

From Trees to Trust: Exploring Community Perceptions of Municipal Forest Management in Two Finnish Municipalities

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Abstract

Municipal forest management in Finland faces the challenge of balancing economic, ecological, and recreational goals within a participatory framework. This thesis investigates stakeholder perceptions — community members, NGO representatives and scientists, and municipal authorities' representatives — in two Finnish municipalities of Raseborg and Hanko.

Combining qualitative interviews and quantitative surveys, the study examines how stakeholders evaluate the balance of priorities, trust in municipal authorities, and the inclusivity of forestry management practices.

The findings reveal significant differences in stakeholder satisfaction and trust between the two municipalities. Hanko is perceived more positively, particularly for its community-centered approach and higher levels of trust and engagement. In contrast, stakeholders in Raseborg express less satisfaction with transparency, ecological sustainability, and responsiveness to stakeholder concerns, highlighting gaps in meeting environmental and community expectations.

These results underscore the importance of inclusive and transparent decision-making processes in municipal forest management. The study advocates for enhanced participatory frameworks and targeted engagement strategies that respect the diverse priorities of stakeholders. By addressing perception gaps, municipalities can foster greater trust, collaboration, and sustainability in forest governance.

This research contributes to the academic discourse on participatory environmental governance while offering practical insights for improving municipal forest management practices.

Language: English

Key Words: municipal forest management, sustainable forest management, public participation, environmental governance, institutional trust, conflict resolution, community perceptions

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1 Introduction

Forests provide essential ecosystem services, including economic, ecological, and recreational benefits (Millennium Ecosystem Assessment, 2005). They support employment, contribute to global economic development (FAO, 2020), and play a central role in transitioning to a circular economy, as highlighted by the EU's Bioeconomy Strategy (2018) and Finland's Bioeconomy Strategy (2022). In Finland, forests are vital to the bioeconomy, leading all sectors with a 36% share in value added, worth EUR 10.5 billion (LUKE, 2023).

Ecologically, forests are crucial for maintaining biodiversity, combating climate change, and mitigating environmental degradation (IPBES, 2019; IPCC, 2019; UNFCCC, 2008, 2015; CBD, 2010, 2022). Socially and culturally, they provide recreation, tourism, and health benefits, including spiritual enrichment and cognitive development (Millennium Ecosystem Assessment, 2005). In Finland, forests are deeply valued for cultural and recreational purposes, embodied in everyman's right. Tuulikki & Laine (2022) highlight forests' significance in shaping identities and creating personal attachments, often leading to a sense of "psychological ownership" and a desire for protection.

Urban forests are increasingly appreciated for their health benefits, improving mental and physical well-being, air quality, and reducing noise (Hartig et al., 2014; Wolf & Robbins, 2015). Lönnqvist & Tyrväinen (2009) even found that Finns are willing to pay higher housing prices to live near green areas.

Today, forests are expected to deliver multiple services, simultaneously driving the economy, supporting health and recreation, preserving biodiversity, and mitigating climate change (Forest Europe, 2020).

The multi-dimensional values of forests—economic, social, and ecological—require sustainable forest management (SFM). Grounded in the three pillars of sustainability (economic, environmental, and social), SFM involves navigating interactions and trade-offs between these often competing interests (UNFF, 2007). Conflicts can arise, for instance, between biodiversity conservation, the forest industry, carbon sequestration, and tourism.

Although societal expectations of forests have evolved, leading to increased tensions and trade-offs, the international SFM framework lacks specificity for practical application at local or regional levels. Effective forest management requires balancing diverse functions while

recognizing that maximizing all in one area is impossible. The outcomes largely depend on the policy priorities of those defining sustainability (Prins et al., 2023).

In Finland, municipalities face additional challenges, such as limited resources, conflicting stakeholder interests, and the absence of a unified legal framework, resulting in widely varying forest management practices (Anttila, 2021). Balancing EU principles with local bioeconomy transitions, ecological preservation, and recreational needs adds further complexity.

Although municipal forests are only 1.7% of Finland's total forest area (Metsäkeskus, 2023), around 57% of local recreation sites in Finland are located on municipal land (Matila et al., 2023). As Uusimaa Regional Council's Sustainable Multi-Use of Municipal Forests project specialist M. Sirviö (2023) admits, "there are more expectations for forest use than ever before," and "more and more people want to emphasize more than just economic benefits when using forests".

Reconciling many interests involved in municipal forest management is not easy. Municipal forests are expected to contribute to carbon sequestration, increase habitats for forest species, produce wood raw material for the forest industry and improve opportunities for recreational nature experiences. At the same time, the municipalities' choices set the direction for other forest owners.

The case of municipal forests became a focal point for the study in the context of multi-use forest management due to the following aspects.

- Under the Constitution of Finland, Finnish municipalities are quite independent, autonomous, self-governing units (Suomi.fi, 2024). Municipal forest planning has no standard legal requirements, and municipalities carry out planning in different ways (Anttila, 2021; Visuri, 2020).
- Private forest owners hold 52% of Finland's forestry land, while the state owns 35% (Statistics Finland, 2024)¹. Although 11% of the 5.6 million population are forest owners, the majority of residents can only influence forest management through state or municipal processes. While both incorporate participatory approaches, state forests managed by Metsähallitus serve broader national objectives, and their often-remote

¹ There are around 620,000 forest owners in Finland including the owners and their spouses, as well as the shareholders of consortia and death estates, with holdings larger than 0.5 ha (Metsäkeskus, 2023).

locations in Eastern and Northern Finland (Metsäkeskus, 2023) make direct engagement less practical or relevant in many cases. In contrast, the municipal forests—though covering less than 2% of the total area—are often the most significant for residents, as their management is directly tied to elected municipal authorities and local priorities.

- Whereas private owners have complete control over their private forests, and state forests are under Metsähallitus management, decisions regarding municipal forests must consider these municipal residents' interests. A municipal forest is not just a collection of forest units legally owned by a municipality.
- The municipal level of forest management is where EU and national policies are implemented, but it is also the critical point where these broader directives must align with and meet the specific needs of the local community.
- Municipal decisions in forest management are public and visible. They reflect the authorities' way of managing the municipality and draw attention in media. This makes them an arena for balancing economic, ecological, and recreational goals at the municipality level.

The importance of multi-objective planning is particularly evident in municipal forests. Municipalities are legally obligated to promote economic, social and ecological sustainability in their territory and to create conditions for residents' self-government, participation and influence (Article 20 Constitution, Article 1 Municipalities Act, Article 6 Nature Conservation Act).

However, participation in Finnish municipal forest management remains limited, particularly in smaller municipalities, where engagement often occurs only after key decisions are made, reducing meaningful input (Piipponen & Pekola-Sjöblom, 2019). Resource constraints, time pressures, and fragmented responsibilities lead authorities to prioritize efficiency over transparency, often minimizing public involvement (Anttila, 2021; Visuri, 2020; Pappila & Pölönen, 2012). Limited openness and centralized control prevent meaningful engagement, further widening gaps between public interests and institutional priorities.

Simultaneously, studies by Visuri (2020), Sipilä & Tyrväinen (2005) and Saarikoski et al. (2023) show that active public participation fosters trust, reduces conflict, and improves acceptance of forest management decisions.

Municipal forest planning involves diverse stakeholders with conflicting priorities, making their participation and understanding essential for balanced solutions. State representatives,

politicians, experts, activists, journalists, and citizens all contribute to environmental governance discussions (Steffek, 2009). Media plays a key role in shaping public discourse on forest policy (Takala et al., 2019).

Harrinkari et al. (2016) identify three coalitions—forestry, administrative, and environmental—reflecting the polarization between forestry and environmental paradigms, which rarely communicate and have longstanding disagreements. Rantala (2020) highlights that debates are often dominated by nature conservationists and researchers, with dissatisfaction toward authorities on both sides, while communities remain underrepresented (Steffek, 2009).

A series of disagreements around municipal forest planning and practices were reflected not only in local but state mass media, particularly in the neighboring municipalities of Hanko and Raseborg in the Uusimaa region. Not only environmental NGOs, but also scientists, journalists, community and authority representatives were involved in the discussions (Almark, 2017; Santonen, 2017; Thilman, 2018; Hellberg, 2019; Santonen, 2022; Jansson, 2022a, 2022b). These local municipal forest-related disputes in Finnish municipalities illustrate the complexities of balancing environmental conservation, economic interests, and community values.

Conflicts in forest management often stem from differing priorities among the public, NGOs, and authorities. Communities may prioritize recreation, authorities focus on economic goals, NGOs advocate ecological concerns, and scientists address broader environmental issues. These varying priorities create perception gaps, especially regarding transparency and participation, leading to tension and eroding trust when one perspective dominates (Dietz & Stern, 2008).

Perceptions are critical, influencing trust in authorities and the perceived fairness of the process. Discrepancies between official reports and public views further heighten tensions. Listening to communities is vital, as their values shape how successfully economic, ecological, and recreational objectives are integrated into management.

Understanding these perceptions is key to aligning forest policies with the three sustainability pillars. Public perception of fairness and transparency directly impacts legitimacy and trust, which are fundamental to fostering better relations between communities and authorities (Takala et al., 2019).

For this study, two neighboring municipalities in Uusimaa region were selected: Raseborg - population of 27 200, total area 2 354 km², municipal forest 4 150 ha, and Hanko - population of 7 700, total area 800 km², municipal forest 1 681 ha (Raseborg info, 2023; Hanko info, 2023). Both municipalities have had a history of disagreements between authorities, NGOs, and community members regarding municipal forest management, and in both municipalities, there are no established schemes for active community participation in forest planning.

These municipalities provide a relevant context for exploring how different stakeholder groups, i.e. community members, NGOs, scientists, and authorities, perceive municipal forestry practices, offering the opportunity also to compare perceptions between the two. The comparison can also reveal if there are differing opinions or approaches between Raseborg and Hanko, helping to understand how local contexts may influence stakeholder views on forest management practices and the challenges the authorities face.

This assessment can serve as a first step toward developing participatory frameworks that are inclusive and responsive to local needs and can assist in building trust between communities, authorities, and other stakeholders. This approach can lead to a more balanced and sustainable municipal forest management in the context of limited forest resources and multiple-use objectives.

2 Research Purpose and Questions

The objective of this research is to explore and understand the perceptions of key stakeholder groups — community members, NGOs, scientists, and municipal authorities — regarding the management of municipal forests in Raseborg and Hanko, two municipalities in Uusimaa, and how these perceptions influence trust in authorities.

Through a combination of qualitative interviews and quantitative surveys, this research seeks to understand how these groups perceive the balance between economic, ecological, and recreational values, to uncover areas of agreement and contention, as well as to evaluate the level of trust in municipal authorities, particularly regarding transparency, fairness, and satisfaction with outcomes.

Another question of the study is their perception of community engagement and participation in terms of information and communication flow, involvement in municipal forestry planning, and feedback implementation.

Unlike previous research that focuses on participation methods that municipalities use in forest planning (e.g., Anttila, 2021; Visuri, 2020), this thesis investigates stakeholders' perceptions of their municipal forest management. Studying perceptions and trust is critical for successful forest management as it can help reduce conflicts and promote sustainable policies that satisfy diverse interests.

By focusing on the perceptions, this research seeks to capture the subjective realities of stakeholders, offering insights into broader challenges in municipal forest management, particularly in Hanko and Raseborg.

By comparing the perceptions in the two municipalities, the study aims to reveal common concerns and differing viewpoints, offering insights that may inform more inclusive and responsive forest management practices and a more sustainable approach to the municipal forest management.

This research is particularly relevant given the history of public disagreements between these groups and the authorities regarding forest management practices in the region, and considering the current level of community participation, when residents are asked for feedback on the prepared forest measures on forest units rather than actively shaping the municipal forest plan.

2.1 Research Questions

The principal research questions in this study are:

1. How do key stakeholders (community members, NGOs & scientists, and municipal authorities) perceive the balance between economic, ecological, and social objectives in municipal forest management?
2. How do stakeholders perceive the transparency, fairness, and responsiveness of municipal forest management, and what is the level of trust in municipal authorities?
3. What perception gaps, conflicting priorities, and barriers to consensus exist between stakeholders in municipal forest management?

For the purpose of the study, it is of special interest to conduct research in three groups separately in Raseborg and Hanko: representatives of the community, NGOs and scientists, and municipal authorities' representatives. This approach aims to capture the perspectives of each party, representing economic, ecological, and social pillars, to gain insights into whether municipal forest management is perceived as balanced. Representatives of each party are selected on the basis of their active engagement in municipal forest issues.

The survey includes a 5-point Likert scale questionnaire to gauge the strength of the stakeholders' agreement with specific statements. It is also supplemented with open-ended interview questions. This combination of questions provides both qualitative and quantitative insights, aiming for a holistic approach to the research.

The questions addressed specially to municipal authorities concern the following key areas:

- Economic, environmental and recreational priorities: the focus is on how municipalities balance economic interests like timber production with recreation and conservation.
- Planning and decision-making: the forest planning process, goals and norms guiding decisions.
- Community engagement: how authorities engage communities, manage conflicts, and the levels of public trust in their forestry practices.
- Challenges that the authorities face in the municipal forest management process.

The statements to be assessed by the authorities' agreement under 5-point Likert scale include the following:

- Whether currently implemented forestry practices address the community's expectations and needs.
- If the community understands these management practices.
- And if the community trusts that the municipal authority acts in the best interest of the community and environment in their forest management practices.

The special questions for community members and NGO representatives cover several important areas:

- Connection: whether they feel a sense of ownership over the forest.
- Awareness and Participation: how informed the community is about biodiversity preservation and forest management practices, their involvement in planning, whom they

can be in contact on municipal forest matters, and whether they believe their input influences decisions.

- **Satisfaction and Trust:** satisfaction with current practices, the balance between conservation and economic activities, and reflections on barriers to trust between stakeholders, offering suggestions for improvement.

The 5-point Likert scale questions posed to community members and NGO representatives focus on three main areas:

- **Forest Management Practices:** These questions assess participants' views on sustainability, the balance between economic and environmental goals, and the effectiveness of recreational use management without harming conservation.
- **Community Engagement:** This section evaluates the community's perception of the municipality's communication, involvement and opportunities for participation, and how feedback is considered in decision-making.
- **Trust in Municipal Management:** questions explore the transparency, fairness, and trustworthiness of the authorities' forest management practices, along with overall satisfaction with the outcomes.

2.2 Potential Outcomes of the Study

- **Enhanced understanding of the community perspectives:** whether municipal forest practices align with or diverge from community expectations and values.
- **Comparison of the forestry management approaches of two municipalities,** with an emphasis on participatory processes and balance between environmental sustainability, recreational opportunities, and economic benefits.
- **Identification of best practices and challenges in municipal forest management in Hanko and Raseborg.**
- **Policy Recommendations for municipalities of Hanko and Raseborg to improve their forestry management practices and community engagement efforts based on the findings and identified gaps in perceptions.**

2.3 Significance of the Study

Limited scientific research on stakeholder perceptions of municipal forest management in Finland leaves a gap that this study seeks to address. The stakeholders' subjective realities,

reflected in this thesis, are critical for developing forest management policies that align with community expectations and environmental goals, aiming at a more balanced state of forest management.

This thesis aims to contribute to the academic understanding of participatory environmental management and provides practical insights for municipalities looking to strengthen their relationships with communities through effective forestry management. Relevant to the fields of participatory environmental management, sustainable forestry, and public administration, its findings can contribute to improving forest management and community participation practices.

This research is significant because it addresses the practical need for municipalities to navigate complex trade-offs in forest management by aligning policies with community values, promoting sustainability, and building trust. Additionally, the paper contributes to a better understanding of how trust and participation influence effective municipal forest management.

The results may serve as a foundation for enhancing collaborative frameworks that bridge the perception gaps between authorities and local communities, ensuring future sustainable and balanced forest management.

In terms of local importance, this study serves as a platform for stakeholders' representatives to express their perceptions and step in further cooperation on their way to a more participatory approach in the municipal forest decision-making.

3 Theoretical Framework and Practical Insights

This thesis applies several key theoretical frameworks to explore stakeholder perceptions and municipal SFM practices. These include the public value concept, which examines the authorities' responsibilities in delivering societal benefits; the sustainability pillars of economic, ecological, and social balance; and the role of perceptions in shaping public trust.

Additionally, participatory processes, stakeholder engagement, and the existing policy framework for public involvement in environmental decision-making, along with the practices of municipal forest planning in Finland, serve as essential components for understanding the context and objectives of this research.

3.1 Public Value Theory

Public Value Theory, developed by Mark Moore (1995) and expanded by scholars like Benington, Horner, and Meynhardt, is a key concept in public management, assessing the legitimacy and outcomes of public services. It highlights how public organizations generate value not only through economic and political means but also by promoting ecological sustainability and community well-being (Benington & Moore, 2011).

Moore (1995) compares public managers to private-sector managers, with the primary goal of creating value for the public sphere. This includes dimensions like outcome achievement, trust, legitimacy, and public satisfaction, which are crucial for assessing how well public authorities meet the needs of their communities and manage resources sustainably. Environmental protection is one of the key outcome achievements in public value concept.

Horner et al. (2006), in their work “Deliberative democracy and the role of public managers,” emphasize that engaging the public in decision-making is not optional but essential. It strengthens legitimacy and improves governance outcomes. Strategic planning for resource allocation should always involve public input, ensuring that services reflect evolving public values.

Horner’s perspective advocates for public managers to move beyond representative democracy and engage in deliberative democracy—where regular consultations with citizens, and particularly such groups like NGOs, become an essential component of governance. For Horner, public institutions should not just act as top-down entities rather should be facilitators of discussion, especially when dealing with community concerns over shared resources, such as municipal forests, in the case of this study.

Faulkner & Kaufman (2017) stress that measuring public value requires evaluating not only economic outcomes but also ecological and social well-being, trust, and service efficiency. While both quantitative measures (such as surveys) and qualitative feedback are tools to ensure that policies are understood, trusted, and supported by citizens, evaluation must be adapted to local contexts to ensure meaningful engagement.

According to Näyhä and Wallius (2024), Finnish forest-related public discourse reflects a significant polarization between economic and environmental interests, with structural power largely favoring the forest industries and market actors. Politicians are identified as

pivotal decision-makers in steering sustainability transitions, yet discussions often fail to address underlying power imbalances.

In line with the principles of public value theory in promoting inclusive decision-making, there is a need for collaborative platforms to enhance stakeholder dialogue and foster participatory processes and sustainable forest management in Finland. This is a task for public managers, whose responsibility is to actively drive sustainability transitions.

3.2 Balancing Pillars of Sustainability

The Brundtland Report (1987) highlighted the need to balance economic development, environmental sustainability, and social equity to ensure future generations can meet their needs. It emphasized the interconnectedness of these factors and called for policies that harmonize them.

In forest management, the concept of Sustainable Forest Management (SFM) aligns with this broader vision, focusing on maintaining biodiversity, productivity, and ecological processes while supporting the economic and social needs of dependent communities. The UNFF (2007) and the UN Sustainable Development Goals (SDGs), particularly SDG 15 (Life on Land), reinforce commitments to SFM as a cornerstone of global sustainability efforts.

The 2030 Agenda for Sustainable Development also underscores enhancing skills to develop and execute policies for managing forests and related resources sustainably. Additionally, SDG 11 emphasizes sustainable land-use planning in urban and peri-urban areas, balancing development with environmental protection.

Both goals support the importance of integrating ecological, economic, and social perspectives in forest management, and substantiate the connection of municipal forest management with global sustainability efforts.

However, as Adams (2006) stresses, the attractive term “sustainable development” can be ambiguous and convey various, sometimes contrasting views on environmental and economic management. “In implying everything sustainable development arguably ends up meaning nothing”.

The essence of the mainstream sustainability concept has become the idea of three dimensions representing economy, society, and environment presented in a variety of ways: as equal “pillars”, as concentric circles within each other, or as overlapping circles. Despite

interactions between these dimensions, no hierarchy between them is addressed explicitly in legal framework.

The currently formulated SFM concept at the international level is not designed to be applied at the forest management unit level, since it is not specific enough. Moreover, the SFM definitions of EU level are being criticized by some national production-centered groups as unbalanced or not applicable in some local situations (Prins et al., 2023).

At the same time, international forest certification systems have offered voluntary, commercially driven methods to certify forest management sustainability at the individual forest unit level for more than twenty years. The relationship between these EU-level instruments and certification systems such as FSC or PEFC remains an area for further research.

While FSC certification includes criteria for responsible logging, biodiversity protection, and stakeholder engagement at the forest compartment level (FSC Suomi, 2023), it does not automatically ensure sustainability at the municipal level. The FSC standard remains focused on the management unit rather than broader governance issues, meaning that aspects such as municipal-wide recreational planning, integrated land-use strategies, or socio-economic trade-offs beyond the certified areas may not be comprehensively addressed.

While forest certification systems ensure responsible management at the forest unit level, they do not inherently equate to SFM at the municipal level. Achieving SFM requires balancing ecological, economic, and social priorities through multifunctional forest use and active community participation. Recreation, equitable resource access, and urban planning form key aspects of the social dimension, with participatory decision-making serving as a crucial mechanism.

Over the past three decades, evolving societal expectations have intensified tensions and trade-offs in forest management. In the research based on the Finnish print media analysis, Rantala (2020) notes ongoing conflicts between economic forestry interests—focused on employment and exports—and conservation efforts that prioritize biodiversity.

Takala et al. (2019) argue that Finnish media often creates the appearance that all objectives — economic, ecological, and recreational — can be achieved harmoniously. However, this illusion often prevents addressing the underlying tensions between these objectives.

Pietarinen et al. (2023), analyzing discourses of Finnish forest policy with a focus on the bioeconomy and sustainability narratives, indicate that the dominant narrative in Finnish forest policy heavily favors economic growth over sustainability.

Though forests provide a multitude of ecosystem services, forest management plans still often prioritize tangible, economic benefits such as timber production over ecological and social values. Such research as Tyrväinen et al. (2017) and Mustalahti (2017) highlights how cultural and amenity values remain underrepresented in formal forest planning processes.

This bias is particularly evident in bioeconomy-driven strategies, although their direct and indirect economic values to urbanizing and rural societies and bioeconomy are significant. An example of the potential conflict between the three pillars is the fact that the most popular recreational forests are large, mature forests with good visibility (Anttila, 2020), which coincide with all three cornerstones. According to Tyrväinen et al. (2017), forest amenity values are public goods without markets, whose provision is too low compared to the demand.

Trade-off theory in environmental science highlights the inherent compromises in resource management, where optimizing one goal, such as economic gain, often affects others, like ecological preservation. Balancing the three pillars of sustainability—economic, environmental, and social—has been a central challenge in sustainability research.

Frameworks like Triple Bottom Line (Elkington, 1997) advocate for integrating social and environmental value alongside financial gain, while Resilience Thinking (Walker et al., 2002) emphasizes adaptability in social-ecological systems. Planetary Boundaries (Rockström et al., 2009) caution against exceeding ecological limits, and Integrated Environmental Assessment Models (IPBES, 2019) help simulate trade-offs in sustainability planning.

Recent analyses (Prins et al., 2023) argue that sustainability should not be seen as three equal pillars but as a hierarchy, where biodiversity serves as the foundation for economic and social stability. The Millennium Ecosystem Assessment and The Economics of Ecosystems and Biodiversity (European Commission, 2021) reinforce this by framing biodiversity conservation as essential for sustainable forest management. Similarly, Dasgupta's Review (2021) places nature at the heart of economic systems, suggesting that prioritizing biodiversity may require trade-offs that favor conservation over production.

Sustainability is not solely the responsibility of authorities—individuals and communities also play a vital role. Ethical frameworks such as Deep Ecology (Næss, 1973) call for a fundamental shift in valuing nature, while Intergenerational Justice (Barry, 1999) stresses the need to preserve ecosystems for future generations. Ostrom’s Theory of Collective Action (1990) and Social-Ecological Systems Framework (2009) emphasize community-level governance, demonstrating how clear rules and local engagement foster sustainable resource management. These perspectives underscore the necessity of community engagement to achieve sustainability tailored to the specific needs of municipalities and residents.

Public awareness of environmental issues has grown significantly. By weighing long-term human interests, such as those related to their roles as citizens, parents, and neighbors, against short-term consumer demands, individuals can significantly influence the viability of a transition to a more sustainable global economy (Adams, 2006).

Balancing sustainability requires more than institutional frameworks; it demands active community involvement. Trade-off theory has evolved into participatory approaches, recognizing that trade-offs are not just scientific or economic but also social and political. Participatory governance, which includes stakeholders in decision-making, integrates local knowledge and values, ensuring sustainability reflects diverse priorities and mitigating conflicts (Reed, 2008).

Considering that forests grow slowly, the time span of the forest management goals lasts several decades. By empowering communities to engage in sustainable living practices and decision-making, municipalities can achieve more balanced, resilient, and equitable strategic outcomes for future generations.

3.3 Perceptions and Trust

This section explores the definition of perceptions and the importance of capturing and analyzing them in connection with trust and legitimacy in the context of effective municipal management.

Perceptions play a crucial role in how individuals and communities understand and respond to environmental issues, including forest management. They refer to how people interpret sensory information, shaped by personal experiences, culture, social interactions, and media (Bickerstaff & Walker, 2001).

Perception gaps arise when stakeholders hold contrasting views about the same issue, often leading to misunderstandings and conflict. For example, authorities might see a forest management plan as beneficial, while local communities or NGOs perceive it as harmful or inequitable. Such gaps can erode trust and undermine policy effectiveness (Dietz & Stern, 2008).

Addressing perception gaps is vital for fostering mutual understanding and improving governance. An informed public is more likely to participate actively, while misperceptions or limited information can result in disengagement and conflict. Research by Garschagen et al. (2020) illustrates this, showing that scientists perceive environmental risks like climate change as more urgent than business leaders, whose focus on economic impacts reduces their sense of urgency. These gaps influence decision-making, potentially hindering effective environmental policies.

Perceptions play a crucial role in shaping trust between communities and authorities in environmental management. Trust is built when the public perceives that decision-makers act transparently, competently, and in their best interest. Dietz & Stern (2008) also emphasize that perceptions of fairness, transparency, and legitimacy significantly influence public attitudes and behaviors and trust in decision-making processes. Communities are more likely to support policies if they perceive the process as fair and inclusive.

In this thesis, perception refers to the views, interpretations, and attitudes that community representatives, NGOs, and scientists hold regarding the management of municipal forests, based on their experiences, beliefs, and interactions. It encompasses their understanding and evaluation of how well the forests are managed concerning sustainability, economic use, and recreational value, as well as their assessment of communication, participation, and trust in authorities.

Perceptions are framed as subjective assessments that are shaped by a variety of factors, including in connection with this study by personal experiences of interaction with municipal forests and the authorities, communication and information flow, feelings of involvement into the planning and decision-making processes, beliefs in trust and transparency, and own notions regarding the role of forests.

The following studies serve as examples of documented perceptions resulting from the conducted surveys.

A study by Valkeapää & Karppinen (2013) highlighted key legitimacy concerns in Finnish forest policy, particularly procedural justice and attitudes toward clear-cutting. Clear-cutting was widely disapproved, with 76% of non-forest owners and 56% of forest owners opposing it. Procedural justice, or fairness in decision-making, was criticized by both groups, who felt that not all stakeholders were treated equally or adequately included in the process.

Everyman's Rights, granting recreational forest access, were positively evaluated, but concerns about power dynamics persisted. Non-owners felt citizens and recreational users had too little influence, while forest owners believed environmental authorities held too much power. These perception gaps highlight the need for greater procedural fairness and inclusive governance, as public disapproval of clear-cutting may impact attitudes toward municipal forest management.

Rantala (2020) found significant trust issues among stakeholders in Finnish forest policy, with nature conservation groups and communities expressing dissatisfaction over fairness and transparency in forest management. Historical conflicts, particularly over clear-cutting, have further strained relations. Public officials face criticism for perceived paternalism, bureaucratic obstacles, and poor communication, underscoring the importance of transparent and equitable decision-making in forest governance.

Pappila & Pölönen (2012) argue that public participation in forest management in Finland is severely limited, particularly at the local and operational level, which, coupled with the barriers to accessing environmental information, can be perceived as a significant obstacle to meaningful community engagement in municipal forest planning. It may serve as a contributing factor to mistrust and satisfaction issues in municipal forest planning.

Public perceptions in forest conflicts are often shaped by past experiences, emotions, and a lack of trust, which can intensify disputes. Many stakeholders enter forest-related discussions with pre-existing biases or "sticky signs," such as conservationists being labeled as "tree-huggers" and foresters as "nature destroyers." These stereotypes further polarize participants' perceptions and make conflict resolution more difficult (Tuulikki & Laine, 2022).

Perceptions are key in evaluating the effectiveness of municipal forest management, as they shape trust in authorities and the legitimacy of municipal actions, even when public opinion diverges from official reports. They also influence community responses and highlight gaps between policy intentions and community reception.

As far as the notion of trust is concerned, the OECD report on drivers of trust in public institutions in Finland (2021) highlights that, while Finland generally enjoys high trust levels in its public institutions, trust in local governments is comparatively lower (52%), particularly among rural residents (as compared to police at 85%, and national government at 61%). This regional trust gap poses a challenge for local administrations in maintaining engagement and meeting the expectations of these communities, who may feel underserved by existing local governmental structures.

This “Finnish paradox” of high institutional trust but low perceived political influence suggests a need for broader social dialogue to counter potential disengagement, especially by increasing engagement opportunities and fostering interpersonal trust at the local level.

To address this, the report recommends enhancing local government responsiveness by tailoring service delivery more closely to the needs of rural and low-trust populations. This includes improving engagement opportunities, making governance more transparent, and fostering inclusion through increased representation and participation in decision-making processes at the local level (OECD, 2021).

3.4 Policy Framework for Public Participation

Public participation is essential for ensuring municipal forest management addresses stakeholder needs while balancing ecological, social, and economic dimensions. It provides environmental, integrative, and democratic benefits, improving policy implementation, reconciling diverse interests, and increasing decision acceptability (Pappila & Pöllönen, 2012).

By integrating local knowledge and varied values, public participation enhances planning quality and supports sustainability, leading to more inclusive and resilient outcomes (Verschuuren, 2005). Additionally, Jager et al. (2019) find a generally positive effect of citizens’ involvement on the environmental standards of governance outputs.

The Forest Europe Report on Public Participation in Forestry (FAO, 2002) highlights the importance of public engagement in SFM, emphasizing transparency and inclusivity. While national-level involvement exists, participation is more common at regional and local levels, often extending to long-term municipal forest planning and addressing societal demands for greater accountability and efficiency in public forest management.

Before examining the international, national and municipal policy framework on public participation in forest planning, it is essential to consider the theoretical foundations of

participation. Arnstein's Ladder of Citizen Participation offers a foundational model, outlining levels from non-participation, such as manipulation, to full citizen control, representing the spectrum of possible involvement (Arnstein, 1969).

Reed et al.'s (2018) more recent perspectives emphasize that participatory approaches can reduce conflict, build trust, and foster stakeholder support for environmental initiatives. Existing typologies of engagement categorize participation by leadership—either top-down, led by authorities, or bottom-up, driven by citizens—as well as by motivations (e.g., democratic values or trust-building) and modes, from one-way communication to more collaborative, co-productive methods (Fraser et al., 2006).

Reed et al. (2018) identify four types of engagement: top-down communication/consultation, top-down deliberation/co-production, bottom-up communication, and bottom-up deliberation/co-production. They advocate a flexible approach, adapting methods to local contexts and goals, with co-productive methods yielding long-term benefits.

In Finland, the Association of Finnish Cities and Municipalities (Kuntaliitto) promotes citizen participation and regularly evaluates municipal engagement practices (Piipponen & Pekola-Sjöblom, 2019). Based on a Government Report (Valtioneuvosto, 2002), four forms of civic participation are defined:

1. Information participation: Accessing and contributing information through consultations, surveys, and feedback.
2. Planning participation: Joint planning and forums during project preparation.
3. Decision-making participation: Direct involvement, such as resident-elected councils.
4. Participation in action: Volunteering in community activities like environmental upkeep.

Effective democracy combines representative and direct participation, requiring civil servants and decision-makers to adopt interactive and participatory practices as part of their skills (Valtioneuvosto, 2002).

The Aarhus Convention and the EU's Environmental Impact Assessment (EIA) Directive establish essential participatory rights in environmental matters, which Finland, as an EU member, observes. The EIA Directive, introduced in 1985, mandates public involvement in assessing environmental impacts, promoting inclusive governance.

The Aarhus Convention (1998) ensures access to environmental information, public participation in decision-making, and access to justice. It grants citizens and NGOs rights to

environmental data, participation in decision-making before finalizing policies, and legal recourse to challenge violations of environmental laws. These pillars empower communities and NGOs to safeguard the environment for current and future generations (Aarhus Convention, 1998; Verschuuren, 2005).

However, forestry often falls outside mandatory public participation under the convention. Routine logging and small-scale operations are not typically classified as projects with significant impacts, and public consultation is limited to planning stages.

Additionally, while the convention covers planning stages, it does not always address ongoing management, limiting opportunities for public oversight as forestry projects progress. Consequently, the cumulative and indirect effects of forestry on biodiversity and ecosystems may remain outside the scope of public input, highlighting a gap in participatory rights in this sector.

Following to the national policy framework regarding public participation in Finland, citizens' rights to participate in environmental decision-making have been constitutionally protected since 1995. The reformed Constitution (731/1999) emphasizes environmental rights, transparency, and public influence in governance (Raitio, 2008).

Key constitutional sections (e.g., Sections 2.2, 12.2, and 20) support public rights by granting access to documents, the right to be heard, and appeal processes. Particularly, section 20 states everyone's responsibility for the environment, the duty of the public authorities to guarantee everyone the right to a healthy environment and the possibility to influence the decisions that concern their own living environment. Additionally, Finnish law aligns with the Aarhus Convention, which considers environmental NGOs as affected parties, ensuring their right to appeal decisions impacting the environment.

The public participation is mandated in various environmental laws, including the Environmental Impact Assessment Act (468/1994), Land Use and Building Act (132/1999), Environmental Protection Act (86/2000), and Nature Conservation Act (1096/1996). However, forestry planning is one of the few environmental planning processes that does not include legally secured public participation rights. Neither the Forest Act (1093/1996) nor the Forest Decree (1200/2013) include any regulation on public participation in forestry in general.

Different types of land use plans defined in the Land Use and Building Act do not, as a rule, regulate the content of different forestry operations (Raitio, 2008). As Pappila & Pölönen (2012) note, certain forests are governed by a master or detailed plan according to the Land Use and Building Act, and in these cases, stakeholders possess extensive participation rights. However, municipalities implement land use planning in diverse ways, influenced by their policies and the regional economic structure.

As a result, the presence of participatory rights in forested areas largely hinges on how municipalities exercise their discretion under the Planning and Building Act. The public participation related to the use of forests could be strengthened by more active and systematic use of general land use planning in forested landscape (Pappila & Pölönen, 2012).

Finnish municipalities have broad self-governing authority, including tax collection and defining local governance structures. This autonomy, protected by the Constitution and the Municipal Act (410/2015), allows municipalities to manage services and land-use planning, including forested lands, in alignment with national policies and local needs (Suomi.fi, 2024). Municipal councils, elected every four years, hold the highest decision-making power.

Municipalities are legally responsible for ensuring public participation, but the Municipal Act offers flexibility in how it is implemented. Section 22 encourages public meetings, resident input, participatory budgeting, and collaboration on service development. However, the law does not prescribe specific methods or detailed instructions on how exactly, in each case, participation methods should be implemented. As a result, each municipality determines the form and extent of public participation based on its unique priorities and resources (Anttila, 2021).

In practice, this means that the ultimate decision on the objectives and priorities of a municipal forest plan is a political one made by local boards that should reflect the values of the municipality's residents. This high level of independence allows each municipality to tailor its forest planning and participatory processes to local needs, but it also leads to variations in how inclusive and effective participation is across different cities.

In the absence of binding legal requirements for ways of public participation in municipal forest planning, recommendations, such as those provided by TAPIO (Matila et al., 2023), a well-renowned Finnish leading expert organization in forest management, offer valuable guidelines as a foundation for fostering inclusive and sustainable municipal management practices.

TAPIO's guide, "Vesien hyvä tila ja kokonaiskestävyys kuntien talousmetsien metsänhoitosuunnitelmissa," provides guidance for municipal forestry officers and managers. It emphasizes setting strategic objectives for municipal forests, balancing economic, ecological, social, and cultural sustainability while reserving areas for recreational use. By aligning forest management with broader municipal strategies, municipalities can model sustainable practices for other forest owners.

The guide advises municipalities to assess the current state and role of their forests, establishing long-term goals tailored to different zones such as commercial, recreational, and conservation areas. Goals should address sustainability priorities like carbon sequestration, biodiversity, water protection, and climate resilience, ensuring alignment with municipal strategies and based on ecological and economic data.

Public participation is central to the process, with TAPIO recommending feedback from residents at every stage, from initial goal-setting to draft reviews. Municipalities should adopt an inclusive, interactive approach to reflect community values in forest plans. Collaboration with contractors is key, ensuring resident input shapes objectives and actions. Tampere's forest planning is cited as a successful example of inclusive forest management discussions.

Limited public participation in forestry often results from structural barriers rather than genuine disinterest. The Forest Europe Report (FAO, 2002) identifies the following primary barriers to public engagement in forestry: lack of information, low perceived benefits, skepticism about influence, limited access, and tactical non-engagement.

In environmental and forestry management, a "participation paradox" often emerges, where authorities cite low public engagement to justify limited or superficial participatory efforts. This paradox suggests that rather than a lack of public interest, low engagement often stems from structural barriers within the participatory processes themselves (Lund, 2015).

In cases such as EIA or forest management consultations, technical language, unclear processes, and lack of transparency discourage communities from engaging, creating a cycle where authorities attribute low participation to public disinterest rather than to systemic obstacles. Recognizing and addressing these underlying barriers is essential to breaking the participation paradox and fostering meaningful public involvement in environmental governance (Arnstein, 1969; Reed, 2008; Lund, 2015).

Rather than assuming apathy, addressing these barriers can enhance participation. Municipalities can foster engagement by improving information accessibility, responsiveness to input, and clear communication on forestry issues.

The intensity of public participation varies across the decision-making process, yet it generally influences outcomes, even though final decisions typically rest with the process initiator. With a growing focus on the social, environmental, and sustainable use aspects of forestry, public forest managers have an increased responsibility to achieve public participation, especially given their role as “public servants” acting on behalf of the public as the ultimate “owner”.

As forest-related interests become more complex and sometimes conflicting, public forest managers are increasingly required to enhance their skills, methods, and resources—organizational, financial, and technical—to effectively engage the public in managing forests (FAO, 2002).

3.5 Documented State of Participatory Municipal Forest Planning

This section reviews the research on the current state of municipal forestry planning, several documented participatory forest management cases in Finland and discusses the approaches used and outcomes reached.

According to several studies, participation in Finland’s municipal forest management is considered limited, and the communities’ opinions tend to be underrepresented. Research by Pappila & Pölönen (2012) highlighted the lack of public participation in forest management in Finland particularly at the local and operational levels. A study of forest-related participatory processes in Finland (Tikkanen, 2018) expressed skepticism about their effectiveness, questioning their potential in their current form. Mustalahti (2017) argues, the citizens participation has not yet been addressed sufficiently in the current bioeconomy discourses.

At a minimum, a citizen has the following options to influence decisions in municipal forestry: (1) vote in municipal elections to elect a representative who conveys similar opinions; (2) use the right of citizens’ initiative as outlined in Article 23 of the Municipal Act; (3) participate in the preparation of the forest plan to the participatory extent defined by the municipality, ranging from being informed to collaborating during the planning process; (4) appeal

decisions made by municipal authorities in terms and conditions by Chapter 16 of the Municipal Act.

However, the AFCM's report on citizen participation in municipalities (Piipponen & Pekola-Sjöblom, 2019) highlights that, despite citizens' formal rights to participate, their levels of involvement vary significantly. The most important means of influence is still considered to be voting in elections. In smaller municipalities, participation is often limited to feedback sessions or public hearings, rather than to active involvement in decision-making.

The report's findings suggest that citizens view interactive forms of participation as the most effective. Citizens still rarely use their right to propose initiatives as a form of influence, and the number of municipal initiatives remains low, while council initiatives are notably high, especially during election years.

The most popular ways for citizens to participate are to respond to a customer or user survey conducted by the municipality and participate in the activities of associations or organizations. In small municipalities, giving feedback is easier because the municipal staff is usually known.

A 2020 survey by AFCM, TAPIO Oy, and Varsinais-Suomen ELY-Keskus (Visuri, 2020) examined the status and objectives of municipal forest plans. Among the 36 responses, the average municipal forest ownership was 4,181 ha, highlighting varied approaches to forest management. While 47% of municipalities had strategic forest programs, many were not available online, limiting public access. Only 36% had up-to-date forest plans, with commercial forests receiving more planning attention than protected or recreational areas.

Challenges include limited resources, fragmented responsibilities, and conflicting goals, particularly in smaller municipalities. Commercial priorities often dominate, with fewer plans for biodiversity, recreation, or conservation. Only 33% of municipalities had plans for all recreational forests, and 17% for all protected forests. Public engagement is inconsistent, with many plans inaccessible online due to technical or perceived barriers.

Recent trends show a shift toward biodiversity, recreation, and climate action, but balancing these with economic goals remains difficult. Conflicts with conservation groups and resident opposition to clear-cutting underline the need for more inclusive and transparent planning.

Overall, the survey indicates that municipal forest planning has evolved to incorporate broader goals beyond timber production, but municipalities face significant challenges in

balancing multiple goals. Respondents stress the importance of strategic objectives, resource allocation, ongoing dialogue, and national guidelines to improve sustainability, especially a standardized operating model for medium-sized municipalities. Broad resident satisfaction and multi-purpose forest plans are seen as key indicators of success.

In her 2021 master's thesis, Tarja Anttila examines public participation in Finnish municipal forest planning through interviews with 14 municipalities. The study highlights significant variation in participatory approaches, often limited to "planning participation," with no examples of "participation in action" during forest plan preparation.

Key methods included surveys, resident meetings, forest walks, and occasional stakeholder working groups. Larger municipalities used more structured methods, while smaller ones often avoided broader involvement, fearing conflicts. Public participation benefits identified included increased plan acceptance, public trust, and better communication. However, challenges such as limited resources, strong individual opinions, and difficulties integrating input were common.

Interviewees emphasized the need for clearer guidelines, improved participatory skills, and visual tools to explain forest management impacts. While multi-objective forest plans are growing, municipalities often struggle to balance participatory practices with traditional financial goals. Anttila's research underscores the potential and limitations of current methods, offering valuable insights into improving stakeholder engagement in Finnish municipal forestry.

One of the more successful documented public participation processes in the course of municipal forest planning in Helsinki showed that citizens are "communally minded actors and partners when they are offered the opportunity" (Sipilä & Tyrväinen, 2005). The benefits of the collaborative process in Jyväskylä were reported by Saarikoski et al. (2023). Each case's distinct features, shared themes, challenges, collaborative outcomes, and benefits are valuable for this particular study.

The case study "Evaluation of Collaborative Urban Forest Planning in Helsinki, Finland" (Sipilä & Tyrväinen, 2005) examines participatory methods in Helsinki's urban forest management. While the Finnish Land Use and Building Act mandates participation for major projects, Helsinki's Green Area Division voluntarily included participatory approaches for urban forest planning since 1995. Authorities valued resident input but preferred goal-setting stages, whereas residents wanted earlier involvement.

The process aimed to improve plan quality, local input, and conflict prevention. Challenges included representation issues, dominant voices, and managing expectations. While 84% of residents saw participation as essential, only 53% of authorities agreed. Both groups acknowledged that participation improved plans and reduced conflicts, with 72% of residents and 76% of authorities highlighting these benefits.

Residents emphasized natural area management over built-up parks and felt participation deepened their understanding of planning complexities. Overall, the process fostered engagement, improved awareness, and highlighted the importance of collaboration despite limited influence on final decisions.

The study by Saarikoski et al. (2023) examines Jyväskylä's collaborative governance process in creating a municipal forest management strategy. This multi-stakeholder approach aimed to balance traditional timber production with ecological and recreational priorities, involving representatives from the forest sector, environmental groups, residents, and recreational users.

Led by the City land use planning agency and supported by the Urban Planning and City Infrastructure Committee, the initiative reflected the City Council's Green Party-led environmental priorities. The process resulted in a balanced strategy that increased protected areas and biodiversity-focused practices, despite some disagreements and losses in timber revenue.

Residents prioritized recreation and biodiversity over timber production, while forestry representatives felt economic benefits were undervalued. Citizen engagement helped shape a plan that integrated ecological, recreational, and economic goals, building trust, reducing conflicts, and fostering innovative solutions.

Both Helsinki and Jyväskylä emphasized conflict reduction and increased resident awareness, fostering trust and support for forest management decisions. In both cases, political leadership, often driven by the Greens, was critical in initiating participatory processes despite initial reluctance from municipal foresters.

Authorities in both cities faced challenges managing expectations about residents' influence and ensuring representativeness. Foresters, accustomed to autonomy, viewed participation as a challenge to their authority. Balancing ecological and economic goals with diverse stakeholder interests required navigating entrenched views and potential biases.

Transparency emerged as a key benefit, enhancing trust and resident understanding of forest management. Participants felt ownership of the plans and noted positive local environmental impacts.

This comparison highlights the value and challenges of participatory approaches in achieving sustainable outcomes. Institutional resistance to participation in municipal forest management—stemming from resource constraints, entrenched practices, and fragmented responsibilities—remains a barrier. However, well-implemented processes, supported by political will and third-party facilitation, can build trust, improve community relations, and deliver balanced decisions aligned with SFM goals.

3.6 Conclusion of Theory Section

This thesis underscores the complexity of integrating participatory approaches in municipal forest management, which involve key themes like public value, sustainability balance, stakeholders' perceptions, and participation. The public value framework emphasizes the importance of ecological, economic, and social balance, asserting that municipal authorities have a duty to create public value that aligns with citizens' evolving expectations for sustainable forest management.

The balancing of sustainability's three pillars reveals inherent trade-offs, yet achieving legitimacy and public trust necessitates a participatory process in which authorities engage residents in setting forest management priorities and goals.

The Aarhus Convention, Finnish municipal autonomy, and policy recommendations such as those from TAPIO create a foundation. However, these must be paired with a strong commitment from local authorities to genuinely integrate citizen input and address barriers to participation.

The cases of Helsinki and Jyväskylä reveal the practical benefits of public involvement, particularly in increasing transparency, reducing conflicts, and fostering a sense of community ownership over forest planning. However, challenges such as institutional resistance, resource constraints, and entrenched practices persist, indicating that while participatory methods can align with sustainability goals, they require structured, consistent support and adaptability to local contexts.

In light of these findings, participatory governance in municipal forestry serves not only as a tool for enhanced decision-making but as a means of reinforcing democratic values and trust

within communities. Engaging citizens meaningfully requires clear communication of process limitations, political support, and a willingness to innovate in public engagement strategies, thereby enabling municipalities to achieve sustainable, resilient forest management that reflects both ecological imperatives and community values.

4 Methods and Materials

This section details the data collected during the research, the analytical methods employed, and the considerations regarding reliability, objectivity, and ethics of the research process.

4.1 Research Design

This study employs a mixed-method comparative case-study research design, combining qualitative and quantitative approaches to explore stakeholder perceptions of municipal forest management in two Finnish municipalities: Raseborg and Hanko. The qualitative data is gathered through semi-structured interviews with key stakeholders, such as municipal authorities, NGOs and scientists, and community members, to capture the complexity of their experiences, opinions, and priorities.

In addition to the interviews, quantitative data is collected using a 5-point Likert scale questionnaire. This is used for measuring the level of agreement or disagreement on specific statements related to forest management, sustainability, and trust in authorities. The qualitative and quantitative data are analyzed separately but integrated in the final interpretation of results.

The mixed-methods approach was chosen to provide a comprehensive understanding of the issues by capturing both insights from interviews and measurable results from surveys, enabling comparisons and more holistic interpretations of the data.

In addition to the primary data collected through interviews and surveys, this research also incorporates documentary sources, such as forest management plans, strategies, media articles, and other relevant information. This supplementary data provides context for official practices and policies and a background for stakeholder perceptions.

4.2 Study Area and Context

The neighboring municipalities of Hanko and Raseborg were chosen as case studies for this research. By comparing these cases, the study aims to identify common patterns and

differences in how municipal forest management is perceived, focusing on the balance between the economic, ecological, and social pillars of sustainability. This comparative approach allows for a deeper understanding of how contextual factors, such as the economy or governance structures, shape the perceptions and trust levels within each municipality.

The comparison of the two municipalities is based on publicly available information; however, in many aspects, it was challenging to find compatible data due to differences in the municipal management structure, the lack of statistical details in the reports, and the absence of up-to-date indicators.

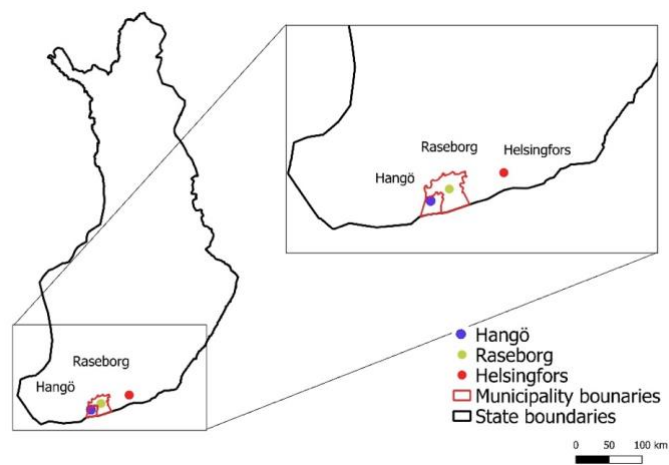


Fig. 1. Location of Raseborg and Hanko

4.2.1 Socio-Economic Indicators

Raseborg and Hanko are located along the southwestern coast of Finland on the Finnish Gulf (Fig. 1). Raseborg is approximately 93 km from Helsinki and 118 km from Turku, while Hanko is 126 km and 147 km from these cities, respectively.

In 2023, Raseborg had a population of 27 500 and Hanko 7 721 (Raseborg info, 2023; Hanko info, 2023). Raseborg covers a total area of 2 354,2 sq. km, with 49% land (1 149,36 sq. km), while Hanko spans 800,22 sq. km, with 15% land (117,46 sq. km). Both municipalities are statistically above the Finnish median municipality area of 761 sq. km and the median population size of 5 879 in 2022 (Kuuntaliitto, 2024).

The economy of Raseborg and Hanko municipalities is best characterized by their operational and tax revenues, along with their operational expenditures outlined in the approved annual financial reports for 2023. The calculations do not include financial revenues, central government transfers, and group companies' activities. The main indicators of municipalities are provided in Table 1.

Table 1. Municipalities – population, area, economy indicators, 2023

City	Popu- lation	Total area, sq.km	Land area, sq.km	Tax incomes, 1000 EUR, per cap	Oper.&Tax Incomes, 1000 EUR, per cap	Oper. Exp, 1000 EUR, per cap	Oper.incomes / -Oper. expenses
Raseborg	27 500	2 354,2	1 148,12	2,687	3,541	3,666	23,28%
Hanko	7 721	800,22	116,92	3,228	5,116	4,266	44,57%

Raseborg's 2023 operational and tax incomes totaled EUR 97,37 mln (EUR 3 541 per capita), while expenditures reached EUR 100,82 mln (EUR 3 666 per capita), resulting in a deficit of EUR 125 per capita. Hanko reported incomes of EUR 39,50 mln (EUR 5 116 per capita) and expenditures of EUR 32,94 mln (EUR 4 266 per capita), achieving a surplus of EUR 1 593 per capita (Raseborg Bokslut, 2024; Hangö Bokslut, 2024).

Based on operational and tax revenues, and operational expenses, these figures highlight Raseborg's budget deficit compared to Hanko's surplus and Hanko's greater per capita efficiency, the main reasons for that being a mix of higher tax revenues and higher operational incomes despite higher operational expenditures per capita. One of the largest ports of Finland, The Port of Hanko, is located in the municipality.

4.2.2 Forests

Both municipalities, historically and naturally, are covered with productive forests. A map of Raseborg's municipal forests approximate location is shown in the Fig. 3.

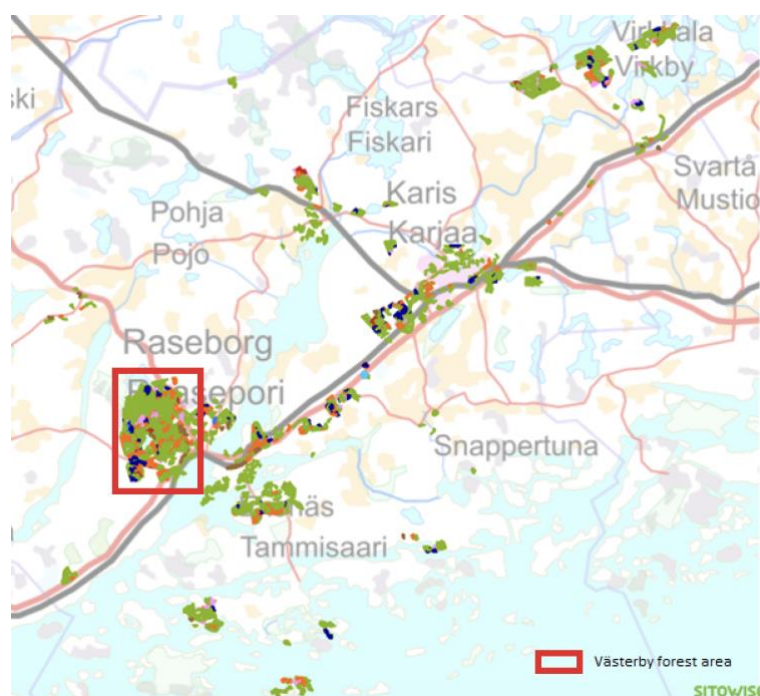


Fig. 3. Municipal forests of Raseborg (Raseborg's map service, 2024)

The area of municipal forests in Raseborg constitutes 4 149 ha, which is 3,6% of the municipal land area. The municipal forests consist of 1 267 ha commercial (31%), 1 497 ha recreational (36%), 688 ha protected (17%) and 697 ha of other forests (Raseborg Municipal Forest Management Plan, 2024), i.e. 1 509 sq.m. per capita. Annual 2023 harvest in the forests of Raseborg totals ca. 8 700 cub.m from commercial forests and ca. 800 cub.m from parks (Raseborg stad, 2024). Municipal forests of Raseborg are both FSC and PEFC certified.

Area of municipal forests in Hanko constitutes 1 648 ha, incl. 1 281 ha of forests and 367 ha of parks, which represent 14,4% of the municipal land area (Hanko stad, 2024). The area of Hanko municipal forests per capita constitutes 2 177 sq.m. Due to the fact that a forest management plan of Hanko is not available, there is no reliable data on area classification. It may be estimated that the original area of commercial forests at the final stage of planning was set as 630 ha, or 38% of the municipal land area (Santonen, 2021). Forests of Hanko are PEFC certified, but the FSC certificate has not yet been obtained.

Annual 2023 harvest in the forests of Hanko totals ca. 921 cub.m from both commercial and park forests (Hanko stad, 2024). Due to the unavailability of a comprehensive map of Hanko's municipal forests, Fig. 4 presents the approximate location of municipal commercial forests only.

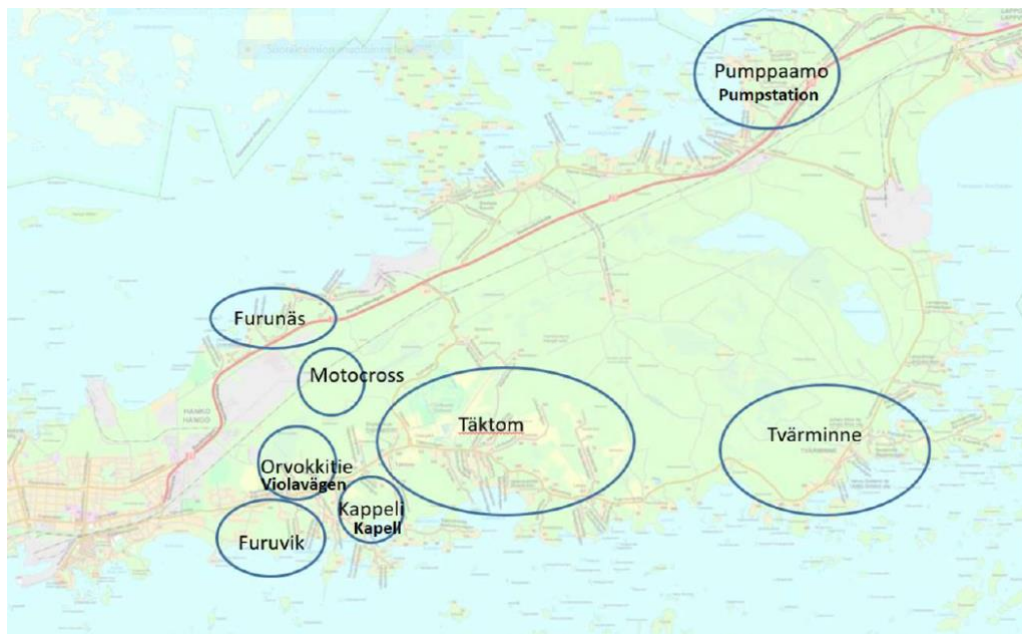


Fig. 4. Municipal commercial forests of Hanko (Hanko's official website, 2024)

Data about forests of Raseborg and Hanko are collected in Table 2 (Hangö stad, 2024; Raseborg stad, 2024).

Table 2. Municipalities – forests

City	Municipal forests, ha	Commer. forests, ha	Recreat. forests, ha	Protected forests, ha	Other forests, ha	Mun. forests, sq.m per capita	Annual harvest, cub.m
Raseborg	4 149	1 267	1 497	688	697	1 509	ca. 9 500
Hanko	1 681	estim. 630	NA	NA	NA	2 177	ca. 921

Finnish municipalities own a total of about 450 000 ha of forest, which represents 1,7% of the Finnish forest land (Metsäkeskus, 2023). The average forest area in Mainland Finland is 1 400 ha and the median 812 ha (Löfström et al., 2019). Overall, forest-wise, Raseborg stands beyond the average level, whereas Hanko is just somewhat above the average. However, municipal forests constituting 14,4% of Hanko's municipal land area are very visible in the municipality, and area of municipal forests per capita in Hanko is the greatest among all municipalities in Western Uusimaa province (Metsäkeskus, 2023).

Raseborg with its diverse types of lands and environments has a heterogeneous forest structure. In Hanko, with sands being predominant type of soil, on contrary, pine stands prevail.

Throughout the years, Raseborg forests have developed naturally based on traditional Finnish forest management practices, with no severe changes or external influence over time. In Hanko, however, between 1939 and 1940, during the Soviet Union lease, forests underwent vast clear-cutting, which led to the growth of evenly aged plantation forests on large areas all around Hanko's territory.

4.2.3 The Decision-Making Structure

The decision-making structure in both municipalities is similar, except for the number of decision-makers in the managing bodies. Due to the difference in population, City Council of Hanko consist of 31 members, and Raseborg City Council of 43 members. The Technical and Environmental Section of Hanko and Municipal Environment Section of Raseborg with the corresponding subordinate Municipal Technical Departments are responsible for managing the municipal forests, as well as for the maintenance of streets, roads, public areas, parks and beaches. The mid- and short-term decision-making upper body is the Technical Board in both cases (9 members in Hanko and 11 members in Raseborg).

The main difference in decision-making functions is that the ten-year forest plan preparation and approval goes under the Technical Board in Raseborg, which solely decides on the

participation process and what will be amended according to the other Boards' and stakeholders' comments (Raseborg's Administrative Statute, 2024). In Hanko the approval of a ten-year document as a strategic decision is considered a responsibility of the City Council, which treats all Boards as equal subordinate bodies.

The environmental authorities are administratively included in the structure of Technical and Environmental Section in Hanko and Municipal Environment Section of Raseborg, which might be quite effective in terms of cooperation in the planning process. However, in terms of budgeting and planning, the situation in the two municipalities differs.

In Raseborg, the budgeting of environmental authorities is integral to the Municipal Environment Section of Raseborg and, in terms of annual reports, constitutes part of it when incomes and expenses are calculated together. This integrated approach might lead to shared decision-making or compromises influenced by the priorities of other functions within the same section, potentially limiting the autonomy in financial and strategic planning.

In Hanko, the environmental authorities' activities are budgeted separately under their own independent subsection, which technically suggests a degree of administrative and financial independence. This structure allows to allocate resources and to prioritize activities more autonomously.

The same line can be seen in budgeting for sports outside territories. In Raseborg, expenses of the Municipal Technical Department also cover the management of sports territories, whereas in Hanko, they are accounted for separately under the Sports Services Department. This influences the planning of activities.

The Technical Division in Raseborg incurs the costs of maintaining sports facilities, and the Free-time and Leisure Services Department reserves the corresponding appropriations in its budget under the Educational and Wellbeing Division. Thus, outside recreational activity is not planned except for the costs in the reports and works executed by the Municipal Technical Department.

In Hanko, the Sports Services Department specializes in outdoor and indoor sports activities to ensure diverse recreational opportunities in the region. The Sports Administration applies for external funding, leads a dialogue with local organizations, and develops forms of cooperation since the department is totally independent and can oversee and plan recreational activities.

4.2.4 The Regulating Documents in Municipal Forestry

Both municipalities participate in the Hinku Network, an organization working Toward Carbon-Neutral Municipalities (Hinku, 2024). The major objective of the Hinku organization is the commitment of its participants to reduce greenhouse gas emissions more extensively and rapidly than EU targets require, with a CO₂ emission reduction target set at 80%. Raseborg and Hanko set a goal of becoming carbon neutral by 2030.

Simultaneously, both coastal municipalities, historically nationally and internationally attractive as summer areas, promote their regions as tourist destinations, particularly with recreational lands and forests. Raseborg's tourism strategy for 2022-2025 emphasizes nature experiences as one of the key Raseborg's profiles as a tourist destination, and booming tourism as one of the municipality's strategic goals (Raseborg' Strategy, 2022-2025). For example, one such recreational area is the large Västerby forest of Raseborg (Fig. 5), with hiking trails, roads, organized ski tracks, barbeque zones, lakes, etc.

However, there are no separate documents or plans regulating recreation and conservation areas within the municipalities, and neither municipality's forest management documents consider its tourism strategies. Additionally, there is no planning for carbon sink management through forestry.

In both municipalities, the ten-year forest plan is stated as the main document regulating municipal forest management. Annual planning of municipal forest activities is regulated by budgets in the form of projecting and reporting relevant expenses and incomes under the Municipal Technical Department. The annual Raseborg reports show that in some years, the forest incomes are used to balance the activity of the Municipal Technical Department.

Raseborg has a set of guiding documents on municipal forests, which are hard to locate on the website at the time of the research. However, by browsing the website and particularly minutes of the Technical Board meetings, it is possible to find the Strategical Guidelines for the City's Forests (2023) and the Forest Management Plan 2024-2034. However, one needs to know exactly what and where to search for. The Management principles for local urban forests in Raseborg (2019) are freely available in the open access on the relevant web-page on municipal forests.

In case of Hanko, the forest management plan 2018-2027 was approved in 2021 after a process of amending the draft. However, at the time of the research, locating Hanko's holistic

and full forest management plan was impossible. In different sections of the City's website, there are fragmented parts of the plan with amendments on the forest figures in commercial forests and management plans of other territories, such as the Management plan for Hanko parks and park forests in different municipal areas. No guiding documents are located in open access.

4.2.5 Participatory Processes

There is a history of conflicts in both municipalities over forest management, particularly regarding clear-cutting practices, which local environmental groups and some residents have criticized.

In case of Raseborg, stronger discussions in 2017 became reflected in Svenska Yle, a unit of Yle, Finland's national public broadcasting company, with such subjects as "Raseborg's forest engineer gets angry calls when local forests are felled,..." (Almark, 2017) and "Raseborg harvested too much of its own forest - needed to patch up the economy" (Santonen, 2017).

The local NGO collected signatures for clear-cutting ban in the municipal forests. This activity followed the decisions to abandon clear-cuttings in the neighbouring Hanko. The Technical Board decided not to favor the initiative to completely refrain from clear-cutting which was later confirmed by the position of the City Board (Protocol RBG/2330/00.05.02/2021, 2022). Difference of opinions on municipal forestry between NGOs, scientists, journalists, community and authority representatives was reflected not only in local but also in state mass media as Hufvudstadsbladet (Jansson, 2022a, 2022b).

Further initiatives of the local NGO such as preparing a separate environmental plan with the help of a group of ecological experts (Protocol RBG/1102/00.05.01/2022, 2022) and conducting a comprehensive nature survey before finalizing the forest management plan (Protocol RBG/229/00.05.01/2023, 2023) were not considered appropriate by the Technical Board either.

The NGO advocated for public involvement during the early preparation stages and carrying out a municipal survey to understand residents' views on forest-related issues such as protection and clear-cutting. The Technical Board, in response, highlighted its existing practices, including forest inventories based on PEFC and FSC certification standards and internal guidelines, deeming an additional nature survey financially and logistically unfeasible.

The Board dismissed the suggestion, arguing it would not significantly influence the plan and could cause unnecessary delays. Instead, residents can provide input during the public comment period for the draft plan.

In the same period of time, in May 2023, the Technical Board approved Strategic Guidelines for the City's Forests (Riktlinjer för Raseborgs stads skogar) (hereinafter also referred to as Guidelines) (Protocol RBG/921/10.03.01.05/2020, 2023). By positioning the City as the forest owner, the Board emphasizes its authority to determine financial expectations. While there are no strict budgetary demands for financial results, the Board highlighted the need for economic strategy that considers the forests' broader significance for recreation, biodiversity, and climate.

The guidelines define economic sustainability based on yield requirements tailored to different forest management classes: full yield in commercial forests (M5) at the level of private forestry, reduced yield 70 – 80% in recreational forests (M3) compared to commercial forests, and no yield for urban (M2) or protected forests (M4).

The document was drafted in consultation with environmental authorities. A proposal to include public comments in the strategy was not supported and therefore dismissed. Ultimately, the Technical Board approved the guidelines without amendments, underscoring the City's ownership and strategic priorities. There are no indications that the Guidelines were publicly discussed with different stakeholders or other municipal bodies. Now it serves as a strategic ground for the forest plan and any other regulation or activity in the municipal forestry

The most recent forest management 2024-2034 planning cycle started in 2022 and finished in 2024. No stakeholders were invited to participate or submit the opinions in advance. After the unsuccessful attempts to arrange a degree of participation, the local NGO conducted an independent endangered species inventory and submitted the data (Protocol RBG/1693/10.03.01.05/2022, 2024).

The work was funded by the Uusimaa Environmental Protection District of the Finnish Association of Nature Conservation (Suomen luonnonsuojeluliitto). This resulted in cooperation with the forest engineer and the draft forest plan considering the opinion of NGO. FSC certification also requires that such inventories of species must be taken into account.

This draft forest plan was next presented for general public comments (Raseborg stad news, 2024). As an instrument enabling public comments submission, a map of forest compartments was published containing brief information about forest management measures proposed per specific forest figure/compartment (different types of fellings and clear-cutting).

Brief analysis of public responses data collection shows that altogether approx. 72 comments from private individuals were submitted concerning Forest Management Plan 2024-2034 draft (Protocol RBG/1693/10.03.01.05/2022, 2024). Though it was reported that involvement of public remained low, the analysis of the comments demonstrates that public participation interest is present throughout municipality concerning all its major forest parts (Fig. 5). The most comments related to Västerby, e.g., where the largest recreational forest area is located.

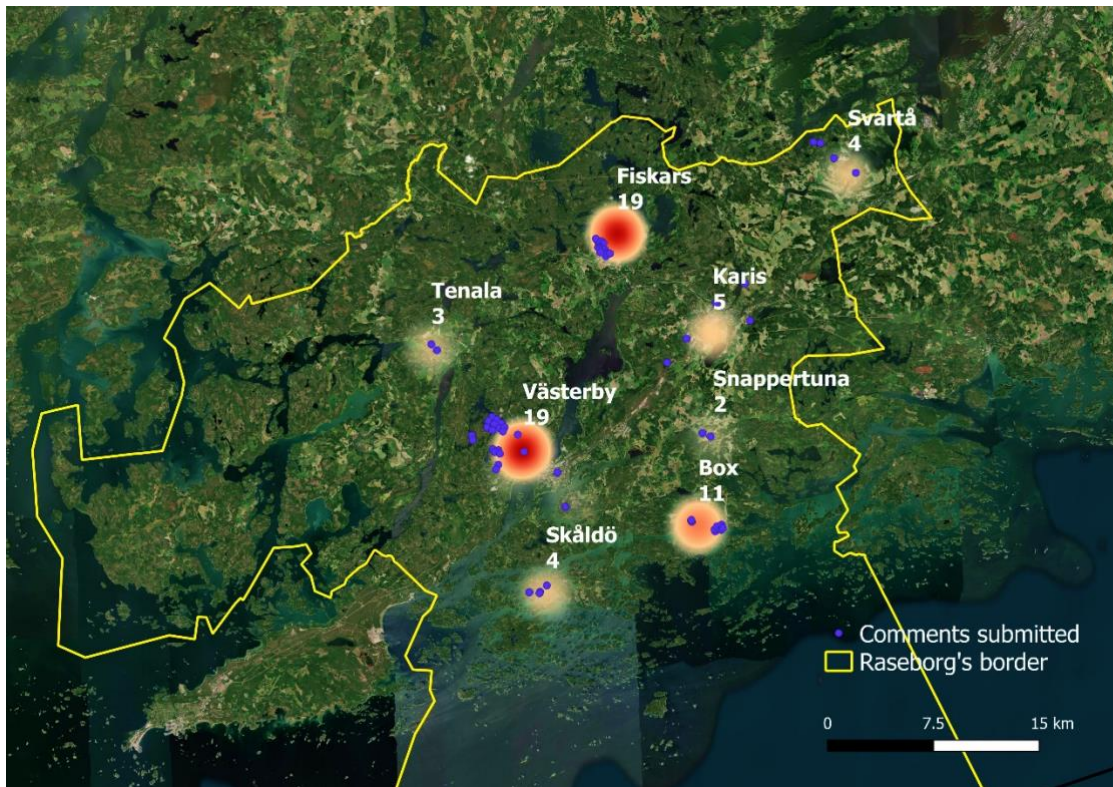


Fig. 5. Relative heatmap of comments submitted (by number of comments)

The municipal working group's responses predominantly defended the draft of the forest management plan, leaving the proposed measures unchanged in 70 cases. Most comments received a typical response, that the forest plan measures remain, but the comment can be considered in the implementation stage, or that a meeting might be held with the commenters and/or local residents. The main document referenced by the working group was the Guidelines.

The forest management plan does not include a separate chapter on the social aspect and the benefits of forests for public health, as this is stated as “impossible to measure in practice”. Overall, the information on public comments indicates a clear demand from the community for public participation in discussions regarding forest management issues.

The drafting of Hanko’s forest management plan for 2018–2027 began in 2017 and initially excluded local NGOs from the process. The plan, covering 764 hectares of forest land, generated significant public discussion and feedback from key stakeholders, including the Environmental Board, NGOs, and the broader community, all of whom expressed strong positions on its content.

The Environmental Board stressed the importance of creating a comprehensive plan but identified critical shortcomings. It noted that the plan did not align with existing general and detailed area plans, leading to proposals such as clear-cutting in areas requiring ecological corridors. Additionally, the Board highlighted risks to values identified through previous nature surveys and archaeological inventories, reinforcing its opposition to clear-cutting (Thilman, 2018).

At the same time, local residents strongly opposed clear-cutting proposals, which had been planned for several forest compartments. In 2019 their resistance culminated in a proposal by a large majority of the City Council (25 members), led by the Green Party, to halt clear-cutting entirely.

In 2020, at the final stage of the planning process, local NGOs submitted inventory data on endangered species and proposed significant amendments, including banning clear-cutting, creating ecological corridors, avoiding logging during bird nesting seasons, and adopting sustainable measures to enhance carbon sinks and recreational uses. A statement enclosed scientifically-based observations and comments on around 100 forest figures (Lindholm, 2020).

In response, the municipality facilitated dialogue involving specialists from its side to assess these claims. This collaboration, supported by the Finnish Nature Conservation Union, led to a redrafting of the plan and a series of public discussions, including informational meetings and media coverage in 2020–2021.

The revised forest management plan abandoned clear-cutting in favor of a method based on continuous cover forestry. This approach ensures varied tree ages within the forest, avoids

barren patches, and emphasizes biodiversity, carbon sequestration, and recreational values. The old version of the forest plan included plans to fell, thin or take other measures on more than 130 of the approximately 330 forest compartments. In the updated version, measures are planned for only about 40 compartments.

The renewed plan reduces annual timber revenues by €8,000–€21,000 (by 12-31%, or 0.04% of Hanko's operating budget) and increases carbon sequestration by 5 900 tonnes over a decade, equivalent to over 700 kg per resident (Santonen, 2021).

The final plan reflects the outcome of an inclusive and participatory process where strong public opposition and NGO advocacy shaped a more sustainable approach. While it prioritizes environmental and social values, it leaves room for further assessment of continuous cover forestry's efficacy after the plan's 10-year trial period.

However, at the moment there is still no holistic and full forest management plan of Hanko published. There are amended plans for the forest figures that were in public discussion as a proposal for an economic forest plan. There are no guiding lines or principles of municipal forestry besides those discussed in public. The official materials, such as protocols or minutes of the meetings dated earlier than 01.01.2023 are not publicly available.

4.2.6 Conclusion

Raseborg: Raseborg's economy is influenced by its larger land area and substantial forest resources. Its forest operations have a strong economic focus, with significant revenue generation from timber, reflected in the financial targets set by the municipality. However, the municipality operates on a tighter budget, which heightens the need to balance economic returns with other sustainability goals.

Forest management is more regulated and structured, with several formalized plans and guidelines guiding forestry operations. Clear-cutting remains a common practice, reflecting the municipality's focus on timber production and revenue. Sustainability goals are acknowledged, however economic objectives dominate.

The decision-making structure is more complex. The Technical Division integrates environmental oversight within its operations, which can enhance cross-sector collaboration but may dilute the autonomy of environmental priorities. Decisions are often shaped by technical expertise, leaving limited room for participatory approaches.

Participation is relatively limited. Public involvement is largely reactive, with opportunities for comments only at later stages of planning. NGO and community suggestions, though acknowledged, are not consistently integrated into decision-making.

Hanko: Hanko's economy is smaller in scale, reflecting its compact geography and lower forest area. The focus on economic forestry is less pronounced compared to Raseborg, with clear-cutting abandoned in favor of continuous cover forestry. Timber revenues are not a critical component of the municipal budget.

Hanko's forest management emphasizes ecological and recreational priorities. The municipality has adopted continuous cover forestry, driven by public demand and collaboration with local NGOs. This approach aligns with broader sustainability goals and enhances biodiversity. However, challenges persist in aligning the activity with strategic planning, given the lack of comprehensive documentation.

The decision-making structure in is less hierarchical. The Environmental Board operates independently in budgeting and planning, allowing for greater focus on ecological priorities. This structure enables more flexible and adaptive decision-making processes.

Hanko demonstrates a more successful history of participatory approaches. The municipality actively involves NGOs, scientists, and the community in forest planning, fostering trust and collaboration. Past conflicts have been resolved through inclusive dialogue, and participatory mechanisms are more proactive.

Both municipalities face unique challenges and opportunities shaped by their histories, geographies, and management priorities. Broader aspects of municipal strategies in areas of tourism, recreation, social values and environment are not reflected in municipal forest management practices.

4.3 Data Collection Methods

4.3.1 The Respondents' Selection (Sampling Methods)

When selecting representatives from municipal authority for interviews, especially those who may represent different views and political parties, it's important to take a strategic approach to ensure a broad and balanced perspective.

In selecting the respondents for this research, a widespread municipal survey was intentionally avoided, as response rates tend to be low, and such an approach may cause

sampling bias. Instead, the focus in selection was on identifying participants from three key stakeholder groups representing the economic, ecological, and social pillars.

For this research, purposive sampling was used as the primary method of participant selection. This qualitative research method is used to select participants who can provide valuable insights due to their relevant knowledge and experience on the topic being studied. It focuses on choosing individuals who are both available and willing to participate, and who can clearly communicate their perspectives. This method is particularly useful when resources are limited and ensures that the selected participants offer meaningful contributions to the research (Palinkas et al., 2015).

By targeting experts and key stakeholders among authorities, NGO and scientists, and community representatives, the method ensured that informed and relevant opinions were gathered from individuals with specialized knowledge and active engagement in municipal forest issues. This method ensures that the views of involved and informed stakeholders are captured with a more nuanced understanding of perceptions across pillars of sustainability.

The decision to select only three respondents per group was driven by practical constraints and the exploratory nature of this study, which serves as a preliminary step in investigating the topic. Although the sample size is limited, it still allows for capturing a range of perspectives without overgeneralizing.

The respondents were chosen based on ensuring that their views carry weight in the discussion. While not representative of the broader population, their input offers valuable insights and sets the groundwork for future, more comprehensive research. Additionally, the groups themselves are relatively small, and each respondent is well-placed to provide informed and relevant feedback. This approach ensures that the study, while limited, still offers meaningful data on diverse stakeholder perspectives.

In order to guarantee the accuracy and dependability of data, the following criteria for selection of the study participants were defined:

- All three groups comprise only residents of the corresponding municipalities, with a balanced representation of genders, age structure, and diverse backgrounds.
- Municipal Authority Representatives (three respondents) are individuals from a municipal decision-making body directly involved in forest policy-making, urban planning, or related

decision-making processes within the municipality, with different political affiliations, varied experience, and seniority levels.

- Community Representatives (three respondents) are leaders of local community groups or associations actively and regularly using municipal forests for recreational and/or educational goals all year round, with a wide contact net in the municipality, including the current and/or past direct activity with local children or youth, and various occupational backgrounds.
- Group of NGO representative (one respondent) & Scientists (two respondents):
 - Member of local environmental or conservation NGOs has been directly engaged in municipal forest-related issues.
 - Environmental scientists, researchers or academics specializing in forest management, environmental management, biodiversity, biology, with experience of involvement in projects concerning municipal activity.

The search for participants was based on municipal records and City council meeting minutes, the Finnish Register of Associations (<https://yhdistysrekisteri.prh.fi>), official websites and the social media of municipalities, associations and organizations, local news articles. This was done to define potential interviewees based on understanding their roles, activity in municipal forests, involvement in municipal forestry decisions, and their public stances related to environmental and forestry issues.

According to purposive sampling, as a first step, the individuals who were likely to provide the most information relevant to the research question, such as those who have spoken publicly about forestry or environmental policies or have been clearly engaged in municipal forest activity, were selected. In several cases, invitees recommended other potential respondents who could provide a wider or different range of perspectives.

In small communities like Hanko, people could fall simultaneously into two groups. Then, they were given an option to choose which group the respondent represented in the interview process.

4.3.2 The Data Collection Process

All interviews were conducted anonymously, and neither the names nor the identities of the respondents are disclosed in this thesis. A total of eighteen interviews were conducted, nine per each municipality, with eleven men and seven women aged 32 - 61 years old, in March –

June 2024. In Raseborg, personal interviews with nine out of eleven invitees were conducted. Two invitations were sent to officially published addresses, but no response was received.

In Hanko, seven personal face-to-face and online interviews and two e-mail interviews were conducted from twenty invitations sent. Two invitees declined to participate, and nine did not respond, with invitations being sent to verified contact information or officially published addresses. In Raseborg, 82% of those contacted agreed to take part in the study, while in Hanko, only 45% of potential participants did.

One possible reason for this difference is the perceived lack of relevance of the topic for discussion in Hanko. The small and close-knit nature of the community in Hanko may contribute to restricted openness, as individuals tend to engage in open communication primarily with those they know personally or who have been recommended by a trusted intermediary. Several interviewees supported this hypothesis based on their personal experiences of collaboration when asked for advice.

An invitation to participate in the study was sent electronically to potential interviewees. The message outlined the purpose of the research, the voluntary and anonymous participation, and the impact of contributing to better municipal forestry management practices and community engagement. The list of selected respondents is anonymous. All electronic invitations were sent individually, and no group communication was conducted.

Each interviewee received an informed consent form explaining the respondent's role in the research, the risks and benefits of participation, how the data is used, and confidentiality details (Appendix 1). The form also included a list of interview questions for the group the interviewee represented (Appendices 2 and 3).

For the purpose of studying the multi-dimensional aspects of municipal forest management, Community representatives, NGOs & Scientists' groups answered one group of questions (Appendix 3). Their focus is on personal connections to forests, awareness, and involvement, satisfaction with municipal forest practices and trust to the municipal processes.

Municipal Authorities' representatives answered another list of questions (Appendix 2) that delved into specific aspects, such as forest planning and practices, priorities and balance in forest management, relationships with the community, and challenges.

Five of the six interviewees from the Community group across both municipalities had experience with children or youth through past or current activities. Given the general

documented underrepresentation of children in research and political life (EC, 2021) and recognizing that this study addresses rights and benefits for all municipal members, these respondents were encouraged to consider, where possible, the perspectives of the children they engage with to ensure that the voices of younger populations are indirectly reflected in the study's findings.

The interviews conducted for this study were semi-structured or theme-based, which is suitable for interviewing participants with direct experience on the subject (Kvale & Brinkmann, 2009). While the interviews followed a pre-planned structure, flexibility was maintained, allowing the order of questions to be adjusted and follow-up questions to be asked as needed.

This method provided the flexibility to adapt the interview process based on the participants' experiences and expertise, ensuring that the collected data reflected their unique insights, while also ensuring comparability across interviews. Given the goals of this study and the analytical methods employed, the interactive nature of the interviews has been advantageous to the research.

No automated transcription software or recording devices were used during the interviews to foster trust and ensure the respondents' privacy. Instead, handwritten notes were taken to maintain full control over the data. This approach safeguarded the confidentiality of the information and helped establish a more personal dialogue with the interviewees.

Participants were assigned a unique identifier to ensure anonymity. Interviewees were assigned codes such as RC#2 (Raseborg Community Representative 2), or HN#3 (Hanko NGO&Scientists' group representative 3) to ensure anonymity throughout the thesis. All citations in the Results (Section 5) refer to these codes.

The discussion part of the interviews was followed by presenting the respondents with statements for assessment using 5-point Likert Scale answers, which is widely used for numerically measuring public opinions, attitudes, and perceptions (Joshi et al., 2015). This thesis uses the Likert scale as part of the qualitative analysis to assess stakeholder views on municipal forest management, enabling subjective insights and comparative analysis of responses across different groups.

Ten statements for the Community and NGO&Scientists' groups, and three for the Municipal Authority group representatives were presented written on paper or sent electronically in case of online or e-mail interviews (Appendices 2 and 3).

The three statements for Municipal Authorities concentrate on evaluating community alignment, community awareness, and trust in authorities. The ten questions for the Community, NGO&Scientists' group concern forest management practices in terms of sustainability and conservation, community engagement and participation, and trust in municipal forest management.

The Likert scale survey contained only positively worded statements and did not represent the interviewer's views. According to research on survey design (Krosnick & Presser, 2010), using positively phrased statements can improve the reliability and validity of the survey results. They tend to reduce cognitive load and make it easier for respondents to understand the question, which helps avoid confusion and misinterpretation.

Respondents indicated their level of agreement or disagreement with the statements, where "1" means "strongly disagree", "2" – "partially disagree", "3" – "neither agree or disagree", "4" – "partially agree", and "5" – "fully agree".

The logic behind the 5-point Likert scale questions was explained before the interviewees started answering them. The interviewee could ask clarifying questions about the survey questionnaire and each question in particular. The participants were given space and enough time to reflect upon their answers. No given answers were discussed to avoid any influence on the respondents.

The duration of the in-person interviews varied from about an hour to two and a half hours. All interview results contain the necessary information blocks; in four cases, the respondents were contacted later for clarifications to ensure the information was complete and correct. No single group of interviewees can be attributed to a longer time of discussions, and only the personal values and interests of the respondents influenced the interview durations.

The responses are relevant to the time when the interviews were conducted.

4.4 The Data Analysis

In addition to the primary data collected through interviews and surveys, this research also includes an analysis of documentary evidence, such as available forest management plans, their parts or drafts, strategies, and other relevant municipal documents publicly available.

These documents were sourced through a thorough review of the city websites, records from Technical Board meetings, and by directly contacting municipal officials.

To obtain the regional context, media sources such as Yle Västnyland, Västra Nyland, and Hufvudstadsbladet were analyzed. This supplementary data provides context on official practices and policies, community's and NGO's initiatives, participation processes, and stakeholder relationships.

The primary method for analyzing qualitative data from interviews in this study was a six-phase thematic analysis approach (Braun & Clarke, 2006). This approach is effective for identifying, organizing, analyzing, and interpreting themes (patterns) within the data, allowing for understanding different stakeholder groups' perceptions. Additionally, it was supplemented with content analysis to quantify the occurrence of specific themes and concepts, enabling a more systematic comparison of responses across different groups.

The research employed ATLAS.ti ver. 24.2.0 (32096) (<https://atlasti.com>) as a supportive tool for qualitative data analysis, and with the aim of achieving higher objectivity and transparency. The software enabled the efficient and more objective coding of interview transcripts and facilitated the identification of key themes, inter alia, with the help of AI Coding and AI Summaries features. These AI tools assisted in the preliminary identification of key themes and referenced fragments across the interview data. The results were manually reviewed and verified to ensure accuracy and relevance to the research questions. The AI-generated codes were supplemented with own coding and thematic groupings to ensure a deeper, researcher-driven understanding of the interview content.

By assigning codes to recurring themes (e.g., forest management priorities, forest planning, ownership values, environmental concerns, recreational values, participation, trust), patterns were compared across municipalities. ATLAS.ti quantified specific words or phrases for content analysis, providing a more structured way to analyze frequency and significance.

As part of the quantitative analysis, the answers to questions under 5-point Likert scale were collected in an Excel table. When analyzing Likert scale data, statistical methods such as mean scores, mode, or median can be used.

According to Joshi et al. (2015), a Likert scale is treated as interval data when combining several items into a composite score, and the measure for the central tendency of an interval scale is the mean. Since this study presents a set of statements for each group, combining

them into an overall composite score for analysis allows for using the mean when summarizing the stakeholders' perceptions.

For each question, mean values were calculated separately for the three respondent groups: Municipal Authorities, NGO & Scientists, and the Community. The group averages for NGO & Scientists and the Community representatives were then combined to compute a mean value representing each municipality's overall perception of each subject in question. The mean value was calculated by summing the scores for each statement and dividing by the number of respondents, providing a general measure of stakeholder perceptions for comparison between the municipalities.

Averaging polar responses can result in neutral figures, which may obscure underlying variations in participants' views. To address this limitation, any instances where the mean reflects neutral values despite polarized responses are reported. In such cases, additional interpretation and the distribution of responses are provided to ensure a more nuanced understanding of the participants' perceptions.

Due to the small sample size and lack of statistical variance in the data collected from this study, statistical analysis was not conducted. With only three groups of respondents, each consisting of three interviewees, the results are not suitable for generalization. The limited number of participants means the findings provide insights into individual and group perceptions but are to be interpreted cautiously, as they may not fully represent the broader population's views.

4.5 Ethical Considerations

This research adhered to ethical principles to protect participants and maintain the integrity of the data collection process in the following way. All interviews were conducted anonymously, and respondents were informed that their names and identifying information would not be disclosed.

The anonymous approach was taken to encourage open and honest participation, as well as to protect the respondents from potential criticism or negative consequences that could arise from expressing views on sensitive topics related to municipal forest management. Anonymity also aims at safeguarding the respondents' professional or community standing in case their opinions might not align with the general consensus.

Informed consent was obtained from each participant prior to the interviews (Appendix 1). They were informed of the purpose of the research, their voluntary participation, the right to withdraw at any time, and how the data would be used.

Additionally, efforts were made to maintain the privacy and confidentiality of the data. To foster a more open and trust-based environment, no audio recordings were made during the interviews. Instead, handwritten notes were taken and securely stored to ensure data confidentiality.

The use of ATLAS.ti for data analysis further contributed to the ethical management of the research. ATLAS.ti uses best-practice security measures and complies with GDPR privacy regulations. In analyzing the data, bias was minimized by supplementing personal coding with the software's AI tools while maintaining final responsibility for verifying and refining the results.

Given that the research involved stakeholders with potentially opposing views, care was taken to represent all opinions fairly, without favoritism toward any particular group or perspective. These ethical steps helped maintain the validity and reliability of the research while safeguarding the interests and well-being of the participants.

One ethical challenge in this research was presenting opinions that could be subject to public criticism. Some views expressed by participants reflect concerns or direct statements about municipal forest management, which may be contentious or unpopular with other stakeholders. The researcher's duty is to report these findings honestly and accurately without distortion or bias.

However, it is also important to consider the potential consequences of how this information is presented to balance transparency with respect for the respondents' privacy. In the case of contentious viewpoints, the focus was on presenting a balanced perspective, ensuring that no group was disproportionately favored or criticized. This approach ensured that the data remained valuable and informative while mitigating potential negative consequences for the individuals and institutions involved.

4.6 Reflection on Research Bias and Mitigation Strategies

Bias is a potential challenge in any research since the researcher's background, values, and assumptions might influence the interpretation of data. Addressing and mitigating bias was an important part of maintaining the integrity and objectivity of this study.

The confirmation bias, where the researcher subconsciously seeks evidence that aligns with expectations, was minimized by designing open-ended interview questions and focusing on not pushing participants toward certain viewpoints. Supervisors were asked for feedback on the design of interview questions.

To prevent selection bias, purposive sampling was used, where participants were selected to equally represent different groups of the municipalities, i.e. Community, NGO & Scientists and Municipal Authority. The participants were not solely chosen on their active engagement in municipal forest issues. Care was taken to select a diverse group from various occupations, age groups, and political affiliations. This approach ensured that the selection included a wide range of perspectives, allowing for a more comprehensive representation of views.

Response bias can occur when participants provide answers, they think are more acceptable to be heard. The anonymity of their responses and the absence of judgment were undertaken to mitigate this risk.

ATLAS.ti software for systematic coding of the interviews was used with the goal of minimizing and avoiding interpretative bias that can arise in interpreting the data. Applying a combination of AI-assisted coding and manual coding enabled the comparison of findings and identified patterns without over-relying on the researcher's subjective interpretations. Additionally, the AI coding offered an initial framework, which was verified and supplemented to ensure that themes were accurately represented.

While bias is always a concern in qualitative research due to its more subjective nature, steps were taken to mitigate its impact through research design and careful data interpretation to achieve a more balanced and credible analysis.

5 Results and Interpretation of the Results

This section presents findings from the two-part interview process conducted in two Finnish municipalities, Hanko and Raseborg, with three key groups: municipal authorities, community representatives, and NGOs, while quantitative data on community satisfaction, trust, and perceived transparency was gathered through a 5-point Likert scale questionnaire.

The analysis is structured as follows. First, the analysis of quantitative responses from the Likert scale questions is provided as a baseline for the overall review of each municipality's municipal forest management perceptions. These responses are then compared across both

municipalities to highlight any similarities or contrasts in stakeholder satisfaction, trust, and perceptions of transparency.

The other part of the section presents the qualitative insights gathered from interviews, examining each municipality's unique context and the nuances in responses among the three stakeholder groups. The findings are then synthesized to identify common themes, specific challenges, and areas of improvement, allowing for a comprehensive comparison and a broader discussion of the municipal forest management environment.

5.1 Perceptions of Municipal Forest Management: Quantitative Findings

Interpreting the 5-point Likert scale, as it was described in Section 4 (Methods and Materials) implies that lower scores, values of 1 and 2, represent lower levels of agreement, satisfaction or endorsement. In contrast, higher scores, values of 4 and 5, indicate greater levels of agreement, satisfaction, or "positive responses." The interviewees' responses reflect their perceptions and sentiments as they were at the time of the interviews.

5.1.1 Quantitative Responses of Community and NGO&Scientists' Representatives

The combined results of the survey are presented in Table 3. Their graphical comparison is presented in Fig. 6-8. In the graphs, scores below 3 on the 5-point Likert scale are highlighted with red dots to indicate lower levels of satisfaction.

Table 3. Answers to 5-Likert scale questions posed to Community members, NGO representatives & Scientists in Raseborg and Hanko

Topic	Question	Group	Raseborg, mean value	Hanko, mean value
Forest management practices:			2.67	2.95
1. Sustainability & conservation:	"The municipality implements sustainable forestry management practices that conserve biodiversity."	NGO & Scientists	1.33	2.33
		Community representatives	3.67	4.00
		Average per municipality	2.50	3.17
2. Economic Management:	"The economic interests in forest management are well balanced with environmental conservation efforts."	NGO & Scientists	2.00	2.67
		Community representatives	2.67	3.33
		Average per municipality	2.33	3.00
3. Recreational Use:	"The municipality effectively manages forest areas for recreational use without compromising conservation values."	NGO & Scientists	2.00	3.00
		Community representatives	4.33	2.33
		Average per municipality	3.17	2.67

Topic	Question	Group	Raseborg, mean value	Hanko, mean value
Community engagement and participation:			1.33	2.72
4. Information & Communication:	“The municipality provides clear and accessible information on forestry management plans and activities.”	NGO & Scientists	1.00	1.67
		Community representatives	1.00	2.67
		Average per municipality	1.00	2.17
5. Involvement:	“Everyone concerned has sufficient opportunities to participate in decisions related to forest management.”	NGO & Scientists	1.33	1.67
		Community representatives	1.00	4.00
		Average per municipality	1.17	2.83
6. Feedback Implementation:	“Feedback from the community is taken into account in forestry management decisions.”	NGO & Scientists	1.67	2.67
		Community representatives	2.00	3.67
		Average per municipality	1.83	3.17
Trust in Municipal Forest Management:			2.17	3.08
7. Transparency:	“The municipality's forest management processes are transparent and trustworthy.”	NGO & Scientists	1.67	1.67
		Community representatives	2.00	3.33
		Average per municipality	1.83	2.50
8. Fairness:	“Forest management practices are fair and consider the needs of different community groups.”	NGO & Scientists	1.67	2.00
		Community representatives	2.67	4.00
		Average per municipality	2.17	3.00
9. Satisfaction with Outcomes:	“I am satisfied with the outcomes of the municipal forest management.”	NGO & Scientists	1.00	3.33
		Community representatives	3.00	4.33
		Average per municipality	2.00	3.83
10. Trust in Authorities:	“I trust that the municipal authorities act in the best interest of the community and environment in their forest management practices.”	NGO & Scientists	1.67	2.00
		Community representatives	3.67	4.00
		Average per municipality	2.67	3.00

The analysis of the 5-point Likert scale responses from both Raseborg and Hanko reveals in major dimensions a lack of satisfaction among the Community and NGO&Scientists’ groups regarding various aspects of municipal forest management. None of the combined average scores for any topic reached 4, and across many areas, average scores fell below the midpoint of 3, indicating that respondents in both municipalities perceived room for improvement in key areas such as trust, communication, involvement and transparency.

However, comparing the scores across municipalities shows distinct differences between the municipalities in terms of municipal forest management practices, community engagement, and trust in municipal forest management. Overall, Hanko has a higher proportion of satisfaction responses on all major topics of the survey. As a key pattern, Hanko exhibits higher satisfaction levels among both Community and NGO&Scientists' groups compared to Raseborg, indicating a generally more favorable perception of Hanko's approach to municipal forest management.

The largest gap between the cities' average scores was in matters of taking feedback from the community and satisfaction with the outcomes of the municipal forest management, both being in favor of Hanko. This suggests that Hanko's practices resonate more positively with residents, possibly due to a more community-centered approach.

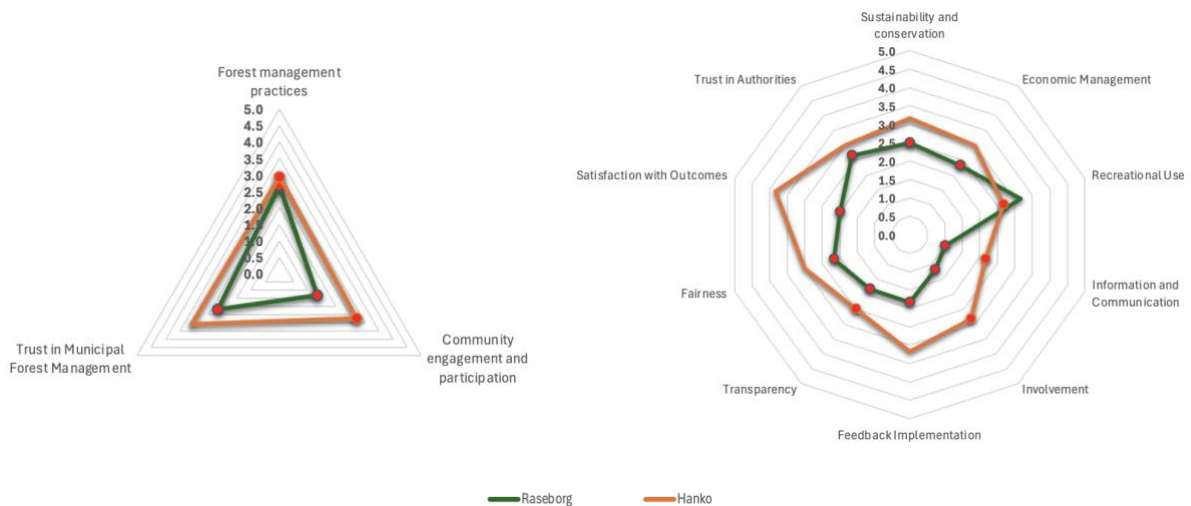


Fig. 6. The visualized mean values of combined Community representatives' and NGO & Scientists' answers to 5-point Likert scale questions per topic, compared between Raseborg and Hanko

Raseborg's satisfaction ratings are comparatively lower, with noticeable skepticism particularly from the NGO&Scientists' group. Key areas of concern include community engagement, the implementation of sustainable practices, and the municipality's responsiveness to environmental priorities. This trend suggests that Raseborg faces challenges in aligning its practices with stakeholder expectations, especially among those with specific ecological interests.

The highest average score in Raseborg was given to the recreational use management (3.17) with Community representatives scoring even higher (4.33), which outperformed the corresponding Hanko's response. That was the only parameter out of 10 that got an appraisal higher than mid-point 3. The highest average score in Hanko was given to the satisfaction

with the outcomes of the municipal forest management (average 3.83, with Community scoring at 4.33).

Before further analyzing the results, it is essential to refer to the cases of polarized answers. As noted in Section 4 (Methods and Materials), averaging polarized responses can lead to neutral figures, which may not accurately reflect the diversity of opinions. In Raseborg, responses within both groups typically showed minimal variance, with difference of 1 point. However, two exceptions were found within the Community responses regarding the perceived fairness and satisfaction with municipal forest practices. In each case, a single respondent rated these aspects lower than others, though different individuals provided these ratings. Thus, no systematic pattern of overlooking specific opinions could be identified.

In case of Hanko, in three questions out of ten, one NGO&Scientists' representative consistently scored lower, indicating a notably critical perspective on sustainability and conservation, balance of economic and ecological goals, and satisfaction with outcomes. While these lower scores represent an individual view, they do not necessarily reflect the majority sentiment within the group. Instead, they may point to specific areas of dissatisfaction unique to that respondent.

This outlier response is acknowledged in the analysis but is balanced against the broader trends observed across the group. Such instances underscore the diversity of opinions within stakeholder groups and highlight the need to consider both individual and collective perspectives in interpreting satisfaction and trust levels.

Additionally, in these cases, averaged polarized group responses in Hanko (2,1,4; 3,1,4; 4,2,4) still reflect a relatively higher satisfaction or endorsement level compared to the lower respective scores observed in Raseborg (2,1,1; 2,2,2; 1,1,1). Although averaging can dilute extreme values, it also provides a balanced view that captures the general trend of slightly higher approval or satisfaction in Hanko. This approach helps convey an overall tendency, despite individual variances, and allows for a meaningful comparison between municipalities.

Forest Management Practices: In terms of sustainability and ecological balance, Hanko scores more favorably overall, with both groups expressing higher satisfaction than in Raseborg. Community representatives in Hanko rated sustainability and conservation particularly high, at 4.00. This positive reception suggests that Hanko's forest management practices are viewed as more aligned with ecological principles or are at least perceived as more balanced by stakeholders.

Community Engagement and Responsiveness: Hanko scores higher satisfaction regarding opportunities for community involvement and responsiveness to feedback. Community representatives rated involvement opportunities at 4.00. This likely reflects a more communicative approach in Hanko’s public engagement efforts, fostering a sense of inclusion and trust among residents. Raseborg’s low scores may imply perceived limited community participation and responsiveness.

Trust in Authorities: Trust levels are generally higher in Hanko, where both groups rated satisfaction with outcomes higher than in Raseborg (3.83 vs. 2.00). This split could indicate the impact of either recent experiences or more effective communication in Hanko. In Raseborg, however, there is a significant trust gap, especially from the NGO&Scientists’ group, which suggests that authorities may need to address transparency or strengthen their efforts to engage ecological stakeholders effectively. Noticeably, trust in authorities’ actions and forest practices in the best interest of the community and environment, as scored by Community representatives, are quite close in both cities, 3.67 for Raseborg and 4.00 for Hanko.

In examining the largest contrasts between the Community and NGO&Scientists’ groups within each municipality, several areas emerge where these two groups hold divergent views, suggesting potential areas of contention or differing priorities (Fig. 7).

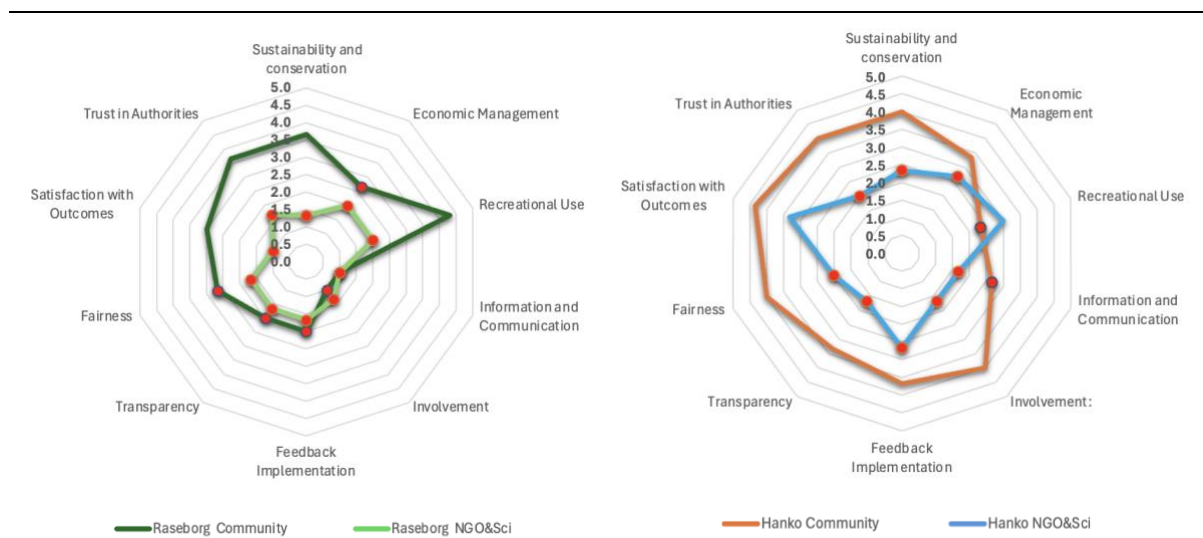


Fig. 7. The visualized mean values of Community representatives’ and NGO & Scientists’ answers to 5-point Likert scale questions per topic, in Raseborg and Hanko.

A major difference between Community and NGO&Scientists’ groups across both cities, is that NGO&Scientists’ groups tend to provide more critical assessments than the Community groups, especially in areas related to sustainability, trust in authorities, and the balance of

economic and ecological goals. Conversely, the Community groups often rate areas generally more positively, perhaps due to the absence of particular information on ecological aspects, differing priorities, or a short-term focus in assessing environmental priorities.

The biggest gap between NGO&Scientists and Community in Raseborg is the estimates of municipality efforts to conserve biodiversity, in recreational use management, and satisfaction with the outcomes of the municipal forestry management. This may suggest that while the Community feels reasonably engaged, NGOs and scientists see room for improvement, perhaps desiring more specialized roles in decision-making.

The main discrepancy between NGO&Scientists and Community in Hanko is the estimates of sufficient opportunities to participate in decisions, transparency and fairness of processes and consideration of the needs of different community groups.

In both municipalities, there is a similar gap in two points between NGO&Scientists and Community groups' perceptions of trust in authorities' actions, with the Community setting higher trust scores.

Fig. 8 presents a graphical comparison of perceptions within each group of respondents in Raseborg and Hanko, i.e., Community representatives' scores are compared between the cities, as well as NGO&Scientists' responses to each other.

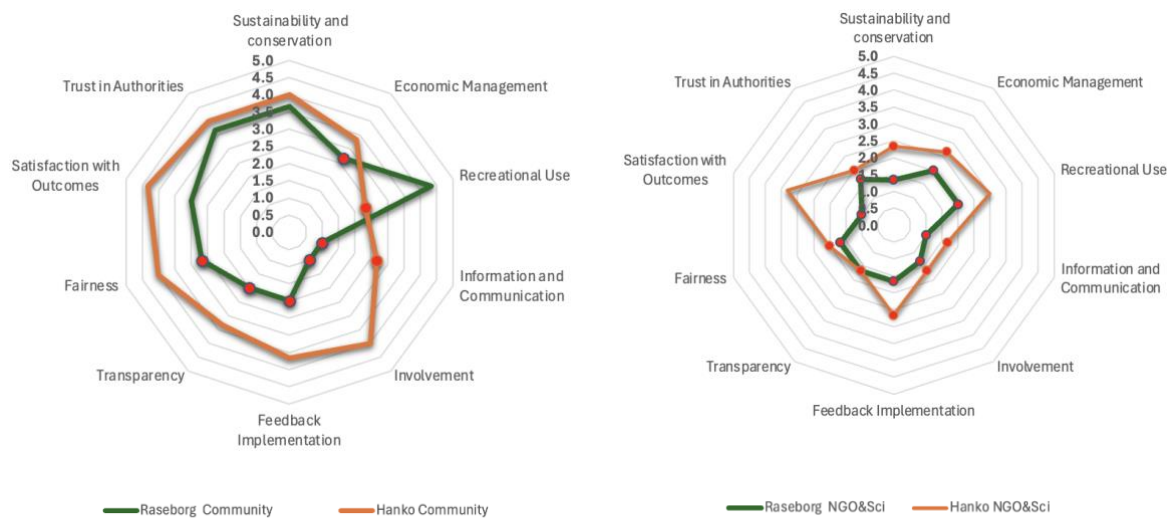


Fig. 8. The visualized mean values of answers to 5-point Likert scale questions per topic compared between Community representatives of Raseborg and Hanko, and between NGO&Scientists of Raseborg and Hanko.

The Hanko Community group expressed relatively higher satisfaction with municipal forest management and trust, with average scores consistently above 3.00, except for forest

recreational use management. Moderate satisfaction with feedback opportunities suggests authorities are open to community opinions, though responsiveness could improve.

In Hanko, higher inclusivity scores reflect a stronger sense of participation compared to Raseborg, where moderate scores highlight a need for greater transparency and involvement. Concerns about economic priorities outweighing environmental considerations were more prominent in Raseborg.

Both communities shared positive perceptions of sustainability and trust, with similar high scores (3.67 and 4.00), among the highest estimates in all 10 questions. However, in Raseborg, these scores contrast with generally lower satisfaction levels in other areas, suggesting they may stem from broader cultural expectations or assumptions rather than a detailed evaluation of municipal practices. In Hanko, the alignment between high sustainability scores and overall satisfaction appears more consistent.

The NGO&Scientists' group in Raseborg rated municipal forest management significantly lower than their counterparts in Hanko, except for transparency, where both scored low. Notably, satisfaction with municipal forest management outcomes showed the largest disparity, with Hanko's NGO group scoring 3.33 compared to Raseborg's 1.0.

5.1.2 Quantitative responses of Authorities' representatives

The authorities' responses in the 5-point Likert scale table is provided below in Table 4. Each of these blocks captures a crucial aspect of the relationship between authorities and the community, focusing on responsiveness to community needs, effective communication, and trust in the municipal authority's intentions and actions.

Table 4. Answers to 5-point Likert scale questions posed to Authorities' representatives in Raseborg and Hanko

Questions	Raseborg authorities' representatives	Hanko authorities' representatives
1. "The forestry management practices we implement effectively reflect and address the community's expectations and needs."	4, 2, 4	3, 4, 4
Average per city	3.33	3.67
2. "The current municipal forestry management practices are well-understood by the local community."	4, 2, 4	2, 4, 2
Average per city	3.33	2.67

Questions	Raseborg authorities' representatives	Hanko authorities' representatives
3. "The community trusts that the municipal authority acts in the best interest of the community and environment in their forest management practices."	4, 4, 4	2, 2, 4
Average per city	4.00	2.67

Authorities' Confidence in Practices: Both Raseborg and Hanko authorities demonstrate moderate to relatively high confidence in aligning forestry management with community needs, with Hanko slightly less positive. In Raseborg, a slightly lower score from one respondent indicates some hesitation, highlighting room for improvement.

Community Understanding: Raseborg authorities rate community understanding of forestry practices at a moderate level (3.33), while Hanko reports a lower average (2.67), suggesting a greater perceived gap in Hanko's community awareness and a potential need for improved communication.

Community Trust: Raseborg authorities express strong confidence in community trust (4.00), contrasting with Hanko's lower score (2.67), with some officials feeling uncertain about the community's trust in the municipal forestry management, reflecting varied perceptions and concerns about transparency and responsiveness.

Overall Patterns: Raseborg authorities report higher confidence in communication and trust compared to Hanko. However, these self-assessments contrast with stakeholder feedback: Hanko's community and NGOs report higher satisfaction, while Raseborg's stakeholders express dissatisfaction despite more confident authority evaluations.

Disparities in Alignment: Hanko authorities' moderate self-assessments may reflect a cautious, self-critical stance, recognizing gaps and opportunities for improvement despite positive community perceptions. In Raseborg, higher authority confidence contrasts with lower community satisfaction, suggesting a misalignment potentially rooted in communication challenges or differing priorities.

Internal Differences: In Raseborg, one authority respondent gave lower scores, signaling a more cautious view within the group. This divergence could represent an awareness of challenges and influence efforts toward improvement. Hanko, by contrast, shows more consistent authority perceptions, indicating a cohesive approach.

Conclusion: In Hanko, authorities' moderate self-assessment might reflect a cautious or self-critical stance, potentially acknowledging areas where community understanding and trust could be strengthened. Despite the community's relatively high satisfaction, this caution could signal an openness to improvement, showing that Hanko authorities are perhaps aware of some existing gaps or aiming to maintain realistic expectations about the community's perceptions.

Raseborg's more confident authority evaluations, contrasted with community dissatisfaction, might point to a need for deeper alignment with public expectations. Establishing stronger feedback loops between authorities and the public could improve trust and satisfaction in both municipalities.

5.1.3 Overall summary and implications

The analysis highlights differing perceptions of municipal forest management in Hanko and Raseborg. Hanko is generally viewed more positively by both community and NGO&Scientists' groups for its community-centered approach, fostering trust, and balancing environmental and economic goals. In contrast, Raseborg stakeholders express greater dissatisfaction, particularly regarding transparency, sustainability, and responsiveness to ecological concerns. Diverging priorities between community and NGO groups in both municipalities emphasize the importance of strengthened communication and clarified environmental commitments.

While Hanko enjoys higher satisfaction levels, challenges remain in maintaining stakeholder trust in both municipalities. In Raseborg, the gap between authorities' confidence and stakeholders' dissatisfaction indicates a need for enhanced dialogue and transparency. Discrepancies in alignment between the authorities' perceived performance and the community's expectations, particularly in areas like transparency, responsiveness to feedback, and inclusiveness in decision-making processes can be interpreted as indicators of evolving expectations in public engagement.

Hanko could further solidify its support by expanding targeted communication and transparency efforts, while Raseborg may benefit from addressing perceptual gaps through clearer environmental accountability, inclusive engagement, and responsiveness to feedback. Aligning municipal practices with evolving expectations for public engagement

could foster deeper trust and satisfaction, advancing sustainable and community-centered forestry practices.

5.2 Perceptions of Municipal Forest Management: Qualitative Findings

This part of the results section presents a qualitative analysis of the perceptions and opinions shared by representatives of the three groups—Municipal Authorities, Community, and NGO & Scientists—in Hanko and Raseborg municipalities. The analysis is conducted within each city to capture a comprehensive understanding of the local context. The content analysis is supplemented by citations. For a deeper understanding of respondents' perspectives, highlighted citations reflecting direct and bold formulations can be found in Appendix 4.

For each municipality, the perspectives of every group are analyzed separately, followed by an exploration of the key themes that emerge. These themes are then compared across the groups to identify areas of consensus, divergence, and underlying dynamics that shape municipal forest management perceptions and participatory practices within each municipality.

5.2.1 Raseborg: Stakeholder Perspectives on Municipal Forest Management

5.2.1.1 Community Representatives

The common themes:

1. Clear-Cutting and Balance:

Sustainability was a central concern among respondents, particularly regarding clear-cutting practices, which were criticized for their environmental, aesthetic, and recreational impacts. Respondents called for forestry practices that prioritize ecological and recreational values over economic gain.

Respondents highlighted insufficient information on biodiversity preservation and called for more sustainable management practices. *“Clear-cutting is bad for nature and for animals. I do not see if the price substantiates the damage to the nature and other consequences”* (RC#2). Another respondent emphasized the importance of accessible information on vulnerable areas: *“If there is a special biodiversity area, we need to know that, and that could mean that we are not supposed to move there”* (RC#3).

Clear-cutting was perceived as leaving “wounds in the forest” and disrupting recreational activities, with the call for more moderate thinning methods. One respondent commented,

“As a resident, I do not want to see clear-cutting in the zones where we move” (RC#3). While recognizing economic activities, respondents advocated for forestry practices that prioritize ecological and recreational values as a request for a more balanced and sustainable approach to municipal forestry. *“The balance should be searched for based on nature values. We also need to harm the environment as little as possible” (RC#3).*

2. Frustration Over Sudden, Unannounced Loggings:

Respondents expressed frustration over unexpected logging activities that suddenly destroyed the beautiful scenery on the way to a tourist destination or along the highway, in a close settlement area, or disrupted their long-term plans for events and training sessions. Several recreational areas became unsuitable due to leftover debris and poor cleanup. *“Everything happens very quickly and out of the blue, and residents always feel unprepared” (RC#1).*

The cutting sites stay for many years open, sometimes even if there were other announced plans. *“There were at least two cases of cutting in settlements in connection with future residential area expansion and new plots’ arrangement but in both cases nothing happened after the cutting, there are still no new plots or housing activities” (RC#2).*

These frustrations underscored the need for timely and transparent communication to allow communities to adapt and plan their activities.

3. Impact of Forestry on Community Activities:

Municipal forestry practices significantly impacted community activities, including recreation and training. The lack of timely communication and cleanup after logging activities was a common concern.

Respondents emphasized the importance of municipal forests for their activities, especially when a special permit is required. However, poor logging practices rendered many areas *“unsuitable for moving” (RC#2).* Events required frequent rescheduling due to sudden changes in forest conditions, whereas some events may involve up to 300 participants. *“If there is a cutting, we need to know that in order to replan the activities and update the maps” (RC#3).*

Forests were viewed as very important spaces for children’s education and recreation and called *“our and local children’s forests”*. Respondents advocated for improved infrastructure such as parking areas and huts to enhance children’s experiences in municipal forests.

4. Call for Improved Forestry Practices:

Respondents stressed the need for practices that minimize environmental harm and preserve biodiversity, including better cleanup after logging activities, both for the sake of people and animals. Positive examples, such as well-organized logging for a bicycle route, were contrasted with other practices criticized as “careless and sloppy” (RC#2).

One participant noted, *“The consequences of cutting, thinning, and timber removal from the forest often resemble careless work... Sometimes, one can get a feeling that it would not look like that if the forest were private. The works and their year-timing should be followed more closely”* (RC#3).

5. Call for Community Engagement:

Community engagement was a dominant theme. One participant expressed frustration over the lack of opportunities: *“When none is inviting, it is impossible to participate. We could participate in the planning as an association, and we would like to have the possibility to influence the planning”* (RC#2).

Respondents suggested that the municipality should create channels for residents to participate in decision-making processes. *“The residents’ participation should be activated”* (RC#3). Hanko was mentioned as one of the successful models from other regions where local residents have been involved in decision-making processes regarding municipal forests.

6. Barriers to Participation:

Respondents pointed to the lack of channels for community input and poor accessibility of municipal information. The current city website was described as “not user-friendly,” with calls for clear, bilingual information about municipal forests and planned activities (RC#2, RC#3).

7. Desire for Transparency in Decision-Making:

The City Council, City Board, City Director and personally forest engineer were identified by different respondents as the primary decision-makers or people directly responsible for the management of municipal forests. With all that, participants emphasized the need for clarity about who makes decisions and how they are implemented: *“I would actually like to know who is responsible”* (RC#3).

The respondents expressed optimism about the involvement of new younger individuals, including the recently appointed forest engineer and the new City Director, and shared hopes for fresh perspectives in municipal management.

8. Trust in Authorities:

While respondents expressed general trust in municipal authorities, significant concerns about transparency and communication were noted. *“You can’t cut a tree on your own plot because it can affect the scenery or the view, however, the City can cut freely without asking”* (RC#2). Another emphasized the importance of humility among forest professionals, suggesting that overconfidence could hinder collaboration. *“When a person feels bulletproof about oneself and their actions regarding nature and common ownership, there is something strange about that”* (RC#3).

9. Collective Ownership and Responsibility:

The respondents expressed the idea that municipal forests are collectively owned and should be managed with input from the community. They emphasized that while the municipality has the authority to make decisions, residents should have a voice in the management process. *“The municipal forest is for everybody... the residents should have the right to express their opinions”* (RC#3).

The interviews with Raseborg community representatives confirm the findings from the **Likert scale survey**, with nuanced insights. They align with the survey’s low scores for transparency and responsiveness, highlighting frustration over sudden loggings and poor municipal communication. Moderate trust reflected in the survey is supported by interviews, due to inconsistent communication and limited opportunities for involvement.

Both datasets reveal dissatisfaction with sustainability practices, with interviews emphasizing the negative impacts of clear-cutting on biodiversity, aesthetics, and recreation. The relatively higher survey score for recreational use corresponds to interviewees’ recognition of forests as vital for community events, training, and education.

Surveys indicate dissatisfaction with economic-ecological trade-offs, which interviews attribute to clear-cutting practices favoring economic interests over sustainability and recreation. The interviews clarify that frustrations arise from specific instances of

mismanagement, such as unannounced loggings, rather than outright rejection of municipal practices.

Interviews further detail the lack of engagement opportunities noted in the survey, revealing strong community interest in active participation, such as mapping projects and providing feedback on municipal plans.

5.2.1.2 NGO&Scientists' Representatives

The interviews with NGO&Scientists' and Community representatives reveal distinct differences in their perceptions, priorities, and critiques regarding municipal forest management.

Community representatives express more personal, emotional concerns, rooted in their direct experiences with municipal forest practices. NGO&Scientists focus on systemic issues such as biodiversity loss and sustainability, advocating for evidence-based reforms. They are more critical of authorities, citing exclusion from decision-making and the dominance of economic interests over ecological values. Their tone is analytical and reform-driven.

The recurring themes:

1. Ownership and Responsibility:

Respondents emphasized that municipal forests belong to all residents and should be managed inclusively. They express frustration that only residents in proximity to forests are consulted, while broader environmental considerations are ignored, and the broader community interests are excluded. *"There is no need to ask for opinions about every forest figure, but there is a need to ask for opinions about municipal forests as a whole and what is generally important for local people"* (RN#1).

Besides, the municipality, as a unique forest owner, should prioritize sustainability and adopt a broader perspective beyond economic concerns, balancing its forest management with the activities of private actors in the region and showing a good example to the private forest owners.

2. Lack of Transparency and Communication:

A significant theme was the lack of transparency in decision-making. Respondents expressed frustration with municipal authorities' limited communication and the absence of clear, accessible information about planning processes. This led to the necessity of hiring

independent inspectors to conduct forest inventories and identify sensitive forest areas to be included in the forest plan.

In order to access clear information about municipal plans, one must constantly review the meeting agendas and protocols to determine what the municipality is planning. This lack of openness undermines trust and limits stakeholder engagement.

3. Biodiversity and Environmental Concerns:

The respondents strongly opposed clear-cutting practices, citing their detrimental impact on biodiversity and long-term sustainability. Many advocated for alternative forestry methods, such as selective thinning, to preserve ecological health. *“Clear-cutting is not a robust practice that will help nature withstand current huge problems with biodiversity loss and climate change”* (RN#3).

The municipality was also called to align its practices with national and EU-level sustainability policies, prioritizing biodiversity preservation and ecological health in decision-making.

4. Economic vs. Recreational and Ecological Values:

Respondents criticized the prioritization of economic interests over recreational and ecological values, which have not been adequately assessed or incorporated. This imbalance raises critical questions about the true cost of current practices, such as whether the marginal economic gains from logging outweigh the potential indirect benefits from recreation and ecosystem services, which remain undervalued.

“Cubic production shall not run over the citizens’ well-being” (RN#1). Interviewees advocated for practices that prioritize nature’s needs, arguing that decisions should be grounded in scientific evidence.

They highlighted the need for long-term planning that considers biodiversity, climate change, and community well-being. *“The approach to municipal forest management should be more holistic, shifting focus from timber production to recreation and nature”* (RN#2).

5. Raseborg’s image:

Concerns were expressed about the City’s image being negatively affected when clear-cutting is conducted in highly visible areas and prominent locations, such as along highways or near residential areas. They noted that such practices create an impression of carelessness and a lack of long-term planning. They damage the City’s reputation and suggest that economic

priorities overshadow ecological and recreational considerations. This perception, they argued, could discourage residents and visitors from engaging with municipal forests for recreation or education.

6. Educational and Perception Gaps:

There is a call for increased education and awareness among both decision-makers and the community regarding the ecological importance of forests and sustainable management practices. Respondents suggest that educational initiatives could help bridge the gap between scientific knowledge and public understanding.

Some noted a disparity in understanding what constitutes a “good forest.” They suggested that educational initiatives are needed to raise awareness about biodiversity, ecosystem services, and sustainable forestry. One respondent remarked on the role of perceptions shaped by society since childhood. *“When we put nature as the refractive lens and make what is good for the nature, then we might get a “good forest” (RN#3).*

7. Participation and Engagement:

Respondents strongly advocated for participatory approaches and more inclusive decision-making processes. They emphasized that meaningful engagement with NGOs, scientists, and the broader community could lead to better outcomes and cited examples from other municipalities (Jyväskylä, Helsinki, Turku, Lohja, Hanko).

8. Challenges with Decision-Making Structures:

The Technical Board was identified as the most influential body in municipal forestry, but respondents raised concerns about its focus on economic goals, its lack of transparency and questions the factual basis of its decisions. They noted that decisions are often made in closed meetings without sufficient evidence or stakeholder input.

One of the respondents expressed doubt *that the decisions are based on scientific facts*, emphasizing that they often feel unable to influence them, even when providing scientifically-based arguments.

As another respondent noted, *“The decision-makers state that they make decisions in favor of the residents, and then they themselves choose, based on their bias, what is good for the residents” (RN#2).* This suggests a disconnect between the stated intentions of decision-makers and the actual outcomes of their decisions.

9. Influence of Personal Views and Generational Gap:

Respondents highlighted how personal biases and outdated perspectives among decision-makers affect forest management. *“The economic and environmental questions are considerably defined by personal views and attitudes”* (RN#2). They also stressed the importance of appointing individuals with modern, ecologically oriented views to key positions.

There was a perception that many decision-makers hold outdated views that do not align with environmental challenges. *“The old-fashioned views of decision-makers that reflect conservative values”* were mentioned as a barrier to building trust between municipalities and communities. This generational gap in perspectives is seen as a significant issue, with younger individuals advocating for more progressive environmental policies.

10. A Call for the Environmental Office:

Respondents see the Environmental Office as constrained by its position in the municipal hierarchy, emphasizing the need for greater independence. One noted that it should have *“a full possibility to oppose, argue, and raise questions”* without being influenced by departments like the Technical Sector, which holds significant authority.

The shared oversight by the Technical Director was highlighted as a potential source of compromise favoring economic priorities. Despite these challenges, respondents view the Environmental Office as a valuable ally and expressed optimism about its potential to strengthen its role in promoting biodiversity and balancing economic and ecological priorities.

11. Barriers to Trust:

The lack of transparency, outdated views, and insufficient engagement contribute to distrust between municipalities and stakeholders. Respondents emphasized that fostering trust requires clear communication, open planning processes, and equitable representation of all voices in decision-making.

12. Potential for Dialogue:

Some respondents noted positive developments in dialogue with new personnel, such as the forest engineer. *“There is a feeling that the dialogue between the parties is starting to evolve. It does not yet concern the forest practices. It is important that the person is now listening and open to discussion”* (RN#1).

13. Labeled as “a Green”

Some respondents shared that during discussions with municipal authorities, advocating for nature’s values in forestry often proved challenging. When opposing economic priorities or questioning the traditional forest management approach, they were quickly labeled as “Greens” or “tree-huggers.” This labeling hindered constructive dialogue, as it polarized the parties into opposing camps—the “green side” versus the “forest side.” Such divisions foster prejudice and bias, undermining effective communication.

To address this, respondents emphasized the need for the City to establish a structured, impartial platform for discussions, where all perspectives can be heard and respected without preconceived judgments.

14. Role of Local Media:

Respondents stressed the importance of media in raising awareness and facilitating discussions about forestry. They called for more proactive engagement from local outlets to highlight issues and promote informed dialogue.

The perspectives of NGOs and scientists on municipal forest management in Raseborg closely align with the **5-point Likert scale survey** results and offer nuances. The low satisfaction with sustainability practices observed in the survey resonates with their call for more sustainable forestry practices and a holistic approach that balances timber production with ecological and societal needs.

The survey’s findings of low satisfaction with transparency and responsiveness to feedback are substantiated by interview insights on a lack of transparency in planning and decision-making processes, coupled with frustration over inadequate communication. While the survey indicated lower trust in municipal authorities, the interviews revealed that this trust is conditional, weakened by perceived biases and insufficient openness in municipal operations.

5.2.1.3 Municipal Authorities’ Representatives

The interviews with Raseborg’s municipal authorities reflect a measured, professional tone. The authorities’ responses are more structured and formal, reflecting their roles as decision-makers and implementers of municipal forest policies. However, a distinct tension between

maintaining traditional practices and addressing emerging ecological and community-focused priorities is revealed.

While acknowledging the importance of sustainable practices and community engagement, the respondents frequently emphasized practical constraints such as limited resources, hierarchical structures, and the complexity of balancing economic, ecological, and recreational goals. Yet, the interviews also reveal significant divergence in perspectives among the authorities themselves, that further complicate municipal forest management.

The recurring themes for this group of respondents:

1. Ownership and Responsibility:

While two respondents mentioned that the municipal forest belongs to those who reside in the municipality, one respondent emphasized that these forests are *“owned by the municipality, which means they belong to the residents in terms of recreational use, while the municipality manages them for economic benefits.”* Municipal forests in Raseborg are described thus as dual-purpose assets, combining community recreational use with economic management by the municipality. The Technical Board holds primary responsibility for forest management, overseeing the approval of forest management plans.

2. Economic vs. Ecological Priorities and Balance Perception:

Economic considerations dominate forest management, with timber production frequently prioritized over recreational and ecological values. Respondents acknowledged the importance of economic benefits, but one emphasized the need for a broader perspective: *“The tradition to estimate the forest only in monetary parameters needs to be changed. Other criteria need to be taken into account when planning and measuring how the forest is managed (recreational, biological, etc.).”*

Another respondent highlighted the potential challenges of reduced economic income due to preservation efforts: *“If there is a decline in economic incomes from the forest due to the preservation increase, then it should be compensated by savings and cutting expenses somewhere else in the budget. The municipality should be viewed as a whole, and as a manager, you always need to reach a balance.”*

Opinions on the balance between economic, ecological, and recreational values varied. Some respondents argued that economic interests dominate, while others pointed to the existence of diverse forest types as evidence of a balanced approach: *“Having different types of forest,*

we offer an alternative for everybody. There are recreational, park, productive, and protected forests.”

However, one respondent expressed optimism about ongoing changes: *“There is a feeling that the wind is changing, though it’s changing slowly.”*

3. Community Engagement and Participation:

Some respondents noted the importance of including residents in forest management but cited practical challenges, partly due to limited municipal resources and a perception that including residents in the planning process could lead to chaos. There is a recognition that while some proposals from community organizations are acknowledged, they are often not actively discussed or considered.

One respondent admitted, *“In order to organize the meetings with people and to participate in them, you need time and other resources. And technical work usually takes the most of these resources; consequently, it is the communication that suffers”*. Another highlighted the necessity to include residents in the planning process not before the elections, but between them, however also marked the lack of people’s interest to participate.

There was also some notable resistance to deeper public involvement. One respondent also highlighted the need for professional expertise to guide decisions over public opinions, *“You cannot do anything in the municipality if you only listen to common people’s opinions. Because common people just ‘think,’ while the officials have their professional knowledge and skills. The City official should be able to defend their position, which belongs to this post.”*

4. Information and Transparency:

Respondents express a general agreement over the necessity to give access to information regarding forest management plans and decisions. However, two of the respondents assumed that the available information is enough and can be accessed through direct contact in case there is such interest. Informational overflow is considered inappropriate since all the necessary information can be found in plans.

One respondent highlighted a procedural view, stating, *“Matters connected to municipal forests are the same as any other municipal decisions, and the basis should be equal. You do not discuss the road maintenance or repairs with the residents. Everything is already regulated by the plans.”* This sentiment underscores a belief in the sufficiency of current

planning processes but also reflects a potential disconnect with public expectations for inclusivity and openness in forest-related decision-making.

5. Planning and Decision-Making:

The planning process focuses on a 10-year forest management plan. Additionally, annual budgets are created to manage short—and mid-term planning. There are no annual checkpoints for the forest plan or any other planned activities besides the annual budgeting. Budget plans are for every unit but not for some areas, such as conservation, recreation, or intersection activities.

The planning is conducted by the forest engineer in collaboration with invited experts, including the recent participation of environmental organizations.

One respondent acknowledged the need for better integrating environmental perspectives, noting that the Environmental Office's position could be strengthened: *"There is never a separate report or opinion. It is desirable to get both opinions of the Environmental Office and the sustainability coordinator when environmental matters are considered."*

Another respondent expressed satisfaction with the collaboration between the forest engineer and the Environmental Office: *"The line of forest management between them is the same."*

However, structural issues were also identified. One respondent described how board members may lack expertise or strong opinions due to procedural requirements for gender balance and seat allocation, which, combined with late-night meetings, can negatively impact decisions: *"This can influence the whole decision-making process."*

6. Sustainability and Conservation:

Over 30% of Raseborg's forested land is designated as protected, but sustainability goals are neither formalized nor clearly communicated. The lack of formal recognition and communication of these goals is seen as a gap. While there is a growing awareness of ecological and recreational values, timber-oriented goals with full-harvest practices remain dominant.

Some respondents expressed a preference for selective logging and continuous cover forestry, and criticized issues like clear-cutting near tourist areas, which harm aesthetic and ecological values. However other respondents can accept these approaches only as exceptions rather than norms.

7. Internal Conflicts and Decision-Making Dynamics:

Respondents described significant divisions within the Technical Board, with some members advocating for ecological and recreational priorities and others supporting traditional economic-focused practices. They also noted resistance to debating alternative approaches and heavy reliance on the forest engineer's perspective. Opinions differ on community engagement and forest management practices.

While some express trust in municipal authorities and the Technical Board to make informed decisions, others are skeptical about representation and the adequacy of public input, fearing decisions may not fully align with community interests.

Potential disagreements exist about the Technical Board's leading role and decision-making power. Some respondents advocate for greater City Council oversight, arguing that the current structure limits accountability. One respondent cautioned against politicizing forest management decisions by shifting them to the City Council and preferred the Technical Board continue ensuring its technical expertise over municipal forest management.

8. Shifts and Changes in Forest Management:

Respondents noted positive changes in leadership and management practices. The appointment of a new forest engineer and city director brought hope for a more open and discussion-oriented approach: *"Much depends on the personality"*. Additionally, there has been increased protection of forest areas, and the forest plan was opened for public comments before approval, reflecting a step toward greater inclusivity.

9. Sentiments on the Greens:

Respondents acknowledged the environmental values advocated by the Greens but criticized their confrontational approach: *"The Greens' aggressive stance often leads to their proposals not being supported or accepted."* Suggestions were made for the Greens to act as bridge-builders to foster dialogue and collaboration.

The 5-point Likert scale results for Raseborg authorities showed relatively high trust in municipal forestry management (4.0) and moderate confidence in meeting community needs and understanding forestry practices (3.33 each). While these scores suggest confidence, interviews revealed divergent opinions that complicate their interpretation.

The high trust score reflects confidence in the municipality's diverse forestry uses and technical expertise, however, concerns about sustainability and communication were also noted. Moderate scores for meeting community needs and understanding indicate mixed views. While some respondents suggested that forestry management is well-regulated and comparable to other municipal services, others noted a lack of transparency and engagement.

These findings highlight internal differences within Raseborg authorities on key issues such as transparency, participation, and balancing goals. This polarization reflects a broader tension between traditional economic priorities and emerging ecological considerations, as well as between democratic participation and bureaucratic efficiency. It contributes to a fragmented decision-making process and has significant implications for municipal forest management.

5.2.1.4 The Overall Dynamics of Municipal Forest Management in Raseborg – “A Challenging Balance”

Triangle of Stakeholder Perspectives:

1. Community Perspective

Concerns: Sudden logging and clear-cuttings disrupts recreational use and damages scenic and ecological value. Frustration with communication barriers and lack of participation mechanisms dominates their sentiments.

Target: Improved communication, sustainable forestry practices, and more accessible decision-making processes.

Tone: Emotional and experiential, focusing on immediate impacts of forest management on their daily lives.

2. NGOs & Scientists' Perspective

Concerns: Biodiversity loss, insufficient transparency, and the dominance of economic interests over ecological goals. Exclusion from decision-making processes and lack of evidence-based approaches.

Target: Prioritize biodiversity, adopt participatory approaches, and shift from timber-focused to holistic management practices.

Tone: Analytical, evidence-driven, advocating for systemic reforms.

3. **Authorities' Perspective**

Concerns: Balancing economic sustainability with increasing ecological and recreational demands. Practical challenges include resource limitations, hierarchical constraints, and internal disagreements.

Target: Maintain economic viability while incorporating ecological and community values into planning and decision-making processes.

Tone: Professional and pragmatic, reflecting institutional responsibilities and constraints.

Conflicting Points Between Themes of Community, NGO, and Authorities in Raseborg:

The analysis of themes across the three stakeholder groups reveals key points of conflict that highlight the challenges in balancing municipal forest management.

- **Ownership Perception**

Community and NGO Perspectives: Community members perceive municipal forests as “our forests”, expecting direct influence over decision-making. However, their sense of ownership is undermined by exclusion from key management discussions. Similarly, NGOs and scientists emphasize collective ownership, advocating for a balanced approach that integrates economic, ecological, and recreational values. They express frustration over the lack of recognition for their scientifically informed input, reinforcing perceptions of a perception of being excluded as legitimate stakeholders.

Authorities' Perspective: Authorities' position is a dual perspective on ownership. The municipal forests are generally perceived as property owned by the municipality and managed for public benefit with the municipality's role as a manager, and the forest management process as technical and regulated.

This divergence between this institutional perspective and the community's more participatory expectations lies in the ground for tensions over engagement, transparency, and trust in forest management.

- **Economic vs. Ecological and Recreational Priorities**

Community and NGO Perspectives: Both groups criticize the economic focus of forest management, particularly clear-cutting, which they see as prioritizing timber production over biodiversity and recreation. They call for practices that emphasize sustainability and ecological health.

Authorities' Perspective: Authorities defend timber production as essential for municipal income but acknowledge the need for a balanced approach. Economic goals often overshadow ecological and recreational values.

- **Transparency and Communication**

Community and NGO Perspectives: Both groups highlight inadequate communication and transparency in decision-making, leading to perceptions of exclusion.

Authorities' Perspective: Authorities argue that sufficient information is available and cite resource constraints as a barrier to improving communication. They worry about overwhelming residents with excessive details.

- **Trust in Authorities**

Community and NGO Perspectives: Trust is conditional, undermined by perceptions of bias and insufficient community involvement.

Authorities' Perspective: Authorities believe they generally maintain public trust.

- **Community Participation**

Community and NGO Perspectives: Both groups stress the lack of genuine participatory mechanisms and advocate for more inclusive decision-making.

Authorities' Perspective: Authorities value public input. At the same time, they use their technical expertise and cite potential inefficiencies and resource limitations as reasons for limiting participation.

- **Role of the Technical Board**

Community and NGO Perspectives: Both groups question the Technical Board's dominance and its focus on economic outcomes, expressing concerns about its accountability.

Authorities' Perspective: Authorities defend the Technical Board's role, arguing that expertise is essential to avoid politicization of forest management.

- **Conservation and Biodiversity**

Community and NGO Perspectives: Both groups emphasize the insufficient focus on biodiversity, urging stronger conservation efforts.

Authorities' Perspective: Authorities note that over 30% of forested land is protected but acknowledge that conservation goals are not always clearly communicated.

- **Perceptions of Clear-Cutting**

Community and NGO Perspectives: Clear-cutting is strongly opposed for its ecological, recreational, and aesthetic impacts. NGOs advocate for selective logging as an alternative.

Authorities' Perspective: Clear-cutting is seen as an economically necessary and standard forestry practice.

Conclusion: Conflicting Points as Barriers to Consensus

The conflicts between community, NGO, and authority perspectives highlight **fundamental tensions and perception gaps** in Raseborg's municipal forest management:

1. **Prioritization of Economic vs. Ecological Goals:** A lack of alignment in prioritizing timber production, biodiversity, and recreation creates an ongoing struggle to balance competing interests. The issue of clear-cutting serves as the clearest manifestation of these competing interests.
2. **Transparency and Participation:** Divergent views on the adequacy of communication and public involvement hinder trust and collaboration.
3. **Role of Expertise vs. Public Input:** Authorities emphasize professional expertise, while community members and NGOs advocate for broader participation and more inclusive decision-making.

Achieving a better balance between these priorities would require more inclusive decision-making, greater transparency, and a stronger commitment to sustainable forest management practices that integrate economic, ecological, and social goals equally.

5.2.2 Hanko: Stakeholder Perspectives on Municipal Forest Management

5.2.2.1 Community Representatives

In contrast to Raseborg, Hanko's community respondents conveyed fewer concerns about municipal forest management practices. Their interviews were shorter, calmer, and less contentious, suggesting a more positive or indifferent perception of forestry issues.

The recurring themes emerged from the discussions:

1. **Value of Municipal Forests:**

Municipal forests were seen in the interviews as integral to Hanko's ecological and social life, and a source of pride and identity for the community. Respondents highlighted the forests'

role in community well-being, describing them as *“the lungs of the city”* and important for relaxation, exercise, and access to natural resources like berries and mushrooms.

2. Ownership and Responsibility:

There is a consensus that municipal forests belong to the residents of Hanko, reflecting a sense of shared ownership. However, the respondents also expressed confusion about who holds ultimate responsibility for their management. While some mentioned the Technical Department, Environmental Board, and City Board, others emphasized that elected representatives should ultimately be accountable. From a resident’s point of view, *“there are clearer rules on what it requires to cut one tree and who is responsible for that than for many trees at the same time”* (HC#2).

The lack of clarity in the chain of responsibility left some feeling disconnected from the management process.

3. Awareness and Information Gaps:

The respondents note that Hanko municipality is small, and almost everyone knows each other. As one respondent puts it, *“Through my network of friends and acquaintances, I know what is happening and in what direction. For me, it is easy to contact an official in Hanko. I personally know many officials”* (HC#2).

While they appreciated their ability to directly approach city officials for information, some respondents still felt that municipal authorities did not sufficiently communicate their plans or strategies, leaving residents uninformed about ongoing or planned activities. Many respondents acknowledged a general lack of information about biodiversity preservation, forest management practices and long-term strategies.

4. Satisfaction with Management Practices:

Overall, respondents expressed a general satisfaction with current municipal forestry management practices. They acknowledged improvements in the management of small forests, fields, and parks in recent years, but also pointed out the need for better consideration of residents' suggestions. More efforts from the municipal authorities regarding sustainable forestry are noticed.

Concerns about forestry management focused on unclear procedures and staffing limitations. Some respondents were disappointed with the debris left on the cutting sites, which made recreational activities such as orienteering or gathering mushrooms or berries inaccessible.

At the same time, they recognize the municipality's commitment to more sustainable forestry, appreciating the limited logging activities and the absence of clear-cutting practices for economic needs. However, one respondent also noted that the City widely promotes this theme and its commitment, using it for its image.

5. Trust and Transparency:

A significant barrier to building trust between the municipality and the community is the lack of information and basic knowledge about forest management. Respondents highlighted the need for better communication from the municipality to foster trust and engagement.

At the same time, as one respondent notes, the Community feels its strength. *"I know that if I strongly do not like anything, there is a law. I can express my opinion, contest and appeal the decisions and actions of the municipality"* (HC#2). However, there is a general trust in authorities. Respondents recognize that some shortcomings may be attributed to a lack of resources. *"All instances are probably trying their best"* (HC#3).

6. Community Engagement:

The importance of community engagement in forestry management is recognized. The theme of participation itself revealed mixed responses. While some respondents felt they could influence the planning process, time constraints and the absence of structured engagement opportunities often hindered active involvement.

Official structured channels for engagement are missing. However, partially, the engagement is perceived through informal, friendly discussions with people representing officials, as the municipality is small. Some respondents mention using social media for discussions, although they express concerns about the quality of these discussions and the representation of diverse community voices.

Overall, there were noted significant challenges related to the quality of discourse, the absence of local media, and the need for better structured interaction with the municipal authorities.

7. Balance Between Conservation, Recreation, and Economy:

Respondents discuss the need for a balance between conservation, recreation, and economic activities in forest management. They recognize the challenges in achieving this balance and that a holistic approach is necessary, expressing trust in municipal authorities' commitments.

8. Role of Media and Communication:

The absence of a dedicated local media outlet was seen as a critical shortcoming in Hanko. While regional newspapers like *Västra Nyland* and *Etelä Uusimaa* occasionally cover forestry issues, respondents felt they lacked the focus and proximity required to address local concerns. Social media, while accessible, was criticized for fostering unproductive and emotionally charged debates, making it an unreliable platform for meaningful dialogue, leading many to avoid participating in these online debates.

Such dynamics discourage broader community participation and disproportionately represent the views of more vocal individuals. While proactive residents occasionally succeed in influencing planning, these efforts do not necessarily reflect the majority's voice, leading to further imbalances in representation. *“That is why I do not participate in these debates, even if I might have some opinions on the matter”* (HC#1).

The alignment between Hanko Community interviews and **5-point Likert scale** results is strong, reflecting the community's perspectives. The absence of clear-cutting for economic purposes aligns with high satisfaction with sustainability practices. Lower recreation scores may stem from high community expectations for maintaining recreational areas, which are seen as an integral part of Hanko's identity according to the interviews.

Moderate ratings for involvement and feedback reflect the community's perception of accessible authorities in a small municipality, as highlighted in the interviews. Transparency, satisfaction with outcomes, and trust received relatively strong scores, which can be attributed to the community's recognition of the municipality's commitment to sustainability and its declared promotion of sustainable forestry practices.

The small community size facilitates direct access to officials and fosters trust in their intentions, but gaps in communication and unstructured engagement processes undermine these advantages. Addressing these issues could enhance participatory forestry management and align municipal practices more closely with residents' expectations.

In summary, while there are positive perceptions of the authorities' efforts in managing municipal forests in Hanko, challenges remain in terms of clarity in management responsibilities, structured community engagement, and effective communication that needs to be addressed to improve community trust and engagement.

5.2.2.2 NGO&Scientists' Representatives

Since the latest forest plan developed in 2018 and finally agreed upon in 2021 with the ban on clear-cutting, the respondents notice the current absence of special discussions on municipal forests. Nevertheless, the themes identified in the interviews with NGO and Scientist respondents in Hanko show a strong alignment with the themes that emerged in Raseborg. Both groups emphasize biodiversity preservation, sustainable forestry practices, and the need for greater transparency and participatory planning processes. The critical tone and focus on systemic changes are consistent across the municipalities, highlighting a shared concern for the undervaluation of ecological priorities in municipal forest management.

However, some notable differences exist. In Hanko, respondents appeared more hopeful about recent changes in municipal forest practices and expressed optimism for the future direction of forest management. This optimism contrasts with the more skeptical tone in Raseborg, where respondents frequently highlighted entrenched economic priorities and resistance to change.

The tone in Hanko interviews was analytical yet cautiously optimistic, reflecting both the frustrations of past experiences and a forward-looking perspective on potential improvements. This contrasts with the sharper critique observed in Raseborg, where frustrations with historical management practices seemed more pronounced.

Based on the interviews with respondents from NGOs and scientists in Hanko, several recurring themes emerge regarding the management and value of municipal forests. Here are the most prominent themes discussed:

1. Value of Municipal Forests:

Besides the importance of municipal forests for recreation, biodiversity, and ecosystem services, their role in balancing the overall amounts of cutting in Hanko is crucial. Given that many of the current forests are even-aged and ready for harvest, the municipal forests can help manage and mitigate the impact of large-scale cuttings that could occur if all forests were harvested simultaneously.

“It is clear, that economics is important and clear-cutting has its’ place to be used. But in case of Hanko one can’t influence the private owners, therefore the state and municipalities should spare their forests” (HA#2). This balancing act is essential for maintaining ecological integrity while also addressing community needs for recreation and economic benefits.

2. Ownership and Responsibility:

There is a consensus that municipal forests belong to the residents of Hanko, but there is some feeling of dual ownership. *“I know the municipal forest should belong to the local people, but I feel that authorities manage the municipal forests like they belong to them”* (HN#2). There is also a perception of differing opinions among residents about how the forests should be managed.

“There is a part of the population who think that the forest should be cut for money, and another part would like to see more clear space in the forest with fewer trees. Unfortunately, they do not see the biological value of the municipal forests” (HN#1).

There are different views on what body is responsible for the municipal forest, from the Technical Board with its' strategical responsibility, to City Council, with the Technical Director, and forest specialist responsible for their part.

3. Knowledge Gaps and Barriers:

A recurring issue is the residents' limited understanding of forests' ecological value and the complexities of forest management, which hinders support for conservation efforts.

The cultivated perceptions of how a forest should look in Hanko reflect a mix of traditional views and evolving attitudes toward forest management. The respondents unanimously stress that residents usually hold traditional views that a “good” forest is easily navigable and has clear spaces. This perception often emphasizes aesthetics and recreational accessibility, suggesting forests should be open and well-maintained.

These simplistic perceptions do not consider the ecological health of the forest. They emphasize that a forest's value lies not in its appearance but in its biodiversity and ecological functions. This perspective advocates for a more natural, unmanaged look that allows for a richer ecological experience. *“Forests, especially unmanaged, let us study and experience nature. You need to be part of the forest, part of the real nature”* (HN#3).

A major barrier is the municipality's inadequate communication. While many documents about municipal forests are available on the City's website, respondents find it unclear whether the current forest plan and other strategic documents are up to date and function cohesively.

One respondent believed that valuable documents exist in paper form at municipal offices but doubted whether officials were even aware of them. This lack of clarity leaves residents

feeling uninformed about decisions affecting municipal forests, prompting them to monitor authorities' workflows and meetings independently.

The respondents also find that the municipal authorities either lack or do not use knowledge on biodiversity preservation which is currently not reflected in management practices.

4. Management Practices:

All respondents express satisfaction with the abandonment of clear-cutting practices, viewing it as a positive step towards more sustainable management. However, they also expect more active conservation efforts and better management of wetlands. There is also a call to better align municipal practices with national-level forestry policies.

Discussions also highlight concerns about the undervaluation of municipal forests in terms of biodiversity and ecosystem services. Respondents feel that the role of these forests in supporting local ecosystems and mitigating climate change is still not adequately recognized. They feel that current management practices do not adequately address ecological concerns, and there is a call for more initiatives focused on conservation.

5. Imbalance in Forest Management:

Respondents note a tension between economic interests and environmental conservation. They express concern that economic considerations often overshadow ecological needs in decision-making processes. *"Economic values are still better represented in power-related environments and conversations"* (HN#2).

Skepticism exists about whether ecological considerations are adequately integrated into municipal decisions. Respondents emphasize the need for a more holistic approach that considers the long-term ecological health of forests.

6. Community Engagement:

There is a significant emphasis on the need for improved community engagement in forestry management. Respondents suggest that the municipality should facilitate more discussions and provide clearer channels for residents to express their views and participate in planning.

"It is a total absence of information from the City's side. And the residents usually are not interested so much in matters that do not concern the proximity of their plots" (HN#1).

Municipal authorities strongly need to improve their communication. Respondents suggest that the municipality provide clearer information about forest management, engage

residents in discussions, and create formal channels for public input. This desire for better communication reflects a hope for a more participatory approach to forestry management.

7. Educational Initiatives:

Education about the ecological value of forests and sustainable practices is vital for fostering a community that supports conservation efforts. The respondents promote forest management that prioritizes biodiversity and ecological integrity over purely aesthetic or economic considerations. In this connection, they advocate for education and awareness among residents regarding the ecological value of forests. Knowledge of the complexities of forest ecosystems prevents misunderstandings about what constitutes a healthy forest.

The municipality is being called to provide clearer information about forest management and its implications for climate change.

8. Trust Issues and Transparency:

There is a general sense of distrust toward municipal authorities, particularly regarding their commitment to ecological values. The discussions emphasize the importance of transparency in municipal forestry management. Respondents believe that better communication from authorities, including the use of media, could help build trust and improve community relations.

Some respondents feel that entrenched approaches to forestry often drive decisions. This distrust is compounded by past experiences where decisions seemed to favor economic exploitation over environmental conservation. The historical management practices, particularly the reliance on clear-cutting, have left a legacy of distrust.

“Despite the changes since 2019, the overall management approach and relationship with the residents are still of the same style...Much of information flows has power-related aspects when information is given not for discussion but for statement purposes” (HN#2).

However, there is appreciation and trust in the new local forest specialist with whom it is easy to communicate.

9. Media as a Communication Channel:

Some respondents indicate that they find it easier to communicate their concerns through media channels rather than directly with municipal officials. This suggests a perception that media can be a more effective platform for raising issues and prompting action from

authorities. The media is seen as a tool for accountability, where public concerns can be amplified and addressed more swiftly than through official channels.

There is a general sentiment that authorities may not always be forthcoming with information, leading to a reliance on media to fill the gaps.

10. Hope for the Change and New Leadership:

Many respondents express hope for a shift in management practices with the introduction of new personnel in municipal positions. They believe that younger officials may bring a more environmentally conscious approach and be more open to community input.

“I expect a lot from the new people in the city management. They can influence questions such as attitude towards nature, participatory approach in discussions, red-listed species, the importance of old forests, and so on” (HN#2).

This hope for change indicates a willingness to engage with authorities if they demonstrate a commitment to ecological values.

There is also a call for the Environmental Office to work more actively. *“The biodiversity preservation activity should come from them. They should be more independent in their comments, decisions, and proposals. They should not act as if they want to avoid problems and work implied by that” (HN#3).*

11. The attitude toward the Greens:

The respondent group notices that there is much prejudice against the Greens, which complicates trust-building efforts. *“Somehow, people have come not to like and trust the Greens. The trust between the authorities, the population and the Greens needs to be constructed. It will maintain the whole balance!” (HN#1).*

The NGO&Scientists’ group in Hanko generally aligns with their **5-point Likert scale** results, showing higher satisfaction with forestry outcomes (3.33) but low scores for transparency (1.67), fairness (2.00), and trust (2.00). Their concerns reflect in many questions broader systemic issues rather than direct dissatisfaction with local governance, with distrust rooted in entrenched economic priorities. Simultaneously, there is expressed hope for improvement under new municipal leadership.

The absence of clear-cutting aligns with their emphasis on sustainable forestry, though low biodiversity scores (2.33) highlight their critical view of biodiversity preservation efforts. Their

advocacy for more active conservation and ecological initiatives corresponds to their dissatisfaction with sustainability practices and municipal alignment with national policies.

Modest scores for involvement and feedback opportunities reflect the group's call for structured engagement channels and improved municipal communication. These gaps underscore a desire for meaningful participation in decision-making processes, which is echoed in their critique of current engagement methods.

Overall, the NGO&Scientists group's Likert-scale responses and interviews converge on the need for more transparent, inclusive, and sustainability-focused forest management, while also indicating a cautious optimism tied to recent shifts in municipal forest practices. The divergence in satisfaction and process-oriented scores highlights systemic issues that extend beyond local practices, shaping their critical but hopeful outlook.

5.2.2.3 Municipal Authorities' Representatives

Many reflections shared by representatives of Hanko's municipal authorities on the past resonate with the current challenges observed in Raseborg, including sudden loggings, strong resident reactions, distrust, and the planning of forest incomes primarily to balance the municipal budget and cover technical expenses.

These practices, historically less sustainable, have contributed to past conflicts among the authority, the community, and NGOs. However, these references pertain more to past circumstances, with relatively little activity happening in municipal forests currently, at least until the new elections for the City Council in 2025.

While the authorities' opinions appear to reflect a general consensus, this is more of a surface-level agreement driven by public satisfaction, particularly with the ban on clear-cutting. On closer analysis, it becomes evident that there are divergences in their perceptions of the key challenges for achieving long-term sustainability. These differences reveal varying degrees of urgency and vision for addressing structural and policy gaps.

The most recurrent themes emerging from these interviews are as follows:

1. Ownership and Responsibility

Authorities unanimously highlight that municipal forests belong to the residents, with the municipality acting as a managing body. Multiple layers of responsibility were noted, from the City Council for strategic oversight approving 10-years plans to the Technical Board for more detailed decision-making and overseeing forest management. At the time of interviews

there is no forest engineer in Hanko, with a park foreman and a forest specialist working in the Municipal Engineering Section.

Some respondents acknowledge that higher management, while taking the decisions, traditionally relies on inputs from lower management and is heavily influenced by their technical recommendations. In situation when decision-makers might lack detailed knowledge of forest management, it can lead to decisions not fully supported by technical expertise. However, *“the Technical Board currently takes a neutral, silent position and does not formulate approaches to municipal forest management. They require a formal agenda to make decisions, but this is missing due to a lack of initiating force from the management level below”*.

2. Abandonment of Clear-Cutting

A significant theme is the shift away from clear-cutting, reflecting a more sustainable and community-aligned forestry approach. This change was driven by community influence and criticism of past practices. Authorities believe this has stabilized community trust and improved the perception of municipal forest management. In the opinion of the respondents, no clear-cutting means that the forest is totally suitable for recreation. *“After the ban on clearcutting, the whole situation has greatly stabilized. The people are not nervous anymore.”*

The interviews highlight Hanko authorities’ rationale for abandoning clear-cutting, often contrasting their practices with Raseborg, where it remains prevalent. This pattern underscores their awareness of public scrutiny. They cite unique local factors, such as the lack of old-growth forests and Hanko peninsula’s compact geography, which makes forests highly visible and residents more opposed to logging.

Their emphasis on the ban reflects efforts to bolster residents' trust and legitimacy and, at the same time, sensitivity to public opinion. By underscoring their progressive stance on clear-cutting, some representatives of Hanko’s authorities position the City as more environmentally conscious and responsive than neighboring municipalities.

3. Balance Between Economic, Recreational, and Ecological Goals

The respondents from Hanko’s authorities describe the balance in forest management as generally satisfactory but highlight areas for potential improvement. There is recognition of limited biodiversity due to the historical context (e.g., even-aged plantation forests) and the difficulty of integrating conservation and recreational priorities with economic forestry

activities. Socially, the situation is perceived as stable, and there is no negative feedback from the Community.

Respondents recognize the importance of biodiversity in municipal forests, emphasizing their role in recreation and ecological balance. There are Metsähallitus conservation projects in areas within the municipality, but it is unclear to the respondents how much municipal land these projects involve.

The absence of detailed goals or plans in the interviews indicates a gap in formalized strategies for biodiversity and sustainability. No biodiversity plan or sustainability plan is present. Some respondents stress that it is expected from the Environmental Board to create the corresponding initiative.

Recreation is described as a core value of Hanko's forests. Respondents note that forested areas are integral to residents' quality of life. They highlight the importance of preserving forest aesthetics and accessibility for these purposes. Economic considerations remain an underlying tension. The respondents admit that the ban on clear-cutting and the focus on recreation and conservation have reduced the forest's economic output. They describe this as a necessary compromise to prioritize ecological and social values.

"The recreational side and nature values side can coexist. However, economic activity in the forest is hard to combine with recreation and nature values."

Though the respondents acknowledge that the current balance between conservation, recreation, and economic activity has improved significantly, they also mention that maintaining this balance requires more proactive and strategic forestry planning, particularly to address gaps in biodiversity preservation and recreational management.

4. Planning Challenges and Need for a Strategy

The planning process is described by some respondents as fragmented, lacking a coherent forest strategy to guide actions. Amendments to the existing forest plan only cover part of the forest areas, with the Technical Board tasked to finalize plans for the rest. Monetary measurements alone are deemed insufficient by some respondents.

The current state of planning, shaped by the ban on clear-cutting and residents' influence, is described by one of the respondents as resembling *"a stalled mechanism"* where progress has come to a standstill with no clear initiative. Younger forests risk losing value without

timely management, but the prevailing approach is described as “doing as little as possible not to offend anyone.”

Previously reliant on logging contractors, the municipality now requires a future-focused strategy that integrates recreation, nature preservation, and sustainable forestry. This requires a strong and clear vision that integrates recreation, nature preservation, and sustainable forestry. For example, if cuttings are necessary, the responsible person should be able to define precise volumes and advocate effectively for their implementation with a strong hand.

A coherent forestry strategy is seen as essential for balancing economic, ecological, and recreational goals, managing areas near protected zones, green corridors or cultural landscapes, and aligning with successful models from other municipalities. However, as one respondent notes, without political will and clear direction from upper management, such a strategy is unlikely to materialize.

5. Role of a Forest Engineer Function

In the interviews with Hanko authorities, the role and influence of the forest engineer are highlighted as significant in shaping municipal forest management.

This function acts as a key link between municipal authorities and the public, building trust and transparency by explaining, preparing informed proposals and justifying decisions. Their expertise and position provide them with considerable influence over matters related to forest management, balancing economic, recreational, and ecological priorities, while their personal values and expertise influence practices such as cuttings and sustainability.

Hanko’s cautious approach to cuttings reflects the sensitivity of forestry issues, but the absence of a forest engineer has stalled progress, as one respondent explains. Without this expertise, the Technical Board lacks the professional input necessary for informed decisions in situations that a qualified forest engineer could both identify and substantiate. This function is critical in maintaining the health and functionality of Hanko’s municipal forests.

6. Trust, Transparency and Communication

The respondents are unanimous in their perception that there has been a positive change in attitude towards the authorities. *“Citizens’ trust in urban forestry is certainly on a much better base than before. Citizens feel their voices were heard.”*

While Authorities note that open communication is essential to maintain trust, yet past failures in this area have left a legacy of distrust. *“The City wants to build trust, but there was so much done before against the people’s understanding. So much needs to be done to rebuild the trust.”*

A recurring issue is the lack of accessible, cohesive information about municipal forest plans, though some respondents suggest limiting details on vulnerable areas to protect endangered species to preserve them from people *“who care more for their own interests but not for nature itself.”*

Interestingly, while the Community currently appears satisfied with municipal forest management, respondents acknowledge that this satisfaction may stem from a lack of information or low interest in what is actually happening in forestry practices. The absence of clear communication and detailed public engagement leaves residents uninformed about ongoing or planned activities.

This lack of awareness, coupled with the perception of satisfaction, highlights a gap that could be addressed through more transparent and participatory approaches, ensuring alignment between community expectations and municipal actions.

7. Community Engagement

Community participation has improved since the last forest plan revision, driven by public pressure and dissatisfaction. Authorities view residents as active and influential but acknowledge that past conflicts have left lingering trust issues that need rebuilding.

Authorities highlight that after reaching an agreement to abandon clear-cutting, the community has shown limited interest in ongoing forestry practices. Respondents note that while residents react strongly to visible changes, such as the removal of even a single tree, their satisfaction appears rooted primarily in the absence of clear-cutting. This indicates a reactive stance rather than proactive engagement with municipal forestry practices.

The respondents highlight a recurring sentiment among certain community members: resistance to visible changes in the environment. This attitude, as described by one of the respondents, underscores the challenge of balancing forestry practices with community expectations. *“People do not like changes in the environment. It is also a challenge when this environment needs to be changed.”*

To address this, the respondents emphasize the importance of having clear and well-established rules and priorities for municipal forest management. This clarity not only aids communication with the community but also ensures consistency and alignment across all levels of authority.

Some respondents recognize the necessity of community and NGO representatives' participation at early stages. When stakeholders are invited to comment on draft plans, their influence is limited because much of the planning is already finalized. One respondent pointed out that once a plan is approved, it becomes almost impossible to challenge the actions outlined within it. One of the respondents mentioned Metsähallitus as a good example of great work and stakeholder cooperation.

8. Hope for Change

Optimism exists regarding the potential for new municipal leadership to bring fresh approaches and improve forest management practices. This includes leveraging existing good relationships between technical specialists, NGOs, and the Community. The new City Director particularly was very positively mentioned by two respondents for her education and various skills, including communication. *"This all can help set new winds and methods."*

The alignment between the interviews and **5-point Likert scale** results highlights a nuanced situation. The interviews indicate that the authorities perceive their forest management practices as largely meeting community expectations, particularly due to the ban on clear-cutting, which stabilized public reactions. This aligns with the relatively high score of 3.67, reflecting general satisfaction among authorities with their responsiveness to community needs.

The interviews emphasize a cautious approach by authorities to maintain public trust, which remains fragile due to historical conflicts and a lack of clear communication. While trust appears to have improved since the ban on clear-cutting, the reliance on this singular policy indicates a fragile foundation. The score of 2.67 reflects this cautious optimism, where trust exists but remains vulnerable without further efforts to address transparency, proactive planning, and community involvement.

While authorities see their actions as broadly aligned with community expectations, the absence of clear and cohesive forest strategies, combined with limited public understanding,

suggests room for significant improvement in fostering trust and ensuring sustainable forest management.

The situation in Hanko's municipal authorities' perspective on forest management can be described as "fragmented consensus with latent divergence" and underscores the challenges of aligning short-term public appeasement with long-term strategic planning.

It highlights a broader issue: the interplay between professional forestry management and the political and social dynamics of decision-making in municipal contexts, where the fear of controversy can impede necessary progress. Defining long-term goals and making ultimate decisions in balancing competing interests could potentially expose unresolved conflicts or amplify debates about sustainability, clear-cutting, and recreational priorities.

A critical observation from the interviews with Hanko's municipal authorities is the systemic inertia stemming from the absence of a forest engineer function and a formalized forest strategy. While respondents acknowledge the importance of balanced forestry and community satisfaction, there is a notable reluctance to address foundational issues.

This status quo approach can leave Hanko's forestry management in a reactive mode, addressing urgent matters without a long-term vision. In the long run the municipality risks undermining its progress toward sustainable forest management.

5.2.2.4 Overall Dynamics of Municipal Forest Management in Hanko – "A Fragile Balance"

Triangle of Stakeholder Perspectives in Hanko

1. Community Perspective

Concerns: Residents highly value forests for recreation and community identity but express frustration over unclear rules, responsibilities, and limited communication about forest management. They emphasize the need for more structured discussion and participation.

Target: Sustain the ban on clear-cutting, enhance structure for communication, and establish clear rules for forest management while preserving recreational values.

Tone: Generally satisfied but cautious, reflecting trust in the current approach but a desire for transparency.

2. NGO & Scientists' Perspective

Concerns: The undervaluation of biodiversity and the absence of proactive conservation measures. Frustration with the lack of transparency and participatory opportunities persists.

The group highlights systemic issues like entrenched economic interests in broader decision-making processes.

Target: Establish a forest strategy prioritizing biodiversity, align municipal practices with national conservation policies, and improve engagement mechanisms.

Tone: Analytical and cautiously optimistic, advocating for structural reforms and expressing hope in new leadership.

3. Authorities' Perspective

Concerns: Balancing ecological, recreational, and economic priorities under public scrutiny. The lack of a forest engineer function and cohesive strategy impedes progress, leaving decision-making fragmented and reactive.

Target: Maintain public trust by upholding the clear-cutting ban while developing long-term strategies and addressing gaps in operational capacity.

Tone: Professional and cautious, reflecting unaddressed institutional constraints and foundational issues.

Conflicting Points Between Stakeholder Themes:

- **Economic vs. Ecological and Recreational Priorities**

Community and NGO: Both groups advocate for a stronger focus on sustainability and biodiversity. NGOs emphasize systemic reforms, while the community focuses on preserving recreational values.

Authorities: Authorities highlight challenges in balancing economic constraints with ecological and social goals, often relying on public satisfaction to guide actions.

- **Transparency and Communication**

Community and NGO: Both groups criticize the lack of accessible, cohesive information and opportunities for meaningful participation.

Authorities: Authorities acknowledge past shortcomings but cite resource limitations and public apathy as barriers to proactive communication.

- **Trust and Engagement**

Community and NGO: Trust is conditional, rooted in the abandonment of clear-cutting but undermined by perceived gaps in transparency and strategic planning.

Authorities: Authorities perceive trust as improved but fragile, emphasizing the need to rebuild relationships after past conflicts.

- **Planning and Strategic Gaps**

Community and NGO: Both groups highlight the absence of clear, long-term goals as a significant barrier to sustainable management.

Authorities: Authorities recognize this gap under the lack of a forest engineer function and institutional inertia as key constraints.

Conclusion: Underlying Tension Challenging Advance

The three most fundamental tensions in Hanko's municipal forest management, as highlighted by the interviews and analysis, are:

1. **Strategic Gaps and Reactive Management:** The absence of a comprehensive forest strategy and the lack of a forest engineer function can leave Hanko's forest management reactive rather than proactive. This creates a significant gap in addressing long-term sustainability goals, biodiversity preservation, and effective resource management.

2. **Transparency and Public Engagement:** While there is trust in the absence of clear-cutting, the lack of transparent communication and structured participatory mechanisms prevents meaningful engagement. The limited access to opportunities for early involvement in decision-making leaves Community and NGOs disconnected from the management process.

3. **Balancing Economic, Ecological, and Recreational Goals:** The ban on clear-cutting has stabilized public satisfaction, but concerns about the sustainable management of younger forests persist as authorities struggle to reconcile reduced economic outputs with ecological and recreational demands.

These tensions reflect systemic challenges in governance, planning, and stakeholder engagement, underscoring the need for cohesive strategies, professional expertise, and inclusive processes to advance proactive sustainable municipal forest management in Hanko.

5.3 Concluding Analysis of Stakeholders' Perceptions of Municipal Forest Management in Hanko and Raseborg

Overall, the differences between Hanko and Raseborg highlight the impact of community size, forest structure, socio-political and historical context on forest management practices. Hanko's smaller, more engaged community has led to significant changes in management

practices, while Raseborg benefits from a more diverse forest structure and a more established balance between various interests. These differences influence their approaches to municipal forest management and the dynamics of stakeholder engagement.

Hanko:

- Hanko's smaller and more visible forest areas intensify community engagement. Historical factors, such as wartime clear-cutting, have resulted in limited biodiversity and even-aged forests.
- The municipality has adopted continuous cover forestry, driven by public opposition to clear-cutting and successful collaboration with local NGOs. While this aligns with sustainability goals, Hanko lacks a cohesive long-term strategy to manage younger stands and biodiversity preservation.
- Decision-making is decentralized, with the Environmental Board operating with relative independence. This fosters flexibility but may hinder broader strategic planning.
- Participatory processes are proactive, characterized by community-driven changes to forest management. However, challenges remain in formalizing these processes and addressing systemic inertia in municipal governance.

Raseborg:

- Raseborg's larger and more diverse forest areas support a traditional forestry model with significant economic output. The municipality balances economic and ecological goals but continues to rely on clear-cutting for revenue generation.
- Clear-cutting remains a contentious issue, with visible effects near settlements, recreation forests and major roads causing dissatisfaction.
- Forest management is highly regulated, with documents and certifications guiding operations. Longstanding economic priorities dominate, though there is a gradual shift towards integrating ecological and recreational values.
- Decision-making is centralized, with the Technical Board exerting significant influence over planning. The integration of environmental authorities into the Technical Division limits their autonomy.
- Stakeholder dynamics reflect deeper conflicts between economic and ecological goals.

- Participation remains reactive, with stakeholders engaged primarily during public comment periods. NGO's initiatives, while acknowledged, are rarely integrated into final decisions, reflecting a need for stronger public involvement mechanisms.

In **Raseborg**, the situation is marked by systemic challenges in trust and participation. Survey results show dissatisfaction with transparency, fairness, and trust in municipal authorities, aligning with qualitative findings that highlight conflicts over economic priorities, lack of meaningful community involvement, and resistance to ecological approaches.

Clear-cutting remains a contentious issue, with community and NGO stakeholders perceiving it as a prioritization of economic gains over ecological and recreational values. The absence of strong participatory processes exacerbates these tensions, leaving stakeholders feeling excluded from decision-making.

In contrast, **Hanko** presents a relatively stable yet fragile balance. Survey scores indicate moderate satisfaction with transparency and trust, underpinned by the abandonment of clear-cutting and the municipality's responsiveness to community concerns. However, qualitative interviews reveal a reactive approach to forest management, hindered by the lack of strategic vision.

While stakeholders appreciate the visible alignment with community values, they also note the absence of proactive biodiversity preservation and long-term planning. The smaller geography and closer relationships in Hanko allow for direct communication, yet this does not fully compensate for gaps in formal processes. In their quantitative estimates, the Municipal Authorities, Community and NGO&Scientists' representatives are closer to each other. Their balance, though fragile, is detectable.

Overall, **the perception gaps** are more serious in Raseborg. The trust deficit, different perceptions of ownership and dissatisfaction with transparency undermine relationships between stakeholders and authorities, making conflicts more challenging to address. Public participation processes in Raseborg are less inclusive, leading to broader dissatisfaction among community members and NGOs.

Additionally, the ideological divide over clear-cutting and biodiversity protection highlights the ecological and economic tensions in the municipality. In contrast, Hanko's perception gaps center more on improving transparency and balancing competing priorities, with fewer systemic conflicts over procedural fairness or ecological values. These findings emphasize the

need for tailored strategies in each municipality to address their unique challenges and foster more inclusive and sustainable forest management practices.

Common Development Goals

Despite their differences, the interviews reveal shared aspirations in both municipalities for:

- More transparent and participatory decision-making processes.
- Balancing economic, ecological, and recreational priorities in forest management.
- Improved communication and alignment between management goals and community expectations.
- Strengthened institutional capacity to handle emerging sustainability challenges.

The experiences of Hanko and Raseborg highlight the importance of context-sensitive strategies that integrate community values, ecological sustainability, and economic needs. A balance between proactive participation and structured governance is essential to achieving long-term goals in municipal forest management.

Recurring Themes Across Municipalities

1. Strong Rejection of Clear-Cutting:

Both communities, along with NGOs and scientists, oppose clear-cutting, associating it with biodiversity loss, aesthetic degradation, and reduced recreational value.

Authorities in Hanko have responded with a complete ban, while Raseborg remains reliant on the practice for economic reasons.

2. Labeling of the Greens:

Advocacy for ecological values often polarizes discussions, with proponents labeled as “Greens” or “tree-huggers,” hindering constructive dialogue.

3. Hope for Change:

Stakeholders in both municipalities express optimism for new leadership and generational shifts to bring more sustainable and participatory approaches.

4. Influence of Key Positions:

The roles of the forest engineer, Chief of the Technical Board, and other key decision-makers are seen as pivotal. Their personal values significantly shape municipal forest policies.

5. Call for Environmental Offices to Act Boldly:

Both municipalities highlight the need for environmental authorities to take stronger, independent stances on biodiversity and conservation issues.

6. Role of Media as a Power Tool:

Stakeholders emphasize the importance of responsible local media to bridge information gaps, foster accountability, and promote informed discussions on forest management.

7. Educational Initiatives:

Education is needed for both communities and authorities to enhance understanding of biodiversity issues and participatory models. Such initiatives could address knowledge gaps and promote more informed and inclusive decision-making in municipal forest management.

6 Discussion

6.1 Connecting the Theory to the Study's findings

The analysis of stakeholders' perceptions of municipal forest management aligns closely with the Theoretical Frameworks of this study (Chapter 3), particularly regarding the sustainability pillars, public value theory, and participatory governance challenges.

Community and NGO&Scientists' respondents emphasized a need for a more nature-centered approach in balancing sustainability pillars. Their perceptions go in line with the concepts developed by Prins et al. (2023), Dasgupta (2021), Næss (1973), Barry (1999), Ostrom (2009) and Adams (2006) mentioned in the Theoretical Frameworks of this study.

Tuulikki & Laine (2022) emphasize that perceptions of ownership over forests are closely tied to individuals' sense of place, attachment, and psychological ownership. When people perceive forests as part of their personal or collective environment, they are more likely to seek influence over their management.

In Raseborg, this dynamic is evident in how community members and NGOs view municipal forests as "theirs," advocating for greater involvement in decision-making. Recognizing this psychological ownership and its implications could help foster more inclusive governance, ensuring that municipal forests are managed as shared spaces that reflect both ecological sustainability and community values.

The lack of stakeholder inclusion in planning processes exacerbates conflicts between groups, especially concerning clear-cutting and its impacts on biodiversity and recreation. These

conflicts are consistent with findings by Rantala (2020) and Pietarinen et al. (2023), which describe tensions between conservation and economic interests in Finnish forest management.

Valkeapää & Karppinen's study (2013) highlights that clear-cutting is among the most criticized by citizens forestry practices in Finnish forest policy, and it negatively impacts both procedural justice and the overall acceptance of forestry operations. This aligns with the interviews' results, where both Community and NGO&Scientists' representatives strongly opposed clear-cutting due to its perceived harm to biodiversity and aesthetics.

The study's practical information analysis elements, such as finding information on municipal forests and local regulations, were complicated. This, in turn, supported Pappila & Pölönen's (2012) previous findings on limited public access to environmental information.

The cases of Raseborg and Hanko align with several findings from Visuri's (2020) study, particularly regarding the gaps in accessible information, the prioritization of commercial forests, and the lack of comprehensive planning for biodiversity and recreational areas. Both municipalities demonstrate challenges in balancing economic, ecological, and social goals, with noticeable disparities in managing different forest types.

In Raseborg, commercial forest planning is relatively more developed, reflecting the prioritization of economic goals. However, the absence of dedicated planning for biodiversity and recreational forests confirms the trends highlighted in Visuri's study, where such areas receive less strategic attention. Similarly, in Hanko, while the abandonment of clear-cutting suggests a shift toward sustainability, there remains no cohesive strategy addressing biodiversity preservation or enhancing recreational use.

The broader challenge of integrating biodiversity and recreation goals into forest management remains unresolved, emphasizing the need for clearer guidance and more accessible planning frameworks.

The interview results in Raseborg indicate a more pronounced imbalance within the sustainability triangle, where economic objectives frequently overshadow ecological and social considerations. This supports the findings of Visuri (2020) and Anttila (2021), who documented similar challenges in Finnish municipalities. Authorities in Raseborg appear to follow traditional, economically driven approaches to forest planning along with the struggles to reconcile diverse stakeholder interests, similar to the cases described by Anttila (2021).

The situation of Raseborg municipal forest management confirms the challenges of managing strong individual viewpoints coupled with stated limited resources and time constraints. This imbalance is exacerbated by insufficient community engagement, as well as limited transparency and inclusivity in planning processes. This case aligns with conclusions made by Pappila & Pölönen (2012) and Tikkanen (2018) on the fact that the participatory process remains limited, and the communities' views tend to be underrepresented.

The phenomena of institutional resistance to public participation in municipal forest management observed in studies by Sipilä & Tyrväinen (2005) and Saarikoski et al. (2023) were also evident.

Such trends reflect a broader, systemic bias in municipal forest management in cases where the economic pillar is set as prevailing. While technically robust, these approaches struggle to fully integrate community and ecological perspectives. However, the situation is not unique; rather, it reflects a typical challenge in municipal planning, where resource constraints and entrenched practices limit the capacity for participatory approaches.

In Hanko, where the ban on clear-cutting shifts the emphasis away from economic priorities, such challenges in municipal forest management are no longer the focus. The study's results, showing greater satisfaction and higher trust in municipal forest management in Hanko, confirm Mustalahti's (2017) conclusions on the need for opportunities to reflect citizen values and the direct influence of participation on trust in authorities.

As in cases of successful participatory processes in Helsinki and Jyväskylä mentioned in the Theoretical Frameworks of this study (Chapter 3), political leadership, driven in Hanko by the Greens representative, was critical in participatory processes.

The authorities in both municipalities expressed the concern that the community was not interested in the participation or forest issues besides "the shouting Greens". Based on the possible reasons for citizens' inactivity in participation presented in the Forest Europe Report (FAO, 2002), the study identified all five barriers to public engagement in municipal forestry. Lack of information, doubt in influence, limited access, tactical behavior for choosing other ways to influence instead, and lack of interest to influence if costs outweigh the benefits were discovered in either both municipalities or at least one.

The study's interviews also align with Tuulikki & Laine's (2022) research, stating that in environmental issues, the history of participants' relationships and conflicts can influence

trust in a long perspective. This fact was also evident to Hanko's authorities' representatives, and it still influences the atmosphere of decision-making processes. The labeling of the NGO representatives was also the case in both municipalities, which hindered the dialogue.

The Theoretical Frameworks section (Chapter 3) emphasizes that participatory methods, when effectively implemented, have demonstrated success in addressing the challenges of municipal forest management. For instance, Helsinki and Jyväskylä provide examples of how inclusive forest planning, despite initial resistance, fostered greater public satisfaction and trust while achieving a better balance of economic, ecological, and social goals. These cases underline the practical success of engaging diverse stakeholders and incorporating their values and expertise into planning processes.

In Hanko, citizens and the local NGO could significantly influence the municipal forest planning process. Even if the plans still do not clearly state economic, recreational, and conservational goals, this practically reflects in higher trust and satisfaction among the local community with the results of the municipal forest processes.

6.2 Discussing the Outcomes of the Study

Given that the research on stakeholder perceptions of municipal forest management in Finland is relatively limited, the thesis, on the one hand, offers general insights for municipalities to strengthen relationships with communities. On the other hand, locally, the study offers a platform for stakeholders to share their perceptions for further cooperation.

6.2.1 Enhanced Understanding of Community Perspectives

In **Raseborg**, municipal forest practices are perceived to diverge significantly from community expectations and values. Community members and NGO&Scientists' representatives express dissatisfaction with the transparency, inclusiveness, and ecological sustainability of forest management. In **Hanko**, the alignment between municipal forest practices and community values is stronger. Higher trust levels in Hanko suggest a closer match between community expectations and municipal practices.

The comparative analysis underscores that perception gaps are more severe in Raseborg, where dissatisfaction with inclusivity and ecological considerations is pronounced. These findings emphasize the need for tailored strategies in each municipality to address specific gaps and enhance trust and collaboration.

Why do these results differ in neighboring municipalities?

1. Economic, historical, social, and geographical factors are evident influences.

Raseborg encompasses a larger and more diverse forest area with more economic potential for timber production and long-established traditions in forestry. Its larger and more dispersed population, with rural and urban communities, leads to varied and sometimes conflicting stakeholder interests.

Hanko, with its smaller forested area and coastal geography, historically prioritizes recreational and ecological uses over large-scale economic exploitation. The smaller community facilitates more visible and direct communication between residents and authorities. The responsibility for decisions becomes almost personal.

As it outgoes from the economic analysis, Raseborg's situation makes every economic income impactful. As one of the authorities' representatives noticed, in order to cut this income, there should be another source of income to patch up. In this regard, the abandonment of clear-cutting was economically a more achievable step for Hanko.

It was impossible to estimate the profits of Raseborg municipal commercial forestry due to the absence of information. However, traditional municipal forestry may be characterized by high but unquestioned costs, engaging a large chain of employed people and entrepreneurs at all stages. Eventually, despite the revenues, it may not eventually lead to so much profit for a municipality (one of the examples illustrating this calculation is given in Yle Västnyland's article, Santonen, 2021). This fact questions the forestry profitability for the municipality and opens a discussion of alternative approaches to the forest use.

2. Municipal management structure makes impact.

Based on the interviews, the procedures of forming the boards do not guarantee that politicians with knowledge, skills, and interest in forestry take place in the Technical Board. The specter of activity under this Board is vast. It is clear that the Technical Board members can't have expertise in all these matters.

Technically, the decision-makers' representatives admit that the decisions are prepared and implemented by the key persons in the Technical Division, and there is high trust in their opinions. However, it is important to note that the divisions and departments are managed by people whom the citizens do not elect. Thus, they are responsible for the decisions that,

in practice, should be made by elected decision-makers, which, in turn, should influence their elections.

In Raseborg, when the City Council does not make strategic decisions in forestry, such as approving the 10-year forest plan, it reflects the overpowered decision-making structure at a lower level, which can establish its own participatory culture.

The phenomenon of dual forest ownership perception in Raseborg is adjacent to this question. The following is an example of this phenomenon.

At its meeting, the Technical Board states that the “City, as forest owner”, makes decisions on economic results. This decision is formulated solely by the Technical Board without public discussion. This document serves as a further ground for municipal forest management and is used as a basic argument in discussions with residents about planned measures like clear-cutting around their houses near recreational routes or tourist destinations.

In this case, the concept of ownership needs further research and public consensus because, according to the interviews, it is one of the biggest perception gaps between the authorities and the community. This type of perception gap clearly illustrates the reason for low scores in information and communication, involvement, feedback implementation, transparency, and is connected to the decision-making structure.

6.2.2 Challenges in Balancing Sustainability Pillars

Balancing the economic, ecological, and recreational goals in municipal forestry is challenging. Economic values remain dominant in power-related environments and decision-making processes. While clear-cutting is defended as a legitimate forestry method, it often becomes a source of conflict. Community representatives called it “wounds” on the landscape, reflecting a deep psychological and physical connection to the environment. The dominance of economic priorities exacerbates tensions and leaves ecological and recreational values underrepresented.

Recreation is a cross-cutting pillar that to a certain extent can coexist with both economic forestry and nature conservation. However, even recreational goals often suffer due to the dominance of economic forestry practices. Clear-cutting, while economically efficient, diminishes the recreational and aesthetic value of forests.

NGO&Scientists’ representatives unanimously argued in the interviews that biological values are grossly underestimated in Hanko and Raseborg municipal forestry. The imbalance is

particularly evident in conservation efforts, which are often delegated to state actors rather than municipalities. Some areas in municipal forest require protection but stay neglected due to limited municipal initiatives.

The absence of alignment between municipal and national policies further complicates the issue. While the Finnish government has made progress in emphasizing old forest conservation at the national level, similar initiatives are absent at the municipal level.

Moreover, according to the respondents of environmental stakeholders' group, there is a lack of special expertise among forestry professionals, which makes it difficult to integrate conservation strategies into already existing forestry practices effectively. Certification systems, such as FSC, provide some ecological safeguards but are insufficient on their own to achieve sustainability at the municipal level.

The polarization between economic and ecological values is a recurring issue in balancing sustainability pillars. As one NGO&Scientists' representative pointed out, authorities often claim to base decisions on expert views, but the choice of experts defines the outcomes. Experts representing economic values, often aligned with the Ministry of Agriculture and Forestry, advocate for traditional, profit-oriented forest management practices. Experts associated with ecological values, reflecting the Ministry of the Environment's priorities, emphasize conservation and biodiversity. The selection of experts often reflects the preexisting biases of decision-makers, leading to decisions that favor either nature or economy, rather than seeking a balanced approach.

In their interviews, both Community representatives and environmental stakeholders advocated for a nature-based approach to municipal forestry, setting it as the main priority in balancing the three goals.

How to move towards sustainability?

The example from Hanko demonstrates that although many questions in municipal forestry remain unsolved, moving away from clear-cutting alone fosters greater community satisfaction and improves relationships with NGOs.

However, it was clear from the interviews that no stakeholder opposed forest harvesting as a practice. Obviously, the method and scale of operations must align with sustainability goals to mitigate conflicts and foster trust.

Ultimately, municipalities must adopt strategies that consider longer-term scenarios favorable to ecological and social values, ensuring that forests serve as multifunctional spaces that meet the needs of all stakeholders. Longer rotation periods, a higher share of set-asides, and continuous cover forestry, as supported by research, have the potential to benefit not only ecological and social values but also long-term economic outcomes by enhancing forest resilience and public acceptance (Eggers et al., 2019).

Whereas it was stated by one of the Authorities' representatives that "*the continuous forestry is just an exception in some places where natural conditions do not prevent it,*" the opposite might be argued, i.e., clear-cutting can be just an exception in some places where ecological and recreational goals do not prevent it.

As one of the NGO&Scientists' interviewees stated, "*Timber production is not supposed to be the city's main objective of municipal forest management. If this is the case, then the forest does not completely belong to the residents. If municipal forests are managed in terms of all three goals, i.e., economic, recreational, and natural values, then they may be truly considered residents' forests.*"

True sustainability in municipal forestry requires, as the basic step, formalizing not only economic but also social and ecological goals. Then they can be balanced in a dynamic and adaptive way. Every municipality faces a unique trade-off situation; however, it has the necessary authority, responsibility, and resources to create a balance of interests in the spirit of good governance and public value theory.

6.2.3 Role of Key Actors and Institutions

In the course of the interviews many respondents were reflexing who personally or what municipal body is to be held responsible for the municipal forestry. Most of them agreed that every level of decision has its own responsibility, i.e., a municipal Forest Engineer at their level, an Environmental Inspector, the Technical Board, the Environmental Board, the City Council or the City Director.

However, there was also an agreement that the body with the most power should bear the ultimate responsibility. In three interviews, the Technical Board was named as the most powerful in terms of municipal forestry in Raseborg.

The positions of Forest Engineer and the Technical Director are very powerful in all these structures. They are in the public eye and at the height of the debate, and theoretically, they

can serve in these positions for many years and even decades. Despite the traditional approach of municipal forest management, they are obviously those positions from which the community expects changes.

Decisions in municipal forest planning are shaped not only by planners' professional skills and experience but also by their personal values. As one respondent reflected, *“The bias of the natural resources’ planner is a very important factor affecting the outcomes. The planner has the power to define the process and the directions of the plan and to plan key figures, especially when the process is not fully regulated.”*

This observation underscores a critical challenge in Finland’s municipal forest planning: environmental questions are often influenced by personal views and attitudes, particularly in cases where the administrative system lacks full transparency. And therefore, if new people come to these administrative positions, the stakeholders feel the changes.

The interviews highlight that education, both general and specialized, plays a significant role in shaping these perspectives. One respondent noted that purely technical education can give only a specific insight into the problem. Therefore, it is a combination of factors that can define a person’s point of view on environmental issues, e.g., spheres of education, personality, and preferences.

Personal beliefs and a subjective confidence in their correctness can significantly influence the entire planning process for a municipality, demonstrating the profound impact of individual perspectives on collective environmental outcomes.

As for the elected politicians, their perspectives can influence only in proportion to the selected number of party members being present in the boards. Elected officials hold a unique role in shaping municipal policy, and their assessments translate into specific priorities or adjustments within the municipal forest management approach, steering the policy to address areas needing improvement.

The opinion of an elected official can directly but only proportionally impact forest policy decisions and efforts toward change. However, if this question is not directly discussed during the election period, it is not clear if the local citizens are aware of the consequences of their choice for the future four-year period regarding forest policy, unless they directly vote for the Green party representative.

However, some of the Authorities' representatives believed that they, in four years, represent the citizens who elected them based on their views, which should be enough to take the decisions on their behalf.

In terms of shared common municipal good, Horner's perspective for public institutions is to regularly consult with the community and other stakeholders and act as a facilitator of discussions (Horner et al., 2006). In other words, municipal forestry is an area of deliberative rather than representative democracy enabling participation in this particular question.

As one of the NGO representatives noticed, the abandonment of clear-cutting and grounds for discussions around the forest plan in Hanko were achieved mainly due to a professional platform for communication. Such forums and places for structured discussions are requested by Community and NGO&Scientists' representatives from both municipalities. The absence of an organized platform is one of the reasons why citizens prefer not to participate in spontaneous discussions or social media channels.

6.2.4 Divergence between Community and NGO&Scientists' representatives

The discrepancies between the Municipal Authorities' vs. Community and NGO&Scientists' positions were evident since Community and NGO&Scientists were similarly critical in most areas. However, as it was noted in the quantitative part of the analysis, environmental stakeholders were more negative and dissatisfied in their assessments of municipal forest management, especially in areas related to sustainability, trust in authorities, and the balance of economic and ecological goals.

The differences between Community and NGO assessments reveal fundamental gaps in expectations and perspectives. It is an interesting subject for reflection, considering that the Greens are stamped as "shouting" or overly critical. However, they are an important part of the sustainability triangle and serve as a bridge-maker between the other two sides.

The interviews revealed no evidence to support stereotypes on the Greens. All NGO&Scientists' representatives in both cities were very professional and calm, with wide and evidence-based perspectives, ready to share their knowledge. Several factors may explain why the NGO and scientist group consistently rated municipal forest management practices lower than others.

Environmental stakeholders prioritize sustainability, biodiversity, and evidence-based practices, holding municipalities to high standards of environmental accountability. When

municipal strategies appear insufficiently ambitious or too focused on commercial priorities, NGOs and scientists express dissatisfaction. This is particularly evident in Raseborg, where their assessments are significantly lower than in Hanko, reflecting frustration with perceived prioritization of economic goals over ecological concerns.

NGOs and scientists are often well-informed about national and EU-level sustainability directives. Lower ratings suggest that municipal plans or their execution are inadequate to these standards. If NGO and scientists perceive that their expertise or feedback is sidelined in favor of economic considerations, and their influence in decision-making is limited, it may lead to dissatisfaction, especially in topics such as nature conservation. Trust in authorities can also be undermined by prior negative experiences where NGOs or scientists felt excluded from key discussions.

In contrast, community members in both municipalities tend to base their evaluations on visible indicators, such as well-maintained forests and green spaces, aligning with their recreational and aesthetic priorities. These perceptions could be also influenced by institutional trust and Finnish forest policy stability, rather than specific knowledge of management practices. Public narratives and media may further shape these views.

This “perceived trust” highlights a potential gap in awareness, where community opinions may be shaped more by general beliefs or assumptions than by specific knowledge of environmental management.

To bridge these gaps, municipalities must enhance dialogue with NGOs, integrate their expertise into decision-making processes, and align policies more closely with sustainability goals. Strengthening transparency, demonstrating commitment to environmental values, and fostering mutual trust are essential steps. Additionally, improving community awareness and education about municipal forest practices can ensure that public trust is grounded in well-informed engagement, further aligning transparency and public support with sustainable outcomes.

6.3 Media Perspectives on Municipal Forestry

As Takala et al. (2019) observe that though the mass media form our window to forest policy, they are currently regarded as influential policy actors rather than just mirrors of reality. The mass media plays a significant role in the public discourse on forest policy, functioning as an arena where competing discourses operate.

Media influences both awareness and engagement levels in forest-related questions and might play a significant role in how the community perceives municipal forest management. The local media, in particular, may have an influence on public trust and satisfaction.

In many interviews with representatives of all groups, the media was mentioned as a place for necessary discussions of subjects important to the community and municipality. Several respondents called for media responsibility to arouse and support such questions for the public. Two Hanko respondents regretted the absence of their own local newspaper.

In 2021-2022, the debate over clear-cutting prohibition and the new forest plan preparation in Raseborg sparked discussion in both local and national media. Articles and Letters to the Editor appeared in Yle Västnyland and Hufvudstadsbladet, one of Finland's oldest Swedish-language newspapers. In 2022, Yle faced accusations of attempting to influence city decision-makers through its forestry coverage in Raseborg (Jansson, 2022a, 2022b). Journalists responded by emphasizing their role in providing audiences with a comprehensive understanding of debates, decisions, and their implications (Rosström & Santonen, 2022).

In this regard, for the purpose of this study, a Finnish reporter with 20 years of news-making experience in Finland covering various subjects, including local politics, community events, and environmental issues, was interviewed to comment the role of media and ongoing municipal forestry processes. The reporter did not participate in answering the research's main interview questions, as the person did not represent any municipality.

The reporter noted **ongoing changes** in municipal forestry approaches in all municipalities and even in church forest management. The tempo of these changes differs from one city to another, but the change process is undeniable. Previously, key position holders could produce influence on a wide range of attitudes and practices in municipal forestry, even outside their own cities. Now, new people are coming to the officials' positions; they are younger, and a change in generations at the helm may be perceived.

The reporter also expressed the view that the discussion on forestry discourse is influenced by the forest industry and their lobby, setting professional frames for discussion in public, using incomprehensible notions, and basing on long-ago established principles (homogenized influence of forest industry on forestry discourse is supported by Pietarinen et al., 2023).

At the same time, the interviewed reporter also sought to dispel the myth of the rampant behavior of NGO representatives. Based on interviews with them, professional, long-

experienced activists can be characterized as self-possessed and tolerant. However, the lobby on both sides is very strong, and their comments are quite characteristic.

The situation in the municipal forestry can be characterized as somewhat **polarized**, in the reporter's opinion. Eventually, there is a confrontation between a "less liberal camp" and a new younger generation with greener views. In some municipalities, the conservative side may prevail due to a combination of various factors, such as the amount of forests, the number of local forests-, landowners and farmers, the ratio between urban and rural inhabitants, and even some political party preference, representing local residents' views and cultural identities.

The municipal forestry discussion can be named as **an identity question**. Conflict-sensitive issues fuel polarized public discussions across Europe. This trend is visible in Finland as well, for example, in questions of immigration, dietary guidelines, or wolf hunting, where discussion can even result in hate speech.

Under municipal forestry discussion, the following identity strides can be noted: man – woman, urban dweller – rural resident, Finnish-speaking – Swedish-speaking, old – young, newcomer – historically native inhabitant, let alone political divergences. It is hard to reconcile these potential conflicts. It is important not to forget or avoid these issues but to work with them.

In the reporter's view, one may need to work with them in a softer manner than what would be the traditional journalistic approach. For example, if a journalist previously tried to strike a noticeable headline, now it is time to think twice about the banner and consequent reactions.

Moreover, there is already an association between social polarization and the media, particularly journalism. The prevalent theme in these discussions involves widespread criticism of the traditional media (as mentioned above in the case of the series of Yle articles in 2021-2022). Journalists are often accused of bias and are the targets of online smear campaigns. It is quite challenging for media professionals and institutions to carry out their work and support open public forums for constructive dialogue.

Questions as new forestry paradigms involve **changes**. Changes initiate resistance, contradictions, and conflicts, which is basically good for society in terms of its development.

While mutual understanding is of utmost importance, tensions also serve as an engine for further development, without which there can be only stagnation.

Instead of merely presenting opposing views or highlighting the conflict, the reporter advocated for **conciliatory journalism** that attempts to foster dialogue and promote mutual understanding. This approach to reporting emphasizes clarifying to all parties what the conflict is about, mediation, conflict resolution, and understanding among diverse perspectives. The roots can be traced back to peace journalism and solutions journalism.

The municipalities, in their turn, should present more information to the public, professionally arrange information meetings, and be more open to receiving and acting upon feedback, which might be the first step to establishing a **non-conflict environment**.

After interviewing residents of different municipalities, it can be stated that most people strongly react to logging sites, especially after clear-cutting, and many try to avoid the areas. In the reporter's opinion, municipalities may need to clarify for themselves and their residents if economic goals are to be a priority in the future, too, or if nature and recreational values should prevail. If there is not so much forest in a municipality, its primary values should be nature and recreation, with the economy going only below that, not instead.

The interviewee believes that the approach to journalism should be one of social responsibility and care for future generations.

6.4 Recommendations

While the specific challenges and dynamics differ between Hanko and Raseborg, both municipalities face the need to transition to proactive forest management. This requires integrating clear strategies, fostering inclusive participation, and aligning actions with ecological and community values to ensure sustainable municipal forest management in the long term.

6.4.1 Raseborg: Ways Out

The pathway to resolving conflicts in Raseborg lies in fostering inclusivity, transparency, and shared ownership in forest management. Recognizing the significance of municipal forests for all stakeholders, authorities can establish processes that balance economic, ecological, and social priorities. By embracing collective stewardship and aligning management practices with community values, Raseborg can create a model for sustainable, participatory forestry.

1. Balanced Sustainability Goals

Shift from an economy-dominated model to a balanced framework incorporating ecological, recreational, and economic values. Adopt best practices from other municipalities like Tampere, Helsinki, Jyväskylä and others.

Multi-use forests should be inventoried additionally, based on their use, and interconnected into the broader municipal picture.

2. Transparent Decision-Making Processes

Clearly communicate forest management plans, decisions, and their rationale. Foster accountability by making planning documents and updates accessible.

3. Enhanced Community Engagement

Establish structured platforms for meaningful public input, including interactive discussions, feedback mechanisms, participatory planning sessions, participation in mapping and inventory activities, collaboration with active recreation users.

The dialogue may start with the representatives of the community.

4. Educational Initiatives

Bridge knowledge gaps through education programs targeting residents and officials. Promote understanding of biodiversity, ecosystem services, and sustainable forestry. Provide municipal officials and board members with training on ecological considerations and participatory planning.

5. Shared ownership

Develop a shared vision for municipal forests that reflects community, NGO, and authority perspectives. Use neutral facilitators to address conflicts, particularly around contentious issues such as clear-cutting or urban expansion. Test participatory models or alternative forestry practices in specific areas to build trust and demonstrate success.

6. Strengthened Institutional Capacity

Enhance the independence and influence of the Environmental Office and sustainability coordinators in decision-making. Incorporate explicit conservation, recreation, and engagement objectives into municipal forest management plans.

6.4.2 Hanko: Ways Out

1. Clear Leadership and Professional Expertise

Establish a forest engineer function to provide the municipality with the technical expertise necessary to manage younger forests and ensure sustainable practices. This position facilitates informed decision-making and aligns municipal forestry with sustainability goals.

2. Coherent Forest Strategy

Develop a formalized forest strategy to include clear goals for biodiversity preservation, recreational infrastructure, and sustainable forestry operations, ensuring consistency across departments and clarity for all stakeholders.

3. Enhanced Community Engagement and Communication

Foster deeper engagement by creating structured opportunities for residents and NGOs to participate in planning processes. Early-stage participation and transparent communication of plans and goals.

4. Balanced Recreation, Conservation, and Economic Goals

Integrated forestry practices that preserve biodiversity and recreational areas while supporting limited, sustainable economic use. Align municipal practices with national conservation policies, emphasizing proactive biodiversity measures.

5. Educational and Awareness Initiatives

Invest in residents' education about the ecological value of forests and the importance of proactive forest management. Programs to enhance public understanding of biodiversity, sustainable forestry, and the challenges of municipal forest management for a more collaborative and informed community.

6.5 Recommendations for Future Research

Limited research on stakeholder perceptions of municipal forest management in Finland leaves a critical gap that this study addresses. By reflecting stakeholders' subjective realities, this research contributes to academic understanding in participatory environmental management, sustainable forestry, and public administration.

The findings can provide a foundation for bridging perception gaps between authorities and communities, and foster more participatory and sustainable municipal forest management.

Locally, the study offers a platform for stakeholders to share their perceptions, promoting further cooperation and more inclusive decision-making.

Several areas of future research could be explored on the basis of this study:

1. Conflict Resolution Mechanisms

- Mechanisms to mitigate conflicts related to clear-cutting and other contentious forestry practices.
- Successful examples of conflict resolution in municipal forest management and adaptable models' development.

2. Integration of Ecological and Recreational Goals

- Strategies to better incorporate biodiversity preservation into municipal forest planning, particularly in municipalities with strong economic forestry traditions.
- Collaborative GIS Mapping for Sustainable Municipal Forest Management to identify and map overlapping areas of interest between municipality, community members and NGOs, fostering shared understanding of forest areas.

3. Role of Media in Forest Governance

- How media coverage influences public opinion, policy decisions, and stakeholder relationships in forest management.
- Pilot Project of local conciliatory journalism media to serve as a neutral platform for fostering stakeholder dialogue and understanding.

4. Community Engagement and Psychological Ownership

- The concept of psychological ownership of forests among community members and its impact on their attitudes toward municipal forest management.
- The relationship between community engagement and physical or emotional responses to forestry practices, such as clear-cutting.

5. Comparative Analysis of Municipal Forest Management

- Comparative studies across other Finnish municipalities or international contexts to identify best practices and adaptable strategies for balancing the three pillars of sustainability.
- How different municipal policies align with national and EU-level sustainability directives.

6. Economy and Trade-Offs

- The effectiveness of transitioning from clear-cutting to continuous cover forestry in terms of economic, ecological and social outcomes.

- Economic trade-offs associated with implementing more conservation-focused forestry practices.

7. Public Awareness and Education

- Role of public education in fostering a more nuanced understanding of sustainable forest management among residents.
- Role of education and training for forest professionals in bridging knowledge gaps related to ecological sustainability.

The transition from traditional economic forestry practices in municipal forest management to approaches that integrate ecological, recreational, and cultural values, especially in bio-based economies, starts with small-scale initiatives and continues with changes in policies, technologies, cultural norms, and economic models.

The sustainability transition requires systemic changes. The collaboration between municipal authorities, businesses, NGOs, scientists, and communities is crucial for adapting to the local context and solving the case of a particular municipality's living environment.

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This thesis began with the idea of raising awareness about forests at a level where residents have a direct connection and influence—the municipal level. Responsibility for these forests lies, in fact, with all stakeholders: municipal authorities and residents alike. Throughout this research, I encountered diverse perspectives, and at times, some interviewees asked if I was a “tree-hugger” or writing this thesis on their behalf. In reality, my goal has always been to contribute to an informed, open, and balanced discussion on municipal forest governance between all the parties as a transition to sustainability.

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Appendix 1.

Informed Consent Form for Participation in Research

Title of Study: Master thesis “From Trees to Trust: Exploring Community Perceptions of Municipal Forestry Management in Two Finnish Municipalities”.

Researcher: Tatiana Dunaeva, Novia UAS Raseborg,

tel. _____, e-post: _____

Purpose of the Research: The purpose of this study is to investigate community perceptions and trust levels regarding municipal forestry management practices in Finland. This research aims to identify factors that contribute to more successful forestry management and areas where community engagement can be improved.

Your Role in This Research: As a participant in this study, you will be asked to participate in an anonymous interview. The interview will include questions about your perceptions of municipal forestry management, community engagement practices, and your level of trust in these processes.

Use of Data: All information you provide during the interview will be used anonymously. Your responses will be aggregated with those of other participants and analyzed to identify patterns and insights related to municipal forestry management practices. Your responses will not be linked back to you in any published material or presentations resulting from this research.

Voluntary Participation: Your participation in this study is entirely voluntary. You have the right to withdraw from the study at any point. If you decide to withdraw, any data collected from you up to that point will be excluded from the study.

Risks and Benefits: There are no anticipated risks to participating in this study beyond those encountered in everyday life. While there are no direct benefits to you for participating, your contribution will provide valuable insights into community engagement in municipal forestry management, potentially forming future practices and policies.

Confidentiality: Your anonymity and the confidentiality of your responses are of utmost importance. All data will be securely stored and only accessed by the research team. Findings will be reported in aggregate form only.

Questions: If you have any questions about the study or your participation, please contact Tatiana Dunaeva at tel. _____ or e-post: _____

Consent: By proceeding with the interview, you acknowledge that you have read and understood this informed consent form, that you are at least 18 years old, and that you agree to participate in this research study under the conditions described above.

Thank you for considering participation in this study.

Appendix 2.

Questions for Municipal Authorities:

1. To whom does the municipal forest belong? Who is responsible for the municipal forest? Who should report to the community for the management of the municipal forests?
2. What information is available for the community? Recreational maps, principles, goals, plans.
3. Planning process, decisions, implementation. How is it built and why in this way?
4. Actual Priorities in forest management in concrete terms. Are there informal norms (timber-oriented, full-harvest, recreational, etc.)? Have these goals and norms changed?
5. Can you describe the main objectives and management principles of your municipal forestry management practices, e.g., for conservation areas, recreational use areas, timber production areas.
6. Sustainability and Conservation Goals: goals the municipalities have regarding sustainability and conservation. How are these goals planned, articulated and pursued?
7. Economic Aspects: economic benefits from the forests (timber production, tourism, recreation). How are these aspects planned, measured and pursued?
8. Community Engagement: community engagement processes and mechanisms which are in place for public participation? What are the practices to solve disputes and conflicts?
9. How do you perceive the balance between conservation, recreation, and economic activities in the management of municipal forests?
10. What changes, if any, have you noticed in the municipal forests and their management over recent years?
11. Can you share examples of effective or ineffective forestry management practices you have observed or experienced in the municipality?
12. What are the main barriers to building trust between municipalities, communities, and other stakeholders in the context of forestry management?
13. What are the biggest challenges you face in managing the municipal forests?
14. How do you measure the success of your forestry management practices?
15. Can you provide examples of successful community engagement initiatives in forestry management? What made them successful?
16. How do you estimate trust from the community for the way the municipal forests are managed?
17. Can you suggest any successful strategies or models for managing municipal forests from other regions or countries?

Open questions with Likert 5-point scales. How strongly do you agree with the following statements?

1. "The forestry management practices we implement effectively reflect and address the community's expectations and needs."

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

2. "The current municipal forestry management practices are well-understood by the local community."

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

3. "The community trusts that the municipal authority acts in the best interest of the community and environment in their forest management practices."

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

Appendix 3.

Questions for Community Representatives, NGO Representatives and Scientists:

1. What values does the municipal forest have for you (association or organization)? Do you feel that it is your forest?
2. To whom does the municipal forest belong? Who is responsible for the municipal forest? Who should report to the community for the management of the municipal forests?
3. How is your activity connected to the municipal forest?
4. How well do you know the territories of the municipal forests?
5. How does municipality's planning influence your activity in the municipal forests?
6. Are you aware of biodiversity preservation activity in municipal forests?
7. Are you contacted during the planning phase? Do you feel that you influence the planning process?
8. How informed do you feel about the management practices of your local municipal forests?
9. Can you share examples of effective or ineffective forestry management practices you've observed or experienced in the municipality? How did it influence the activity of your organization?
10. How do you perceive the balance between conservation, recreation, and economic activities in the management of municipal forests?
11. What changes, if any, have you noticed in the municipal forests and their management over recent years?
12. What are the main barriers to building trust between municipalities, communities, and other stakeholders in the context of forestry management?
13. Can you suggest any strategies or models from other regions or countries that could enhance participatory forestry management locally?
14. How would you describe your level of satisfaction with the current municipal forestry management practices? What are you particularly satisfied or dissatisfied with?
15. In what ways do you or your community/organization participate or collaborate in the forestry management process?
16. With whom can you communicate if you have questions or thoughts on improvement of the forests the way your group sees it or uses it?
17. How do you think the municipality could improve its forestry management and community engagement practices?

Open questions with Likert 5-point scales that cover aspects of forest management practices, community engagement, and overall trust in municipal management:

Forest management practices

1. Sustainability and Conservation:

“The municipality implements sustainable forestry management practices that conserve biodiversity.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

2. Economic Management:

“The economic interests in forest management are well balanced with environmental conservation efforts.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

3. Recreational Use:

“The municipality effectively manages forest areas for recreational use without compromising conservation values.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

Community engagement and participation

4. Information and Communication:

“The municipality provides clear and accessible information on forestry management plans and activities.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

5. Involvement:

“Everyone concerned has sufficient opportunities to participate in decisions related to forest management.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

6. Feedback Implementation:

“Feedback from the community is taken into account in forestry management decisions.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

Trust in Municipal Forest Management:

7. Transparency:

“The municipality's forest management processes are transparent and trustworthy.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

8. Fairness:

“Forest management practices are fair and consider the needs of different community groups.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

9. Satisfaction with Outcomes:

“I am satisfied with the outcomes of the municipal forest management.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

10. Trust in Authorities:

“I trust that the municipal authorities act in the best interest of the community and environment in their forest management practices.”

Fully agree	Partially agree	Neither agree or disagree	Partially disagree	Strongly disagree
5	4	3	2	1

Appendix 4.

Highlighted citations: Direct statements from interviews

NGO&Scientists' Group Representatives:

1. "People tend to believe everything the professionals say, even if they say it based on their personal opinions or with some errors. Even when a forest specialist says something without taking the environmental issues into account, his point of view will be absolutely trusted."
2. "There is a feeling that we never can directly influence any critical decision even if we submit the scientifically based arguments for them."
3. "Residents also need to be explained that unmanaged forest plots benefit the environment, though they can look untidy. Unnecessary cleaning is both ecologically and economically inefficient and harmful."
4. "Usually, it is easier for a resident to apply for permission from the City to cut a single tree in their area than to ask to spare a tree from cutting."
5. "The residents themselves should also be more active, but the City ought to provide a platform for discussions. Otherwise, these platforms are only in media resources."
6. "Cubic production shall not run over the citizens' well-being!"
7. "The local culture is such that the residents might very well not support movements to protect the forest. They state the following point of view: "Stop interfering into what professionals do. Professionals know better, they have all necessary background for that!"
8. "Everything that has to do with the planning for more than 5 years and concerns psychological health and long-term welfare of residents should be based on scientific facts."
9. "It is very important to estimate the direct and indirect incomes and losses. For example, what is more important, the marginal economic income from the cut forest or the loss of indirect income that could be obtained through recreational use and nature values as ecosystem services?"
10. "The environmental questions are considerably defined by personal views and attitudes. Much is especially defined by a personality when the administrative system is not fully transparent. Then much can be decided by a personal attitude."
11. "The personal beliefs and subjective confidence in their correctness can influence the whole process for the municipality."
12. "There is a feeling that the dialogue between the parties is starting to evolve. It does not yet concern the forest practices. A forest engineer's position is not that powerful in terms of the whole structure, but it is important that the person in this position is now listening and open to discussion."
13. "Finally, a "good forest" is not an open park or once clearcut and now even-aged stand. When we put nature as the refractive lens and make what is good for the nature, then we might get a "good forest."
14. "The Environmental Office should be more independent in the municipal management structure. They should have a full possibility to oppose, argue and raise questions."

15. "Municipal forest belongs to municipal residents. However, the points of view among the residents might differ a lot. There is a part of the population who think that the forest should be cut for money, and another part would like to see more clear space in the forest with fewer trees. Unfortunately, biological knowledge is missing among many residents, and they do not see the biological value of the municipal forests. There is no certainty that ecological points are taken into account when the municipal decisions are being taken."
16. "Every decision in every protocol of the Technical Board meeting needs to be checked to be in the picture of how it can influence the state of the forests, both municipal and private. The right expression in this case is "to trace like a dog".
17. "Abandoning of clear-cutting and discussions around the forest plan were achieved mainly due to a professional platform constructing grounds for discussions."
18. "Residents usually are not interested so much in matters that do not concern the proximity of their plots. Therefore, the City should present more information about municipal forests as a whole."
19. "Somehow, people have come not to like and trust the Greens. The trust between the authorities, the population and the Greens needs to be constructed. It will maintain the whole balance!"
20. "I know the municipal forest should belong to the local people, but I feel that authorities manage the municipal forests like they belong to them."
21. "The Finnish government talks a lot about old forests, but nothing similar is said at the municipal level. Their policies should correspond more to each other."
22. "Much of information flows has power-related aspects when information is given not for discussion but for statement purposes."
23. "Authorities like to say that they base decisions on expert views. However, experts now equally solidly represent economic and environmental values that oppose each other today. They are reflected in the Finnish governmental structure as the Ministry of Agriculture and Forestry and the Ministry of the Environment."
24. "Practically, one can choose any expert depending on what side one needs to support, the economic or the environmental. Usually, if the weight is on economic issues, we can already predict a side from which the expert will be chosen."
25. "Such themes as community-based resources and blockchain voting technologies on subjects of municipal forest management might be very interesting in the future."
26. "There are only few active people willing to participate or influence the processes. There is a lot of work to do to engage the people in the planning processes in the municipality."
27. "To all the people, the forest should be accessible and in some proximity. And I mean not parks, I mean real forests. Forests, especially unmanaged, let us study and experience nature."
28. "Based on my observation from many travels and non-commercial projects, I can say that humanity has considerably changed nature by spreading agriculture and forestry driven totally by economic values. They drained the nature. Finland is not the worst in this. But definitely not the best."

Community Representatives:

29. "We wonder if they (municipal authorities) know that we exist."
30. "We are not contacted; we did not try to influence. We did not think of that, and there was no channel offered for that."
31. "Probably, detailed planning is taking place, but it is often that you just suddenly see a log truck and wood chipper along the road, and you never know whose forest that is."
32. "I do not know when or where the planning takes place. And when none is inviting, it is impossible to participate. It is obvious that the City does not want residents' influence. Maybe it is not interesting, or maybe it can disrupt a long-ago-established process. We could participate in the planning as an association, and we would like to have the possibility to influence the planning".
33. "There is much more talking in the media now around this topic. But more political talking than substantive information. There is also a feeling that something is happening in the forest but where it is happening is unknown."
34. "Is it really necessary to leave so much remaining wood and birches after logging? Is it for nature or because ordering a machine that could process it all into chips was not economically interesting?"
35. "You can't cut a tree on your own plot because it can affect the scenery or the view; however, the City can cut freely without asking."
36. "When a person feels bulletproof about oneself and their actions regarding nature and common ownership, there is something strange about that."
37. "The local media should also pay more attention to these questions and encourage discussions. This is the reason the local media exists. You should initiate the discussion and not just try to settle the existing or appearing conflicts."
38. "There should be more educational activity on forestry management considering health issues and less negative impact on nature. I can't say how the economy should be driven in this case, but the network and discussion should be wider."
39. "A park is not a forest. And in order to get to the real forest, you need to take a trip because the forest is not in close proximity."
40. "The municipal forest has a great recreational value and may be called city's lungs. It needs to be taken care of not only in terms of excessive forest practices but also in terms of protection from the people."
41. "The municipal forest belongs to the municipal residents. They choose their representatives, who are decision-makers and form the City Council. But then it is hard to understand who is responsible for what."
42. "The media often arouses the problem; it is widely discussed for some time, but then it is unclear who really can influence the solution, and then after some time, no one follows the subject."
43. "A discussion process by itself does not work. People are not able to see different perspectives and insist only on their own views. It is not wise to use your own personal Facebook page for any kind of discussion. That is why I do not participate in these debates, even if I might have some opinions on the matter."

44. "I can't say that I understand how it works. There should be a plan. I did not read that. However, I trust that the city officials have enough qualification, experience and education to do their job. I know that if I strongly do not like anything, there is a law. I can express my opinion, contest and appeal the decisions and actions of the municipality."
45. "I do not need to know who owns the territories. I use everyman's right to move where I want. The territories where you can't trespass because of danger or other restrictions are marked on the terrain."
46. Question: "Are you aware of biodiversity preservation activity in municipal forests?"
Answer: "I am not aware of that, but I am sure that such projects exist."

Municipal Authorities' Representatives:

47. "Those who are interested can get more information any time. But there are not so many people interested in getting this information. Overloading with information is not good as well."
48. "It is very good to include people into the process of taking decisions. Because times are changing and the whole society is changing, and you need to include the society as more as possible. Unfortunately, there's a shortage in municipal resources, which limits the activity."
49. "Many Technical Board members totally trust the forest engineer's point of view without questioning it."
50. "The whole planning process is based on economical approach for the forestry. And incomes from the forest activity are at the Technical Division's disposal. The economic goals and substantiations usually are the main and prevail not only in the areas of forest questions. Some other questions like what to do with an old school building, to renew or to demolish and build a new one, are also considered only from the economic point of view."
51. "There are at least three well-known local professors in forestry who are highly respected, and they offer participation in the planning process, but the city rejected it which sends unpleasant signal for the society, because their knowledge and know-how could have been well used."
52. "It is important and valuable to include residents in the planning process, not before the elections, but even between them. There should be discussions of different ideas, but there is also a problem in the society that people are not that much interested in the participation for taking decisions."
53. "There are many politicians who think that if you include residents in the planning process, it leads to total chaos. According to them, the democracy means that people elect their representatives once in four years' time, and then these elected take all decisions, and that's how it should work."
54. "There is a total need to discuss more between different groups of people. Forest-related questions divide people in many ways. But actually no one is against the nature. And no one actually is against cutting as a forest management procedure."

55. "Unfortunately, people don't want to listen to each other. However, they are not of so polar opinions in practice."
56. "The reason for the Greens not being heard now is that the Greens were quite aggressive and blind in presenting their views. And they have reached a situation where their ideas are not accepted at all. There seems to be an understanding that the Greens should be more of a bridge-makers. But the responsibility to build bridges lies on the municipality side. It is obvious that NGOs have already taken quite much upon themselves."
57. "No one is angry when all stakeholders agreed, and everything is being done according to the agreements. A good sign is also when there are no articles in mass media on public misunderstandings in terms of municipal forest management. That means everything is working fine."
58. "A pretty forest is a managed forest. There is a common belief that fellings make forest look awful, but in practice it takes not so much time at all until the forest is again beautiful and uptakes carbon."
59. "The municipal forests belong to the residents in terms of recreation and to the municipality in terms of receiving income."
60. "Common people just "think", meanwhile the officials have their professional knowledge."
61. "Officials have their job and responsibilities; they should take decisions and be able to defend themselves."
62. "The forest should be managed – planted, thinned, harvested. The continuous forestry is just an exception in some places where natural conditions do not prevent it. If we start listening to everyone's opinion on municipal forests, these forests will soon rot."
63. "From the current forest practices' point of view, the park forests can be still thinner. Moreover, there is a great demand for energy wood on the market right now."
64. "Conflicts in the area of forest planning and using are generated mostly by the confrontation between city dwellers and countryside people, i.e., between those who want only recreation or influenced by the Greens and between those who understand traditions of forest management and have grown up in the private forest ownership environment."
65. "Matters connected to municipal forests are the same as any other municipal decisions, and the basis should be equal. You do not discuss the road maintenance or repairs with the residents. Everything is already regulated by the plans."
66. "The Chief of the Technical Board is a very powerful position who has many opportunities to influence starting from the agenda and setting some prism for addressing issues right at the beginning of the Technical Board meeting."
67. "A municipal forest engineer is a very important position which gives a driving force for the municipal forest management. This person, with a professional perspective view, determines the overall approach in the interaction with officials, in reality, forms the management line, substantiates, initiates, and promotes decisions and goals of municipal forestry".
68. "The system has many layers of responsibility. However, to some extent, it is true that the lower level creates and prepares these upper-level decisions, and the upper level is just to approve."

69. "We have got a new female City Director, who is very educated, skillful and democratic, and even a new female head of administration, with great discipline and skillful at law. This all can help set new winds and methods."
70. "Without clear-cutting all the forests can be perceived as forests for recreational purposes. Selective hugging does not change a lot how the forest looks."
71. "There should also be an understanding that the forest is not a park. It is supposed to be dense. There should also be more information on the importance of old trees and how they preserve history."
72. "The information, for example, on some endangered species or vulnerable areas, should be provided but limited and not too specific. There are always people who care about their own interests but not for the nature itself."
73. "It is still possible to discuss and influence the situation when a plan is not yet approved. If the plan is approved, one can influence the fate of a single tree but not the whole areas under the plan".
74. "People do not like changes in the environment. It is also a challenge when this environment needs to be changed. You get fewer problems from people in forest management if you do not do much in the forest."
75. "Municipal forest management is like a marathon, with keeping and then passing the marathon baton to the next forest engineer. The result of the current management will be seen in a very long perspective and not on a single watch."
76. "The City wants to build trust, but there was so much done before against the people's will or understanding that now it is very hard to get this trust. So much needs to be done to rebuild the trust between the municipality and the community."
77. "For a successful municipal forestry, good customer service is crucial."