PRE-MASTER THESIS

Where Post-Growth Meets Coastal Adaptation

A SOCIO-ENVIRONMENTAL EVALUATION OF THREE DUTCH COASTAL ADAPTATION STRATEGIES

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ABSTRACT

As sea levels rise, the Netherlands faces escalating challenges to its renowned water management practices; challenges which exacerbate the competition of land uses in the country. This research adds to academic debate in that it explores the spatial implications of climate adaptation and flood risk management pursuits for the quality of life. Simultaneously, the research carries social relevance by exploring pathways for integrating quality of life in Dutch coastal adaptation policies and in its bid to not compromise social and environmental prosperity in adaptation processes. This research investigates the alignment of Dutch coastal adaptation strategies with post-growth principles focused on quality of life. It examines three questions: What post-growth planning practices enhance quality of life? Which of these practices are present in the three adaptation strategies? How do these strategies differ in their integration of post-growth principles? The study aims to reveal how effectively each strategy promotes environmentally and socially sustainable development beyond economic growth. A conceptual exploration has been conducted in the theoretical framework section, which resulted in a set of two post-growth indicators for prosperity, namely environmental sustainability and social justice. In sum, post-growth planning advocates broadening the understanding of prosperity beyond its typical economic understanding to include quality of life considerations such as the environmental and social experience of space and draws attention to environmental and social costs in growth-centric spatial planning. Using the post-growth indicators of quality of life in the analysis of three Dutch coastal adaptation strategies, this study set out to evaluate which strategy aligns most with this holistic understanding of quality of life to provide an outlook on the broad prosperity implications inherent in these strategies. Based on the current explorative research into the three strategies, it is concluded that the protect-closed strategy demonstrates the best balance between environmental sustainability and social cost in the short-term, leveraging existing structures to minimise social impacts and controlling saltwater intrusion to mitigate agricultural changes, while further governance and strategy integration details require deeper exploration. Ultimately, this research concludes that quality of life and therefore environmental and social concerns are common denominators in flood risk management and post-growth planning but that the considerations in flood risk management are not (yet) being integrated holistically as would be expected under post-growth planning..

Keywords: Post-Growth, Flood Risk Management (FRM), Quality of Life, Multifunctionality

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1. Introduction

Sea level rise (SLR) has driven the Netherlands to develop innovative water management practices, establishing the country as a leader in this field (Slomp, 2012). Historically, Dutch flood protection relied on extensive infrastructure and hard engineering (Rijke et al., 2012), with a focus on economically efficient measures. After major floods in the 1990s, there was a shift to 'living with' water, exemplified by the Room for the River program, which embraced natural water dynamics (Klijn et al., 2013; Rijke et al., 2012). This approach, known as flood risk management (FRM), integrates social, economic, and environmental dimensions to enhance community resilience and adaptive capacity, reducing both flood probabilities and vulnerabilities (Liao, 2013; Restemeyer et al., 2018). This can be likened to an 'evolutionary resilience'-approach, aiming not just for recovery but for learning and improvement post-flood (Cretney, 2014; Davoudi, 2012; Rözer et al., 2022). Flexible and varied flood safety measures are essential to address both sudden changes and long-term trends (Davoudi, 2012).

Dutch FRM policymakers have been refining coastal adaptation pathways to ensure long-term safety and livability amid rising sea levels, while maintaining flexibility to adjust as conditions change. Four pathways have been identified: (1) Protect Closed, which involves raising and strengthening existing dikes and using pumping stations (top-left, Figure 1); (2) Protect Open, which keeps the coastline and river access open, reinforcing inland river dikes instead (top-right, Figure 1); (3) Advance, which proposes building a dune structure into the sea to limit sea level impact (bottom-left, Figure 1); and (4) Accommodate, which involves adjusting and relocating settlements to higher grounds or floating structures to let water in (bottom-right, Figure 1).

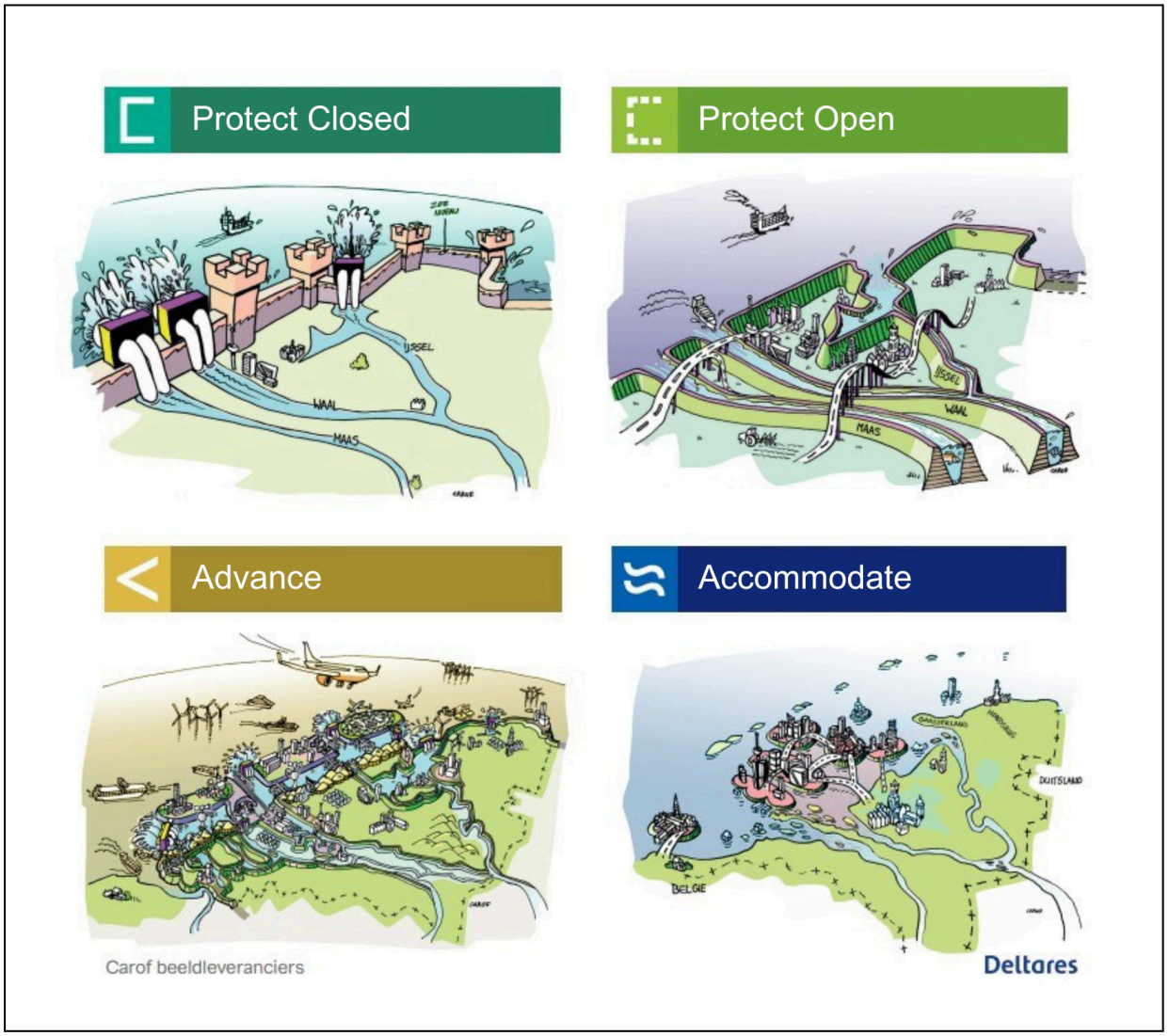

Figure 1: Long-term adaptation strategies to high SLR for the Dutch Delta (©Beeldleveranciers-Carof, translated from Haasnoot et al. for Deltares, 2019, p.21).

1.1. Research Aim

Post-growth planning, rooted in the theory that prosperity and quality of life extend beyond economic growth alone (Schmid, 2022), in simple terms, prioritises universal access to basic services through spatial planning (Hickel et al., 2021). While post-growth underscores the importance of environmental and social factors for quality of life, decisions in FRM can profoundly affect these factors, potentially improving or diminishing overall quality of life. Consequently, a compelling question emerges: *Which Dutch coastal adaptation strategy is most accommodating of post-growth principles and why?* This research is meant to identify the most effective strategy in integrating values that promote socio-environmental well-being, examining how this integration is accomplished. Three sub-questions guide the assessment

of these strategies, moving from defining key principles and values to their application and comparative analysis across the strategies:

01. What are post-growth planning principles for advancing quality of life?
It is crucial to first identify planning practices consistent with post-growth principles from the theoretical literature. The (positive) examples of post-growth planning practice that emerge from consulting the theoretical literature will guide the evaluation of the adaptation strategies based on socio-environmental quality of life criteria.

02. Which of these principles can be traced in the three adaptation strategies?
Once relevant post-growth planning practices have been identified, the theoretical lens shall be applied to the three Dutch coastal adaptation strategies. This entails tracing practices within each strategy that correspond to post-growth planning practices and noting if and to what extent practices may contradict the essence of post-growth (planning).

03. How do the strategies compare in their holistic integration of post-growth principles?
Lastly, the exploration of post-growth practices in the adaptation strategies shall be compared and upheld to the underlying principles of post-growth to allow for a conclusion as to which strategy best incorporates post-growth values.

1.2. Relevance

This research is scientifically significant for advancing quality-of-life-oriented strategies in climate change adaptation and FRM (Schmid, 2021; Durrant, Lamker, & Rydin, 2023). It integrates post-growth principles with FRM to enhance resilience and quality of life (Restemeyer, Van Den Brink, & Woltjer, 2018), exploring urban green spatial planning for socio-environmental resilience (Afriyanie et al., 2020) and socio-environmental justice in planning (Savini, Ferreira, & Von Schönfeld, 2022). The academic discourse on spatial quality in FRM may be seen as coming closest to bringing quality of life and FRM together conceptually as the 'spatial turn' in FRM exemplifies a departure from a focus on hydrological safety alone (Restemeyer, Van Den Brink and Arts, 2024). While this aligns with the logic of multifunctionality discussed in chapter 2, spatial quality will not form a core part of the analysis due to its conceptual 'fuzziness' (Restemeyer, Van Den Brink and Arts, 2024), and complexity that overshadows the importance of environmental sustainability and social justice respectively. Nevertheless, insights into this concept will briefly be explored in the context of the findings.
Socially, this research is relevant for its exploration of quality of life in Dutch FRM, particularly in light of government plans to enhance dike structures and zoning (Ministerie

van Infrastructuur en Waterstaat, 2023), which raises concerns about the impact on living conditions and health.

In sum, this research has three socially and academically relevant objectives at its core: (1) Highlighting the necessity of integrating quality of life consideration in flood protection strategies to ensure that safety measures do not come at the expense of socio-environmental well-being. (2) Evaluating the Dutch coastal adaptation strategy that most aligns with the values introduced in post-growth.

1.3. Structure

This thesis sequentially addresses research questions by first integrating post-growth principles through the lens of FRM in the theoretical framework, and analysing three strategy reports through the lens of post-growth principles in chapter 4. These findings are contextualised with post-growth literature and secondary data on the coastal adaptation strategies in question, concluding with insights that inform future research directions in this field.

2. The Theoretical Framework

2.1. Post-Growth

The concept of post-growth challenges the entrenched association of economic growth with social progress and well-being, advocating for sufficiency-oriented strategies to address socio-environmental issues (Schmid, 2021). This perspective criticises the dominant logic that equates GDP growth with human development, highlighting that economic indicators often fail to capture the nuances of social prosperity, also referred to as the *quality of life* (Durrant, Lamker and Rydin, 2023).

Quality of Life

In the post-growth paradigm, prosperity is redefined beyond market relations to include well-being, social justice, and environmental sustainability (Schmid, 2022). This approach emphasises the importance of provisioning for human needs and well-being, advocating for policies that reduce inequality, ensure living wages, and guarantee universal access to essential services such as healthcare, education, and affordable housing (Hickel et al., 2021). By focusing on these areas, post-growth policies aim to enhance the quality of life through a holistic integration of environmental, social, and economic aspects of living (Haslauer et al., 2014). In what follows, economic aspects will not be discussed in depth, as post-growth theory inherently criticises the excessive focus on growth and its overshadowing

effect on environmental and social costs, ultimately harming the quality of life. Planning has become entrenched in a pro-growth agenda that is mentally and institutionally difficult to overcome, and this thesis aims to avoid reinforcing this mindset (Durrant, Lamker and Rydin, 2023).

Environmental Sustainability

One of the core pillars of quality of life is environmental sustainability, which leads post-growth to demand the recognition of environmental limits and the need to promote environmental regeneration. This perspective stresses that human societies must adjust their activities to align with the planet's environmental boundaries (Savini, Ferreira and Von Schönfeld, 2022). This entails a fundamental restructuring of economic relations to prioritise global environmental justice and sustainability (Schmelzer and Vetter, 2019). The approach also underscores the need to maintain biodiversity, habitat diversity, and environmental connectivity to support long-term environmental resilience (Noble et al., 2019).

Post-growth planning embodies a variety of principles and values, with a particular focus on socio-environmental sustainability and collective decision-making. It prioritises resource and energy-efficient infrastructure designed for long-term adaptability, minimising maintenance while ensuring resilience and flexibility (Wohlgemuth and Pütz, 2021). Consequently, green and open spaces are crucial to post-growth planning, as these areas support biodiversity and provide high-quality recreational spaces, enhancing environmental and social well-being.

Social Justice

In post-growth theory, social well-being is fundamentally tied to social justice, which rests on two interconnected pillars: equity and participation. Equity involves the redistribution of resources and wealth to ensure comprehensive access to basic services, as highlighted by Schmelzer and Vetter (2019). This principle extends to urban development, where neo-colonial models are criticised for exploiting rural areas and harming environmental quality and indigenous cultures (Savini, Ferreira, and Von Schönfeld, 2022). Instead, post-growth planning advocates for decentralised urban development, directing resources to high-need areas rather than economically vibrant ones (Durrant, Lamker, and Rydin, 2023). This approach aims to balance development across regions, ensuring equitable access to resources and services, including land for public housing and addressing inequalities in flood protection measures (Afriyanie et al., 2020).

Public participation in planning procedures is another crucial principle in post-growth planning as it ensures that projects reflect community needs and values, leading to higher

quality outcomes and broader acceptance (Wohlgemuth and Pütz, 2021). This participatory approach extends to developing high-density, multifunctional urban areas that efficiently use land while meeting diverse lifestyle needs (Wohlgemuth and Pütz, 2021).

2.2. (Flood) Risk Management

Historically, FRM – or as it was called then, flood defence – relied heavily on physical defences and technical solutions designed to prevent flooding through grey infrastructure like levees and flood barriers (Curt et al., 2022). However, a paradigm shift is underway: This new approach recognises that absolute flood prevention is unrealistic and instead focuses on managing risks through holistic, adaptive solutions involving spatial planning to achieve greater flood protection (Scott et al., 2013).

The contemporary movement towards FRM, contrary to the traditional flood defence practice, relates to the post-growth notions of environmental sustainability and social justice with its aim to achieve a balance of hydrological safety with community benefits (Wohlgemuth and Pütz, 2021). This relation is somewhat captured in the noticeably increasing emphasis on the multifunctionality of the design of FRM solutions and the co-benefits created by it (Curt et al., 2022; Rözer, Mehryar and Surminski, 2022). Holistic approaches to FRM tend to focus on participatory design, involving stakeholders and end-users in the planning and decision-making processes. This inclusive approach ensures diverse perspectives and needs are considered, leading to more effective and widely accepted solutions (Curt et al., 2022). By fostering dialogue and collaboration, these approaches contribute to social justice and community resilience. Modern FRM strategies aim to mitigate the impacts of floods and enhance urban resilience rather than merely preventing floods (Restemeyer, Van Den Brink and Woltjer, 2018). Central to this is the use of nature-based solutions (NBS), which provide multifunctional benefits such as enhancing biodiversity, improving water quality, and offering recreational spaces (Curt et al., 2022). NBS, like green roofs and open detention basins, support environmental sustainability and social well-being simultaneously, aligning with post-growth objectives (Curt et al., 2022). Multifunctionality is a crucial concept in contemporary FRM, integrating flood protection with additional urban benefits. For example, urban green spaces not only offer flood protection but are also thought of as improving quality of life through environmental sustainability. However, these benefits are not always equitably distributed, as seen in Bandung City, where green spaces fail to provide resilient flood protection due to their uneven spatial distribution (Afriyanie et al., 2020). This highlights the need for equitable planning to ensure that all communities benefit from flood protection and its associated co-benefits.

2.3. Post-Growth & FRM: Common Denominators

When comparing contemporary FRM with post-growth, there are common theoretical denominators. Table 1 underscores these three common concerns: (1) a shared emphasis on social values, (2) environmental considerations, and (3) the crucial role of multifunctionality in spatial design. Post-growth emphasises the impact of decisions on social experiences, contrasting the focus in FRM on enabling social functions through decisions. Both frameworks address environmental costs, with post-growth taking a broader view that includes resource depletion and overall environmental impacts, whereas FRM focuses more on immediate effects such as water quality and puts emphasis on the potential for natural ecosystem recovery. The two realms also both contemplate multifunctionality of design: They differ in that post-growth considers multifunctionality essential in design yet contemporary FRM regards it merely as one of various ways of measuring success. Nevertheless, both agree on the importance of spatial designs that effectively integrate socio-environmental functions – in the FRM context, this would extend to a design serving various functions depending on the surrounding conditions (ergo, flooded or not).

	Post-Growth	Contemporary FRM
Focus on social values	Emphasises equity, spatial connectivity, community involvement, and careful consideration of the dis-benefits of decisions for local communities	Prioritises recreation, enhancing spatial quality, and increasing adaptive capacity.
Focus on environmental values	Highlights waste minimisation, circularity, and careful consideration of the environmental costs associated with decisions.	Emphasises effects on water quality, biodiversity, habitats, and the restoration of natural ecosystems.
Multifunctionality	= A requirement if post-growth is explored in contexts where social and environmental functions are not the central focus.	= A measure of success of FRM designs that evaluates the usefulness of a FRM design when the flood safety function of the design is not required, ergo when there is no flooding.

Table 1: Differentiating interpretations in post-growth and FRM.

This comparison highlights that a translation of post-growth principles to FRM strategies needs to prioritise not only immediate environmental impacts like water quality but also broader environmental sustainability concerns such as resource depletion and biodiversity losses. Similarly, on the social justice level, this research objective entails evaluating to what extent these strategies can minimise inequalities and enhance community resilience, ensuring that adaptation efforts benefit all socio-economic groups equitably.

2.4. Research Expectations

The research puzzle, in other words, centres on understanding the quality of life expectations under different Dutch coastal adaptation strategies. These expectations are grounded in post-growth planning theory, which aims to broaden the concept of prosperity beyond economic indicators. Quality of life criteria are integral to this theory, linking prosperity to social justice and environmental sustainability; a relationship that is illustrated in the conceptual model (figure 2) by the direct link indicated through the arrow in the top-right of the model and the box below. If a decision negatively impacts either social justice or environmental sustainability, quality of life is diminished. Coastal adaptation, a key component of flood risk management (FRM), aims not only to ensure hydraulic flood safety but also to minimise social and environmental costs (see arrow on the bottom right of the model in figure 2 that indicates the direct relationship).

However, (in the Dutch context) this effort has often been influenced by economic cost-benefit analyses, which assess the economic efficiency of less socially or environmentally harmful alternatives. Multifunctionality, a concept emphasised in both contemporary FRM and post-growth planning, emerges as crucial for success. The centrality of multifunctionality in the context of this research is captured in its placement at the centre left of the conceptual model (figure 2), between post-growth planning and FRM. Post-growth planning, regardless of the primary design function (e.g. flood safety), demands that these decisions should be multifunctional and as socially and environmentally positive as possible (directly linked by the arrow in the top left of the model in figure 2). FRM, on the other hand, only indirectly relates to multifunctionality (as illustrated by the broken-line-arrow on the bottom left side of figure 2) – multifunctional solutions are welcomed, particularly in contemporary FRM, as a by-product of flood safety design but is mainly a secondary objective hinging on economic efficiency. Literature on FRM suggests that NBS are generally more multifunctional than traditional grey solutions. When multifunctionality is prioritised, social and environmental costs are balanced, leading to enhanced quality of life through the integration of multiple system functions, as captured in the model in the central horizontal arrow.

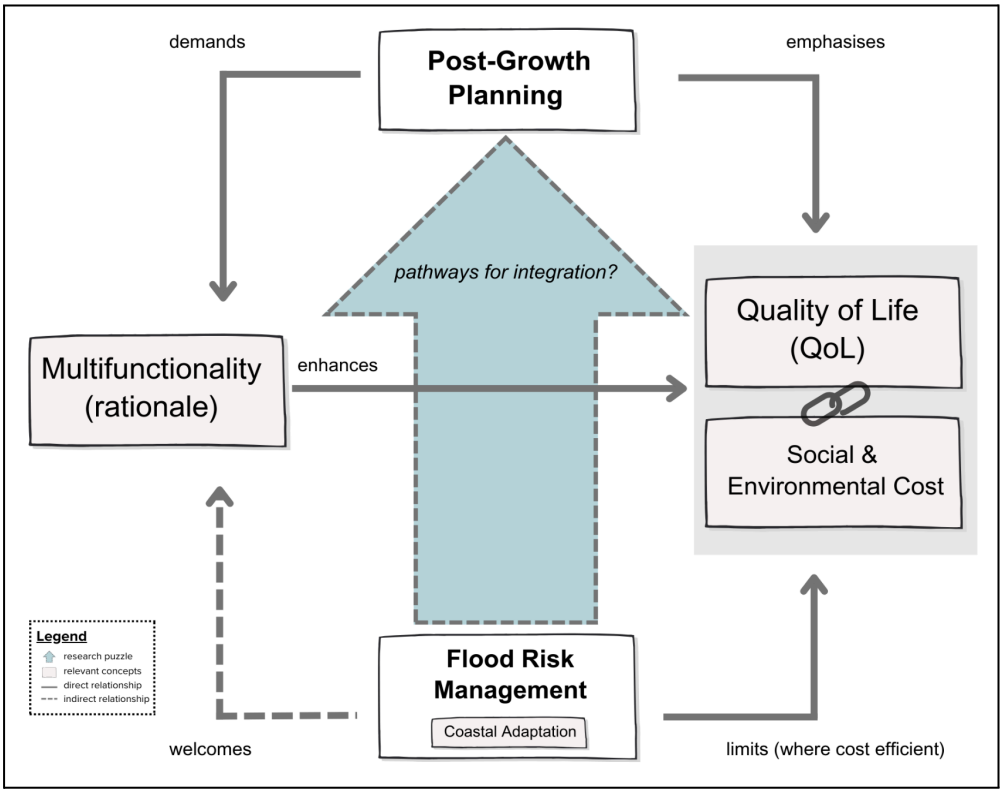

Figure 2: The conceptual model showing the relationship between concepts central to this research.

The research question focuses on the pathways for integration that FRM offers for post-growth, as visualised by the large vertical arrow in the centre of the model (figure 2). Based on this complex relationship, the coastal adaptation strategy that most aligns with the post-growth notion of quality of life is expected to be the one that (1) most embraces multifunctional design and (2) emphasises social and environmental costs over economic (in)efficiency. Consequently, the outcome of this study is anticipated to depend on the explicit and implicit environmental and social costs (dis-benefits) and (co-)benefits of the coastal adaptation strategies. Concurrently, this will more likely be the case for strategies aligned with contemporary notions of FRM due to the way they accentuate acceptance and adaptation of living to floodings. According to theoretical insights into multifunctionality in FRM, this is expected to correlate with the inclusion of NBS. Given that the 'accommodate' strategy builds on principles already applied within the Room for the River program, theoretical insights suggest that this strategy is likely the most multifunctional and, therefore, most aligned with post-growth principles.

3. Methods and Data

For this research, I employed a qualitative methodology through coded document analysis and subsequent triangulation of the data to determine which of the coastal adaptation strategies (as outlined in the introductory chapter and illustrated in figure 1) aligns most with

post-growth principles and why. Coastal adaptation was chosen as the focus of this research over other areas of flood risk management, such as urban flood management, fluvial, or pluvial flooding, due to the immediate and direct consequences of rising sea levels for coastal regions and the urgent need for adaptation in low-lying countries like the Netherlands. Coastal communities face complex water management challenges due to their vulnerability to SLR, compounded by other water-related issues like pluvial flooding. Additionally, my personal interest and passion for addressing the challenges in these regions drove my commitment to this specialisation.

3.1. Data Collection

Data was collected from three verified strategy reports published by the Dutch Ministry of Infrastructure and Water Management through the Delta Programme. These reports capture the essence, technocratic requirements and potential (adverse) effects of the pathways developed by the knowledge program from the Ministry and the Delta Commissioner. In 2019, Deltares developed three coastal adaptation strategies (thus summarising 'protect closed' and 'protect open' in one report) in response to uncertainties about the speed and extent of SLR, based on an inventory of 170 ideas and plans for the Dutch coastline by Stronkhorst and Loffler in 2008 (Stronkhorst and Loffler, 2008; Haasnoot et al., 2019). By 2024, a knowledge program initiated by the Dutch Ministry of Infrastructure and Water Management and the Deltacommissioner evaluated three overall strategies: (1) Protect, (2) Advance, and (3) Accommodate (Kennisprogramma Zeespiegelstijging, 2024a-d). Each report is authored by experts from the Dutch landscape engineering and water management sectors, including government representatives and leading agencies. The strategy cohorts developed their plans based on assumptions of a 2-metre SLR by 2100 and 5.4 metres by 2200, with unchanged storm surge and tide levels, focusing on river safety, coastal safety, and freshwater availability. The reports were directly accessed from the website where they were first published and subsequently downloaded and analysed in PDF format within the atlas.ti project file.

	'Protect'-Report	'Advance'-Report	'Accommodate'-Report
Publication Date (internal)	4 March 2024 (15 February 2024)	4 March 2024 (16 February 2024)	4 March 2024 (10 November 2023)
Report Size	65 pages excl. appendices	41 pages excl. appendices	62 pages excl. appendices
Cohort Organisations	Ministry of Infrastructure & Waterways Rijkswaterstaat Delta Commissioner Deltares Royal HaskoningDHV Arcadis TKI Deltatechnologie Sweco Witteveen+Bos Bosch Slabbers Van Oord Marine ingenuity TU Delft HKV Lijn in Water	Ministry of Infrastructure & Waterways Rijkswaterstaat Delta Commissioner Deltares Sweco Royal HaskoningDHV Arcadis TKI Deltatechnologie Witteveen+Bos Boskalis Zones Urbaines Sensibles (ZUS) Van Oord Marine ingenuity TU Delft	Ministry of Infrastructure & Waterways Rijkswaterstaat Delta Commissioner Deltares Sweco Royal HaskoningDHV Arcadis TU Delft Tauw Defacto urbanism Erasmus University Rotterdam Wageningen University Radboud University
Triangulation Data	H2O Actueel, 2019 Zuidwestelijke Delta, 2024 Omroep Zeeland, 2023 Liukku, A., 2024 Schuttenhelm, 2023	H2O Actueel, 2019 Liukku, A., 2024 Omroep Zeeland, 2023 Brown et al., 2023	Zuidwestelijke Delta, 2024 Ekker, H., 2024 Omroep Zeeland, 2023 Brown et al., 2023 Haasnoot et al., 2019

Table 2: Key data features per strategy.

The 2024 publications (for specific dates refer to the 2nd row in table 2) were selected as primary data over older accounts about the strategies and reports from other parties on the basis of three criteria:

01. Time Relevance: The reports were published in early March 2024, ensuring that the data is current and reflects the latest policy discussions (see publication dates outlined in table 2). Since the knowledge programme and the research of the three cohorts is ongoing, more recent publications will be more elaborate than older versions.

02. Author Relevance: Each report is crafted by different cohorts of experts (specified in row 4 of table 2), providing a diverse range of perspectives within the same sector. As can be gathered from the table below (table 2), the experts involved are associated with a range of leading landscape architect firms, water management firms, government agencies and research institutes. Moreover, the research is spearheaded by the Dutch government, which underlines its superior influence on future coastal adaptation compared to research or reports from external parties.

03. Social Relevance: These strategies are not merely theoretical; they are designed to guide the Dutch government's decisions regarding climate change adaptation and rising sea levels. Therefore, they have a direct impact on the quality of life for Dutch residents, particularly those living along the coastline. Two out of the three strategies are familiar to the Dutch public. The 'protect' strategy expands on current FRM by strengthening

dikes and similar measures (refer to bottom left cell in table 2), while the 'accommodate' strategy, historically tied to the room for the river program, would necessitate significant changes in land use under both 2m and 5.4m SLR scenarios (see bottom right cell in table 2). In contrast, the 'advance' strategy diverges from previous flood risk management approaches. Although less recognized, its focus on minimising inland interventions (see middle bottom cell in table 2) implies fewer alterations to existing land uses.

3.2. Data Analysis

The choice of data analysis methods for this research was determined by the research aim of conducting an in-depth examination of patterns related to the quality of life criteria across different FRM strategies. The data analysis and subsequent discussion were built in two steps: First, the data was manually coded in atlas.ti and organised hierarchically to categorise effects of each strategy. Atlas.ti played a crucial role in facilitating this content analysis through the provision of the 'query tool' which allowed for better oversight of the coded data, thereby aiding in the identification of patterns and themes among codes. In a second step, these primary data findings were triangulated against the way the different strategies are portrayed in secondary literature and other publications.

The Coding Scheme

A code tree was developed (refer to figure 3) for the systematic analysis of the reports. Based on academic literature on post-growth, the concept of quality of life is deconstructed into environmental sustainability and social justice, depicted as code groups on the left side of figure 3. These groups were further detailed into specific code categories using insights from post-growth literature (refer to appendix A for sources and example definitions). For instance, environmental sustainability may manifest in the reports as resource efficiency, zoning plans for environmental protection, or explicit consideration of environmental costs in design decisions. These examples were integrated into both the upper sections of the code tree (figure 3) and the sample definitions in appendix A. Social justice, conversely, is identified through discussions of community empowerment, equitable distribution, or awareness of social implications in decision-making (see the lower half of figure 3, with relevant examples included on the right side). Multifunctionality emerged as a significant code, bridging environmental sustainability and social justice in both FRM and post-growth planning contexts, positioned centrally between these concepts in figure 3. Due to the technocratic nature of the data and their overlap with social justice concepts such as community empowerment and participatory design, specific processes are not coded

separately but are encompassed within the broader category of community stimulation, unpacked through content analysis.

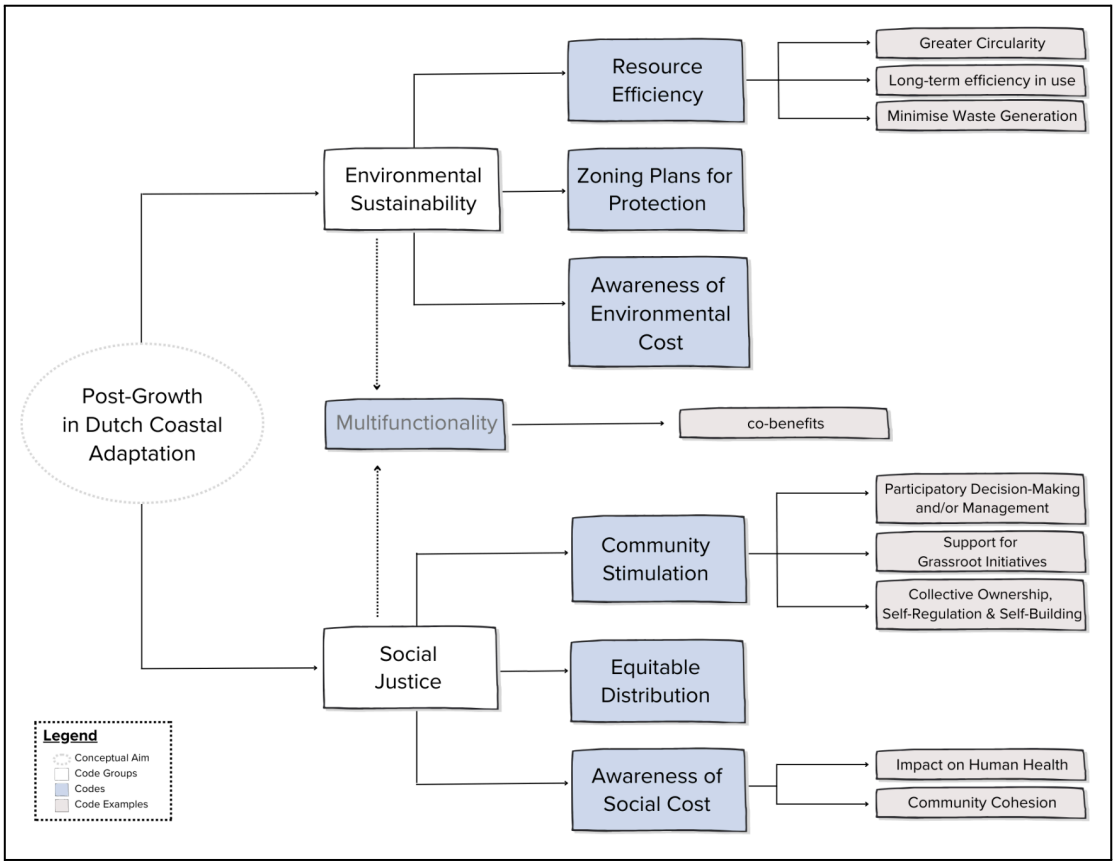

Figure 3: Deductive Coding Tree for Content Analysis

3.3. Ethical Considerations

To mitigate potential inconsistency in coding across lengthy documents, sample code definitions based on theoretical literature were developed (see appendix A). Initial coding was conducted on printouts of reports and refined digitally in atlas.ti, enhancing coding consistency and facilitating clearer organisation of code groups and subcodes. The researcher's background in international relations, supplemented by philosophy coursework, supports critical self-reflection, thereby bolstering the ethical integrity of the research process.

4. Analysis

The three strategy reports assess quality of life criteria to varying extents, primarily highlighting social impacts as disruptions to livelihoods, culture, and regional identity, especially in historically agricultural regions. Concerns about future habitability due to freshwater shortages are also prominent. Social costs receive considerably more attention

than environmental costs across all three reports, collectively depicting the environment as dynamic and replenishable. Even under a "no change" reference strategy, the reports underscore that ongoing climate change and rising sea levels will alter ways of life and the environment. Without adaptation, increased freshwater demand will reduce harvests and necessitate a shift to less water-dependent crops, rendering current land use unsustainable. Rising sea levels will make large parts of the Netherlands uninhabitable, prompting migration to higher ground as flooding becomes more frequent or permanent, and significant freshwater shortages will require changes in consumption and agriculture. While this is a crucial reference point, the data was analysed specifically with the direct effects of each strategy in mind.

4.1. Protect

The 'protect'-strategy, detailed in the second column of Table 3, incorporates environmental concerns and aims to enhance quality of life through combining hard infrastructure with NBS, actively exploring pathways for co-benefits ('meekoppelkansen'). This strategy addresses water quality issues and strives to balance environmental impacts. By building on existing structures, it limits the scale of impact to areas directly surrounding current dikes. However, outer dike areas become high-risk or uninhabitable, and the space requirements for 'protect'-measures exacerbate space scarcity, increasing competition and prices, especially inside dike rings. Additionally, continuous dike reinforcements may necessitate the removal of buildings, and the protect-open strategy could lead to significant freshwater shortages.

4.2. Accommodate

The 'accommodate'-strategy emphasises multifunctionality but faces challenges in preserving natural habitats due to space constraints. This strategy unevenly affects cities within and outside dike rings, with protection decisions based on economic productivity. As highlighted in Table 3, it exacerbates habitable space scarcity, leading to densification and reinforcing social class divisions, particularly if the transition is delayed and then occurs rapidly, as the following quote illustrates:

> *"The earning capacity in the Randstad is large (70% of GDP). If this area were to become unusable due to (too frequent) flooding, the consequences for the Dutch economy and employment would be disastrous. The social disruption will also be enormous. A relatively rapid necessary transition out of the low-lying Netherlands is expected to increase social inequality. The more affluent part of the population*

will be better equipped to move with acceptable financial consequences than the economically weaker part."[1]

Relocating infrastructure to low-risk areas reduces maintenance costs but demands significant resources. High competition for space pushes nature out of safe areas into high-risk zones, altering habitats and decreasing biodiversity. New 'wet nature' is expected to develop. Large-scale migration to higher land will occur as flooding makes much of the Netherlands uninhabitable, leading to extreme land scarcity and spatial segregation. This will result in cultural losses, significant saltwater intrusion, and a radical shift in agricultural practices.

4.3. Advance

The 'advance'-strategy focuses on using dunes for recreation and habitat creation alongside flood safety, but is limited by dune infrastructure and sand supply dependency. As detailed in Table 3, it has few direct social consequences aside from potential industrial restructuring and migration due to changes in the coastal landscape and attractiveness of the area, alongside logistical challenges in shipping. Large-scale coastal measures aim to minimise negative impacts on land use and society by reducing the need for substantial measures inland. However, creating a coastal basin in the Natura2000 area has significant environmental costs, eliminating the tide and the nature relying on it. This new coastline would affect cultural values, restrict sea access, and potentially put an end to the local fishing industry. While it limits salt intrusion, aiding agriculture, recreation would need to adapt to the new water infrastructure.

4.4. A Cross-Strategy Comparison

Environmental sustainability is central to all three strategies, albeit with differing emphases. The 'protect-strategy integrates hard infrastructure with NBS to enhance flood protection while promoting biodiversity and improving water quality. This approach aligns closely with post-growth principles by emphasising the use of sustainable, nature-centric solutions to mitigate flood risks (Curt et al., 2022), even though this strategy mainly builds on hard infrastructure. Similarly, the 'advance'-strategy focuses on creating new recreational and habitat areas within coastal dunes, aiming to balance socio-environmental losses (Table 3).

[1] Translated from Dutch (Kennisprogramma Zeespiegelstijging, 2024d, p.22): "Het verdienvermogen in de Randstad is groot (70% van BBP). Als dit gebied onbruikbaar zou worden door (te frequente) overstromingen zijn de gevolgen voor de Nederlandse economie en voor de werkgelegenheid desastreus. Ook de maatschappelijke ontwrichting zal enorm zijn. Een relatief snelle noodzakelijke transitie uit laag-Nederland zal de sociale ongelijkheid naar verwachting vergroten. Het meer welvarende deel van de bevolking zal beter geëquipeerd zijn om te verhuizen met acceptabele financiële gevolgen dan het economisch zwakkere deel."

Long-term environmental sustainability goals, typically pursued through the preservation of natural habitats and the promotion of biodiversity (Curt et al., 2022), are not supported by the strategies in the way literature suggested at the outset of this research: While 'accommodate' and 'advance' specify how new forms of nature could be encouraged in specific areas, the strategies share the notion that environmental losses are replenishable. Yet, as Haasnoot et al. (2019) stress, we need to consider measures that we may not find acceptable from the current point of view but that will be necessary when the environment changes drastically. In other words, the creation of new nature areas may be required in the face of changes the environment will inevitably witness.

In terms of social justice, the 'accommodate'-strategy stands out as the strategy with the most negative implications. On the one hand, it exacerbates the scarcity of inhabitable land in the Netherlands and thereby promotes the centralisation of urban development in nodes. On the other hand, the large-scale migration that will be necessary as a result, will have detrimental, multifaceted impact on cultural values (whether that is in the shape of fishing, local traditions, dialects and historic architectural identities). Ultimately, this strategy contradicts Durrant, Lamker, and Rydin (2023) in that fair distribution of resource and inclusive urban planning clashes with extreme scarcity of space but it aligns with the scholars' emphasis on participatory design.

All three strategies share the goal of multifunctionality. 'Protect' and 'advance' strategies integrate flood protection with new habitat creation, consistent with designing urban spaces that serve multiple socio-environmental functions as per post-growth theory (Wohlgemuth and Pütz, 2021).

		PROTECT	ACCOMMODATE	ADVANCE
Guiding logic		Enhance measures to maintain flood safety by reducing flood risk.	Restore historical floodplains, design for flooding, and minimise human vulnerability.	Implement large-scale measures at the coastline to limit the negative impact on current land use and society.
ENVIRONMENTAL SUSTAINABILITY	Resource Efficiency	While this strategy builds on existing infrastructure, the speed and size of required dike reinforcements as sea level rises raise the resource cost and reduce the efficiency of resource investment.	Moving crucial infrastructure to low-risk areas limits maintenance costs but relocation demands a large resource cost of implementation	High-risk dependency on sand supply to maintain the new coastline
	Zoning for Protection	Aside from zoning and the notion that space should be reserved for prospective dike reinforcements, nature is not allocated a specific zone for protection.	Zoning not for the purpose of protecting environmental value: Nature is pushed out of high areas (extreme competition for space) to the high-risk areas.	No consideration of zoning for nature areas inland but emphasis on the opportunity the sandy coastline would offer for new nature (making new habitat).
	Awareness of Environmental Cost	The report suggests a strive for balancing environmental costs, e.g. by the combination of NBS with the hard infrastructure under this strategy and through the focus on water quality.	WIth nature areas largely (if not entirely) pushed to lower grounds with high risk of flooding, habitats change significantly, biodiversity likely decreases. New, 'wet nature' is expected to develop as a result.	The area for the foreseen coastal basin is currently a Natura2000 area – meaning that the environmental cost is significant. The new coastline would remove the tide and tidal nature from the current coastline.
SOCIAL JUSTICE	Community Stimulation	While the report suggests that societal discussion about this strategy and social acceptance of it are crucial, there is no consideration as to how local communities could be involved or stimulated.	Specifically stresses the need for an integrated governance approach wherein participatory design is one of three core pillars (alongside top-down and market-led variables).	The report mentions the need for social acceptance yet does not go into any detail regarding the involvement of citizens nor the general governance approach.
	Equitable Distribution	Outer dike areas become high-risk areas or uninhabitable as a whole. Space requirements for Protect-measures exacerbate space scarcity, thus increasing the competition and price of space, particularly inside dike rings.	Densification (large scale migration) to higher, inhabitable land as frequent and constant flooding will make large parts of the Netherlands uninhabitable. With *extreme* land scarcity as a result, land with low flood risk will be extremely valuable, potentially triggering (more extreme) spatial segregation of social classes.	[Marginal focus of the report aside.] the creation of the coastal basin and the construction of the islands as second (new) coastline would grant near-even benefit to residents living in the relevant area (in the south-west of the Netherlands).
	Awareness of Social Cost	Removal of buildings to make way for (continuous) dike reinforcements and significant freshwater shortage under the protect-open strategy.	Significant cultural losses due to migration, building destruction, yet restoration of hydraulic history. Significant salt water intrusion will demand a radical shift of agricultural practice.	A new coastline would significantly affect cultural values by restricting access to sea, changing the fishing industry (potentially leading to its disappearance). Yet again, the coastal basin would keep salt intrusion to a limit, which is favourable for agricultural practice. Recreation would need to adapt to the new water infrastructure under this strategy.

**The ranking by colour is based on the comparison across the strategies and is not to indicate a perfect representation of the principles. [Green= 1st rank, …, Red= 3rd rank]*

Table 3: Expected impacts under each strategy (based on coding of Kennisprogramma Zeespiegelstijging 2024a-2024d).

4.5. Data Triangulation

No single strategy can fully address SLR; a combination of approaches, tailored to specific contexts, is necessary (Zuidwestelijke Delta, 2024). All strategies demand substantial investment, space, and time (Ekker, H., 2024). Exploring adaptation pathways can help allocate resources efficiently and ensure long-term sustainability by highlighting the dependencies of various options (Haasnoot et al., 2019). Future strategies may need to include currently unacceptable options, emphasising the importance of ongoing research and flexible planning to avoid resource inefficiencies and costly retrofitting (Haasnoot et al., 2019).

Secondary Data on 'Protect'

The 'protect'-strategy focuses on reinforcing dikes to combat rising sea levels. However, continuous dike reinforcements will increasingly infringe on residential areas, requiring building destruction or relocation, especially where space is becoming scarce inside dike areas (H2O Actueel, 2019; Zuidwestelijke Delta, 2024). A protect-open strategy might mitigate salt intrusion but would negatively impact nature, shipping, agriculture, and tidal ecosystems (Omroep Zeeland, 2023). Conversely, a protect-closed strategy would enhance freshwater availability but require massive infrastructural changes. Alex Hekman of Sweco notes that a two-metre SLR would necessitate closing the sea passage to avoid excessive dike reinforcement, which would otherwise displace tens of thousands of homes (Liukku, A. 2024). Schuttenhelm (2023) adds that this would also require pumping extremely large quantities of river discharge into the sea.
Overall, the 'protect-strategy demands substantial space and timely infrastructure adaptation (H2O Actueel, 2019; Zuidwestelijke Delta, 2024). Critics argue that beyond a two-metre SLR, dike improvements become unsustainable, leading to questions regarding the resource management efficiency under this strategy (Schuttenhelm, 2023).

Secondary Data on 'Accommodate'

The 'accommodate'-strategy accepts the inevitability of rising sea levels and aims to adapt accordingly. This involves shifting nature and recreation areas, developing new 'wet nature', and potentially requiring migration from vulnerable regions like the southwestern delta (Zuidwestelijke Delta, 2024). In the long term, this strategy may not sustain key economic centres like the Randstad due to high flood risks, which adds urgency to research into the coastal adaptation strategies (Ekker, H., 2024). While minimal SLR could be managed with waterproofed dikes, significant parts of Zeeland would face increased salination and

flooding, necessitating living on large mounds and adapting land use to new conditions (Omroep Zeeland, 2023).

Migration poses considerable challenges, including managing losses in land tenure, political representation, cultural identity, and economic opportunities. Effective integration into new areas requires preserving language, diet, and existing communities (Brown et al., 2023) – elements not yet considered nor attempted to mitigate in the March 2024 reports. Ultimately, this strategy in particular must be planned to align positively with societal needs and minimise loss and damage (Haasnoot et al., 2019).

Secondary Data on 'Advance'

The 'advance'-strategy involves creating "new land" and raising existing land levels to counter SLR. This method can alleviate the need for constant dike reinforcement by allowing water to be pumped out to sea, thus maintaining the habitability of areas outside dikes (Liukku, A. 2024). However, as stressed by Omroep Zeeland (2023), this approach has significant ecological and cultural impacts. The fishing industry near the coast and unique tidal ecosystems would largely disappear, affecting local biodiversity and cultural heritage. Additionally, the 'advance'-strategy faces several challenges, including limited resources (sand and space), social acceptance, and high costs (H2O/Waternetwerk, 2019). Brown et al. (2023) emphasise the need to address not only technical solutions but also policy, human, physical, engineering, and economic challenges, reinstating the previous finding that there is only limited consideration for the socio-environmental impact of these measures.

Having explored the data on environmental sustainability and social justice in the strategies, a brief discourse on the parallel concept of spatial quality in FRM is granted: Spatial quality, albeit highly ambiguous, can generally be boiled down to the quest to integrate aesthetic, functional, and social aspects into flood protection strategies (Restemeyer, Van Den Brink and Arts, 2024). Wiering et al. (2018) argue that flood safety often takes precedence over spatial quality due to institutional fragmentation and path dependency in 'fighting the water'. 'Advance', as a novel FRM strategy, faces greater social and institutional acceptance challenges than 'Protect' and 'Accommodate', which are closer to current and past flood management policies. While post-growth principles prioritise factors beyond spatial quality, it is worth exploring how the strategies outlined by Busscher, Van Den Brink, and Verweij (2018) — the Program-as-guardian, Project-as-driver, and Going-all-in strategies — could align with and support the post-growth agenda in FRM.

5. Conclusion

The study was built on a theoretical framework rooted in two post-growth principles of quality of life: environmental sustainability and social justice. This framework elucidated how FRM and post-growth relate to another, emphasising integrated approaches that balanced ecological and societal concerns. Data analysis involved coding and content analysis using atlas.ti, a process by which the data was systematically organised and interpreted. Findings were subsequently compared within the context of relevant post-growth principles that informed the coding process. The discussion critically engaged these findings, drawing upon the established theoretical foundation and insights from secondary sources to assess their implications for advancing sustainable flood resilience strategies.

5.1. Summary of Research Findings

What are post-growth planning principles for advancing quality of life?

Post-growth planning aims to redefine prosperity beyond economic metrics by emphasising social justice, environmental sustainability, and multifunctional spatial design. These principles advocate for policies that prioritise human well-being, equitable resource distribution, and integration of socio-environmental functions to enhance overall quality of life.

Which of these principles can be traced in the three adaptation strategies?

Overall, there is much greater concern for social cost over environmental costs. Yet at the same time, the principles of zoning for nature and community stimulation are unevenly addressed across the three adaptation strategies. Zoning for nature received marginal discussion in all strategies due to current priority-setting, while community stimulation was specifically addressed only in the 'accommodate'-strategy, forming one of its key pillars of governance and was absent in the other reports.

Which Dutch coastal adaptation strategy is most accommodating of post-growth principles and why?

Having explored the above, it can finally be concluded that, at the current stage of explorative research into the three strategies, protect(-closed) balances both environmental sustainability and social cost best in the short-term (see table 3). The use of existing structures significantly limits the social costs in particular and in the closed scenario, saltwater intrusion can be controlled, limiting or at the very least delaying changes in agricultural practice. Yet again, there is much more detail to be added to all three strategy

explorations, specifically in the context of governance and the indicated potential for combining elements of the strategies.

5.2. Process Reflections

Initially, I faced challenges defining the theoretical focus and managing complex data, which may limit the practical application of findings in FRM. Language barriers in document analysis and limited field experience were notable hurdles. Focusing solely on strategy reports from March 2024 may also constrain the study's broader relevance.

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Appendices

APPENDIX A: Sample Code Definitions

The following code definitions were drawn up based on the author's notes from the relevant literature (see code-specific sources), synthesised in consultation of Chat-GPT (version 3.5, 2024):

❖ Table A1: Sample Code Definitions Group "Environmental Sustainability"

Code No.1	**RESOURCE EFFICIENCY**
Short Definition	Resource efficiency is the sustainable use of materials and energy to minimise waste and maximise long-term utility.
Full Definition	Resource efficiency refers to the practice of using materials and energy in a way that (1) minimises waste, (2) maximises circularity, and (3) ensures long-term sustainability. This involves planning and regulating development to achieve high levels of efficiency, emphasising renewable energy, adaptable building designs, and the careful management of infrastructure to balance renewal and conservation within environmental limits.
When	When there are discussions surrounding measures that minimise waste, maximise circularity through reuse and recycling, or ensure long-term sustainability in FRM practices. This concerns the planning and maintenance phases.
When NOT	Does not apply in instances such as immediate emergency response efforts during a flood event, where the priority lies in swift evacuation and rescue operations rather than long-term sustainability considerations.
Sources	Durrant, D., Lamker, C. and Rydin, Y., 2023; Wohlgemuth, O. and Pütz, M. (2021); Hickel, J. et al. (2021); Savini, F., Ferreira, A.J.M. and Von Schönfeld, K.C. (2022)
Code No.2	**ZONING FOR PROTECTION**
Short Definition	Zoning plans for protection allocate land for housing, fair flood protection, urban green spaces, and high-density development, integrating environmental, social, and economic considerations.
Full Definition	Zoning plans for protection involve allocating land to safeguard public, social, and community housing, ensuring equitable distribution of flood protection, and preserving green and open spaces for urban climate and biodiversity. These plans promote inner urban development with high-density, efficient land use tailored to local contexts, balancing environmental, social, and economic needs to foster community well-being and sustainable living environments.
When	This code concerns the broader development or adaptation of zoning plans and as such, serves as a procedural tool to flood infrastructure planning with a restrictive rationale.
When NOT	This code does not apply to zoning that follows the purpose of centralising or enhancing economic activity, nor to zoning that prioritises urban development over room for flood protection or nature areas.

Sources	Durrant, D., Lamker, C. and Rydin, Y. (2023); Wohlgemuth, O. and Pütz, M. (2021); Haslauer, E. et al. (2014)
Code No.3	**AWARENESS OF ENVIRONMENTAL COST**
Short Definition	Awareness of environmental costs in flood risk planning involves assessing long-term impacts and promoting sustainable, equitable practices.
Full Definition	Awareness of environmental costs in flood risk planning involves evaluating the long-term environmental impacts of flood risk measures, emphasising the ethical responsibility to avoid exceeding environmental limits. This includes estimating biodiversity loss, considering trade-offs, and promoting environmental regeneration and justice, ensuring that flood risk measures support sustainable and equitable development practices.
When	This code applies when a strategy includes an environmental cost-benefit analysis of solutions wherein the impact on nature surrounding the proposed measures is considered.
When NOT	This code does not apply when proposed FRM solutions attempt to balance environmental losses with co-benefits, treating biodiversity losses as reconcilable assets rather than irreversible losses.
Sources	Durrant, D., Lamker, C. and Rydin, Y. (2023); Savini, F., Ferreira, A.J.M. and Von Schönfeld, K.C. (2022); Schmid, B. (2021)

❖ Table A2: Sample Code Definitions Group "Social Justice"

Code No.4	**COMMUNITY STIMULATION**
Short Definition	Community stimulation in planning empowers residents to actively shape their communities, foster inclusive development, and enhance social cohesion and belonging.
Full Definition	Community stimulation involves fostering participatory decision-making, supporting grassroots initiatives, and encouraging collective ownership and cohabitation. This includes bottom-up emancipatory transformations, exploring innovative local solutions, and promoting co-design and collaboration with the public. The aim is to create socially and functionally mixed neighbourhoods with shared spaces, enhancing community cohesion, belonging, and a culture of sufficiency and care. This approach ensures that development is inclusive, transparent, and responsive to the needs and ideas of the community.
When	This code applies when there is a focus on engaging the local community to enhance community cohesion. This involves incorporating residents' input into plans, whether that is at a project's inception or in the maintenance phase, and supporting grassroots initiatives.
When NOT	Does not apply when decisions are made solely top-down, excluding input from the local community, or when technical solutions are not aimed at being customised to meet local needs and interests.
Sources	Schmid, B. (2021); Durrant, D., Lamker, C. and Rydin, Y. (2023); Savini, F., Ferreira, A.J.M. and Von Schönfeld, K.C. (2022); Wohlgemuth, O. and Pütz, M. (2021)

Code No.5	EQUITABLE DISTRIBUTION
Short Definition	The purpose of equitable distribution in planning is to ensure fair allocation of resources and opportunities, address social inequalities, and promote a just and sustainable society.
Full Definition	Equitable distribution involves fairly allocating resources and opportunities, including redirecting development to areas in need, ensuring equal flood protection, and promoting access to basic services. It requires addressing social inequalities, guaranteeing living wages, and fostering synergistic solutions for social and environmental challenges, advocating for a more just and sustainable society.
When	This code applies in instances where strategies emphasise the equal effect of the flood risk function offered by the strategy or specific strategies discussed.
When NOT	The code should not be applied if new measures obstruct access to basic services or disproportionately benefit certain areas, reinforcing economic hubs.
Sources	Durrant, D., Lamker, C. and Rydin, Y. (2023); Wohlgemuth, O. and Pütz, M. (2021); Hickel, J. et al. (2021); Schmid, B. (2022); Schmelzer and Vetter (2019); Afriyanie, D. et al. (2020)
Code No.6	**AWARENESS OF SOCIAL COST**
Short Definition	Awareness of social costs is crucial in planning, as it involves recognising and considering the impacts of interventions on the community and beyond.
Full Definition	Awareness of social costs involves recognising and considering the broader impacts of planning on human health, urban lifestyles, and community well-being (during the ideation and planning phases). In FRM, these process considerations must include e.g. the potential loss of housing, personal/cultural heritage, agricultural yields, and natural areas, as well as deteriorating scenic beauty and effects on mental or physiological health.
When	This code applies when FRM plans are subjected to a critical review regarding the impact these plans will have on the residing communities and their livelihoods.
When NOT	This does not apply when there is a lack of consideration for how the placement and effect of FRM measures may impact social cohesion and when the social cost is exclusively defined in economic terms.
Sources	Savini, F., Ferreira, A.J.M. and Von Schönfeld, K.C. (2022); Klijn, F. e.a. (2013)

❖ Table A3: Sample Code Definition "Multifunctionality"

Code No.7	MULTIFUNCTIONALITY
Short Definition	Multifunctionality integrates interventions for flexible, multi-purpose spaces, addressing both immediate flood risk reduction and long-term socio-environmental enhancement.
Full Definition	Multifunctionality encompasses interventions that integrate resource

	efficiency, zoning for protection, and awareness of environmental and social costs with community stimulation and equitable distribution, emphasising the idea of spaces serving multiple functions simultaneously through flexible use. In FRM, this concept prioritises solutions that not only reduce exposure to risk but also enhance socio-environmental functions on a daily basis, addressing both immediate and long-term consequences of flood risk.
When	This code concerns the flexible use of space for a variety of (secondary) functions and the holistic value the design brings to the environment and the communities alongside the fulfilment of the hydraulic flood risk function (key function).
When NOT	This code does not apply when just one of the three pillars of function (see above) are incorporated in the vision or designs.
Sources	Wohlgemuth, O. and Pütz, M. (2021); Klijn, F. e.a. (2013)

APPENDIX B: Data Management Plan

1. General	
1.1. Name and title of thesis	Where Post-Growth Meets Coastal Adaptation: A Socio-Environmental Evaluation of Three Dutch Coastal Adaptation Strategies
1.2. (*if applicable*) Organisation. Provide details on the organisation where the research takes place if this applies (in case of an internship)	-

2. Data collection - the creation of data	
2.1. Which data formats or which sources are used in the project? For example: - Theoretical research, using literature and publicly available resources - Survey data - Field Data - Interviews	I made use of 3 publicly available reports affiliated with the Ministry of Infrastructure and Water Management for theoretical research.
2.2. Methods of data collection What method(s) do you use for the collection of data? (Tick all boxes that apply)	☐ Structured individual interviews ☐ Semi-structured individual interviews ☐ Structured group interviews ☐ Semi-structured group interviews ☐ Observations ☐ Survey(s) ☐ Experiment(s) in real life (interventions) ☐ Secondary analyses on existing data sets (if so: please also fill in 2.3)

	☑ Public sources (e.g. University Library) ☐ Other (explain):
2.3. (if applicable): if you have selected 'Secondary analyses on existing datasets': Who provides the data set?	☐ ~~Data is supplied by the University of Groningen.~~ ☐ ~~Data have been supplied by an external~~ ☐ ~~party. (Please mention the party here).~~

3. Storage, Sharing and Archiving	
3.1. Where will the (raw) data be stored during research? If you want to store research data, it is good practice to ask yourself some questions: - How big is my dataset at the end of my research? - Do I want to collaborate on the data? - How confidential is my data? - How do I make sure I do not lose my data? Need more information? Take a look at the site of the Digital Competence Centre (DCC). Feel free to contact the DCC for questions: dcc@rug.nl	☑ X-drive of UG network ☐ Y-drive of UG network ☐ (Shared) UG Google Drive ☐ Unishare ☐ Personal laptop or computer ☐ External devices (USB, harddisk, NAS) ☐ Other (explain): Note: The dataset consisted of three coded documents published online by a Dutch government ministry, where they are openly accessible by anyone with internet access (and sufficient Dutch language skills). Because this research does not involve the processing of personal data and exclusively deals with literature and documents publicly accessible, the data is not confidential.
3.2. Where are you planning to store/archive the data after you have finished your research? Please explain where and for how long. Also, explain who has access to these data. NB do not use a personal UG network or Google Drive for archiving data!	☑ X-drive of UG network ☐ Y-drive of UG network ☐ (Shared) UG Google Drive ☐ Unishare ☐ In a repository (i.e. DataverseNL) ☐ Other (explain): ☑ The retention period of raw data will end once the project has been graded.
3.3. Sharing of data With whom will you be sharing data during your research?	☐ University of Groningen ☐ Universities or other parties in Europe ☐ Universities or other parties outside Europe ☑ I will not be sharing the data with anyone aside my direct research supervisor.

4. Personal data

4.1. Collecting personal data Will you be collecting personal data?	No
If the answer to 4.1. is 'no', please skip the section below and proceed to section 5.	
[sections 4.1 to 4.6 removed due to irrelevance to this research project]	
5. Final Comments	
Do you have any other information about the research data that was not addressed that you think is useful to mention?	-