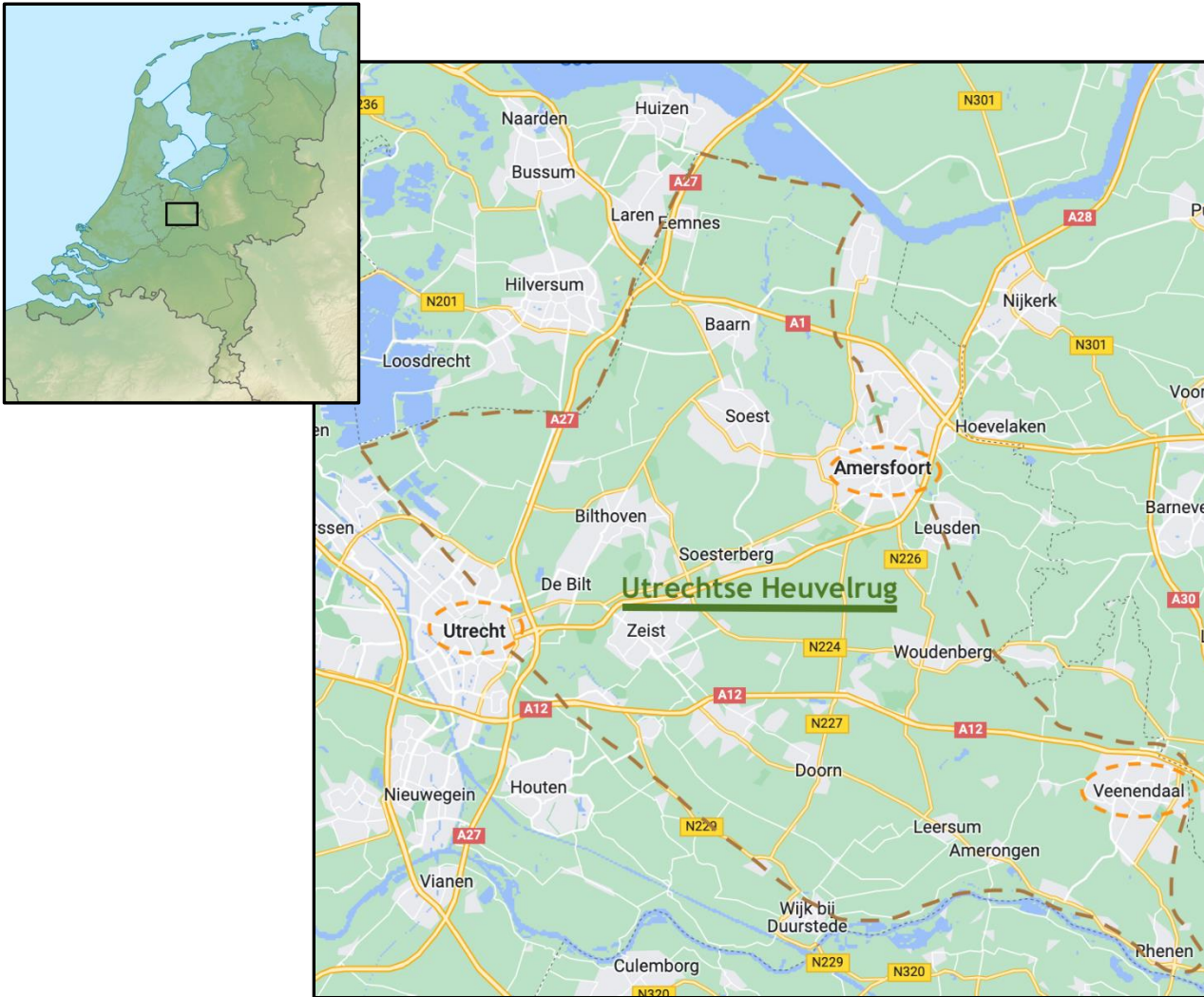


Figure 12: Impression of the process area of Blauwe Agenda. The brown dotted line roughly marks the borders of the process area and major urban centers are highlighted in orange. The Utrechtse Heuvelrug approximately runs from the village of Rhenen to the south to Huizen to the north.

6.2 Analysis of the area-oriented process arrangement Blauwe Agenda

This section covers the analysis of Blauwe Agenda based on the four dimensions of the PAA framework. But before doing so, the development of the process over time will be briefly highlighted in the form of a timeline to provide a first impression of how the process came to be and how it is expected to further develop in the future. Hereafter, the dimensions of the PAA framework will be discussed starting with discourses, followed up by actors and resources, and finishing with rules of the game before summarizing the findings in Table 12.

6.2.1 Timeline

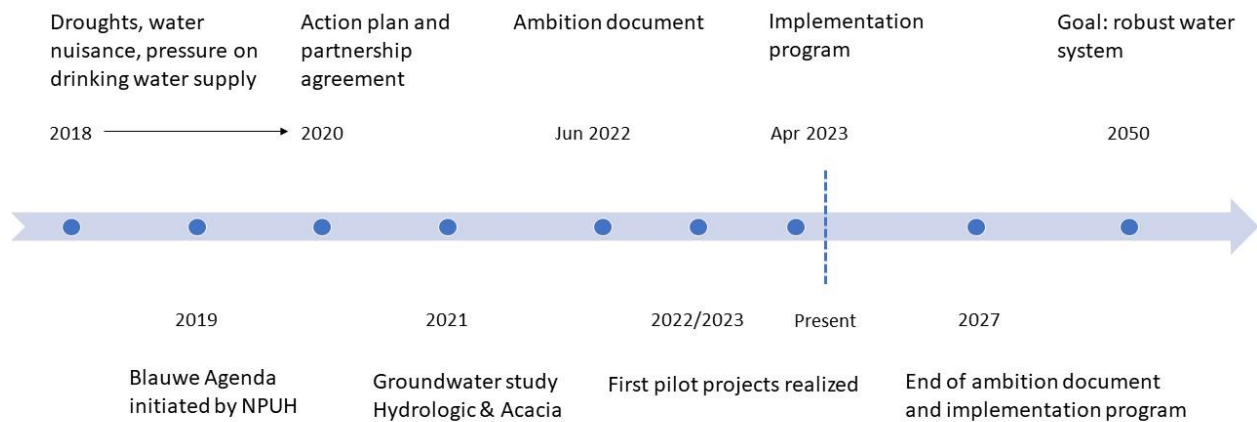


Figure 13: *Timeline of the development of Blauwe Agenda.*

The initiation of Blauwe Agenda is clearly related to the occurrence of multiple acute (water) threats (section 6.1) at the end of the previous decade. This was mentioned in all interviews (interviews 6-10) and in all the important policy documents (Blauwe Agenda, 2020; 2022; 2023). In the interviews, it was further mentioned that the sense of urgency was shared by all regional partners as the problem was felt by all and visible (e.g. seeing trees die because of droughts) (interview 6 and 9). In reaction to the acute water threats, the regional partnership Nationaal Park Utrechtse Heuvelrug (NPUH) initiated the creation of Blauwe Agenda in 2019. In 2020, the regional partners were assembled and a plan of action was approved by the regional partners in which a few first pilot projects were launched straightaway. An important cornerstone of the process was the collection of knowledge on the water system of the Utrechtse Heuvelrug. This was outsourced to two consultancy firms, Hydrologic and Acacia. This led to a report in

2021 which serves as a basis for the further development of Blauwe Agenda. In this report the groundwater system was mapped and based on the Dutch metrological institute (Koninklijk Nederlands Meteorologisch Instituut (KNMI) in Dutch) future scenarios, it was calculated what the water system would likely look like in the future and what the effects of different measures would be (Hydrologic & Acacia, 2021; interview 6). The next milestone was the Ambition document in 2022 in which the shared ambition behind Blauwe Agenda was set out and formalized through the approval of the regional partners (Blauwe Agenda, 2022). In one of the interviews, this document was compared to a vision for the future that in a sense gives substance to the desired situation which is worked towards (interview 10). By the end of 2022 and the start of 2023, the first pilot projects were realized, marking the first observable successes of the process (interview 10). Not long after, in April 2023, the shared ambition as set out in the ambition document was translated into an implementation program in which the which the agreements are laid down on how to realize the ambition (Blauwe Agenda, 2023). This entails that Blauwe Agenda is well underway and the necessary agreements have been made for the execution. The end of both the ambition document and the implementation program have been settled on 2027 (Blauwe Agenda, 2022; 2023), as this was considered to be a manageable time period and it coincides with the deadline for the realization of the measures in the Water Framework Directive (*Kaderrichtlijn Water* in Dutch) (interview 10). 2027 was considered by multiple interviewees (interview 7, 9, and 10) as the first date to work towards and it would be necessary to consider later on in the execution phase how to continue afterwards (interview 9 and 10). At the same time, the goal of realizing a robust water system is unofficially set on 2050. Whereas the action plan, ambition document and implementation program do not mention 2050, the effects study by Hydraulic and Acacia (2021) does work towards 2050, and 2050 was mentioned several times in this context in interviews (interview 6, 8 and 10). An example is the following quote in response to a question on vision forming in Blauwe Agenda:

“We have of course drawn up an ambition document ourselves, so that is in fact a vision, in which we say, this we see up to 2050 as good measures for a robust water system.” (interview 10)

6.2.2 Discourses

On the question of what the Blauwe Agenda is, different answers were given. Some interviewees considered it to be a network (interview 7), others a cooperation (interview 6), but also policy (interview 7) and area-oriented process (interview 6-10) were named, and some used a mix of these terms. In any case, Blauwe Agenda was considered to be an overarching frame under which other projects and processes fall. Furthermore, the previous sections already contained some relevant elements for the discourses dimension. It has become clear that Blauwe Agenda was a reaction to the droughts and water nuisance and the process focusses on creating a new water balance that ensures enough water for all functions. To reiterate, the goal of the process is to help realize a robust and future-proof water system which provides sufficient water for all water functions of the right quality and with little water nuisance. This goal is further specified in the action plan (and later also included in the ambition document) through four sub-goals (Blauwe Agenda, 2020; 2022):

1. Infiltrate more water: focus on stimulating extra groundwater replenishment, so that the stock is replenished to the maximum.
2. Storing water longer (*vasthouden* in Dutch): Retaining water as much as possible to combat drought, where it does not result in agricultural damage
3. Integral water solutions: where possible, match the functions and interests to the existing soil and hydrological situation.
4. Cleaner water: strive for integrated ground and surface water management, including water quality.

These (sub) goals highlight a few discourses. Firstly, working towards a robust water system (main goal) highlights that the process is geared towards climate adaptation in response to more extreme weather patterns. The sub-goals one and two give the impression that the main emphasis is on combatting water shortages but with the condition that this does not lead to water nuisance. To add to this, another premise that was mentioned during the interviews was that the current allocation of functions is a starting point of Blauwe Agenda (interview 6 and 7). However, within this, there is room to put conflicts on the agenda and discuss them (interview 9 and 10). For example, the unbundling of functions in Langbroekerwetering area is part of Blauwe Agenda (Blauwe Agenda, 2023) and Hoogheemraadschap De Stichtse Rijnlanden puts the need for larger water level sections (*peilvakken* in Dutch) on the agenda (interview 6). Secondly, integrality and cooperation are seen as vital (sub-goal 3, interview 9). This is something that can be traced back to the characteristics of the Utrechtse Heuvelrug, as can be seen in quote below. Another important element of this is the fact that it is also experienced as a shared problem even though it may have different impacts for different actors (interview 9).

“There are many different landowners, it is very fragmented. We have a lot of private landowners, municipalities have land, land management organizations. So, it's very complex and then you can only solve it as a whole, because if you change something in place A, it affects place B, so you have to do it in cooperation.” (interview 9)

The action plan focused first on gathering knowledge and getting everyone on the same page (interview 6). Even so, immediately after the action plan was released, pilot projects were also launched. These pilot projects were meant to learn from and also make concrete progress already. The pilot projects were chosen on the basis of a list made by all regional partners and selected based on the fact that there was a part nature, agriculture, urban area, drinking water (interview 10). Projects can differ a lot from concrete landscape interventions to manuals. By now, the first projects have been realized and a similar project structure is kept in the implementation program.

The implementation program translates the ambition into measures bundled together in so-called building blocks (13 in total). A few examples are; retain water high flanks in springs and streams (building block 3), disconnect and infiltrate urban rainwater (building block 5), but also monitoring (building block 12) and communication and awareness (building block 13). The latter addresses a historical narrative. Historically speaking, water has been taken for granted due to the relatively low price for high quality and Blauwe Agenda also aims to address overuse of water and adaptation measures which can be taken by

individuals. These building blocks are at the center of the implementation program and individual projects will be linked to these building blocks (Blauwe Agenda, 2023). The intention is to do a limited number of projects per building block to keep it manageable but there is some flexibility in both the amount and which projects will be included. The emphasis is on achievability rather than “visionary” measures and the point of departure is the current system (interviews 7, 8 and 10). Blauwe Agenda in this regard tries to make use of the opportunities that come along. In this context, the role of catalysator was mentioned. Hence, it is also considered acceptable if the projects are set up before 2027 and the realization only takes place after (interview 10), as both the implementation program and ambition document end by 2027. Well not formally laid down, many interviewees acknowledge 2027 to be an important moment to recalibrate and potentially create an ambition document 2.0 (interview 6, 9 and 10).

It is important to emphasize that Blauwe Agenda does not operate in a vacuum. Blauwe Agenda is developing in a period in which on national and regional level a lot of developments in the realm of spatial planning and climate adaptation policy are taking place. On the national level, the development of the policies on the arrangement of the rural area (*Nationaal Programma Landelijk Gebied* in Dutch) and the spatial proposal (*Ruimtelijk voorstel* in Dutch) under the national environmental vision (*Nationale Omgevingsvisie* in Dutch) (see chapter 4) and their regional implementations are very relevant for Blauwe Agenda. On the one hand, they provide an opportunity to tag along and generate resources, on the other hand it provides clarity and substance to spatial planning questions (interviews 6, 9 and 10). From the interviews it became clear that it is a constant consideration whether to include elements under Blauwe Agenda or to let it reside with broader developments (interview 10). As the deadline for these policies are closing in (1st of October for spatial proposal and 1st of July for the arrangement of the rural area), the recent period has been described as a period with increased pressure in which quick action is required (interview 6). Even so, the timing is considered to be good, as most documents are already ready (interview 9). Next to that, the water and land system as a steering concept policy brief is considered to be an instrument and catalysator as many elements in the letter were already a part of Blauwe Agenda (interview 6-10). On the regional level, overlap can be found with the Network water and climate (*Netwerk Water & Klimaat* in Dutch) which is a network focusing on realizing “water robust” and climate adaptive southwest region of the province of Utrecht (interview 10). Moreover, the climate adaptation program of the province of Utrecht works towards 2050 and the goal of a robust water system overlaps with this (Blauwe Agenda, 2023; interview 8).

To sum up, Blauwe Agenda constitutes a complex and extensive process that focusses on creating a new water balance with a constant challenge to balance ambitions and achievability, but which also enjoys wide support and ties in well with broader developments.

6.2.3 Actors and resources

Given the size of the process, Blauwe Agenda involves many actors. The main actors are included in the table below.

Table 11: *Main actors of the Blauwe Agenda (Blauwe Agenda, 2023).*

Actor	Description
Province of Utrecht	Decentralized administrative authority
Regional water authority Vallei en Veluwe	Decentralized administrative authority
Regional water authority Hoogheemraadschap De Stichtse Rijnlanden	Decentralized administrative authority
Vitens	Drinking water company in the Netherlands that extracts drinking water in the Utrechtse Heuvelrug area.
Utrechts Particulier Grondbezit	Organization of private landowners in the province of Utrecht
Municipality Utrechtse Heuvelrug (representative municipalities)	Decentralized administrative authority
Land- en Tuinbouw organisatie	Agricultural and horticultural interest group
Stichting Nationaal Park Utrechtse Heuvelrug	Collaborative organization of regional partners (e.g. province municipalities and landowners) in the national park Utrechtse Heuvelrug, with the main ambition to maintain and strengthen nature, landscape and heritage on and the surroundings of the Utrechtse Heuvelrug.

The Blauwe Agenda brings together many different actors with diverse backgrounds and interests. Some actors are more pro-active than others. The actors often work together but everybody has their own role and specialty. The province of Utrecht performs the role of project manager and has dedicated a project leader and supportive civil servant for the Blauwe Agenda. They prepare documents and meetings (interview 6) and next to that the province considers maintaining the speed an important part of their role (interview 10). Together with the regional water authorities and Vitens they finance a general fund for Blauwe Agenda, which is used to pay for the broader projects that involves society. Next to that, individual projects are financed by participating actors (which can also be one of the financing actors of the general fund) (Blauwe Agenda, 2023; interview 6). The urgency is felt and shared by most actors which also ensured financial commitment (interview 9). Next to that, the intention is to piggy back on the funds of the “Transition fund” related to the arrangement of the rural area (*NPLG* in Dutch)(interview 6 and 10). The province assumed the “project manager role” after taking over the initiation by Stichting Nationaal Park Utrechtse Heuvelrug. Stichting Nationaal Park Utrechtse Heuvelrug is considered to be a connector in area as the organization is a collaboration in which the regional partners that are active on the Utrechtse Heuvelrug work together towards their shared ambition. The organization initiated the Blauwe Agenda but since it is a relatively small organization and the process is complex and extensive, the Province of

Utrecht took over (interview 9 and 10). Even so, the organization still plays an important role in the process, especially in spreading the word (interview 6 and 9). Concerning the regional water authorities, they provide technical expertise and both invest in the general fund but Hoogheemraadschap De Stichtse Rijnlanden is rather pro-active in its financing of projects and as a result more projects fall within the jurisdiction of Hoogheemraadschap De Stichtse Rijnlanden opposed to that of Vallei en Veluwe (interview 6). Notwithstanding this fact, even for Hoogheemraadschap De Stichtse Rijnlanden it was mentioned that more could be done as within the organization there is generally speaking more focus on the peat areas in the western part of their jurisdiction rather than the eastern part where the Blauwe Agenda is located (interview 6).

“We have too few people, if I wanted I could fill 60 hours a week to work on the Blauwe Agenda but I only have 30. I still see a 100 initiatives I could make or connections that we could do something with. Before someone picks it up, somebody has to invest time to write a project plan and have conversations and plan visits. It includes a lot of arranging.” (interview 6)

Another important actor is Vitens. Vitens is a drinking water company that historically focuses on groundwater extractions to provide drinking water for citizens but also for industrial processes that require drinking water quality. Vitens is a company but they do have legal task to provide drinking water (referred to as a independent administrative body or *zelfstandig bestuursorgaan* in Dutch) (interview 7). They operate on the Utrechtse Heuvelrug within the permit space that is provided to them by the Province of Utrecht and rely on the zoning plan permits of municipalities. The municipality of Utrechtse Heuvelrug represents all the other municipalities with jurisdictions within the Blauwe Agenda process area and as part of the process area fall under their jurisdiction they have in important stake in the process (interview 8). Similarly, the private landowners (e.g. estates or *landgoederen* in Dutch) and agriculture in the area also have an important stake in the Blauwe Agenda as the problems with the water balance heavily impacts them. These groups are united under the organizations Utrechts Particulier Grondbezit and Land-en Tuinbouw organisatie respectively (interview 6).

Blauwe Agenda relies on knowledge, resources and capacity to execute the measures of the process. The effects study by Hydrologic and Acacia is an important foundation of Blauwe Agenda. Even so, some interviewees held the opinion that knowledge is still lacking. All interviewees agreed that, in general terms, the knowledge on how the water system functions is sufficient, but it was mentioned that specific local and contextual knowledge (e.g. the effects for agriculture and nature)(interview 6 and 7) was lacking. Resources (in this case funds) were already discussed in the previous paragraph but generally speaking it was not considered a problem to generate enough funds. Rather, sufficient capacity (i.e. the right people to execute the measures) is a concern (interview 10). People come and leave quite regularly, putting pressure on the continuity, and often times specific skills are required for projects. Even though the contributed capacity and resources differ per organization, all involved actors are considered to be full participants and their input is valued (interview 6). Actors are responsible for different building blocks and projects. When they are responsible they lead the execution of that specific building block or project (Blauwe Agenda, 2023).

Next to the actors mentioned above, some “second-shell” actors can be identified for Blauwe Agenda. These actors have a stake in the process and are often times involved for individual projects but do not

have an individual seat in the above named groups (interview 6). These actors include: Natuurmonumenten (nature conservation organization), Staatsbosbeheer (forest management authority), Instituut voor Natuurbeschermingseducatie (IVN) (nature education organization) and the other municipalities in the process area. These are the municipalities of Amersfoort, Baarn, de Bilt, Bunnik, Bunschoten, Eemnes, Leusden, Renswoude, Rhenen, Soest, Stichtse Vecht, Utrecht, Utrechtse Heuvelrug, Wijk bij Duurstede, Veenendaal, Woudenberg en Zeist.

6.2.4 Rules of the game

All three important policy documents have been adopted, the latest being the implementation program in April 2023 (Blauwe Agenda, 2020; 2022; 2023). Next to that, the partnership agreement is an important legal document in which the financing actors have formalized how the cooperation in Blauwe Agenda will take place. This includes a mandate for the Province of Utrecht to spend money on behalf of the other financing parties (interview 10). However, all the actors have to agree about projects that are paid from the shared fund (interview 6). Furthermore, Blauwe Agenda has a civil servant (*ambtelijk* in Dutch) and an administrative (*bestuurlijk* in Dutch) track. The administrative track is involved when political questions arise and commitments have to be made, for example when policy documents have to be adopted. The civil servant supports in this and is involved in the execution of the plans (interview 6 and 9). During the interviews, Blauwe Agenda has been classified as having a strong administrative trajectory (see quote below).

“The Province of Utrecht however opted for the legally-binding, administrative path. First, there needs to be commitment and the administrators have to be on the same page before we can start with projects. Except for the pilots, these have already been done from the beginning. At the start, I was not agreeing with this and I wanted to start straight away. But now I see that Blauwe Agenda involves such large matters that it is needed to have the administrators on the same page and that there is trust.” (interview 6)

This division between the civil servant and administrative track is also reflected in the organization of Blauwe Agenda. The organizational structure is sub-divided in a steering group (*stuurgroep* in Dutch), core group (*kerngroep* in Dutch) and a specialist group (*specialisten pool* in Dutch). The steering group houses the administrators (*bestuurders* in Dutch) and here political decisions are made such as the adoption (*vaststellen* in Dutch) of policy documents. The core group houses the civil servant (*ambtelijk* in Dutch) part of the process which are engaged in carrying out what has been established by the administrators. Next to that, it is also an important platform for cooperation and actors use it to pitch ideas and ask other actors to think along (interview 6). In the specialist group, experts from various involved actors are pooled together who can be used in support of the process. For practical reasons, not each individual actor has an individual representative in each group as this would make the groups too big. However, it is made sure that each sector is represented (e.g. only Hoogheemraadschap De Stichtse Rijnlanden has a representative in the core group out of two the regional water authorities) (Blauwe Agenda, 2023; interview 6 and 10). The content and frequency of the meetings of these groups differs from time to time,

but for the core group the intention is to regularly discuss the progress for each building block to keep each other up to date (interview 9).

The Blauwe Agenda has a project structure; the ambition is worked towards on a project (or local area-oriented process) basis (Blauwe Agenda, 2023) placed under the different building blocks. In turn, one or multiple involved actors are made responsible for it, based on which actor is the best for the content of it. The inclusion of projects is depending on what opportunities present themselves. This can be projects that are already under way or if there is already energy in the area (interview 6 and 10). In this context it was mentioned that Blauwe Agenda functions on a basis of “he who runs, runs”, meaning that if someone takes the initiative the others in most cases follow suit. This is something that is more often experienced in area-oriented processes. Informally, however, all the involved actors should agree on the inclusion of a project (interview 6).

Besides these case-specific rules, Blauwe Agenda has to contend with more general rules in the Netherlands, such as those for spatial planning in the Netherlands. In terms of water management, water level sections (*peilvak* in Dutch) and permits for water extraction are relevant. Next to that, rules for preserving cultural heritage play a role in what measures are possible, as some landscape features are protected (interview 6 and 8).

Table 12: Overview of the analysis of Blauwe Agenda based on the four dimensions of the PAA framework.

Key discourses	Key actors	Key resources	Key rules of the game
Goal to realize a robust water system based on 13 building blocks	Province of Utrecht	Shared fund	Subdivision in core group, steering group and specialist group
Reaction to acute threats, droughts and water nuisance.	Vallei en Veluwe	Project-based funding by participating actors	Project-structure based on implementation program
Emphasis on achievability and momentum	Hoogheemraadschap De Stichtse Rijnlanden	Public financing opportunities	
Cooperation and participation	Vitens	Personnel of involved actors	
	Utrechts Particulier Grondbezit	Effects study	
	Municipality Utrechtse Heuvelrug		
	Land- en Tuinbouw organisatie		
	Stichting Nationaal Park Utrechtse Heuvelrug		

6.3 Evaluation of the use of the temporal strategies in Blauwe Agenda

This section covers the evaluation of the use of the temporal strategies by Pot et al. (2022) in Blauwe Agenda. The first step is to identify acute and creeping threats based on the societal challenges as referred to in the interviews and the policy documents. Subsequently, the identified acute and creeping threats will form the basis for the evaluation of the use of the temporal strategies. Each temporal strategy will be discussed separately in the order: “Timing”, “Crafting time horizons”, “Pacing”, “Futuring” and “Cyclical adaptation”. To provide a short reminder, each section is preceded by a visual reiterating the definition of the strategy and its indicators. At the end of this section, the findings are visually summarized in Table 14.

6.3.1 Societal challenges: Identifying the acute and creeping threats

Blauwe Agenda is a clear response to the acute threats posed by droughts and water nuisance and, correspondingly, the focus is on creating a new water balance. Even so, other societal challenges were also named that are considered to have a role in the process. To provide a complete overview, all the societal challenges that were named in the interviews or policy documents are listed in Table 13. The societal challenges are in alphabetical order since they are all considered potentially relevant for identifying the acute and creeping threats (see section 5.3.1. for further elaboration).

Table 13 highlights that addressing the water balance is not an isolated issue, many societal challenges may play a role. The interviews indicated that this interconnected nature can be made use of but can also pose an obstacle. For example, on the one hand, it is challenging for drinking water companies to put the pressure on the drinking water supply on the agenda because drinking water of high quality has been a given for a very long time in the Netherlands. Instead, they turn to the “housing” challenge as a form of proxy. They use cases in which plans to built new neighborhoods are obstructed by the fact that they can not be supplied with drinking water to highlight that the drinking water supply is under pressure (interview 7). On the other hand, cultural heritage limits the possibilities to do adjustments to the current landscape (interview 8).

To identify the acute and creeping threats, the societal challenges need to demarcated and defined (e.g. defining the threat as desiccation or droughts) and the threat needs to categorized as more acute or creeping. These are both challenging elements as clear instructions are not yet provided and it may vary depending on the perspective that is taken (see section 5.3.1. for further elaboration). To stay close to the output of the interviews and the policy documents, the definitions and demarcations in the table are adhered to, and where necessary it is elaborated upon in the evaluation of the individual strategies. In turn the categorization is based on the characterization of crises in section 2.2.2 and the analysis of the area-oriented process. Societal challenges that are clearly characterized by surprise and urgency in the context of the process are highlighted in red in the table. Challenges that are clearly characterized by a lack of action and attention in the context of the process are highlighted in orange. Challenges that do not clearly align with either the acute or creeping crises concept are highlighted in purple. Reasons for this

are that they only play a minor or indirect role in the process (mobility, energy transition, housing and recreation) or they do not directly align with the crises concept (cultural heritage). However, when relevant, they are considered in the evaluation of the individual strategies.

Table 13: Overview of societal challenges involved in Blauwe Agenda based on the interviews and policy documents in alphabetical order and categorized as an acute (red), creeping (orange), or unclear (purple) threat.

Challenge	Context	Categorization	Referred to in
Agricultural transformation	National challenge to address the issues that face the agricultural sector in the Netherlands (nitrogen, abolishment manure exception, water quality etc.), which also impacts the area as there is a significant amount of agriculture.	Acute	5/5 interviews, ambition document, action plan and implementation program
Climate change	Nation wide challenge to adjust to a changing climate with more extreme weather patterns.	Creeping	5/5 interviews, ambition document, action plan and implementation program
Cultural heritage	The area has a long history which is attached a lot of value to.		3/5 interviews, ambition document
Drinking water	Drinking water from a high quality is extracted on the Heuvelrug, due the increase in inhabitants there is more demand but due to the droughts there is less supply.	Acute	5/5 interviews, ambition document, action plan and implementation program
Droughts (desiccation)	Droughts create dessication of nature and a shortage of water.	Acute	5/5 interviews, ambition document, action plan and implementation program
Energy transition	Nationwide need to move towards renewable energy sources and allocate room to do so.		1/5 interviews
Housing	General shortage of housing in the Netherlands entails that more houses need be realized in he area.		3/5 interviews, ambition document,
Mobility	The area is important for leisure and people have to be able to access these areas.		1/5 interviews
Nature conservation (<i>behoud</i> in Dutch)	There are a lot of important nature issues in the area that are threatened by desiccation (especially on the top).	Acute	5/5 interviews, ambition document, action plan and implementation program
Recreation	Important area for leisure for people from the surrounding urban areas.		1/5 interviews, action plan
Urbanization	Urban areas are increasing in the area.	Creeping	5/5 interviews, ambition document
Water nuisance	Water nuisance is a problem for urban areas on the flanks as water is running in the streets during peak showers. Next to that it leads to water damage for agriculture .	Acute	5/5 interviews, ambition document, Action plan and implementation program
Water quality	The water quality is under pressure in the area.	Acute	3/5 interviews, ambition document and implementation program

6.3.2 Timing

The main analytical question to be answered for the evaluation of the use of the strategy in Blauwe Agenda is:

“To what extent do we see indications in the content and organization of Blauwe Agenda that the acute crisis momentum is used to benefit from the increased sense of urgency to break through deadlocks in policy paths?”

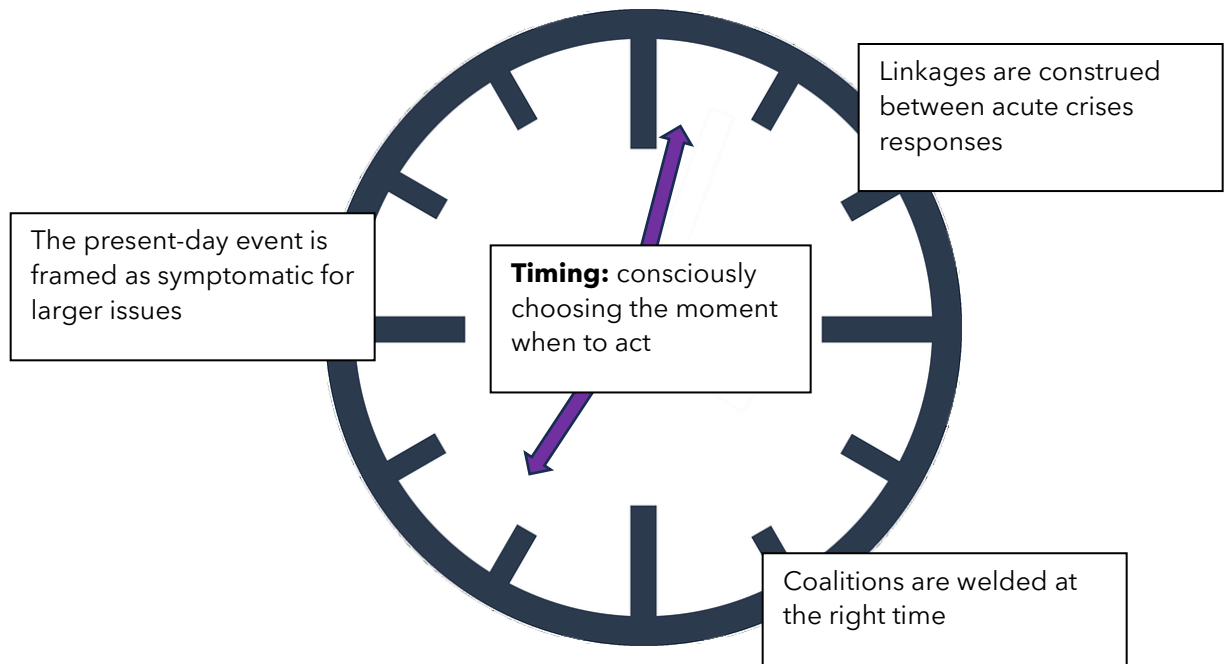


Figure 14: *Reiteration of the strategy “Timing” (center) and its indicators (sides).*



The use of the temporal strategy “Timing” is moderately reflected (yellow) in the case of Blauwe Agenda because even though the urgency of droughts and water nuisance is made use of to work towards climate adaptation (addressing climate change), there are no attempts to break through policy deadlocks. In this regard, use of “Timing” is reflected but not to its fullest extent.

For Blauwe Agenda, it is apparent that the process represents a strong response to acute threats on the Utrechtse Heuvelrug. In policy documents and all the interviews (interview 6-10), the link is clearly made between the droughts and water nuisance and the underlying threat of climate change (Blauwe Agenda, 2020; 2022; 2023). In this regard, the ambition and the measures work towards addressing the creeping threat by way of climate adaptation (i.e. working towards a robust water system) in the form of the 13 building blocks that also aim at addressing the current acute threats. The interviews show that the process makes use of the fact that it is experienced by all involved actors as a shared problem of which the urgency

is felt (see 6.2.2). This urgency ensured financial and administrative (*bestuurlijk* in Dutch) commitment (see 6.2.4). To generate additional funds, Blauwe Agenda aims at piggy backing on the “Transition fund” under the policies on the arrangement of the rural area (*NPLG* in Dutch, and its regional implementation *UPLG* in Dutch). The above indicate that acute crises are made use of, however not to break through policy deadlocks. For Blauwe Agenda the current allocation of functions of the system is the point of departure for the measures. This policy deadlock is explicitly shun to keep momentum and keep it feasible as captured by the quote below.

“It is always a bit of a balancing between having huge ambitions but then get stuck. And that you get a lot of discussion about that and also resistance because at a certain point it is also about what is feasible for all parties” (interview 10)

Even so, all the three indicators derived from Pot et al. (2022) are reflected in the above; linkages are construed between acute crises responses and strategic measures for creeping crises and the present-day is framed as symptomatic for the creeping crisis. Furthermore, coalitions are also welded at the right time, benefitting from the fact that there are already groundworks for cooperation in the form of the Stichting Nationaal Park Utrechtse Heuvelrug (interview 9). Here, the right time relates to the fact that the acute threats can be used to draw attention to climate change. This all argues in favor of a positive evaluation for the use of “Timing”. However, if the analytical question is strictly answered, than the fact that Blauwe Agenda shuns policy deadlocks should be put to discussion from the perspective of “Timing”. This does require some nuance, as in the interviews it was rightfully argued that there are wins to be made within this frame. Next to that, these discussions are also part of other policy programs such as the arrangement of the rural area (*NPLG* in Dutch) and the national environmental vision (*NOVEX* in Dutch) and it can be a viable consideration to rely on these broader developments to give substance to these discussions (interview 10).

6.3.3 Crafting time horizons

The main analytical question to be answered for the evaluation of the use of the strategy in Blauwe Agenda is:

“To what extent do we see indications in the content and organization of Blauwe Agenda that political commitments are locked-in to longer time horizons to create and keep a momentum which is less dependent on the occurrence of acute crises?”

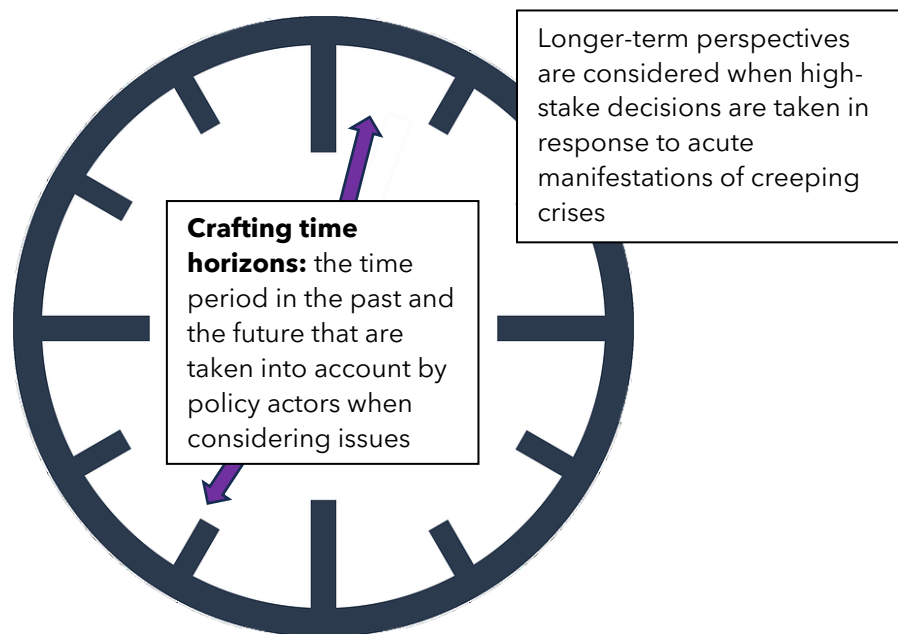


Figure 15: Reiteration of the strategy “Crafting time horizons” (center) and its indicators (sides).



The use of the temporal strategy “Crafting time horizons” is reflected to a limited extent (red) in the case of Blauwe Agenda because the set time horizon (2027) falls short of the goal to realize a robust water system (2050). This harbors the pitfall that the measures (i.e. building blocks) become goals by itself.

The temporal strategy “Crafting time horizons” itself resonated with the interviewees, but the mentioned time horizons varied per interviewee and most emphasized their “own” time horizons related to Blauwe Agenda. These time horizons were based on concrete deadlines written down in the policy documents (interview 9 and 10), more general goals or tasks (interview 8 and 10), or more general time horizons relevant for specific organization (interview 6 and 7). In the policy documents, there is only one concrete time horizon, which is the date until the ambition document and implementation program run (end of 2027) (Blauwe Agenda, 2022; 2023). The choice to opt for 2027 is based on the fact that this provides an overseable time horizon and it coincides with the deadline for the implementation of the Water

Framework Directive, so it would make for a logical time horizon (interview 10). Next to that, it was mentioned that putting the time horizon too far away may run the risk to lose the sense of urgency and that after 2027 it would be possible to review the progress and to continue (interview 9).

“That was also the motivation to make that choice of 2027 as starting point because we have to get started now. At the moment you make an implementation agenda or a moment for in 20 or 30 years, then you have a chance that people say, oh, we do not have to do that yet since we are not going to be there for 30 years, so the first 20 years we are going to sit back and then those last 10 years we are going to work very fast.” (interview 9)

As mentioned in 6.2.2., 2050 is also considered to be the informal time horizon for the main goal to realize a robust water system. However, this only emerged in the interviews and it is not mentioned in any of the policy documents, save for the effects study. Considering the above, even though section 6.2.2. does not necessarily hint at the presence of high-stake decisions, longer-term perspectives are thus considered in response to acute manifestations of creeping crises, albeit implicitly:

“Well, that depends a little bit. Look, we have of course drawn up an ambition document ourselves, so that is in fact a vision. In which we say, well, this we see up to 2050 as good measures for a robust water system.” (interview 10)

However, when turning back to the analytical question, the use of “Crafting time horizons” in Blauwe Agenda falls short of its potential. Even though, the current time horizon stimulates momentum and is achievable, from the perspective of the temporal strategies political commitments should be locked-in to longer time horizons ensuring continuation after 2027 to work towards the time horizon 2050.

6.3.4 Pacing

The main analytical question to be answered for the evaluation of the use of the strategy in Blauwe Agenda is:

“To what extent do we see indications in the content and organization of Blauwe Agenda that crisis-induced inquiries and reform packages are being leveraged to bring forward consideration of underlying risks and “creeping” vulnerabilities?”

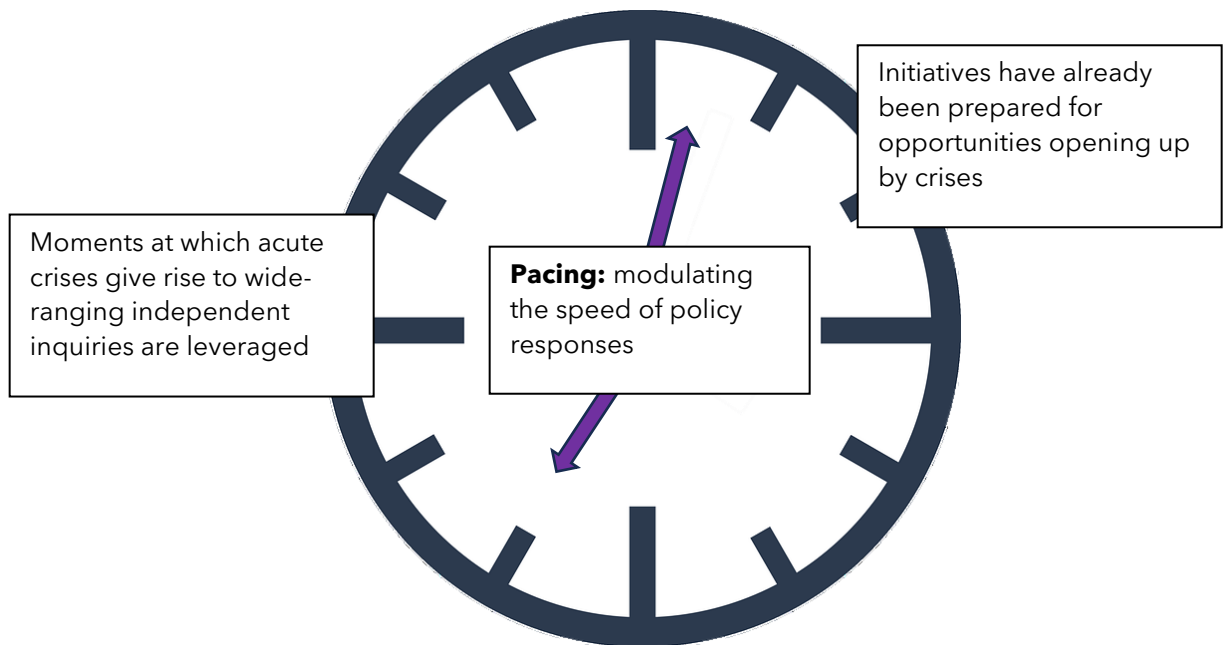


Figure 16: Reiteration of the strategy “Pacing” (center) and its indicators (sides).



The use of the temporal strategy “Pacing” is substantially reflected (green) in the case of Blauwe Agenda because the opportunities opened up by the acute threats are used to gain momentum and bring forward the consideration of climate change in the whole area of the Utrechtse Heuvelrug.

The interviews indicated that the strategy “Pacing” induces the consideration of the speed of the process itself. The opinions on the speed of the process differed a bit. Several interviewees were generally speaking satisfied with the speed (interviews 6, 9 and 10), even though it was acknowledged that it always could go faster (interview 9). This was considered to be a general phenomenon for administrators who tend to want to move fast (interview 10). It was also mentioned that Blauwe Agenda received external critique for having a slow start, since it took time to get all the administrators on board and to do research. This was however considered to be essential for the later part of the process (interview 6). Next to that, there were some critical notions about the ambition of the process and the matters that are discussed at the moment for the amount of time that the process has been taking (interview 7 and 8). However, this was put into perspective by the argument that it is important to keep the process achievable and prevent too much resistance from appearing. Furthermore, it was added that within the current frame there are still enough wins to be made (interview 10). In this context, the speed of the process was considered to be a balancing act between ambition and resistance (interview 10). Moreover, in terms of synchronicity, actors do not move at the same speed, some actors need more time than others (interview 9). Elements that can be slowing down the process were considered to be elections (interview 6), research (also

sometimes consciously used to delay decisions) (interview 10), development of other initiatives that need to be waited for (e.g. NPLG) (interview 10), and processes that take time (e.g. realizing new drinking water extraction sites).

Maintaining momentum is considered to be important in Blauwe Agenda as the problems are experienced as very acute (interview 10). Blauwe Agenda therefore also tries to make use of energy in the area and link up with existing initiatives (interview 6 and 10). In the same line of reasoning, the pilot projects were initiated at the start already to gain visibility and get started already. This was experienced as very positive by all interviewees (interview 6-10). The recent period was referred to as a period in which a lot of fast action is needed due to the pressure to link up with, and make use of, national developments such as the water and land system as a steering concept and the NPLG (interview 6). The former was in this regard considered to be a catalysator and a boost to the Blauwe Agenda and the latter as an opportunity to make use of (interview 6 and 10). It is consciously considered to keep certain elements under Blauwe Agenda and other under national developments. For example, an integral vision on the function allocation in the rural area was named as an element which Blauwe Agenda can not do by itself and thus has to rely on the policies on the arrangement of the rural area (*UPLG* in Dutch) for this (interview 10).

Concerning the indicators, there were not necessarily policy initiatives prepared for opportunities opening up by crisis but the droughts and water nuisance are leveraged to bring forward considerations of climate adaptation. Concerning the latter, the platform is considered to be a platform to discuss issues with each other (interview 6) and in this way creeping threats already come up earlier as conflicts are put on the agenda. Furthermore, starting with the pilots also brings visibility and a starting point is that the projects do not have to be finished by 2027. In this regard, Blauwe Agenda is considered to be a catalysator to bring forward the considerations. Therefore, in light of the analytical question, “Pacing” is considered to be substantially reflected in Blauwe Agenda.

6.3.5 Futuring

The main analytical question to be answered for the evaluation of the use of the temporal strategy in Blauwe Agenda is:

“To what extent do we see indications in the content and organization of Blauwe Agenda that both stress-tests and scenarios for exploring strategies are used in response to alternative histories as well as possible futures with acute and creeping crises impacts?”

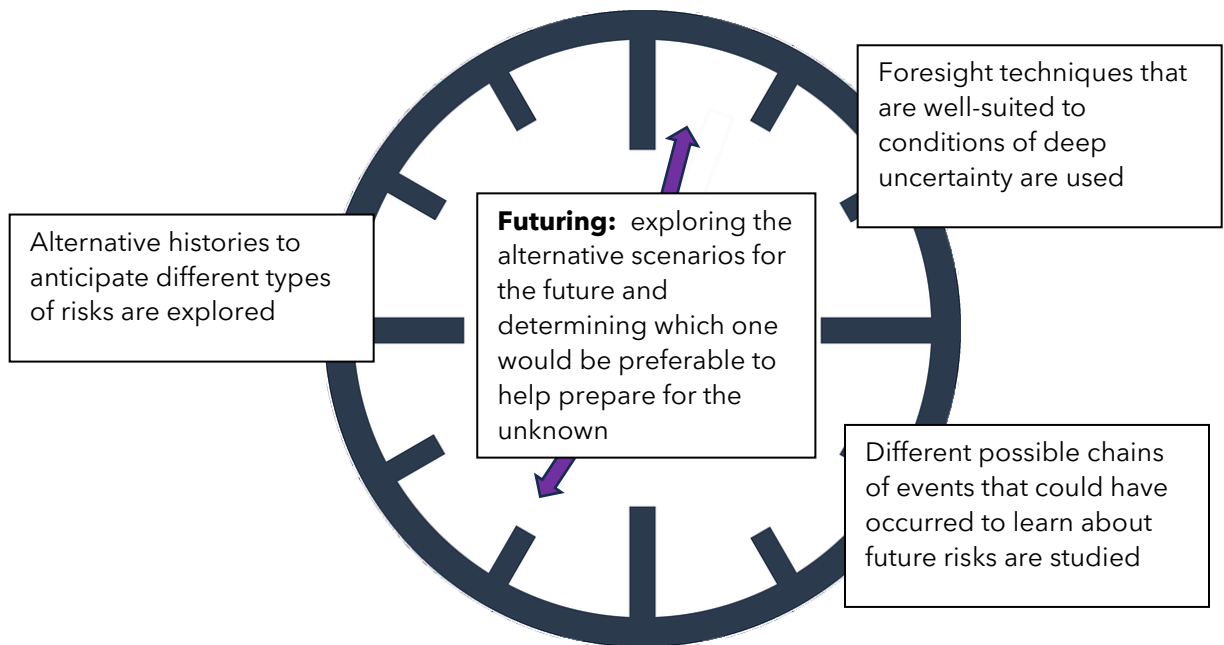


Figure 17: Reiteration of the strategy “Futuring” (center) and its indicators (sides).



The use of the temporal strategy “Futuring” is moderately reflected (yellow) in the case of Blauwe Agenda because, on the one hand, (1) the effects study uses alternative histories and climate scenarios of the KNMI to explore the effects of the different measures on the water system and (2) the ambition document contains a vision on what the future water system on the Utrechtse Heuvelrug should look like. However, on the other hand, (3) stress-tests are missing (as acknowledged in the study itself) and (4) the futuring techniques are not apt for dealing with deep uncertainty.

The strategy “Futuring” was interpreted differently by the interviewees. It led interviewees to refer to the effects study and the use of the KNMI scenarios but also envisioning what future is going to be worked towards. Positive remarks were made about the effects study as it provides an estimation of what the situation will look like in the future and also what knobs can be turned to improve the situation (interview 10). The vision in the ambition document was considered to be the spot on the horizon (interview 9 and 10), but for some this spot could be more clear (interview 6) and more ambitious (interview 7 and 8). Here, a sidenote was brought up that a more elaborate vision on the future would require political decisions and these choices would befall to administrators and not the interviewee in person (*bestuurders* in Dutch)(interview 6). In line with this, the ambition level of the spot horizon is the result of conscious considerations to keep the process manageable and rely on other policy developments for more impactful decisions (such as the NPLG)(interview 10). However, stress-tests were not mentioned altogether in the interviews.

Concerning the indicators, foresight techniques were used as the effects study using the KNMI-14 scenarios (Hydrologic & Acacia, 2021; KNMI, 2015), but these are not geared towards dealing with deep uncertainty as the KNMI scenarios themselves are subject to change. The same study, does make use of exploring different historical events to estimate the future situation of the water system on the Utrechtse Heuvelrug. However, different possible chains of events are not studied (Hydrologic & Acacia, 2021). Furthermore, also mentioned as a recommendation in the study, no stress-tests were performed in the study:

“It is advisable to use a stress test-like approach to examine when irreversible/significant damage occurs, what type of measures can still offer solace under these circumstances (combination of development measures and anticipatory management, whereby also (combination of development measures and anticipatory management), while at the same time paying attention should be paid to the possible action perspective towards a next drought” (Hydrologic & Acacia, 2021, p.11)

Then, turning back to the analytical question, while scenarios are used and some of the indicators are reflected, the fact that stress-tests were not performed and that the scenarios were rather singular and not suitable for dealing with deep uncertainty entails that the use of “Futuring” is considered passable.

6.3.6 Cyclical adaptation

The main analytical question to be answered for the evaluation of the use of the temporal strategy in Blauwe Agenda is:

“To what extent do we see indications in the content and organization of Blauwe Agenda that alternative pathways are applied to the dual crises context to adjust policies based on an appraisal of changing circumstances and acute shocks?”

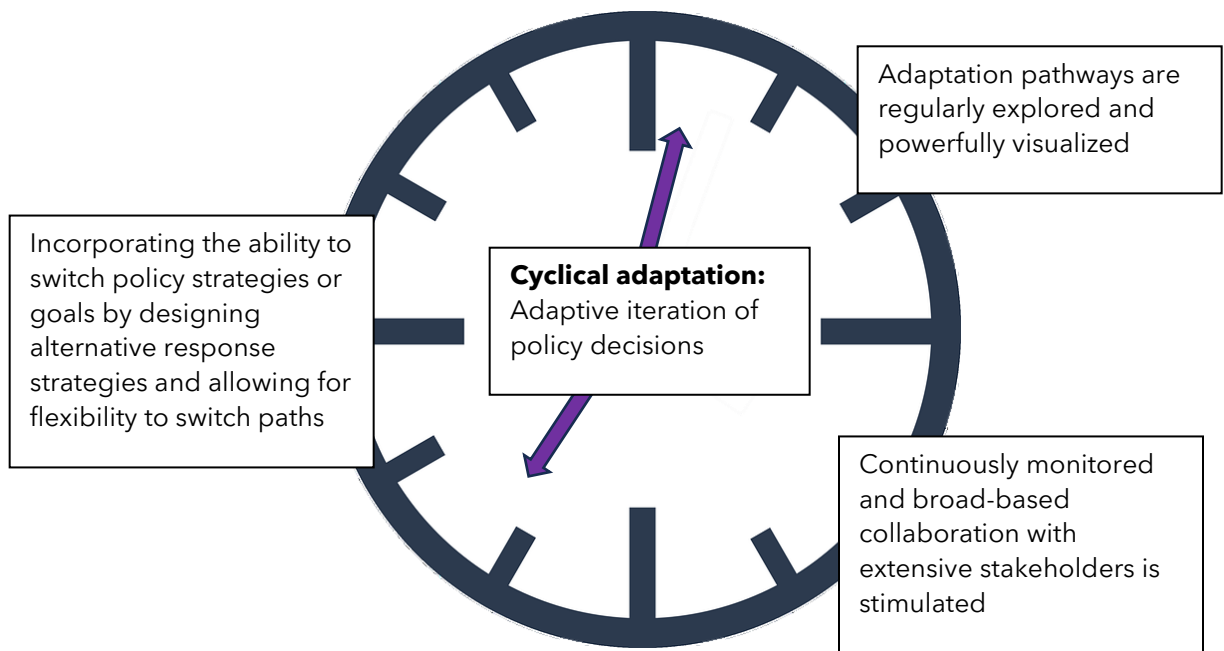


Figure 18: Reiteration of the strategy “Cyclical adaptation” (center) and its indicators (sides).



The use of the temporal strategy “Cyclical adaptation” is moderately reflected (yellow) in the case of Blauwe Agenda because the (1) possibility to make adjustment and changes in response to new developments is taken into account and (2) several indicators are reflected in Blauwe Agenda. However, (3) “Cyclical adaptation” is implemented rather “passively” and some improvements can be made to utilize the temporal strategy to a fuller extent.

When asked about “Cyclical adaptation”, the interviewees for Blauwe Agenda responded quite differently. For some it was too early on in the process to properly judge whether there was enough room for adjustments since the actual projects and processes (other than the pilot projects) still have to be set up (interviews 6, 7 and 8). In this context, it was mentioned that the next challenge will be to come up with a way to test whether the project-based structure of Blauwe Agenda still contributes sufficiently to the initial objectives (interview 8). But also, the concern was voiced that up until this point there might not have been enough evaluation during the development of the process (interview 6):

“We are on a driving train and we just do our thing. We do not really stop. Maybe we are also still too much at the beginning of the process to say something about that. I think because we are in the research phase we don’t have the problem of “lock ins”. At the moment you start executing plans and spend money, then you get the question if we think the same about matters in ten years.” (interview 6)

An interesting recurring notion during several interviews was that the content of earlier agreed upon policy documents (ambition document and implementation program) had faded in the meantime. This

often times involved details on other actors responsibilities and shared overarching goals, highlighting the focus of each actor on its own subtasks.

For others, Blauwe Agenda does already show that it leaves room for adjustments in the future as there is flexibility in the amount and content of projects but also the ambition itself, as captured by the quote below (interview 10). Next to that, it was mentioned that the implementation program is to a certain extent a dynamic agenda and that it would make sense to review it in two years, but it would be counterproductive to put a lot of effort into this at the moment because this can be overwhelming as everyone has only just began with their tasks after the determination (*vaststelling* in Dutch) of the implementation agenda (interview 9).






“But in that sense, there is also a lot of room in how we have put together the measures. You can do it very retained, you can also do it very ambitiously. There is still quite some room for this within Blauwe Agenda, and therefore the extent to which we will implement these ambitions can also determine the ambition in the end. So yes, there is also room (to adjust) within the Blauwe Agenda itself.” (interview 10)

Additionally, even though the ambition document and implementation program end by 2027, involved actors are aware that around that time period it is important to evaluate and reconsider the next steps and possibly create an “Ambition document 2.0” (interview 9 and 10).

Concerning the indicators from the article by Pot et al. (2022), several of them are reflected in Blauwe Agenda. The 14 building blocks include different strategies and goals (Blauwe Agenda, 2023) that were explored in the effects study (Hydrologic & Acacia, 2021) and, as shown above, there is flexibility to switch paths. In that sense, the ability to switch policy strategies or goals by designing alternative response strategies and allowing for flexibility to switch paths is incorporated. Moreover, one of the building blocks is dedicated to monitoring (building block 12) and the monitoring of the progress of the 13 building blocks is incorporated into the core group meetings (see 6.2.4.). Next to that, broad-based collaboration with extensive stakeholders is an important discourse within Blauwe Agenda (see 6.2.2.). However, adaptation pathways are not regularly explored and powerfully visualized, leaving the impression that adjustments to the policy is more an ad-hoc and unplanned possibility.

To answer the analytical question, there are indications of the use of “Cyclical adaptation” in Blauwe Agenda. However, the use of the strategy is “passively” incorporated, in the sense that there is room for it to happen but it is not pro-actively anticipated.

Table 14: Overview of the evaluation of Blauwe Agenda based on the use of the five temporal strategies by Pot et al. (2022).

Temporal strategy	Evaluation
Timing	
Crafting time horizons	
Pacing	
Futuring	
Cyclical adaptation	

7 Toekomstbestendige Polder Lange Weide

In this chapter the area-oriented process Toekomstbestendige Polder Lange Weide will be discussed. The chapter starts by setting out the characteristics of the area by way of introduction. This is followed up by an analysis of Toekomstbestendige Polder Lange Weide and, subsequently, an evaluation of the use of the temporal strategies by Pot et al. (2022) in the process. At the end of both the analysis and the evaluation, a short recap is provided of the respective sections (Table 16 and Table 18).

7.1 Characteristics of the area

The area-oriented process Toekomstbestendige Polder Lange Weide concerns the polder Lange Weide in the western part of the jurisdiction of Hoogheemraadschap De Stichtse Rijnlanden. It is hemmed in between four water ways; the Enkele Wiericke to the west, the Oude Rijn to the north, the Dubbele Wiericke to the east, and the Hollandse IJssel to the south (see Figure 19). It concerns fertile peat areas with a lot of dairy farming taking place. As a result, the landscape is mostly grassland interspersed with ditches (see Figure 20). Other relevant characteristics of the area are the village of Driebruggen in the middle of the polder and two Natura-2000 areas in the surrounding area, these are the Nieuwkoopse plassen to the north and Reeuwijkse plassen to the west (the former of the two being vulnerable to nitrogen). The polder falls within the jurisdiction of the Province of Zuid-Holland.



Figure 19: Impression of the process area of Toekomstbestendige Polder Lange Weide. The borders of the process are highlighted by the brown dotted line. Urban areas are highlighted in orange and biophysical characteristics are highlighted in blue.

The polder is threatened by land subsidence caused by peat oxidation. The polder was created by draining (and later on dyking) the swampy peatland in the area, which dates back to the Middle Ages, to make the land suitable for agriculture. Since then, the land level has fallen by 4 meters and at the start of the process (on average a ground level of approximately -2m NAP), the land was still subsiding by approximately 2 centimeters per 3 years, and peat layer is still up to 7.5 meters thick (at its maximum) (HDSR, 2020). The polder has a V-shape, having a lower surface level in the middle opposed to the sides. The exact numbers may thus vary depending on the plot. The underlying cause of the land subsidence in this case is that when peat dries out, especially during dry summer periods, it comes into contact with oxygen, and consequently it starts to oxidate (i.e. break down). The subsidence of the land leads to water nuisance, risk of saltwater seepage (caused by the pressure of the North Sea), the emission of greenhouse gases (CO₂-emissions), increased costs for water management and maintenance (to pump out the water), and it negatively impacts water quality. Land subsidence can be halted by increasing the water level (the polder has one water-level section, *peilvak* in Dutch) to around 20 centimeters under the surface level. This is ideal because raising the water level higher leads to the production of methane in peatland and lower to emissions of CO₂ due to the oxidation of peat. However, these conditions are too wet for most forms of agriculture (interview 11). Therefore, the goal of the process is to slow down land subsidence and in-doing so make the polder future-proof by addressing climate change, reducing the costs for water management, providing a future perspective for dairy farming and an attractive living environment (HDSR, 2022).



Figure 20: Polder Lange Weide.

7.2 Analysis of the area-oriented process governance arrangement Toekomstbestendige Polder Lange Weide

This section covers the analysis of Toekomstbestendige Polder Lange Weide based on the four dimensions of the PAA framework. But before doing so, the development of the process over time will be briefly highlighted in the form of a timeline to provide a first impression of how the process came to be and how it is expected to further develop in the future. Hereafter, the dimensions of the PAA framework will be discussed starting with discourses, followed up by actors and resources, and finishing with rules of the game, before summarizing the findings in Table 16.

7.2.1 Timeline

Based on the interviews and policy documents, the timeline below has been put together to capture the developments in Toekomstbestendige Polder Lange Weide (see Figure 21).

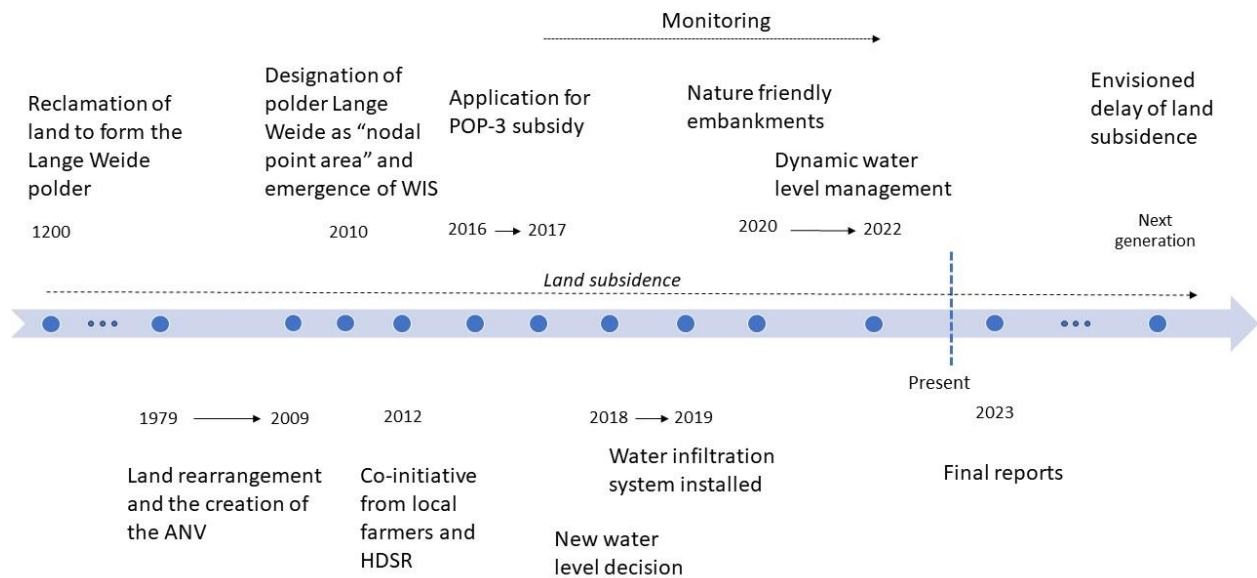


Figure 21: Timeline of Toekomstbestendige Polder Lange Weide.

Toekomstbestendige Polder Lange is a relatively short process compared to the problem which has been developing over a very long period. While the first talks about the process were initiated around 2012, land subsidence in the area can be traced back to 1200 when the draining of the area started (interview 11). The process was initiated by local farmers in close cooperation with Hoogheemraadschap De Stichtse Rijnlanden in response to the designation of the polder as a “nodal point area” (*knikpuntgebied* in Dutch) by the Province of Zuid-Holland in 2010 (interview 11, 12 and 13). The term “nodal point area” meant that this area would be one of the first areas where the societal costs would be higher than the benefits to continue keeping the area suitable for dairy farming (i.e. keep the area dry) (interview 11). Around the same time, the Water Infiltration System (WIS) technique (will be discussed in the next section) was being developed as a means to address land subsidence and this is how the ball went rolling (interview 12). Once all the important actors were onboard (local landowners, Hoogheemraadschap De Stichtse Rijnlanden, Province of Zuid-Holland etc.) the application for a subsidy from the European Union took only two years and the WIS was installed in a similar time span. In 2018, once the WIS was installed, a new decision on the water level in the polder was made (*peilbesluit* in Dutch). Furthermore, as part of the process, there was extensive monitoring from 2017 to 2022 and a pilot with dynamic water level management (will be discussed in the next section) from 2022 to 2022 (HDSR, 2020; 2022). In 2020, nature friendly embankments were also added to the process, making use of the fruitful cooperation. In the remainder of 2023 (it has not yet been published at the time of this research), a final report will be published on the findings and lessons of the process (interview 13). However, land subsidence will continue as all the peat above the water level continues to oxidate. The assumption is that the problem is “solved” for this generation and that in 30/40 years the problem needs to be addressed again (interview 11, 12, 13).

7.2.2 Discourses

To reiterate, the goal of Toekomstbestendige Polder Lange Weide is to make the polder futureproof by addressing climate change, reducing costs of water management, and providing a future perspective for the dairy farming and an attractive living environment (HDSR, 2020). The interviews indicated that implicitly it was already certain that the process is about realizing WIS (interview 11, 12 and 13). WIS is a technique with which tubes (mostly made of plastic) are placed underground to increase the permeability of the ground (see Figure 22), infiltrating water more easily in dry periods and draining water during wet times. This way the groundwater is somewhat more evenly through the year, reducing the oxidation of peat and the concurrent negative effects and creating more effective production circumstances for farmers (HDSR, 2020; interview 6 and 8). There are two types of WIS systems; active and passive controlled WIS. Actively controlled WIS works with pumps to send water through the tubes, whereas passively controlled WIS works with the water pressure in the ditches. The latter system is installed in polder Lange Weide on a uniform depth of around 60-70 centimeters below the land surface throughout almost the complete polder (HDSR, 2020; interview 11).

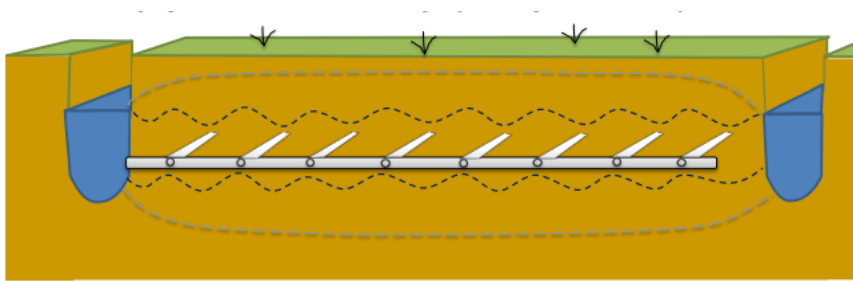


Figure 22: Visual representation of WIS presented in 2018 in a PowerPoint about the process, the gray dotted line represents the old water level in summer (lower) and winter (higher) without WIS and the black dotted line represents the new situation with WIS. As can be seen, the land is less wet during wet periods and less dry during dry periods (HDSR, 2018).

Due to the singular focus on realizing WIS in the polder, many interviewees considered Toekomstbestendige Polder Lange Weide to be more of a project rather than an area-oriented process (interview 11, 12, 14 and 15). On the other hand, it was argued that it can be considered an area-oriented process when taking into account the experimentation with dynamic water level management and the realization of nature friendly embankments in the slipstream of the cooperation around realizing WIS (interview 13). The experimentation with the dynamic water level management entailed that the farmers have a say in the water level based on the circumstances in the field, opposed to the normal situation in which Hoogheemraadschap De Stichtse Rijnlanden sets a fixed water level for a longer period of time (HDSR, 2020).

Toekomstbestendige Polder Lange Weide was considered a pilot case to gain knowledge on WIS and its effects as potential way to address land subsidence (HDSR, 2020; interview 11, 12 and 13). Hence, the emphasis on monitoring in the polder (HDSR, 2020). The process was initiated at a time when land subsidence was – in general - not yet a major theme in the Netherlands and WIS was a relatively new technique (interview 13). The designation of the area as a “nodal point area” (see previous section) induced the farmers to act. The problem of land subsidence gained further traction by the increased urgency for addressing climate change caused by the Paris Agreement in 2015 (interview 11). For Hoogheemraadschap De Stichtse Rijnlanden, Lange Weide provided an interesting pilot case as the farmers were well organized and WIS could be installed on a polder level. This was an unique opportunity to test the potential of WIS on a larger scale (interview 13). The, at the time, innovative process got a lot attention in the Netherlands and it attracted international attention as well (HDSR, 20220; interview 13). At the moment, the process has arrived at one of the later stages of the process with the final reports coming up. Generally speaking, the WIS seems to be effective. However, there are some concerns as it requires additional water and next to that it does involve putting a lot of plastic in the ground. In general, the interviewees agreed that WIS is not a solution to be implemented nationwide but it may be useful as a measure to buy time (25-40 years) in certain cases (interview 11-15).

It is important to emphasize that Toekomstbestendige Polder Lange Weide largely took place in a different time period than the current situation concerning agriculture in the Netherlands. The WIS was already installed before 2019, since than many problems have arisen such as the nitrogen crisis, the disappearance of the exception of the Netherlands within the European Union in the field of manure, water quality regulations of the Water Framework Directive and more generally the agricultural transition as captured by national program on the arrangement of the rural area (NPLG)(interview 13). In this context, the financial aspect was emphasized during the interviews. The earnings model of farmers is already under pressure. The costs of measures that have as a consequence that the income of farmers is put under further pressure can not only be borne by farmers. It is therefore important to be aware that the above challenges will cost the society money (interview 13).

7.2.3 Actors and resources

The farmer community in polder Lange Weide played an essential role in Toekomstbestendige Polder Lange Weide, both in the initiation and the course of the process. The interviews indicated that the farmers are very well organized and there was already a strong foundation for cooperation before Toekomstbestendige Polder Lange Weide (interview 11-15). This cooperation is formalized in the agricultural collective (*agrarisch collectief* in Dutch) ANV Lange Ruige Weide, which is a agricultural nature association created during the land rearrangement project (*land herinrichting* in Dutch) from 1979-2009. During this project, the area was redesigned by means of a plot exchange. Also part of this project was a task to realize and maintain nature in the area, which at first was supposed to be the responsibility of an external actor. However, the farmers wanted to thought they could do this themselves and wanted to keep it in their own hands. To do this, the ANV Lange Ruige Weide was established (interview 13 and 14). Linked to the the ANV Lange Ruige Weide, the foundation Rijn & Gouwe Wiericke was created to execute projects (interview 14; Rijn & Gouwe Wiericke, n.d.). These organization took on large parts of the execution of the process. The agricultural collective unburdened the individual farmers completely, the participating farmers only had to grant their permission and the rest was arranged by the organization (interview 13).

Next to the farmer community, Hoogheemraadschap De Stichtse Rijnlanden played a pivotal role. Administratively (*bestuurlijk* in Dutch), the regional water authority embraced the initiative of the farming community and provided capacity (e.g. a project leader) and knowledge (interview 13). Next to that, it took on the responsibility for the monitoring element of the process, both in terms of execution and financial resources. At the time, Hoogheemraadschap De Stichtse Rijnlanden was considered to have a progressive attitude towards addressing land subsidence (HDSR, 2016; interview 11). Lange Weide also marked the start of their policy program on land subsidence, which has been developing ever since and it highlights the emphasis the water authority has on combatting land subsidence in its peat areas. The farmer community and Hoogheemraadschap De Stichtse Rijnlanden depended on another in the process, but there were close relations between the two as well. During several interviews it was mentioned that a administrator of the water authority also was a farmer in the Lange Weide polder. This administrator

had an important role in getting everyone on board and ensured that there was trust between the farmers and the water authority (interview 11-15).

Furthermore, the Province of Zuid-Holland, Municipality of Bodegraven & Reeuwijk and the European Union were important facilitators of the process. The process relied on the POP3-subsidies for rural development of the European Union (HDSR, 2022). The Province of Zuid-Holland has to pay out the subsidy and the costs can only be reimbursed after having been made (interview 12 and 13). The foundation was relied on to pay the costs upfront (interview 12). Next to that, the landowners had to pay a (relatively minor) contribution as well (HDSR, 2022). Both the Province and the Municipality facilitated the process by providing advice (interview 11 and 15). Next to that, the Municipality provided financial resources for the pre-financing (interview 13 and 15). The interviews indicate however that while the farmer community depends on the government (e.g. for subsidies and permits), there is generally speaking a lack of trust between the farmer community and the government (interview 11-15). To sum up, based on the relative importance of the actors the table below can be produced to provide an overview of the involved actors.

Table 15: *Involved actors in Toekomstbestendige Polder Lange Weide categorized as “first-shell” (leading) actors and “second-shell” (facilitating) actors.*

“First-shell” actors	“Second-shell” actors
ANV Lange Ruige Weide	28 landowners (including 13 farmers)
Stichting Rijn & Gouwe Wiericke	Province of Zuid-Holland
Hoogheemraadschap De Stichtse Rijnlanden	Municipality of Bodegraven & Reeuwijk
	European Union

7.2.4 Rules of the game

The most important rules for Toekomstbestendige Polder Lange Weide concern the rules for the dynamic water level management, the rules concerning the POP-3 subsidy and the permits. The dynamic water levels, as part of the dynamic water level management, are determined on the basis of a group with representatives of different actors that in a WhatsApp group communicate about any adjustments that need to be made (HDSR, 2022). As mentioned earlier, there is one water level section (*peilvak* in Dutch) in the polder. There is a standard water level set out in the decision in 2018 on the water level (*peilbesluit* in Dutch) but in this decision it has been included that it can be lower or higher by a margin of around 13 cm (HDSR, 2020; interview 11). However, the system has been installed on the same height while the polder has a V-shape. The farmers in the lowest part are the first to experience water nuisance, but since the farmers are in solidarity with each other, informally, the lowest farmer is decisive in determining the water level (interview 12 and 13). The subsidy of the European Union is also strongly regulated. The money is only granted after expenditure, meaning there is a need for capital to pre-finance investments. There are extensive checks by both the European Union as the Dutch government and every expenditure needs to be justified. If the checks are not passed, then the chance exists that the money has to be refunded. Furthermore, administrators are not allowed to have a stake in the project and the project needs to remain for a period of time (interview 14). All these conditions and the organizational capacity that it

requires made the farmers hesitant to make use of the subsidy in the future (interview 14). Furthermore, concerning permits, the regional water authority has to provide a water permit (*watervergunning* in Dutch) for the use of additional water for the WIS.

Table 16: Overview of the analysis of *Toekomstbestendige Polder Lange Weide* based on the four dimensions of the PAA framework.

Key discourses	Key actors	Key resources	Key rules of the game
<p>Realizing Water Infiltration System on polder level</p> <p>Reaction to acute threat land subsidence as captured by “nodal point area”</p> <p>Emphasis on technical solution</p> <p>Pilot area-oriented process to gain experience with Water Infiltration Systems</p>	<p>ANV Lange Ruige Weide</p> <p>Stichting Rijn & Gouwe Wiericke</p> <p>Hoogheemraadschap De Stichtse Rijnlanden</p>	<p>POP-3 subsidy</p> <p>“Connector” farmer and regional water authority</p> <p>Capacity (personnel) of the participating actors</p> <p>Knowledge of water system and subsidy applications</p>	<p>European subsidy rules</p> <p>Water permit</p> <p>Water level decision</p> <p>Dynamic water level management</p>

7.3 Evaluation of the use of the temporal strategies in Toekomstbestendige Polder Lange Weide

This section covers the evaluation of the use of the temporal strategies by Pot et al. (2022) in Toekomstbestendige Polder Lange Weide. The first step is to identify acute and creeping threats based on the societal challenges as referred to in the interviews and the policy documents. Subsequently, the identified acute and creeping threats will form the basis for the evaluation of the use of the temporal strategies. Each temporal strategy will be discussed separately in the order: “Timing”, “Crafting time horizons”, “Pacing”, “Futuring” and “Cyclical adaptation”. To provide a short reminder, each section is preceded by a visual reiterating the definition of the strategy and its indicators. At the end of this section, the findings are briefly summarized in Table 18.

7.3.1 Societal challenges: Identifying the acute and creeping threats

Toekomstbestendige Polder Lange Weide is a clearly demarcated and a small scale area-oriented process. Correspondingly, the process involves a limited number of challenges. To provide a complete overview, all the societal challenges that were named in the interviews and the policy documents are listed in the table below. The challenges are listed in alphabetical order as they all considered potentially relevant (see section 5.3.1. for further elaboration).

Table 17: Overview of societal challenges involved in Toekomstbestendige Polder Lange Weide in alphabetical order and categorized as an acute (red), creeping (orange), or unclear (purple) threat.

Challenge	Context	Categorization	Referred to in
Biodiversity / Ecology	The biodiversity in the Netherlands is under pressure. The effects of the WIS on the ecology in the area are measured. Moreover, the realization of nature-friendly embankments have been added to the process.	Creeping	(2/5) HDSR; 2020; 2022
Climate change	Climate change poses a global challenge, so too in the Netherlands. Land subsidence in peat areas leads to the emission of greenhouse gases that contribute to climate change.	Creeping	(5/5 interviews), HDSR; 2020; 2022
Land subsidence	Land subsidence is particularly a problem in peat areas due to the oxidation of peat when it comes into contact with oxygen (as a result of the lowering of the water level).	Acute	(5/5 interviews), HDSR; 2020; 2022
		Creeping	
Water quality	The effects of WIS on the water quality in the area are measured.		(1/5), HDSR; 2020;2022

Next to the challenges included in Table 17, the nitrogen crisis, the abolishment of the derogation rule for the Netherlands concerning manure, and the general agricultural transition that the Netherlands are working towards were named as societal challenges that are relevant to the process (interview 12, 13, 14 and 15). However, these challenges came up after the most significant parts of the process had been worked out (interview 13). While they are relevant for the current situation (and the future), they are not included in the table as they did not play a role back then.

Identifying the acute and creeping threats requires the societal challenges to be demarcated and defined and the threat needs to be categorized as more acute or creeping. These are both challenging elements as clear instructions are not yet provided and it may vary depending on the perspective that is taken (see section 5.3.1. for further elaboration). To stay close to the output of the interviews and the policy documents, the definitions and demarcations in the table are adhered to, and where necessary it is elaborated upon in the evaluation of the individual strategies. In-turn the categorization is based on the characterization of crises in 2.2.2. and the analysis of the area-oriented process. Societal challenges that are clearly characterized by surprise and urgency in the context of the process are highlighted in red in the table. Challenges that are clearly characterized by a lack of action and attention in the context of the process are highlighted in orange. In this regard, land subsidence contains both elements. On the one hand it was an acute threat due to the designation of the area as a nodal point area, but before the designation the issue lacked attention and action. Land subsidence therefore is considered to have an acute and a creeping aspect in the context of Toekomstbestendige Polder Lange Weide. Challenges that do not clearly align with either the acute or creeping crises concept are highlighted in purple. The reason for this is that they only play a minor or indirect role in the process (water quality).

7.3.2 Timing

The main analytical question to be answered for the evaluation of the use of the strategy in Toekomstbestendige Polder Lange Weide is:

“To what extent do we see indications in the content and organization of Toekomstbestendige Polder Lange Weide that the acute crisis momentum is used to benefit from the increased sense of urgency to break through deadlocks in policy paths?”

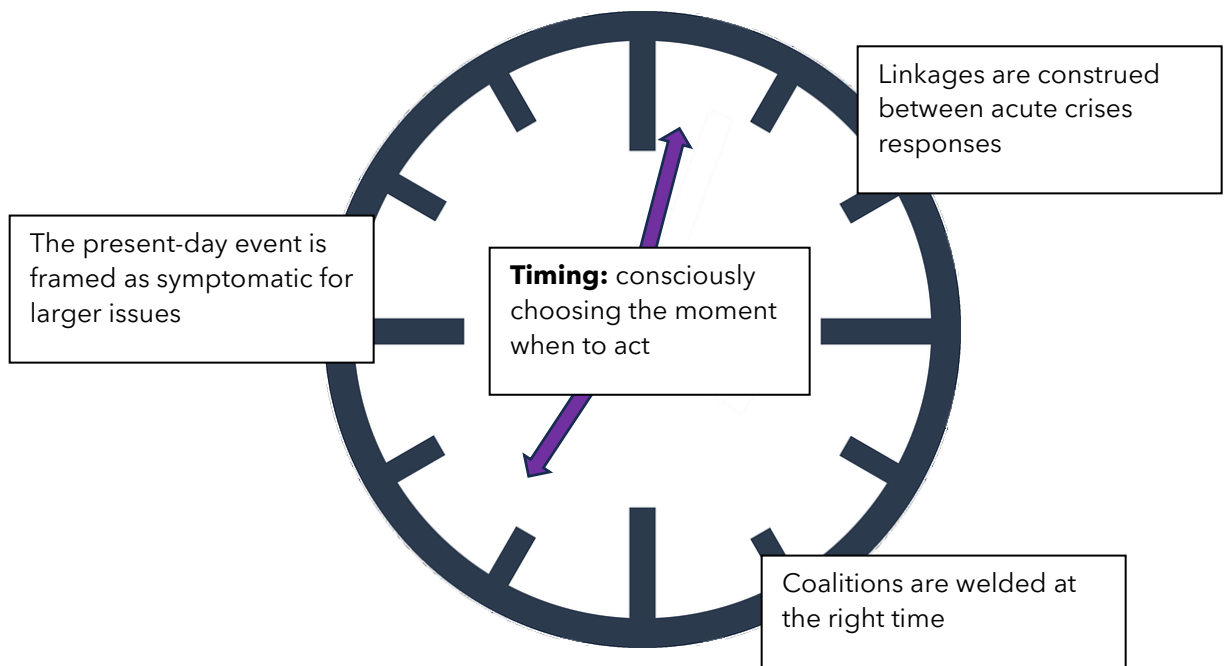


Figure 23: *Reiteration of the strategy “Timing” (center) and its indicators (sides).*



The use of the temporal strategy “Timing” is moderately reflected (yellow) in the case of Lange Weide. On the one hand, the momentum of the land subsidence threat in the polder, in conjunction with increased attention for climate change, was capitalized on to set up the process and realize the WIS in a short period of time. However, WIS is not a measure that will indefinitely solve the creeping crisis of land subsidence, nor does the process work towards breaking through deadlocks in policy paths.

The interviews indicated that land subsidence posed an acute threat, materialized by the designation of the polder as a “nodal point area” by the Province (interview 11-13). In the meantime, the Province has stopped using the term as the Province considered it to be stigmatizing in the end (interview 11). There were also some critical notions about why the Lange Weide polder was considered to be a “nodal point area”. The decision was considered rather arbitrary, pointing to other lower-lying polders and the fact that it still is a valuable area for agriculture (interview 12 and 14). Even so, the designation had made the creeping threat of land subsidence acute by threatening to give up on accommodating agriculture in the polder. The issue of land subsidence was also linked to climate change. The farmer community and the water authority prioritized land subsidence as the main instigator and saw its effects on climate change as a supporting argument to address the former (interview 12-14). Remarkably, the Province mentioned climate change before the direct issue of land subsidence (interview 11). In any case, the fact that land subsidence in peat areas also leads to the emission of greenhouse gases was used to strengthen the cause to address land subsidence (e.g. in the application for the POP-3 subsidy)(HDSR, 2020; interview 11-15).

Toekomstbestendige Polder Lange Weide does not concern addressing policy deadlocks in the context of land subsidence. In response to the emerging threat, Toekomstbestendige Polder Lange Weide was the first process to address land subsidence in peat areas in the Netherlands through the polder wide realization of WIS. As mentioned in section 7.2.2, at the time of initiation of the process, land subsidence was a threat without a lot of attention or action to address it in the Netherlands. In this regard the role of the process was also seen as a first pilot to gain experience and knowledge with WIS (interview 13) and as a means to provide a temporary solution (at least for the current generation) to land subsidence (interview 11, 12, 14 and 15). Concerning the latter, it was acknowledged that WIS is not the holy grail, but it might serve as a part of the approach to deal with land subsidence. Initially, the process only included the realization of WIS and the experimentation with it. This was experienced as positive in the light of the assumed “pilot” role of the process (interview 11-14). The concern was voiced that if a more integral approach was taken (e.g. by including measures for biodiversity or others) this would lead to more resistance and drag out the process. Referring to the contemporary challenges for agriculture, some interviewees held the opinion that it is better to deal with the problems one at a time than trying to deal with them all at once. The clear framing of the process was a strong suit of the process (interview 12 and 14). Even so, due to the success of the cooperation, in the slipstream of the realization of WIS also nature friendly embankments were realized (interview 13).

Concerning the indicators, there are not necessarily linkages construed between acute crises response and strategic measures for creeping crises but, concerning the envisioned role of the process, the process can be considered to potentially provide one piece of the bigger puzzle. Toekomstbestendige Polder Lange Weide does reflect that coalitions are welded at the right time and the present threat is linked to land subsidence. Therefore, based on the above, the analytical question can partially be positively answered from the perspective of the dual crisis application of the strategy “Timing” on the Toekomstbestendige Polder Lange Weide context. The main element that is missing is the fact that the process does not address policy deadlocks.

7.3.3 Crafting time horizons

The main analytical question to be answered for the evaluation of the use of the strategy in Toekomstbestendige Polder Lange Weide is:

“To what extent do we see indications in the content and organization of Toekomstbestendige Polder Lange Weide that political commitments are locked-in to longer time horizons to create and keep a momentum which is less dependent on the occurrence of acute crises?”

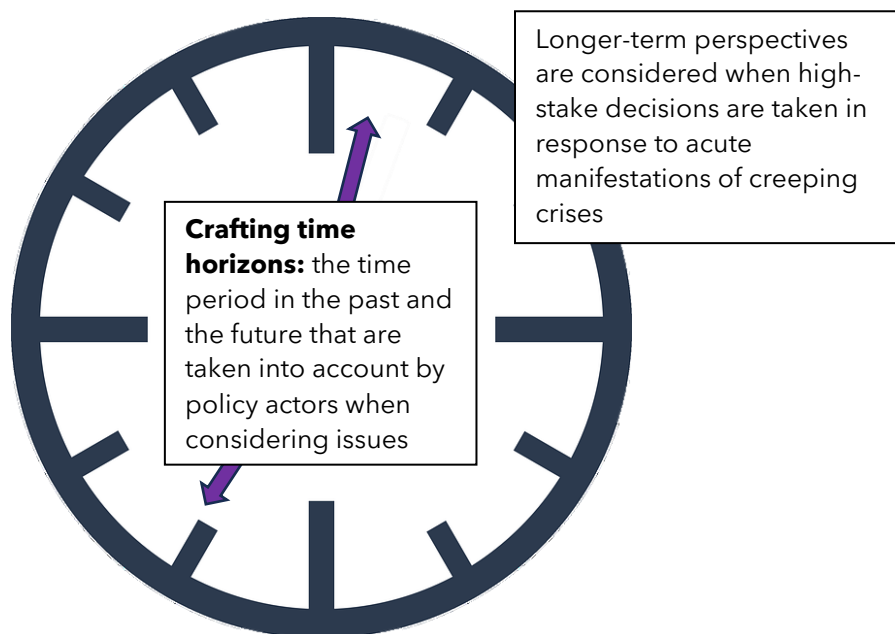


Figure 24: Reiteration of the strategy “Crafting time horizons” (center) and its indicators (sides).



The use of the temporal strategy “Crafting time horizons” is reflected to a limited extent (red) in the case of Toekomstbestendige Polder Lange Weide because the time horizon in the process is too constricted when considering the goal to make the polder future-proof.

There was a consensus among the interviewees that the time horizon for the purpose of realizing the WIS was adequate and the assumption is shared that land subsidence has now been dealt with for the coming period (interviews 11-15). The assumption is that after 25-40 years, the tubes have to be removed and, potentially, placed deeper again, which could continue until the peat layer is too thin (interview 11). For all involved actors, the process is coming to an end soon with the final report (HDSR, 2022; interview 11-15). The process is considered to have been taken as long as necessary to realize WIS. This short time horizon helped to keep momentum and make concrete progress in a short period of time (interview 12 and 14). Actors have to make choices where to invest in and after having invested in polder Lange Weide and addressing land subsidence, the actors move on and work on other problems (e.g. nitrogen) or in different areas (for actors like the Province) which now have a higher priority (interview 11).

These short term horizons held by actors was linked to the numerous challenges that have come up for agriculture in the Netherlands after 2019 (interview 11, 12 and 13). The varying challenges that farmers have to deal with (e.g. nitrogen, water quality and the loss of the manure exception) heavily constrict their time horizons as it is highly uncertain what the implications for them will be and if they will be able to continue their lifestyle as farmers. The democratic cycle of four years makes it so that in four years everything be different all of sudden and for this reason farmers are skeptical of political commitments on the long term. This also leads to a lack of trust between the farmers and the government as the former needs clarity of the latter (interview 11, 12 and 14) which is only worsened by the national situation of

the topic. The remark was made that it is necessary to have professional support to work towards longer time horizons. Formerly, an institution called the service rural area (*Dienst Landelijk Gebied* in Dutch) performed this role to bridge the gap between the government and the farmers, but it has been abolished (interview 11). Even so, all interviews acknowledged that cooperation infrastructure that has been laid down in Toekomstbestendige Polder Lange Weide can be used for future cooperations (interview 11-15).

The above would speak favor of the employed time horizon, but when considering the indicators and the analytical question, the time horizon falls short. The set time horizon of the process itself is clear (2023 as marked by the end report) but the time horizon of the WIS is still to be figured out and is implicitly considered to be one generation. This is both inadequate for addressing land subsidence on the longer term and, more generally, making the polder future-proof. However, it is important to emphasize that this is based on taking the perspective of the dual crisis application of the strategy and disregards the pilot role of the process.

7.3.4 Pacing

The main analytical question to be answered for the evaluation of the use of the strategy in Toekomstbestendige Polder Lange Weide is:

“To what extent do we see indications in the content and organization of Toekomstbestendige Polder Lange Weide that crisis-induced inquiries and reform packages are being leveraged to bring forward consideration of underlying risks and “creeping” vulnerabilities?”

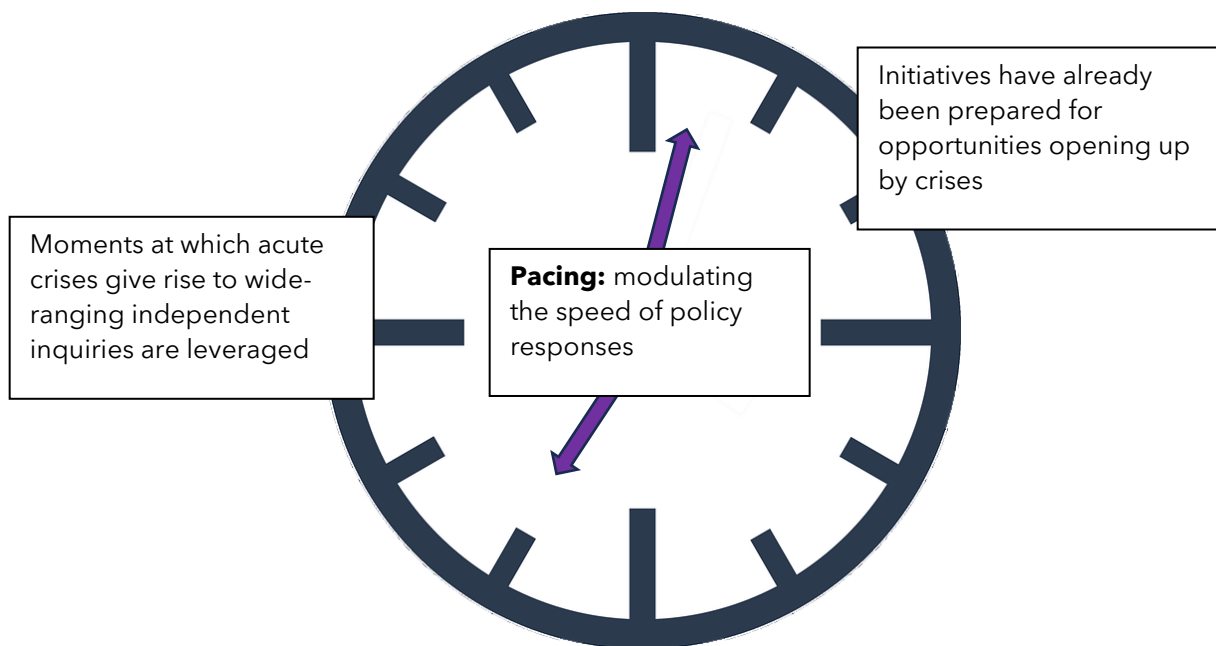


Figure 25: Reiteration of the strategy “Pacing” (center) and its indicators (sides).



The use of the strategy “Pacing” is substantially reflected (green) because (1) considerations of the risks of land subsidence are brought forward and (2) within a short time frame Toekomstbestendige Polder Lange Weide has been realized through leveraging the threat of land subsidence, making the link to climate change, and bringing together various stakeholders.

During the interviews, the speed of the process was mostly linked to the time necessary to arrange a contractor, the funds and the construction of the WIS (interviews 11-13). There were no major complications and overall this process went rather smoothly (interview 13 and 14). The interviews indicated that everyone was satisfied with the speed. The existential threat to farmers, the clear demarcation and focus (i.e. just focusing on realizing WIS) were mentioned as factors that enabled to make this speed (interview 12 and 13). Especially since farming has been going on in the area for a long time and it is a tight knit community (interview 15), changes are painful and take time (interview 11). However, more impactful changes will take more time as reflected by the quote below. Even so, the considerations of the creeping threat of land subsidence have been brought forward.

“Until a thousand years nothing happens (concerning land subsidence) and then suddenly something has to be solved within six months.” (interview 11).

Furthermore, the process was helped by the fact that the farmers were well organized (interview 12 and 13) and by linking it to climate change additional interest from the government was induced. As mentioned earlier, positive personal relationship helped to overcome the gap between the farmer community and the government.

Concerning the indicators, there were not necessarily plans prepared but moments at which acute crises give rise to wide-ranging independent inquiries were leveraged. Returning to the analytical question, the use of “Pacing” is considered to be substantially reflected in Toekomstbestendige Polder Lange Weide.

7.3.5 Futuring

The main analytical question to be answered for the evaluation of the use of the temporal strategy in Toekomstbestendige Polder Lange Weide is:

“To what extent do we see indications in the content and organization of Toekomstbestendige Polder Lange Weide that both stress-tests and scenarios for exploring strategies are used in response to alternative histories as well as possible futures with acute and creeping crises impacts?”

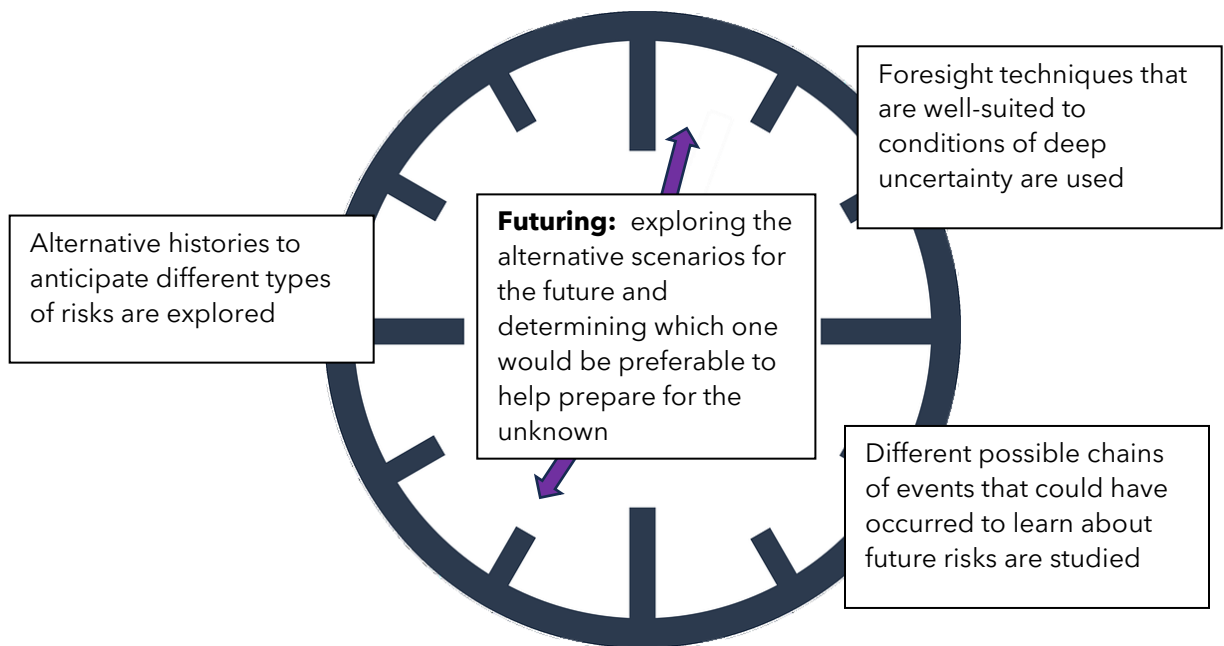


Figure 26: *Reiteration of the strategy “Futuring” (center) and its indicators (sides).*



The use of the temporal strategy “Futuring” is reflected to a limited extent (red) in the case of Toekomstbestendige Polder Lange Weide because neither stress-tests nor scenarios were used to work towards the goal of creating a future-proof polder Lange Weide.

The interviews indicate that the process had a singular focus to realize and experiment with WIS. In this regard maintaining the current situation as it was, is the starting point for making the polder future-proof. There were assumptions about the effects of WIS but different scenarios were not explored in this context. Part of the goal of the process is to measure these impacts in practice on a polder wide scale (HDSR, 2020). Other scenarios to make the polder future-proof were not explored nor considered. Similarly, stress tests were not conducted (interview 13), even though stress test were used to designate the polder as a “nodal point area” (interview 14). Subsequently, none of the indicators are reflected in Toekomstbestendige Polder Lange Weide. Therefore, in answer to the analytical question, the use of “Futuring” is not reflected in the content and organization of Toekomstbestendige Polder Lange Weide.

7.3.6 Cyclical adaptation

The main analytical question to be answered for the evaluation of the use of the temporal strategy in Toekomstbestendige Polder Lange Weide is:

“To what extent do we see indications in the content and organization of Toekomstbestendige Polder Lange Weide that alternative pathways are applied to the dual crises context to adjust policies based on an appraisal of changing circumstances and acute shocks?”

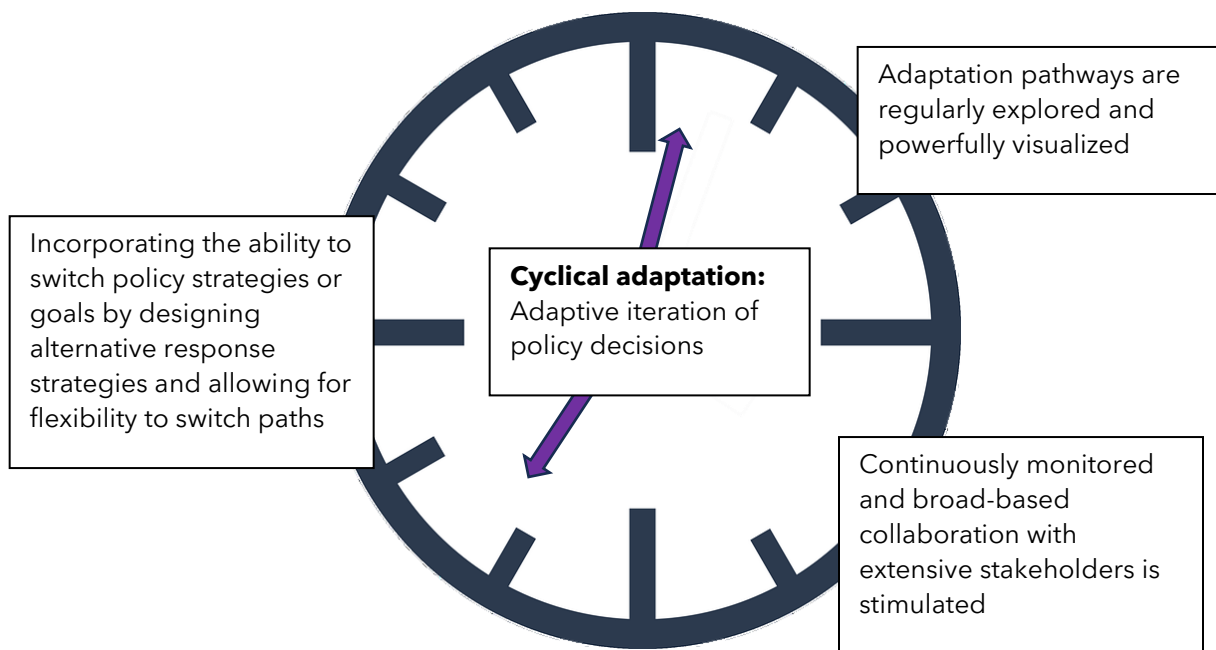


Figure 27: Reiteration of the strategy “Cyclical adaptation” (center) and its indicators (sides).








The use of the temporal strategy “Cyclical adaptation” is reflected to a limited extent in the case of Toekomstbestendige Polder Lange Weide because the singular focus on WIS leaves no room for adjustments in policies.

When asked about the potential to make adjustments to policies based on changing circumstances, most interviewees emphasized that the process was built around realizing WIS and in their view the process had come to an end except for the dynamic water level management and the monitoring and evaluation

by Hoogheemraadschap De Stichtse Rijnlanden (interview 11, 12 and 13). The former provides some flexibility in to changing circumstances but does not concern flexibility in policy strategies. Next to that, the high investments costs and rules of the subsidy make the policy path more rigid. However, in the slipstream of WIS nature friendly embankments have been realized, showing some flexibility in extending the process beyond WIS. Furthermore, Hoogheemraadschap De Stichtse Rijnlanden indicated that there are discussions about an evaluation of the how the system is performing in a few years (interview 13). A more general remark was made by the Province who emphasized that flexibility in policy is important. However, the value of this needs to be communicated better as it does lead to less reassurance and clarity (which is further aggravated if there is a lack of trust). Next to that, it is difficult the get a loan at a bank on this basis (interview 11).

Concerning the indicators, the ability to switch policy strategies is not incorporated and adaptation pathways are also not considered. Even so, monitoring is taking place and there is a broad-based collaboration between the various involved actors. However, considering the analytical question, the use of the temporal strategy “Cyclical adaptation” is considered to be reflected to a limited extent.

Table 18: Overview of the evaluation of Toekomstbestendige Polder Lange Weide based on the use of the five temporal strategies by Pot et al. (2022).

Temporal strategy	Evaluation
Timing	
Crafting time horizons	
Pacing	
Futuring	
Cyclical adaptation	

8 Discussion














This chapter will start by discussing the policy implications based on the results of the research and in this way provide an answer to the fifth sub-question. Next to that, this first section touches briefly on area-oriented processes, the role of the regional water authority and the water and land system as a steering concept. This will be followed by a section on the experiences with the application of the dual crisis concept and the temporal strategies. This chapter will conclude with suggestions for future research, limitations and a reflection on the research approach.

8.1 Reflection on the findings

8.1.1 Insights based on the temporal perspective

When putting the evaluation of the use of the temporal strategies next to one another for the three cases, the table below is the resulting overview (Table 19).

Table 19: Overview of the use of the temporal strategies in the three cases.

Strategy	Hollandse IJssel Oost	Blauwe Agenda	Toekomstbestendige Polder Lange Weide
Timing			
Crafting time horizons			
Pacing			
Futuring			
Cyclical adaptation			

As can be seen, the use of the strategies is most reflected in Hollandse IJssel Oost, then Blauwe Agenda, and then Toekomstbestendige Polder Lange Weide. To come back to the problematization of “promising” in the main research question, “promising” temporal action perspectives, in the context of this research, are focused on underutilization (i.e. the omission of certain elements of the strategy) or underexploitation

(i.e. not making use of the strategy to its fullest extent) of the temporal strategies. An example of the former is the fact that futuring techniques are not used in Toekomstbestendige Polder Lange Weide (section 7.3.5.) and an example of the latter would be that, concerning “Timing”, the urgency of the acute crises in Blauwe Agenda is not exploited to its fullest extent. Before embarking on the recommendations for - and from - the cases, it is important to emphasize that the evaluation and subsequent recommendations are solely based on the perspective of the temporal strategies by Pot et al. (2022). This is just one way to approach the area-oriented processes. In this regard, a negative evaluation is not meant as an all-encompassing value judgement. It does not necessarily entail that the area-oriented process is poorly organized or does not serve its purpose. Rather, the perspective allows to critically look at the temporal orientation of the area-oriented process. This value of the temporal strategies will be discussed in more detail in section 8.2. First, the recommendations for, and from, the cases will be discussed based on the temporal strategies.

8.1.1.1 *Timing*

The findings show that all the three cases reflect the use of the strategy “Timing” to a certain extent. **Hollandse IJssel Oost** could serve as a textbook example of addressing creeping crises in measures that deal with acute threats. This is done by coupling the acute threat of water safety to climate adaptation (water storage) and other creeping crises (biodiversity and urbanization). Furthermore, Hollandse IJssel Oost showcases how short-term challenges can be brought together to generate resources and gain urgency. However, an important side-note is that the interests in the area are largely compatible (section 5.2.3), bringing challenges together in other cases might not be as viable. Policy deadlocks in this regard are more related to a lack of resources rather than resistance. **Blauwe Agenda** also is an illustrative example of “Timing” in the sense that the urgency of the acute threats (droughts and water nuisance) is used to work towards a robust water system (i.e. climate adaptation). Following the argumentation in Hollandse IJssel Oost (5.3.2.), this could entail a green rating, especially since Blauwe Agenda also aims at piggy backing on the “Transition fund” under the policies on the arrangement of the rural area (*NPLG* in Dutch, and its regional implementation *UPLG* in Dutch). However, the nature of the policy deadlock in Blauwe Agenda differs to Hollandse IJssel Oost. Unlike Hollandse IJssel Oost, Blauwe Agenda does encounter policy deadlocks, i.e. function allocation, which are explicitly shun. Despite being a valid and informed decision (see 6.3.3), based on the temporal perspective of Pot et al. (2022), there is more potential for making use of the strategy “Timing”. In specific, to address function allocation. Similarly, **Toekomstbestendige Polder Lange Weide** makes good use of the urgency of the acute crisis but similar to Blauwe Agenda policy deadlocks are shun. To make more use of the potential of the “Timing” strategy, the realization and experimentation with WIS could be coupled to other measures to address creeping crises.

In sum, all the three cases make good use of the urgency of the acute threat, but they are scored differently based on the extent to which policy deadlocks are addressed (and understood). Based on the evaluation in this research, there is potential to make more ambitious use of the urgency of acute crises. However, the cases highlight that in the current turbulent time period creeping crises are not always left

unaddressed due to unwillingness to address it but rather a lack of resources (section 5.3.1 and section 6.2.2). Based on this, making a priority list as an organization can help to be efficient with resources in a time where it is important to have the capacity to respond to acute threats that can unexpectedly come up.

8.1.1.2 Crafting time horizons

The use of “Crafting time horizon” was reflected to a lesser extent. For **Hollandse IJssel Oost**, the evaluation of “Crafting time horizons” highlighted that, within an area-oriented process, actors may have individual time horizons based on their responsibilities and tasks within the shared time horizon. While this may obstruct the focus on the shared time horizon, based on this, it would be viable to include actors in process for a pre-defined limited time period based on their time horizon. Doing so lowers the barrier for participation while still allowing for a longer shared time horizon. However, it is imperative for this to make each actor’s time horizon explicit and acknowledged. In any case, Hollandse IJssel Oost’s time horizon could be extended (to at least 2050) to better match the goal to realize a green-blue buffer zone. Extension in this sense does not entail meticulously working out the content and the organization of the process until 2050. Rather, it is about providing political commitment that until 2050 the cooperation will be maintained, as the time horizon gets “embedded in legitimating discourse, strategic planning and resources allocations” (Pot et al., 2022, p. 225). After 2050, it is important that realization turns into maintaining the green-blue buffer. This does not have to be in the form of the current process, but matters like maintenance cost and the like in the future are important to take into account. The comparison to Amelisweerd during the interviews is exemplary for the need to lock in political commitments to longer time horizons. For **Blauwe Agenda**, the time horizon could be extended beyond 2027 to better match with the goal to realize a robust water system (2050). The trick is to provide political commitment to continue the cooperation after 2027, for example by already committing to setting up an Ambition document 2.0 in 2026, without losing the momentum in working towards the current measures in 2027. The risk of the current time horizon is that the building blocks become goals in itself. The proximity of the time horizon of the process in **Toekomstbestendige Polder Lange Weide** ensured cooperation and prevented the appearance of resistance. Furthermore, the positive experience ensured that nature friendly embankments were also realized in the slipstream of WIS. Based on this, under some circumstances it might be preferable to address issues one at the time rather than parallel to one another. This way a foundation for cooperation can be laid down for the future even though the creeping crisis may not be ambitiously addressed. However, the time horizon of the time bought by installing WIS remains rather vague (this generation) and it could be made more explicit (both in expectation and the underlying reasoning). Furthermore, the case highlighted that external factors may constrict the time horizon such as the four year cycle of the democratic system but also a lack of trust between actors.

For “Crafting time horizons” the cases highlight an inherent tension between on the one hand the need, in practice, to constrict time horizons to maintain momentum and the sense of urgency and on the other hand, based on theory, the need to commit to longer time horizons. Based on, it is thus important to find a middle ground in which intermediate deadlines ensure that momentum and urgency is maintained while

politically commitment is committed to longer time horizons that aligns with the goal of the process. Nevertheless, it is important to take into account and acknowledge matters that can constrict time horizons like lack of trust and election cycles (section 7.3.3)

8.1.1.3 Pacing

Concerning “Pacing” all the three cases substantially reflect the use of the strategy. The pace of **Hollandse IJssel Oost** was a balance between diligence and participation on the one hand and keeping momentum on the other hand. Furthermore, it showcases the advantage of making use of piggy back opportunities and coupling it with clear deadlines to prevent the process of bogging down. At the same time, making use of piggy back opportunities requires a pro-active attitude, which is something that is only possible when there is enough capacity and resources available. Furthermore, the downside of the deadlines is that some opportunities may remain unutilized if they cannot be fitted in with the deadline. In **Hollandse IJssel Oost** this is occurring in the form of synchronicity issues, where budget procedures do not match with the pace of the process. To avoid this in the future it is important to be aware of each other's internal clock (i.e. budget procedure, elections etc.). As a figure of speech, it might help to hang a calendar with the key dates (e.g. budget procedures) of close partners (e.g. municipalities) in the restroom. In **Blauwe Agenda**, keeping momentum is seen as vital. Not surprisingly, **Blauwe Agenda** provides useful recommendations for “Pacing”. In this regard, starting relatively attainable pilot projects from the start and making efficient use of energy in the area within broadly supported limits ensures that early successes increase the visibility of the process and the process is not being bogged down due to resistance or lackluster initiatives. While in terms of “Timing”, this might omit addressing policy deadlocks, it does allow for bringing forward considerations of creeping crisis. This bears resemblance to the small wins framework by Termeer & Dewulf (2019) as a means to address wicked problems by accumulating small wins. At the same time, **Blauw Agenda** highlights that broader policy development (e.g. policies on the arrangement of the rural area) can be relied on to address more complex policy deadlocks substantiated by the fact that enough wins can still be made within the current frame. **Toekomstbestendige Polder Lange Weide** successfully brought forward the consideration of the risks of land subsidence and it is a good example of leveraging a threat to address it within a short-time frame and experiment with a possible solution. However, with the process coming to an end soon, the need to address the issue also fades to the background while the problem lingers on (albeit it at a reduced rate). In sum, the cases highlight how considerations of creeping threats can successfully be brought forward but that it may be a trade-off in terms of ambition level. Moreover, as area-oriented processes involve different paces it is important to look for synchronicity.

8.1.1.4 Futuring

For all three cases, more could be invested in making use of “Futuring”. The sessions (*gebiedsessies* in Dutch) organized for **Hollandse IJssel Oost** helped to create a shared future and represent a simple form

of visioning. This could however be expanded upon by using scenario planning to envision the different possibilities for the future and use this to think about different possible futures (e.g. how will urbanization develop in the area). Further steps could be to make use of backcasting to explore ways to reach a preferable future (Quist & Vergragt, 2006). The overall aim of these techniques is to better clarify what a green-blue buffer can entail under different conditions since the future is highly uncertain. The effects study by **Blauwe Agenda** (providing insights in average long-term effects) could be further backed up by stress-tests to explore the effects of extremely dry summers on the water system and its functions. Further use of scenarios and backcasting could be used to increase adaptive capacity and account for deep uncertainty (Pot et al., 2022, p. 225). The threat in **Toekomstbestendige Polder Lange Weide** was expressed in economic terms (i.e. the nodal point area). It could therefore make use of futuring techniques (e.g. scenarios) and stress-tests in relation to the costs and benefits of realizing WIS and the agricultural value of the polder combined with the time bought with WIS to have a better understanding of the potential costs and benefits of using WIS to address land subsidence. The process could then be used to verify the effects of WIS. Based on the cases, there is much more potential for using futuring techniques such as visioning (Shiple, 2002), scenarios (Volkery & Ribeiro, 2009), stress-tests (Pot et al., 2022) and backcasting (Quist & Vergragt, 2006).

8.1.1.5 Cyclical adaptation

The use of “Cyclical adaptation” is reflected to a lesser extent in all the cases. **Hollandse IJssel Oost** could benefit from visualizing adaptation pathways through which adjustments to the process can be made. The goal is to make clear how adjustments could be made and under which circumstances. Monitoring is important to support this process (Pot et al. 2022). For example, this could be safeguarded by implementing the regular discussion of progress during meetings. **Blauwe Agenda** already incorporates flexibility. Options to further substantiate this capacity could be to share the ownership of buildings blocks among multiple actors, more actively in the course of the process explore and visualize adaptation pathways (i.e. what can happen and what are possible responses to this), and refresh the content of the ambition document and implementation program to keep the shared goal in mind (already done to a certain extent with the intention to discuss each building block but similar to what was mentioned under “Crafting time horizons” there is a risk of making those goals in itself). In **Toekomstbestendige Polder Lange Weide**, WIS leaves little flexibility to switch policy strategies until the runtime of the system comes to an end. Furthermore, the case highlighted that the current economic system is not designed to take into account “Cyclical adaptation”. It is thus important to carefully consider such policy strategies. In sum, all three cases could benefit from more active use of “Cyclical adaptation”, in doing so moving away from “seeing how it unfolds” to a more anticipating attitude.

8.1.2 Area-oriented processes as a policy practice

Area-oriented processes are a challenging concept to pin down, both in practice and in theory. At the start of this research, the assumption was already made that area-oriented processes are an ambiguous concept that may differ a lot from one to the other. Hence, the choice to select three area-oriented processes that differ significantly in terms of their scope and context. The findings on the discourses also reflect this. The common denominator in the three cases seems to be that an area-oriented process concerns a specific area and it involves different actors (both public and private) that come together to address a problem. At the same time, interviewees have attached different terms to the cases other than area-oriented process, e.g. network, cooperation and project, relating back to the main function that the interviewee considers the process to have. Similarly, involved actors tend to focus on their own task or challenge within the broader process. As a result, the actors have different perspectives on what the area-oriented process is about. This gives the impression that in practice something is an area-oriented process, if people consider it to be an area-oriented process, which may differ from person to person. This bears resemblance to the “boundary concept” concept; “words that function as concepts in different disciplines or perspectives, refer to the same object, phenomenon, process, or quality of these, but carry (sometimes very) different meanings in those different disciplines or perspectives” (Mollinga, 2010, p. 4). In this sense, the definition of “area-oriented process” is hard to unambiguously frame or categorize, even though attempts are made to provide definitions and typologies (e.g. Dieperink et al. 2012 and Kuindersma et al. 2022). The fact that the theory and practice uses different terms to describe the phenomenon (section 1.3) reflects that is a rich concept that can take many different shapes.

In the end, opting for addressing an issue in the form of an area-oriented process, opposed to for example a project or program, is a choice that has implications. This is also the case for the use of the temporal strategies. The findings indicated that area-oriented processes take more time as it takes time to involve all the actors and accommodate all the different concerns. Even so, the inherent cooperation increases support and the advantage of bundling efforts. Furthermore, the integral approach of area-oriented processes entails the involvement of different actors and issues which results in multiple time horizons and paces that need to be taken account. Despite this integral approach, they do not operate in a vacuum. National developments may have a strong influence but also local differences and overlap with other initiatives may be influential. It is therefore recommendable to be conscious about the role of the process and its relationship to other policy initiatives. Next to that, actors involved in a process are not uniform and often times consists of a civil servant and administrative part. It is therefore important to include the whole organization in the process since differences often exists within organizations itself as well. For example, Hoogheemraadschap De Stichtse Rijnlanden has less capacity in the eastern part of its jurisdiction compared to the western part following the emphasis on the complex and urgent tasks in the western part of its jurisdiction (6.2.3.).

8.1.3 The role of the regional water authority

The regional water authority, Hoogheemraadschap De Stichtse Rijnlanden, had a different role in each of the three area-oriented processes. In Hollandse IJssel Oost the authority has a leading role, moving towards the role of coordinator of the area (*gebiedsregisseur* in Dutch). In Blauwe Agenda, Hoogheemraadschap De Stichtse Rijnlanden is one of the participating actors focusing on its own expertise but within this position it assumes a pro-active role by initiating projects. Lastly, in Toekomstbestendige Polder Lange Weide the regional water authority was a key enabler of the pilot and in that sense a frontrunner innovating WIS. Considering the current debate in the Netherlands about the role of the regional water authority (see chapter 4), the role in Lange Weide is a more traditional role related to innovating with water management whereas the role in Hollandse IJssel Oost and Blauwe Agenda is moving more towards a new role in which the regional water authority has a bigger say in fields outside of water management. The cases highlight that this new role can be justified by arguing that the water challenge are of such importance that the water authority is the most suited to take the lead (e.g. Hollandse IJssel Oost, section 5.2.2.). In other cases, the regional water authority moves out of its comfort zone and also get involved in matters affecting but not falling within the field of water management (e.g. spatial planning through arguing for larger water sections in Blauwe Agenda, section 6.2.2.). This is new for water authorities as traditionally they only had to focus on water challenges (opposed to a province who has to balance different interests). In any case, the cases highlight that the water authority is an valuable institution as it has extensive local and area-specific knowledge and contacts related to water management and the water system.

8.1.4 The water and land system as a steering concept

The letter concerning the water and land system as a steering concept principle was considered to have different uses for the cases. In the cases, it has been referred to as an instrument, a catalysator, an incentive and a justification for existing efforts to better adhere to the limits of the water and land system. In that sense, the ideas behind the policy letter did not appear out of thin air. The three cases highlight that within the context of the limits of the water and land system, acute threats and creeping threats co-occur and there is a need to reconcile the two. Furthermore, the identification of the acute and creeping threats showed that in a regional context many other societal challenges need to be taken into account. Hence, even though the national government is aiming to take charge in the form of the policy principle, matters start to become even more complicated when the national policy has to be implemented in a regional context. In sum, while the principle has yet to crystallize further (chapter 4), the letter did spark an important discussion on the engineerability of the landscape.

8.2 The temporal strategies: a first reality check

In this section, the experiences with the application of the temporal strategies by Pot et al. (2022) will be discussed. First, the dual crisis concept is problematized to discuss the application of the temporal strategies in practice. Secondly, the value of the temporal strategies based on this research are elaborated upon.

8.2.1 Contemplating the dual crisis; what are they?

At first glance, the dual crisis concept seemed rather straightforward. Indeed, Pot et al. (2022) clearly state that dual crisis are made of interconnected acute and creeping threats that co-occur (p. 222). They provide examples for illustration, like the 1960s riots in the United States (acute) being coupled to institutional racism and the entrenched disadvantage of Afro-Americans (creeping), and they applied the strategies in the context of the Dutch Room for the River (*Ruimte voor de Rivier* in Dutch) concerning more extreme weather patterns (acute) coupled to climate change (creeping). However, applying the strategies in the complex context of the area-oriented processes showed that reality is often times messier than a neatly interconnected acute and creeping threat.

To start, the conception of what can be considered to be a “crisis”, and what not, is disputable. Pot et al. (2022) explain what crises do and lead to, e.g. create turbulent conditions and create threats to political and social systems (p. 222-223), but no clear instructions are provided about what sets them apart from societal challenges or tasks (*opgaves* in Dutch) except for the fact that they are characterized by deep uncertainty and urgency to act. This is still rather ambiguous and the application in the case of Hollandse IJssel Oost has shown that in some instances a “crisis” can be interpreted differently (e.g. recreation, see 5.3.1.). Combined with the fact that it is challenging to identify and delineate a crisis (e.g. is extreme weather patterns the threat or droughts, see 6.1.1.), it entailed that an additional step (section 5.3.1., 6.3.1. and 7.3.1.) needed to be made to apply the concept and strategies to the context of the area-oriented processes.

The categorization of the threat (i.e. acute or creeping) also proved to be challenging. Pot et al. (2022) defined an acute crisis as “rude surprises” with, a frenetic pace, an emotive context, grave burden of responsibility and a fast speed of onset (p. 222). Creeping crisis on the other hand are characterized by a slow speed of onset and a prolonging absence of attention and action (p. 222). In practice however, the cases showed crises are not as neatly divided and it may contain characteristics of both. Furthermore, the interpretation may differ depending on the actor. For example, the Province of Zuid-Holland considered land subsidence to be an acute crisis whereas the farmers do not experience it that way until the area was designated as a “nodal point area” (7.2.2.).

Lastly, deciding when two crises are interconnected, and thus when the temporal strategies may be applied, is not always clear. Pot et al. refer to Beck (1999) to highlight that interconnections between crises exist between different loci, levels and paces of threat and disturbance (p.222). And later on, they

use the linkage of the COVID-19 crisis and sustainability as an example of the temporal strategy “Timing”, which are connected rather less obviously than for example more extreme weather patterns and climate change. Based on these instructions, deciding whether two crises are interconnected is rather unclear. For example, the use of proxy’s to address crisis (e.g. the housing crisis to address drinking water shortage, section 6.3.1.) shows that linkages are made between different crises but it was unclear within what limits these connections must fall to be considered as a dual crisis and how many acute manifestations and creeping crises can fall under “one” dual crisis.

The application of the temporal strategies on the cases does not provide a conclusive answer to these questions but it did highlight their existence. By problematizing what can be considered a dual crisis, this research raises the question when the temporal strategies can be applied. Is it only in the case of a neatly defined dual crises or also for less directly connected acute and creeping threats? And is it necessary to first identify the dual crisis or not? In this project, substance was given to this challenge by including the additional step to identify the acute and creeping threat without identifying them as dual crises yet. In this way, this research allowed for both interpretations based on what was reflected in the cases. Based on the findings, this research would argue that it is possible to apply the strategies in cases in which the acute and creeping threats are less directly interconnected as shown by the use of proxy’s (section 6.3.1.) and the general interconnected nature of the issues concerning the water and land system as a steering concept (section 8.1.2.). Furthermore, the cases highlighted that multiple acute manifestations can be connected to a creeping crisis. For example, droughts and water nuisance (acute) are connected to climate change (creeping) in Blauwe Agenda. However, this is to a certain extent also dependent on the definition and demarcation as acute threats in the example could also be captured under more extreme weather patterns. To provide some illustration to what the dual crisis concept could entail for the cases, the acute and creeping threats that came up in the evaluation as connected by the use of the temporal strategies are identified in Table 20 as potential dual crises. They are considered to be “potential” dual crises because the analysis and evaluation have highlighted that the practice is way more unruly and complex.

Table 20: *Potential dual crises for the cases based on the evaluation of the use of the temporal strategies.*

Case	Acute threat	Creeping threat	Dual crisis
Hollandse IJssel Oost	Water safety	Climate change	Water safety – Climate change
	Nitrogen	Biodiversity collapse	Nitrogen – Biodiversity collapse
	Housing	Urbanization	Housing - Urbanization
Blauwe Agenda	Droughts	Climate change	Water nuisance, droughts – Climate change
	Water nuisance		
Toekomstbestendige Polder Lange Weide	Land subsidence (acute)	Land subsidence (creeping)	Land subsidence – land subsidence
	Land subsidence (acute)	Biodiversity collapse (creeping)	Land subsidence – Biodiversity collapse
	Land subsidence (acute)	Climate change (creeping)	Land subsidence – Climate change

8.2.2 The value of the strategies

As the previous section highlighted, applying the strategies came not without its challenges as the practice is often more unruly than the theory. Correspondingly, using the strategies to evaluate policy practices can involve different perspectives and thus lead to different outcomes depending on what is considered to be the (dual) crises and if the temporal strategies are evaluated in a strict or a more loose way. This is however still valuable as long as the evaluation is properly substantiated because - as this research highlighted - the temporal strategies provide **a critical perspective** that helps to zoom out and consider the implications of the temporal orientation. This is consistent with what the authors themselves say about the strategies that "using these five elements as policy design heuristics or even just as checklist draws attention to certain strategic choices for governance systems and practices that otherwise might well be over-looked or seen as neutral" (Pot et al., 2022, p.231). In this regard, they provide a much wanted analytical perspective that can help to navigate wicked problems that Head (2022) has called for.

At the same time, it is important to acknowledge that implementing the theory in practice is easier said than done as in practice other considerations have to be taken into account as well. Actors have only limited time budgets and need to spread-out their attention (Goetz & Meyer-Sahling, 2009). This was also reflected in the findings. Meticulously following the strategies is therefore often not possible, nor necessary if it does not match the purpose of the area-oriented process. Importantly, even though area-oriented processes emphasize an integral approach, this does not necessarily always have entail that it is necessary to comprehensively address a dual crises. However, it is important be conscious about the goal that needs to be achieved and to consider **the role that the area-oriented process** need to serve. Applying the temporal strategies helps to make this visible and become aware of the implications of certain temporal decisions. The temporal strategies are thus a part of the puzzle to make the water and land system a steering concept but it is not the only perspective that should be taken to evaluate policy practices such as area-oriented processes. In any case, when applying the strategies it is important to apply them as a whole as the findings indicate that some strategies can conflict with another (e.g. "Timing" and "Pacing", section 8.1) and thus trade-offs are possible between the strategies. By applying the strategies as a whole, these relationships are not overlooked.

8.3 Reflections on the research approach, limitations and future research

8.3.1 Killing my darling: the place of the water and land system in this research

At the start of this research, it was already clear that along the way certain elements still needed to crystallize as it is a first attempt at applying the temporal strategies in practice. The research started out with high expectations to provide direct substance to the implementation of the water and land system as a steering concept in a regional context, but gradually the concept moved to the background until it was reduced to an instigation of this research. Originally, the regional implementation of the water and land system was equated to connecting the short-term to the long-term using the temporal strategies. However, this had some conceptual challenges due to the lack of instructions on how to identify dual crises in practice (and thus when the temporal challenges are applicable) and the complexity of the practice. It was not possible to one on one equate the temporal strategies to elements of the water and land system as a steering concept (e.g. structuring choices). For example, it is not possible to say that a little bit more of timing will help realize structuring choice to raise water levels in peat areas (structuring choice 25). Here, the original idea was to fit the implementation of the water and land system concept in the regional context into the dual crises concept. Instead, the water and land system is now seen as an instigation and, following this role, area-oriented processes are identified that are relevant for the policy principle. Hereafter, however, the focus shifts to the process-oriented side, focusing on how to connect the short-term and the long-term in area-oriented processes. The underlying logic is that it still provides relevant insights that help contribute to making the water and land system a steering concept, albeit more indirectly. It is in that sense no longer about the specific implementation as proposed in the policy letter, but more generally about how to deal with bringing the short-term and long-term together in the messy context of the regional level (which is also a central challenge for making the water and land system a steering concept). In earlier versions, the water and land system as a steering concept had a more prominent place in the set-up of this research (e.g. by using it as a source for identifying acute and creeping threats) but in the end its role was reduced to streamline the research. In this regard, leaving the concept out altogether would make the focus clearer. But the concept is still included in this research as it was an important reason for conducting this research and it contributes to the relevance of the research. Even so, in hindsight, it might have been slightly too ambitious to include this many concepts at the start. Another good option would have been to, for example, apply the temporal strategies to the content of the letter on the water and a land system as a steering concept.

8.3.2 Research approach: unit of analysis and case selection

In terms of the unit of analysis and case selection, area-oriented processes are a complicated phenomenon to study but it proved to be an interesting arena to test the temporal strategies as shown by the relevant findings. In this regard, the PAA framework was instrumental in mapping the complex processes even though it was sometimes challenging to determine under which dimension to place some

elements. However, area-oriented processes do not stand alone as has become clear by the fact that broader developments have impacts and are relied on (see 6.2.3.). To provide a better indication of whether the strategies are used to adequately address a specific issue, one could take a more comprehensive lens based on a dual crisis rather than solely the area-oriented process. Furthermore, this research focusses on the role of water managers in the context of area-oriented process and the water and land system as a steering concept, whereas traditionally provinces and municipalities are the competent actor in the field of spatial planning. While these perspectives are thus also relevant, the point of view of this research fits in well with the contemporary discussion on the role of the regional water authorities in the Netherlands and the research yields relevant insights for these actors as well. However, the selection of the cases could have been more geared towards cases with more clearly identifiable dual crisis to smoothen the application of the strategies. Blauwe Agenda and Lange Weide did concern such cases but Hollandse IJssel Oost was more complex due to the extensive number of challenges it involved. The choice to opt for processes that were still running ensured that the most relevant people could be interviewed and the recommendations can still be taken account, but it did entail that the process are still developing. Consequently, for some element it is yet unclear how they will develop and thus what this will entail for the use of the temporal strategies. Cyclical adaptation, for example, is hard to evaluate beforehand as it takes place in response to, in this case, yet to occur changing circumstances. Along the same lines, the water and land system is, as of yet, still an intention and the fall of the Dutch government this year (July 2023) makes it unsure how it will further develop.

8.3.3 Limitations & future research

This research has to contend with several limitations. The most significant limitation being that this research is based on the assumption that applying the temporal strategies are a good idea. This research did not empirically test whether the strategies actually increase the robustness of governance but it did emphasize the theoretical assumptions behind why it would be a good idea in each case. To verify whether the temporal strategies increase robustness and under which circumstances requires further research, as already mentioned by Pot et al. (2022, p. 232). This study did, however, provide starting points for applying the study in practice and in that sense perform a first reality check.

Concerning the reliability, area-oriented processes are a complex phenomenon in which actors hold different perspectives. Next to that, the Pot et al. (2022) do not provide elaborate instructions how to apply the strategies in practice. This entails that interpretation of matters may differ such as when something is considered a “crisis” or not but also in answering the analytical questions (e.g. when is something a policy deadlock and what counts as bringing forward considerations of creeping crises?). For this reason, it was opted for problematizing the dual crises concept and start by identifying the acute and creeping threats before returning to the concept in the discussion. Furthermore, for this research, five interviews were conducted per case. These all were important actors in the process but given the size of the processes, not all the relevant actors were interviewed. Especially for Blauwe Agenda, organizations

representing the private sector would have been interesting to include. Next to that, the interviews all were civil servants. They play a central role in the execution of the process and therefore were indispensable for understanding the functioning of the process. However, if more interviews would have been conducted then an administrator's perspective would have been a valuable addition. In sum, it is possible that other researchers might award a slightly more positive or negative rating depending on the perspective that they take (i.e. red or green instead of yellow and vice versa). This depends on how much weight the researcher puts on each element of the evaluation (e.g. focus on the analytical question or the indicators) and the perspective that the researcher adopts (e.g. what are considered to be the acute and creeping threats). To safeguard reliability, this research took the perspective of the temporal strategies and not individual opinions of involved actors. Next to that, this research is transparent and elaborately substantiates why a particular evaluation is arrived at based on the analytical questions.

Concerning external validity (generalizability), the research has come up with insights that are mostly relevant for other area-oriented processes in a Dutch context. However, this research only included three cases and, as has become clear, area-oriented processes can differ a lot from one another. The identified temporal action perspectives are not generally promising for all area-oriented processes or for all water managers. Even so, the research does provide potential action perspectives and insights on how the short-term and the long-term can be brought together. As these are more general insights and the fact that the outcome of area-oriented processes is a shared effort, they are also relevant for other individual actors such as provinces and municipalities. However, extending it beyond a Dutch context is only possible to a limited degree due to the unique situation of the competition for land in the Netherlands. This is reflected by the parliamentary letter on the water and land system as a steering concept and the significant amount of unique land claim vocabulary (water level section, search area etc.). This entails that the issues that this research dealt with are largely unique to the Netherlands. Nevertheless, the insights for bringing together the short-term and the long-term can be relevant in contexts outside of the Netherlands.

Next to the concerns above, it is important to emphasize that area-oriented processes are the result of a shared effort; one actor can not by itself make more use of the temporal strategies in area-oriented processes. This downside also has the upside that each actor does have a say, and thus can aim to stimulate the use of the temporal strategies. Furthermore, the research has to contend with the gap between theory and practice. In practice, actors have to balance many interests and it is not always possible to work towards ideal solutions that address both acute and creeping crisis. These solutions often times require prolonged attention, resources and capacity, which in practice need to be spread out over many issues and concerns. Notwithstanding this, the strategies provide a critical lens to critically evaluate temporal orientations of policy and become aware of them.

To conclude, suggestions for future research on the water and land system as a steering concept, area-oriented processes and the temporal strategies are:

- Applying the temporal strategies to the content of the water and land system as a steering concept letter can help to identify to what extent the principle itself reflects the use of the temporal strategies and provide the national government with valuable feedback.

- Synthesizing the work on area-oriented processes and map different practices to provide a typology can help to better understand differences in practices and literature. This can help streamline future research for area-oriented processes.
- As shown in section 8.2, the dual crisis concept still has some conceptual challenges that need to be overcome to come to a coherent way to apply the concept to practice. In this regard, further research into when something can be considered a crisis and when an acute and creeping threat are sufficiently interconnected to be considered a dual crisis can be beneficial.
- Related to the main limitation of this research, it is important to further verify the effects of applying the temporal strategies in practice. For this, it is important to explore under what circumstances the temporal strategies lead to more robust governance in practice.
- In the introduction, it was mentioned that literature on area-oriented processes on an implicit basis provide insights that can be relevant for reconciling the short-term and the long-term. This provides an interesting avenue for further research to theoretically develop the temporal strategies further by complementing the temporal strategies with insights from other bodies of literature that implicitly connect the short-term to the long-term. These insights could be derived from bodies of literature such as area-oriented processes, Environmental Policy Integration (EPI) and mainstreaming climate adaptation. These bodies of literature can help connect the short-term to the long-term by connecting issues with a different temporal orientation (i.e. more geared towards the short-term or long-term), albeit on a substantive basis rather than on an explicit temporal basis.
- In section 8.1, some contextual factors that affect the application of the temporal strategies were named such as “lack of trust” that affects time horizons, “capacity” to be able to respond to acute crises and “infrastructure for cooperation” that affect the pace of a process. Further efforts to map these factors can help provide more guidance in how to make use of the temporal strategies under different circumstances.

9 Conclusion

The letter on the water and land system as a steering concept has sparked an important discussion on the engineerability of the Dutch landscape and how to make the water and land system a steering concept in spatial decision-making. On the one hand, this discussion is about the substantive measures to be taken and, on the other, about the process approach that could help in this regard. To contribute to the latter, this research focused on the inherent temporal challenge in area-oriented processes. The knowledge gap that was addressed is that, while there are insights in the literature relevant to linking the long to the short-term in area-oriented processes, this link is implicit and indirect. Furthermore, the insights are fragmented and have so far not yet led to the identification of clear action perspectives for linking the short-term to the long-term in area-oriented processes. Explicitly taking a temporal perspective in this regard is relatively new and could help to force a breakthrough but needs to be developed further and translated into practice. The concurring aim of this research was to contribute to insights for individual actors that want to address the tension between the short-term and the long-term in decision-making to help make the water and land system a steering concept in decision-making. This was done by analyzing and evaluating three area-oriented processes in the Netherlands, following the main research question:

“What are promising temporal action perspectives for water managers to connect short-term to long-term considerations in area-oriented processes?”

Gradually, during this research it has become clear that for this research “promising” concerns the underutilization or underexploitation of the temporal strategies by Pot et al. (2022) in current practices. This research has explored this by, first, analyzing three area-oriented processes based on the PAA framework and, hereafter, evaluating them using an analytical framework based on the temporal strategies (Timing, Crafting time horizons, Pacing, Futuring and Cyclical adaptation). This has led to recommendations for the practice, but also insights for the theory as this research was a first reality check of the temporal strategies by Pot et al. (2022).

After analyzing and evaluating the area-oriented processes Hollandse IJssel Oost, Blauwe Agenda and Toekomstbestendige Polder Lange Weide, the research has found that area-oriented processes are a complex phenomenon to study. They involve various actors with diverging interests and the processes differ a lot from one to another. The fact that the outcome of area-oriented processes is a shared effort entails that water managers alone cannot determine the course of the process. However, this disadvantage is also immediately the advantage that participating does guarantee a say. Water managers can thus advocate for making strategic choices in area-oriented processes on the basis of the temporal strategies (e.g. lengthen time horizons or choosing the moment when to act).

In answer to the main research question, the following promising temporal action perspectives in area-oriented processes were identified. Firstly, **the urgency of acute threats** such as droughts and land subsidence can be made more use of. Currently, the urgency is well used to generate resources but, following the “Timing” strategy, is it possible to further exploit this to force difficult decisions. For example, advocate for larger water level sections or adopt a firmer stance on function allocation. In the light of the discussion on the role of the regional water authority in the Netherlands, this would imply that

the water managers have to move out of its comfort zone and away from its functional basis. To know when doing-so is justifiable, it is important for water managers to start to get familiar with weighing interests other than that of water management (i.e. at what point does water management take precedence over other interests, and when does it not). Secondly, **time horizons** can be better aligned with the (longer-term) underlying goals of the area-oriented processes. The current close time horizons help to maintain momentum but to become less dependent on the urgency of acute threats, political commitment can be committed to the longer term to ensure continuity with respect to the ultimate goal. For example, by already committing to a follow-up after the current policy documents expire. In all three cases, momentum is well maintained and **considerations of creeping threats are successfully brought forward**. Lessons based on this are the benefit of creating early successes to gain visibility and preventing resistance by breaking the overarching threat in manageable pieces. Even so, there are still points of improvement in the search for synchrony between actors (e.g. be aware of actors "internal" clocks). Furthermore, an important action perspective is to **invest more into "Futuring"** and apply techniques such as scenarios, stress-tests, backcasting and visioning to better weigh the pros and cons of different strategies and decisions. Lastly, **cyclical adaption** is already passively incorporated but this could be done more actively, for example by visualizing adaptation pathways, to move away from the "see how it goes" to anticipating and responding more proactively to changing circumstances.

This study constituted a first attempt to apply the temporal strategies in practice and it found that the practice is often more unruly than theory. Firstly, this research found that the dual concept crisis (interconnected acute and creeping crises) by Pot et al. (2022) requires more work to be able to coherently apply it in practice. The practice does not let itself be captured easily in a neatly defined and interconnected acute and creeping threat. Therefore, the ambiguity in defining crises and the interconnectedness allows for multiple perspectives. Next to that, applying the strategies highlighted several relationships and potential conflicts between the strategies and it is therefore to consider the five temporal strategies as a whole, as one may impact the other.

In sum, taking a temporal perspective on area-oriented processes has led to a critical consideration of these area-oriented processes. This does however not entail an all-encompassing value judgement about whether the processes are "good" or "bad". Rather, it allowed to zoom out and consider the area-oriented process in the broader scheme of things. The temporal strategies thus provide a useful critical lens that can help contribute to making the water and land system a steering concept by helping to reconcile the short term and long term considerations that are inherent to issues of the water and a land system as a steering concept. In this regard, by applying the temporal strategies to area-oriented processes, the strategies can help water managers to uncover the implications of choices that otherwise may remain unnoticed and thus become more conscious of strategic choices that can help reconcile the short-term to the long-term.

References

- Adam, B. (1998) Values in the cultural timescapes of science. *Journal for Cultural Research*, 2, 358–402. <https://doi.org/10.1080/14797589809359306>
- Arts, B., Leroy, P., & van Tatenhove, J. (2006). Political modernisation and policy arrangements: A framework for understanding environmental policy change. *Public Organization Review*, 6(2), 93–106. <https://doi.org/10.1007/s11115-006-0001-4>
- Bazilian, M., Rogner, H., Howells, M., Hermann, S., Arent, D., Gielen, D., Steduto, P., Mueller, A., Komor, P., Tol, R.S.J. & Yumkella, K. K. (2011). Considering the energy, water and food nexus: Towards an integrated modelling approach. *Energy policy*, 39(12), 7896-7906. <https://doi.org/10.1016/j.enpol.2011.09.039>
- Blauwe Agenda. (2023, April). *Uitvoeringsagenda*. <https://www.np-utrechtseheuvelrug.nl/wp-content/uploads/2023/05/Uitvoeringsagenda-Blauwe-Agenda-Utrechtse-Heuvelrug-vastgesteld.pdf>
- Blauwe Agenda. (2022, June). *Ambitiedocument Blauwe Agenda Utrechtse Heuvelrug*. <https://www.np-utrechtseheuvelrug.nl/wp-content/uploads/2022/07/2-Ambitiedocument-Blauwe-Agenda-Utrechtse-Heuvelrug-toegankelijk.pdf>
- Blauwe Agenda. (2020, April). *De Blauwe Agenda van de Utrechtse Heuvelrug: Naar een robuust en toekomstbestendig watersysteem*. <https://www.stateninformatie.provincie-utrecht.nl/Vergaderingen/Statenscommissie-Ruimte-Groen-en-Water/2020/09-september/13:00/2020RGW115-02-De-Blauwe-Agenda-van-de-Utrechtse-Heuvelrug.pdf>
- Beck, U. (1999). *World risk society*. Cambridge: Polity.
- Bornemann, B., & Strassheim, H. (2019). Governing time for sustainability: analyzing the temporal implications of sustainability governance. *Sustainability Science*, 14(4), 1001–1013. <https://doi.org/10.1007/s11625-019-00683-y>
- Borst, T. (2019). *Welke politieke rol hebben de waterschappen?* [What political role do regional water authorities have?]. DPG Media. <https://www.volkskrant.nl/nieuws-achtergrond/welke-politieke-rol-hebben-de-waterschappen~b3a252ab/>
- Bureau Buiten. (2022). *Factsheet Groen Groeit Mee Hollandse IJssel Oost*.
- Caney, S. (2019, July). *Democratic reform, intergenerational justice and the challenges of the long-term*. Centre for the Understanding of Sustainable Prosperity. <https://cusp.ac.uk/essay/m1-11>

- Cumming, G. S., Cumming, D. H., & Redman, C. L. (2006). Scale mismatches in social-ecological systems: causes, consequences, and solutions. *Ecology and society*, 11(1). <https://www.jstor.org/stable/26267802>
- Deltares, BoschSlabbers & Sweco (2021). *Op Waterbasis: Grenzen aan de maakbaarheid van ons water-en bodemsysteem* [On a water basis: Limits to the malleability of our water and land system]. Deltares. <https://www.deltares.nl/nl/nieuws/grenzen-bereikt-aan-de-maakbaarheid-van-ons-water-en-bodemsysteem/>
- Deltares. (2022). *Kernpuntenverslag wetenschappelijke reviewcommissie kamerbrief Water-Bodem Sturend* [Key points report scientific review committee parliamentary letter Water-Land Leading]. <https://www.rijksoverheid.nl/documenten/rapporten/2022/11/25/bijlage-kernpunten-wetenschappelijke-review>
- De Roo, G. (2017). Environmental planning in the Netherlands: too good to be true: from command-and-control planning to shared governance. Routledge. <https://doi-org.proxy.library.uu.nl/10.4324/9781315256276>
- Dieperink, C., Boesten, R., Hovens, J., & Tonkes, H. (2012). Sustainable coastal development and open planning? Transferring the integrated area approach to Bulgaria. *Sustainable Development*, 20(1), 58-70. <https://doi.org/10.1002/sd.464>
- Driessen, P. P., Glasbergen, P., & Verdaas, C. (2001). Interactive policy-making—a model of management for public works. *European Journal of Operational Research*, 128(2), 322-337. [https://doi.org/10.1016/S0377-2217\(00\)00075-8](https://doi.org/10.1016/S0377-2217(00)00075-8)
- Garrì, I. (2010). Political short-termism: a possible explanation. *Public Choice*, 145(1), 197-211. <https://www.jstor.org/stable/40835531>
- Gerring, J. (2004). What is a case study and what is it good for?. *American political science review*, 98(2), 341-354. <https://www.jstor.org/stable/4145316>
- Goetz, K. H., & Meyer-Sahling, J. H. (2009). Political time in the EU: Dimensions, perspectives, theories. *Journal of European Public Policy*, 16(2), 180–201. <https://doi.org/10.1080/13501760802589198>
- Groen Groeit Mee. (2023a). *Ervaring opdoen in het Hollandse IJsselgebied* [Gaining experience in the Hollandse IJssel area]. <https://www.groengroeitmee.nl/actueel/nieuws/ervaring-opdoen-het-hollandse-ijsselgebied>
- Groen Groeit Mee. (2023b). *Opgave* [Challenge]. <https://www.groengroeitmee.nl/>

- Groen Groeit Mee (GMM). (2022). *Pact Groen Groeit Mee*. <https://www.groengroeitmee.nl/pact-groen-groeit-mee>
- HDSR. (2023a). *Dijkverbetering* *GHIJ* *Noord*. <https://www.hdsr.nl/buurt/gekanaliseerde/dijken/dijkverbetering-ghij-noord/#:~:text=Het%20project%20Dijkverbetering%20GHIJ-Noord,waterkeringen%20van%20de%20provincie%20Utrecht>
- HDSR. (2023b). *Gekanaliseerde Hollandse IJssel*. <https://www.hdsr.nl/buurt/gekanaliseerde/>
- HDSR. (2022). *Polderbreed waterinfiltratiesysteem en dynamisch waterpeil: Bevindingen en inzichten 2020-2021* *Samenvatting* *voortgangsrapportage*. https://www.hdsr.nl/publish/pages/115179/toekomstbestedige_polder_lange_weide_polderbreed_waterinfiltratiesysteem_en_dynamisch_waterpeil_bevi.pdf
- HDSR. (2021). *Waterbeheerprogramma 2022 - 2027: Stroomopwaarts, klimaatbestendig en duurzaam*. <https://hdsr.foleon.com/waterbeheerprogramma/stroomopwaarts/welkom/>
- HDSR. (2020). *Toekomstbestendige Polder Lange Weide Polderbreed waterinfiltratiesysteem en dynamisch oppervlaktewaterpeil Samenvatting bevindingen en inzichten 2017 – 2019*. https://www.hdsr.nl/publish/pages/116344/toekomstbestendige_polder_lange_weide.pdf
- HDSR. (2018). Powerpoint. *Toekomstbestendige veenweidepolder Lange Weide Water- en Bodembeheer in veenweiden*. <https://www.veenweiden.nl/wp-content/uploads/2018/03/1.2-OWD-Zuid-Holland-Chris-van-Naarden-en-Kees-Vroege.pdf>
- HDSR. (2017). *Position paper. Vertragen bodemdaling 'Elke centimeter telt' Positionpaper bodemdaling veenweide DM 1231246-v4 Vastgesteld als startnotitie door het algemeen bestuur op 17 mei 2017*. https://www.hdsr.nl/publish/pages/56243/positionpaper_vertragen_bodemdaling.pdf
- Hoogheemraadschap De Stichtse Rijnlanden (HDSR). (n.d.). *Infiltratiebuizen Toekomstbestendige polder Lange Weide*. <https://www.hdsr.nl/buurt/bodemdaling/infiltratiebuizen-toekomstbestendige/>
- Havekes, H., Koster, M., Dekking, W., Uijterlinde, R., Wensink, W., & Walkier, R. (2015). The Dutch water authority model. Dutch Water Authorities. <https://dutchwaterauthorities.com/wp-content/uploads/2021/05/The-Dutch-water-authority-model.pdf>
- Head, B.W. (2022). Wicked problems in public policy understanding and responding to complex challenges. Cham: Palgrave Macmillan. <https://doi.org/10.1007/978-3-030-94580-0>

- Heeres, N., Tillema, T., & Arts, J. (2012). Integration in Dutch planning of motorways: From “line” towards “area-oriented” approaches. *Transport policy*, 24, 148-158. <https://doi.org/10.1016/j.tranpol.2012.08.002>
- Hegger, D. L., Driessen, P. P., Dieperink, C., Wiering, M., Raadgever, G. T., & van Rijswijk, H. F. (2014). Assessing stability and dynamics in flood risk governance: an empirically illustrated research approach. *Water Resources Management*, 28, 4127-4142. DOI:10.1007/s11269-014-0732-x
- Howlett, M., & Goetz, K. H. (2014). Introduction: Time, temporality and timescapes in administration and policy. *International Review of Administrative Sciences*, 80(3), 477-492. <https://doi.org/10.1177/0020852314543210>
- Hydrologic & Acacia. (2021). *Bouwstenen Blauwe Agenda Utrechtse Heuvelrug*. <https://www.np-utrechtseheuvelrug.nl/wp-content/uploads/2022/03/P1256-Bouwstenen-Blauwe-Agenda-Utrechtse-Heuvelrug-D01-20211119.pdf>
- KNMI. (2015). *KNMI'14 klimaatscenario's voor Nederland*. www.klimaatscenarios.nl/correcti
- Kuindersma, W., Boonstra, F. G., & Brunt, M. T. (2008). *Naar effectieve uitvoeringsarrangementen in gebiedsgericht beleid: het gebied Utrecht-Midden Noord* [Towards effective implementation arrangements in area-based policy: the Utrecht-Midden Noord region] (No. 1689). Alterra. <https://edepot.wur.nl/120958>
- Kuindersma, W., Boonstra, F. G., Brunt, D., & van Bommel, S. (2010). *Afstemming van sectoraal beleid en integrale gebiedsprocessen* [Alignment of sectoral policies and integrated area processes](No. 8). Alterra. <https://edepot.wur.nl/163157>
- Kuindersma, W., Kamphorst, D., Walther, C., de Wit-de Vries, E., de Boer, T., & Visscher, M. (2022). Duurzame landbouw in gebiedsprocessen : barrières en oplossingsrichtingen in Engbertsdijkvenen, Ronde Hoep en Schiermonnikoog [Sustainable agriculture in area processes : barriers and solution directions in Engbertsdijkvenen, Ronde Hoep and Schiermonnikoog](WOT-rapport; No. 149). Wettelijke Onderzoekstaken Natuur & Milieu. <https://doi.org/10.18174/582855>
- Ministry of Infrastructure and Water Management. (2022a). *Beslisnota's Kamerbrief water bodem sturend* [Decision notes parliamentary letter water land leading]. <https://www.rijksoverheid.nl/documenten/beleidsnotas/2022/11/25/bijlage-onderliggende-beslisnota-s-kamerbrief-wbs>
- Ministry of Infrastructure and Water Management. (2022b). *Kamerbrief over rol Water en Bodem bij ruimtelijke ordening* [Parliamentary letter].

- <https://www.rijksoverheid.nl/documenten/kamerstukken/2022/11/25/water-en-bodem-sturend>
- Ministry of the Interior and Kingdom Relations (MIKR). *Programma Woningbouw*.
<https://open.overheid.nl/documenten/ronl-2150b1aaf700c40903aa0029241d9a34de6ab6ce/pdf>
- Ministry of General Affairs. (2022). *Beleid ruimtelijke ordening*.
<https://www.rijksoverheid.nl/onderwerpen/ruimtelijke-ordening-en-gebiedsontwikkeling/beleid-ruimtelijke-ordening>
- Ministry of General Affairs. (2023). *Gebiedsgerichte en samenhangende aanpak landelijk gebied*.
<https://www.rijksoverheid.nl/onderwerpen/aanpak-stikstof-natuur-water-en-klimaat/gebiedsgerichte-en-samenhangende-aanpak-landelijk-gebied>
- Mollinga, P. P. (2010). Boundary Work and the Complexity of Natural Resources Management. *Crop Science*, 50(S1), S1-S9. doi:10.2135/cropsci2009.10.0570
- Nationaal Park Utrechtse Heuvelrug. (2020). *Blauwe Agenda*. Nationaal Park Utrechtse Heuvelrug.
<https://www.np-utrechtseheuvelrug.nl/stichting-npuh/blauwe-agenda/>
- National Institute for Public Health and the Environment (RIVM). (2019). *Kaderrichtlijn Water*.
<https://www.rivm.nl/kaderrichtlijn-water-krw>
- NOVEX. (n.d.). De Nationale Omgevingsvisie.
<https://www.denationaleomgevingsvisie.nl/novex/default.aspx>
- Padt, F.J.G. (2007). *Green planning. An institutional analysis of regional environmental planning in the Netherlands*, Delft
- Pelzer, P., Hildingsson, R., Herrström, A., & Stripple, J. (2021). Planning for 1000 years: The Råången experiment. *Urban Planning*, 6(1), 249-262. DOI: 10.17645/up.v6i1.3534
- Pelzer, P. (2021) *Verantwoordelijk voor de toekomst: Op zoek naar een planologie van de lange termijn*. Stadsessays Trancity x Valiz. <https://trancity.nl/publicaties/verantwoordelijk-voor-de-toekomst>
- Pot, W., Scherpenisse, J., & 't Hart, P. (2022). Robust governance for the long term and the heat of the moment: Temporal strategies for coping with dual crises. *Public Administration*.
<https://doi.org/10.1111/padm.12872>

- Projectteam Binnenveld. (2021). *Gebiedsproces Binnenveld: Met beleid samen de toekomst in* [Area-oriented process Binnenveld: Moving into the future together gracefully] . Gebiedsaanpak het Binnenveld. <https://gebiedsaanpakhetbinnenveld.nl/>
- Province of Utrecht. (2021). *Plannenviewer Provincie Utrecht*. <https://ruimtelijkeplannen.provincie-utrecht.nl/NL.IMRO.9926.2020InterimVerord-VA02>
- Province of Noord-Holland. (2023). *Gebiedsproces Noordelijke Vechtstreek* [Area-oriented process Noordelijke Vechtstreek]. Provincie Noord-Holland. https://www.noord-holland.nl/Onderwerpen/Natuur/Projecten/De_Groene_Uitweg/Gebiedsproces_Noordelijke_Vechtstreek
- Quist, J., & Vergragt, P. (2006). Past and future of backcasting: the shift to stakeholder participation and a proposal for a methodological framework. *Futures*, 38(9), 1027–1045. <https://doi.org/10.1016/j.futures.2006.02.010>
- Remkes, J. (2022). *Wat wel kan Uit de impasse en een aanzet voor perspectief*. <https://open.overheid.nl/documenten/ronl-4039eee4ed64ecd5574d2c34f1e1fe24fa8e8f18/pdf>
- Ridder, H. G. (2017). The theory contribution of case study research designs. *Business Research*, 10(2), 281-305. <https://doi.org/10.1007/s40685-017-0045-z>
- Rijkswaterstaat [Department of Waterways and Public Works]. (2017). *Water veiligheid Begrippen begrijpen: Ontwikkeling beleid en uitleg begrippen* [Understanding water safety Concepts: developing policies and explaining terms]. <https://edepot.wur.nl/418448>
- Rijkswaterstaat [Department of Waterways and Public Works]. (2022). *Quick Scan Water en Bodem Sturend* [Quickscan water and land system leading]. <https://www.rijksoverheid.nl/documenten/rapporten/2022/11/25/bijlage-quickscan-uitvoerbaarheid-rws>
- Rijn & Gouwe Wiericke. (n.d.). *Wie zijn wij*. <https://rijngouwewiericke.nl/wie-zijn-wij/>
- Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy sciences*, 4(2), 155-169.
- Robeyns, I. (2022). Advancing interdisciplinary research on institutions: a typology of research questions. *IoS Think Paper Series# 4*, 1-30. https://www.uu.nl/sites/default/files/2022%20-%20IOS%20think%20paper4_Robeyns_def.pdf

- Runhaar H., Driessen P., & Soer, L. (2009). Sustainable urban development and the challenge of policy integration. An assessment of planning tools for integrating spatial and environmental planning in the Netherlands. *Environment and Planning B*, 36(3), 417–431. <https://doi-org.proxy.library.uu.nl/10.1068/b34052>
- Runhaar, H., Mees, H., Wardekker, A., van der Sluijs, J., Driessen, P. (2012). Adaptation to climate change related risks in Dutch urban areas: stimuli and barriers. *Reg Environ Chang*, 12(4), 777–790. <https://doi.org/10.1007/s10113-012-0292-7>
- Runhaar, H., Wilk, B., Persson, Å., Uittenbroek, C., & Wamsler, C. (2018). Mainstreaming climate adaptation: taking stock about “what works” from empirical research worldwide. *Regional environmental change*, 18(4), 1201-1210. <https://doi.org/10.1007/s10113-017-1259-5>
- Shiple, R. (2002). Visioning in planning: is the practice based on sound theory?. *Environment and planning A*, 34(1), 7-22. DOI:10.1068/a3461
- Simeonova, V. (2006). Environmental policy integration in urban spatial planning: the approach of Rotterdam. *WIT Transactions on Ecology and the Environment*, 93, 219-228.
- Simeonova, V. & van der Valk, A. (2010). The Role of an Area-oriented Approach in Achieving Environmental Policy Integration in the Netherlands, and its Applicability in Bulgaria, *European Planning Studies*, 18(9), 1411-1443. DOI: 10.1080/09654313.2010.492579
- Staupe-Delgado, R. (2020). The water–energy–food–environmental security nexus: moving the debate forward. *Environment, Development and Sustainability*, 22(7), 6131-6147. <https://doi.org/10.1007/s10668-019-00467-5>
- Stewart, J. (2012). Multiple-case study methods in governance-related research. *Public Management Review*, 14(1), 67-82. <https://doi.org/10.1080/14719037.2011.589618>
- Termeer, C. J., & Dewulf, A. (2019). A small wins framework to overcome the evaluation paradox of governing wicked problems. *Policy and Society*, 38(2), 298-314. <https://doi.org/10.1080/14494035.2018.1497933>
- Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American journal of evaluation*, 27(2), 237-246. <https://doi-org.proxy.library.uu.nl/10.1177/1098214005283748>
- van den Brink, M., & Restemeyer, B. (2021). Van waterschappen naar ‘klimaatschappen’? Kansen en belemmeringen voor strategische herpositionering in tijden van crisis. *Bestuurskunde*, 30(4), 41-51. <https://doi.org/10.5553/Bk/092733872021030004005>

- van den Ende, M. A., Hegger, D. L., Mees, H. L., & Driessen, P. P. (2023). Wicked problems and creeping crises: A framework for analyzing governance challenges to addressing environmental land-use problems. *Environmental Science & Policy*, 141, 168-177. <https://doi.org/10.1016/j.envsci.2023.01.006>
- van den Ende, M. A., Mees, H. L. P., Hegger, D. L. T., & Driessen, P. P. J. (2022). Mechanisms influencing mainstreaming of adaptation in spatial development: case studies in three Dutch municipalities. *Journal of Environmental Planning and Management*. <https://doi.org/10.1080/09640568.2022.2092724>
- van der Meulen, F., & de Haes, H. U. (1996). Nature conservation and integrated coastal zone management in Europe: present and future. *Landscape and Urban Planning*, 34(3-4), 401-410. [https://doi.org/10.1016/0169-2046\(95\)00234-0](https://doi.org/10.1016/0169-2046(95)00234-0)
- van Straalen, F. M. (2012). The concept of integration in spatial planning: An exploration. *Proceedings of the 26th Annual Congress of AESOP, Ankara, Turkey, 11-15 July 2012*, 2622-2633. <https://library.wur.nl/WebQuery/wurpubs/426447>
- Veraart, J. A., Vos, C. C., Spijkerman, A., & Witte, J. P. M. (2014). *Meekoppelkansen tussen Natura 2000, Kaderrichtlijn Water en het Deltaprogramma in de Klimaatcorridor Veenweide: een quickscan klimaatadaptatie* [Merging opportunities between Natura 2000, Water Framework Directive and the Delta Program in the Climate Corridor Peat Meadow: a quick scan of climate adaptation]. Kennis voor Klimaat. <https://library.wur.nl/WebQuery/wurpubs/454128>
- Verschuren, P. & Doorewaard, H. (2010). *Designing a research project (Vol. 2)*. The Hague: Eleven International Publishing.
- Vet, K. J. de, Steen, M. van der, & Schram, J. (2021). Toekomst van het waterschap: waterschap van de toekomst? *Water Governance*, 01, 6-17. <https://edepot.wur.nl/546743#page=6>
- Volkery, A., & Ribeiro, T. (2009). Scenario planning in public policy: Understanding use, impacts and the role of institutional context factors. *Technological forecasting and social change*, 76(9), 1198-1207. doi:10.1016/j.techfore.2009.07.009
- Weber, M., & Driessen, P. P. (2010). Environmental policy integration: the role of policy windows in the integration of noise and spatial planning. *Environment and Planning C: Government and Policy*, 28(6), 1120-1134. doi:10.1068/c0997

Appendices

Appendix A - Overview interviews

Table A1: *Anonymized interviewees*

Interview number	Interviewee
Interview 1	Policy advisor Hoogheemraadschap De Stichtse Rijnlanden with central role in Hollandse IJssel Oost
Interview 2	Policy advisor Municipality of IJsselstein
Interview 3	Coordinator Groen Groeit Mee Province of Utrecht
Interview 4	Account manager Staatsbosbeheer
Interview 5	Senior policy advisor Hoogheemraadschap De Stichtse Rijnlanden involved in both Hollandse IJssel Oost and Groen Groeit Mee
Interview 6	Strategic policy advisor at Hoogheemraadschap De Stichtse Rijnlanden
Interview 7	Strategic stakeholder manager Vitens
Interview 8	Policy officer Municipality of Utrechtse Heuvelrug
Interview 9	Program manager at Nationaal Park Utrechtse Heuvelrug
Interview 10	Senior policy advisor Province of Utrecht
Interview 11	Coordinator stakeholder management in peat areas for the Province of Zuid-Holland
Interview 12	Participating farmer
Interview 13	Project manager peat areas Hoogheemraadschap De Stichtse Rijnlanden
Interview 14	Farmer and board member of agricultural organization in the polder
Interview 15	Policy advisor Municipality of Bodegraven-Reeuwijk

Appendix B - Scopus search

Three Scopus searches are described briefly here, (1) one specific to time and governance (2) one more broadly on area-oriented processes and related literature, and (3) one more specifically on area-oriented processes and connecting the short-term to the long-term.

- (1) Concerning the first, my starting point was the paper by Pot et al. (2022). To place this paper in its context I conducted a search on the role of time in governance. My search terms were TIME and GOVERNANCE, TEMPORAL PERSPECTIVE and GOVERNANCE, TEMPORAL DIMENSION and GOVERNANCE. I searched within *article title, abstract and keywords* and scanned through the abstracts of the first three pages of the most highly cited papers to find papers that discuss the role of time in governance. I further substantiated my findings through snowballing, mostly through Pot et al. (2022).
- (2) Concerning the second, I have started with using the search terms: AREA-ORIENTED APPROACH; AREA-ORIENTED PROCESS and GEBIEDSPROCES (Dutch term). I searched within *article title, abstract and keywords*. I scanned the abstracts of the first three pages of the most highly cited papers that came up and did some snowballing. This yielded some relevant hits and also led to other search terms for area-oriented process namely: integrated area approach and regional (environmental) planning. Additionally, it led to the identification of other literature that have overlap with area-oriented processes. These included: integrated coastal zone management; interactive policy making; collaborative governance; Environmental Policy Integration; mainstreaming climate adaptation; open planning processes. I have hereafter searched on these terms and I have scanned through the abstracts of the first two pages of the most highly cited papers. Some terms are more common than others and some terms needed some extra specification such as SUSTAINABLE DEVELOPMENT and limiting to *social sciences* to ensure relevant hits. My goal here was to find articles to map the current work on area-oriented processes but I was also looking out for texts that address explicitly connecting the short-term to the long-term. There were however no relevant hits on the latter.
- (3) Concerning the third, my aim was to additionally check to what extent connecting the short-term to the long-term has already been done in literature on area-oriented processes. Therefore, I have used alternately the search terms TIME; SHORT TERM; LONG TERM; TEMPORAL PERSPECTIVE; TEMPORAL DIMENSION in combination with alternating AREA-ORIENTED APPROACH; AREA-ORIENTED PROCESS: INTEGRATED AREA APPROACH; REGIONAL ENVIRONMENTAL PLANNING. This gave no significant hits that explicitly address this.

Appendix C - Operationalization of the PAA framework

Table C1 : Operationalization of the PAA framework by Hegger et al. (2014, p. 4131) used as a guideline for this project.

Actors	Discourses	Rules	Power & Resources
Public actors	Relevant scientific paradigms and uncertainties	Legislation (including jurisprudence/case law)	Legal authority, including the right to regulate property (regulation, compensation and expropriation)
Private actors	Policy programs, policy objectives and policy concepts	Constitutional, procedural and substantive norms	Financial power
Coalitions and oppositions	Historical metaphors/narratives Policy and legal values and principles	Legal instruments Legal traditions Informal rule	Knowledge Interaction skills

Appendix D - Structuring choices relevant for the cases

Table D1: Structuring choices that are relevant for Blauwe Agenda.

Structuring Choice Number	Structuring Choice	Theme
2.	Mapping the extraction of groundwater	Enough water
3.	New and diverse water sources	Enough water
4.	Reducing water use	Enough water
5.	Execute set-out policies	Clean and healthy water
7.	Water storage spatial planning	Room for water
12.	Increase biodiversity	Room for water
16.	Ambition urbanization and infrastructure	Land; vital and efficiently ordered
17.	Reduce unnecessary ground cover	Land; vital and efficiently ordered
18.	Maintain valuable arable land	Land; vital and efficiently ordered
21.	Risks location allocation	Built-up area
22.	Take into account future needs	Built-up area
24.	As little as possible ground cover	Built-up area
30.	Water storage (<i>vasthouden</i> in Dutch)	High sandy areas
31.	Increase water level sandy areas	High sandy areas
32.	Restore stream valleys	High sandy areas
33.	Reduce groundwater abstraction nature area's	High sandy areas

Table D2: Structuring choices that are relevant for Hollandse IJssel Oost.

Structuring Choice Number	Structuring Choice	Theme
1.	Ambition for a resilient water system	Enough water
5.	Execute set-out policies	Healthy water
7.	Water storage spatial planning	Room for water
12.	Increase biodiversity	Room for water
15.	Coordinate planning of the subsurface	Land; vital and efficiently ordered
16.	Ambition urbanization and infrastructure	Land; vital and efficiently ordered
18.	Maintain valuable arable land	Land; vital and efficiently ordered
21.	Risks location allocation	Built-up area
22.	Take into account future needs	Built-up area
23.	Climate adaptive and nature inclusive constructing	Built-up area
28.	Fresh water supply	Salinizing coastal areas

Table D3: Structuring choices that are relevant to Toekomstbestendige Polder Lange Weide

Structuring Choice Number	Structuring Choice	Theme
1.	Ambition for a resilient watersystem	Enough water
5.	Execute set-out policies	Healthy water
7.	Water storage spatial planning	Room for water
12.	Increase biodiversity	Room for water
13.	Water storage deep polders	Room for water
15.	Coordinate planning of the subsurface	Land; vital and efficiently ordered
16.	Ambition urbanization and infrastructure	Land; vital and efficiently ordered
18.	Maintain valuable arable land	Land; vital and efficiently ordered
25.	Increase water level peat areas	Low-lying peat areas
26.	Minimalize "foreign" water	Low-lying peat areas
27.	Sustainable management arable land	Low-lying peat areas

Appendix E - Interview scheme

Introductie: korte introductie van mijn onderzoek en korte bespreking van de rol en achtergrond van de geïnterviewde en diens betrokkenheid bij het gebiedsproces. (+/- 5 min)

Vragen voor het in kaart brengen van het gebiedsproces (+/- 25 min)

Hoofdvraag 1 (*Narratieven*): Hoe heeft het proces zich in de loop van de tijd ontwikkeld en zou u de belangrijkste gebeurtenissen op de tijdlijn willen invullen? (+/- 5 min)

Optionele “doorvraag” vragen:

- Hoe zou u het proces omschrijven? Is het een netwerk, samenwerking etc.?
- Welke onzekerheden spelen een rol in het proces?
- Wat is het doel van het proces?
- Welke ander beleid (programma's en concepten) is relevant voor het proces en hoe past het proces in dit bredere plaatje?

Hoofdvraag 2 (*WBS*) Wat betekent het WBS-beleidsprincipe voor het proces? (5 min)

- Zijn er al WBS elementen die nu al deel uitmaken van het proces?
- Heeft WBS iets veranderd in het proces? Zo ja, hoe?
- Wat zou er moeten veranderen om WBS te maken?
- Welke structurerende keuzes zijn relevant voor het proces (*alleen als de geïnterviewde hier mogelijk kijkt op heeft*)

Hoofdvraag 3 (*Actoren*): Welke partijen zijn er, zowel formeel als informeel, betrokken bij het proces en op wat voor manier? (+/- 5 min)

Optionele “doorvraag” vragen:

- Wat is de rol van uw organisatie in het proces?
- Wat zijn naar uw mening de belangen van de verschillende betrokkenen?
- Hoe zou u de rol van de verscheidene betrokkenen in het proces omschrijven?
- Zijn er partijen die samen optrekken of waartussen het juist schuurt?

Hoofdvraag 4 (*Macht & middelen*): Hoe liggen de verhoudingen tussen de verschillende betrokkenen? Zijn er bepaalde betrokken met meer invloed dan anderen? (+/- 5 min)

Optionele “doorvraag” vragen:

- Wie heeft het aan het einde van de rit voor het zeggen?
- Is er genoeg capaciteit?
- Hoe is het proces tot stand gekomen? Welke kennis wordt gebruikt om het verloop van het proces te informeren en vorm te geven?
- Zijn er betrokken die naar uw mening een bijzondere rol gespeeld hebben in de samenwerking tussen de verschillende partijen?
- Hoe ervaart u de relatie tussen het ambtelijk en bestuurlijke deel van het proces?

Hoofdvraag 5 (*Regels*): Welke regels en uitgangspunten gelden er in het proces (zowel kaders en afspraken)? (+/- 5 min)

Optionele “doorvraag” vragen:

- Hoe zit het proces juridisch in elkaar?
- Welke wetgeving is relevant voor het gebiedsproces?
- Zijn er bepaalde juridische normen die relevant zijn in het proces?
- Wordt er gebruik gemaakt van juridische instrumenten in het proces?
- Zijn er ongeschreven regels waar alle betrokkenen zich aan houden?

Vragen voor de evaluatie van het gebruik van de temporele strategieën (+/- 25 min)

- **Korte uitleg strategieën -**

Hoofdvraag 5 (*Temporele dimensie*): Wat zijn de uitdagingen op de korte en lange termijn in het proces in een brede maatschappelijke context (e.g. klimaatverandering)? (+/- 5 min)

Optionele “doorvraag” vragen:

- Zijn er verbindingen tussen de verschillende uitdagingen?
- Zijn er echt acute problemen en problemen die u als meer sluipend zou omschrijven?
- Als u een prioriteit zou moeten geven aan de uitdagingen, hoe zou dit er voor u uitzien?

Hoofdvraag 6 (*Timing*): Wordt er van bepaalde momenten of gebeurtenissen gebruik gemaakt om actie te ondernemen? (+/- 4 min)

Optionele “doorvraag” vragen:

- Gebeurt dit toevallig of wordt hier specifiek op gelet?
- Wordt er volgens u linken gelegd tussen de acute crisissen en maatregelen voor de achterliggende sluipende crisis.
- Hebben bepaalde personen hier een belangrijke rol in gespeeld?
- Is er een gevoel van urgentie?
- Zijn er beleidsimpasses waar tegenaan gelopen wordt?
- Wordt het huidige probleem als symptomatisch geframed van de achterliggende sluipende crisis?

Hoofdvraag 7 (*Tijdhorizon*): Als over het gebiedsproces gesproken wordt, wat voor tijdperiodes (zowel toekomst als verleden) worden dan besproken als het over de uitdagingen en oplossingen voor deze uitdagingen gaat? (+/- 4 min)

Optionele “doorvraag” vragen:

- Is dit naar uw mening een geschikte tijdsperiode of is het te dichtbij of te ver weg?
- Had u graag nog meer/andere toezeggingen gezien?
- Worden er toezeggingen gedaan op de lange termijn?

Hoofdvraag 8 (*Tempo*): Wordt er rekening gehouden met de snelheid waarbij de plannen worden uitgerold in het gebiedsproces? (wordt er bijvoorbeeld ruimte ingebouwd om alle stakeholders te betrekken) (+/- 4 min)

Optionele “doorvraag” vragen:

- Is de snelheid van het proces naar uw mening op bepaalde moment beïnvloedt, dus is er een versnelling of vertraging geweest?
- Vindt u de snelheid te hoog of te laag, of precies goed?

Hoofdvraag 9 (*Futuring*): Wordt er in het gebiedsproces verschillende toekomstscenario's verkend? (+/- 4 min)

Optionele “doorvraag” vragen:

- Worden verschillende risico's in kaart gebracht?
- Hoe wordt er omgegaan met de onzekerheid van de toekomst?

Hoofdvraag 10 (*Cyclische Adaptiviteit*): Is er in het proces de ruimte ingebouwd om beleid aan te passen? (+/- 4 min)

Optionele “doorvraag” vragen:

- Vindt er monitoring plaats? Zo ja, hoe?
- Als dit het geval is, hoe is dit tot stand gekomen? Is het bewust?
- Is het actief of passief ruimte ingebouwd?

Afsluiting (+/- 5 min)

- Wat zijn volgens u de lessen die we van dit gebiedsproces kunnen leren?
- Is er nog iets wat u wilt delen waar de vragen niet specifiek op ingegaan zijn?
- Heeft u nog suggesties voor andere contactpersonen?

Appendix F - Codes in NVIVO

Actors

Challenges

Crafting time horizons

Cyclical adaptation

Discourses

Futuring

Lessons

Pacing

Resources

Rules of the game

Timing

WBS (Water and land system as a steering concept)

Appendix G - Information sheet interviews

Informatie over het onderzoek “Een temporeel perspectief op het sturend maken van water en bodem in besluitvorming”

Dit project staat in het teken van een universitaire Master thesis aan de Universiteit Utrecht voor de opleiding MSc Sustainable Development. Dit is een project van de student Jelmer Kootstra (j.j.kootstra@students.uu.nl/Jelmer.Kootstra@hdrs.nl) en wordt uitgevoerd bij het waterschap Hoogheemraadschap De Stichtse Rijnlanden. Vanuit de Universiteit Utrecht begeleidt Dr. ir. Dries Hegger (D.L.T.Hegger@uu.nl) de student en vanuit het waterschap zijn Dries Schuwer (dries.schuwer@hdrs.nl) en Susanne Vermeulen (Susanne.Vermeulen@hdrs.nl) de begeleiders.

Het doel van het project is om onderzoek te doen naar hoe Hoogheemraadschap De Stichtse Rijnlanden, en in meer algemene zin individuele actoren (bijvoorbeeld ook provincies), invulling kunnen geven aan het beleidsprincipe water en bodem sturend doormiddel van het koppelen van korte en lange termijn uitdagingen. Hiervoor wordt er gekeken naar de drie gebiedsprocessen *Hollandse IJssel* (onderdeel van *Groen Groeit Mee*) *Blauwe Agenda* en *Toekomstbestendige Polder Lange Weide*. Het onderzoek bestaat uit het in kaart brengen van de gebiedsprocessen en vervolgens het evalueren van de mate waarin er op dit moment al gebruik gemaakt wordt van een paar specifieke strategieën die kunnen helpen met het koppelen van korte en lange termijn uitdagingen. Dit is gebaseerd op beleidsdocumenten en interviews met de belangrijkste betrokkenen. Tot slot, op basis hiervan zullen aanbevelingen gemaakt worden.

Deelname

Uw bijdrage aan dit onderzoek is zeer waardevol en het wordt erg gewaardeerd dat u hier tijd voor vrij maakt. De verwachting is dat het onderzoek ongeveer één uur zal duren. Het interview bestaat uit open vragen waar eventueel op doorgevraagd kan worden. U kunt er altijd voor kiezen een vraag niet te beantwoorden of om meer uitleg over een vraag te vragen. Uw antwoorden zullen gebruikt worden voor zowel het in kaart brengen van de processen en de evaluatie. Als u geïnteresseerd bent dan kunt aangeven om een eindversie van de Master thesis toegestuurd te krijgen.

Databescherming

De basis voor het gebruiken van de data dat verkregen is in het interview is gebaseerd op uw toestemming. De data zal ten alle tijden geanonimiseerd worden in de Master thesis. Individuele antwoorden tijdens de interviews zullen dan ook niet te herleiden zijn naar individuen in de uiteindelijke Master thesis die gepubliceerd kan worden. Ik, de student, zal de data verwerken maar indien ik advies nodig heb dan kan een van mijn begeleiders de betreffende data ook inzien. Uw persoonlijke gegevens (email-adres, telefoonnummer e.d.) wordt gebruikt om u te contacteren en de informatie verkregen uit de interviews zal gebruikt worden om mijn onderzoeksvragen te beantwoorden.

Met uw toestemming zal het interview opgenomen worden zodat dit gebruikt kan worden om de informatieverwerking te ondersteunen. Deze opnames zullen begin september 2023 verwijderd worden nadat de Master thesis afgerond is. De verkregen data wordt opgeslagen op de beveiligde OneDrive van de Universiteit Utrecht. Uw data zal vertrouwelijk verwerkt worden en in overeenstemming met de Algemene Verordening Gegevensbescherming (AVG), Wet bescherming persoonsgegevens (Wbp) en de privacyrichtlijnen van de Universiteit Utrecht.

Appendix H - Informed consent form

Geïnformeerde toestemming voor het onderzoek “Een temporeel perspectief op het sturend maken van water en bodem in besluitvorming”

Uw deelname aan dit onderzoek is volledig vrijwillig. U kunt op elk moment stoppen zonder het geven van een reden, dit heeft verder ook geen consequenties. Uw data zal vertrouwelijke verwerkt worden en in overeenstemming met de Algemene Verordening Gegevensbescherming (AVG), Wet bescherming persoonsgegevens (Wbp) en de privacyrichtlijnen van de Universiteit Utrecht. U wordt verzocht eerlijk antwoord te geven en voel u vrij om uw eigen mening naar voren te laten komen in uw antwoorden op de vragen.

Hierbij bevestig ik dat:

- Ik tevreden ben met de ontvangen informatie over het onderzoek.
- Ik op het moment geen verdere vragen heb over het onderzoek.
- Ik de mogelijkheid had om zorgvuldig na te denken over deelname aan dit onderzoek.
- Naar waarheid antwoord geef op de gestelde vragen.

Ik stem er mee in dat:

- De te verzamelen data wordt verkregen en opgeslagen voor wetenschappelijke doeleinden.

Stemt u er mee in om deel te nemen?

Ja

Nee

Stemt u er mee in dat dit interview opgenomen wordt?

Ja

Nee

Datum:

Naam: