

STAKEHOLDER PERCEPTIONS OF NATURE–  
INCLUSIVE AGRICULTURE  
IN SOUTH HOLLAND PEAT MEADOW AREA:  
A SOCIO– ECONOMIC ANALYSIS



by

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A Master's Thesis

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August 2024

## **Preface**

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## **Acknowledgements**

I would like to express my gratitude to my coach, Piero Morseletto, and my co– reader, Ronny Reshef, for their support and helpful advice while writing my thesis. Their encouraging words, thoughtful discussions, and valuable feedback have been very important to me. Additionally, I would like to thank Saskia Ruijsink and Esther van der Ent for managing the LDE thesis lab on sustainable landscape transformation in South Holland. I also want to thank my peers in the thesis lab for their support, engaging conversations, and the fun we had during this project. Lastly, I am grateful to all the enthusiastic interviewees involved in this research.

## **Executive summary**

This thesis delves into stakeholder perspectives on nature– inclusive agriculture (NIA) within South Holland's peat meadow region and explores their alignment with policy goals. Using qualitative methods like semi– structured interviews with farmers, policymakers, environmental groups, and citizen initiatives, the study investigates a spectrum of viewpoints on NIA initiatives and their implications for policy implementation. The findings reveal diverse attitudes towards NIA. Stakeholders express varying degrees of enthusiasm, emphasising benefits such as environmental sustainability, biodiversity conservation, and enhanced landscape appreciation. However, concerns about regulatory complexity and potential impacts on traditional farming practices also emerge, underlining the necessity for more precise definitions and improved communication about NIA to solve regulatory complexity.

Social value capture, meaning how organizations make social value and other forms of societal profit, emerges as pivotal for NIA, fostering connections between urban and rural areas and boosting community involvement through initiatives like community– supported agriculture (CSA). Stakeholders recognise NIA's role in enhancing ecosystem services, including improving water quality, supporting biodiversity, and providing cultural and recreational benefits, all of which contribute to societal well– being and environmental health.

Regarding socio– economic impacts, NIA is seen as a strategy to lower farm and societal costs, increase employment opportunities, and promote public health. Challenges such as potential industry consolidation and heightened community tensions highlight the need to balance economic benefits with social considerations in policy formulation. Aligned with Brede Welvaart (BW), the Dutch equivalent to well– being economics, NIA presents opportunities to advance economic, social, and environmental goals. Policy recommendations include refining NIA definitions, tailoring strategies to local contexts, and ensuring coherence across policy documents to streamline implementation. Future research should focus on quantitative analyses to comprehensively explore socio– economic trends and optimise the benefits of NIA initiatives.

In conclusion, this thesis provides a foundational understanding of stakeholder perceptions towards NIA in South Holland's peat meadow region. It underscores the significance of stakeholder engagement, precise policy definitions, and strategic alignment with regional socio– economic contexts for promoting NIA and achieving sustainable agricultural transitions effectively. Further research is recommended to quantify socio– economic impacts and enhance the effectiveness of NIA policies.

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## **Acronyms and Abbreviations**

AES	= Agri- Environment Schemes
AFNs	= Alternative Food Networks
BW	= Brede Welvaart
CAP	= Common Agricultural Policy
CBS	= Central Statistics Office
CES	= Cultural Ecosystem Service
CSA	= Community Supported Agriculture
ES	= Ecosystem Service
GDP	= Gross Domestic Product
N2000	= Natura 2000
NIA	= Nature Inclusive Agriculture
PBL	= Plan Bureau Living environment
RES	= Recreational Ecosystem Service
SEEA	= Social Economic Effect Analysis
SER	= Social Economic Board
WIS	= Water Infiltration System

## Introduction

Amidst growing concerns over environmental degradation and biodiversity loss stemming from conventional farming practices, the paradigm of nature– inclusive agriculture (NIA) emerges as a promising solution. NIA emphasises integrating ecological principles and biodiversity conservation into agricultural systems (Runhaar, 2017; Klebl et al., 2023). Globally, the consequences of intensive production are becoming increasingly apparent, manifesting in habitat loss, groundwater depletion, declining soil quality, biodiversity loss and excessive nitrogen release (Brouwer et al., 2016; EEA, 2015a; EEA, 2015b; Runhaar, 2017; Morseletto, 2019). These negative impacts have increased exponentially due to changing consumption patterns and growing populations (Dudley & Alexander, 2017).

More specifically, in the peat meadow region of Zuid– Holland province, stakeholders such as environmental organisations, companies in agri– food chains, citizen volunteers and policymakers are keen to address the negative consequences resulting from unsustainable agriculture practices, in particular, excess of nitrogen, declining soil quality, land subsidence (Zuid– Holland, 2023; Runhaar, 2017). Specifically, excess nitrogen derives from the overuse of fertilisers, which also causes the impoverishment of soil quality. In contrast, land subsidence derives from aquifer– system compaction and drainage of organic soils (Morseletto, 2019; Galloway & Burbey, 2011).

NIA can represent a remedy to these challenges, envisioning farming practices that promote biodiversity, improve soil and water quality, and mitigate environmental degradation (Westerink et al., 2021; Ministerie van Landbouw, natuur en voedselkwaliteit, 2018). It is closely associated with concepts like regenerative and circular agriculture, aiming to enhance ecosystem resilience and sustainability (Westerink et al., 2021; Dagevos & Lauwere, 2021). In the Netherlands, stakeholders ranging from the government to agricultural collectives actively promote NIA, emphasising practices that avoid negative impacts on biodiversity while benefiting from and enhancing it (Runhaar et al., 2017).

However, the adoption of NIA has its challenges. Despite its potential benefits, there have been protests and resistance to NIA initiatives across Europe, indicating a complex landscape of socio– economic and environmental factors (Vermunt et al., 2022). In addition, policymakers might have questions about the externalities that derive from their NIA interventions and whether their policy objectives align with the perceived reality of the stakeholders involved (Gonzalez Martinez, 2019). This requires an examination of the socio– economic consequences and governance mechanisms surrounding NIA implementation.

The concept of governance in the agricultural sector becomes pertinent in understanding how various stakeholders interact and influence each other to achieve their objectives (Termeer et al., 2013).

Governments play a crucial role in incentivising and regulating NIA initiatives, aligning them with broader socio-economic objectives such as those outlined in the Dutch government's Team Brede Welvaart. Brede Welvaart (BW), translated literally as “Broad Welfare”, can be defined as "The quality of life here and now, and the extent to which it comes at the expense of the broad welfare of later generations, or that of people elsewhere in the world" (CBS, 2022, 2). Originating in the Netherlands in 2011 and inspired by literature trying to conceptualise welfare, BW is endorsed by the Dutch Social Economic Board (SER) and addresses areas such as entrepreneurship, decent work, sustainable growth, and an inclusive society (SER, 2021). Additionally, BW is highlighted in the Climate Accord Netherlands 2023– 2027 (Zuid Holland, 2023), which underlines the relevance within Dutch policies.

This thesis aims to analyse the attitudes and perceptions of different stakeholders, including farmers, policymakers, citizen initiatives, and environmental organisations, towards NIA in the South– Holland peat meadow area (Veenweiden). This region, therefore, becomes the case study of this thesis. By tracing the development of attitudes towards environmental practices and their alignment with current socio-economic objectives derived from BW, this study sheds light on the socio-economic implications of NIA implementation. Furthermore, the findings of this research are expected to provide insights for governance practitioners seeking to influence farming practices effectively, emphasising the importance of understanding stakeholder attitudes and perceptions and their relationship with the surroundings in shaping policy interventions and landscape planning (Dessart et al., 2019; Carvalho Ribeiro, 2013).

Under the reasoning outlined above, the research question guiding this study is:

**What are the perceptions and attitudes of different stakeholders towards nature– inclusive agriculture in South Holland Peat Meadow area, and how do these align with its policy objectives?**

To answer this question, the thesis considers stakeholders, in this case, farmers incorporating NIA, citizen initiatives, environmental organisations, and policymakers, all of whom are involved in the peat meadow area. Data will be collected on their feelings, beliefs, and evaluations towards NIA initiatives in general and past and future initiatives. Understanding the interpretation of the changes in the stakeholders' environment is relevant when achieving policy objectives. Examples of policy objectives that will be analysed are social equity, life satisfaction, economic resilience and environmental sustainability and are in line with the Brede Welvaart implementation and nitrogen objectives in the ZHPLG policy report by the province of South Holland (PZH, 2024).

The case study will be contextualised in the following sections, and the literature review will delve into relevant concepts such as NIA, its role in governance, and the conceptualisation of welfare and social-economic effect analysis.

## Area of case study: Peat meadow area

To understand the significance of the term "Veenweiden" (translated as peat meadows), we must first understand the selected case region for this study. Veenweiden refers to a specific type of soil found in various areas across the Netherlands. Figure 2 provides an overview of different soil types in the region (LTO, 2021).

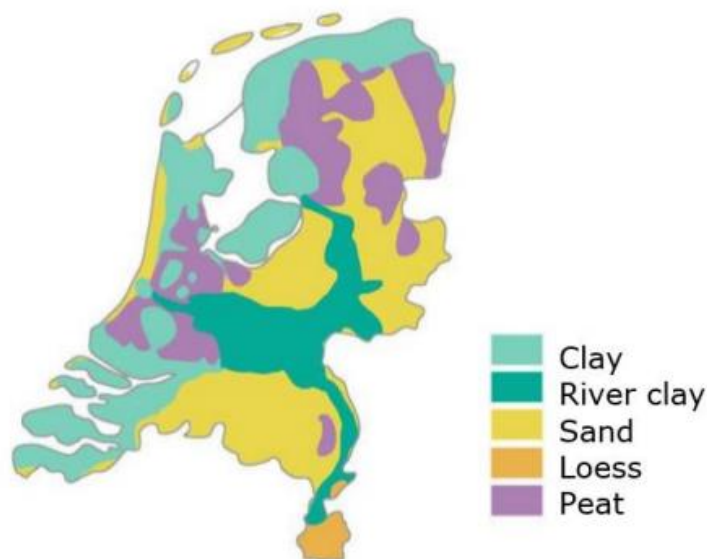


Figure 2 (LTO, 2021)

The peat meadow area in South Holland confronts challenges associated with land subsidence and rising nitrogen levels (PZH, 2024). Encompassing the rural expanse north of Rotterdam and Dordrecht and the area east of the bulb-growing region and the Westland, this region experiences various manifestations of soil subsidence. For instance, desiccation in peat meadow areas contributes to accelerated peat degradation, exacerbating subsidence issues (Hardeveld et al., 2018; Janssen et al., 2022) respectively leading to a risk of soil salinisation (Janssen et al., 2022; Daliakopoulos et al. 2016). On average, the peat meadow area sinks by 1 cm per year, resulting in significant implications for agriculture, nature, buildings, and infrastructure (PZH, 2024).

Recognising the decline and degradation of natural areas in the peat meadow, the Dutch government implemented policies to restore nature and combat land subsidence and nitrogen level increases. However, with the decentralisation measure in 1994, the responsibility for implementing these measures was delegated to the provinces, where it remains today (Ulug et al., 2024).

Thus, in response to these emerging challenges, the province of South Holland introduced a strategy known as "Vitale Veenweiden," incorporating the region into one of the three core improvement areas outlined in their "Zuid Hollands Programma Landelijk Gebied" (South Holland Rural Area Program).

This program serves as South Holland's strategic roadmap for addressing the evolving landscapes of its rural areas. The case study area, highlighted in green in Figure 3, will serve as this thesis's primary data collection area.

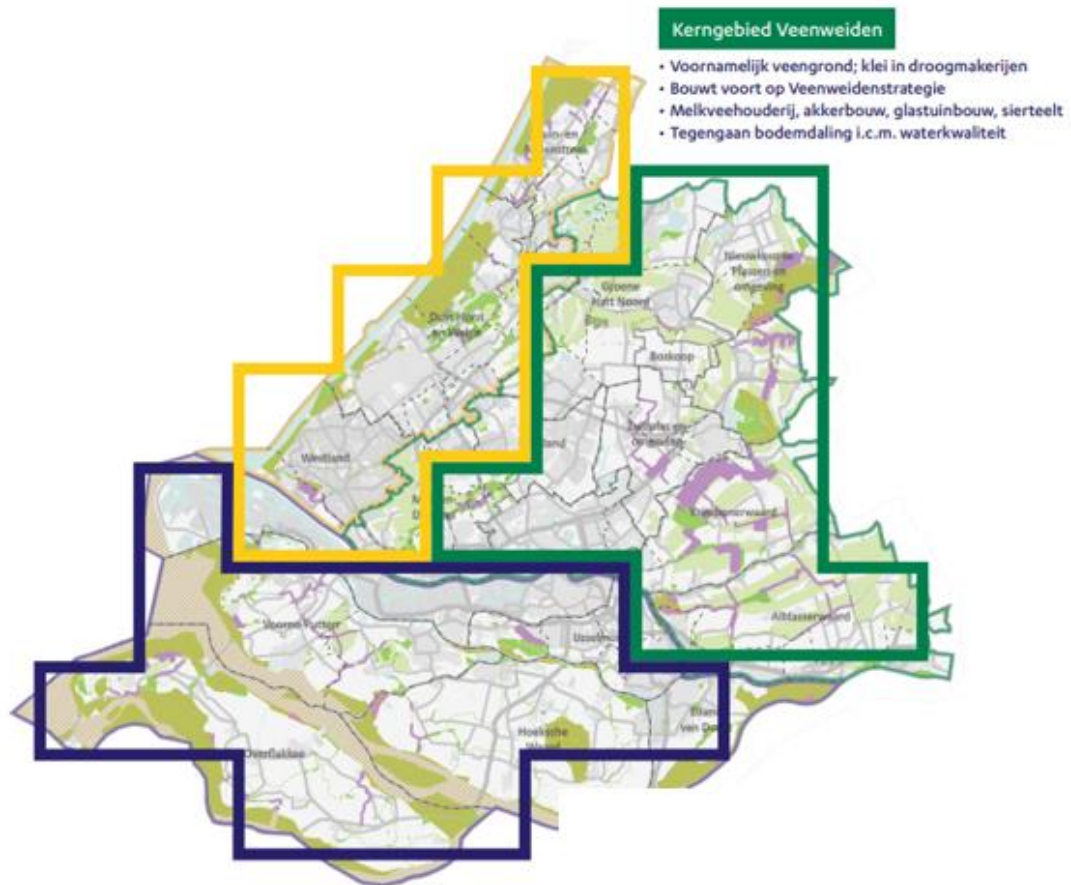


Figure 3: The three core areas of the South Holland rural area program (source PZH., 2024)

Several NIA initiatives, specifically in the peat meadow area, have been investigated to acquire contextual knowledge for this thesis and portray the diversity NIA can entail. This exploration can be found in Table 1 in Appendix 2.

## Literature review

In this section, a comprehensive literature review is conducted, focusing on the academic research and policy discussions related to NIA. Key academic studies in this field are summarized, and significant agricultural policy issues are explored. This review aims to provide a holistic understanding of the current socio-economic trends and the effects associated with NIA and agricultural policies, offering theoretical insights.

## Nature Inclusive Agriculture

NIA represents a significant departure from conventional agricultural practices, highlighting the integration of ecological principles and biodiversity conservation into food production systems. NIA extends beyond the mere provision of food security and farmer livelihoods, prioritising environmental sustainability and rural development.

According to Erisman et al. (2017, 8), NIA is defined as “a form of sustainable agriculture and a part of a resilient ecosystem and food system. It makes optimal use of ecological processes and integrates them into farming practice. Nature-based agriculture also directly contributes to the quality of the natural environment itself, producing food within the boundaries set by the environment and having a positive impact on biodiversity.”

This approach encompasses farming practices aimed at promoting biodiversity, enhancing soil and water quality, and mitigating environmental degradation. At its essence, NIA seeks to reconcile agricultural production with nature conservation, acknowledging the interdependence between healthy ecosystems and sustainable food systems. Vermunt et al. (2022) categorise NIA into three distinct categories, detailed in Figure 1.

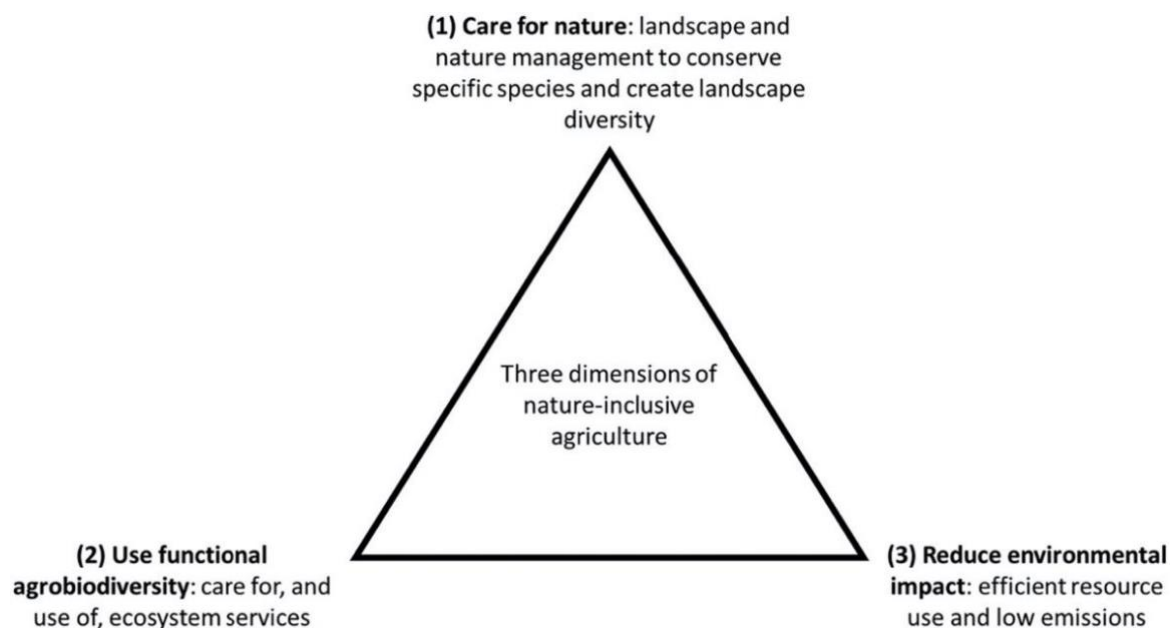


Figure 1: Three main categories of NIA (source: Vermunt et al., 2022)

NIA could be seen through different levels, as Erisman et al. (2017) & Silvis et al. (2022) argued. They identified four different levels of NIA that increase with the respective number in order.

1. Meet legal obligations and farmyard planting (i.e., grazing according to the minimum requirements);
2. Participation in agricultural nature management and other measures, but not integrated into business operations (i.e., implementing solutions such as hanging nesting boxes and creating wetlands);
3. Adjustments in farm management, use of functional agrobiodiversity, attention to soil fertility and optimisation of circular farming (i.e., providing space for natural animal behaviour and management of landscape elements);
4. Fully nature– inclusive (circular) farm, functioning optimally in and with the natural environment. (i.e., implementing herbaceous grassland and robust cow breeds within water and nature meshing environments.)

In recent years, there has been a growing body of research, including pilots and literature reviews, exploring the concept of NIA and its relevance within policy frameworks and literature (Smits et al., 2019; 2020; Van Doorn, 2016; Lesschen et al., 2020). Researchers have identified ten arrangements that promote NIA (Runhaar et al., 2017). One notable response to address challenges in agriculture dates back to 1962 with the introduction of the Common Agricultural Policy (CAP) by the European Economic Community (EP, 2011). This policy framework fosters a partnership between society and agriculture, ensuring a stable food supply, protecting farmers' income, preserving the environment, and sustaining vibrant rural communities (European Commission, 2024). CAP operates on a top– down basis, wherein compliance with requirements to conserve natural habitats within the EU is a prerequisite for income support. In addition to top– down initiatives like CAP, there are also self– governing initiatives such as environmental cooperatives comprised of self– organised farmers dedicated to promoting nature conservation and landscape restoration (Runhaar, 2017).

A prominent arrangement that blends aspects of both top– down governance and self– governance is agri– environment schemes (AES), wherein farmers receive financial compensation for implementing predefined conservation measures to protect designated species (Batary et al., 2015). More recently, companies within agri– food chains have developed alternative schemes that reward farmers for good performance while penalising poor performance ("bonus– malus"). These arrangements focus not only on nature conservation but also on broader aspects of sustainable agriculture, including soil quality, pesticide usage, water quality, energy conservation, and biodiversity (Runhaar, 2017).

All the governing arrangements can be conceptually framed as "the structures and processes facilitating decision– making and power– sharing within societies, fostering regulated governance and collective endeavours, or establishments for societal coordination" (Schultz et al., 2015, p. 7369). Notably,

governance concerning agri– environmental management varies significantly due to differences in actor networks, agri– environmental policies, and institutional frameworks across various countries and regions (Bamière et al., 2013; Dupraz et al., 2009; Westerink et al., 2015).

## Nature Inclusive Agriculture in the Netherlands

Since the aftermath of World War II, Europe, including the Netherlands, witnessed an emergence of highly productive agriculture caused by a growing demand for food security after periods of widespread poverty (Peneva et al., 2014; Raven & Wagner, 2021). However, this rapid agricultural intensification has come at a cost, with the Dutch agricultural sector currently occupying approximately two– thirds of the country's land area (Reichgelt et al., 2020). The Dutch landscape is now dominated by highly intensive farming practices, boasting livestock densities over four times the European average (Vermunt et al., 2022).

In contrast to other European countries, the Netherlands faces significant biodiversity losses. Especially meadow birds suffer from high numbers of species lost (EEA, 2015b; Staatsbosbeheer, 2024). Consequently, there is a growing need to transition Dutch agriculture towards a more circular and sustainable model, especially given the country's ranking alongside Luxembourg as facing severe challenges related to agricultural sector emissions (Matthews, 2019; Martinez Gonzales, 2021). However, Dutch agriculture's ecological and landscape impacts extend beyond national borders. For instance, importing soybeans from Latin and South America for livestock feed has been linked to deforestation, raising concerns among environmental NGOs (LNV, 2023; CBS, 2021). The international context portrays the importance of a healthy Dutch agriculture system as it feeds a large part of the world with its grounds, which should be protected (Jukema et al., 2023).

The concept of nature– inclusive agriculture in The Netherlands has gained traction recently, with increasing research attention, policy discourse, and farmer engagement (Smits et al., 2019, 2020; Farjon et al., 2018). While some farmers already embrace nature– inclusive practices, widespread adoption remains a challenge (Smits et al., 2020). An example of such practices is the protection of meadow birds via agri– environment schemes (AES), which incentivise farmers to delay mowing to protect nesting birds (Runhaar & Polman, 2018).

The Dutch agricultural landscape has also witnessed farmer groups' institutionalisation in agri– environmental management, forming integral components of the Dutch Rural Development Plan (Martinez– Gonzalez, 2021). Notable examples include the environmental association Water, Land & Dijken. Considering discussions surrounding the future trajectory of the Dutch agricultural sector, policymakers are contemplating various means to transition towards more sustainable pathways,

including regulation and buy– out schemes to mitigate adverse environmental, social, and economic impacts (Hoste et al., 2019; Martinez Gonzales 2021). The Minister of Agriculture, Nature, and Food Quality, Carola Schouten, has outlined a vision for Dutch agriculture centred on circularity and ecological embedding, advocating for a more nature– inclusive approach (LNV, 2018; Martinez Gonzales, 2021). This vision underscores the importance of integrating ecological considerations into agricultural practices to foster sustainability and resilience in the face of mounting environmental challenges. In the context of South Holland, the province has integrated Nature– Inclusive Agriculture (NIA) into its policy agenda (PZH, 2023) and articulated a nature– inclusive vision for the province through future mapping for 2050 (PZH, 2022).

## Nature Inclusive Agriculture Barriers and Enablers

Nature– inclusive agriculture faces several barriers that hinder its widespread adoption and implementation. One significant challenge is the existing optimisation of agri– food chains, primarily geared towards maximising production and achieving economies of scale (Smit et al., 2009). While some companies may stand to benefit from transitioning towards nature– inclusive practices, others may perceive potential losses (Runhaar, 2017; Virchow, 1999). Moreover, the benefits of nature– inclusive farming are often less apparent compared to conventional agriculture. This lack of visibility extends not only to farmers but also to citizens (Carolan, 2006)

Vermunt et al. (2022) have identified five mechanisms that impede the transition towards nature– inclusive agriculture, represented in Figure 4. These barriers are a lack of financial incentives, regime resistance and lack of legitimacy, limited action perspective, unclear vision and ambition, and how education, research and extension are focused on conventional farming.

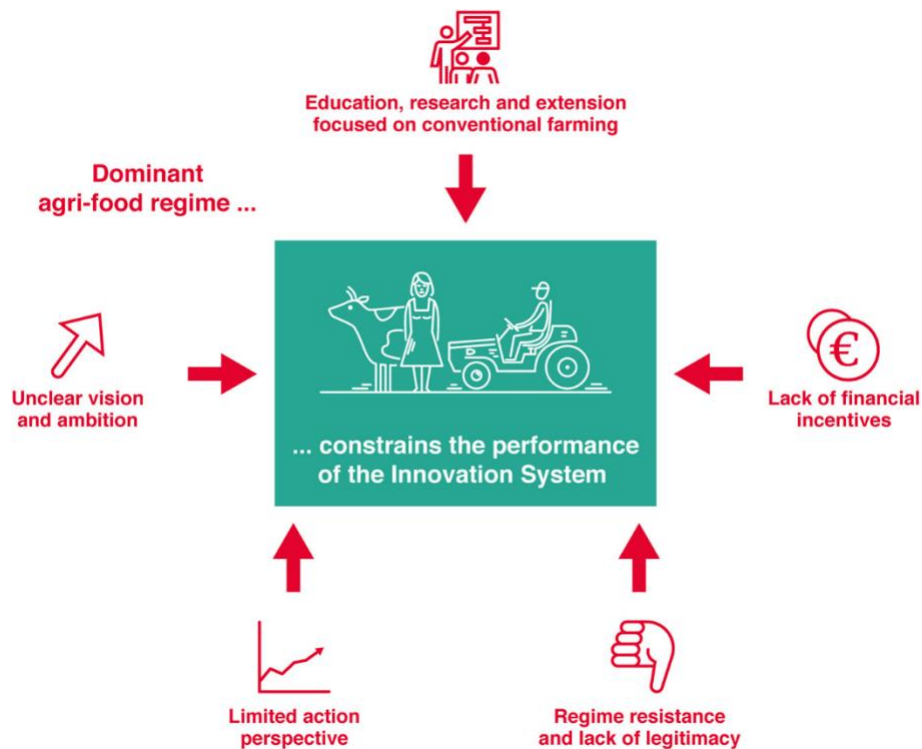


Figure 4: The barriers to the transition to a NIA (source Vermunt et al., 2022)

Despite the barriers, nature– inclusive agriculture holds promise due to its inherent flexibility. The concept of "nature– inclusive" farming has not yet been fully defined, allowing it to serve as a boundary concept. As such, it brings together farmers, stakeholders, and policymakers to discuss and negotiate shared meanings and objectives that can contribute to agricultural transformation (Velten et al., 2015).

Furthermore, the undefined nature of nature– inclusive agriculture also makes it a promising concept for facilitating the co– production of meaning and knowledge necessary for implementing nature– inclusive farming practices. This collaborative approach to defining and refining the concept can enhance its adaptability and relevance across diverse agricultural contexts (Velten et al., 2015).

## Welfare Conceptualisation in Dutch Policy: Brede Welvaart

In the Netherlands, the discourse centres on "Brede Welvaart" (Broad Welfare), recognised internationally as Wellbeing Economics. This concept has gained increasing attention from scholars, practitioners, and decision– makers in recent years (Osberg & Sharpe, 2005; CPB, 2022; Weterings et al., 2019). Defined by the Dutch Central Statistics Office (CBS) as "the quality of life here and now, and the extent to which it comes at the expense of the broad prosperity of later generations, or that of people elsewhere in the world" (CBS, 2023, p.1), BW addresses areas such as entrepreneurship, decent work, sustainable growth, and an inclusive society. Originating in the Netherlands in 2011, Brede Welvaart is endorsed by the Dutch Social Economic Board (SER) and aligns with global movements advocating for well– being economics (SER, 2023). The CBS monitors the concept through a dedicated monitor featuring 42 indicators measuring welfare, focusing on assessing welfare in the present and future. The concept of Brede Welvaart does not use GDP as a central benchmark but considers the following seven overarching indicators (CBS, 2021), which can be found in Table 1.

<p><b>1. Subjective well-being</b> Satisfaction with life Personal well-being</p>	<p>Job satisfaction Satisfaction with commuting time Satisfaction with leisure time</p>
<p><b>2. Material well-being</b> Standardized disposable income. GDP</p>	<p><b>5. Housing</b> Quality of home Satisfaction with home</p>
<p><b>3. Health</b> Highest level of education attained.</p>	<p><b>6. Society</b> Contacts with family, friends and neighbors Volunteering</p>
<p><b>4. Labor and leisure</b> Net employment rate Long-term unemployment rate</p>	<p><b>7. Safety and environment</b></p>

Table 1: BW indicators (source CBS, 2021)

While still in the implementation process, BW represents a proactive response to Dutch policies that have historically neglected the interests of future generations. A Team called “Brede Welvaart” has been set up in the province of South Holland to monitor these socio– economic indicators of welfare, which are used as objectives in policymaking. They can be seen as targets that help improve policy and eventually advance NIA initiatives. Additionally, BW is highlighted in the Climate Accord Netherlands 2023– 2027 (Zuid Holland, 2023), which underlines the relevance within Dutch policies. BW is inspired by the global policy trend of conceptualising welfare, which will be discussed in the next sub– chapter.

### The international trend of welfare conceptualisation

Globally, there is a trend to conceptualise welfare. For decades, Gross Domestic Product (GDP) has been the primary measure of a nation's economic progress, but scepticism about its adequacy has grown. Economists and experts argue that relying solely on GDP is misleading as it overlooks broader societal well– being (Stiglitz et al., 2009). This has spurred the "rethinking economics" movement, encompassing perspectives like well– being economics, doughnut economics, and socially embedded economics (Raworth, 2017; Warnecke, 2023; Fleurbaey et al., 2024; Diener & Seligman, 2004).

Early critiques of GDP, such as Stiglitz's in 1970 and the "Limits to Growth" report in 1972, highlighted its flaws and potential consequences for humans and the planet. The planetary boundaries theory and the Doughnut economy concept address ecological and social aspects crucial for sustainability (Rockström et al., 2009; Warnecke, 2023). Critics blame the neoliberal economic narrative for contemporary challenges like climate change, species extinction, and inequality (Lovins et al., 2018; Korten, 2018; Korten, 2015). This necessitates a significant economic system transformation (Steffen et al., 2015). In 2012, the United Nations introduced the Sustainable Development Goals (SDGs), recognising the inadequacy of GDP alone. The UN's "Valuing What Counts" project aims to establish globally agreed well– being, equality, and sustainability indicators. Internationally, a consensus exists to measure welfare dimensions beyond GDP (OECD, 2018). Biodiversity, ecosystems, and climate regulation are recognised as prerequisites for human prosperity (Richardson et al., 2023).

Wellbeing economics emphasises measuring people's well– being over narrow economic indicators. Countries like Scotland, New Zealand, and Canada endorse this approach. Waddock's (2021) study identifies four distinctive narratives within wellbeing economics: Transformation, Nature– Centric, People– Centric, and Integrated. These converge on prioritising well– being and sustainability. Cities like Amsterdam, Brussels, and Leeds have implemented doughnut economics into decision– making (Khmara & Kronenberg, 2023; Doughnut Economic Action Lab, 2020). New Zealand has integrated wellbeing economics into its policy framework (Paul & Saunders, 2023). Overall, there is a global momentum towards measuring holistic welfare beyond GDP.

### Socio– economic trends and analyses

Berkhout and Puister (2021) define socio– economic effects in agriculture as the impacts on the added value and employment within the Dutch agri– sector and its components (primary sector, processing, supply, logistics). The exploration and analysis of the socioeconomic effects of agriculture can connect agricultural impact with the BW indicators (Reinhard et al., 2022). Several trends have been identified in research and in policy reports. For example, Erisman (2021) highlights a significant trend: Within the next 20 years, half of the farmers are expected to quit due to a lack of perspective and successors. This trend underscores the urgent need for a transition in rural areas to prevent further socio– economic decline. Land subsidence and greenhouse gas emissions in peat meadow areas incur enormous social costs, particularly in built– up areas. Land subsidence leads to foundation issues, with societal costs potentially reaching 50 billion euros in the coming decades, according to PBL estimates (RLI, 2024). In addition, if the issue of biodiversity decline is not mitigated, it can severely affect the world economy, which is at least 40% dependent on the ecosystem services biodiversity offers (Silvis et al., 2022; Maas, 2018). Acknowledging these regional and global trends and mitigating these effects requires a just transition in agriculture, particularly in peat meadow areas, to balance ecological and socio– economic sustainability. Addressing land subsidence and emissions requires adapting water management in polders and raising water levels, which presents new challenges for the agriculture sector reliant on low groundwater levels (Janssen et al., 2022). However, this transition can align with agricultural extensification and increased nature values to contribute to new agricultural business models to offset income losses from extensification. Health is an increasingly critical theme in relation to rural areas and agriculture. Zoonoses, infections transmitted from animals to humans, pose a growing threat to public health (PZH, 2023). The high population and livestock density in the Netherlands make it particularly susceptible to zoonoses, as demonstrated by outbreaks such as avian influenza, Q fever, and COVID–19. A strategic spatial approach can reduce zoonosis risks by lowering livestock density in densely populated areas (Erisman, 2021).

Scholars needed a more specialised approach to capture these socio– economic effects on a regional scale. Then, Reinhard et al. (2023) elaborated a protocol to operationalise the SEEA for provinces. This protocol outlines a method to map socio– economic effects through participatory regional sessions using a SEEA framework.



Figure 5: SEEA framework outline (source: Reinhard et al., 2023)

It is a more specialised approach that allows the evaluation of the impacts of various interventions on the quality of life and living environments of different stakeholders (Reinhard et al., 2022).

Insights into the broader effects of the transition in rural areas are crucial for provinces to weigh measures and make informed decisions on achieving goals and implementing supportive policies (Handreiking SEIA, LNV, 2023; Reinhard et al., 2023). The study builds on the national research on the socio-economic effects of the Nitrogen and Nature Improvement Programme conducted by Wageningen Economic Research in 2022 (Reinhard et al., 2022). This national study found the SEEA methodology valuable, using the concept of BW as a basis for socio-economic effects to map effect relationships. Using BW socio-economic indicators has the advantage of aligning the results with other analyses that use a similar perspective, such as the Regional Monitor BW of the CBS (Reinhard et al., 2022). According to the research of Reinhard et al. (2022), measures aimed at source and nature restoration under the Nitrogen and Nature Improvement Programme have a positive impact on the living environment, housing, health, society, and the environment and a negative impact on material prosperity and subjective well-being for measures at the farm level, especially those ceasing livestock activities.

A comprehensive socio-economic effect analysis is crucial for understanding and managing the impacts of NIA. This approach helps map the immediate effects on farmers and residents and aligns with broader regional and national goals, ensuring a sustainable and prosperous transition for rural areas.

## Methodology

### Research Design and Method

This study aims to analyse the attitudes and perceptions of different stakeholders, including farmers, policymakers, citizen initiatives, and environmental organisations, towards NIA in the South– Holland peat meadow area. The methodology employed is predominantly abductive, aimed at describing the new and complex phenomena of stakeholder perceptions of NIA initiatives and generating theories that align with observed realities. Therefore, the research method design is qualitative in nature.

### Single Case Study Approach

This research adopts a single case study approach, ideal for investigating complex relationships that influence outcomes or processes in policy contexts (Eisenhardt, 1989). The single case study will focus on the peat meadow area in the province of South Holland. This approach allows for an in– depth examination of stakeholders' experiences and their perspectives on NIA initiatives, capturing the unique characteristics and specificities of the peat meadow area. Although the single– case approach lacks the comparative advantages of multiple cases, it provides a detailed exploration of the phenomena in question.

The research design incorporates an explanatory case study approach to elucidate the relationships between findings and understand the mechanisms linking perceptions of NIA initiatives with policy objectives (Yin, 2014). This methodology is chosen to investigate and describe patterns in stakeholders' perceptions and explore the contextual factors influencing these perspectives within the South Holland peat meadow area.

To address the fragmented knowledge base on NIA initiatives, a comprehensive literature review was conducted using keywords such as "nature– inclusive agriculture," "nature– inclusive farming," and "nature– inclusivity."

### Data Collection

The study employs purposive and snowball sampling techniques. The unit of analysis comprises stakeholders involved in NIA initiatives within the peat meadow area, including organisations, citizen initiatives, policymakers, farmers, and private landowners. Purposive sampling ensures the selection of participants relevant to the study's objectives, with snowball sampling used where appropriate (Slawinski & Bansal, 2015).

Data collection methods include two preliminary unstructured interviews to inform the development of a semi– structured interview guide. Semi– structured interviews were chosen to accommodate the abductive nature of the study.

Data triangulation was achieved through integrating multiple data sources, including semi– structured interviews, relevant documents (policy reports, civic council meeting reports), community feedback

from similar NIA activities in other municipalities, and trend research on socio– economic well– being in South Holland. Most documents were retrieved via the South Holland province's network. Secondary data, such as newspaper articles and blog posts on NIA initiatives, were analysed to enhance the credibility and trustworthiness of the findings.

The interview guide (see Appendix 2) was constructed based on existing literature and two preliminary unstructured interviews. Data saturation was achieved after the 10th interview, as no new themes or codes emerged from the data analysis.

The interviews were conducted between April 18 and May 13. Table 2 provides a list of interviewed stakeholders, who were identified through purposive and snowball sampling methods. Most interviewees were contacted through the network associated with the province of South Holland or via online contact forms.

<b>ID</b>	<b>Interviewee description</b>	<b>Organization description</b>
<b>IN1</b>	Dairy farmer	Medium sized farm
<b>IN2</b>	Dairy farmer	Small sized farm
<b>IN3</b>	Organic farmer	Farm organized by a citizen organization Heerenboeren
<b>IN4</b>	Plot coordinator	Farms and experiments organized by citizen organization Land van Ons
<b>IN5</b>	Policymaker	Governmental body provincial level
<b>IN6</b>	Policymaker	Governmental bod provincial level
<b>IN7</b>	Policymaker	Governmental body municipal level
<b>IN8</b>	Public Affairs employee	Environmental organization
<b>IN9</b>	Private landowner	Land ownership organisation in North and South– Holland
<b>IN10</b>	Researcher in agriculture	Dutch research institute

Table 2: Interviewees for qualitative research data collection

## Data Analysis

Data analysis will involve thematic analysis of interview transcripts using software such as Atlas.TI, which ensures the systematic identification of patterns and themes. Thematic analysis was employed as a data analysis metric in order to construct themes from the data, focusing on stakeholders' perceptions and attitudes towards NIA and its socio– economic impact (Miles et al., 2018).

The evaluation dimensions were specified, and a theme coding system was developed. Although guided by theory, the category system remained open to modifications based on the data. The initial codes were based on the interview guide and were refined through summarising, clarifying, or differentiating themes after initial broad coding. This process aimed to structure and identify critical issues and questions using Atlas.ti. The data were recorded and transcribed within two days of the interviews to ensure accurate data transfer.

## Research Quality

Credibility was ensured by adjusting the interview guide according to emerging themes from previous interviews. Data triangulation was also employed, with access to additional meetings such as a visit to the Veenweiden Innovation Center (VIC) and an online meeting about NIA organised by the environmental organisation Natuurmonumenten. These opportunities allowed the researcher to triangulate data and adjust the interview guide based on field relevance, enhancing the researcher's expertise in the topic.

Informed consent was obtained from all interviewees, ensuring they knew their right to exit the interview at any time. Data were anonymised to ensure privacy, and audio recordings were deleted by one month after the thesis was submitted. The informed consent file can be found in Appendix 5.

# Findings

## Part 1: Perceptions & Attitudes

### 1.1 Perception of NIA

The interview started with investigating the interpretation of NIA. This investigation was relevant because the initial interviews revealed that the **definition** of NIA remains **unclear** and is interpreted differently by various stakeholders. This question allowed for a deeper understanding of perceptions, attitudes, and associations related to NIA.

A policymaker, IN5, described NIA as "specifically taking care of species or habitats and landscape elements." A researcher, IN10, emphasised that NIA involves agriculture that "works together with biodiversity [...] and also some of the more physiological characteristics of the environment, such as air quality, soil quality, and water quality." A policymaker, IN7, mentioned that some farmers manage nature areas within the nature network, referring to this practice as nature– inclusive farming. Additionally, IN8, an employee of an environmental organisation, pointed out that NIA operates "within the boundaries of soil, water, and nature [...] to see if you can increase biodiversity." The emphasis on the increase in biodiversity of this interviewee is also in line with the vision of the environmental organisation. This is an example of how NIA can be perceived within the context of the practitioner and offers flexibility.

However, the definition is best known among policymakers and those with expertise in agricultural theory. They acknowledged the multi– interpretable nature of the definition, making it harder to find **common ground for collaboration** in NIA initiatives with different types of stakeholders if the interpretations of the term differ too much. Farmers and other stakeholders more closely related to agricultural practices took longer to find a coherent interpretation due to the perceived complexity of the definition. Across all stakeholder groups, the definition of NIA was perceived as unclear and varied widely.

Some examples of this unclarity are:

- "Yes, that is indeed a term that everyone has their own definition of anyway." – Policymaker IN5
- "Because what it is exactly, no one really knows." – Organic farmer IN3
- "I'm curious about the definition of it. Because that is different for everyone, and even within Land Van Ons, it will differ for each plot." – Plot coordinator IN4

- "So, what is nature– inclusive? That remains a very vague term, I think. Because every farmer will say, I am nature– inclusive. You can't produce grass without nature." – Dairy farmer IN2

Despite the unclear definition, the intentions and goals of NIA became more apparent during the interviews. Some interviewees expressed that few farmers realise they are already farming in a nature– inclusive manner, highlighting a gap between NIA's definition and its practical understanding and implementation. As IN1 mentioned, "Almost all farmers really want these things. And often, don't even realise it. That what they're doing is actually already very nature– inclusive." Additionally, IN5 noted that discussing what NIA means often leads people to recognise that they already engage in nature– inclusive practices.

## 1.2 Variation of Attitudes towards NIA

Attitudes towards NIA were assessed primarily through the final interview question: *Do you generally see NIA as something positive?* However, attitudes emerged almost instantly when participants shared their experiences with NIA or discussed its definition and associated initiatives. Some interviewees expressed strong opinions, either positive or negative. For instance, IN8 was very enthusiastic, stating, "Definitely. For us, it's plus, plus, plus." In contrast, dairy farmer IN2 said, "The term is not very appealing to me."

Most interviews revealed **conflicting attitudes**. Participants often expressed positive views about NIA in one context and opposing opinions in another. For example, dairy farmer IN1 pointed out the downside of labelling NIA as a particular category, which could turn it into an extrinsic motivation: "The downside is, we want to put a special card and name tag on it. By which, again, it becomes something outside of yourself. Because you are taken into a kind of marketing story." However, the same farmer also stated, "I personally think NIA is very important". Similarly, organic farmer IN3 criticised the definition of NIA: "I have a problem with that definition of NIA, but in practice, I actually do exactly everything as prescribed, and there I agree 100% with all the principles as far as they are known."

Negative attitudes often stem from associations with **regulations** and **governmental interference**. Policymaker IN7 expressed scepticism: "But if I take a municipality– wide view... we're a little less positive about that. We may see it a little more with the conventional farming practices." An association with governmental regulations was expressed by organic farmer IN3: "My development is that I was always a bit sceptical about it because I thought it's a bit trendy and also a stick of government to interfere with things where it's better not to interfere." There was also resistance to the terminology itself. IN3: "There is some discussion in the organic world about whether all these trendy words like regenerative agriculture and nature– inclusive and all those words aren't kind of polluting the

terminology." And also added, "It could encourage greenwashing. That a mainstream company tries to polish its name by attaching some kind of label". Dairy farmer IN1 noted the social perception: "It is just not cool to say you are working on biodiversity. It's much tougher to say you got extra litres out of the cow again."

On the positive side, some stakeholders viewed NIA aligning well with **future– proof agriculture** in the peat meadow area. Policymaker IN5 stated, "And I think it fits very well with future– proof agriculture in the peat meadow area [...] Of course, you see certain trends in agriculture. Fewer and fewer farms. I think nature– inclusive agriculture rather can put a positive spin on that." NIA is also perceived as a way for farmers to position themselves socially and demonstrate their value. Dairy farmer IN1 highlighted, "I think that broader look at what you think you're doing with nature– inclusive agriculture. I think that it's also good to position yourself socially as an entrepreneur. And also show the value that you assign." Reflecting on this, IN4 noted, "But if you look at what we as Land van Ons strive for, it's nature– inclusive agriculture. An agriculture in which not only the desired product can grow, but also other species. Plants, animals, insects."

The **implementation** of NIA faces substantial variation and conflict of attitudes between and within stakeholder groups. Farmers, in particular, initially express disapproval towards NIA; however, there is a growing interest in its intentions. Additionally, there is tension between promoting nature– inclusiveness and overemphasising the term itself. Furthermore, NIA is often associated with regulatory measures, negatively impacting its perception by framing it as just another regulation rather than a viable solution.

## Part 2: Opportunities and Challenges

### 2.1 Perceived NIA Opportunities

#### 2.1.1 Valuation of Landscape and Ecosystem Services

Across all stakeholder groups, the primary perceived opportunity of the NIA in the peat meadow area is the valuation of the landscape. This concept, also called rewarding ecosystem services, involves compensating farmers for their work in maintaining and managing the landscape. The management of the landscape involves providing food and water, regulating floods, drought, and disease, and supporting soil and **cultural services** such as recreational, scientific, and spiritual benefits (Potschin & Haines– Young, 2016). The valuation includes not only financial aspects but also appreciation expressed through **support, land accessibility, and social value capture**. Stakeholders highlighted that this approach could significantly accelerate the NIA process.

Many stakeholders noted that conventional agriculture practices may become less financially viable in the future due to increasing costs. Valuing landscape services offers a pathway to transition from conventional business models to more sustainable and **future– focused** ones. Some respondents pointed out that incorporating the valuation of ecosystem services is more feasible and attractive than current NIA practices, such as organic farming, which may not yet be financially sustainable for every farmer, have a substantial market, or have a potential for provincial– wide application.

This theme of landscape valuation was consistently mentioned across all interviews, indicating its importance. Policymaker IN5 emphasised, "So that you really just get good compensation for that nature management as a farmer. I think that's really a key knob to turn." Similarly, researcher IN10 stated, "If you don't add a reward for the nature inclusiveness itself [...] then it's not going to work." Moreover, dairy farmer IN2 shared this vision and stated: "Can we, as livestock farmers produce biodiversity in addition to food? [...] How does that improve the economic perspective of our farms?". Furthermore, plot coordinator IN4 explained how there are more opportunities for valuation by expressing, "People get happy when they see flowers and bees. You can pay the farmer for that. And all those city inhabitants just put a lot of money on the table for that." A few interviewees, when talking about landscape mentioned how farmers also should acknowledge their responsibility and the fact that they are building the landscape, not just producing a sole product.

The origin of this valuation remains debated. Some interviewees speculated that governmental support and a clear strategy are necessary, while others believed consumer behaviour and the agro– industry play critical roles. However, there was consensus on the need for a broader appreciation of the agricultural landscape to support the transition to a more nature– inclusive approach. Organic farmer IN3 highlighted the potential consumer impact on the valuation of ecosystem services: "I don't believe very much change can come from the government. But I do believe change can come from consumers. We must buy differently and make different choices in the supermarket." This sentiment was echoed by IN8: "Because when you as a consumer become a bit more conscious about what you purchase. With your own food. Because ultimately, you want that nature– inclusive farmer to get paid well for what he makes"

### 2.1.2 Wet Cultivation and Its Experiments

Different initiatives related to NIA were discussed to understand the perceptions and attitudes of NIA and their socio– economic impact. One of them was wet cultivation, also known as paludiculture, and emerged as both an opportunity and a challenge. It represents a shift from traditional livestock and dairy farming in the peat meadow region, aimed at preventing peat degradation and land subsidence through increased water levels and then using this new landscape to cultivate crops. Usually, these crops are unconventional compared to current Dutch crop cultivation. This approach could reshape the landscape and farming practices, allowing farms to persist under new environmental conditions.

Some interviewees viewed wet cultivation favourably. For instance, researcher IN10 mentioned, "The government can contribute to foresight and experiments in laws and regulations," suggesting that governmental support is crucial for the success of such initiatives. Additionally, plot coordinator IN4 noted potential commercial opportunities: "One of our farmers wants to grow cranberries more commercially [...] herbs that you can also market." Several experiments of wet cultivation in the peat meadow area were also discussed and mostly seen as projects worth investing in for research.

However, not all stakeholders were convinced of wet cultivation's feasibility and widespread stakeholder cooperation. A policymaker IN6, "Those new crops [...] if you talk to dairy farmers, they just want to keep cows and milk cows and keep more cows." There were also concerns about the economic feasibility and environmental impact, as noted by a private landowner IN9: "Those wet crops, even though you can make good insulation boards out of them. We've already invested in barns, yards, and machinery for dairy farms". The interviewee stresses the financial investment needed for a transition towards wet cultivation. Further, a policy maker IN7 highlighted the environmental trade– offs: "With wet cultivation, balance is really very tight between methane emissions and CO2 emissions [...] there are a lot of snags that should not be overlooked."

### 2.1.3 Strengthening Connections Between Consumers and Farmers

Data from the interviews show how farms implementing NIA measures are associated with being more attractive for consumers and city inhabitants and were perceived as an opportunity to support the farm's business model. Especially the proximity of the peat meadow region to cities presents an opportunity to integrate urban and rural areas within new NIA business models. Encouraging recreational activities for urban residents and promoting **community– supported agriculture** (CSA) could add economic value to the region. A plot coordinator IN4 explained, "That's also what we had that CSA in mind for. To sell food packages to the people in the area." This idea was supported by policymakers who saw potential in leveraging tourism and recreation. IN6 stated, "I see an opportunity arising for recreation and tourism."

The connection between urban dwellers and rural landscapes also fosters appreciation for the agricultural environment. IN8 pointed out, "If we don't invite the people of Rotterdam to come and be able to recreate or dwell in our areas, then they will not know the value of that place." Moreover, dairy farmer IN1 mentioned the following, "And when you talk about these side activities. There is a super nice connection between recreation, civic life, and farms. And so, you can also show what that value is." Interviewees also discussed the potential for increased employment through stronger urban– rural links. IN7 observed, "I don't see that link of NIA to increase employment within the municipality Krimpenerwaard so directly [...], but employment could increase when NIA involves civilians from the city."

Finally, citizen initiatives such as Herenboeren and Land van Ons, incorporating CSA, have also been identified as a great connector between cities and rural areas. This allows civilians to become active members of the agricultural land and operate in a transparent farm open to its members. Currently, initiatives like Herenboeren are only accessible to individuals who can invest money in the land and become members of the organisation. However, it would be interesting to see how these types of initiatives can also become more accessible to the general public.

In summary, stakeholders agree that involving urban populations in rural agricultural practices and emphasising the landscape's value is critical for NIA's success in the peat meadow area. As policymaker IN5 put it, "South Holland is really an agricultural landscape in between cities. So yes, that also offers a lot of potential."

#### 2.1.4 Implementing Technological Interventions

Another theme that arose during the interviews when discussing NIA was technological interventions and their implementation. It was mentioned that in the peat meadow area, water infiltration systems (WIS) are commonly used on farms to reduce land subsidence and create watery patches of land to attract meadow birds and other organisms. However, opinions on their role in NIA are sharply divided. Some stakeholders see WIS as a valuable tool for facilitating NIA, while others question whether it aligns with NIA principles. Supporters of WIS highlight its potential benefits. Policymaker IN7 noted, "That Water Infiltration System [...] did have real potential. We were all behind it." and added, "A nice trade– off between limiting subsidence and CO2 emissions, and also still being able to maintain that agricultural production." IN1 stated, "I think that can be very accommodating. That it is interesting for the peat meadow area."

Despite these positive views, there are concerns about the implications of WIS. IN7 mentioned challenges, "You can apply that on a large scale. But well, the water authorities currently find it difficult because it increases water demand." IN6 raised questions about the broader impacts: "If you are going

to build 800 hectares of water infiltration systems. What are the socioeconomic effects?" Critics argue that WIS may not align with NIA principles. An employee at environmental organisation IN8 expressed concerns about the environmental impact: "You're just putting a lot of plastic in the ground. [...] I don't really call that a transition." Researcher IN10 stated, "It's really just a technofix to keep the current system in place. [...] That's part of the problem, not the solution." This scepticism is echoed by others who question the focus on mitigating subsidence rather than more transformative solutions. IN10 pointed out, "Why does everyone talk about stopping subsidence? So, making the problem less. And not about making sure we are going to raise the soil levels?" IN5 added, "With that, you create a kind of world in which we think we can also control nature."

The use of **technology** to **measure** and **communicate** the benefits of NIA practices is another area of interest. Stakeholders discussed the potential of technology to demonstrate the added value of improved soil quality, biodiversity, and water quality. Dairy farmer IN1 emphasised the importance of utilising technology to communicate these benefits: "But you can use virtual reality with all kinds of communicative technologies. Of course, you can visualise that just fine. You can use technology so many times. I feel like that is never fully utilised." The challenge lies in making the value of ecosystem services measurable and understandable to stakeholders. While there is enthusiasm for technology's potential to support this, it requires further development and more straightforward communication strategies. As dairy farmer IN1 put it: "If we try very hard. To improve the soil here. Or nature, biodiversity. Then, you must make that presentable. Then you can also give a rating to it."

## 2.2 Perceived NIA Challenges

### 2.2.1 Economic Viability

Economic viability (i.e., when a project can generate positive returns) is one of the primary challenges associated with NIA, as identified by stakeholders. Both internal factors, such as impacts on the business model, and external factors, such as market demand and prices, were discussed.

Many stakeholders expressed concerns about the financial challenges NIA poses. As policymaker, IN6 noted, "Nature– inclusive agriculture is economically obviously still quite a challenge [...] You do want to see those extra costs [...] reflected in the price for your milk, for example." Dairy farmer IN2 added, "As an entrepreneur, that is still a very lean offering for these important social services." The dependency on subsidies is identified as another aspect of the economic challenge as currently, farmers who want to transition to a more nature– inclusive system are quite dependent on subsidies, and when these subsidies are granted, they only offer financial aid for a limited period and lack economic perspective. Currently, it is felt that being nature– inclusive is not profitable, and these subsidies only compensate for the profits you have lost, as mentioned by IN2.

Market issues were also a significant concern. Researcher IN10 mentioned, "We suffer from a huge market imperfection, which means that the most sustainable solution must always be more expensive," and dairy farmer IN2 observed, "The market doesn't really reward nature– inclusive." However, not all participants viewed NIA solely as an economic challenge. Some argued that not adopting NIA could result in even more significant economic challenges in the long run. For example, plot coordinator IN4 stated, "By not farming nature inclusively, we're just going to lose billions. Nature– inclusive also has something to do with economic sustainability."

### 2.2.2 Lack of clear policy strategies

Unclear strategies were identified as a significant obstacle to NIA implementation from policy and collaborative perspectives. Stakeholders expressed concerns about the need for more clear direction and consistent policies.

- "And nobody knows where he stands. So can't invest. And investing not only in money but also in energy to do things. So that's a very big problem." – IN4
- "We really do know that we must do something about nature. But I don't know what the strategy is. New changes in policies and regulations are constantly coming at them." – IN1
- "Many people, including people who live in the peat meadow area, know the problems. They see the problems. They just don't have the tools to do anything about it". – IN4

Policy programs, such as the ZHPLG report, were criticised for not adequately addressing economic perspectives. IN2 remarked, "If you have a program about rural areas, then of course all kinds of tasks towards the agricultural sector are put on board. But economic perspectives are not discussed in these programs."

Clear communication and framing of nature goals were seen as essential. IN8 suggested "Being very clear about what needs to be done on water quality and quantity, CO2 emissions, water levels, and nature goals. All this needs to be clear for each area." Policy strategy obstacles, including landscape format regulations and permit accessibility, were also identified. IN10 noted, "No tree may stand in Midden– Delftland. There can't be a pole higher than 1.20 meters in Midden– Delftland." Moreover, it was recommended that the province is crucial in laying out the complex puzzle by creating a clear framework of what needs to be done in a specific area.

Collaboration among different parties, such as water authorities and municipal boards, was crucial for effective strategy implementation. IN1 stated, "Let us look together with the province, water authorities and municipality. What are the tasks, and what should we do?"

### 2.2.3 Stakeholder Resistance

**Resistance** to sustainable agriculture, both **regionally** and **nationally**, was a recurring theme. This resistance stems from various sources, including farmer identity, landscape aesthetics, and external cultural factors. Policymaker IN6 mentioned that resistance could arise because farmers already do much for nature and might feel forced: "They already do a lot for nature. Then, they are told from outside. You have to become more nature– inclusive."

Additionally, farmer identity significantly contributes to resistance to a nature– inclusive transition. IN4 explained, "The moment you say, we're going to raise water levels [...] you actually take away the life of a dairy farmer." IN5 added, "There is a certain something conservative in it. Changes are allowed, but not too big. It should not hurt." This sense of pain and reluctance to change is also seen as a result of frustration, as mentioned by IN1: "And then we do start asking how else it should be done. They have no idea. And then what you often get is that the frustration comes out. Because they feel uncomfortable."

The attachment to the landscape's traditional appearance also contributes to resistance. IN4 observed, "It's just the open peat meadows. With an emphasis on the word open. People are attached to that." This sentiment was shared with IN10: "Suddenly, you have to admit that your ideal image of the landscape is, perhaps in the long run, not achievable at all. So, these are not things you make yourself popular with. So, there's also a whole lot of resistance."

External cultural factors, such as family and community expectations, further complicate the transition to NIA. IN7 mentioned, "It's very difficult to make that choice here. That you go for nature inclusive. Then you're not continuing a tradition. You deviate from the family tradition. [...] You have to tell your family, your neighbours, at church. You're just going to do things differently."

The influence of powerful lobbies was also noted as a form of resistance against NIA. IN5 stated, "There is too strong a lobby for staying the way it is." IN8 added, "Large capital sectors, like greenhouse agriculture, have a lot of lobbying power." IN4 shared this thought, "The agro– industry has political power. Too many, too big parties have an interest in the current situation.". Additionally, certain taboos and difficult conversations hinder progress. IN10 highlighted, "Why do you have to consider salinisation even if you don't want it? People don't dare to have this conversation together."

## Part 3: Socio– economic impact NIA

### 3.1 Social Impact

To investigate the social impact associated with NIA, questions related to the social indicators of BW were discussed in the interviews to identify recurring themes and perceived correlations. The identified social impacts of NIA are the benefits of urban– rural connection, improved health, increased social and community tension, potential threat to rural vitality, changing farmer identity, and changing living environment. The NIA initiatives or measures related to these social impacts include promoting Community Supported Agriculture (CSA) and Alternative Food Networks (AFN), supporting organic farming, transitioning from conventional to an NIA business model, and increasing groundwater levels.

Incorporating CSA within NIA is generally perceived to impact social well– being positively. CSA initiatives foster connections between farmers and consumers, enhancing the subjective well– being of both groups. Supporting quotations include:

- "People who are being here at the farm give it a lot of satisfaction." – IN3
- "It's sometimes a lonely profession. So, in that sense, it can be quite rewarding." – IN7

NIA is also perceived to offer **health benefits**, as shown by the following quotations:

- "Also, if you make people move. Then you earn from that from less healthcare" – IN3
- "If you put corn or potato on the same land year after year, the soil life becomes one– sided. But also, pests can just settle on nematodes." – IN3
- "But I think scenically and in terms of healthy environment... that it is a positive development. But so that requires a whole transition." – IN7

Increased tension with farmers due to NIA was also identified: "You also notice that tension [...] how do you keep your business going in the new perspective?" – IN9. Community tensions can arise from differing business models, from a conventional (dairy) farm to a nature– inclusive farm, with some farmers viewing new practices as a threat. This was evident when a farmer interested in nature– inclusivity received a call from the town hall because other farmers saw his actions as a threat: "They said, there are some farmers in the area who see this as a threat to what you are going to do." – IN9. These changes can also pressure community cohesion and mental well– being, with concerns that it "may also put pressure on the togetherness in the area" – IN6.

There are concerns about the affordability of NIA products, due to changing the business model from conventional to NIA for vulnerable groups, potentially leading to **increased dependence on food banks and imported goods**: "The greater the number of nature– inclusive farms, the more people end up having to go to the food bank." – IN10. Additionally, the shift to nature– inclusive practices might lead to the **decline of farms that lack financial aid or sufficient scale**, impacting the social fabric of rural communities: "We are then going to see farmers disappear because there is no market for them."

– IN10. Concerns exist that the **reduction of farms could threaten the vitality of rural areas**. This reduction could shrink the agricultural community and limit future employment opportunities for young people: "A network or part of society that feels connected to the agricultural sector will become smaller, and fewer young people can find work and their future in it." – IN9. Fewer farms might also impact local facilities and services, reducing the social community that farmers help sustain: "Farmers partly carry the social community. Those take care of the view. Those provide children for the schools. A community lives on that in part." – IN4. IN2 echoed this sentiment: "Fewer farms mean fewer social services. Fewer parties, fewer schools."

Further insights are needed to understand the broader effects of having fewer farms, as one policymaker stated, "Suppose the number of farmers is halved [...] Yes, what does that do at that scale level of the shrinkage value? Well, I would like more insight into that." – IN6. The interviews concluded that NIA in the peat meadow area is strongly related to increasing groundwater levels. Several **social effects resulting from increased groundwater levels** were reported:

- "We have now also discovered that increasing water levels really does come at the expense of the edges of the land. So you also lose land. [...] You might actually destroy biodiversity again by increasing water levels. Because that nature is mainly in the natural shores on the edges of the land." – IN7
- "There is a demand that we need to farm more with high water. Some say we can do that. But we are really wary of that. [...] We are quite concerned about the livability, the vitality of the countryside here." – IN7
- "The moment you say, we are going to raise a whole grassy polder with the higher water level. And that means no more cows can walk there, but we will do other crops. Then you actually take away a dairy farmer's life. [...] Because a farmer is a form of life. He gets the status out of being a farmer." – IN3

A potential rebound effect of increasing water levels was also detected. Increasing groundwater levels might make pastures less suitable for grazing, potentially leading to more cows being kept in stalls. IN5 expressed concern about this unintended consequence: "And just like those raising groundwater levels, which is, of course, interesting for subsidence control. But aren't you then going to create something that will keep cows in stalls even more?"

While increasing groundwater levels offers environmental benefits, the social and economic impacts on farming communities must be carefully considered to ensure a balanced and sustainable approach.

## 3.2 Economic Impact

From the interviews, NIA was perceived to have a positive economic impact on lower financial costs on farms and lower societal costs, as well as enhanced employment opportunities. And a negative impact on industry consolidation and farmer's income. IN9 emphasised the visible impact of subsidence, stating, "If you come to Gouda, you will see the poverty of subsidence!" Additionally, NIA can reduce surrounding costs. Intensive farming impacts road maintenance due to heavy machinery, and a shift to extensive production could alleviate these expenses. IN9 noted, "And then if there are fewer cattle [...] what does it mean for the maintenance of those roads? [...] Those tractors and so on, those are combinations of 20 tons. And what does that do to the maintenance of that road?"

Healthier livestock due to NIA practices also reduces veterinary costs. Organic farmer IN3 mentioned, "So they can eat from a very broad palette, and that means they are healthier as a result, and we need a vet much less." Moreover, a shift to NIA could balance costs and revenues. IN3 explained, "Maybe your margins become... No, your margins don't get smaller; actually, your revenues get smaller, but your costs also get much smaller. So, your margins are actually the same."

However, some stakeholders perceive NIA as cost-increasing. Dairy farmers expressed concerns about costs associated with current regulations, particularly manure regulations related to the derogation. IN2 highlighted, "For an average farm with 100 cows, you must haul off 30–35 large full trucks of manure per year. All together it costs about 40,000 euros per year. If the average income is 60–70,000 euros, 40,000 euros goes off." It is also believed that NIA is not in line with farm production objectives and could negatively impact farmers' income if not compensated appropriately. Despite these concerns, NIA is seen as elevating business levels. IN1 stated, "If you have biodiversity in order, then you bring your entire business level up."

NIA's impact on employment was a recurring topic. Some interviewees believe it positively affects employment. IN5, a policymaker, stated, "Nature-inclusive farming is an economically interesting way of farming. Then employment can do very nice things because nature-inclusive farming requires more labour.". IN3 shared that the Herenboeren initiative, a citizen organisation connecting consumers with farmers, significantly increases labour opportunities: "Someone just calculated that there are [...] an estimate of 24,000 hours put into the farm per year by the members." NIA also offers social value through volunteering and job opportunities, especially in alternative food networks and shorter food chains. IN5 mentioned, "I think it also offers many linking opportunities—with short chains, for example, and maybe with healthcare. So that also offers employment opportunities."

Conversely, some farmers now rely on secondary incomes or jobs outside the farm due to less intensive farming and lower revenues. IN9 observed, “Many farmers are no longer at home during the day because they are doing jobs elsewhere, which is becoming more common.” The conventional methods are considered unattractive for young workers, leading to reliance on Eastern European labour. IN9 stated, “The additional costs then fall to the collective. And the people who do the work... here they are Eastern Europeans and no longer the boys and girls from the village.”

Negative impacts were also identified regarding industry consolidation, where only larger farms with sufficient capital survive the transition process. IN6 noted, “A number of companies will then go out of business if you go in that direction. So that's a negative effect.” Other interviewees echo this sentiment. IN2 stated, “Especially if the livestock population is going to shrink. You can say farmers are disappearing, but other farmers are getting bigger.” IN8 expressed concern that only large farms would thrive: “I am a bit worried that in this playing field, only the big boys will remain.” Furthermore, as IN2 warned, emphasising nature-inclusive measures could lead to unintended consequences, such as accelerated scaling and intensification. However, not all interviewees shared this thought. IN5 mentions that measures and initiatives related to NIA can put a positive spin on the battle against the disappearance of farms—specifically, the smaller ones.

Overall, while NIA presents opportunities for reducing costs and enhancing employment, it also poses challenges related to increased operational costs and potential industry consolidation.

## Discussion

The main research question of this thesis is: **What are the perceptions and attitudes of different stakeholders towards nature– inclusive agriculture in the South Holland peat meadow area, and how do these align with policy objectives?** To answer this question, primary data was collected through semi– structured interviews and then thoroughly analysed. .

### The perceptions and attitudes towards NIA in peat meadow area

The findings indicate that NIA is perceived as unclear and is associated with government interference and regulations. The association with government interference is a new finding, although previous research has noted a negative association with judgment related to the AES (Runhaar, 2017), which could explain this connection. The association with regulations and government interference should be investigated further because the literature does not shed light on this specific element that fuels perception and attitude.

What emerged from this thesis is that attitudes towards NIA are highly dependent on the type of initiatives it entails. Due to its broad nature, it is challenging to provide a definitive statement on whether it is perceived positively or negatively. The different types of NIA initiatives present a nuanced image of attitudes towards NIA. Specifically, 6 out of 10 interviewees are positive, 3 out of 10 are neutral, and 1 out of 10 are negative. Factors influencing these attitudes are varied. Previous literature has cited environmental benefits, economic viability, and social impact as critical drivers (Vermunt et al., 2022; Van Doorn et al, 2016; Runhaar, 2017). My study adds that perceived government interference and regulatory burdens significantly shape these attitudes. This can be attributed to previous experiences with governmental interference and to the governmental strategy aiming at maximum agricultural production promotion in the past.

On a different token. the term "nature– inclusive agriculture" (NIA) presents a significant challenge due to its inherent ambiguity and lack of precise definition. This ambiguity is reflected in various stakeholders' perceptions and the complexity surrounding its implementation. As identified by Vermunt et al. (2022), NIA needs a shared and explicit vision and ambition. However, this study focuses on dairy farming rather than other agricultural practices related to NIA initiatives. Therefore, these findings diverge from previous research since the identification of ambiguity is extended across a more diverse group of stakeholders such as policymakers, citizen organisations and environmental organisations. Therefore, according to my findings, NIA is not solely perceived as complex and ambiguous by dairy farmers as in previous research but also by this diverse group of stakeholders due to the broader unit of analysis of my study. A knowledge gap exists across several stakeholder groups. Vermunt et al. (2022) also identified this knowledge gap needing NIA– specific and integral knowledge. In accordance with

Runhaar (2017), evidence shows that, indeed, shared meanings about the definition of NIA are eventually needed for successful implementation. Nevertheless, since 2017, the need for shared meanings has stayed relatively the same. This proves that further clarification of the definition of NIA and policy measures related to the term is needed.

It can be argued that the conflicting attitudes identified in this study stem from the perceived ambiguity of the term and the knowledge gap. Again, this is in accordance with the study of Vermunt et al. (2022), which concludes that regime resistance is connected to blocking mechanisms such as a lack of shared NIA vision and NIA-specific knowledge. A likely explanation for the variation of attitudes could be the multi-interpretability of the term. As the knowledge is lacking, negative assumptions about governmental interference and regulations can be easily made. Over the years, regulations pushed and aimed at intensifying agricultural production are suddenly not in the right direction anymore. Therefore, trust is damaged, and the implementation of new concepts by the government, such as NIA, lacks legitimacy due to previous experiences. This is in line with Runhaar (2017), who acknowledges the conflict of distrust among farmers and other stakeholders.

In contrast to Runhaar (2017), who advocates the positive side of utilising NIA as a boundary concept rather than a rigid definition, my study has proven that utilising a boundary concept can have its drawbacks. In his research, utilising a boundary concept brings farmers and other stakeholders together to discuss opportunities in which he only highlights the positive side of a boundary concept. In my study, indeed, a boundary concept such as NIA allowed opportunity identification to arise organically due to NIA's broad concept. Due to this the opportunities ranged widely and were applicable to each stakeholder group. However, this study advocates for more explicit boundaries since implementing NIA in practice is challenging because different stakeholders can interpret it differently, making it hard to find common ground and move towards a transition. According to the data, more precise communication about what it means is needed. In addition, it might need to be clarified for consumers as they might be interested in a particular aspect of NIA, but maybe not when it is associated with WIS, for example. This could also impede the legitimacy of the concept.

## Social value capture

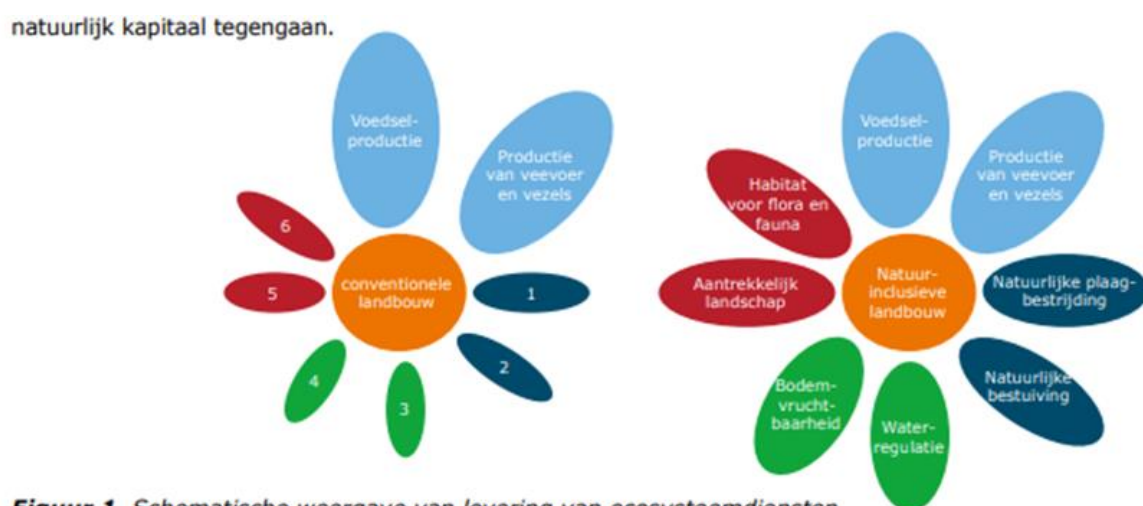
The social value capture of NIA is relevant in this research, aligning with perceived NIA opportunities and translating into social impact. The data suggests that the urbanised area of the Province of South Holland holds significant potential for fostering urban–rural/agricultural connections. This is supported by Sun et al. (2024), who explain that the demand for recreational ecosystem services (RES) and the aspirations for a better quality of life often mismatch in rapidly urbanising areas, such as South Holland. Their study shows that the average values of RES demand in urban areas are among the highest, indicating substantial potential for developing business models and landscape planning focused on RES and cultural ecosystem services (CES). CES provides non–material benefits that enhance spiritual sustenance, recreation, aesthetic experiences, and social cohesion (Crouzat et al., 2022). These benefits are crucial, as interaction with nature positively affects well–being and is associated with biodiversity benefits (McGinlay et al., 2018). My research indicates that specific community–supported agriculture (CSA) initiatives can enhance people's appreciation of the landscape by fostering a connection to nature, thereby enhancing the valuation of the RES it provides. This trend aligns with the nature–inclusivity school of thought.

The findings of my study align with another finding of McGinlay et al. (2018), which highlights the positive impact of nature interaction on well–being. This correlation suggests that focusing on these aspects could be a leverage point to create social value capture and align with policy objectives to improve socio–economic indicators. Furthermore, Sun et al. (2024) note that older individuals prefer natural landscapes but tend to travel shorter distances for RES, while wealthier groups visit these services less frequently but are willing to travel longer distances. This insight seems to highly apply to the South Holland region, which has an increasingly ageing population.

Literature indicates that community–supported agriculture (CSA) can enhance well–being through the social value it captures, mainly through recreational ecosystem services and cultural ecosystem ones. According to Matzembacher and Meira (2019), community–supported agriculture models capture value financially and generate significant economic impact. They assert that CSA provides financial stability for producers via pre–arranged consumer associations, which lead to higher incomes. Additionally, this study highlights that community–supported agriculture, beyond its social benefits, presents commercial opportunities. It promotes sustainability education for consumers and increases farmers' autonomy, thereby influencing landscape valuation positively. These findings relate to the broader perceptions of NIA, suggesting that recognising the commercial and educational benefits of community–supported agriculture can leverage the successful implementation of NIA initiatives.

## Ecosystem services

When relating this to existing literature aimed explicitly at NIA as an ecosystem service, it has been identified as a significant leverage point (Silvis et al., 2022; Van Doorn et al, 2016; Janssen et al., 2023). NIA provides services for nature, biodiversity, water, and environmental quality. However, this study also identified the cultural and recreational services NIA could provide. Van Doorn et al. (2016) shows NIA's ecosystem services, but the recreational and cultural services still need to be acknowledged. More research should investigate the cultural and recreational attachment to the landscape, especially when landscape valuation can be financially supported by connecting city people with farms and rural areas operating NIA.



**Figuur 1.** Schematische weergave van levering van ecosystemendiensten in een conventioneel landbouwsysteem en bij natuurinclusieve landbouw.

Figure 6 : Ecosystem services conventional (left) vs. nature inclusive (right) (source: Van Doorn et al., 2016)

Furthermore, not only is NIA perceived to provide CES and RES, adding social value through the positive social effects of BW, but RES and CES could also accelerate the sustainable nature– inclusive transition. Nature exposure and involvement in agricultural production processes increase nature valuation and promote sustainable behaviour (Molinario et al., 2020), ultimately leading to sustainable consumption patterns that address the current perceived economic challenge. While this may be idealistic, research has proven that exposure to nature leads to more sustainable consumption patterns.

## The alignment with policy objectives related to Brede Welvaart

NIA is perceived as a strategy to reduce and prevent social, economic, and ecological costs. Land subsidence, for instance, significantly affects CO2 emissions and increases maintenance costs for housing and infrastructure due to soil level decrease. Implementing NIA can mitigate these costs, as acknowledged by many interviewees. In addition, implementing NIA reduces costs associated with high-tech farming methods and inputs like fertilisers and pesticides. Technology-related costs, such as dairy analysis and feed samples for efficient and intensive production control on conventional farms, will decrease. This is also known as extensification, which is in line with NIA principles that want to reduce livestock quantities and intensive production. In addition, when operating nature-inclusively, more employees are needed at nature-inclusive farms, which offer volunteering opportunities. More employees are needed when switching from dairy to crop farming, extensifying livestock levels, and embracing higher groundwater levels. However, tension might arise for dairy farmers as cultural aspects can impede the process since the transition might need to align with the traditions and mentality of current dairy farmers.

To answer the question of aligning NIA perception and attitude with policy objectives to Brede Welvaart, we must refer to the identified socio-economic effects related to NIA from the findings. The results show several perceived socio-economic effects of an NIA transition.

The results of the findings show several perceived socio-economic effects of an NIA transition:

<u>Economic effects</u>	<u>Social effects</u>
– Lower farm costs	– Strengthened urban-rural connection
– Lower societal costs	– Improved health
– Enhanced employment opportunities	– Improved environment
– Industry consolidation	– Increased social & community tension
– Lower income farmer	– Threat to rural vitality

Table 3 : Perceived socio-economic effects peat meadow area

Several correlations between these findings and the aggregate indicators of Brede Welvaart can be made. This allows for the investigation of the alignment of the perceived effects of NIA with the policy

objectives related to Brede Welvaart, which is in line with answering this study’s research question. It is important to note that these are perceived socio– economic trends related to NIA. They are not tested quantitatively and only serve as speculative references for further research into the actual socioeconomic effects.

Inspired by the SEEA framework (Reinhard et al., 2023), the following division portraying this alignment can be made:

### Economic domain

<i>BW Indicator</i>	<b>Perceived effect of NIA</b>
<i>Employment &amp; job satisfaction</i>	Enhanced employment opportunities
<i>Income &amp; Wealth distribution</i>	Lower farm costs, industry consolidation

Table 4: Socio– economic effects NIA alignment with BW economic domain

### Social Domain

<i>BW Indicator</i>	<b>Perceived effect of NIA</b>
<i>Social cohesion</i>	Urban– rural connection, community tension,
<i>Health</i>	Lower risk to zoonosis, improved health
<i>Accessibility to nature</i>	Urban– rural connection
<i>Volunteering</i>	Urban– rural connection (particularly CSA)
<i>Trust in institutions and each other</i>	Social and community tension
<i>Subjective well– being</i>	Social and community tension, future perspective, mental well– being
<i>Proximity to social/public facilities</i>	Threat to rural vitality

Table 5: Socio– economic effects of NIA alignment with BW social domain

## Environmental/physical domain

<i>BW Indicator</i>	<b>Perceived effect of NIA</b>
<i>Air quality</i>	Improved environment
<i>Water quality</i>	Improved environment
<i>Climate mitigation</i>	Robust ecosystem
<i>Quality of living area</i>	Improved environment
<i>Quality of landscape</i>	Improved environment

Table 6: Socio– economic effects NIA alignment with BW environmental domain

To acknowledge the differences between NIA initiatives, the specific policy measures related to these effects should also be mentioned. The policy measures related to NIA that impact socio– economic effects in the peat meadow area are presented below. Investigating these measures and their potential socio– economic effects is highly recommended.

- Groundwater level increase
- Changing business models to a NIA model
- Endorsing organic farming
- Implementing WIS

In conclusion, while previous literature has primarily discussed the environmental benefits of NIA, this study highlights its social and cultural dimensions, presenting a more comprehensive view. Further research should focus on quantifying these socio– economic trends and exploring the policy measures that can effectively harness the potential of NIA to align with broader socio– economic objectives.

## Practical Implications for Policymakers

Policymakers should clearly define NIA for the Province of South Holland, distinguishing it from systems like WIS. The current NIA strategy report of the Province of South Holland is focused on NIA initiatives at a provincial level. However, the NIA strategy should be tailored to each regional area, such as the peat meadow area, dunes, coastal land (including Westland and horticulture), and the South Holland delta. By being explicit about the types of initiatives NIA entails in each area, based on regional context, policymakers can guide effective implementation and ensure clarity among all stakeholder groups. Harmonising the numerous vision and ambition documents is essential to avoid confusion, delays, and potential ecological, economic, and social harm.

Another practical implication is the integration of specific quantitative analyses of NIA– related regulations into policy decisions. This involves specifying the region's policies, regulations, and nature goals and making the regulatory impact on socio– economic factors visible. Identifying specific regions for implementing policy measures allows for detailed socio– economic analyses based on quantitative data. Moreover, it is advised to specifically focus on measures such as raising groundwater levels, managing livestock and manure, and increasing biodiversity through NIA practices. Additionally, it is advisable that the socio– economic effects of wet cultivation and the social impacts of landscape identity changes should be investigated. When measuring these socio– economic factors, a monitoring system with field experts could be established to track relevant indicators aligned with strategy or policy objectives. A panel of experts can ensure informed decision– making and effective policy execution. Moreover, a comprehensive analysis of how NIA affects local employment should be conducted, and the economic advantages should be investigated, such as reduced infrastructure maintenance costs and lower health expenses due to more sustainable production.

The perceived opportunities and challenges of the peat meadow area should be assessed from a provincial perspective and supported through coherent policies and initiatives. This also ensures synergy between municipal and provincial goals. This alignment helps to avoid conflicting policies that could undermine efforts in the peat meadow area. For example, provincial goals related to climate resilience and biodiversity conservation should be integrated with municipal land– use planning and local economic development strategies. Given the unique ecological and socio– economic characteristics of the peat meadow region, it is crucial that provincial policymakers try to understand both the opportunities and the challenges for the region. This assessment should not be done in isolation but should involve a multi– stakeholder approach.

Policymakers should actively facilitate the connection between various stakeholders, including farmers, water boards, environmental NGOs, and local communities, to create a coherent spatial planning and environmental policy framework. By doing so, they can ensure that policies are not developed in silos, which often leads to compartmentalisation, where different sectors or regions work in isolation. Instead,

an integrated approach should be promoted, where the interdependencies between water management, agriculture, and environmental conservation are recognised and addressed in a coordinated manner. This will help to create a holistic policy environment that supports sustainable development in the peat meadow area, balancing ecological preservation with economic viability.

To effectively engage farmers in the implementation of NIA strategies, a farmer–centric approach in communication and policy development is essential. Farmers are key stakeholders in the transition to more sustainable agricultural practices, and their active participation is crucial for the success of NIA initiatives. Therefore, communication strategies should be tailored to resonate with their experiences, concerns, and aspirations. Using relatable language and practical examples is crucial when conveying the benefits of NIA to farmers. Technical jargon or abstract concepts may create barriers to understanding and engagement. Instead, messages should be framed in terms that farmers can easily relate to, focusing on the tangible impacts that NIA measures can have on their daily farming operations. For instance, rather than discussing biodiversity in abstract terms, communication should highlight how increased biodiversity can lead to healthier soils, more resilient crops, and reduced dependency on chemical inputs, which in turn can lower costs and improve long–term yields. Furthermore, providing case studies or success stories from other farmers who have already implemented NIA measures can be a powerful tool in communication. These examples can serve as proof of concept, showing that sustainable practices can coexist with, or even enhance, economic viability.

In addition to the environmental benefits, it is important to emphasise the practical (long–term) economic advantages of adopting NIA practices. This could include demonstrating how measures like raising groundwater levels, diversifying crop types, or adopting wet cultivation can enhance a farm's resilience to climate change, reduce long–term operational costs, and open up new revenue streams, such as through AFNs and social value capture. By clearly showing the connection between NIA practices and farm profitability, policymakers can make a compelling case for why farmers should consider these practices as part of their business strategy.

Ultimately, by adopting a farmer–centric approach that combines clear communication, practical examples, and active involvement, policymakers can better engage farmers in the NIA process. This approach not only facilitates the adoption of sustainable practices but also helps to build a stronger, more resilient agricultural sector that aligns with broader environmental and economic goals.

## Implications for research

This thesis offers practical insights into the stakeholder perception regarding Nature– Inclusive Agriculture (NIA) in the Peat Meadow area, contributing to the academic discourse by addressing gaps in existing research. Traditionally, academic studies have focused on barriers, enablers, and cause–effect relationships in NIA (Vermunt et al., 2022). However, this research delves into the attitudes and perceptions of stakeholders, providing a deeper understanding of the origins of specific barriers and enablers and the motivations and reasons behind transition resistance. Moreover, the study revealed that these elements must be adapted to specific regions due to the dependency on soil type in nature–inclusive farming. This study has a more precise application in the peat meadow area. This underscores the importance of contextualising frameworks to reflect regional specificities.

The socio– economic effects of NIA have been another focal point of this research. The literature on collecting socio– economic effects, such as the study by Reinhard et al. (2022), served as a basis for identifying relevant indicators for data analysis. This thesis highlights explicitly region– specific trends related to NIA and explores relevant policy measures and stakeholders for future quantitative research on a larger scale. By identifying and categorising recurring themes from a socio– economic perspective, this research provides a foundation for more sharply defined analyses of peat meadow areas across the Netherlands.

### **Future research**

Building upon these findings, several directions for future research can be identified to further develop the insights gained from this study.

Future research can delve deeper into land accessibility as a strategy to value NIA practices and ecosystem services on farms. Investigating how technology could help make the added value more transparent could be highly beneficial and could focus on metrics for water quality, soil robustness, and biodiversity enhancement. My study's emphasis on socio– economic factors and region– specific trends also suggests that the perceived opportunity of wet cultivation warrants further investigation, particularly its environmental trade– offs. Research should examine the balance between methane and CO<sub>2</sub> emissions in wet cultivation compared to dairy farming, as well as broader ecological benefits beyond greenhouse gas emissions, such as increased biodiversity.

Moreover, acknowledging that peatlands are not confined to rural areas, it would be valuable to measure the effects of NIA in urban settings where peatland is a soil type. This research could explore the socio– economic impacts of NIA in cities and the implications of increased water levels. This line of inquiry aligns with the identified need for contextualised frameworks and might become more pertinent as NIA is more widely implemented.

Lastly, investigating the future landscape of peatland areas under NIA practices could provide insights into long-term ecological and environmental outcomes. This research could help to understand how peatland areas will evolve and the implications for land management and policymaking. By focusing on these areas, future studies can continue to build on the foundational work laid out in this thesis, contributing to a more comprehensive understanding of NIA's potential across different contexts.

## Conclusion

The peat meadow region, characterised by dairy farms on peat soil, faces biodiversity loss and increased nitrogen levels due to intensive agriculture. NIA emerges as a solution, integrating farming with conservation and elevated biodiversity standards. The perceptions and attitudes of NIA in the peat meadow area are crucial for policy implementation and acceleration of a just and sustainable transition in the agricultural area.

According to this study's findings, stakeholder perceptions vary, with concerns about government interference contrasting with recognised environmental and economic benefits. NIA's perceived linkage with social value capture fosters urban-rural connections and landscape appreciation. It supports RES and CES in South Holland, which are crucial for well-being and biodiversity. CSA under NIA enhances landscape valuation, promotes farmer autonomy, and aligns with sustainability goals. NIA also provides essential ecosystem services—nature, biodiversity, water quality—and cultural/recreational benefits often overlooked. Linking urban populations with NIA practices can enhance landscape valuation and promote sustainable behaviours.

Aligning with BW, NIA shows promise in reducing farm and societal costs, enhancing employment, and improving health. However, it can implicate industry consolidation and amplify community and social tension. Via CSA, it addresses societal needs such as social cohesion and accessibility to nature while contributing positively to environmental quality. Policy measures like groundwater management, NIA business models, organic farming promotion, and provincial water/soil strategies can further enhance these socio-economic benefits. Future research should explore these measures' implications in depth.

In conclusion, stakeholder engagement is critical for successful NIA implementation in the peat meadow region. Understanding and addressing diverse perceptions—balancing environmental benefits with regulatory concerns—is essential for effective policy formulation and execution. This study lays a foundation for promoting NIA, aiming for a sustainable agricultural landscape.

## **Limitations**

This research has several limitations that must be acknowledged. The qualitative nature of this study is one of the primary limitations, as it is often critiqued for its lack of generalisability. Qualitative research inherently involves a degree of subjectivity in the interpretation and conclusion phases, which can affect the outcomes (Weis & Willems, 2017).

The scientific assessment of these socioeconomic indicators was challenging due to their intangible attributes and abstract nature. Therefore, it was not easy to establish precise correlations between specific aspects of NIA and their effects on the socioeconomic indicators of the interviewees. This challenge stemmed from these indicators' context-dependent nature and reliance on specific regulatory policy measures. A more precise analysis would require focusing on a single regulatory measure such as nitrogen reduction strategies, encouraging extensive production methods, fertiliser usage policies, or increased water levels to decrease peat oxidation. The socioeconomic impacts are strongly tied to these measures and regulations, especially since the province of South Holland does not yet have these policy selections for measuring NIA's final socioeconomic indicators.

The broad nature of the NIA topic also posed limitations. While studying perceptions, attitudes, and associations allowed for drawing connections between these elements, it limited the depth of analysis that could be conducted. Although the thesis provided new insights and recommended specific actions for policymakers, more research is needed to understand the effects of implementing these opportunities on socio-economic indicators. Future research could focus on particular measures for promoting NIA or delve deeper into specific elements of NIA. This study primarily concentrated on the socio-economic indicators relevant to the local context and present time rather than considering the broader socio-economic impacts that may occur globally. This limited scope, dictated by the feasibility and focus of the research, may result in a one-sided narrative, overlooking significant effects that NIA measures could have in other parts of the world. For instance, the potential consequences of widespread NIA implementation and shifts in international industries should have been examined. These areas present intriguing opportunities for future research.

Another significant limitation is the study's reliance on a small sample size and composition. Only ten stakeholders from the peat meadow region were interviewed, which limits the extent to which findings can be generalised to all stakeholders in the area. This affects the study's external validity. Moreover, eight out of ten interviews were conducted via online video calls instead of face-to-face, which might affect the research's ability to notice non-verbal communication.

Lastly, the contribution limited only to a specific part of the debate on the specific cause-effect relationships of NIA on socio-economic indicators, as this is highly dependent on the specific policy measures implemented to accelerate NIA. It is inevitable that when focusing on a case study, generic

applications is hard to make. The researcher's interpretations and perceptions of NIA might have influenced the data analysis process and the understanding of the interviewees' responses. However, continuous revisions and consideration of diverse perspectives have helped enhance the clarity and objectivity of the findings.

## References

- Bamière, L., David, M., & Vermont, B. (2013). Agri– environmental policies for biodiversity when the spatial pattern of the reserve matters. *Ecological Economics*, 85, 97–104. <https://doi.org/10.1016/J.ECOLECON.2012.11.004>
- Bansal, P., & Corley, K. (2012). From the Editors: Publishing in AMJ – Part 7: What's Different About Qualitative Research? *Academy of Management Journal*, pp. 55, 509–513.
- Batáry, P., Dicks, L. V., Kleijn, D., & Sutherland, W. J. (2015). The role of agri– environment schemes in conservation and environmental management. *Conservation Biology*, 29(4), 1006–1016. doi: 10.1111/cobi.12536
- Carolan, M. S. (2006). Do you see what I see? Examining the epistemic barriers to sustainable agriculture. *Rural Sociology*, 71(2), 232–260. doi: 10.1526/00360110677789756
- Carvalho– Ribeiro, S., Ramos, I. L., Madeira, L., Barroso, F., Menezes, H., & Pinto Correia, T. (2013). Is land cover an important asset for addressing the subjective landscape dimensions? *Land Use Policy*, 35, 50–60. <https://doi.org/10.1016/J.LANDUSEPOL.2013.04.015>
- Centraal Bureau voor de Statistiek. (2022). Monitor Brede Welvaart en SDG's 2022: Samenvatting. Retrieved from <https://longreads.cbs.nl/monitor– brede– welvaart– en– sdgs– 2022/samenvatting/>
- Central Bureau of Statistics. (2023, March 10). Dutch well– being: Natural environment and social relations under pressure. CBS. <https://www.cbs.nl/en– gb/news/2023/20/dutch– well– being– natural– environment– and– social– relations– under– pressure>
- Centraal Bureau voor de Statistiek. (n.d.). Regionale Monitor Brede Welvaart [Webpage]. Retrieved from <https://www.cbs.nl/nl– nl/visualisaties/regionale– monitor– brede– welvaart/indicator>
- Cornelissen, J.P. (2016). Preserving Theoretical Divergence in management Research: Why the Explanatory Potential of Qualitative Research Should Be Harnessed Rather Than Suppressed. *Journal of Management Studies*. doi: 10.1111/joms.12210
- Centraal Planbureau (CPB). (2022). *Verankering van brede welvaart in de begrotingssystematiek*. Retrieved from <https://www.cpb.nl>
- Dagevos, H., & de Lauwere, C. (2021). Circular business models and circular agriculture: Perceptions and practices of Dutch farmers. *Sustainability (Switzerland)*, 13(3), 1–15. <https://doi.org/10.3390/su13031282>
- Daliakopoulos, I. N., Tsanis, I. K., Koutroulis, A., Kourgialas, N. N., Varouchakis, A. E., Karatzas, G. P., & Ritsema, C. J. (2016). The threat of soil salinity: A European scale review. *Science of the total environment*, 573, 727– 739.

- Dalziel, P. (2019). Wellbeing economics in public policy: A distinctive Australasian contribution? *Economic and Labour Relations Review*, 30(4), 478–497.  
[https://doi.org/10.1177/1035304619879808/ASSET/IMAGES/LARGE/10.1177\\_1035304619879808-FIG1.JPEG](https://doi.org/10.1177/1035304619879808/ASSET/IMAGES/LARGE/10.1177_1035304619879808-FIG1.JPEG)
- Dessart, F. J., Barreiro–Hurlé, J., & van Bavel, R. (2019). Behavioural factors affecting the adoption of sustainable farming practices: a policy– oriented review. *European Review of Agricultural Economics*, 46(3), 417–471.  
<https://doi.org/10.1093/ERAEBZ019>
- Diener, E., & Seligman, M. E. P. (2004). *Beyond Money Toward an Economy of Wellbeing* (Vol. 5, Issue 1).
- Dudley, N., & Alexander, S. (2017). Agriculture and biodiversity: a review. *Biodiversity*, 18(2–3), 45–49.  
<https://doi.org/10.1080/14888386.2017.1351892>
- EEA. (2015a). *SOER 2015 – The European environment – state and outlook 2015. A comprehensive assessment of the European environment's state, trends and prospects in a global context*. Copenhagen: European Environmental Agency.
- EEA. (2015b). *State of nature in EU. Results from reporting under the nature directives 2007–2012*, EEA technical report no2/2015. Luxembourg: European Environment Agency.
- Eisenhardt, K., M. (1989). Building Theories from Case Study Research. *Academy of Management Review*, 14, 532–550
- Erismann, J. W., van Eekeren, N., Institute, L. B., van Doorn, A., Geertsema, W., & Polman, N. (2017). Measures for Nature– based agriculture. [www.wageningenur.nl](http://www.wageningenur.nl)
- Erismann, J. W., van Eekeren, N., van Doorn, A., Geertsema, W., & Polman, N. (2017). *Maatregelen Natuurinclusieve landbouw*. Wageningen University & Research. Retrieved from <https://www.wageningenur.nl>
- Erismann, J. W. (2021). Setting ambitious goals for agriculture to meet environmental targets. *One Earth*, 4(1), 15–18.  
<https://doi.org/10.1016/j.oneear.2020.12.007>
- European Commission. (2024). *Common Agricultural Policy*. Retrieved from [https://agriculture.ec.europa.eu/common-agricultural-policy\\_en](https://agriculture.ec.europa.eu/common-agricultural-policy_en)
- Exton, C., & Shinwell, M. (2018). Policy use of wellbeing metrics: Describing countries' experiences.  
<https://doi.org/10.1787/d98eb8ed-en>
- Farjon, J. M. J., Gerritsen, A. L., Donders, J. L. M., Langers, F., Nieuwenhuizen, W., Gerritsen, A. L., Donders, J. L. M., Langers, F., & Nieuwenhuizen, W. (2018). *Conditioes voor natuurinclusief handelen : analyse van vier praktijken van natuurinclusief ondernemen* (Ser. Wot– technical report, 121). Wettelijke Onderzoekstaken Natuur & Milieu. <https://doi.org/10.18174/461494>

- Fleurbaey, M., Kanbur, R., & Snower, D. (2024). Efficiency and equity in a socially– embedded economy. *Economic Theory*. <https://doi.org/10.1007/s00199-023-01546-5>
- Galloway, D. L., & Burbey, T. J. (n.d.). Review: Regional land subsidence accompanying groundwater extraction. <https://doi.org/10.1007/s10040-011-0775-5>
- Hardeveld, H. A., Driessen, P. P. J., Schot, P. P., & Wassen, M. J. (2018). Supporting collaborative policy processes with a multi– criteria discussion of costs and benefits: The case of soil subsidence in Dutch peatlands. <https://doi.org/10.1016/j.landusepol.2018.06.002>
- Hensher, M., & Baldwin Professorial, H. (2023). The economics of the wellbeing economy: Understanding heterodox economics for health– in– all– policies and co– benefits. *Health Promotion Journal of Australia*, 34(3), 651–659. <https://doi.org/10.1002/HPJA.764>
- Hoste, R. van Halen, M., Jongeneel, R., Gonzalez– Martinez, A., Watell, C., Pijnenburg, J. and Bens, P., (2019) Prijsontwikkeling van varkensrechten., Wageningen Economic Research, Report number: 2018–112a.
- Janssen, A., Beers, P. J., Pater, M. (2023). Strategische verkenning landbouw– en voedseltransitie provincie Zuid–Holland. DRIFT.
- Janssen, A., Beers, P. J., & van Mierlo, B. (2022). Identity in sustainability transitions: The crucial role of landscape in the Green Heart. *Environmental Innovation and Societal Transitions*, 42, 362–373. <https://doi.org/10.1016/J.EIST.2022.01.008>
- Jukema, G.D., Ramaekers, P., & Berkhout, P. (Eds.). (2023). De Nederlandse agrarische sector in internationaal verband – editie 2023 [The Dutch agricultural sector in international context – 2023 edition]. Wageningen/Heerlen/Den Haag, Wageningen Economic Research en Centraal Bureau voor de Statistiek, Rapport 2023– 004. (116 blz.; 47 fig.; 38 tab.; 148 ref.). <https://doi.org/10.18174/584222>
- Khmara, Y., & Kronenberg, J. (2023). On the road to urban degrowth economics? Learning from the experience of C40 cities, doughnut cities, Transition Towns, and shrinking cities. *Cities*, 136, 104259. <https://doi.org/10.1016/J.CITIES.2023.104259>
- Klebl, F., Feindt, P. H., & Piorr, A. (2023). Farmers’ behavioural determinants of on– farm biodiversity management in Europe: a systematic review. In *Agriculture and Human Values*. Springer Science and Business Media B.V. <https://doi.org/10.1007/s10460-023-10505-8>
- Korten, D.C. A Living Earth Economy for an Ecological Civilization. 2017. Retrieved from: <https://ecociv.org/alive-earth-economy-for-an-ecological-civilization-david-korten/>
- Lesschen, J. P., Reijers, J., Vellinga, T., Verhagen, J., Kros, H., de Vries, M., Jongeneel, R., Slier, T., Gonzalez Martinez, A., Vermeij, I., & Daatselaar, C. (2020). *Scenariostudie perspectief voor ontwikkelrichtingen Nederlandse landbouw in 2050*. <https://doi.org/10.18174/512111>

- LNV. (2023). De Nederlandse agrarische sector in internationaal verband. Ministry of Agriculture, Nature and Food Quality. Retrieved from <https://www.cbs.nl/en-gb/publication/2023/04/the-dutch-agricultural-sector-in-an-international-context-2023>
- LNV, (2018). Agriculture, nature and food: valuable and connected; The Netherlands as a leader in circular agriculture. The Hague, Ministry of Agriculture, Nature and Food Quality of The Netherlands (Policy note 19–11– 2018).
- Lovins, L.H., S. Wallis, A. Wijkman, and J. Fullerton. (2018). A finer future: Creating an economy in service to life, a report to the club of Rome. Gabriola Island: New Society Publishers.
- LTO. (2021). GLB– pilot Sectorale Bouwstenen. Melkveehouderij op zandgronden. Onafhankelijke consultatie onder Nederlandse boeren en tuinders inzake de invulling van Pijler 1 in nieuwe Gemeenschappelijk Landbouwbeleid (GLB) vanaf 2023. Retrieved from <https://www.glbuitdepraktijk.nl/resultaten/>
- Maas, J. (2018). Factsheet biodiversiteit. Wageningen University & Research.
- Mathews, A. (2019). The GHG emissions challenge for agriculture. CAP Reform. Available at: <http://capreform.eu/the-ghg-emissions-challenge-for-agriculture/>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2018). Qualitative data analysis: A methods sourcebook. Sage.
- Molinario, E., Lorenzi, C., Bartoccioni, F., Perucchini, P., Bobeth, S., Colléony, A., ... & Bonaiuto, M. (2020). From childhood nature experiences to adult pro– environmental behaviors: An explanatory model of sustainable food consumption. *Environmental Education Research*, 26(8), 1137– 1163.
- Montanarella, L., & Panagos, P. (2021). The relevance of sustainable soil management within the European Green Deal. <https://doi.org/10.1016/j.landusepol.2020.104950>
- Morseletto, P. (2019). Confronting the nitrogen challenge: Options for governance and target setting. *Global Environmental Change*, 54, 40–49. <https://doi.org/10.1016/J.GLOENVCHA.2018.11.005>
- OECD. (2018). Beyond GDP: Measuring what counts for economic and social performance. Retrieved from <https://www.oecd.org/social/beyond-gdp-9789264307292-en.htm>
- OECD. (2017a). How's Life? Measuring Wellbeing, OECD Publishing, Paris, [https://doi.org/10.1787/how\\_life-2017-en](https://doi.org/10.1787/how_life-2017-en)
- Osberg, L., & Sharpe, A. (2005). How should we measure the ‘economic’ aspects of well– being? *Review of Income and Wealth*, 51(2), 311–336. <https://doi.org/10.1111/j.1475-4991.2005.00171.x>

Peneva, M., Draganova, M., Gonzalez, C., Diaz, M., & Mishev, P. (2014). High nature value farming: environmental practices for rural sustainability. *Transition Pathways Towards Sustainability in Agriculture: Case Studies from Europe*, eds LA Sutherland, I. Darnhofer, G. Wilson, and L. Zagata (Wallingford, UK: CABI), 97– 112.

PZH. (2024). Bodemdaling. Kennisportal Zuid– Holland. Retrieved from <https://kennis.zuid-holland.nl/trend/bodemdaling/>

PZH. (2024). Zuid– Hollands programma landelijk gebied. Retrieved from <https://www.zuid-holland.nl/onderwerpen/natuur-landschap/zuid-hollands-programma-landelijk-gebied/>

*PZH. (2023) Contouragenda Natuurinclusief Zuid– Holland. (2023).*

PZH (2022). Verkenning Zuid– Holland Natuurinclusief 2050. Hier zit natuur in. ToekomstAgenda / Kennis Zuid– Holland. Retrieved from: <https://www.zuid-holland.nl/onderwerpen/natuur-landschap/verkenning-natuurinclusief/>

Raworth, K. (2017). Why it's time for Doughnut Economics. *IPPR Progressive Review*, 24(3), 216–222. <https://doi.org/10.1111/NEWE.12058>

Raven, P. H., & Wagner, D. L. (2021). Agricultural intensification and climate change are rapidly decreasing insect biodiversity. *Proceedings of the National Academy of Sciences of the United States of America*, 118(2), e2002548117. <https://doi.org/10.1073/PNAS.2002548117/ASSET/E4B53E21-F3B6-4826-B889-A0DB0FC7A08C/ASSETS/IMAGES/LARGE/PNAS.2002548117FIG01.JPG>

Reinhard, S., van Alphen, M., Siegerink, V., & Ooms, D. (2023). Sociaal– economische effectenanalyse integrale gebiedsaanpak (SEEA) : gespreksprotocol voor gebiedssessies. (Rapport / Wageningen Economic Research; No. 2023– 052). Wageningen Economic Research. <https://edepot.wur.nl/630516>

Reinhard, S., R. Jongeneel, M. van Alphen, L. Vissers, M. Selten, R. Michels, C. de Vries, 2022. Doorwerking Programma Stikstofreductie en Natuurverbetering; Sociaaleconomische analyse van bron– en natuurherstelmaatregelen. Wageningen, Wageningen Economic Research, Rapport 2022– 019. 82 blz.; 15 fig.; 12 tab.; 63 ref.

Reichgelt, A., van Duinhoven, G., Al, E., Borkent, I., Bosch, J., van Dam, C., Gerrits, G., de Haan, B., Naaijen, C., van der Horst, J., Schmidt, P., Ottburg, F., & van Wijk, M. (2020). Special natuurinclusieve landbouw. *Vakblad Natuur Bos Landschap / Stichting Vakblad Natuur Bos Landschap* 17 (164): 1 – 56.

Stijn Reinhard, Monica van Alphen, Veerle Siegerink, Daniëlle Ooms, 2023. Sociaal– economische effectenanalyse integrale gebiedsaanpak (SEEA); Gespreksprotocol voor gebiedssessies. Wageningen, Wageningen Economic Research, Rapport 2023– 052. 50 blz.; 16 fig.; 1 tab.; 9 ref.

Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S. E., Donges, J. F., Drüke, M., Fetzer, I., Bala, G., von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués– Bravo, D., ... Rockström, J. (2023). Earth beyond six of nine planetary boundaries. <https://www.science.org>

Raad voor Leefomgeving en en infrastructuur RLI. (2024, February). Goed gefundeerd. Retrieved from: <https://www.rli.nl/goed-gefundeerd-advies-om-te-komen-tot-een-nationale-aanpak-funderingsproblematiek>

- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., de Wit, C. A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U., ... Walker, B. (2009). Planetary Boundaries: Exploring the Safe Operating Space for Humanity (Vol. 14, Issue 2). <https://about.jstor.org/terms>
- Rockström, J. (2015). A Great Transition Initiative Essay Bounding the Planetary Future: Why We Need a Great Transition.
- Runhaar, H. (2017). Governing the transformation towards 'nature-inclusive' agriculture: insights from the Netherlands. *International Journal of Agricultural Sustainability*, 15(4), 340–349. <https://doi.org/10.1080/14735903.2017.1312096>
- Runhaar, H. A. C., Melman, T. C. P., Boonstra, F. G., Erisman, J. W., Horlings, L. G., de Snoo, G. R., Termeer, C. J. A. M., Wassen, M. J., Westerink, J., & Arts, B. J. M. (2017). Promoting nature conservation by Dutch farmers: a governance perspective†. *International Journal of Agricultural Sustainability*, 15(3), 264–281. <https://doi.org/10.1080/14735903.2016.1232015>
- Runhaar, H., & Polman, N. (2018). Partnering for nature conservation NGO–farmer collaboration for meadow bird protection in the Netherlands. <https://doi.org/10.1016/j.landusepol.2018.01.033>
- Schultz et al., 2015. L. Schultz, C. Folke, H. Österblom, P. Olsson. Adaptive governance, ecosystem management, and natural capital. *Proc. Natl. Acad. Sci.*, 112 (2015), pp. 7369–7374
- Silvis, H., Schrijver, R., & Jellema, A. (2022). *Stapelen van beloningen voor natuurinclusieve landbouw: Een lonkend perspectief?*
- Slawinski, N., & Bansal, P. (2015). Short on Time: Intertemporal Tensions in Business Sustainability. *Organization Science*, 26(2), 531–549. <http://www.jstor.org/stable/43663662>
- Smits, M–J., Dawson, A., Dijkshoorn–Dekker, M., Ferwerda–van Zonneveld, R., Michels, R., Migchels, G., Polman, N., Schrijver, R., Sukkel, W., Vogelzang, T., Kistenkas, F., Dawson, A., Dijkshoorn–Dekker, M., Ferwerda–van Zonneveld, R., Michels, R., Migchels, G., Polman, N., Schrijver, R., ... Kistenkas, F. (2020). Van a naar biodiversiteit: op weg naar een natuurinclusieve landbouw (Ser. Rapport / wageningen economic research, 2020–043). Wageningen Economic Research.
- Smit, A. A. H., Driessen, P. P. J., & Glasbergen, P. (2009). Conversion to organic dairy production in the Netherlands: Opportunities and constraints. *Rural Sociology*, 74(3), 383–411. doi: 10.1526/003601109789037286
- Sociaal–Economische Raad. (2021). Zicht op Brede Welvaart. Retrieved from <https://www.ser.nl/nl/actueel/zicht/op/brede-welvaart-ser>
- Sociaal–Economische Raad (2023, December). Zicht op Brede Welvaart, Magazine #4.
- Staatsbosbeheer. (2024). Natuurinclusieve landbouw. Retrieved from <https://www.staatsbosbeheer.nl/wat-we-doen/natuurinclusieve-landbouw>

Steffen, W.; Richardson, K.; Rockström, J.; Cornell, S.E.; Fetzer, I.; Bennett, E.M.; Biggs, R.; Carpenter, S.R.; de Vries, W.; de Wit, C.A.; et al. Planetary boundaries: Guiding human development on a changing planet. *Science* 2015, 347, 736. [

Stiglitz, J., A. Sen and J.– P. Fitoussi (2009). Report by the Commission on the Measurement of Economic Performance and Social Progress, published at [www.stiglitz-sen-fitoussi.fr](http://www.stiglitz-sen-fitoussi.fr).

Termeer, C. J. A. M., Stuver, M., Gerritsen, A., & Huntjens, P. (2013). Integrating self-governance in heavily regulated policy fields: Insights from a Dutch farmers' cooperative. *Journal of Environmental Policy & Planning*, 15(2), 285–302. doi: 10.1080/1523908X.2013.778670

Ulug, C., Cebrián-Piqueras, M. A., Metzger, M., Raymond, C. M., & Verburg, P. H. (2023). Navigating tensions in inclusive conservation: Learning from the Utrechtse Heuvelrug National Park in the Netherlands. <https://doi.org/10.1016/j.envsci.2023.103620>

United Nations System Chief Executives Board for Coordination. (n.d.). Valuing What Counts: United Nations System-wide Contribution Beyond Gross Domestic Product (GDP). Retrieved from <https://unsceb.org/valuing-what-counts-united-nations-system-wide-contribution-beyond-gross-domestic-product-gdp>

Van Doorn, A., Melman, D., Westerink, J., Polman, N., Vogelzang, T., & Korevaar, H. (2016). Food-for-thought: natuurinclusieve landbouw. Wageningen University & Research.

Velten, S., Leventon, J., Jager, N., & Newig, J. (2015). What is sustainable agriculture? A systematic review. *Sustainability (Switzerland)*, 7(6), 7833–7865. doi: 10.3390/su7067833

Vermunt, D. A., Wojtynia, N., Hekkert, M. P., van Dijk, J., Verburg, R., Verweij, P. A., Wassen, M., & Runhaar, H. (2022). Five mechanisms blocking the transition towards 'nature-inclusive' agriculture: A systemic analysis of Dutch dairy farming. *Agricultural Systems*, 195, 103280. <https://doi.org/10.1016/J.AGSY.2021.103280>

Virchow, D. (1999). Conservation of plant genetic resources for food and agriculture: Main actors and the costs to bear. *International Journal of Social Economics*, 26(7–9), 1144–1161. doi: 10.1108/03068299910245868

Waddock, S. (2021). Wellbeing Economics Narratives for a Sustainable Future. *Humanistic Management Journal*, pp. 6, 151–167. <https://doi.org/10.1007/s41463-021-00107-z>

Warnecke, T. (2023). Operationalising the Doughnut Economy: An Institutional Perspective. *Journal of Economic Issues*, 57(2), 643–653. <https://doi.org/10.1080/00213624.2023.2202570>

Weis, D., & Willems, H. (2017). Aggregation, validation, and generalization of qualitative data—methodological and practical research strategies illustrated by the research process of an empirically based typology. *Integrative Psychological and Behavioral Science*, 51(2), 223–243.

Westerink, J., Melman, D. C. P., & Schrijver, R. A. M. (2015). Scale and self-governance in agri-environment schemes: experiences with two alternative approaches in the Netherlands. *Journal of Environmental Planning and Management*, 58(8), 1490–1508. <https://doi.org/10.1080/09640568.2014.932762>

Westerink, J., Pleijte, M., Schrijver, R., van Dam, R., de Krom, M., & de Boer, T. (2021). Can a “good farmer” be nature– inclusive? Shifting cultural norms in farming in The Netherlands. *Journal of Rural Studies*, 88, 60–70. <https://doi.org/10.1016/j.jrurstud.2021.10.011>

Weterings, A., van der Staak, M., Daalhuizen, F., Evenhuis, E., Thissen, M., & Verwoerd, L. (2019). *Keuzes bij het bevorderen van de brede welvaart in de regio: Inzichten uit het PBL– onderzoeksprogramma ‘Regio Deals voor brede welvaart’*,

Zuid– Holland. (2023). *Perspectief Welvarend Zuid– Holland*. Retrieved from <https://www.zuid– holland.nl/politiek– bestuur/coalitieakkoord– 2023– 2027/perspectief– welvarend– zuid– holland/>

## Appendices

### 1. NIA initiatives in the peat meadow area (Veenweiden)

Type of initiatives related to NIA in Peat Meadow area	Description	Examples
<b>NIA on dairy farms</b>		
<b>Water Infiltration System (WIS), Water management, and Adaptive livestock farming</b>	Managing groundwater to minimize peat degradation, greenhouse gas emissions, and subsidence while maintaining the polder's integrity, economic viability, and appeal to meadow birds and visitors. WIS is commonly implemented on dairy farms with minimal climate impact at a high groundwater level. Developing a profitable dairy farming system on peat soil with a water table 20 cm below ground level, resulting in minimal land subsidence and lower greenhouse gas emissions.	<ul style="list-style-type: none"> <li>• <a href="#">Zegveld, Veenweiden innovatie centrum</a></li> <li>• <a href="#">"Bodemdaling Polder Bloemendaal"</a></li> <li>• <a href="#">Proefboerderij KTC Zegveld</a></li> <li>• <a href="#">WIS Vlist</a></li> <li>• <a href="#">Polder Stein Zuid</a></li> <li>• <a href="#">Polder Aarlanderveen (new project)</a></li> <li>• <a href="#">Polder Noordzijde, de Bree, Weijland</a></li> </ul>
<b>Meadow bird management</b>	There are several ways to attract meadow birds to the landscape. For example, mowing plot edges later during breeding season of the meadow birds. Or flooding a portion of the land with water or called "Plas & Dras". Making the land marshy ensures that there is plenty of food for the birds.	<ul style="list-style-type: none"> <li>• <a href="#">Rijn &amp; Gouwe Wiericke, Vereniging voor agrarisch natuur &amp; landschapsbeheer</a></li> <li>• <a href="#">Pijnacker- Nootdorp, Melkveebedrijf Gravesteyn</a></li> <li>• <a href="#">Weidehof Krimpenerwaard, Agrarisch natuur en landschapsbeheer</a></li> </ul>
<b>Meadow with herbs</b>	Screening grass herb mixtures and their management for peatlands, without the need for intensive tillage. Less to no fertilization so that herbs are generous and so that there is less heavy crop. Increase biodiversity and water quality.	<ul style="list-style-type: none"> <li>• Krimpenerwaard, Proeftuin Krimpenerwaard</li> <li>• <a href="#">Rijn &amp; Gouwe Wiericke, Vereniging voor agrarisch natuur &amp; landschapsbeheer</a></li> <li>• <a href="#">Noordeloos, boerderij madam jeanet, land van ons</a></li> <li>• <a href="#">Pijnacker- Nootdorp, Melkveebedrijf Gravesteyn</a></li> </ul>
<b>Nature- friendly banks</b>	A nature- friendly bank is a gradually sloping transition from land to water, providing a sheltered habitat for such things as insects, frogs, toads, small mammals and fish.	<ul style="list-style-type: none"> <li>• <a href="#">Meijepolder</a></li> <li>• <a href="#">Westeinde van waarder (new project)</a></li> </ul>

		<ul style="list-style-type: none"> <li>• <a href="#">Pijnacker- Nootdorp, Melkveebedrijf Gravesteyn</a></li> </ul>
<b>NIA on crop farms</b>		
<b>Food marsh</b>	A marsh/swamp ecosystem is mimicked with various wetland crops such as cattail and water mint. This allows the water level to be raised, reducing emissions from oxidation of the peat.	<ul style="list-style-type: none"> <li>• <a href="#">Land van Ons Oud Ade &amp; Voedsel moeras</a></li> <li>• <a href="#">The cranberry company</a></li> </ul>
<b>Food forest</b>	A food forest is composed of several layers of edible plants, trees and shrubs. It mimics a natural ecosystem, producing food in the process. Food forests have a high diversity of plants. This greatly increases biodiversity and improves soil quality and water storage capacity. Relatively new in the peat meadow area.	<ul style="list-style-type: none"> <li>• <a href="#">Voedselbos Ziedewij</a></li> <li>• <a href="#">Voedselbos/boomkwekerij de Koperwiek</a></li> </ul>
<b>Organic farm</b>	Less to no pesticide use/natural pest control. Crop diversity and soil quality.	<ul style="list-style-type: none"> <li>• <a href="#">Leimuident, herenboeren aan de drecht</a></li> <li>• <a href="#">Rotterdam- Noord, Herenboeren Vlinderstrik</a></li> <li>• <a href="#">BD Grondbeheer</a></li> <li>• <a href="#">Aardpeer</a></li> <li>• <a href="#">Land van Ons</a></li> </ul>
<b>Wet cultivation/Paludiculture</b>	For example, cattail, cranberries, water reed, miscanthus/wild rice and willow. Farmers on land with a high- water level with very different farming practices. For example, cattail can be used as roughage for cattle or as fiber for building materials. Little tillage needed, less heavy machinery, less pesticide use, improved soil quality through root system. Livestock is also reduced by this.	<ul style="list-style-type: none"> <li>• <a href="#">Oude ade, Land van ons</a> met project "Polderlab Vrouwe Venne"</li> <li>• <a href="#">Zegveld, veenweiden innovatie centrum</a></li> <li>• <a href="#">VijfHeerenLanden, from dairy cattle to fiber farming.</a></li> <li>• <a href="#">derived from DRIFT leaflet</a></li> </ul>
<b>Supplementary/facilitators of NIA</b>		
<b>Solar panels on farm</b>	How solar landscapes can contribute to reducing subsidence and CO2 emissions by moistening the soil under the panels. It is also being investigated whether a solar energy landscape could be an additional source of income for peat meadow farms that do not make enough profit. This could be an additional measure taken on a nature- inclusive farm.	<ul style="list-style-type: none"> <li>• <a href="#">Woerden, Project "Veenboeren in beweging"</a></li> </ul>
<b>Recreational use of farm</b>	Recreational use of a farm includes activities like tours, pick-your- own produce, workshops, and farm- to- table dining.	<ul style="list-style-type: none"> <li>• <a href="#">Gemeente Zuidplas, Project restveen in transitie</a></li> </ul>

	These offer public education, rural enjoyment, and extra income for farmers through agritourism.	<ul style="list-style-type: none"> <li>• <a href="#">Oude ade, Land van ons</a> met project “Polderlab Vrouwe Venne”</li> <li>• <a href="#">Noordeloos, boerderij madam jeanet, land van ons</a></li> <li>• <a href="#">Pijnacker- Nootdorp, Melkveebedrijf Gravesteyn</a></li> </ul>
<b>Alternative Food Network</b>	Short chains that decrease the distance between consumer and farmer via directly selling the product to the consumer on the farms. Often characterized by a shop next to the farm and by reating distinctive products that realise added value in the market. It gives the farmer more autonomy.	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Citizen Organization related to NIA</b>		
<b>Herenboeren</b> citizen organisation (CSA)	Concepts like Herenboeren, Aardpeer or any farm that incorporates citizens in the collective farming practices is considered to be a CSA and a local community consisting of 250 households owns a cooperative farm. They hire a farmer and share the responsibility of producing and harvesting the food. Thus, the chain is as short as possible, and members have direct insight and participation in production methods. Pursues sustainable farming practices where ecology, biodiversity, soil and water quality and climate are central.	<ul style="list-style-type: none"> <li>• <b>Leimuiden</b>, herenboeren aan de drecht (actief)</li> <li>• <b>Groene hart</b>, Herenboeren (cooperatie opgericht om een herenboerderij te realiseren)</li> <li>• <b>Gorinchem/Arkel</b> (initiatiefnemer voor een herenboerderij gestart)</li> </ul>

## 2. Interview guide semi– structured

Please note that each interview guide is also tailored to the interviewee's profession and experience in specific NIA– related activities. These are excluded from the appendix for privacy and lengthiness reasons, and this interview guide is the core of each interview.

# Interview guide semi– structured

## **Intro & NIA**

Inform the interviewee about the study. Explain the study and its end goal. Ask for permission to record and transcribe the interview and use quotes throughout the research. Ask whether the interviewee would like to approve the transcript beforehand.

- Can you briefly describe the role and the organisation you engage in?

## **Perception and definition NIA**

- What is your interpretation of NIA?

In order to maintain clarity and avoid misconception, the following definition will be stated in each interview.

The most common definition is:

*“A form of sustainable agriculture and part of a resilient ecosystem and food system. It makes optimal use of ecological processes and integrates them into farming practices. Nature inclusive agriculture also contributes directly to the quality of the natural environment itself by producing food within the limits set by the environment and by having a positive impact on biodiversity.”*

- Do you see an overlap of your interpretation within this definition of nature– inclusive agriculture?
  - In what ways?
  - Is this also seen similarly by your organisation?
  - Do you think this is also seen the same in the peat meadow area?

## **NIA measures/initiatives**

Show the table with NIA initiatives in the peat meadow area and discuss with the interviewee if they recognise an initiative.

- Do you have any experience with NIA or any agricultural nature management?
  - Can you give an example or describe an experience?

- In which ways are you involved in (nature– inclusive) agriculture?
  - Could you share a specific NIA initiative you have implemented or helped implement?
  - What were the outcomes and challenges?
- Are there any other projects you are involved in that I still need to name but that you think are related to nature– inclusive agriculture?

### **Motivation**

- What motivated you to incorporate nature– inclusive agriculture practices in your practices?
  - Or what did **not** motivate you....

### **Attitude towards specific initiatives**

Again, discuss the table and the specific initiative(s) the interviewee is involved in.

- What do you think of implementing initiative X in the peat meadow area?
- Which of these initiatives has, according to you, the most potential?
  - Why?
- Is there an initiative in which you see little to no potential?
- On which initiative would you like to know the social– economic effects better?
- **For policymakers: Is there a particular stakeholder in the region that you are particularly curious about attitudes and perceptions toward nature– inclusive agriculture?**

### **Impact**

When talking about impact, relate to the socio– economic indicators related to Brede Welvaart. If this is difficult and to get the conversation flowing, show the SEEA template or discuss an example of a socioeconomic effect related to NIA.

- In your view, what impact do you think NIA will have on your operations?
- What might be the other socioeconomic effects of the transition to a nature– inclusive interpretation of agriculture in South Holland province?
- In what ways do you think NIA will impact employment in the area?
  - Both positive and negative
- Is there an impact of NIA on society (contact with neighbours, family, friends)?
  - And how is that manifested?

- In your view, what impact do you think Nature– inclusive agriculture will have on entrepreneurs in the region and beyond?
- How do you see the long– term profitability of sustainable agriculture compared to conventional farming methods?
- Is there an impact of NIA on housing and living environment?
  - And how is that manifested?
- Is there an impact of NIA on the environment and health?
  - And how is that manifested?
- Can you share any personal anecdotes or experiences highlighting NIA's benefits or drawbacks?
- Do you have any general worries about NIA or sustainable landscape transformation related to its socio– economic impact?

### **Resistance**

- Have you noticed any resistance towards NIA in your environment?
- Why do you think there is any resistance here?
- What could be the reasons for farmers/stakeholders not wanting or being unable to change operations?
- How do you think the government/province can play a role in promoting nature– inclusive agriculture in the area and getting more farmers and stakeholders involved?
- What do you think are the challenges that make it more difficult to farm nature– inclusively/more sustainably?

### **Conclusion**

- Is there anything else you want to say about nature– inclusive agriculture and its measures?
- Generally, do you see nature– inclusive agriculture as something positive for your organisation?
  - Why or why not?

### **Outro**

Kindly thank the interviewee for their participation and answer any questions they might still have about the research and its intentions. Explain the thesis process and how the data will be handled.

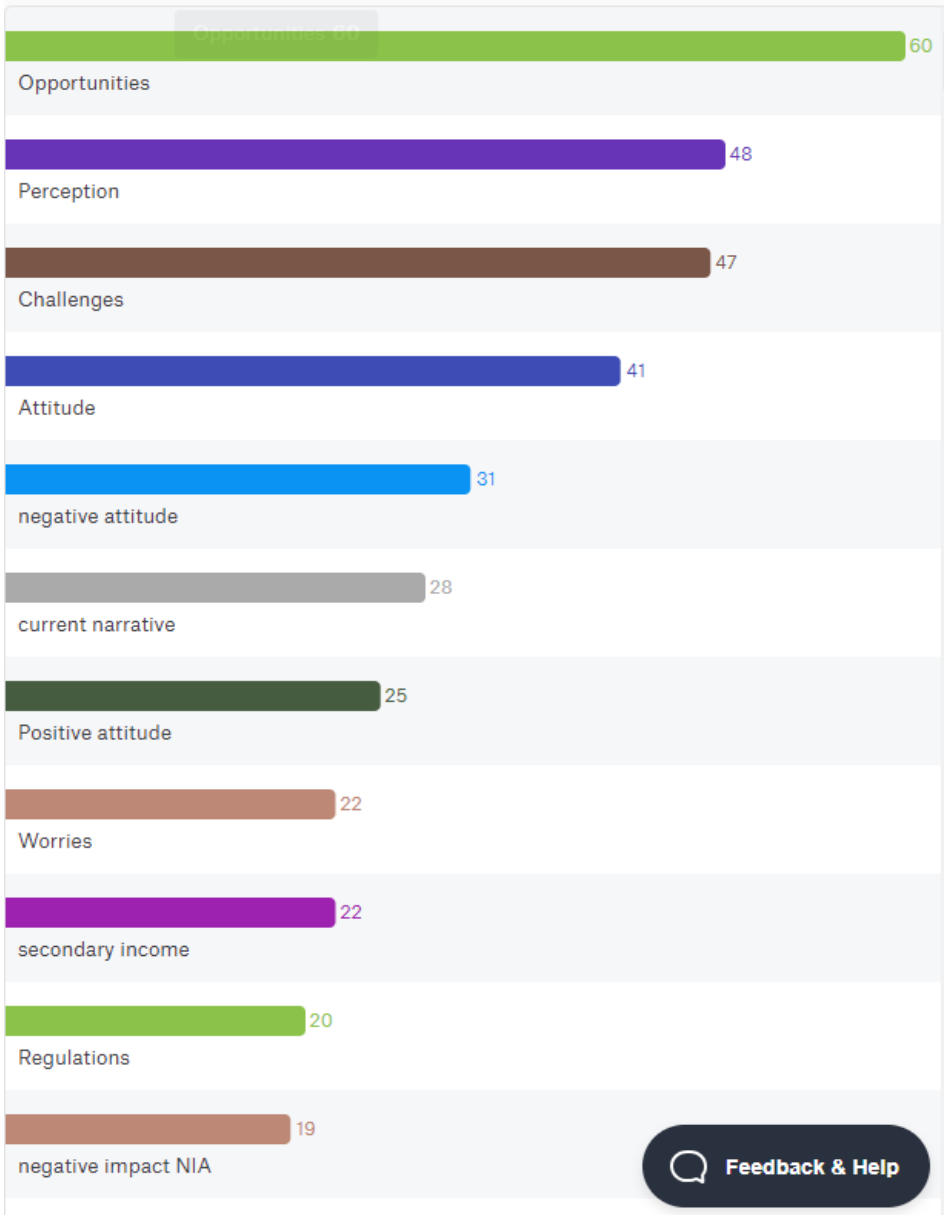
### 3. ATLAS.ti quotations per category

Image: Screenshot from ATLAS.ti showing quotations per interviewee

Name	Groups	Codes	Quotations
Interview IN7.docx	Manage Groups +	75	66
Interview IN8 nm.docx	Manage Groups +	65	49
Interview IN6.docx	Manage Groups +	74	63
Interview IN5.docx	Manage Groups +	60	71
Interview IN1.docx	Manage Groups +	89	100
Interview IN3.docx	Manage Groups +	59	70
Interview IN4.docx	Manage Groups +	78	85
Interview IN10.docx	Manage Groups +	49	64
Interview IN9.docx	Manage Groups +	60	47
Interview IN2.docx	Manage Groups +	68	48

### 4. ATLAS.ti third order code groups per interview

	Interview IN1.docx	Interview IN10.docx	Interview IN2.docx	Interview IN3.docx	Interview IN4.docx	Interview IN5.docx	Interview IN6.docx	Interview IN7.docx	Interview IN8 nm.docx	Interview IN9.docx
Attitude	24	15	13	17	11	9	9	11	5	4
Challenges	37	24	21	13	29	17	20	21	17	19
Economic effects	9	4	8	8	14	9	6	7	2	14
Impact	3	5	10	15	13	5	9	8	4	4
Opportunities	31	16	10	28	23	24	12	13	16	8
Perception	14	6	7	13	10	19	7	10	2	2
Social effects	17	4	9	15	13	6	16	19	9	11



## 5. Template letter of consent

### **Informatieblad voor onderzoek “Percepties en attitudes tegenover Natuur– inclusieve Landbouw, een sociaal– economische analyse”**

#### **Doel van het onderzoek**

Dit onderzoek wordt uitgevoerd door Eva Schreuder, masterstudente *Global Business & Sustainability* aan de Erasmus Universiteit Rotterdam. Dit project wordt begeleid door Dr. Piero Morseletto en Ronny Reshef.

Het doel van dit academische en maatschappelijke onderzoek is om percepties en attitudes tegenover natuur– inclusieve landbouw van verscheidene stakeholders in het veenweiden gebied te verzamelen. Zo kan onderzocht worden hoe de ervaringen van stakeholders overeenkomen met de beleidsdoelstellingen van de overheid en wat de sociaal– economische effecten kunnen zijn van natuur– inclusieve methodes in agricultuur. Deze doelstellingen zijn in lijn met het concept “Brede Welvaart”. De resultaten van dit onderzoek zouden gebruikt kunnen worden door deze overheden en organisaties die een rol spelen in de agri– sector.

#### **Hoe gaan we te werk?**

U neemt deel aan een onderzoek waarbij we informatie vergaren over: wat natuur– inclusieve landbouw is, welke initiatieven het rijk is, wat de belangrijkste belemmeringen en drijfveren zijn voor het implementeren van deze initiatieven, en wat voor een impact natuur– inclusieve landbouw heeft in de omgeving. Bovendien kijken we hoe het beleid van gemeentes en de provincie de implementatie kan beïnvloeden. Deze informatie wordt vergaard middels interviews. Audio– opnames dienen als data voor dit wetenschappelijk onderzoek.

#### **Delen en opslaan van uw gegevens**

Uw gegevens worden alleen gedeeld met personen die betrokken zijn bij dit onderzoek of die toegang nodig hebben tot de systemen die gebruikt worden voor dit onderzoek. Uw gegevens worden niet gedeeld met personen buiten het onderzoek.

Uw gegevens worden voor een maximumaantal van tien jaar opgeslagen, waarbij gebruik wordt gemaakt van veilige en geborgen online opslag. Deze opslagduur is in overeenstemming met best practices van Nederlandse universiteiten.

Uw gegevens kunnen opnieuw worden gebruikt, maar alleen na pseudonomisering en voor wetenschappelijk onderzoek met overeenkomstige doelen als het huidige onderzoek.

#### **Delen, opslag en verdere dataverwerking**

Uw individuele deelname aan dit onderzoek wordt strikt geheimgehouden binnen het onderzoeksteam. Uw gegevens worden geanonimiseerd verwerkt in het onderzoek.

Het onderzoeksteam moet de onderzoeksgegevens bewaren om aan te tonen dat het onderzoek legitiem. Deze opslagperiode is gebaseerd op de VSNU Richtlijnen.

Verdere verwerking van uw persoonlijke gegevens gebeurt na het anonimiseren van uw gegevens en na beoordeling van het doel van de verdere verwerking.

### Uw deelname en rechten

Door dit toestemmingsformulier te ondertekenen erken ik voldoende geïnformeerd te zijn over het onderzoek door middel van een separaat informatieblad. Ik heb het informatieblad gelezen en heb daarna de mogelijkheid gehad vragen te kunnen stellen. Deze vragen zijn voldoende beantwoord. Daarnaast begrijp ik dat informatie die ik deel gebruikt kan worden voor wetenschappelijke publicaties en advies aan brancheorganisaties en overheden.

Ik neem vrijwillig deel aan dit onderzoek. Het is mij duidelijk dat ik deelname aan het onderzoek op elk moment, zonder opgave van reden, kan beëindigen. Ik hoef een vraag niet te beantwoorden als ik dat niet wil. Wilt u stoppen met het onderzoek, of heeft u vragen en/of klachten? Neem dan contact op met de onderzoeksleider, Eva Schreuder ([585439es@eur.nl](mailto:585439es@eur.nl)).

### Audio

Ik geef toestemming om tijdens het interviews opnames (geluid) te maken en mijn antwoorden uit te werken in een transcript.

### Quotes

Ik geef toestemming mijn geanonimiseerde antwoorden te gebruiken voor quotes in onderzoekspublicaties.

### Verder onderzoek

Ik geef toestemming om de bij mij verzamelde onderzoeksdata te bewaren en te gebruiken voor toekomstig onderzoek door de EUR in andere onderzoeksvelden, voor onderwijsdoeleinden en voor beleidsadvies aan overheden en branche organisaties.

Ik geef toestemming voor alles dat hierboven beschreven staat.

**Naam deelnemer:**

**Datum**

**Handtekening deelnemer:**

**Naam & handtekening onderzoeker:**