

From Nature to Market:

Communication Approaches of Nature-Based Enterprises¹



Utrecht University

Student: Francisca Miroto

Details: 2212226; f.almiromiroto@students.uu.nl

Supervisor: Katrin Merfeld

Second Reader: Helen Toxopeus

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Abstract

This thesis explores the communication strategies employed by NBEs to promote NBS and engage stakeholders. The study addresses the challenges NBEs face when communicating and the strategies they use to communicate effectively. The research was conducted through a qualitative approach, including interviews and analysis of NBEs' websites and Instagram accounts

The findings reveal that NBEs encounter several barriers in their communication efforts that align with broader challenges to the adoption of NBS, such as conceptual complexity, varying levels of audience knowledge, and difficulties in engaging the audience. Despite these challenges, NBEs have developed effective strategies, including the use of personal storytelling, emphasizing easy and visually appealing solutions, and employing narrative elements in line with the NPF to create engaging and motivational messages.

This study contributes to the understanding of how effective communication strategies can support the growth and impact of NBEs, ultimately fostering a more sustainable future.

JEL-Codes: Q01, M31, Q56

Key words: Nature-Based Solutions, Nature-Based Enterprises, Communication, Framing theory, Narrative Policy Framework;

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List of Abbreviations

CNEP - Connecting Nature Enterprise Platform

IUCN - International Union for Conservation of Nature

NBEs - Nature Based Enterprises

NBS - Nature Based Solutions

NGOs - Non-Governmental Organizations

NPF - Narrative Policy Framework

SME - Small and medium-sized enterprise

TA - Tematic Analysis

1. Introduction

The primary objective of this research is to analyze how Nature-Based Enterprises (NBEs) employ communication strategies to elucidate the concepts and benefits of Nature-Based Solutions (NBS), facilitating their integration into the market.

In recent years, the conversation around NBS has attracted growing attention, particularly in addressing challenges posed by urbanization, including social inequity, environmental degradation, and climate change impacts (Ferreira et al., 2022). As urban areas continue to expand and face various pressures, NBS has emerged as a promising approach to mitigate these multifaceted issues.

Existing literature sheds light on the conceptualization and benefits of NBS, emphasizing their role in promoting biodiversity, ecosystem restoration, and societal well-being (Cohen-Shacham et al., 2016). Despite this extensive research and the well-documented advantages of NBS projects, their mainstream adoption remains limited.

Critical challenges to NBS implementation include uncertainties about their economic value, inadequate financial resources and expertise, and limitations related to land and time availability (Sarabi et al., 2019). These challenges primarily stem from the public sector's predominant role in NBS implementation (Kooijman et al., 2021).

However, engaging the private sector shows promise in addressing some of these barriers, with NBS increasingly recognized as a pathway for diversifying and enhancing business practices for sustainable development (Seddon et al., 2020). Effective

deployment of NBS requires the involvement of various stakeholders, including private enterprises - NBEs. NBEs encompass both for-profit and nonprofit entities participating in economic activities contributing to the development and provision of NBS (McQuaid et al., 2021). Academic understanding of NBEs is still nascent, with limited insights, particularly from specific industry sectors.

It is crucial to consider the capacity and skill sets within NBEs, as this factor plays a vital role in their ability to grow and thrive in the market. For instance, numerous NBEs acknowledge possessing robust technical and ecological expertise but lacking proficiency in business and communication domains (McQuaid et al., 2021). By drawing insights from various NBEs, this thesis focuses on the strategies these enterprises use to enter and expand in the market, specifically focusing on communication strategies.

Research in business and communication studies provides insights into how communication strategies influence public perceptions and decision-making processes in various contexts. However, limited exploration exists on how this phenomenon applies to NBEs.

Advocates like Escobedo et al. (2018) emphasize the ongoing priority of presenting and spreading NBS benefits, along with developing effective communication techniques. Scholars highlight the significance of tailoring language to stakeholder values, perspectives, and comprehension for effective NBS communication (O’Leary et al., 2024). Authors like Welden et al. (2021) advocate for reframing NBS discourse to emphasize the interconnectedness between humans and nature, promoting regenerative relationships. Moreover, Li & Nassauer (2020) suggest conveying NBS’s purpose, even if lacking traditional aesthetic appeal, by providing “cues for care” through intentional design. However, while these authors highlight communication as a crucial tool, they do not specifically address good practices for communication within the NBE market. Given the unique context of NBEs, there is a pressing need to develop tailored communication techniques suited to this sector.

Building upon existing research, this study focuses on communication as a critical success factor for NBEs. It aims to explore the challenges NBEs face, the strategies they employ, and the narratives they shape in their communication efforts.

This research makes significant contributions to both the academic literature and practical applications in the field of NBEs. Theoretically, it advances understanding in two key areas. First, it builds on the work of Baldoli and Radaelli (2022) by expanding

the application of the Narrative Policy Framework (NPF). This study explores how NBEs incorporate narrative elements into their communication strategies to elucidate the concepts and benefits of NBS. By examining these narratives and framing strategies, this research extends the application of narrative theory in this context.

Second, it complements the findings of McQuaid et al. (2021) by delving into the internal organizational barriers of NBEs, particularly the challenges related to business and communication skills. This research addresses the identified skill and capacity gaps within NBEs, offering deeper insights into how these enterprises can overcome communication barriers to enhance their market presence.

Practically, this research provides a comprehensive guideline for both new and established NBEs on effective communication strategies. By highlighting successful practices, it equips NBEs with tools to improve stakeholder engagement and market impact, supporting their long-term success.

In pursuit of this objective, the following research question and subsequent sub-questions will guide the investigation:

What communication strategies do NBEs employ—in promoting NBS and engaging stakeholders?

Sub-question 1: What challenges do NBEs face in communicating about NBS?

Sub-question 2 : How do NBEs use framing strategies to communicate NBS?

Sub-question 3: How do NBEs adapt their communication approaches to engage with different stakeholders?

Given this information, the paper is structured as follows: Section 2 provides a review of relevant literature on NBS, NBEs, and different aspects of communication strategies, establishing the foundation for understanding the challenges and opportunities in the field. The theoretical framework is embedded throughout the literature review. Section 3 outlines the methodology and empirical strategy employed to investigate the research questions. Section 4 presents the findings and discussion, organized into different themes. Section 5 offers theoretical implications and contributions to the literature. Finally, the paper concludes with practical recommendations, limitations, and suggestions for future research.

2. Literature Review and Theoretical Framework

2.1. Nature Based Solutions

Throughout human history, most people globally resided in small communities. However, since the beginning of the twenty-first century, urbanization has drastically changed the demography of the world, with the majority now living in metropolitan regions. This surge faces numerous challenges- ranging from social inequity and poverty to environmental degradation and climate change impacts (Ferreira et al., 2022). In urbanization, NBS stands out among several other concepts, all aiming to promote the maintenance, enhancement, and restoration of biodiversity and ecosystems (Kabisch et al., 2016). Consequently, there is a growing emphasis on the necessity to collaborate with nature to enhance societal well-being, adapt to climate change, and mitigate the impacts of urbanization (Nesshöver et al., 2017).

According to the International Union for Conservation of Nature (IUCN), NBS is defined “as actions to protect, sustainably manage and restore natural or modified ecosystems, which address societal challenges (e.g. climate change, food, and water security or natural disasters) effectively and adaptively, while simultaneously providing human well-being and biodiversity benefits.” (Cohen-Shacham et al., 2016, p.12). Therefore, NBS leverages ecosystem services and nature to produce positive effects on the environment, society, and economy. Consequently, a rising number of communities worldwide have adopted NBS as a result of the realization that nature might potentially address a variety of issues (NATURVATION, 2021).

Although NBS has promising benefits to address climate change impacts and environmental degradation, it isn't mainstream in urban development yet. This is because, despite its potential benefits, there are numerous obstacles standing in the way of incorporating it into the main mechanisms and structures of urban government and planning (Wamsler et al., 2020).

The complexity of NBS interventions exacerbates some of these barriers, particularly due to the incomplete understanding of their cause-and-effect mechanisms (Herrmann-Pillath et al., 2022) and the uncertainty regarding the implementation process and its effectiveness (Sarabi et al., 2019).

Moreover, the 'path dependency' of decision-makers, who are familiar with gray infrastructure solutions, significantly hinders NBS adoption. Changing the mindset of stakeholders accustomed to traditional infrastructure requires considerable effort to shift individual and societal behaviors (Sarabi et al., 2019).

Anticipating and addressing resistance from stakeholders poses another hurdle, as stakeholders may resist changes to the status quo, due to concerns about their sense of identity and security within their existing social and environmental contexts (Little et al., 2019). Furthermore, the perceived high cost of NBS, particularly during financial hardships, adds to its social controversy (Nesshöver et al., 2017), complicating effective communication and adoption efforts.

Additionally, conflicts can arise in NBS projects due to the involvement of a variety of stakeholders with different objectives. These stakeholders, including funders, designers, contractors, residents, neighborhood groups, and activists (Ferreira et al., 2020; McEvoy et al., 2023; Nesshöver et al., 2017), bring varied perspectives and goals to NBS initiatives, which can lead to disagreements.

2.2. Nature Based Enterprises

The implementation of NBS on the scale required to address societal concerns necessitates the participation of all stakeholders, including the private sector (Frantzeskaki et al., 2017; Sekulova & Anguelovski, 2017). Private sector involvement could help to overcome some constraints, and NBS are increasingly being considered as a way to diversify and restructure businesses for long-term development (World Economic Forum 2019; Seddon et al., 2020).

Recent literature highlights the crucial role of specific actors, including business entities, in driving the delivery and implementation of NBS initiatives. Sustainable entrepreneurs, small businesses, and green entrepreneurs have been identified as key contributors to NBS, with the emergence of NBEs reflecting the unique strategy of NBS (McQuaid et al., 2021; Burch et al., 2016; Yu & Gibbs, 2020).

Thus, in parallel with the growing discourse on NBS, there has been a notable rise in the emergence of NBEs. These enterprises, characterized as entities engaged in economic activity that integrate sustainable use of nature into their product/service offerings, are pivotal in addressing contemporary urban challenges through NBS. While NBS strategies focus on leveraging ecosystem services and nature to effectively tackle societal challenges, NBEs serve as the practical implementers, translating these principles into tangible economic activities (Sarabi et al., 2019; Kooijman et al., 2021).

According to (Nature- Based Enterprises Guidebook, n.d.) there exists a clear distinction between NBEs and Nature-Based Organizations (NBOs). Referencing the definition of a small or medium-sized enterprise by the European Commission (EC),

NBEs are autonomous entities involved in economic activities such as selling products or services in a specific market. NBOs, on the other hand, share similarities with NBEs as they incorporate nature into their product or service offerings, but they may not necessarily operate independently or generate trading income, as seen in nationally owned and operated parks or nature reserves, for instance.

Distinguished by Kooijman et al. (2021), NBEs uniquely engage in economic activities while placing nature at the forefront of their operations (Table 1).

Table 1: Types of organizations delivering NBS (Kooijman et al., 2021)

	Nature is at the Core of Activities	Nature is Not at the Core of Activities
Economic activity	Nature-based enterprise	Enterprises delivering nature-based products and services
No economic activity	Nature-based organization	Organizations delivering nature-based products and services

Despite this clear definition, NBEs exhibit a wide range of purposes, business activities, and approaches to value creation. As they have only recently been conceptualized, there is currently no standardized framework for identifying and classifying them.

The Connecting Nature Enterprise Platform (CNEP), recognized as the largest community of NBEs worldwide, invites NBEs to join their platform if they identify themselves as independent entities with a fundamental mission to tackle climate change and biodiversity challenges, all while contributing to the regeneration or restoration of nature. Operating with a nature-positive ethos, these enterprises aim to foster a just, fair, and equitable society through their activities, with a strong emphasis on measuring their impact across environmental, economic, and social dimensions (Nature-Based Enterprises | Connecting Nature Enterprise Platform, 2024).

Motivated by a shared mission to work for and with nature, NBEs encompass a diverse array of entities across various economic sectors, united by their commitment to adopting practices that benefit nature. In regard to the variety of activities, examples include landscape architects designing climate-resilient urban spaces, specialized gardeners creating custom green solutions, and sustainable water management firms implementing cost-effective solutions. Similarly, sustainable agriculture, forestry, and tourism ventures support rural economies while promoting responsible practices.

Emerging governance models facilitate community-led initiatives, and smart technology aids in planning and monitoring NBS (Nature- Based Enterprises Guidebook, n.d.). Based on the findings of the literature review and a survey conducted in 2020, Kooijman et al. (2021) constructed a typology of NBEs.

As detailed in [Table 2 \(Appendix\)](#), Kooijman et al. (2021) differentiated NBEs by their utilization of nature, categorizing them into direct and indirect users. This classification will be utilized in my study to categorize the NBEs interviewed. NBEs that direct use nature involves activities such as ecosystem creation, restoration, and management, green spaces, water management, forestry, sustainable tourism, well-being, and sustainable agriculture. On the other hand, indirect NBEs may provide advisory services, education, financial services, and technology for monitoring NBS. However, the authors acknowledge that this distinction between direct and indirect use is just the beginning of categorizing NBEs effectively.

The same survey indicates that NBEs generally employ more personnel than the average European Small and medium-sized enterprise (SME), with fewer micro-enterprises (under 10 employees) and more small enterprises (10-49 employees). Most NBEs generate less than €2 million in turnover, with only a minority exceeding €2 million, and very few surpassing €50 million. Both the private and public sectors contribute significantly to NBE turnover, while the third sector's contribution is less. The majority of NBEs are for-profit or hybrid entities and operate primarily at local, regional, or national levels, with fewer than 20% operating internationally (Kooijman et al., 2021).

Despite the growth, NBEs encounter various challenges, primarily stemming from a lack of comprehensive understanding among potential buyers in both the public and private sectors. Specifically, there's a notable lack of clarity regarding the cost structure of NBS and the necessity to budget for long-term maintenance costs (McQuaid et al., 2021).

In addition to these challenges, NBEs face significant obstacles related to skills and knowledge gaps, particularly concerning the involvement of local suppliers in NBS delivery. These gaps include deficiencies in contextual knowledge, multidisciplinary expertise, technology proficiency, and impact measurement skills (McQuaid et al., 2021).

Moreover, these enterprises encounter challenges in hiring personnel with diverse skill sets, potentially impeding their ability to foster business growth (McQuaid et al., 2021). In recent research interviews with founders of NBEs across Europe, over one-third

expressed the need for improvement in business development, sales, and marketing skills (Nature-Based Enterprise, 2024).

The success of NBEs heavily relies on strong partnerships and networks, which serve as significant enablers for their operations. Networking facilitates engagement with stakeholders, clients, and potential collaborators, fostering innovation and knowledge sharing. Collaborations with research institutions, universities, and other development actors are also instrumental in accessing expertise and driving innovation (McQuaid et al., 2021).

Sarabi et al. (2019) categorized actors involved in NBS development and implementation into micro-level, meso-level, macro-level, and transboundary actors. Among the micro-level actors, including NBEs, citizens, landowners, and NGOs, NBEs were identified as pivotal for NBS uptake and implementation.

2.3. Communication and its Challenges

NBEs operate within a network of relationships crucial for their success. As communication inherently implies a relationship (Rogers & Kincaid, 1981), and marketing is widely regarded as a process of relationship-building (Gronroos, 1994), this study will maintain a specific focus on communication between NBEs and their primary stakeholders. It is important to note that this thesis will not delve into internal communication dynamics within the enterprise. Instead, the emphasis will be on NBEs's efforts in interactions with external parties, such as potential buyers or stakeholders critical to the business's development.

Given the multifaceted challenges encountered by NBEs, effective communication strategies can play a crucial role in overcoming obstacles and fostering the adoption of NBS. Dorst et al. (2022) highlight barriers such as knowledge gaps, citizen engagement difficulties, and limited resources, underscoring the importance of effective communication. Similarly, Egusquiza et al. (2019) emphasize the need for clear communication to address knowledge barriers and uncertainties regarding NBS operations and performance. Additionally, Lundgren & McMakin (2018) note that technical communications can sometimes be too complex for the public to follow. Therefore, ensuring that communication strategies are accessible and understandable to various stakeholders is essential.

As emphasized by Djerf-Pierre et al. (2016), the social acceptance of diverse projects and the creation and implementation of technological developments inside communities

depend on effective communication. This requires a thorough understanding and acknowledgment of the motivations, biases, and background knowledge of both the NBEs and their clients. When communication resonates deeply with stakeholders, aligning with their views, values, or experiences (D'Angelo et al., 2019), it often leads to meaningful outcomes, such as collaboration agreements, service contracts, or product purchases.

Recent studies, such as Ausat (2023), highlight the influence of social media in shaping public perceptions and attitudes toward environmental issues, underscoring the importance of leveraging digital platforms for effective communication. Although excessive media coverage may also lead to disinterest and issue fatigue (Pidgeon, 2012).

2.4. Framing Theory

In the context of communication strategies, framing theory is crucial (D'Angelo et al., 2019). Framing involves tailoring messages to align with scientific facts while considering audience attitudes, values, and perceptions (Nisbet, 2009). This strategy modifies our understanding of a topic by emphasizing certain aspects over others (Nisbet, 2009), thereby shaping attitudes and behavior (Badullovich, 2022; Nisbet, 2009). Framing is expected to influence engagement with NBS initiatives and collaboration with NBEs. Importantly, framing should not distort facts but accurately convey them (Nisbet, 2009).

Message framing has been defined through various methods rooted in both sociological and psychological studies. Equivalency framing, with psychological foundations, is based on the idea that different forms and methods of information presentation can have distinct effects (Scheufele & Iyengar, 2014). Sociological studies of framing provide insights into the discursive processes that advocate specific interpretations of reality and suggest appropriate actions (Schön & Rein, 1994). Emphasis framing, as elucidated by Scheufele & Iyengar (2014), involves highlighting specific elements or perspectives while downplaying others, effectively conveying interpretive storylines that clarify why an issue matters, who is responsible, and what actions should be taken (Nisbet, 2009). Emphasis frames focus on a select subset of relevant considerations when describing a political issue or event (Druckman, 2001). For instance, political actors discussing offshore oil drilling might emphasize either the economic benefits or environmental consequences to shape audience perception (Druckman et al., 2013). This selective

emphasis guides attention towards specific aspects, influencing decision-making processes (Borah, 2011).

This study will utilize emphasis framing, which defines message framing as the presentation of a distinct perspective on a specific event or issue by altering its narrative (Scheufele & Iyengar, 2014). Framing theory has evolved over time and found application in various domains, including climate change communication, where it is crucial in shaping public perceptions and responses to complex environmental challenges (McEvoy et al., 2013). Environmental disputes often stem from different framing strategies employed by stakeholder groups (Lewicki & Gray, 2003). Content-oriented frames unique to an issue are termed "topical framing" (Schäfer & O'Neill, 2017).

Framing effect models distinguish between audience frames, which aid in information processing, and media frames, used by communicators to contextualize news (Chong & Druckman, 2007). This study analyzes the communication strategies of NBEs, focusing on how they shape public attitudes and perceptions regarding NBS. The analysis will explore NBEs' messaging tactics to influence their audience, without examining how the audience receives the information.

The study by Li & Su (2018) explores the effects of various topical frames, including economic, morality, environmental and biodiversity, geographical identity, and public health frames, on perceptions of climate change. To provide a better understanding of the different topical frames studied by Li & Su (2018), a brief context of each will be provided, along with their relevance to NBS.

2.4.1. Environment and Biodiversity Frame

Discourses emphasizing climate change's impact on ecosystems and wildlife fall under the environmental and biodiversity framing (Severson & Coleman, 2015). This type of framing highlights the vulnerability of plants and animals affected by environmental changes (Li & Su, 2018).

For instance, an NBE focused on urban reforestation might emphasize preserving local biodiversity and restoring natural habitats. Highlighting the role of trees and green spaces in supporting diverse ecosystems and mitigating climate impacts aligns with this frame.

The public's perception of climate change frequently centers on its effects on the environment and ecology. However, according to Maibach et al. (2010), if climate

change is just framed as an environmental concern, people may get disengaged from the issue and fail to join in the ongoing public discourse that is necessary to find practical solutions. Framing an NBS exclusively around the sphere of the environment and biodiversity might drive a similar effect.

2.4.2. Geographical Identity Frame

The geographical identity frame focuses on people's attachment to specific geographic areas, highlighting the social and psychological benefits of protecting the environment to maintain one's sense of place (Sapiains et al., 2016). This approach contrasts with the environmental and biodiversity frame, which emphasizes concrete advantages of environmental conservation. It includes communications that depict climate change as a threat to national security or emphasize its local impacts (Li & Su, 2018).

For instance, an NBE involved in coastal restoration might stress the importance of safeguarding shorelines for ecological reasons and maintaining the local cultural heritage. This aligns with the geographical identity frame by highlighting how the natural environment shapes local identity and lifestyle.

This frame has gained popularity, especially among those skeptical of human-caused climate change. It emphasizes maintaining geographical distinctiveness by linking the natural environment to cultural values (Sapiains et al., 2016). Studies show that framing climate change as a threat to people's sense of place significantly influences value-belief systems and behaviors (Scannell & Gifford, 2013).

2.4.3. Economic Frame

In discussions on finance for sustainable urban regeneration and NBS adaptation, refining valuation and accounting methods is a key focus, aiming to enhance funding by accurately accounting for factors like job creation (Adair et al., 2000).

The economic frame also addresses the financial costs of climate change for individuals and societies, highlighting practical incentives for tackling climate change. Communications that quantify financial burdens- such as property damage, reduced agricultural productivity, decreased energy production, and business disruptions- fall under this framework (Li & Su, 2018).

A NBE focusing on sustainable agriculture may highlight financial benefits, such as increased profitability and productivity, by implementing sustainable practices. This

appeals to stakeholders' financial interests and underscores the economic incentives for investing in sustainable agriculture.

2.4.4. Morality Frame

The complex nature of climate change is often oversimplified or obscured in public discourse through moralizing narratives. This moralization adds complexity to the discourse (Besio & Pronzini, 2014). Gardiner (2006) describes this tendency to frame climate change in moral terms as a "moral storm," which transforms discussions about danger into broader narratives about environmental and intergenerational responsibilities. Taylor et al. (2020) highlight a narrow framing of NBS within the IUCN's policy, showing a lack of ethical principles like fairness and justice.

Similarly, an NBE focusing on renewable energy might emphasize the moral duty to transition from fossil fuels to mitigate climate change, highlighting ethical responsibilities to prioritize renewable energy and reduce carbon emissions to protect the environment and future generations.

Severson & Coleman (2015) note that the morality frame emphasizes humanistic principles such as obligations to each other, care for future generations, and the inherent sanctity of human and nonhuman existence.

2.4.5. Public Health Frame

Research shows that proximity to natural environments can reduce stress, improve air quality, lower urban heat island effects, and increase physical activity, thus playing a significant role in mitigating urban health issues (Kolokotsa et al., 2020). Van den Bosch and Ode Sang (2017) highlight that urban nature impacts mental states and lowers temperatures, which can affect mortality rates.

An NBE offering urban greening solutions might emphasize the public health benefits of NBS in its messaging. By promoting how green spaces improve air quality, reduce stress, and encourage physical activity, the business appeals to public health concerns to garner support for urban greening programs.

2.5. Narrative Theory

Exploring the various topical frames of NBS reveals the crucial role of narratives in shaping perceptions, values, and actions regarding environmental issues. Contemporary studies in environmental communication highlight the importance of narratives in

conveying complex environmental issues to the public (D'Angelo et al., 2019). Narratives serve as frameworks that provide significance to phenomena, assigning concepts such as "blame," "responsibility," and "urgency" (Hajer, 1995). Actors within these narratives construct problems and propose solutions compellingly, employing a combination of facts, interests, and metaphors to sway others (Stone, 2022; Wesselink et al., 2013).

Melanidis and Hagerman (2022) identify two primary and contrasting narratives in the discourse surrounding NBS. Proponents argue for utilizing nature's inherent powers as powerful, multipurpose tools necessary for addressing urgent global concerns, particularly climate change. Opponents suggest these remedies act as dangerous diversions, permitting the persistence of unfair and unsustainable activities.

Narrative theory offers valuable insights into structuring communication efforts surrounding NBS to resonate effectively with audiences. The Narrative Policy Framework (NPF) provides a heuristic for understanding and organizing climate change communication efforts, defining narrative elements such as settings, characters, plots, and morals (Baldoli & Radaelli, 2022). In the context of climate change, settings represent the environmental, institutional, and temporal context in which narratives unfold. Characters, including victims, villains, and heroes, embody various actors and elements within the narrative, such as interest groups or anthropomorphized aspects of the environment (Hart, 2011).

The plot delineates the relationships between characters and settings, often distilled into central themes like attributing blame or proposing solutions. Climate change framing plots can range from assigning responsibility for greenhouse gas emissions to establishing moral imperatives for action (Howell et al., 2016; Jang, 2013). Finally, the moral of the story offers solutions or calls to action in response to identified problems. Narratives within the context of NBS may advocate for specific mitigation or adaptation strategies, urging stakeholders to take decisive action to address environmental challenges (Bilandzic et al., 2017).

By employing narrative theory and the NPF, researchers and communicators can navigate the complexities of NBS narratives more effectively, fostering engagement and advancing sustainability initiatives. Storytelling as a form of critical narrative inquiry (Jørgensen & Largacha-Martinez, 2014), has become a popular approach for improving the emotional impact of advertising. This is because humans tend to store knowledge in the form of stories (Schank, 1999), making them easy to remember (Kang et al., 2020).

2.6. Stakeholders and Stakeholders Engagement

Understanding stakeholders who engage with NBEs' narratives is as crucial as understanding the narratives themselves. Stakeholders are broadly defined as “any group or individual who can affect or is affected by the achievement of an organization’s objectives” (Freeman, 1984, p. 46). More narrowly, they are the groups critical to an organization's success (Zhuang et al., 2019). In NBEs, these stakeholders include government agencies, local communities, environmental organizations, investors, customers, and suppliers. Effective communication with these groups is essential for achieving NBEs' objectives.

Partnerships are vital for NBEs’ success, enhancing the reach and impact of their initiatives and facilitating collaboration within the broader NBS ecosystem (Sarabi et al., 2020; Frantzeskaki & Rok, 2018; Lambooy & Levashova, 2011). Forming strategic partnerships allows NBEs to leverage complementary strengths, resources, and expertise.

Greenwood (2007) discusses stakeholder engagement practices as involving various activities aimed at positively involving stakeholders in organizational activities. For NBEs, these practices include public relations, customer service, and supplier relations, which are crucial for building trust and fostering collaboration.

Connecting Nature promotes an open innovation approach, involving diverse stakeholders in shaping plans to strengthen NBEs. The Connecting Nature Co-production Guidebook offers insights into empowering various actors, including citizens, enterprises, academics, technicians, policymakers, local governments, and NGOs (Nature-Based Enterprises Guidebook, n.d.).

To stimulate demand for NBS within the public sector, it is essential to revise procurement procedures to prioritize the non-monetary benefits of these solutions, emphasizing effective communication strategies (Nature-Based Enterprises Guidebook, n.d.).

Communication plays a central role in stakeholder engagement, using channels like public forums, NGO partnerships, community newsletters, and media relationships (Allen, 2016). Through strategic communication, NBEs convey their mission, solicit feedback, and address concerns effectively.

Understanding the diverse communication needs of stakeholders underscores the importance of tailored communication strategies. By empowering various actors and

prioritizing effective communication, NBEs can navigate stakeholder engagement complexities and advance NBS on a broader scale.

3. Methodology and Empirical Strategy

Understanding communication strategies used by NBEs to influence public perceptions and stakeholder attitudes towards NBS requires integrating knowledge from various disciplines (Jabareen, 2009). This research combines perspectives from political communication, business communication, environmental studies, and urban planning.

A qualitative approach is employed due to the limited understanding of NBEs and their success factors, including communication (Marshall & Rossman, 2014). This approach is ideal for analyzing contextual coherences and allows flexibility, crucial for exploratory research (Clark et al., 2021; Onwuegbuzie & Leech, 2007). Qualitative research facilitates a deeper comprehension of the topic by involving the researcher in elucidating participant viewpoints (Graue, 2015).

The conceptual approach of the study is based on the understanding that communication plays a role in shaping the business of NBEs.

3.1. Research design

Case study research design, commonly used in social sciences and business, offers comprehensive insights into complicated phenomena (Hollweck, 2016; Yin, 2015). This study employs multiple case studies, which have several advantages over single case studies, including the possibility of generalization. Multiple case studies increase the likelihood of generalization and offer a more comprehensive grasp of the phenomenon being studied. Using purposive sampling, this study strategically selects cases relevant to the research questions (Clark et al., 2021).

The research design incorporates multiple methodological resources to ensure comprehensive data collection and analysis. This approach enhances the validity and reliability of the findings through triangulation, involving cross-referencing information obtained from different sources (Clark et al., 2021). The primary methods employed include interviews, document analysis, and webinar observations.

Firstly, I attended an online webinar titled "How we brought Nature-based Solutions to Market" to gain a general understanding of the market I was studying and to comprehend the broader challenges NBEs face in communicating about NBS. This mainly helped to answer sub-question one.

Secondly, a secondary document analysis was conducted to identify key messages and framing strategies employed on NBEs' websites and Instagram accounts. As Merriam & Tisdell (2015, p.245) note, "what someone tells you in an interview can be checked against what you observe on site or what you read about in documents." This part of the study contributed most to answering sub-question two of the research.

Interviews were conducted with NBEs concurrently with the document analysis to gather firsthand insights into their communication approaches and challenges. The interviews brought new perspectives and confirmed patterns discovered in the previous steps. Conducting the interviews and document analysis concurrently allowed for a dynamic and iterative research process.

This triangulation approach ensures a comprehensive understanding of the communication strategies employed by NBEs and strengthens the validity of the study findings.

3.2. Sampling

This study aims to incorporate a diverse set of NBEs to provide rich insight into their communication strategies. The identified organizations underwent a filtration process, and suitable NBEs were selected based on the following three criteria:

- Recognition as an NBE: The organization must directly or indirectly acknowledge itself as a NBE. This criterion is ensured by the research sources used to identify these NBEs. Furthermore, this was validated with the categorization of the NBEs according to Kooijman et al. (2021).
- Current Activity and Membership: The organization must be currently active and have at least one employee or member.
- Duration in the Market: The organization must have been in the market for at least one year, indicating a minimum level to discuss the challenges faced.

3.2.1. Geographical Scope

This study adopts a global approach, searching for a diverse sample of NBEs worldwide to provide a general overview. Noting a significant geographical disparity in NBS documentation, particularly a focus on Europe (Schröter et al., 2021; Debele et al., 2019), this study aims to broaden the scope. Existing Europe-centric databases like GeoIKP, Oppla, Climate-Adapt, and NBS Evidence Platform share this limitation (Debele et al., 2023).

To avoid replicating this bias, the study includes NBEs from North, Central, and South America, Africa, and Europe, leveraging the CNEP. This global approach enhances the study's credibility and ensures a comprehensive understanding of NBE communication strategies across diverse contexts.

3.2.2. Connecting Nature Enterprise Platform

The CNEP, the largest community of NBEs worldwide, served as the primary source for identifying potential NBEs for inclusion in this study. Launched in 2020, the Platform was established in response to research identifying thousands of NBEs globally. In just two years, it has attracted over 2300 users (*The Platform | Connecting Nature Enterprise Platform*, n.d.). While its main objective is to provide a space for NBEs to network, learn best practices, and stay informed about market trends, I utilized it to connect with NBEs and filter potential participants. The platform's assessment of business profile submissions ensures that the enterprises featured align with the definition of NBEs. As these enterprises need to submit their 'application,' it guarantees that someone in the enterprise, either directly or indirectly, recognizes the enterprise as an NBE. This assumption was validated by the interviews conducted, as all the NBEs recognized themselves as such, allowing for generalization to other enterprises included in the document analysis.

3.2.3. Sampling Techniques for Interviews and Online Content

To ensure a comprehensive understanding of NBE communication strategies, a purposive sampling approach was employed. Initially, 53 potential interviewees were identified and contacted based on the availability of their email contacts on the CNEP, indicating their willingness to be contacted. Due to practical constraints, the actual sample consisted of 8 NBEs that responded positively to the invitation.

For each interviewed NBE, their website and Instagram account were analyzed if available. In cases where only one platform was available, that platform was included in the analysis. Additionally, to ensure maximum variation and a comprehensive range of communication strategies, more websites and Instagram accounts of NBEs were analyzed. These additional NBEs were chosen to broaden the sample, selecting those categorized in different groups, called “communities” within the CNEP.

In terms of content selection, the analysis of websites included the main page, the mission and values page, the about us page, insights pages, and the how it works page.

The main pages were analyzed without going into too much detail about specific previous projects and services pages. For Instagram, the descriptions and content of posts from the last year were analyzed, focusing on those most relevant to answering the research questions. This approach ensured that the data collected was both pertinent and varied.

For Instagram, the descriptions and content of posts from the last year were analyzed, focusing on those most relevant to answering the research questions. Visual content, stories, and highlights of the accounts were not included in the analysis.

3.3. Data collection

3.3.1. Webinar attendance

Attending the CNEP online webinar offered valuable insights into industry behavior, stakeholder behavior, and session's narratives. During the interview phase, I interviewed one of the main speakers of the webinar, allowing for deeper exploration of key ideas. The majority of attendees were entrepreneurs and NBE employees, which enhances the relevance of the analysis.

Remote participation ensured unbiased observation and analysis. However, remote participation also limited full engagement with participants and missed networking opportunities that could provide additional insights. Despite these limitations, the triangulation of data sources offers a comprehensive view of the NBEs market, with insights from the webinar corroborating key themes identified in other parts of the research.

3.3.2. Document Analysis

Document analysis typically falls into four categories: policy documents, news media, academic literature, and Internet-based data, which includes websites, social media, and blogs (Natow, 2020). This study's analysis of websites and Instagram accounts is categorized as Internet-based data. Such documents can provide additional or confirmatory information (Downie, 2013).

Research on NBEs listed in the CNEP revealed that many maintain active websites and Instagram accounts. These platforms were chosen for document review as they serve as direct communication channels between NBEs and stakeholders, offering a variety of content. Websites are effective media relations channels due to their cost-effectiveness,

directness, and controllability (Coombs, 1998). They can foster stakeholder loyalty, mitigate vulnerability, and enhance communication effectiveness (Kim et al., 2008).

Instagram, a prominent social media platform, extends communication beyond traditional channels. According to recent studies, social media has a significant impact on how the public views environmental concerns, highlighting the significance of digital platforms for efficient communication (Ausat, 2023). Companies use Instagram to share content, leveraging its cost-effectiveness and wide reach to engage stakeholders. Given this evidence, it is natural for NBEs to use their websites and Instagram accounts for effective communication and stakeholder engagement.

3.3.3. Interviews

In addition to the webinar and document analysis, semi-structured interviews were conducted as a third component of this research. This format offers a balance between structured questions and the flexibility to adapt to each respondent's specific knowledge and interests (Adams, 2015). A total of 53 potential interviewees were contacted via email, but due to a lower-than-expected response rate, the identification phase was continuous. Ultimately, eight interviews were conducted with NBE workers, including founders, co-founders, an Architect & Co-owner, and an employee in the Research & Development Department.

A sample size must be substantial enough to capture a diverse range of perspectives (Bewley, 2002), yet quality should not be equated with quantity. According to Willig & Rogers (2017), as adapted from Braun & Clarke (2013), a master's project should include between 6 and 15 interviews. Thus, the eight interviews conducted, considering the relevant positions of the interviewees, are sufficient for robust analysis.

Each interview was designed to last between 30 to 45 minutes, allowing for thorough examination while respecting participants' time constraints. The average recorded interview length was 29 minutes and 38 seconds, as initial call segments were not recorded. To address logistical challenges, this study prioritized online interviews, adhering to established principles (Janghorban et al., 2014). Interviews were conducted in English or Portuguese to accommodate participants' language preferences.

The interview guide was reviewed and revised after each session to incorporate new information and emerging questions. The English versions of all interview transcripts can be found in the supplementary material to this thesis.

Each interview collected general information about the informants, such as their roles within the NBEs (see [Table 4](#)), in addition to answering study questions. Participants could offer additional insights at the end of each interview. An introductory script explaining the research goals was used at the beginning. All participants consented to recording the interview and using the data for this thesis. Additionally, they were given the option to participate anonymously.

3.4. Data analysis

The data gathered from the data sources were analyzed using thematic analysis (TA), following the guidelines established by Braun and Clarke (2006). TA is a flexible method for identifying, analyzing, and reporting themes within data, making it suitable for a diverse range of research questions and topics.

The methodology employed was abductive, allowing for a flexible approach where overarching themes emerged during data analysis rather than being predefined. This approach alternated between theoretical frameworks and real-world observations, aiming to find a balance between inductive and deductive methods (Tavory & Timmermans, 2014). The eight-step prescriptive approach specific to abductive methodologies was used to guide the analysis (Thompson, 2022).

3.4.1. Eight Steps Prescriptive Approach

Step 1: Transcription and Familiarisation

The interviews were transcribed with minor adjustments to improve readability while maintaining the authenticity of the participants' words. From website and Instagram accounts, full sentences and paragraphs were directly taken without alterations.

Since the interviews were recorded with the permission of all participants, transcriptions were obtained through MS Teams, followed by meticulous reviews to identify any inconsistencies. The use of this tool could save time, but correcting the electronic copy eliminated any time savings introduced by the voice recognition technology (MacLean et al., 2004).

As most interviews were conducted in English by non-native speakers, some adjustments were made for clarity and accuracy. When interviews or secondary document analysis were in a language other than English, translation was performed with assistance from Google Translate. Reflective notes were taken, and areas of interest were highlighted during this process (Thompson, 2022).

Step 2: Coding

The data was manually coded in an iterative process, categorizing sentences, words, and paragraphs based on shared qualities to ensure a deep connection to the data. This iterative procedure was repeated many times to ensure accuracy and depth (Thompson, 2022). Coding was partially organized according to the sub-research questions, identifying four themes and fifteen codes from the interviews for the first sub-research question. Combining insights from the various resources, thirty-two additional codes and nine themes were identified to address the remaining sub-questions.

Step 3: Codebook

To avoid excessive conceptual leaps, a table code was created, similar to what is recommended by the authors as a codebook, with definitions for each code that were brief, simple, and closely connected to the raw data (Boyatzis, 1998; Guest et al., 2012). Each code was concisely defined to highlight its essential aspects and what was included under this code, accompanied by example quotations for additional clarification (Guest et al., 2012).

Although it did not happen often, there are cases where some quotations fall under more than one code and consequently belong to different themes as well.

Step 4: Development of Themes

Themes were developed by distinguishing between specific, brief codes and more complex themes that combined several codes to conceptually explain events (Thompson, 2022). Themes were iteratively refined to ensure they accurately reflected the data.

Step 5: Theorising

In the process of theorizing the data, I began by reviewing current theoretical knowledge to evaluate how well they might explain the themes and the themes relationships (Timmermans & Tavory, 2012). However, I also made an effort to investigate cases where the themes could not be fully explained by existing literature, enabling me to find fresh insights.

Step 6: Comparison of Datasets

During this phase, I asked myself the suggested question posed by Guest et al. (2012, p. 162-163): "Are some themes present in one dataset but not another?" This question was particularly pertinent, as different topics emerged between the document analysis and interviews. This comparison revealed that, while participants did not always articulate certain narratives directly, these narratives became evident in their websites and Instagram accounts.

Step 7: Data Display

In addition to the tables of codes under themes attached in the appendix [Table 5](#) and [Table 6](#)) two figures will be presented as visual representations of the data.

Step 8: Writing Up

For each theme, I aim to locate a theoretical explanation that demonstrates how theory is linked to empirical data, as well as citations from the raw data that provide empirical evidence for the theory (Braun & Clarke, 2006; Guest et al., 2012). I employed numerous direct quotes, avoiding the pitfall of using single illustrations, which may fail to convince the reader and suggest bias in selecting evidence to support a preconceived notion (Drisko, 2005).

4. Findings and discussion

4.1. Challenges faced by NBEs in communication

As shown in Figure 1 below, NBEs face numerous challenges in effectively communicating about NBS. Four main themes were identified to outline these challenges. For a detailed view of the coding and citations associated with each code and theme, refer to [Table 5](#) in the Appendix.

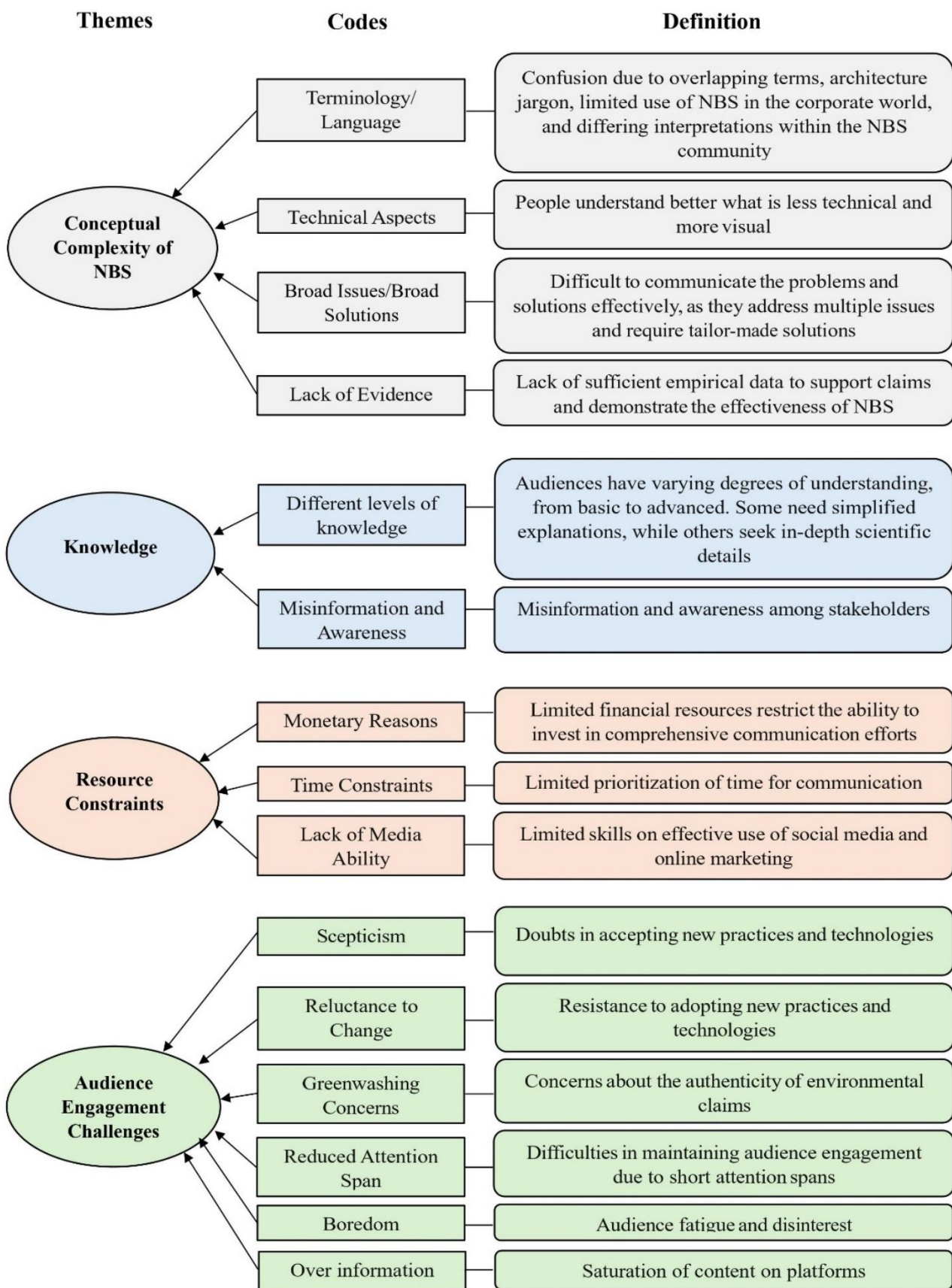


Figure 1: Data display of challenges faced by NBEs in communication

Theme 1: Conceptual Complexity of NBS

One fundamental issue identified was the lack of clarity surrounding the definition of NBS. Participants expressed difficulty in defining and explaining NBS. For example, one interviewee noted, *“Isn't that a nature-based solution? What is a nature-based solution? What is biomimicry? It's not super clear.”* (Interview E, p.20). This demonstrates why more conceptual clarity is required. NBS is a novel and complex concept that is sometimes mistaken for similar concepts, according to Egusquiza et al. (2019).

Additionally, the use of architectural jargon poses a barrier, as it is often unfamiliar to the general public, requiring enterprises to adapt their normal language. This aligns with the findings of Lundgren & McMakin (2018), who pointed out that technical communications can sometimes be too complex for the public to follow.

Participants also discussed whether the conservation of natural projects should be considered as a NBS or not, and the limited use of the NBS term for carbon projects in the corporate world. One interviewee mentioned, *“It's a concept that is growing more and more, but it's still a bit confusing for people and even among people who work in this area. There are still divergent positions.”* (Interview H, p.33). This indicates varied interpretations and disagreements about what qualifies as an NBS, complicating efforts to define and communicate a clear message.

Another challenge highlighted was the integration of multiple approaches. An interviewee explained, *“We combine biomimicry, nature-based solutions, and even technology.”* (Interview E, p.20). This complexity in combining approaches adds to the difficulty of effectively communicating what their solutions consist of. Effectively communicating the problems and their solutions is challenging, especially when they address multiple issues and require tailor-made approaches. As one interviewee expressed, *“That is not easy to say, because there are so many benefits related to being in nature, you know?”* (Interview B, p.10).

In the webinar, it was emphasized: *“vertical gardens turn out to be the perfect product (...) It's something that you can't miss (...)It has this magnetic effect on you that you have to stop and look at it and take pictures”* (Webinar, p.36). This and other examples highlight how communicating technical aspects poses challenges, influencing the company's marketing strategy to focus on visually straightforward solutions that are easier for the public to understand, rather than on technical details.

Finally, there is often a lack of sufficient empirical data to support claims and demonstrate the effectiveness of NBS.

Theme 2: Knowledge

Building on the challenge of conceptual complexity, NBEs also encounter significant issues related to varying levels of understanding among different audiences. Participants emphasized the need to tailor communication strategies based on audience knowledge. One interviewee noted: *"For adults, we tap into emotional memories, using scientific information adapted to their level of knowledge."* (Interview B, p.8). This highlights the necessity of adjusting information to fit different audience backgrounds.

Communication efforts are further complicated by the variability in audience receptiveness depending on their environmental knowledge. Participants pointed out the differences in engagement levels between those who care about the environment and those who are less aware. One interviewee mentioned, *"Some of them are very interested in hearing about this, so we also need to be prepared"* (Interview C, p.12), while another added, *"There's a big community of people who are environmentally conscious (...) But it's more complicated with the conventional audience, people who are not environmentally aware"* (Interview E, p.21).

Additionally, misinformation presents a significant barrier to effective communication, necessitating the provision of clear and accurate information to dispel misconceptions. One participant stressed the importance of working with various stakeholders to ensure acceptance and understanding of NBS processes: *"It's essential to understand their concerns and work with them and other stakeholders, (...), to ensure acceptance and understanding of our processes"* (Interview D, p.16).

These findings align with Dorst et al. (2022), who observed a limited awareness of the potential of urban NBS. By addressing both the knowledge gaps and the misinformation, NBEs can more effectively communicate with their diverse audiences, ensuring better understanding and engagement with stakeholders.

Theme 3: Resource Constraints

Effective communication is hindered by limited resources allocated to communication activities, including monetary investment, time commitment, and development of internal capabilities. Many NBEs do not prioritize this, restricting their budgets for advertisements and sponsored posts. One interviewee noted, *"Both [Name] and I aren't*

big Instagram or Facebook users, so our social media presence is very calm. We never pay for advertisements or sponsor posts." (Interview C, p.14).

This is compounded by the limited time dedicated to communication, with many NBEs confessing to dedicate more time to technical aspects rather than to communicate what they have been doing. One participant remarked, *"I think it's a flaw I have and that many have. Precisely being able to communicate more, disseminate, make this more mainstream. We end up really dedicating ourselves more to the technical part."* (Interview H, p.33). Consequently, this lack of focus on communication leads to missed engagement opportunities.

By not investing in communication, the limited efforts are often undertaken by individuals not specialized in marketing. This lack of skills in effectively using social media and online marketing hampers NBEs' communication efforts. These insights align with a recent study that revealed the need for more education, skills development, and training for NBEs (McQuaid et al., 2021), particularly in business development, sales, and marketing skills. Several participants admitted their struggles with social media engagement. One noted, *"I've never been good at social media. It's just not my thing."* (Interview G, p.28), while another said, *"I hardly do any marketing or advertising of my work. I have a website, but it's very basic. I don't update it much."* (Interview H, p.31). This skill gap hampers their ability to foster growth and communicate value propositions effectively.

The challenges extend to dealing with negative feedback and limited resources to address all communication needs. One participant shared, *"We don't have the resources to handle everything. When we do get negative feedback, we try to turn it into a positive thing."* (Interview E, p.23). This reactive approach underscores the need for a proactive and resource-backed communication strategy.

Moreover, some NBEs perceive sales and marketing negatively. A webinar participant mentioned, *"I used to have a mindset that sales and marketing is something bad, you know? I had this mindset that it's something you force people to do, you try to sell them something that they don't want."* (Webinar, p.42). This mindset further complicates their willingness to invest in communication strategies.

To overcome these barriers, structured communication is crucial. As emphasized in the webinar:

What really sells is structured communication.(...) Our work is very scientific, and it's easy to get deep into the details of biology, which the average person

doesn't understand. You need to simplify your pitch so that most people can understand it quickly. (Webinar, p.43).

This underscores the importance of clear and accessible communication to convey complex scientific concepts to a broader audience, necessitating greater investment in monetary resources, time, and skills.

Theme 4: Audience Engagement Challenges

NBEs face significant challenges in balancing scientific information with inspirational content. One interviewee noted, *"It's hard to bridge that gap between offering enough science-based information and also making it inspirational."* (Interview G, p.31). This also highlights the need to develop skills to effectively balance scientific depth with motivational discourse, ensuring that communication remains both informative and engaging.

Moreover, audiences often show reluctance to adopt new practices. Little et al. (2019) mentioned the importance of anticipating and addressing resistance from stakeholders, as they may resist changes to the status quo. As one interviewee stated, *"What we're promoting is something new, but it's also an alternative to the current situation (...). There's often a negative perception when practices need to change"* (Interview D, p.18). This resistance is further exacerbated by concerns about greenwashing. The same participant emphasized: *"There's a lot of greenwashing happening, and people need to see real results and understand the long-term benefits of what we're promoting"* (Interview D, p.18). This aligns with the requirement to budget for long-term maintenance expenses and provide clarity regarding the NBS cost structure (McQuaid et al., 2021; Sarabi et al., 2020).

Additionally, the today's extensive use of social media adds complexity to communication efforts. With limited attention spans, keeping the audience engaged is challenging. One interviewee explained:

You can only show so many beehives before people get bored. (...) Some people want honey recipes, others want to see where the honey comes from, and some are interested in our sustainability efforts. We try to cater to all these interests (Interview A, p.6).

This illustrates NBEs' awareness of avoiding excessive publications that may lead to disinterest and issue fatigue, as highlighted by Pidgeon (2012), while also striving to make their posts relevant to diverse interests.

Audience expectations vary widely, making it difficult to meet everyone's needs. One interviewee explained, *"That can be a challenge to explain, because also people think differently, have different ideas of what is right and wrong" (...)* Sometimes people think they need something, but it's more of an imagination than a real need" (Interview C, p.13). Another added, *"It's impossible to please everyone all the time"* (Interview G, p.29). To address this, one NBE adopts an intentionally amateurish approach, believing it resonates better with their audience: *"Our approach is to appear amateurish intentionally because our audience values authenticity and sustainability"* (Interview A, p.2).

In conclusion, the challenges that NBEs face in communicating about NBS span from the conceptual complexity of NBS to the varying levels of audience knowledge and engagement, as well as limited resources dedicated to communication activities. Addressing these challenges requires strategic communication efforts that simplify complex concepts, tailor messages to different audience segments, and balance scientific information with inspirational content.

4.2. Communication Strategies: Leveraging Strengths and Seizing Opportunities

Despite the numerous challenges, some NBEs reported positive aspects in their communication efforts. Participants noted a post-COVID-19 shift in mentality, a young generation more open to sustainable practices, and regulations that have made "selling" NBS easier. One interviewee observed, *"After the pandemic, you could see a shift in mentality. Everyone was thinking more long-term, wanting to build a sustainable future for themselves and their families."* (Interview E, p.22). The same participant highlighted how water restrictions in Spain increased awareness of NBS: *"Thanks to these restrictions, people are seeing the financial consequences of not having these solutions"* (Interview E, p.22).

For many NBEs, word of mouth has proven significant, building credibility and trust through personal connections. One interviewee highlighted, *"Most people find out about me through the events I organize and through word of mouth."* (Interview G, p.28). Another participant noted, *"It's the recommendation of one person to another. Since there are still few nature-based solutions, it's a niche activity, a niche type of business"* (Interview H, p.31). This reliance on personal connections aligns with Rogers and Kincaid's (1981) perspective that communication inherently implies a relationship.

Current conditions offer NBEs an opportunity to scale up by leveraging their strong word-of-mouth foundation and investing in stronger communication strategies. *"We need to bring people from communication and marketing to first get to know these concepts and then help us to transmit them."* (Interview H, p.33).

In exploring the communication strategies of more mature NBEs, key lessons from their journey include persistence, adaptability, and responsiveness to market feedback. For instance, they adjusted strategies based on client input and focused on specific sectors with receptive audiences. The interviewees highlighted the importance of two-way communication. Initially, NBEs often employed a broad approach, pitching all solutions simultaneously to prospective clients. However, this approach was not efficient. More developed NBEs realized the need for targeted messaging. One interviewee reflected,

In the beginning, (...) I was trying to sell everything. I quickly learned that I was confusing people.(...) The market doesn't want to have to start from the beginning, so you should introduce something that is an improvement of a current solution." (Webinar, p.36).

This strategy aligns with framing theory, which involves emphasizing certain elements to connect more effectively with the audience (Nisbet, 2009). By framing messages to focus on more digestible, incremental solutions, NBEs can better communicate the value and practicality of their offerings.

To further explore different strategies and best practices in NBEs' communication efforts, nine themes will be presented, showcasing a mix of topics and strategies. As shown in Figure 2 below, some themes are slightly related to each other, illustrating the complexity of the analysis. Refer to Appendix- [Table 6](#) for a comprehensive look at the coding and additional citations.

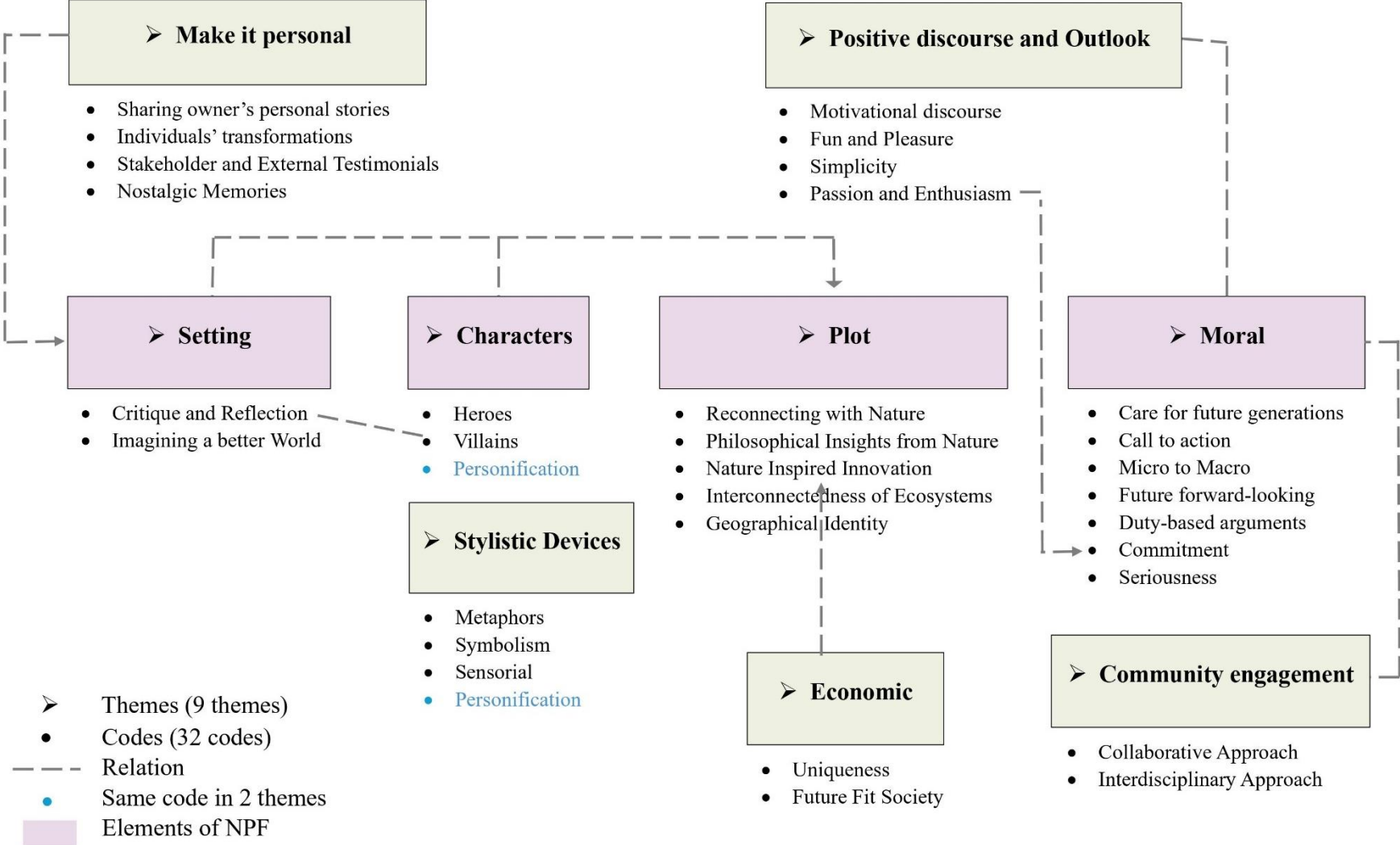


Figure 2: Data display of Framing & Narratives of NBEs

Theme 5: Make it Personal

Effective storytelling engages audiences emotionally, significantly influencing decision-making (Kang et al., 2020). Many NBEs capitalize on this opportunity by sharing stories about their motivations and aspirations. Interviewee A mentioned: *“On social media, we just tell stories. It's always a mix of explaining why we are doing this and our desire to be successful”* (Interview A, p.2).

Personalized narratives establish a deeper connection with the audience. For instance, a story shared by an NBE website emphasized, *“What are we going to do about this, Dad? Why don't we help the bees ourselves? Then you really are a boss! The very next day the [company] plan was born. We started keeping bees and protecting nature.”* (NBS.1.W).

These narratives often trace individuals' journeys transitioning to roles advocating for NBS, highlighting the human aspect of sustainability efforts. For instance, one participant described an experience in the forest: *“ (...) I was walking under the trees, and a branch brushed past my head, giving me a flash of information, as if a seed of intention had been planted in me.”* (Interview B, p.9). This emphasis on personal stories and transformation moments aligns with literature suggesting that narratives by founders or owners resonate more effectively with audiences (Kang et al., 2020). Sharing owners' personal stories not only builds credibility but also enhances emotional engagement.

Additionally, NBEs use feedback from clients, other stakeholders, and external sources like awards and media mentions as unbiased observations. For instance, one NBE proudly noted, *“CREAM have received international and national awards and prizes”* (NBE.20.W), showcasing their credibility and recognition. Engaging customers beyond purchases- through referrals, feedback, and social media interactions- improves trust and credibility for potential stakeholders (Kumar & Pansari, 2016).

Nostalgic memories are another powerful tool employed by some NBEs to connect with their audience. By drawing on common, nostalgic experiences, NBEs transport readers back to a simpler time, creating an emotional attachment. One participant recalled, *“You look back and think about what you had fun doing as a child. In my case: going out in nature, watching birds, studying insects, and, above all, being outside”* (NBE.1.W).

Theme 6: Setting

Building on the significance of personal stories, NBEs also strategically incorporate narrative elements such as settings, characters, plots, and morals into their communication efforts. Narratives are essential for explaining complex environmental issues to the general public (D'Angelo et al., 2019). Incorporating narrative theory into NBS-related communication can enhance these initiatives by utilizing these elements effectively (Baldoli & Radaelli, 2022).

Terms like *"imagine"* and *"reimagine"* frequently appear on NBEs' websites and Instagram accounts, setting the stage for storytelling and inviting readers to envision an ideal world. For instance, NBS.15.W paints a vivid picture: *"Imagine a world in which every human being can freely access wild and beautiful nature, at their doorstep."* These statements describe aspirational settings where nature is seamlessly integrated into daily life, highlighting the potential for a harmonious existence with the environment.

Some NBEs critique current practices to set the stage, as seen in. *"How the planet would have looked before humans scrubbed away its diversity"* (NBE.7.I). This highlights the negative impacts of human activities and prompts audiences to reflect on their relationship with nature. Reflective prompts vary in tone but consistently aim to engage audiences by encouraging them to question their current behaviors and attitudes. These narratives encourage readers to imagine transformative possibilities, challenge current practices, and reflect on their perceptions and behaviors. According to the NPF, a narrative's setting is comparable to a play's stage, where pertinent environmental elements are accessible for character interaction (Baldoli & Radaelli, 2022). By creating storylines with rich settings, NBEs can better engage their audiences and convey their ideas effectively.

Themes 7 & 8: Characters & Stylistic Devices

Transitioning from settings to characters in narrative elements, it is important to note that characters do not need to be actual people; they can be anthropomorphized elements of the setting, such as the environment or the economy (Hart, 2011). Analyzing NBEs reveals a frequent use of elements of nature, such as trees and animals, as main actors in their stories. Through personification, they create engaging narratives that bring nature closer to the human experience. Examples include describing trees as *"social beings, communicating with each other"* (NBE.2.I), gardens that *"dialogue with*

plants" (NBE.22.1), references to "*nature's needs*", the idea that "*nature should be given the opportunity to express itself*" (NBE.7.W), or illustrating a tree's perspective: "*The tree, when it is being cut down, observes sadly that the handle of the axe is made of wood*" (NBE.2.I). Other instances extend this personification to animals, such as stating that "*bees are busy*" (NBE.1.I). While Baldoli & Radaelli (2022) discuss characters as anthropomorphized elements, this study found that personification was more prevalent. Both approaches are similar, emphasizing the use of non-human elements as relatable and impactful characters in narratives.

The way NBEs personalize and communicate about nature aligns with Driscoll and Starik's (2004) criteria for stakeholder recognition, suggesting that nature holds influence and a legitimate relationship with NBEs. By characterizing nature as a stakeholder, NBEs advocate for addressing its needs and collaborating with it, thus signaling a shift towards acknowledging nature's role.

Apart from personification, NBEs also employ other stylistic devices such as metaphors and symbolism. These literary techniques add vividness to the narrative, enhancing its impact and making the message more memorable for the audience. This approach aligns with the compelling formulation of problems and solutions advocated by Stone (2022) and Wesselink et al. (2013), where NBS effectively uses facts, interests, and metaphors to persuade their readers.

Narratives about climate change often include a spectrum of characters such as villains who cause or exacerbate the problem, and heroes who strive to protect and remediate the damage (Jones, 2014). This dynamic is mirrored in NBS narratives, which also utilize the dichotomy of heroes and villains to convey their messages effectively.

Heroes in these stories can be NBE founders, volunteers, aspects of nature, or even potential future clients. For example, tales may portray individuals who collaborate with them as heroes: "*This session was a deep dive into plant ecology with Mike (our hero) leading the charge!*" (NBE.7.I). Another example of heroes includes allies: "*We are looking for allies who want to increase their social impact through experiences that bring out the best of each person.*" (NBE.14.W). Additionally, NBEs highlight the importance of future generations, considering them as "*tomorrow's heroes*" to protect natural resources (NBE.18.I).

Conversely, villains are often depicted as threats to ecosystems and biodiversity, such as the influx of Chinese fake honey: "*On average, in the Netherlands we buy Chinese fake honey that is flooding the market. The question is whether many flowers and bees were*

involved." (NBE.1.W). Another example illustrates the broader villain of environmental degradation driven by profit motives: “*Our health depends on the state of the environment in which we live, so we must deter criminals willing to destroy ecosystems for profit.*” – *Virginijus Sinkevičius*” (NBE.19.I).

By employing these narrative strategies, some NBEs effectively use characters and stylistic devices to create compelling and memorable stories, that align with narrative theories.

Theme 9: Plot

The relationships between characters and their surroundings form the plot, typically condensed into a main theme. It might include complex causal arguments that describe the relationships between setting components, their causes, and the responses of the characters (Baldoli & Radaelli, 2022). These ties, especially the close bond between humans and the environment, are central to the stories of NBEs.

NBEs frequently emphasize the profound connection between people and nature, advocating for harmonious coexistence and aiming to reconnect people with the natural world. They remind us, “*We often forget that WE ARE NATURE. Nature is not something separate from us. So when we say that we have lost our connection to nature, we've lost our connection to ourselves*” (NBE.21.W). This reflects their understanding that:

Nature Connectedness is the bond between a person and the rest of nature. An individual's sense of their relationship with the natural world. A relationship with nature that makes up a part of their identity and brings pro-nature and pro-conservation behaviours. (NBE.8.W).

This demonstrates their aspiration to integrate nature into human life, particularly in urban development. For instance, one NBE states, “*After 3.8 billion years of research and development, nature has developed some of the most advanced solutions to sustain life on Earth*” (NBE.5.W). Such sentiments underscore the belief that nature’s wisdom can guide sustainable and innovative practices.

Furthermore, NBEs highlight the ecological interdependency between humans and nature. By emphasizing this interdependency, they aim to deepen the understanding that protecting nature is essentially protecting ourselves.

The importance of geographical identity—emphasizing people's affinity to specific locations and the social and psychological benefits of environmental conservation—is

often highlighted by NBEs (Sapiains et al., 2016). For example, one message emphasized, *“Restore biodiversity; stimulate affectivity, memory, and environmental cultural identity”* (NBE.2.W). This links environmental conservation with cultural values and regional distinctiveness. Research shows that framing climate change as a threat to one's sense of place can significantly influence behaviors (Scannell & Gifford, 2013). By adopting a similar strategy, NBEs might effectively influence behaviors by emphasizing the importance of geographical identity and local traditions in their narratives.

This overall strategy is in line with Welden et al. (2021), who argue that for NBS to facilitate transformative change, human-nature relationships must be reframed in terms of regenerative, co-dependent interactions that sustain the health of both the environment and human well-being. To move beyond the binary of nature serving society to a more integrated approach, several NBEs are already emphasizing this interdependence in their narratives.

Theme 10: Moral

Every story needs a moral, and in the context of NBEs, this often manifests as a call to address the problems highlighted in the narrative- a call to action. NBEs' communication is deeply rooted in moral imperatives and a sense of urgency to confront environmental challenges, aligning with climate change mitigation and adaptation frames that frequently call for individual action and behavioral changes (Hart, 2011; Semenza et al., 2011).

Central to their messaging is the focus on future generations. Sentences like, *“I love those who plant trees knowing they will never sit in their shade. They plant trees to provide shade and fruits for those who are yet to be born”* (NBS.7.I), illustrate the intergenerational responsibility NBEs feel towards preserving nature, aiming to instill the same duty in their audiences. These narratives highlight the importance of forward-thinking and underscore a moral obligation to ensure a sustainable world for future generations.

Beyond this forward-looking moral foundation, NBEs communicate their determined dedication to creating a sustainable future, as seen in expressions like *“In the meantime, there's so much more we plan to do”* (NBE.7.W).

NBEs also convey a sense of urgency in their calls for action, recognizing the pressing need to address today's issues promptly. For instance, one enterprise emphasizes the

importance of taking immediate action, stating, *"We didn't drown in paperwork or overthink our strategy. We saw an opportunity, rolled up our sleeves, and made it happen."* (NBE.5.I). This urgency is echoed in their calls to *"Let's take action to help ourselves and our planet"* (NBE.10.W) or, *"Embrace nature-based wellbeing. Because there is only one you, and one earth. It's time to effect real change for both."* (NBE.8.W).

Some messages highlight the seriousness of the problems faced, emphasizing the finite nature of resources and the potential tragic consequences of inaction. For instance, one passage advises, *"Always strive to create more for the world than what you consume from it"* (NBE.5.I) while being conscious that *"The task ahead is enormous. Our economic system is intrinsically flawed and taking us in the wrong direction, fast. No amount of tinkering around the edges will fix that"* (NBE.10.I).

Overall, even if NBEs frequently call for quick action, their message avoids radicalism and fatalism. Instead, they recognize the seriousness of the situation without going to extremes. This approach aligns with research that emphasizes avoiding alarmist tones, which can lead to climate skepticism and reinforce political divides (Nisbet, 2009).

Theme 11: Positive Discourse and Outlook

NBEs maintain a positive tone in their narratives, emphasizing motivational messaging, fun, and pleasure, simplicity, and passion. This aligns with research highlighting the effectiveness of positive framing in fostering public engagement with environmental issues (Hart & Feldman, 2014).

Motivational framing, expressed through statements like *"Is this not absolutely incredible?"* (NBE.1.I), can inspire people by enhancing their perceived self-efficacy, the belief that they can make a difference (Gifford and Comeau, 2011). Another example is, *"Join us (...) Our comprehensive training will empower you to (...) become the best version of yourself"* (NBE.5.W).

NBEs also emphasize the joy and aesthetics of engaging with nature, making sustainable practices enjoyable and visually appealing. For example, they emphasize *"beautiful spaces"* (NBE.1.I) and environments where users can *"meet, rest, work, or play"* (NBE.3.W). This approach ensures citizens' appreciation and protection of NBS (Frantzeskaki, 2019). Statements like *"welcoming you back into wonder and joy, inspiring a spirit of curiosity"* (NBE.21.W) illustrate the pleasurable aspects of nature.

Additionally, NBEs advocate for simplicity and minimalism in their solutions, suggesting that the best solutions are the simplest. For example, *"nature should be given the opportunity to express itself with minimal human intervention"* (NBE.7.W).

Messages like these highlight the importance of small, meaningful actions, crucial to avoiding environmental pessimism fatigue (McAfee et al., 2019; Landry et al., 2018).

The simplicity of their solutions is evident in their resources handling: *"Honey that goes straight from the comb into the pot. Not mixed, not heated, not filtered. Only sieved. The cream honey undergoes no treatment other than stirring."* (NBS.1.W). The straightforward approach aligns with natural processes.

The discourse is enriched with passion and enthusiasm, as seen in phrases like, *"We face each project with maximum enthusiasm and dedication"* (NBS.20.W) and *"we are passionate about creating a more sustainable future for all."* (NBS.5.W). Such statements reflect a deep commitment to positive change and a belief in the feasibility of their goals.

Finally, it is important to emphasize that a truly positive framing of climate change involves presenting a constructive narrative, rather than simply assuring that everything will be fine (Blog, 2015). To ensure their messages are both positive and actionable, NBEs should maintain a positive discourse while describing workable solutions.

Theme 12: Community Engagement

The theme of community engagement prominently emerged in the analysis of NBEs' communications, closely linked to the previously discussed moral theme. NBEs emphasize collaboration and collective action, as seen in statements like *"Welcome to Our Family"* (NBE.1.W) and *"We need to join forces"* (NBE.11.W). They inspire unity and shared responsibility with messages such as *"Together, we can make a real difference, one volunteer at a time"* (NBE.18.I) and *"Get everybody involved."* (NBE.22.I). These statements collectively underscore the importance of fostering a sense of community and collective action to achieve sustainable goals.

Moreover, NBEs not only call for collective action but also demonstrate it within their enterprises by integrating diverse fields of expertise in developing their solutions. Sharing this interdisciplinary approach can demonstrate transparency, build trust, and showcase the comprehensive nature of their work, fostering a sense of collective responsibility and shared purpose among stakeholders. This approach is evident in statements like *"To do this, we bring some of the world's best ecological engineers,*

biologists, remote sensing analysts, machine learning experts, data scientists, and designers to every product." (NBE.15.W).

Theme 13: Economic

NBEs highlight their unique and innovative solutions, delivering tailor-made projects and out-of-the-box solutions. This emphasis on uniqueness and innovation is evident in statements like *"We deliver tailor-made projects to our clients, but we also develop out-of-the-box solutions for our government, corporate, and NGO clients"* (NBE.11.W). With such messages, NBEs aim to attract stakeholders by showcasing distinct solutions designed to meet diverse needs.

Furthermore, NBEs emphasize efficiency, optimization, resilience, and adaptability. For instance, *"We work on the agricultural transition and develop business models where working with nature can also be economically advantageous: how to earn a decent living while improving biodiversity? We focus on developing models that do not depend on subsidies"* (NBE.11.W), highlighting the financial benefits of NBS and reinforcing that sustainability and profitability can coexist. Statements like *"Resilient societies and economies, supported by the resilience of our planet earth"* (NBE.11.W) underscore the importance of building robust economic models that can withstand environmental challenges.

NBEs also emphasize the role of technology and innovation in optimizing resources, reflecting a forward-thinking approach to sustainable development. However, while NBEs highlight innovation, efficiency, and resilience, they often lack concrete cost and benefits assessments in their communication. Notably, none of the analyzed NBEs mention the cost of their services on their websites. Although sales promotion was not expected as it leads to increased material consumption, which is not aligned with the core values of NBEs, incorporating cost-benefit analyses could enhance communication strategies by clearly showcasing the financial benefits. The World Bank (2023) emphasizes the importance of these assessments in NBS projects to engage stakeholders and demonstrate economic viability.

5. Theoretical Implications

Complementing McQuaid et al. (2021), this study explores the internal organizational barriers of NBEs, particularly in communication. The analysis shows that NBEs often lack skills in this area, hindering their ability to engage stakeholders and expand their

market presence. Moreover, this study shows that NBEs' communication problems are a reflection of the broader adoption hurdles of NBS. Challenges such as explaining complex terms, lack of evidence, and overcoming resistance and skepticism, align with general obstacles like decision-makers' preference for traditional infrastructure and uncertainties about NBS implementation and effectiveness (Sarabi et al., 2019).

To address these communication barriers, NBEs have developed some effective strategies. Dorst et al. (2022) identified citizen engagement as a key barrier to urban NBS due to structural conditions, such as citizens valuing recreational and aesthetic benefits. This study found that NBEs already emphasize the fun and pleasure aspects of their products and services in their communication. This approach can address underlying structural conditions and promote the mainstream adoption of NBS in urban areas.

Moreover, some NBEs use storytelling to create compelling narratives that frame NBS as effective solutions to environmental challenges. Building on Baldoli and Radaelli (2022), this research confirms that NBEs employ elements of the NPF in their communication. By observing the four narrative elements - settings, characters, plots, and morals - on NBEs' websites and Instagram accounts, this study extends the application of narrative theory to NBEs, demonstrating how storytelling can effectively promote sustainable solutions.

Welden et al. (2021) advocate reframing NBS to highlight the interdependence between humans and nature. This study supports their claim, showing how NBEs already incorporate this framing in their communication efforts. By depicting the symbiotic relationship between humans and nature, NBEs can influence public attitudes and beliefs, fostering a transformative approach to sustainability.

In the context of stakeholder theory, there has been debate around recognizing the natural environment as a stakeholder. Driscoll and Starik (2004) suggest many businesses are close to this recognition due to the environmental impact on human stakeholders. This study shows NBEs treat nature as a key stakeholder through their communications, personifying nature elements. This aligns with literature advocating for including non-human stakeholders in stakeholder frameworks.

6. Conclusion

This thesis offers a thorough analysis of the communication strategies used by NBEs to engage stakeholders and promote NBS. The results shed light on the difficulties NBEs encounter when communicating and the tactics they employ to overcome these barriers. The challenges NBEs face in their communication efforts mirror the broader barriers to the adoption of NBS in urban areas. Conceptual complexity about NBS and varying levels of audience knowledge significantly complicate NBEs' communication efforts. Additionally, the reduced investment in communication and the lack of marketing skills exacerbate these challenges. The necessity for concise and engaging communication on social media to retain an audience with limited focus and varying interests requires NBEs to be particularly skilled, which is often not the case.

When presenting their solution, pitching all revolutionary ideas simultaneously is counterproductive. Instead, NBEs strategically present solutions that are enhancements of existing ideas, easy to understand, and visually appealing, ensuring their messages are both engaging and comprehensible. Once stakeholders are engaged, they can then introduce more revolutionary ideas.

NBEs also use narrative elements to share their businesses online. They create a context that encourages the audience to reflect on the current situation and imagine a better world. Within this context, NBEs include the audience as potential heroes in the story, calling them to act promptly for themselves, future generations, and the natural environment. In this narrative, NBEs foster a sense of community and shared responsibility by maintaining a positive discourse, focusing on motivational messaging, and highlighting the benefits and enjoyment of the process.

Additionally, NBEs emphasize the deep connection between humans and nature, advocating for harmonious coexistence. This bond, often depicted in their narratives, illustrates how protecting nature is essentially protecting ourselves. By highlighting this symbiotic relationship, NBEs can foster a transformative approach to sustainability.

In conclusion, the findings of this thesis provide valuable insights into the communication strategies of NBEs, highlighting both the challenges and effective practices. By addressing these challenges and leveraging successful strategies, NBEs can significantly enhance their stakeholder engagement and contribute to the broader adoption of NBS, ultimately supporting a more sustainable future.

6.1. Limitations & Future Research

While this study provides valuable insights, it is not without its limitations. It is essential to critically examine these limitations and identify directions for further investigation.

The first limitation relates to the data collection process. Although efforts were made to ensure consistency, the selection of quotations from Instagram and websites was conducted solely by myself. This approach may have introduced selection bias, as I might have subconsciously focused on content that seemed more relevant or resonated personally, potentially overlooking other important data (Natow, 2020). Additionally, the lack of validation and comparison of coding by additional researchers affects inter-rater reliability. To address these issues, future research could involve multiple researchers in both data collection and analysis to cross-validate findings and reduce individual bias, thereby enhancing the reliability and validity of the results (Moser & Korstjens, 2018; Armstrong et al., 1997).

Future research should consider focusing on a specific type of NBEs to gain a more comprehensive understanding, given the variety and unique business contexts of different types of NBEs. Additionally, LinkedIn was mentioned during the interviews as an used tool by NBEs operating in the B-to-B sector, making it another interesting platform to explore.

This study primarily focused on the communication strategies used by NBEs to influence their audience. Future research could examine how these different strategies impact stakeholder engagement, and add the component of how the different audiences received the information.

Including a visual content analysis of Instagram posts, considering the platform's visual nature, would also be valuable.

By addressing these limitations and exploring new research avenues, future studies can build on the findings of this thesis and contribute to the ongoing development of effective communication strategies for NBEs.

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8. Appendices

8.1. Interview Guide

Hello, my name is Francisca, and I am currently pursuing my Master's degree in Business and Social Impact at Utrecht University. My research focuses on NBEs and how these enterprises communicate the benefits of their business and engage with the public. Before we start, I would like your permission to record this interview. This will help me accurately capture our conversation. Are you okay with that?

Main questions:

Can you briefly introduce yourself and your role at X business?

Can you provide a short overview of X?

Who is the primary target audience?

How many employees does X have?

How long has X business been in the market?

What are the main benefits of X business?

How does X business communicate these benefits?

How easy or difficult is it to communicate the benefits of the business?

Why do you think that is the case?

What challenges do you face in communicating these benefits?

How does X business overcome these communication challenges?

Can you provide an example of a benefit that is particularly easy or difficult to explain?

Why is this benefit particularly easy or difficult to explain?

Do you highlight/emphasize certain aspects of your business over others when you communicate?

Which aspects do you emphasize in your communication?

Why do you emphasize them?

How do you decide what to emphasize in your communications?

Are there any trade-offs you experience when highlighting certain aspects over others?

What are these trade-offs?

How do you find people's levels of understanding about X?

How does X business address differences in understanding?

Are there any common misconceptions or misunderstandings about your business?

What are some common misconceptions or misunderstandings about X business?

How does X address these misconceptions or misunderstandings?

Which groups of people are crucial for the success of X business?

Does X business have different messages for each group?

How does X business communicate information to these different groups?

Closing questions:

Thank you so much for taking the time to speak with me today and sharing your valuable insights. I truly appreciate your help.

Now, before we wrap up, I want to make sure I haven't missed anything important. Is there anything else you'd like to add or any other thoughts you'd like to share on some of the previous questions?

Do you have any suggestions of other people or NBEs I should talk to about this topic?

8.2. Tables

Table 2: Economic activities of organisations delivering NBS (Kooijman et al., 2021)

Direct use of nature	
Sector	Sub-sector
Ecosystem creation, restoration and management	Ecological & landscape restoration Ecosystem conservation and management Biodiversity conservation Reforestation Marine and freshwater ecosystem restoration Marine and freshwater ecosystem conservation and management
NBS for green buildings	Living green roofs and facades Living green wall indoor Living green walls outdoor
NBS for public and urban spaces	Green areas, parks and gardens Green infrastructure Green space management Urban forestry Urban regeneration projects
NBS for water management and treatment	Natural flood & surface water management Urban green and blue infrastructure Urban water management Wastewater management
Sustainable agriculture & food production	Agroforestry Beekeeping Horticulture Plant and soil improvement Regenerative farming
Sustainable forestry and biomaterials	Sustainable forestry Biomaterials for construction

	Biomaterials for food preservation
Sustainable tourism and health & wellbeing	NBS for health & wellbeing Agritourism Eco-tourism and nature-based tourism Forestry tourism
Indirect use of nature	
Advisory services	Biodiversity and ecosystems Urban greening design & planning Landscape architecture Water management Community engagement for NBS
Education, research & innovation activities	Ecological research Environmental awareness education Research & innovation projects Vocational & skills training
Financial services	Carbon offsetting Investment for biodiversity and conservation Natural capital accounting
Smart technology, monitoring and assessment of NBS	Smart technology solutions for NBS Environmental monitoring Spatial tools for environment

Table 3: List of NBEs in secondary document analysis

NBEs Name	Country	Code_Website	Code_Instagram	Website_URL	Instagram_URL
BijenBaas	Netherlands	NBE.1.W	NBE.1.I	https://www.bijenbaas.nl/	https://www.instagram.com/bijenbaas/
Instituto Árvores Vivas	Brazil	NBE.2.W	NBE.2.I	https://www.arvoresvivas.org.br/	https://www.instagram.com/arvoresvivas
Atelier Starzak Strebicki	Poland	NBE.3.W	-	https://www.starzakstrebicki.eu/en/projects/selected/	-
BIOAZUL SL	Spain	NBE.4.W	-	https://www.bioazul.com/en/	-
Biotonomy	Spain	NBE.5.W	NBE.5.I	https://www.biotonomy.com/	https://www.instagram.com/biotonomy/
Usinazul	Brazil	NBE.6.W	-	https://usinazul.com.br/	-
Ambios	United Kingdom	NBE.7.W	NBE.7.I	https://www.ambios.net/	https://www.instagram.com/ambios_ltd/
Adaptable By Design	United Kingdom	NBE.8.W	NBE.8.I	https://adaptablebydesign.com/	https://www.instagram.com/naturallyadaptable
NatureQuant	United States	NBE.9.W	NBE.9.I	https://www.nature-squared.org/our-areas-of-expertise/	-
African Data Technologies	South Africa	NBE.10.W	NBE.10.I	https://www.africandata.tech/	https://www.instagram.com/africandatechnologies/
Nature-Squared	Netherlands	NBE.11.W	-	https://www.nature-squared.org/	-
APONIX	Germany	NBE.12.W	-	https://www.aponix.eu/	-
ARRAYAN JARDINES S.L.	Spain	NBE.13.W	-	https://arrayanjardines.es/	-
EXPERIENTIA - Psicología - Terapia a través de la aventura	Spain	NBE.14.W	NBE.14.I	https://www.asociacionexperientia.org/	https://www.instagram.com/experientia_ta/
Green City Watch	Netherlands	NBE.15.W	-	https://greencitywatch.com/	-
Atelier SamPonette / Stadshout.be	Belgium	NBE.16.W	NBE.16.I	https://samponette.be/stadshout	https://www.instagram.com/atelier_samponette
Bridgman and Bridgman LLP	United Kingdom	NBE.17.W	NBE.17.I	https://gardensinthesky.co.uk/	https://www.instagram.com/greenroofproject
Casa Congo	Nicaragua	NBE.18.W	NBE.18.I	https://casacongo.org/	https://www.instagram.com/casacongo
Climate Farmers	Germany	NBE.19.W	NBE.19.I	https://www.climatefarmers.org/	https://www.instagram.com/climatefarmers/
CREAM estudio	Spain	NBE.20.W	NBE.20.I	https://www.creamestudio.com/	https://www.instagram.com/cream_estudio/
Creative journeys in Nature	United Kingdom	NBE.21.W	NBE.21.I	https://creativejourneys.org.uk/	https://www.instagram.com/creativejourneyswithem/
Ecobubble	Italy	NBE.22.W	NBE.22.I	https://www.ecobubble.it/	https://www.instagram.com/ecobubble.it/

Table 4: List of NBEs Interviewed

Code	Name of NBEs	Country	Role	Date and time	Duration	Year of fondadion	Number of employees	Sector/Subsector	Direct/Indirect use of nature
Interview A	BijeBaas	Netherlands	Founder	27th May at 10am	31:34:00	2018	15-20	Sustainable agriculture & food production/Beekeeping	Direct
Interview B	Instituto Árvores Vivas	Brazil	Founder	28th May at 15pm	41:40:00	2006	6	Sustainable tourism and health & wellbeing/NBS for health & wellbeing	Direct
Interview C	Atelier Starzak Strebicki	Poland	Architect & Co-owner	28th May at 17pm	29:22:00	2012	7-12	NBS for public and urban spaces/Green areas, parks and gardens Green infrastructure	Direct
Interview D	BIOAZUL SL	Spain	Research & Development	30th May at 09am	30:40:00	2003	12	NBS for water management and treatment/ Wastewater management	Direct
Interview E	Biotonomy	Spain	Founder	31th May at 16pm	37:36:00	2015	11	NBS for public and urban spaces; NBS for green buildings	Direct
Interview F	Uzinazul	Brazil	Founder	3th May at 16pm	19:54:00	2009	4-6	Smart technology, monitoring and assessment of NBS/ Smart technology solutions for NBS	Indirect
Interview H	Adaptable By Design	United Kingdom	Founder	4th June at 11am	27:13:00	2022	1	Sustainable tourism and health & wellbeing/NBS for health & wellbeing	Direct
Interview I	Aquaflora	Portugal	Founder	5th June at 17pm	19:10:00	2016	1	Advisory services/Water management	Indirect

Table 5: Coding for Challenges in Communication

Theme	Code	Definition	Example Quotations
Conceptual Complexity of NBS	Broad Issues/Broad Solutions	Difficult to communicate the problems and solutions effectively, as they address multiple issues and require tailor-made solutions.	"That is not easy to say, because there are so many benefits related to being in nature, you know?" (interview B); "To not complicate it for our audience, we stick to nature-based solutions, but the reality is we combine biomimicry, nature-based solutions, and even technology." (Interview E); "But we do all of that, and we do it holistically. We combine all these solutions, so they are interconnected. That is our challenge, to explain everything well." (Interview E)
	Terminology/ Language	Confusion due to overlapping terms, architecture jargon, limited use of NBS in the corporate world, and differing interpretations within the NBS community.	"Isn't that a nature- based solution? What is a nature-based solution? What is biomimicry? It's not super clear." (Interview E); "...with clients unfamiliar with architectural terms, we need to use more easy language." (Interview C); "I think it's still a concept that generates a lot of discussion, right? And I see, for example, this in the corporate world. Large companies have started to adopt this term but with a very carbon-focused bias, carbon projects." (Interview H); "But at the same time, there are also some somewhat sterile discussions. Conservation of natural areas is not an NBS because you're not doing anything. That area was already there. My opinion is that it is an NBS because if you remove that area, you lose the benefits of that area. But some people disagree." (Interview H); "So I think it's a concept that is growing more and more, but it's still a bit confusing for people and even among people who work in this area. There are still divergent positions." (Interview H)
	Lack of Evidence	Lack of sufficient empirical data to support claims and demonstrate the effectiveness of NBS.	"As for the specific misconceptions, one common one is the perceived lack of evidence in the work I do. Many may assume it's similar to something else, but in reality, there's a unique aspect to it." (Interview G)
	Technical Aspects	People understand better what is less technical and more visual	"So, it depends on the technology and the services. We might encounter more or less reluctance based on the system." (Interview D); "We mainly communicate about vertical ecosystems with a water recycling system because it's very visual. People can see the plants and easily understand that we take wastewater from the building, treat it, and have the plants consume it. It's a very easy cycle. Other solutions, like how we heat and cool our buildings naturally without using mechanical or electrical components, are more difficult to explain, so we don't market that as much." (Interview E)
Knowledge	Different levels of knowledge	Audiences have varying degrees of understanding, from basic to advanced. Some need simplified explanations, while others seek in-depth scientific details.	"For adults, we tap into emotional memories, using scientific information adapted to their level of knowledge. If an adult has technical knowledge, we provide more detailed and specific information." (Interview B); "Some of them are very interesting in hear about this, so we also need to be prepared. Today, normally people are quite aware." (Interview C); "One of the most challenging things for us is explaining what we're doing. It's something completely new for people. When it comes to solutions, people often think in terms of mechanical or technical solutions. Most people don't understand the concept that there are solutions in nature. This happens a lot." (Interview E); "There's a big community of people who are environmentally conscious, and for them, it's easier because they have an understanding and interest in how nature works, how ecology works. But it's more complicated with the conventional audience, people who are not environmentally aware." (Interview E); "Exploring the benefits of trees and how they communicate adds to our connection to the environment. When we have this evidence, we feel more connected to the space, which encourages us to spend more time there." (Interview G); "Misconceptions often arise due to preconceived notions or lack of information." (Interview G)
	Misinformation and Awareness	Misinformation and awareness among stakeholders	"I think this is about misinformation. It's not the fault of individuals." (Interview B); "It's essential to understand their concerns and work with them and other stakeholders, including consumer associations, to ensure acceptance and understanding of our processes." (Interview D)

Resource Constraints	Monetary Reasons	Limited financial resources restrict the ability to invest in comprehensive communication efforts.	"Both David and I aren't big Instagram or Facebook users, so our social media presence is very calm. We never pay for advertisements or sponsor posts." (Interview C); "The truth is we don't have enough resources to answer everything," (Interview E)
	Time Constraints	Limited prioritization of time for communication	"I think it's a flaw I have and that many have. Precisely being able to communicate more, disseminate, make this more mainstream. We end up really dedicating ourselves more to the technical part." (Interview H)
	Lack of Media Ability	Limited skills on effective use of social media and online marketing	"But anyway, I looked at what beekeepers are doing in terms of marketing. The funny thing is, because they love beekeeping so much, they focus on beekeepers. If you look at who is responding on their social media and their website, it's other beekeepers. And if there's one thing you cannot sell to a beekeeper, it's honey because they hopefully have honey." (Interview A); "They're so interested in what they're doing that they forget that the people who are buying their stuff are completely different people." (Interview A); "People have to know we exist to see us, but we don't advertise ourselves through social media." (Interview C); "I've never been good at social media. It's just not my thing. It can feel like falling down a rabbit hole sometimes. I mean, I can spend a whole day crafting just one post because I'm never quite satisfied with it. So, I've chosen to spend very little time on it. As a result, I don't think I have a massive online presence." (Interview G); "Because I can't fully express myself in a single post. Plus, I prefer not to spend too much time online." (Interview G); "I feel like I just regurgitate all of my thoughts on the website and then spent that year sort of tapering it down and fine-tuning it. And now, I look at it again, and I think I probably should do some more work on that." (Interview G); "I hardly do any marketing or advertising of my work. I have a website, but it's very basic. I don't update it much." (Interview H)
Audience Engagement Challenges	Skepticism	Doubts and reluctance in accepting new practices and technologies	"But back then, it felt like I was speaking a different language. It was tough, you know? Trying to get people to understand my vision, my story. It felt so many times that I was shouting, and nobody was listening." (Interview B); "However, for other systems, like those we are developing to treat wastewater and reuse it in agriculture, there is still some reluctance to use the end product, reclaimed water." (Interview D)
	Greenwashing Concerns	Concerns about the authenticity of environmental claims	"There's a lot of greenwashing happening, and people need to see real results and understand the long-term benefits of what we're promoting." (Interview D)
	Reluctance to Change	Resistance to adopting new practices and technologies	"Typically, the initial resistance is not our problem, but rather an individual issue. When people realize the difference our projects make, they become more interested and engaged. When people share the experience that they are having, the others come after, curious to experience the same." (Interview B); "We face the challenge of public acceptance, so we must work on communication and raising awareness among end users." (Interview D); "What we're promoting is something new, but it's also an alternative to the current situation. There's often a negative perception when practices need to change." (Interview D)
	Over information in Channels	Saturation of content on platforms	"There are more businesses on LinkedIn, and it currently offers better organic reach than Instagram. LinkedIn has more people following and fewer people creating content, so it's a great time to be active there." (Interview E)
	Boredom	Audience fatigue and disinterest	"...and you can only show so many beehives before people get bored." (Interview A)
	Reduced Attention Span	Difficulties in maintaining audience engagement due to short attention spans	"While their attention span may have been shorter, the immersive experience seemed to resonate deeply with them, allowing them to grasp the concepts more effectively than through mere discussion alone." (Interview H)

Table 6: Coding for Narratives & Framing Topics

Theme	Codes	Description	Example Quotations
Make it personal	Sharing owner’s personal stories	General personal and enterprise story	<p>“When I was supposed to be studying, I became a lumberjack in Sweden on an organic farm. Then serious life started and I worked as an entrepreneur for years in management and consultancy.” (NBE.1.W)</p> <p>“On social media, we just tell stories. It’s always a mix of explaining why we are doing this and our desire to be successful” (Interview A)</p> <p>“Dad prepared the dandelion green salad and cooked milkweed pods (mostly this was a bowl of slime, but when he got it right, it was quite nice). Mom did everything else, and always with ease and a hum in her throat. She was an excellent cook. “Live simply so others may simply live” she would say as she buried a jug of dandelion sugar water to alchemize into wine. Living this way was hard work, but I knew what she meant.” (NBE.8.I)</p>
	Individuals' transformation	Eureka Moment. Stories of Changing Mentalities and Triggers to a Different Life	<p>“What are we going to do about this, Dad? Why don’t we help the bees ourselves? Then you really are a boss! The very next day the BIJENBAAS plan was born. We started keeping bees and protecting nature.” (NBE.1.W)</p> <p>“ (...) I was walking under the trees, and a branch brushed past my head, giving me a flash of information, as if a seed of intention had been planted in me.” (Interview B)</p> <p>“As a software service provider I have been looking for a real product for more than 10 years in the software and apps business and to every idea there have been one or more caveats. By accident I got into aquaponics in 2014 and started to play with plants and wanted to set up a small home system. But there were no useful, affordable higher quality growing devices on the market to provide an easy initial setup of grow spaces.” (NBE.12.W)</p>
	Stakeholder and External Testimonials	Voices and feedback of clients, other stakeholders, and external sources	<p>“We are proud to share that our project Plantiverse has been awarded the prestigious S3E Seal of Excellence” (NBE.22.I)</p> <p>“Emma’s approach to developing personal responses to and with the natural world are immersive, gentle but guided (...)” (NBE.21.W)</p> <p>“CREAM have received international and national awards and prizes.” (NBE.20.W)</p> <p>“WHAT FARMERS HAVE TO SAY” (NBE.19.W)</p>
	Nostalgic memories	Go to the past to bring back nostalgic/good memories	<p>“You look back and think about what you had fun doing as a child. In my case: going out in nature, watching birds, studying insects and, above all, being outside.” (NBE.1.W)</p> <p>“Dad prepared the dandelion green salad and (...) Mom did everything else, and always with ease and a hum in her throat. She was an excellent cook. ‘Live simply so others may simply live.’ she would say as she buried a jug of dandelion sugar water to alchemize into wine. Living this way was hard work, but I knew what she meant.”(NBE.8.I)</p> <p>“Welcoming you back into wonder an joy, inspiring a spirit of curiosity you might remember from your own childhood” (NBE.21.W)</p> <p>“When I was four years old my family moved to the west coast of Scotland, where I spent the best part of my childhood; climbing the hills, sailing the lochs and exploring the glens” NBE.21.W</p>
Setting	Critique & Reflection	Critical reflections on current practices and societal norms, coupled with reflective questions or prompts that encourage self-examination and critical thinking	<p>“How the planet would have looked before humans scrubbed away its diversity: from landscapes carved out by megafauna to primeval forests and the flower-rich farms of more recent centuries.” (NBE.7.I)</p> <p>“The consistent taste and color of ‘mass honey’ is achieved by mixing and sometimes even diluting honey in large quantities. And we at Bijenbaas think that’s a shame!” (NBE.1.I)</p> <p>“Education should not be about filling people’s minds with information but about opening people’s minds. The aim should be to create more evolved minds and better human beings whose attitudes and outlooks are about responsibility, inclusion, contribution, and constantly seeing how to make a difference around them.” (NBE.5.I)</p> <p>“Does this happen to you?” (NBE.22.I)</p> <p>“Still, you may be wondering: Who actually buys the carbon credits generated on your farm?” (NBE.19.I)</p> <p>“Don’t you think it’s strange that almost all honey in the supermarket has the same color?” (NBE.1.I)</p> <p>“Have you ever felt more at peace in nature compared to urban environments? Could this be due to the Earth’s natural</p>

			<p>frequency?"(NBE.5.I)</p> <p>"If trees can communicate and cooperate with each other, perhaps we need to expand the definition of intelligence and rethink our relationship with the natural world."</p> <p>"Would you like to see this Nature Based design in your city?" (NBE.5.I)</p> <p>"Suppose we can start respecting the limits of our planet while empowering every project and person wanting to contribute to a regenerative future. In that case, we might still create the possibility that humans and other life can flourish on Earth." (NBE.10.I)</p> <p>"How do you celebrate, honor, give back, and appreciate our natural world?"(NBE.8.I)</p>
	Imagining a Better World	Narratives that inspire the reader to imagine and envision an ideal, improved world	<p>"Imagine a world in which every human being can freely access wild and beautiful nature, at their doorstep. That's our commitment." (NBE.15.W)</p> <p>"Imagine if we could bring nature into our everyday lives, effortlessly making our homes, workplaces, and communities feel more alive and beautiful." (NBE.5.I)</p> <p>"We dream of a world where all of society can feel part of nature, living in harmony with the environment." (NBE.2.W)</p> <p>"How the planet would have looked before humans scrubbed away its diversity: from landscapes carved out by megafauna to primeval forests and the flower-rich farms of more recent centuries." (NBE.7.I)</p> <p>"Imagine a world in which every human being can freely access wild and beautiful nature, at their doorstep. That's our commitment." (NBE.15.W)</p> <p>"Imagine being with a group of people where you can speak from the heart and be heard. Imagine that group being surrounded by all the things of the natural world, interconnected, supporter and alive." (NBE.21.W)</p> <p>"Imagine stepping effortlessly into the moment, feeling the wind caress your cheek like a lover, scents and sounds that sing your song of belonging" (NBE.21.W)</p>
Characters	Heroes	Positive characters within the narrative. These are often seen leading initiatives, inspiring others, and championing the cause of nature and sustainability	<p>"This session was a deep dive into plant ecology with Mike (our hero) leading the charge!" (NBE.7.I)</p> <p>"We are looking for allies who want to increase their social impact through experiences that bring out the best of each person."(NBE.14.W)</p> <p>"Little things are important. One step at the time we thrive with the future generations, tomorrow's heroes, to understand how to protect natural resources which are vital to the local community." (NBE.18.I)</p> <p>"I have learnt how miserable and lost I can become without my daily dose from mother Nature." (NBS21.W)</p>
	Villains	Negative characters within the narrative. These are often shown as harming the environment, exploiting resources, or acting against the principles of sustainability	<p>"On average, in the Netherlands we buy Chinese fake honey that is flooding the market. The question is whether many flowers and bees were involved." (NBE.1.W)</p> <p>"Our health depends on the state of the environment in which we live, so we must deter criminals willing to destroy ecosystems for profit. – Virginijus Sinkevičius." (NBE.19.I)</p> <p>"Nicola Nescatelli is the driving force behind Ecobubble, guiding our research, development, and partner collaborations with exceptional expertise."(NBE.22.I)</p> <p>"How the planet would have looked before humans scrubbed away its diversity: from landscapes carved out by megafauna to primeval forests and the flower-rich farms of more recent centuries." (NBE.7.I)</p>
	Personification	Attribution of human characteristics or behaviors to non-human entities	<p>"The weather and temperatures were a bit changeable last month, but on nice days the bees are busy." (NBE.1.I)</p> <p>"It was once believed that trees were solitary and self-sufficient beings, each living independently of the others. However, recent studies have revealed that trees are social beings, communicating with each other in a complex and sophisticated network." (NBE.2.I)</p> <p>"If trees can communicate and cooperate with each other, perhaps we need to expand the definition of intelligence and rethink our relationship with the natural world." (NBE.2.I)</p> <p>"Nature should be given the opportunity to express itself with minimal human intervention." (NBE.7.W)</p> <p>"A series of trees over these past few weeks. Some that have passed through my life and others that have invited me to stay. All are magical, all wise, comforting, nurturing." (NBE.8.I)</p> <p>"The first urban garden that "dialogues" with plants on the FAO terrace in Rome." (NBE.22.1)</p>
Stylistic Devices	Metaphors	Description of an object or action as something it is not,	"Within every seed resides the integral essence for the full realization of its mission!" (NBE.2.W)

		to draw a comparison or highlight a particular quality	"The tree, when it is being cut down, observes sadly that the handle of the axe is made of wood." (NBE.2.I) "As an entrance, it has in itself an intrinsic symbolic value of openness: opening towards a new identity for the square, with the creation of a meeting and aggregation point; openness towards inclusivity, promoting interaction between the community and public space; openness to the future, through the proposed activities and the use of materials that outline principles of sustainability, exchange, reuse and recycling."(NBE.20.I)
	Symbolism	Use of tangible objects or imaginary concepts to represent ideas or qualities	"Trees are sanctuaries. Those who know how to speak with them, those who know how to listen to them, can know the truth." (NBE.2.I)
	Sensorial	Sensorial language by describing sights, sounds, smells, tastes, and touch	"Nature delivered glorious birdsong, stunning colours and peaceful communication. In return, we offered our gratitude with gentle music, song, chanting, artistry and ceremoniously shared a cup of tea." (NBE.8.W) "Imagine stepping effortlessly into the moment, feeling the wind caress your cheek like a lover, scents and sounds that sing your sng of belonging" (NBE.21.W)
Plot	Reconnecting with Nature	Bond between humans and nature, emphasizing the inherent connection	"We often forget that WE ARE NATURE. Nature is not something separate from us. So when we say that we have lost our connection to nature, we've lost our connection to ourselves- Andy Golsworthy" (NBE.21.W) "Nature Connectedness is the bond between a person and the rest of nature. An individual's sense of their relationship with the natural world. A relationship with nature that makes up a part of their identity and brings pro-nature and pro-conservation behaviours." (NBE.8.W) "Managing the land in this way allows us to reprioritise and reconnect with the world around us reinstating self-regulating landscapes and understanding nature's needs."(NBE.7.W)
	Philosophical Insights from Nature	Deeper, often spiritual or philosophical relationship between humans and nature	"Trees are sanctuaries. Those who know how to speak with them, those who know how to listen to them, can know the truth." (NBE.2.I)
	Nature-Inspired Innovation	Nature serves as a model and inspiration, showcasing the lessons and solutions that can be drawn from the natural world.	"At Arrayán Jardines we are inspired by nature to create more efficient gardens, carefully studying each case, the distribution and use that will be given to the different spaces, the maintenance and consumption of water or the ecological impact."(NBE.13.W) "Efficacy inspired by nature" (NBE.13.W) "The most perfect design is found in nature." (NBE.13.W) "Supported and inspired by ten natural world we let the muse takeus to create ephemeral art, poetry and prose" (NBE.21.I) "After 3.8 billion years of research and development, nature has developed some of the most advanced solutions to sustain life on Earth." (NBE.5.W) "INSPIRED BY NATURE, DESIGNED FOR THE FUTURE" (NBE.5.W)
	Interconnectedness of Ecosystems	Interconnectedness of all life forms within ecosystems	"Without bees we have no flowers, no plants, no vegetables, no fruit, and ultimately no life." (NBE.1.W) "So if things aren't going well for the bee, things aren't going well for the earth either."(NBE.1.I)
	Geographical Identity	Place-based connections and heritage.	"Restore biodiversity; stimulate affectivity, memory and environmental cultural identity" (NBE.2.W) "The use of fishing nets in the pavilion, in addition to being functional, as a symbolic value, in order to link it to the tradition of the place (...)"(NBE.20.I) "In this sense, the use of exposed brick as a cladding material is evident. This refers to the tradition of the place,(...)" (NBE.20.I)
Moral	Care for future generations	Emphasizing the importance of actions taken today to benefit future generations	"My daughter asked me one evening if I had heard about the bee deaths. And: "What are we going to do about this, Dad? Why don't we help the bees ourselves? Then you really are a boss!" The very next day the BIJENBAAS plan was born. We started keeping bees and protecting nature." (NBE.1.W) "Naturally, we do this as locally and qualitatively as possible, so that we can enjoy that beautiful wood for generations to come." (NBS.16.W) "Little things are important. One step at the time we thrive with the future generations, tomorrow's heroes, to understand how to protect natural resources which are vital to the local community."(NBE.18.I) "I love those who plant trees knowing they will never sit in their shade. They plant trees to provide shade and fruits for those

			who are yet to be born." (NBS.7.I)
	Call to action	Motivating and encouraging immediate action to address environmental and social issues	<p>"We didn't drown in paperwork or overthink our strategy. We saw an opportunity, rolled up our sleeves, and made it happen." (NBE.5.I)</p> <p>"Now, it's up to us to make it happen. Let's inspire each other and rethink how we design indoor spaces for the next generation." (NBE.5.I)</p> <p>"In the meantime, there's so much more we plan to do, with the support of our trainees and volunteers, starting with" (NBE.7.W)</p> <p>"We're not just observers of a changing world but active participants, shaping a sustainable future one data point at a time."</p> <p>"Let's take action to help ourselves and our planet." (NBE.10.W)</p> <p>"Embrace nature-based wellbeing. Because there is only one you, and one earth. It's time to effect real change for both." (NBE.8.W)</p>
	Micro to Macro	Concept of individual actions leading to broader, systemic change	<p>"When you Do-it-Together, it's not such a heavy lift" (NBE.18.I)</p> <p>"Every small effort matters, and this inspiring initiative shows how we can unite for the greater good." (NBE.18.I)</p> <p>"Taking time out in Nature to ground and step into your senses is very healing to our whole being and our relationships to each other and the world" (NBE.21.W)</p> <p>"This is only the beginning. Regenerative agriculture is no longer an outlier. It's gaining momentum and the recognition it deserves. Now, the time is ripe to ignite the change we need to see in our food system and support farmers every step of the way."(NBE.19.W)</p> <p>"Little things are important. One step at the time we thrive with the future generations, tomorrow's heroes, to understand how to protect natural resources which are vital to the local community."(NBE.18.I)</p>
	Future-forward looking	Focusing on long-term goals and the creation of a sustainable and prosperous future	<p>"Respect and care for the natural world, with the intention of creating a more sustainable and harmonious future." (NBE.2.I)</p> <p>"Architecture does matter, but only as a profession which is forward looking and as one which tries to find answers to the contemporary challenges." (NBE.3.W)</p> <p>"DATA DRIVEN STRATEGIES AND SOLUTIONS FOR A THRIVING TOMORROW" (NBE.10.W)</p> <p>"Creating a sustainable and thriving world by empowering clients with lean, innovative strategies and data-driven solutions that contribute to a future fit society." (NBE.10.W)</p> <p>"Together with our clients, we work on a better planet for mankind and nature, where we can all live a prosperous life, now and in the future. This is how we want to make a difference." (NBE.11.W)</p>
	Duty based arguments	Emphasizing the moral obligation to contribute positively to the world	"Always strive to create more for the world than what you consume from it." (NBE.5.I)
	Commitment	Demonstrating dedication and long-term commitment to environmental and social causes.	"From Rome, Italy, we're a dedicated green-tech startup on a mission." (NBE.22.I)
	Seriousness	Highlighting the gravity and urgency of the environmental challenges we face	"The task ahead is enormous. Our economic system is intrinsically flawed and taking us in the wrong direction, fast. No amount of tinkering around the edges will fix that." (NBE.10.I)
Positive Discourse and Outlook	Motivational discourse	Inspiring and uplifting language designed to encourage positive action and engagement	<p>"I love those who plant trees knowing they will never sit in their shade. They plant trees to provide shade and fruits for those who are yet to be born." (NBE.8.I)</p> <p>"Join us and learn how to live in harmony with nature through sustainable practices & self-sufficiency. Our comprehensive training will empower you to build autonomous homes, cultivate eco-friendly lifestyles, and empower you to become the best version of yourself." (NBE.5.W)</p> <p>"Is this not absolutely incredible?" (NBE.1.I)</p>
	Fun and Pleasure	Emphasizing the joy, aesthetics, and pleasurable aspects of engaging with nature, making sustainable	<p>"A spacious, green courtyard with ground floor services forms a heart of the neighborhood, where the users can meet, rest, work or play." (NBE.3.W)</p> <p>"We call it an all-day learning and living space: it means that its architecture responds to a variety of changing needs. On one hand it is a quiet, safe space, and on the other it encourages activities that help the pupils naturally and playfully acquire new</p>

		practices enjoyable and visually appealing	<p>skills.” (NBE.3.W) “He spent over a decade analyzing & building existing construction systems based on nature-based solutions and began to perceive their shortcoming in scalability and esthetics. (NBE.1.W) “Transforming our cities into healthy and beautiful spaces is not rocket science. In fact, it is much easier than you might think” (NBE.1.I) “We’re able to do this as a learning community within our working farm in the beautiful River Dart Valley outh Devon” (NBE.7.I) “How do you celebrate, honor, give back, and appreciate our natural world?” (NBE.8.I) The result is gardens designed to be enjoyed, preserving their functionality and respecting the environment.” (NBE.13.W) “Naturally, we do this as locally and qualitatively as possible, so that we can enjoy that beautiful wood for generations to come.” We promise you’ll leave with a smile and a different perspective on life!” (NBE.16.W) “Our purpose is to foster an integral relationship between people and nature for the quality and appreciation of life.” (NBE.3.W) “The result is gardens designed to be enjoyed, preserving their functionality and respecting the environment.” (NBE.13.W) “Welcoming you back into wonder an joy, inspiring a spirit of curiosity you might remember from your own childhood” (NBE.21.W)</p>
	Simplicity	Emphasizing effectiveness of simple solutions, advocating for minimalism, honest realism, and minimal human intervention.	<p>“We actively work to reprioritise the value of nature, encouraging an abundance of wilfire habitats and restoring ecosystems.” (NBE.7.I) “Bijenbaas honey is sustainable and responsible, without any fuss. Honey as it was meant to be, tasty for you and good for the bees” (NBE.1.W) “Honey that goes straight from the comb into the pot. Not mixed, not heated, not filtered. Only sieved. The cream honey undergoes no treatment other than stirring. Stir very long” (NBE.1.W) “Nature should be given the opportunity to express itself with minimal human intervention.” (NBE.7.W) “The consistent taste and color of 'mass honey' is achieved by mixing and sometimes even diluting honey in large quantities. And we at Bijenbaas think that's a shame! We find it charming that all our jars of honey have their own character and taste, due to the season in which our beekeepers harvested the honey and the region where the bees fly.” (NBE.1.I) “This refers to the tradition of the place, requires little maintenance with high aesthetic performance and, at the same time, has excellent energy capabilities, such as a high degree of thermal inertia.” (NBE.20.I)</p>
	Passion and Enthusiasm	Displaying strong passion and enthusiasm for sustainable practices, projects, and the positive impact they can have on the environment.	<p>“At Biotonomy, we are passionate about creating a more sustainable future for all.” (NBE.5.W) “Co-founders Wihan Bekker and Jean Pierre Du Plessis started African Data Technologies (ADTech) from a shared passion for making a difference. (NBE.10.W) “REVITALISE OUR PLANET” “We are also passionate about every rooftop that can be becoming green” (NBE.17.W) “Are you as excited as we are about revolutionizing urban green spaces?” (NBE.22.I) “We are ready to take on the world and bring our vision to life!” (NBE.22.I) “ It always remains extremely fascinating to see how diligent and harmonious things are in the beehive” (NBE.1.I) “A good time to turn beekeeping as a hobby into a serious activity and to look much more consciously at how we can contribute to a healthy, diverse nature and to honest, Dutch honey that can be traced back to the source.” (NBE.2.W) “We face each project with maximum enthusiasm and dedication.” (NBE.20.W) “we’re passionate about going the extra mile to make the voice of farmers heard” (NBE.19.W) After an incredible year, we’re closing this chapter with a lot of love, inspiration, and excitement for what’s to come.(NBE.19.I)</p>
Community Engagement	Collaborative Approach	Emphasizing the importance of working together to achieve sustainable and environmental goals	<p>“No one can ignore the reports about endangered bees, from TED, to Netflix, declining biodiversity, and pressure on nature in general. Even the government has a National Bee Strategy” (NBE.1.W) “We dream of a world where all of society can feel part of nature (NBE.2.W) “Welcome to Our Family” (NBE.1.W) “creating a more sustainable future for all.” (NBE.1.W) “Let's work together to build a more sustainable world.” (NBE.1.W) “Together, we can create environments that blend nature with modern life, making our world healthier and more inspiring for</p>

			<p>everyone.” (NBE.1.I)</p> <p>“Discover our history and all that we have achieved together these first 20 years” (NBE.4.W)</p> <p>“We’re able to do this as a learning community (...)” (NBE.7.I)</p> <p>“Together with our clients, we work on a better planet for mankind and nature,” (NBE.11.W)</p> <p>“We have developed a Serious Game in which participants have different roles and are given the assignment to realize nature-based solutions together” (NBE.11.W)</p> <p>“We need to join forces” (NBE.11.W)</p> <p>“Together, we can make a real difference, one volunteer at a time.” (NBE.18.I)</p> <p>“When you Do-it-Together, it’s not such a heavy lift” (NBE.18.I)</p> <p>“Everything is welcome and welcomes you home.” (NBE.21.W)</p> <p>““The only way forward, if we are going to improve the quality of the environment, is to get everybody involved”. -Richard Rogers”” (NBE.22.I)</p> <p>“But the path doesn’t need to be walked alone.”(NBE.19.W)</p> <p>“Now, it’s up to us to make it happen. Let’s inspire each other and rethink how we design indoor spaces for the next generation.” (NBE.5.I)</p>
	Interdisciplinary Approach	Highlighting the integration of multiple disciplines and fields of expertise to achieve comprehensive solutions	<p>“This project is a collaborative, cross-border and cross-sectoral project” (NBE.1.W)</p> <p>“NBD incorporates physics, biology and ecosystem services into the function of buildings & cities” (NBE.1.W)</p> <p>“We are a multidisciplinary team of 12 professionals with national and international experience in R&D projects” (NBE.4.W)</p> <p>“(…) therapy is supported by a multidisciplinary approach from sociology, psychology, social work, eco-psychology, ecology, forest medicine, forestry, and planetary health, among others.” (NBE.8.W)</p> <p>“To do this, we bring some of the world’s best ecological engineers, biologists, remote sensing analysts, machine learning experts, data scientists, and designers to every product.” (NBE.15.W)</p> <p>“We work across multiple design disciplines.” (NBE.20.W)</p>
Economic	Uniqueness	Emphasis on innovation and tailor-made solutions that set NBEs apart	<p>We deliver tailor-made projects to our clients, but we also develop out-of-the-box solutions for our government, corporate and NGO clients. (NBE.11.W)</p> <p>“what Ambios does is completely unique.” (NBE.7.I)</p> <p>“At Arrayán Jardines we are inspired by nature to create more efficient gardens, carefully studying each case, the distribution and use that will be given to the different spaces, the maintenance and consumption of water or the ecological impact” (NBE.13.W)</p> <p>“We plan spaces optimizing resources to create gardens that evolve towards a balance between nature, functionality and design.” (NBE.13.W)</p> <p>“This project is a collaborative, cross-border and cross-sectoral project that will demonstrate and validate an innovative solution to reuse the greywater of the buildings to irrigate Vertical gardens” (NBE.5.W)</p> <p>“Constant innovation to offer quality products and services and reinvent our day to day with creativity and cooperation.” (NBE.4.W)</p>

	<p>Futre Fit society</p>	<p>Emphasizes efficiency, optimization, resilience, and adaptability as essential components of sustainable economic models.</p>	<p>“Resilient societies and economies, supported by the resilience of our planet earth” (NBE.11.W) “We work on the agricultural transition and develop business models where working with nature can also be economically advantageous: how to earn a decent living while improving biodiversity? We focus on developing models that do not depend on subsidies.” (NBE.11.W) “We inspire and stimulate strategies to finance more greenery in your environment.” (NBE.11.W) “At Arrayán Jardines we are inspired by nature to create more efficient gardens, carefully studying each case, the distribution and use that will be given to the different spaces, the maintenance and consumption of water or the ecological impact” (NBE.13.W) “We plan spaces optimizing resources to create gardens that evolve towards a balance between nature, functionality and design.” (NBE.13.W) “The green areas are managed by a home automation system equipped with artificial intelligence, which analyzes the data received from the sensors, from the IT system and calculates the minimum amount of water to be supplied to obtain the maximum degree of plant luxuriance.” (NBE.22.W) The configurations that can be obtained through this tessellation are numerous, allowing for great scalability and flexibility. (NBE.22.W) “We work on the agricultural transition and develop business models where working with nature can also be economically advantageous: how to earn a decent living while improving biodiversity? We focus on developing models that do not depend on subsidies.” (NBE.21.W) “Urban vegetation and green spaces are essential for the environment and the well-being of urban residents. In addition to aesthetic values, these elements strategically positioned can bring benefits as: (...) -Increase property value, attract tourism and business.”(NBE.22.I)</p>
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